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> "There are no ancient gentlemen but gardeners . They hold up Adam's profession."
>
> *Hamlet*, v. 1.

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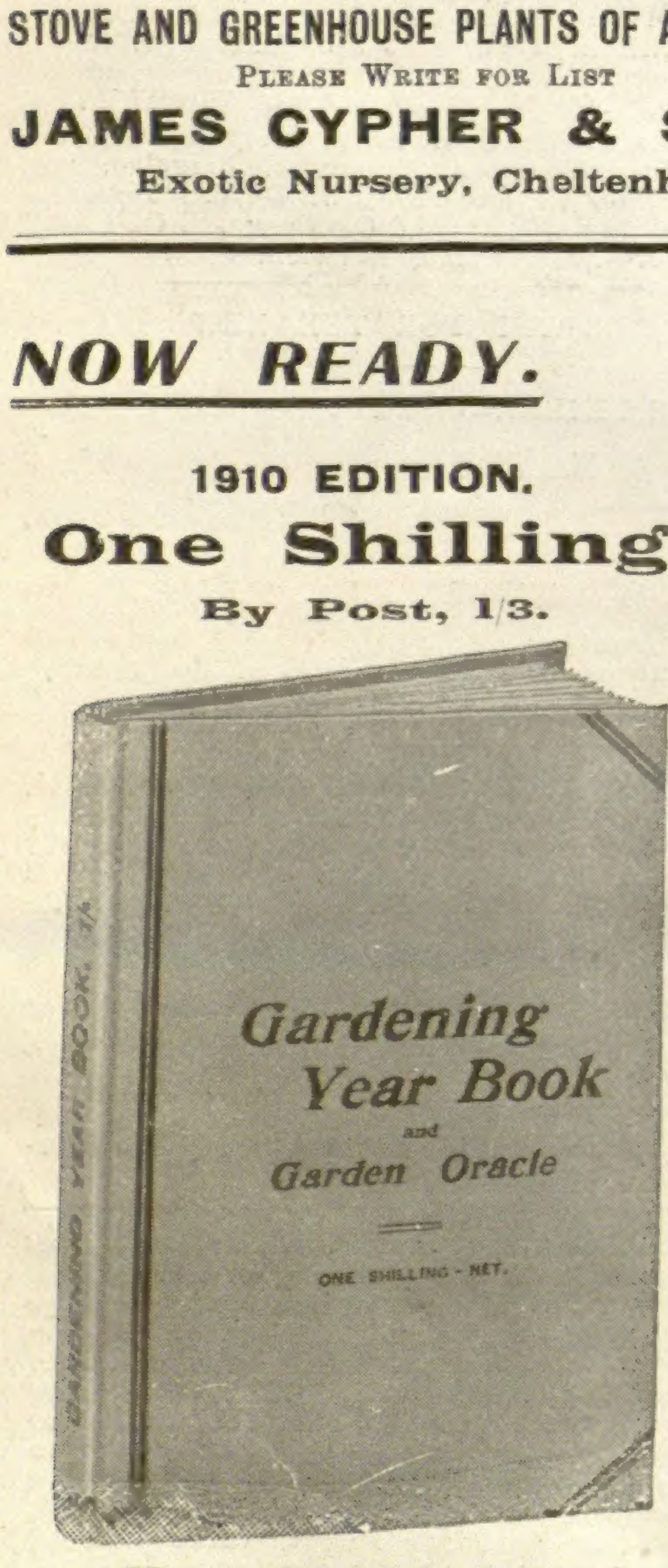

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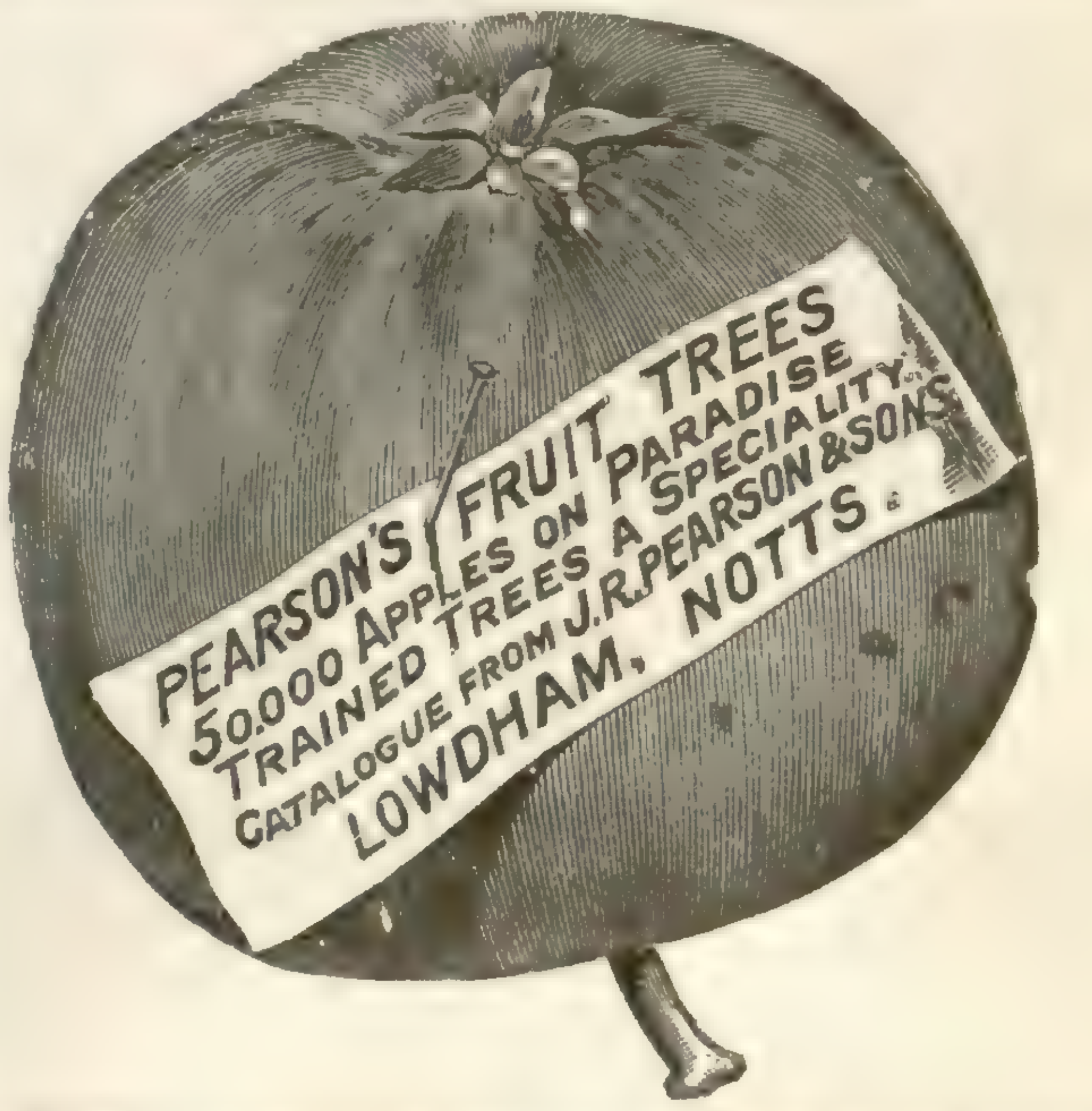
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THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Past and Present.

Although the year that reached its course during the past week was, on the whole, more satisfactory from the horticulturist's standpoint than was for a considerable period during the summer regarded as probable, it had many disappointments, and compared unfavourably with its immediate predecessor. The promise of an abundant fruit harvest failed in being realised owing to the low temperature, accompanied by severe frosts, that prevailed during the blossoming of the apple, pear, and plum trees. Strawberries also suffered from the late frosts, but the injury to the early flowers by frost was as nothing compared with the serious damage to the fruit that was caused by the frequent rains that fell during the period of ripening. The wet weather not only prevented the fruits attaining their proper colour and flavour, but rendered it impossible for them to be marketed in a satisfactory condition. Gooseberries and raspberries were abundant, but poor in quality, and as a large proportion of the fruit had to be sent to market in a moist state, the prices ruled low. Vegetable crops were, generally speaking, excellent, more particularly green vegetables. Potatoes also were good, although not equal to the record crop harvested in 1908. The estimated yield of tubers was about one ton above the average of the previous ten years, and the quality, except on heavy soils, was of considerable excellence. In most cases the growth was rather too vigorous in the flower garden, but hardy plants attained their full development and retained their attractiveness for a longer period than usual, the difference being very marked on light soils. Some of the more tender of the half-hardy fine foliage plants failed to assume their rich colouring, and the zonal pelargoniums flowered less freely than usual, but with those exceptions the half-hardy plants in flower garden decoration were more or less satisfactory. Seldom have garden lawns retained their fresh green colour throughout the summer in the same degree as last year; but unfortunately, the frequent rains which promoted the growth of the grasses reduced the opportunities for the full enjoyment of the garden and of garden games. Turning from the garden to the societies whose primary object is the advancement of horticulture, the splendid work that has been accomplished by the Royal Horticultural Society at once calls for notice. The Temple Show was horticulturally a splendid success, and the exhibition at Holland Park was the best that has yet been held in the grounds of Lady Ilchester's historic residence. To both shows the weather was unkind, and the financial results must have fallen short of those of some previous years; but these gatherings have become so popular that unfavourable weather does not influence the attendance to the same extent as in the case of the majority of flower shows. The fortnightly meetings which form a very important part of the society's work, have been well maintained both in interest and attractiveness, and the lectures have been of a high order of merit, the Masters' lectures by Professor de Vries calling for special mention. The competitions for the prizes offered at these meetings for fruits and vegetables were rather disappointing, and this year they will be replaced by an exhibition in May of vegetables grown under intensive culture, and a show in October of British-grown fruits. During the year the Floral Committee celebrated its jubilee, and to mark the event the members, with those of the Fruit Committee, which completed its fiftieth year of activity in 1908, were entertained at dinner, at which Sir Trevor Lawrence, Bart., presided. On the other hand, the Royal Botanic Society has a very poor record, for, owing to financial difficulties, it was not able to hold either a spring or summer show. It has, we understand, been giving special attention to its financial position, and as the result, has been able to make a substantial reduction in its liabilities, which at one time gave rise to much anxiety. To make a strenuous endeavour to adjust the expenditure to the income is desirable up to a certain point; but it is impossible to lose sight of the fact that when the expenditure has to be so reduced as to render a society unable to carry out any of its objects, it is impossible to find a justification for its existence. As we have previously stated, the position of the Royal Botanic Society is far from satisfactory, and not until the Council has been reorganised and a due proportion of horticulturists of position and ability placed upon it, can any improvement in its affairs be expected. We had hoped that something beneficial to both the "Royal" societies in London would have come of the negotiations between them, but as will be gathered from the letter from Mr. Wilks that we publish on another page, the hope has failed in its realisation. The difficulties in the way of amalgamation may have been insurmountable, but it ought to have been possible to have entered into an arrangement, on terms beneficial to both societies, for the Royal Horticultural Society to have had the use of the Regent's Park Gardens for its summer exhibitions, provided, of course, it so wished. The special societies that have their headquar-

MR. GEORGE PAUL, V.M.H.

ters in London have for the most part had a successful year. The success of the National Rose Society has been phenomenal. It issued a catalogue of roses in which all the best varieties for exhibition are described, and selections given of the varieties best suited to various purposes, and other publications. The membership increased by leaps and bounds, with the result that the number of members closely approaches 4,000, and the funds have been so carefully administered that the reserve fund already amounts to a substantial sum. Highly successful also has been the National Sweet Pea Society, which has nearly 1,000 members, and is doing splendid work. The success of this society is of special interest from the fact that a decade ago the idea of holding a show of sweet peas was declared by some of the leaders in horticultural matters as so absurd as to be unworthy of a moment's consideration. Others asserted that the sweet pea had attained to the highest state of development of which it is capable, and the value of this assertion can be very readily determined by a comparison between the varieties of ten years ago and those of the present day. The National Chrysanthemum Society has somewhat improved its position, the National Carnation Society and the Perpetual-flowering Carnation Society have held excellent exhibitions, and the National Dahlia Society has been strengthened by its amalgamation with the London Dahlia Society. The society would probably have been in a stronger position had it concentrated its efforts upon one exhibition. It has decided to hold two exhibitions this year, but it has arranged to hold a conference in March next, and at this we hope the importance of dahlias for garden decoration will receive special attention. The great provincial exhibitions at York, Wolverhampton, Hanley, Leicester, Shrewsbury, and Edinburgh were fully equal to the high average of late years, and their sustained popularity was evidenced by the immense numbers of visitors who availed themselves of the opportunity of seeing what is best in present-day horticulture. The Royal Caledonian Horticultural Society celebrated its centenary last year, and all who are acquainted with the work the society has done, and is doing, cannot well repress a feeling of regret that it is not receiving the support it so fully deserves. One new national society was formed during the year, and if it receives such support as will enable it to carry out the work on which it has entered on the lines laid down, it should render valuable service to those engaged in the cultivation of vegetables. In September next it will hold an exhibition which has the promise of being of exceptional importance and interest. The holding of exhibitions is not the only work in which a special society should engage, and recognising this fact, the committee of the National Vegetable Society are carrying out trials of autumn-sown onions and spring cabbages. The year that has passed, if not equal to the anticipations that were indulged in at its commencement, gave, regarded as a whole, a fairly good return to those engaged in the affairs of horticulture; and, taking a broad view of the present position, there appears full justification for looking forward with a spirit of hopefulness to that which the year on which we have just entered will bring as a reward for the cultivator.

Mr. George Paul is so widely known among garden lovers and those actively engaged in horticultural pursuits that in presenting his portrait there is no occasion to do more than briefly refer to the splendid work he has accomplished in the course of his active life. Quite early in life Mr. Paul evinced much interest in horticultural matters; and on leaving school he joined the Cheshunt firm, and assisted his father, the late Mr. George Paul, in the business until 1867, when, on the death of the latter, he assumed the entire management. That Mr. Paul had been careful to take the fullest advantage of his opportunities for becoming well acquainted with the several departments is evident from the success he achieved in increasing the high reputation the Cheshunt firm then enjoyed, and in greatly extending the sphere of its activities. There is no occasion to state that these nurseries were closely associated with roses and rose culture at the time when Mr. Paul was preparing himself for the responsibilities which at so early a period in his career he had to assume; but it may be mentioned as a matter of interest that the first seedling rose he remembers flowering was the Duke of Edinburgh. Whatever may have been the effect this rose had upon Mr. Paul, we know that in three years after he had become the head of his firm he commenced the distribution of a set of new roses raised by the late Mr. Thomas Laxton. In 1873 the two fine Cheshunt raised roses, Reynolds Hole and Cheshunt Hybrid, were distributed, and these at once became popular and long held a foremost position. The list of roses raised at Cheshunt since the introduction of the two varieties last mentioned would be a formidable one; and with regard to them it need only be said that they have all possessed much merit, and included both garden and exhibition varieties. Of late years Mr. Paul has devoted much attention to the raising of roses especially adapted to garden decoration, and, assisted by his son, Mr. G. Laing Paul, one of the keenest of rosarians, he has introduced many valuable garden varieties. While achieving success of a high order as a raiser, cultivator, and exhibitor of roses, Mr. Paul has not allowed them to occupy the whole of his attention. He was one of the first to appreciate the importance of alpine plants and hardy perennials, and twenty-nine years ago he established at Broxbourne a nursery specially for their culture. Mr. Paul was equally quick to appreciate the value of hardy trees remarkable for beauty of flowers or foliage, and the collection he has formed at Cheshunt proves to demonstration his thorough acquaintance with the many kinds now in commerce. For some years Mr. Paul was a member of the Council of the Royal Horticultural Society, and has long been a vice-chairman of that society's Floral Committee. He has for some years been a member of the Herts County Council, and has taken a very active part in the educational work of that body, and, as evidence of the appreciation of his public services, it must be mentioned that he is a justice of the peace for the county.

Congratulations to Mr. Conway Jones.—That a prophet is not always without honour in his own country was made evident at the recent annual meeting of the Gloucestershire Rose and Sweet Pea Society, over which Mr. Conway Jones, Chairman of Committee, presided. At the conclusion of formal business Mr. Holbrook expressed on behalf of the members their "very hearty congratulation to Mr. Conway Jones upon having attained what he believed was the ambition of his life. He was now the amateur champion of Great Britain. He was sure everybody who took a great interest in roses must have felt very proud to know that their neighbour and friend Mr. Conway Jones had, after so many years coming in second, at last come in first. They were particularly pleased, because Mr. Conway Jones was not selfish in his love of the beautiful flower. Having the pleasure of living next door to him, he had seen the numbers of people who came up to see his roses, and the way in which he showed his flowers. The help he gave by his advice had done much, not only to make the rose show a success in Gloucester, but to give an impetus to the growing of the rose, our national emblem."

Waterside Boulevard for Wandsworth.—The Rev. J. H. Anderson, rector of Tooting and chairman of the Special Works Committee of the Central Body dealing with unemployment, recently suggested that the banks of the busy but not very pretty river Wandle should be reclaimed, and that walks should be made and trees planted so as to transform the banks into a pleasant riverside boulevard. The scheme has been approved, and the Local Government Board has agreed to grant £1,000 towards it, as the work will give employment to many men for several months.

Provincial Flower Shows.—The dates of the following provincial exhibitions are as under: York Floral Fête and Gala, June 15, 16, and 17; Wolverhampton Flower Show and Fête, July 12 and 13; Shrewsbury Flower Show and Fête, August 17 and 18; Edinburgh Fruit Show, September 7 and 8.

Peter Barr Memorial.—We understand that an effort will be made to raise sufficient money among lovers of daffodils, pæonies, asters, and other hardy flowers, for the purpose of maintaining an orphan through the medium of the Royal Gardeners' Orphan Fund, as a fitting memorial to the late Mr. Peter Barr. A Peter Barr medal will also be struck and awarded each year in connection with progress among daffodils. The Narcissus and Floral Committees of the Royal Horticultural Society have become associated as a general committee for the promotion of the memorial, and each of these bodies has nominated five members to form an executive committee to put the matter in motion. This executive body consists of Mr. H. B. May, Mr. W. Marshall, V.M.H., Mr. C. E. Shea, Mr. J. T. Bennett Poë, V.M.H., Mr. W. Cuthbertson, Mr. Walter T. Ware, Mr. R. Hooper Pearson, Mr. W. Poupart, Rev. J. Jacob, and Mr. C. H. Curtis, who will meet on January 11 at the Royal Horticultural Hall.

Societe Francaise d'Horticulture de Londres.—The annual dinner of this society will be held on the 21st inst., and as the society celebrates its twenty-first anniversary this year the dinner will be of exceptional interest. M. Philippe de Vilmorin is coming specially from Paris to preside, and a large gathering of horticulturists interested in the excellent work in which the society is engaged is anticipated.

The Late King Leopold of Belgium was a great friend and patron of horticulture, and did much to bring about the great horticultural activities for which Belgium is famous. He had beautiful grounds and gardens around his palace at Laeken, a fine winter garden, and a little way from the palace gardens proper he had a splendidly equipped range of glass houses, covering a considerable area and largely devoted to the propagation of economic plants. For many years the late

Mr. Knight, an Englishman, was the king's gardener, and the relations between the two were of the most cordial character. At the great Ghent Quinquennial exhibitions the king made a point of being present to perform the opening ceremony, and those who were present at the last great show, in 1908, will well remember the keen interest he took in the English exhibits, notably the orchids and amaryllis contributed by Lieut.-Colonel Holford, of Westonbirt, Gloucester.

Chrysanthemum George Hemming.—Mr. Edwin Molyneux writes: I much regret that, when describing Chrysanthemum G. Hemming, through a slip of the pen I represented it as a decorative variety. On reference to my notes taken at the National Chrysanthemum Society show at the Crystal Palace, I see they are "G. H. (Mileham), 8 x 7in., rich amaranth, quite full on the surface, a very promising variety." I am exceedingly obliged to Mr. Mileham for drawing attention to the error, and at the same time beg to assure him that I do see all the new chrysanthemums that I write about, preferring this to secondhand evidence, and I know my descriptions and opinions of the new sorts are valued by many who have not the opportunity of seeing the new varieties themselves, and for these I specially write.

Presentation to Mr. T. Swift.—After over forty years' service with Messrs. Hurst and Son, the wholesale seedsmen of Houndsditch, Mr. Thomas Swift has retired from active business. The goodwill of the past and present employees was shown a fortnight ago when he was entertained at dinner at the London Tavern, and presented with a silver centrepiece, and two silver vases.

Irish Potato Crop, 1909.—The Department of Agriculture and Technical Instruction for Ireland has issued an estimate of the yield of potatoes in Ireland last year. From this we learn that the average yield of the potato crop in Ireland in 1909 is estimated at 5.5 tons per statute acre, as against 5.4 tons in 1908, and 4.4 tons for the ten-year period—1899-1908. The acreage of the crop in 1909 amounted to 579,799 acres, as against 587,144 acres in 1908, a decrease of 7,345 acres, and the total produce of the crop in 1909 is estimated at 3,202,819 tons, as against 3,199,678 tons in 1908. The quality was on the whole very good. The returns show that in most of the southern counties the crop exceeded that of 1908. Thus the average rate for the province of Leinster was 5.4 tons in 1909 per statute acre, as against 4.9 tons in 1908. In Munster the average was 5.4 tons in 1909, as against 4.7 tons in 1908. In Connaught the yield was 5.5 tons in 1909, as against 5.2 tons in 1908. In Ulster, taking the whole province, the average rate was lower than in 1908—viz., 5.7 tons in 1909, as against 6.2 tons in 1908. The returns indicate that in many of the northern counties the yield of sound tubers last year was more than usually uneven.

Gardeners' Magazine Almanack.—With our next issue (Jan. 8) we shall present a handsome almanack, printed in colours, and including the dates of the principal horticultural exhibitions and meetings arranged for the current year. The number will contain special articles dealing with seasonable subjects and many illustrations. As there is invariably a largely increased demand for the issue with which the almanack is published, we strongly advise those of our readers who may require additional copies to give their orders well in advance of the date of publication.

SHOULD FRUIT TREES BE CULTIVATED?

Nothing of late years has created more interest in fruit growing circles than the reports on the Woburn experiments, the results of which are more or less opposed to the general way of thinking, and the pointed remarks in the recent leader, entitled "Problems in Fruit Culture" (page 965), give further food for thought. At the conclusion of the review of the Woburn report it is quite fitting to ask the question, "Should fruit trees be cultivated?" because this is just what the results of the Woburn experiments leads us to, and the sooner the matter is made absolutely clear the better. Let me quote a sentence from the article in question: "In the results obtained at Woburn in the planting, pruning, and manuring of apple trees, we have the suggestion that the care which growers have taken in carrying out these details have been unnecessary." Just so, but let us remember that the details referred to have been carried out by successive generations of gardeners and fruit growers in all parts of the country, and it may be fairly assumed that these have obtained good results from their methods; indeed scores of instances might be quoted to prove it, and the point is whether better results would have been obtained if those details had been neglected.

To put it in another way; we have the evidence of scores of capable men to show that the carrying out of details, which the results of the Woburn experiments would suggest are unnecessary, have resulted in the growth of good trees and the production of fine crops of fruit, while, on the other side, there is the evidence of the report referred to. I do not know of anything else.

I do not question the figures given in the report, nor the conclusions drawn from them, and, on the other hand, would welcome any method of culture that would save expense in time and labour, and give better results, but I do think it should be made very clear as to what is meant by careless planting and non-pruning. It would be a pity for an idea to get spread abroad that attention to fruit trees is unnecessary, and the more badly they are treated the better they will do. I do not think this is what the Woburn reports wish to convey, but it is a conclusion that may be arrived at by some, and if the question raised as to whether fruit trees should be cultivated, is answered in the negative, what are we to understand? Apparently there would be no reason why areas of land should not be planted with fruit trees and turned into fox or game coverts, if the trees do not require pruning or manuring, or anything.

May it be assumed that the term "cultivation" means planting, pruning, and manuring, which are, of course, the chief points? I am writing with a knowledge of the West of England, where thousands of trees are grown in grass orchards, and the method I advise is to mark the site where the tree is to grow, take off the turf in a circle about 4ft. in diameter, remove the top spit of soil, and loosen the ground in the bottom; then cut up the turf, put it in the hole, tread it down, place a little of the best soil taken out over it, fix the stake, and plant the tree, covering the roots with three or four inches of soil, making it firm, but not ramming. No turf is allowed to grow up to the stem of the tree for a few years, and this I consider, is very important. Would this be called careful planting, according to the Woburn standard, and, if so, what is careless planting? Would it cost less, and would the results be decidedly better?

There is a system not unknown in West Country orchards, described jocularly as "post hole" planting, which I should call the essence of carelessness. It consists of digging out a hole in the turf just big enough to accommodate the roots, and with little regard for depth. The roots are crammed in, the soil put back, and the sod or two of turf replaced. Surely nothing could be more primitive or careless, if the latter is a better word, and the stunted state of many trees so treated do not speak very much in its favour. What we want in these parts is to induce people to pay more attention to their orchard trees, and treat them more seriously, which can hardly be consistent with any doctrine of carelessness. On the other hand, I fear that the dilapidated state of so many West Country orchards, which have become objects of derision, is the direct results of carelessness.

Now a word about pruning. In the leading article is the statement, "According to Mr. Pickering, the less pruning done, consistent with keeping the trees sturdy and in shape, the better." Surely, in the name of all that is reasonable, this is the law and the prophets, so far as the pruning of a standard tree is concerned. It is the doctrine we have preached for years. Keeping the tree sturdy and in shape, what more is wanted? I do hope that this point about non-pruning will be clearly understood, and that it will not lead to more planting of trees and never touching them with a knife as long as they stand. We have too much evidence of this now—trees planted and not pruned back, bearing a few useless fruits about the second season, but at the expense of growth, and then standing still until they have recovered themselves. I should not like to say how many lanky, ill-formed trees there are in West Country orchards which are like this, simply because they were not cut back after they were planted, so as to start them to grow, which is the first business of a fruit tree.

Now turn to the old or established trees, hundreds, thousands of them, so thick in the head that they are a mere conglomeration of dead wood and crossing branches, and so congested that it is almost impossible to see through them. What sort of fruit do these specimens bear (except, perhaps, the young branches on the top, which get the light)? Ask the man in the market, he will tell you. This deplorable state of affairs is the result of absolute non-pruning, and we certainly want to differentiate between non-pruning and the judicious periodical thinning from youth upwards which is essential in order to keep trees "sturdy and in shape." When people with limited experience read the word "non-pruning" in the report of an experiment they are apt to jump at the wrong conclusion.

I gather from the review of the report that dressings of manure during fifteen years at Woburn have had no appreciable effect upon the trees or crops, and the obvious conclusion from this is that manure is not necessary for fruit trees. I wonder what market men will say to this, but, confining myself to orchards, where do the farmers get their best apples? In the orchards near home, where the pigs and calves have access, where the poultry run, where animals are fed with cake, and where the contents of overflowing liquid manure tanks are emptied from time to time under the trees. That is where.

More than once I have compared the growth of trees in such orchards, and the character of the fruit, with the conditions prevailing in orchards away from the homestead, where land is not rich, and no manure has been given, and the contrast supports the contention that to grow good fruit in an orchard you must do it well.

In conclusion, I may say that my remarks apply only to standard trees in grass orchards, and in respect of these I trust there will be no misconception as to what is actually meant by careless planting and non-pruning; as it is very undesirable that people (I refer only to the careless ones) should be induced to pay less attention to their trees than they do already.

G. H. H.

ROYAL BOTANIC SOCIETY.

Subjoined is a copy of a letter sent to the chairman of the Royal Botanic Society in reply to the memorandum received by us from him dated December 7, in connection with the efforts which have been made by the Royal Horticultural Society with the object of securing a continuance of the Regent's Park Gardens, and safeguarding the rights and privileges which the Fellows of the Royal Botanic enjoy at present therein.

W. WILKS,
Secretary.

Royal Horticultural Society,
Vincent Square,
Westminster, S.W.,
December 22, 1909.

S. Pembroke Stephens, Esq., K.C.,
Chairman of the Royal Botanic Society.

Dear Sir,—Having considered the Royal Botanic Society's memorandum of December 7, together with that which was drawn up at Mr. Pembroke Stephens' request by the Secretary of the Royal Horticultural Society on Wednesday, November 26, as a précis and record of the various proposals and suggestions which had been made on one side or the other at the meeting of the Joint Committee of the two societies, the President and Council of the R.H.S. wish in the first place to congratulate the President and Council of the R.B.S upon their anticipated emergence from the critical position set forth in their circular of November 6.

In view of such happy prospects, it does not appear to be either necessary or desirable to continue negotiations begun under an entirely mistaken idea, produced by the circumstances which led to the circular of November 6. Also, it does not seem worth while to enter upon any of the points raised in the R.B.S. memorandum of December 7, except to say this, that the memorandum drawn up on November 26 by the secretary of the R.H.S at Mr. Pembroke Stephens' request, was in no sense to be regarded as a scheme emanating from the R.H.S., but simply and solely as a memorandum incorporating the general tenor of the principal suggestions which had been made on one side or the other at the preceding meeting, and that it was not therefore surprising if a congeries of suggestions contributed by a number of persons should not represent a workable whole. It is needless to point out that such a memorandum binds neither society; it is merely a précis and record of the chief points brought under review, and suggested at the meeting.

Should, however, the "difficulties" apprehended on November 6 unfortunately recur, the R.H.S. will be prepared to consider any reasonable proposal for preserving the gardens for their present uses, and continuing to all Fellows and debenture-holders of the Botanic all their existing rights and privileges therein.—Believe me to be, faithfully yours,

W. WILKS,
Secretary, R.H.S.

By order of the
President and Council.

SWEET PEA NAMES AND NAMING.

The following paper was read by Mr. W. J. Unwin, at the Conference held by the National Sweet Pea Society on the 10th inst.:

It has been announced that I would tonight read a paper on the "Names and Naming of Sweet Peas," but, interesting as this subject may be, I am fully convinced that it will be useless to discuss the naming of new varieties until some steps can be taken to safeguard these varieties after they are named.

I do not therefore propose to deal particularly with the naming of sweet peas, but rather to outline a scheme by which I believe growers may be more safeguarded in making their selections of distinct varieties. If I were to detail the various reasons why this or that firm should or should not give different names to what may be practically the same variety, it would be more or less a waste of time, as I am convinced every raiser would follow his or her own inclination in the matter. It is, so it seems to me, the duty of the National Sweet Pea Society to help the growers, so that they can make their selections with more confidence, but under the present conditions even experts are baffled. Our society is already doing good work, but more must be done if we are to know, with more certainty, which new varieties are worth growing.

The society cannot prevent unfixed stocks being sent out, but it could debar unfixed new varieties from being staged in competitive classes at its shows. As a remedy, I suggest that all new varieties in future shall be sent to the trials, and only those that proved to be fixed shall be eligible for entry in any of the society's competitive classes If the society is firm in this matter growers would soon know which varieties to grow and who to look to for more reliable information than we have at present.

I next venture to suggest that a more detailed account be given by the society of all fixed stocks, as to their type and colour, and whether they are quite distinct, or how they compare with varieties already in commerce. Unless any of the unfixed stocks are of special merit they must not be mentioned. It seems useless to waste time over varieties that are badly mixed and of no particular merit. It will be readily seen that if the society allows only fixed varieties to be staged in the competitive classes and publishes a fully detailed report of the trials from the Floral Comittee, the growers will be safeguarded to a great extent, and I believe this work would eventually prove a real benefit to the trade.

I, of course, assume that the society will deal with those unfixed varieties already in commerce. At the present time the list of too-much-alike varieties is of little help to anyone, but with the detailed report on fixed stocks it would enable us to know which varieties are identical, and what differences there may be between others.

There is a marked difference in the colour of sweet peas growing in a row as compared with the same variety when bunched, and to arrive at a more accurate description of its colours, I make a further suggestion, namely, that a bunch of twelve sprays from every fixed stock (new and old) be brought from the trials to the London Show, and staged under numbers, in their different colour sections, and judged by points for colour effect and size. A few ladies would be useful as judges in this class. After the judging each bunch shall be named or numbered as sent to the trials. Should this proposal be adopted, I venture to say it would be the great attraction of the show, and a real benefit to hundreds of members who cannot visit the trials. It may be urged that there is already too much to do on the morning of the show, and someone may argue that space is limited. But is the work of the society at this show to cater for the exhibition only? I contend that it is equally important the society should give its members and the general public the opportunity of seeing the cream of the varieties grown at the trials. I feel sure all difficulties can be overcome, and this attractive feature would give an added stimulus to the whole work of the society.

NEW PLANTS, ETC.

DENDROBIUM PHALÆNOPSIS SCHRODERIANUM ALBUM, SANDER'S VAR.

A lovely flower, with an unwieldy name. It is the largest, best formed, and purest white form of this beautiful dendrobium yet seen. F.C.C., R.H.S., December 21, 1909. Messrs. Sander and Sons, St. Albans.

ZYGO-COLAX CHARLESWORTHI RUBIDA.

A charming little plant obtained by crossing Zygopetalum Perrenondi with Colax jugosus. This variety has creamy sepals and petals, freely marked with deep purple, and a prominent lip of bright red-purple hue. F.C.C., R.H.S., December 21, 1909. Messrs. Charlesworth and Co., Haywards Heath.

CYPRIPEDIUM MRS. F. SANDER.

This fine cypripedium is the result of crossing C. Eve with C. insigne Sanderæ. The broad dorsal sepal is white with a pale green base, and the waved petals and open lip are light greenish yellow. F.C.C., R.H.S., December 21, 1909. Messrs. Sander and Sons, St. Albans.

LÆLIO-CATTLEYA FIRMINI.

A wondrously beautiful hybrid, with broad yellow sepals and petals, richly suffused with rose, and a golden lip, finely coloured with crimson at the apex, and margined with rose. The parents are L.-c. Ceres and C. Dowiana aurea. F.C.C., R.H.S., December 21. Mons. Firmin, Lambeau, Brussels.

CYPRIPEDIUM ALABASTER MAGNIFICUM.

A very bold and attractive variety with a broad dorsal sepal, white, with a green base and purple lines. The petals and lip are greenish yellow, flushed with dull purple. The parents are C. Godseffianum and C. Alcibiades superbum. A.M., R.H.S., December 21, 1909. Lieut.-Colonel Holford (orchid grower Mr. H. Alexander), Westonbirt, Gloucester.

ONCIDIUM HYBRIDUM.

A very interesting but not particularly attractive orchid. It is the first hybrid oncidium raised artificially, and the parents are O. tigrinum and O. lamelligerum. Certificate of Appreciation, R.H.S., December 21, 1909. Messrs. Charlesworth and Co., Haywards Heath.

LAURELIA SERRATA.

This is the Huanhuan tree of Chili. It has broad thick leaves with boldly serrated margins, and produces curious greenish yellow flowers in short axillary cymes. A specimen in the gardens at Kilmacurragh, Wicklow, obtained from the Messrs. Rollison, of Tooting, about 1868, is now 33ft. high. Bot. Mag., t. 8279.

RHODODENDRON COOMBENSIS.

A Chinese plant collected by Mr. E. H. Wilson. It is of dwarf, shrubby habit, with small, leathery, sparsely set leaves, and pale purple flowers, each about 1½ inches across, borne in trusses. It appears to be a very free-flowering rhododendron, but as yet there is some doubt as to its being a distinct species. Bot. Mag., t. 8281.

Kew Gardens on Boxing Day.—On Monday last there were over 7,000 visitors to the Royal Botanic Gardens, Kew, an increase of 3,000 over the number recorded on the Boxing Day of 1908.

ALYSSUM SPINOSUM.

One of the alpines which, in a small state, have little appearance is the Spiny Madwort, Alyssum spinosum, a native of South Europe, but, so far as general experience goes, it is, like many other plants from the south, perfectly hardy. I have cultivated it for a long series of years, and have only lost it from other causes than winter's cold. It may be lost from neglect of top-dressing the plant when the soil becomes washed away from its roots, or when it has grown too much above the surface of the earth. Very old plants thus neglected may succumb, but if carefully attended to at least once a year, and a little fresh soil added to the surface, they will go on for many years, and will give continued pleasure.

Of somewhat trailing nature, Alyssum spinosum is not entirely recumbent, and forms a pretty bush of a shrubby nature, covered with small silvery-grey leaves, and reaching sometimes as much as a foot in height. A plant of some size looks always pleasing, and when covered in summer with its small white flowers, resembling those of A. maritimum, but rather less in size, is not a plant to be despised by any means. A feature of this alyssum not commonly observed is that which gives it the specific name of spinosum, this being the production of small sharp spines on the hard portions of the stems. In a small plant these are not common, but on a larger one they can be found in plenty.

The spiny alyssum requires comparatively little care in its cultivation, but I may remark that I have found it thrive best well up on the rockwork, and in a compost of sandy loam, grit, and stones. In such a soil a little leaf-mould is hardly necessary, but some add it to the compost. I prefer to grow it in a place where it can receive a good deal of sun, and in which it is not too much exposed to rain, although it does not suffer much from this if high up on a well-drained part of the rockwork. A good plant in my garden, with the bush half trailing over the rock, looks pleasing for many months in the year. There is a pale pink variety which is not plentiful.

S. ARNOTT.

WIRE ENCLOSURES FOR FRUIT TREES.

In a district where birds are abundant and troublesome it is often excellent economy to enclose the whole of the small fruit quarters with wire netting, so as to exclude the feathered hordes that would otherwise devour a great part of the crops unless someone was kept on duty scaring them away.

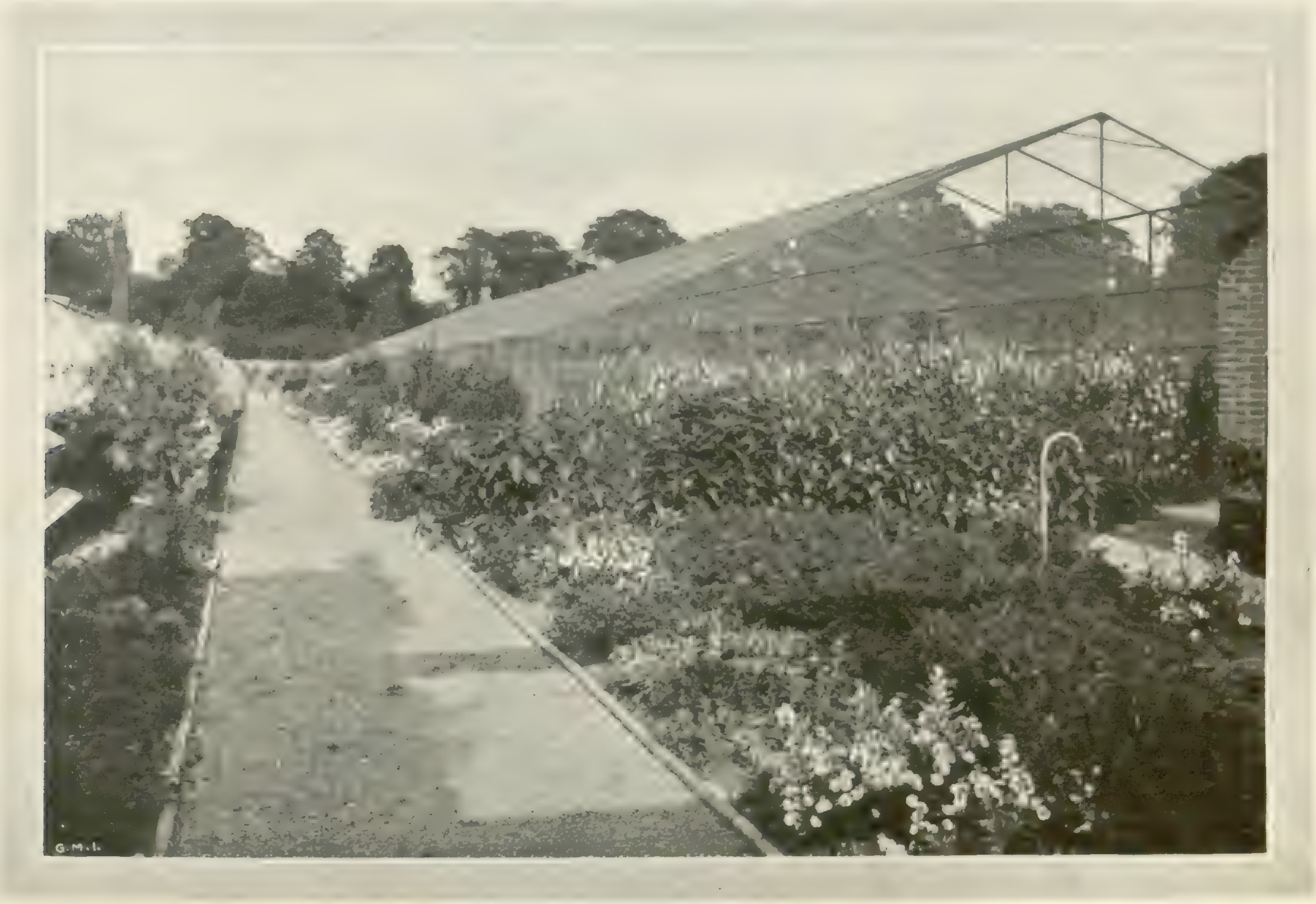
The fruit enclosure at Nuneham Park here illustrated, was built by Messrs. Boulton and Paul, of Norwich, three years ago. It is 187 feet long, and 50 feet wide. From ground level to ridge it is 16 feet 6 inches high, and 6 feet 6 inches from ground level to eaves. It was built in this way so as to throw off snow. The structure runs east and west, and all the supports are of 1¾ inch angle iron. The galvanised wire netting is of five-eighths inch mesh. Espalier trellises are placed 5 feet apart, the wires being fitted with screw bolts at each end to allow for tightening. Half these espalier wires support raspberries and loganberries, the other half being devoted to gooseberries.

Against each of the tall supports in the middle of the enclosure a tall standard sweet cherry is planted, the branches being trained fan-shape along the top wires.

There are three gates on one side of the enclosure, and a four-foot passage runs north and south through the plantation, dividing it in half, and another runs along each side, these passages allowing the necessary room for wheeling, cleaning, etc.

C. E. MUNDAY.

Nuneham Park Gardens, near Oxford.



THE FRUIT ENCLOSURE AT NUNEHAM PARK.
The residence of L. Harcourt, Esq.

PROPAGATION OF CHRYSANTHEMUMS.

Chrysanthemums have been so much written about during recent years that it is difficult to say anything that is fresh, from a cultural point of view. All one can do is to repeat for the benefit of the vast body of new growers the details essential to success. At the same time, such advice may serve as a reminder to others that the time has arrived for the rooting of cuttings, and sundry other essential details. All the encouragement possible should be given to beginners, because the older growers are gradually being reduced in number, each year seeing the retirement of one or more prominent from exhibitions. It is already a common question at shows, "Is the interest in large chrysanthemums declining?" From the large number of entries received by many societies during the season just past the conclusion is that it is not. However, be that as it may, all encouragement should be given to beginners.

Directly the flowers are cut from the plants a commencement should at once be made for next season's display. Cut the stems down to within a few inches of the soil, and stand the pots where the plants will obtain light and air, to induce the suckers, as they push from the base, to make a short-jointed growth. Some varieties throw up suckers so freely that they become weakened by overcrowding; when this is likely to occur before the cuttings are required, thin out the weakly to give space for the stronger. Some varieties are shy in producing cuttings, and it will be advisable to place the plants where they will have gentle warmth. Occasionally syringe the stems to encourage growth, but do not give too much water at the roots, as that would increase the stagnation already there.

Opinions differ as to the best time for rooting cuttings; some growers prefer one time, and some another. Taking the chrysanthemum broadly, as a hardy plant, it is natural to assume that a long season of slow, uninterrupted growth is an advantage for the production of large, high-class blooms. That is, blooms that are of a depth and solidity proportionate to their diameter, not merely of great width, and so thin that when staged the board can be seen through florets when looking down upon them.

If a bloom of Lady Talbot, for example, is nine inches in diameter it should not be less than seven inches in depth, or one of the Hon. Mrs. Lopes, an inch wider, should measure at least eight inches in depth. The florets should be broad for the variety, stout, and of good colour.

In the case of incurved blooms these requirements are even more essential, because, what is an incurved specimen of any variety when shallow, and without "build," substance of petal, and solidity? Some growers advise the striking of cuttings in bottom heat in February and March, but plants so raised are not so good as those raised earlier, for the reason that time will not allow of their proper development during the various stages of growth. The wood of late-struck plants does not ripen thoroughly, and in this way the blooms usually lack solidity. There are, naturally, exceptions to every rule. For instance, some of the finest blooms seen this season of Mrs. L. Thom were produced by plants raised from cuttings struck quite late in the season. Another objection to late propagation is the space required to keep the old plants for the production of cuttings for two months longer than would otherwise be necessary. In a general way the plants grown for large blooms should be raised from cuttings rooted between the middle of December and the same period of January. For ordinary decorative bush plants and single-flowered varieties, it will be early enough if propagation is commenced in February.

There are many ways of striking the cuttings. Cold frames, cool houses, in handlights, and the shelf of a greenhouse may all be utilised in chrysanthemum propagation. The point to enforce is that once the cuttings are inserted there should be no check afterwards, but a slow, regular, uninterrupted growth maintained until the blooms are developed.

In a cold frame the cuttings will root as well as elsewhere; the only objection to this method is that of frost, which may prevent progress for a month or six weeks, and while frost will not injure the cuttings, they are not growing, therefore they are losing time.

The best of all methods is that of inserting one cutting in a pot $2\frac{1}{2}$ inches in diameter, and placing the cuttings under a handlight in a cool house having a temperature of from 40 degrees to 50 degrees, or in other words, where the frost is excluded. Any sweet, light, sandy soil will be suitable for the cuttings, which should be about three inches long, where possible; insert them firmly in the soil, giving a gentle watering to settle the sand and soil about the cutting. Stand the pots on sifted coal ashes in the frames or handlights, for securing a cool moist foundation and excluding air. The light should be kept closed until roots are formed, with the exception that they may be taken off for an hour in the morning for the dissipation of excessive moisture, and in the evening the glass should be wiped dry. This in the dull days so often experienced at this time of the year prevents damping.

In about a month some of the cuttings will be rooted, the strongest growing varieties being the first to emit roots.

E. Molyneux.

BARR'S HYBRID LUPINS.
These are of L. polyphyllus character, and in various colours.

LUPINS.

An old legend of the lupin tells us that the rattling of its seeds in the pods almost revealed to the soldiers in pursuit of the Virgin and Child in their flight to Egypt the hiding-place of the fugitives in a brief halt they made, and that, in consequence, the plant received the maledictions of the Virgin. Some of the species have, however, been supposed to have medicinal virtues, and the seeds have also been used as food. One could devote considerable space to the legends and supposed virtues of the plant, but its horticultural aspect is that which calls for our notice at present, and the others must be left out of account any further.

As a plant for the garden, the lupin in its several forms commands our admiration, its effect being good, while the ease with which most of the species and their varieties can be cultivated renders it a satisfactory and most valued flower. The annual varieties have been and are most popular, but the operations of seedling raisers among such species as L. polyphyllus and L. arboreus have given the perennials a renewed popularity. At one time the former was but little seen save in some old gardens or in that of the country cottage, but it was not to be expected that a plant of its presence should be long neglected, and it has come once more into favour; its shrubby companion, L. arboreus, being also much sought after.

Lupinus polyphyllus.

For the herbaceous garden the species which is of most value is Lupinus polyphyllus. This, the many-leaved lupin, is a handsome plant, with pleasing foliage and long spikes of flowers, producing a bold effect when the plants are in large groups or standing well apart from other tall flowers in the borders. They grow from four to six feet or so in height, and require a good soil to do them justice. The lupin is a voracious feeder; hence, indeed, its name, coming, it is said, from lupus, a wolf, signifying its voracious character. A deep soil, well manured, will result in finer spikes and more effective flowers.

The original form of L. polyphyllus is said to be purple. There is a desirable white variety, but some of the forms of this are specially liable to drop some of their flowers at intervals along the spike, thus reducing its beauty. Then there is a handsome blue and white variety, called bicolor. Within the last few years a break has occurred in the prevailing shades, and a handsome rose-coloured variety called Moerheimi, is one of the best of this shade. Roseus is another good rose form, looser in its spike than Moerheimi, but equally beautiful in the eyes of some. But the shades of colour now are varied in the extreme, and from a packet of mixed seeds of a good strain, such as that of Messrs. Barr and Son, one of which is here illustrated, many varieties can be secured. Some of the named varieties exhibited by this and other firms at the Temple Shows are exceedingly handsome. For the border or the wild garden such lupins are of inestimable value, and for the latter L. p. grandifolius is a bold subject.

Lupinus arboreus.

The next in point of importance is L. arboreus, the tree lupin, which, when it has attained some size, is one of the most ornamental plants we have. It is of shrubby habit, and forms great bushes several feet high and through, laden with neat leaves and covered in summer with candelabra-like spikes of flowers of various colours. The range of colours has been greatly extended, and we have the tree lupin in shades of lilac, blue, purple, white, yellow, and intermediate tints. Snow Queen, here illustrated, is a very handsome white variety, but there is scarcely a poor plant to be found among all the varieties.

The tree lupin, beautiful as it is, has the drawback of being liable to die off without apparent cause, a large specimen often succumbing in winter, although others may survive in the same position. It is easily propagated, however, either by seeds or by cuttings, the latter being the method for named varieties, now rather numerous. Cuttings may be taken either with or without a "heel," and struck under a bell-glass or a handlight in the open ground. Seeds can be sown in spring in the open or under glass.

Lupinus nootkatensis.

Next, possibly, in importance of the perennials is the pretty little Lupinus nootkatensis, from the Nootka Sound, and growing little more than a foot or two in height, and sometimes less than that. It has pretty spikes of blue and white flowers, and is a useful border plant for the front or second row. It grows readily in any soil, and is increased by seeds or division.

Lupinus argenteus.

One of the few other perennial lupins in the market is L. argenteus, a pretty species with purple flowers and pleasing silvery foliage. It is about 3ft. high, but is not too hardy, especially in districts where there is much rain in winter, followed by severe frosts. It is increased by division or by seeds.

Lupinus Somerset.

Understood to be a hybrid between L. polyphyllus and L. arboreus, L. Somerset is a pretty yellow-flowered herbaceous lupin of some beauty. Occasionally plants bought as Somerset assume the tree form, and one suspects that these have been seedlings and not plants raised by division or cuttings.

Annual Lupins.

The annual lupins constitute a valuable class of plants, and one acquiring almost annually a greater range of colours. Their nomenclature is somewhat puzzling, and it is well for garden purposes to follow that under which the seeds can generally be obtained. L. Hartwegi, blue and white, 2½ft. high, is excellent; and of the same stature we have several hybrids, known as L. hybridus, with the varietal names of L. albo-coccineus, L. roseus, and L. superbus, respectively rose and white, pink, and yellow and white. L. luteus, pale yellow, is 2½ft. high, and the tall L. mutabilis, about 4ft., is pleasing with its pale purple and yellow flowers; the variety L. roseus splendens being more showy with its rose flowers. L. nanus, blue and white, is a good bedder, about a foot high. L. pilosus, 3ft., blue, and L. p. albus, white, are good plants; and in L. sub-carnosus, violet blue, with white centre, and a foot high, we have one of the best of the annual varieties. Sutton's Carmine and White is a very beautiful bedder, with its carmine, white-tipped flowers.

These annual lupins are most beautiful, and as the seeds are cheap they can be largely planted to make a good display. Their cultivation is simple, as practically any soil will grow the lupin, although they are finer and last longer in bloom in a fertile one. The seeds should be sown in April in the open, where they are to bloom, and ought to be well thinned out, so as to give the best results. These effective and beautiful flowers are of the greatest service to the gardener in arranging his summer display. S. Arnott.

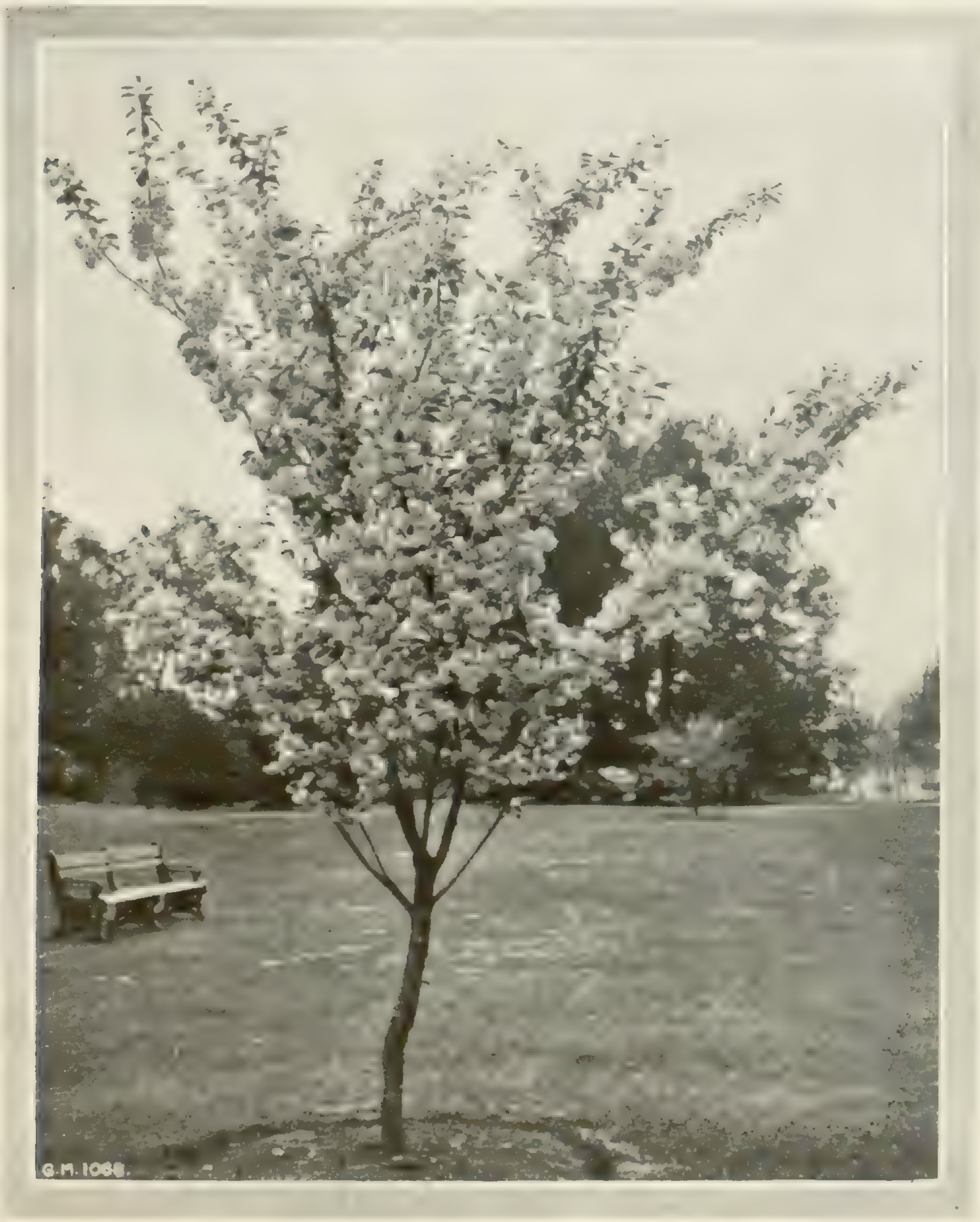
LUPINUS ARBOREUS SNOW QUEEN.
Flowers white.

HOTBEDS.

Well-prepared hotbeds will now be in great request, as gentle forcing is best for carrots, asparagus, lettuce, turnips, etc. The materials should consist of two parts leaves to one part of long stable manure, which must be well mixed, turning them several times to sweeten before finally building the bed. The beds should be four feet high, and two to three feet wider than the frames placed thereon. In a few days prepared light soil must be placed in the frames to a depth according to requirements. When nicely warmed and settled down, a good type of forcing carrot should be sown in lines ten inches apart, and between these radishes and lettuce could be sown. Subsequently more beds should be made, according to the demand, where the earlier sown lettuce should be transplanted. These beds could be made with leaves, grass, etc. It is remarkable what a small amount of stable litter will be required to keep up a steady heat for such things. G. Ellwood.

ORNAMENTAL CHERRIES.

Whether growing in hedgerow or coppice, in garden or orchard, or in pleasure-ground or park, a cherry tree when its branches are enwreathed with flowers, so exceedingly beautiful as to at once command the attention and compel the admiration of those who appreciate the charms of the forms of arborescent vegetation that have their home within the British Isles. There are differences of degree in the beauty of cherries as in the case of most other trees. The beauty of a wild gean that has become established in the hedgerow is very different to that of a tree of one of the varieties grown for fruit production in the orchard or garden, and the charm of the latter falls considerably short of the finest of the double-flowered varieties that now have a place in the garden. It may indeed be said that the best of the ornamental cherries have no superior among hardy trees flowering in spring, and that as a consequence thereof, they should be represented in all gardens of a size that will afford accommodation for one or more specimens. The ornamental cherries are indeed glorious trees, and as they are equally suitable for large and small gardens, it is surprising planters should have paid so little heed to them that, until their merits were brought prominently into notice in these pages, it was a rare occurrence to find anyone of them in private gardens. Happily, they have within recent years been planted more largely, but they are not so freely used in the creation of garden scenery as could be desired. The attention of my readers might well be directed to the illustration of the double form of Prunus Avium, as they will see at a glance that the tree is elegant in aspect and immensely attractive when bearing its precious burden of snow-white flowers. The tree illustrated is quite young, and not more than fifteen feet high, but it will, under fairly favourable conditions, attain to quite double that height. Not less deserving of attention is the illustration of the tree of the fine variety of P. pseudo-cerasus known as J. H. Veitch. It will be seen how great is its powers of flower production, and when it is stated that the blossoms are of a rich rose-pink hue, no great stretch of the imagination will be required to appreciate its wondrous beauty.



PRUNUS PSEUDO-CERASUS J. H. VEITCH.
A young tree of this fine cherry; the flowers are large, and of a soft yet bright pink hue.

The ornamental cherries have, in addition to a graceful habit and attractive flowers, the merit of rich leaf tints in autumn.

In the selection of positions for the ornamental cherries it should be remembered that the European forms, such as P. Avium and P. Cerasus and their varieties are the most suitable for lawn specimens and avenues, and that the varieties of P. pseudo-cerasus appear to the greatest advantage when arranged in small groups on the lawn or singly among shrubs of comparatively low growth. It will also be an advantage if a position for both the Asiatic and European cherries can be selected where they will receive some shelter from east winds, which sometimes do considerable damage to the flowers and thereby shorten the period of the attractiveness of the trees. It follows as a matter of course that in planting these cherries the same care should be taken as is considered necessary in dealing with those grown for their fruit. Careful planting and secure staking are essential, and it is a good practice to shorten the young growths to about one-half their length within a few weeks of the trees having been planted. Subsequently but little, if any, pruning will be required.

The following will form the best possible selection, and before proceeding to enumerate them it may be useful to mention that, owing to the confusion which exists in their nomenclature, they may not all be met with in trade catalogues under the names given. The names are those of the Kew "Handlist of Trees and Shrubs," and it would be an advantage were those engaged in their cultivation for commercial purposes to adopt the Kew nomenclature.

Prunus Avium flore-pleno is the finest of the European cherries, and should certainly be one of the first to be selected. It forms a handsome round-headed tree, attaining a height of about thirty feet, and bearing a profusion of large, pure white pendant double flowers. So freely are the flowers produced that the branches are simply wreaths of blossom, as indicated in the illustration herewith. This cherry blooms at the end of April or the beginning of May, and seldom fails to bloom in the most profuse manner.

P. Cerasus Rhexi flore-pleno.—A handsome variety, bearing a profusion of medium-sized pure white flowers, which are very double. This does not equal in merit the double form of P. Avium, and the latter should have the preference in making a selection for a garden in which the space is limited.

P. pendula is a remarkably beautiful cherry, graceful in growth and profuse in flowering. The flowers are of medium size, and a rich rose colour, and usually attain their full development during the second week of May. It is very generally known as C. pendula rosea, and is a great favourite with the Japanese, who plant it freely in the vicinity of their temples.

C. pseudo-cerasus and its varieties form a small but valuable group for garden decoration. The single variety is very beautiful, but it is not equal to the double forms, which alone should be planted in gardens other than those of the largest size. The typical double form, which is known under the name given at the commencement of this paragraph, is a comparatively low growing and shapely tree, and remarkable for its abundant flower production. The flowers are of large size ranging from one and a-half to two inches in diameter, double, and of a pleasing light pink colour. The variety known as Watereri has pale rose-coloured flowers, and is rather later in blooming than the type. Still later by a week or ten days is J. H. Veitch, which has large rose-pink flowers, and is unquestionably the very finest of the forms. The habit, freedom of blooming, and the relatively large size of the flowers is well shown in the accompanying illustration of a tree growing in the Royal Gardens, Kew. This valuable tree was brought from Japan by the late Mr. J. H. Veitch, and was distributed about ten years since.

P. serrulata is closely related to P. pseudo-cerasus, but is distinguished from it by its horizontal habit of growth, its glabrous leaves, and the shape of the flowers. As in the case of the allied species the blossoms are double and freely produced; but they differ in being white tinged with pink, and produced ten days or a fortnight later. Highly effective when in bloom, the tree is especially deserving of attention for its distinct habit of growth and the aid it is able to give the planter in the production of distinct effects. It should be utilised in the formation of Japanese gardens, but its suitability for that purpose has been overlooked.

GEORGE GORDON.

THE GENEVA HORTICULTURAL SCHOOL.

Among the many excellent educational establishments of Geneva the Ecole Cantonale d'Horticulture holds a not unimportant place, and a few notes on a visit to the school, and on the work which is being done by the masters and pupils, may be of interest.

It is situated at Chatelaine, just outside the town of Geneva, and the land, which lies between two roads, comprises seven hectares, or 70,000 square metres, much of it being laid out as an ordinary nursery, with flowers, trees, shrubs, and also fruit and vegetables.

The school was established twenty years ago, and Mons. Platel is director; he is much interested in special flower culture, particularly orchids, of which we saw a good show in September in two of the houses. M. Platel is fortunate in having the help of Dr. Lendner, of the University, as a teacher of botany, and among the other subjects in which instruction is given by separate teachers are market gardening, tree culture, agricultural chemistry, French, bookkeeping, elementary surveying, and landscape gardening.

The students have recently had to make large-scale plans of the laying out of a proposed house and grounds on a field adjoining the school premises, the design comprising an orchard, tennis court, roads, shrubberies, etc. Landscape gardening seems to be much in evidence in Switzerland at present.

Among the students this year are two Germans, two Spaniards, one Italian, and one English. Foreigners pay the moderate amount of 850 francs (£34) per annum for board and lodging and instruction, the latter consisting of three parts practise and one part lectures. Instruction is given free to lads of Canton de Genève, and other Swiss pay 250 francs a year. The full course is one of three years, during which time no salary is received. The year is divided into two terms. The pupils generally get three weeks' holiday in the year, and their hours are long, viz., in summer from 6 a.m. to 6.45 p.m., with half an hour for breakfast, quarter of an hour at 10 a.m., two hours for dinner, and twenty minutes for tea. On Saturdays they finish at 3.45, and Sunday work is so arranged that each student is only on duty about once a term.

Switzerland has not yet shown Germany and other Continental countries, as England can well do, that the same, or even more, work can be done in a shorter day, and especially if the universally long time for midday dinner is considerably curtailed. On going from England to Switzerland one is often annoyed to find that banks, and even some post offices, are generally closed from twelve till two p.m.

An excellent monthly horticultural paper is edited and published at the school. It is called the "Journal d'Horticulture et de Viticulture Suisse." It is an illustrated quarto, published at four francs per annum. Among the more important articles this year have been one by Dr. Alf. Lendner, entitled "A Dangerous Enemy of Rose Trees" (Peronospora sparsa); "The Use of Chemical Manures in the Culture of Vegetables," by Professor Monnier, and on a new method of cultivating asparagus by a French grower.

There is a very fair museum at the school, comprising polished sections of various timber trees, cases of sand-dried specimens illustrative of inflorescences, the classification of fruits, the dispersal of seeds, etc., also models of edible and poisonous fungi, cases of injurious insects, and the mischief they do. Some of these were shown in the scientific department of the Geneva International Horticultural Exhibition this autumn. At this show we also noticed two large cards with mounted specimens of pressed alpine plants, showing in a very practical manner certain characteristic lime-loving species and their corresponding allies, found chiefly on the older siliceous and granite rocks. One card was headed "Plantes calicicoles," and the other "Plantes silicicoles."

Although the more we study the question the more we are inclined to agree with Professor Warming, in his excellent book on the "Ecology of Plants," recently translated into English, that the physical have more influence over vegetation than the chemical properties of the soil, yet we think children in some of our schools might be encouraged to take Geneva as a model and make similar small, comparative collections of, say, (1) characteristic plants from a chalk or limestone down, and those of an old red sandstone moor, or (2) plants from a sandy heath or common, and those of the sand dunes of the coast; (3) species growing in a salt marsh, and those in an ordinary inland marsh, or (4) those from a bog on the mountain side, and others from a peat moor or turbary. Such a collection should greatly tend to develop a child's faculties of observation and reasoning.

H. Stuart Thompson.

PRUNUS AVIUM FL. PL.
A medium-sized specimen of this handsome cherry. The flowers are large in size and snow-white.

Tomatoes.—Those sown in October will now be ready for shifting into 5-inch pots; place them on shelves near the glass in a temperature from 55 deg. to 60 deg.; maintain a buoyant atmosphere, and be very sparing with water.—G. E.

FORCING ROSES.

Few subjects are more taking than a well grown pot rose, nor are any flowers more popular than roses when cut from under glass early in the year. To grow a pot rose suitable for the conservatory needs different treatment from the first, compared to growing a number of good blooms solely for cutting purposes. The fine specimens seen from time to time at the Temple and other exhibitions have received a long course of careful attention. In many cases, even these would not have the most taking appearance if set out separately; it is the artistic grouping that causes such superb effects.

Many roses that are extra useful to cut from do not make good or shapely plants. One of the main causes of failure is crowding, and an over-mixture of subjects in the forcing house. Too hasty commencement is another frequent fault. We do not bear in mind sufficiently how steadily roses come on at first in a more natural condition. It is after the groundwork is laid that they can be hurried on a little. Note how very rapidly roses come on during a few days' genial weather early in June, when they have been growing steadily for six weeks or so. It is the same in forcing. Start early and proceed steadily. To do this with the greatest chances of success we need well-ripened wood, not a large quantity of it, but firm and not coarse. You must have a healthy plant to succeed in obtaining any but very mediocre results.

Having obtained a good foundation to commence upon, see to the drainage, repot, and mulch where necessary, and prune carefully. One must consider, too, whether really good specimens or merely a quantity of fairly good flowers are wanted when pruning. A temperature of 50 degrees is ample to start with, and I do not care to have the soil very wet about the roots. A few uses of the syringe, with a little warm water, helps the buds to push, and root moisture can be applied more freely as growth proceeds. After the buds burst and the growths are about two inches in length the temperature may rise from 10 to 15 degrees with advantage, but I would not do so earlier. My experience is that hasty forcing often causes many blind or flowerless growths. Not that the embryo bud was not there, but it could not develop, and, even if it did, in many cases, a slight check, owing to the roots not being sufficiently active to supply enough nourishment, they fail, and drop off while almost invisible. Another frequent cause of quite young buds failing no doubt proceeds from injudicious use of insecticides or too strong a fumigation. I have noticed this last more particularly with Niphetos—still our best forcing white rose. In fact, just at this stage any check, even from slight drought, may have a very bad effect.

To keep plants of roses healthy is undoubtedly half the battle against insect enemies, while mildew should not be much trouble where a house is devoted to roses. One can generally trace the cause of this dread disease to extremes of one kind or another. It may be from extremes in temperature, watering, or from too strong an application of liquid foods. Check of some kind is always the forerunner of mildew, and keen draughts when ventilating are probably the most general. Roses do not need so much ventilation as many give; in fact, only just sufficient to aid in regulating the temperature. I would much rather check the fire heat and throw down plenty of water upon the few sunny hours than admit any outside air.

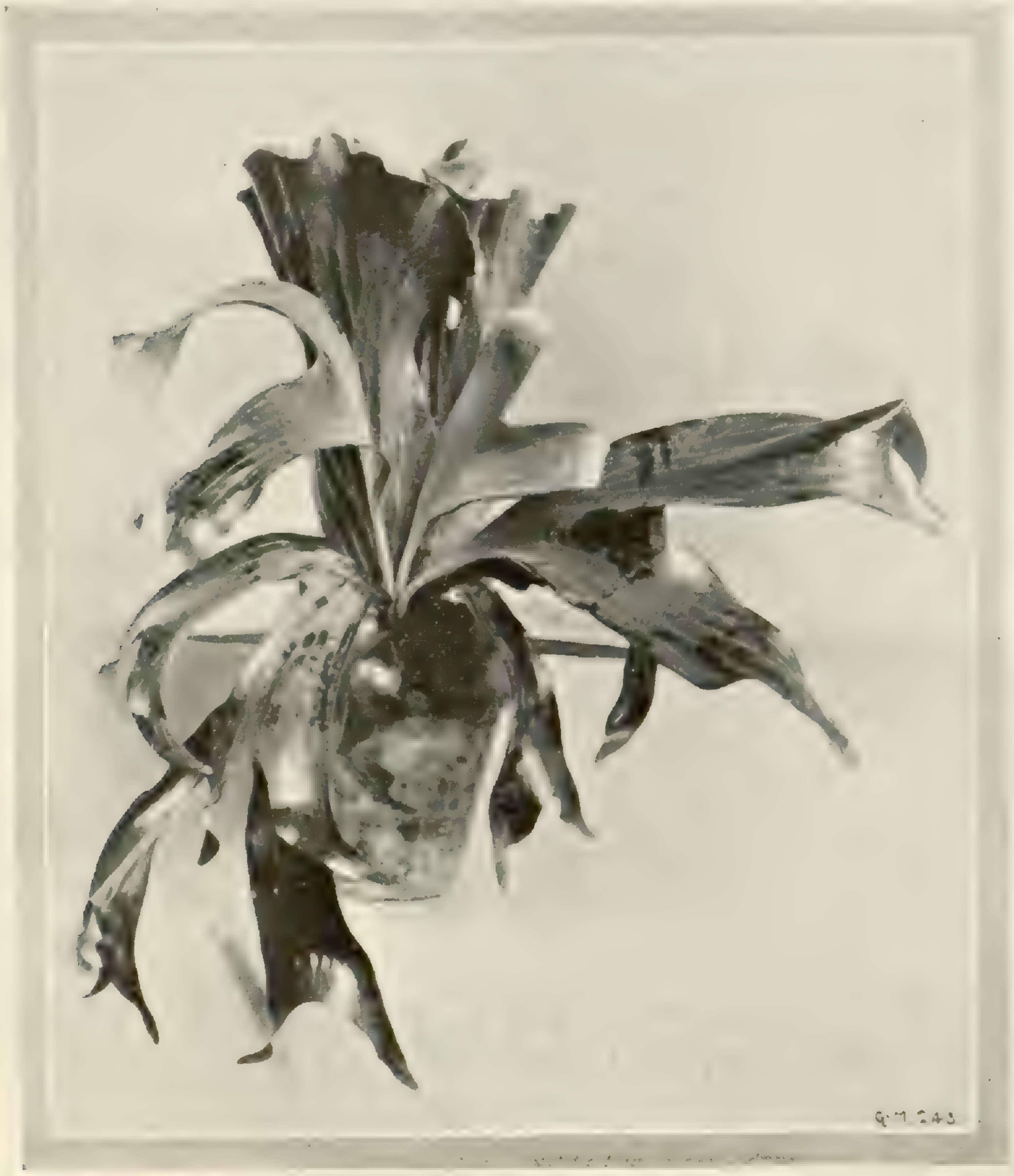
Steadiness has been advised as regards heat, but it is also needed when applying liquid stimulants, and in fumigating or syringing when fighting against insects. Give liquid manure freely when growth is well established, but let it be weak. If used strong, the delicate feeding roots are checked at their points of growth, and one can frequently discover this if a plant is turned out of its pot after an overdose of liquid food.

Attack insects immediately they appear. Do not wait a day or two because you only discover a few, as they increase so rapidly. Syringing and fumigation are both capital things when used with judgment. I prefer to fumigate slightly at night, and then syringe the following morning. The latter knocks off and settles those not quite killed by the fumigation. But whatever you apply against these pests, avoid extremes. Mildew can be best battled against by adding flowers of sulphur to the water used in syringing. Keep it well stirred during use. As the foliage dries there will be a fine and not unsightly dusting of sulphur left, quite sufficient for its purpose.

As the sun gains in power a little shading will be needed, not so much against the sun's rays, as to help in regulating the temperature without much ventilation. During February and March sun and wind are often very trying, and we must avoid draughts. Roses in pots like a cool surface to rest upon, and I prefer them to be anywhere rather than upon wooden stages or benches. Tiles are excellent, for they last well, and can be cleaned easily when necessary, and do not rot when extra moisture is thrown among the pots.

Of late there has been several newer roses from the dwarf Polyantha section that are more than usually suited for pot culture. Mrs. W. H. Cutbush, Phyllis, Jessie, Baby Dorothy, and Madame Norbert Levavasseur are really grand for this purpose. All of these are exceptionally free in blooming, and last a long time, making perfect little specimens that cannot fail to please.

Uckfield. A. PIPER.



PLATYCERIUM ÆTHIOPICUM.

PLATYCERIUM ÆTHIOPICUM

The Elk's Horn or Stag's Horn ferns are few in number, the genus consisting of few species. These species, however, come from widely distant places. The best known and most commonly grown species, Platycerium alcicorne, comes from Temperate Australia, its larger form coming from Polynesia. P. biforme is found in the East Indies, and the splendid P. grande in Northern or Tropical Australia. P. Hilli, found in Queensland, is allied to P. alcicorne, and now regarded as a varietal form of the latter. P. Wallichi is found in the Malay Peninsula, and P. Willincki in Java. P. Veitchi is of garden origin, and P. madagascariense hails from Madagascar. P. angulense, formerly regarded as a variety of P. æthiopicum, now ranks as a species, but both come from Tropical Africa, and were originally found in Angola and on the Guinea coast.

P. æthiopicum is sometimes known as P. stemmaria, but the botanical authorities consider the latter name but a synonym. The fertile fronds of P. æthiopicum are broader and thicker than in P. alcicorne, and they are covered on the under surface with cottony down. The fruiting or spore-bearing portion of the frond is very effective, and the mass of sori is usually more or less V-shaped, and follows the forking of the frond. P. æthiopicum needs stove treatment, and will succeed side by side with P. grande. Our illustration represents a plant grown and exhibited by Messrs. H. B. May and Sons, Edmonton.

PHLOX BORDERS.

A choice selection of the finest late summer and autumn flowering phloxes of the decussata type will add much to the interest of a garden. Phloxes are showy, useful for cutting, and their perfume in the garden morning and evening is a distinctly pleasing feature. I do not think phloxes are grown nearly as much as their merits deserve, or at least they are not generally well cultivated in private gardens. There is a tendency to allow them to become overrun by stronger-growing subjects until they are weakened, and do not give a tithe of their natural beauty.

The accompanying picture, from a photograph by Miss Dendy Sadler, shows a remarkably fine border of these flowers, and well illustrates their usefulness under good treatment. An edging of violas at the front is also a good idea for hiding the stems of the phloxes, and the soil, and giving variety over a longer period than the phloxes will bloom.

[Photo: Miss Dendy Sadler.

A FINE BORDER OF PHLOXES.

A suitable site will favour success. A western aspect is good, as there the plants receive protection from the fierce morning sun, and during a spell of hot and dry weather in June this is helpful to a luxuriant growth, as phloxes cannot withstand drought without special attention in the matter of mulchings, and a free supply of water at the roots.

Some persons advise the replanting of phloxes every two years. I have not found this necessary for ordinary garden decoration. These same folks recommend not more than three stems; well, if the largest of panicles and individual blossoms are required, for exhibition or any other purpose, I have nothing to say against that method of culture. For ordinary garden use, however, in the herbaceous border, or specially in a mass by themselves, clumps carrying at least a dozen spikes can be had, and even more, for at least six years. In such cases the weak shoots should be removed every spring to provide space for the stronger ones, and an annual top-dressing of short manure must be worked in about the roots to assist growth.

Propagation is a simple matter, and the easiest way is to take pieces with roots attached from the clumps, choosing the strongest outside sucker-like growths. Stout cuttings taken off in April, inserted in sandy soil, in a cold frame, and kept shaded for a few days, will quickly make roots, and be most useful for filling spaces at the front of borders, and will give a good-sized spike in the autumn. In this way, too, a stock of plants is easily raised for planting a full border of phloxes.

As to arrangement, that is purely a matter of taste. I prefer the massing system of having at least three plants of one variety together. In this way each sort has an opportunity of displaying itself fully. The preparation of the site, no matter where, is a simple matter. Deeply trenched, heavily manured soil is necessary. If this be heavy in character, retentive of moisture, and naturally cold during the winter, then early in March is a good time to plant, preparing the soil in the autumn. Such soil favours slugs, and the plants have at times a difficulty to grow under such conditions. The addition of a small quantity of sandy soil, decayed leaves, or roadside grit, incorporated properly at planting time, will promote speedy growth. In the case of sandy soil, October is a good time to plant, as in such soil, which retains its warmth longer in the autumn, the plants start rooting at once, and consequently are in a better condition to grow away in the spring than are plants that are not bedded out until March.

Mulching the surface with half-decayed manure is helpful to phloxes. Decayed leaves, old potting soil, vegetable refuse, with some artificial manure added, is a good substitute for manure if this is objectionable. It is important the mulch should be applied early, say, at the end of April, to give the plants the full benefit of its use in enriching the surface soil and conserving moisture. Heavy waterings with liquid manure when the flower buds are forming is labour well spent, as it increases the size of the blooms and improves the colour of the leaves, all of which emphasise the colour of the blossoms.

As to varieties, there is an immense number to choose from. The following will be found useful: Amongst whites, there is abundant choice; Tapis Blanc has probably the largest flowers, is pure white, but being so dwarf, 1 foot, the flowers are liable to be splashed during heavy rains, still it is a handsome variety. Frau Von Lassberg is most desirable, and so is Amazone and Mrs. Jenkins, with Virgo Marie as an exceptionally late flowering variety, most useful in the herbaceous border, although small in its blossoms. In height it grows 4 feet. Miss Pemberton grows 18 inches high, very free in flower, lasts a long time, and is bright carmine-rose, with a dark centre. Amongst orange-scarlets Roger Marx, Coquelicot, and George A. Stroehlein are desirable. Violet and blue are well represented by Le Mahdi, Antonin Mercie, Queen Alexandra, Henri Farman, and Eugene Danzanvilliers. Rose or pink are obtained in Beauty, Comtesse Steinberg, Killarney, and Sheriff Ivory. Mrs. Oliver, salmon-pink; Matilda Serao, white, tinted lavender; Marguerite, porcelain-blue; and Eclaireur, dark carmine, quite one of the best, making huge panicles, are other fine varieties.
M. E.

Hampshire.

THE WHITE BEAM TREE.

Pyrus aria, or the White Beam Tree, as it is popularly called, is a well known British tree, which occurs in many parts of the country, particularly on chalky soil. Under favourable conditions it attains a height of 30 or 35 feet, but is frequently found on barren rocky ground, in more or less bush form, and not more than 8 or 10 feet high. A well-developed tree forms an ornamental object, for the large, ovate leaves are silvery on the undersurface, and are very effective when moved by the wind. The flowers are white, and borne in good-sized flat corymbs in May, and they are followed by large bunches of fruits, which, when ripe in September, are orange-scarlet. Added to these recommendations, it grows naturally into a shapely tree, and thrives in almost any position, being well adapted for exposed places, and being worthy of consideration for a wind break. As it starts into growth later than most trees it escapes late frosts, and it is rarely that even the tenderest leaves sustain injury. Birds are very fond of the fruits, so, unfortunately, they cannot be kept on the trees for a very long period.

The species is very widely distributed through the North Temperate Zone, and a great many variations from the type have been recorded, some of which have been given varietal names, and are cultivated for their ornamental qualities. Like other widely distributed trees, it has been blessed, or otherwise, at various times with a multitude of names, and has been placed in at least seven different genera, as follows: Pyrus aria, Aria nivea, Azarolus aria, Mespilus aria, Pirenia aria, Cratægus aria, and Sorbus aria. In addition to white beam tree, other common names have been used, and several are mentioned by Loudon, such as white wild pear, white-leaf tree, red chess-apple, sea ouler, Cumberland hawthorn, and Alisier allouchier, cog of a wheel, a name given on account of the wood at one time being largely used for cog wheels.

Many of the varieties likewise have been plentifully named, but those given below are the ones generally accepted. Many of these varieties are very ornamental, and worthy of cultivation amongst select collections of trees. P. aria angustifolia is a variety recognised by means of its small narrow leaves.

P. a. chrysophylla.—This is remarkable by reason of its yellowish foliage. The leaves are brightest when they first appear, but a fair amount of colour is retained until autumn. The fruit of this form is bright red.

P. a. flabelliformis is recognised by its large rounded leaves and fine heads of flowers and fruits.

P. a. græca is a very floriferous variety. The fruits are usually orange coloured, and for some reason they are left untouched by birds until all the other kinds are gone, which points to the fact that they are less pleasant to the taste.

P. a. lutescens.—This, like chrysophylla, has yellowish leaves, but less bright than those of that variety. The fruits are orange coloured.

P. a. majestica.—Of all the varieties this is the most handsome. The leaves are much larger than those of the type, the silvery colouring more marked, and the fruits of a richer red. The fruits are borne in large pendulous corymbs, and are particularly handsome.

P. a. quercoides is more curious than beautiful, the leaves being curiously shaped, but not handsome.

P. a. raticifolia is somewhat like angustifolia, and is noticeable by reason of its narrow leaves.

P. a. undulata differs from the type and other varieties by reason of the margins of the leaves being undulated.

For anyone who wants a couple of really good varieties only, P. a. majestica and P. a. chrysophylla should be selected.

W. D.

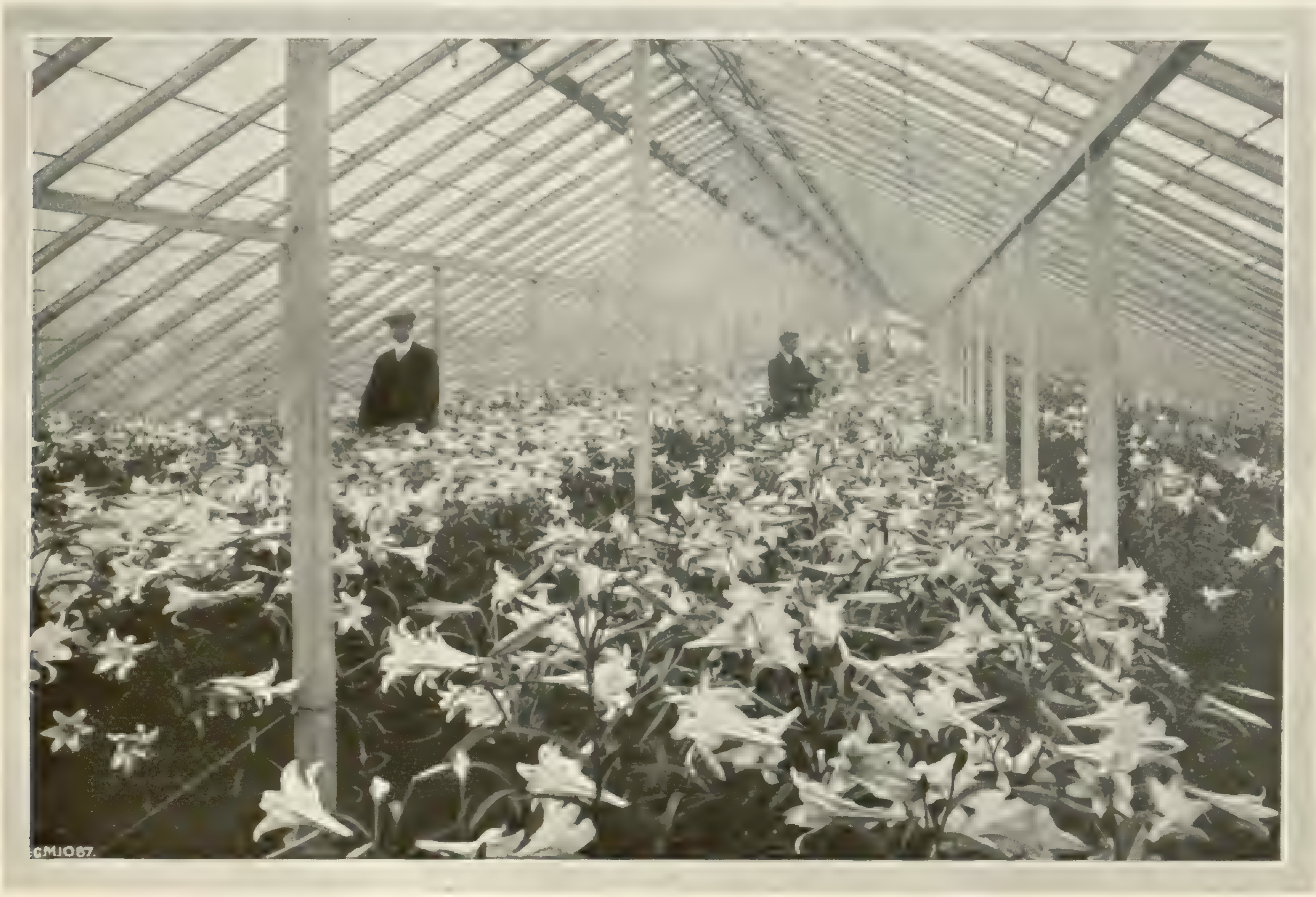
LILIUMS AT HAMPTON.

The name of Mr. W. H. Page, Tangley Nursery, Hampton, is now so well known to the flower-loving public in connection with the winter-flowering carnation, that I am inclined to think the accompanying photograph may prove of some interest to your readers, as it well serves to show to what extent and with what success the cultivation of Lilium longiflorum is undertaken by our market growers for the Christmas trade, though I doubt if there are many who attain such success as does Mr. Page. The house was photographed on December 17, and, as will be seen in the illustration, cutting had commenced a few days previously, particularly down the sides. The house is 190 feet long by 30 feet wide, and the plants are arranged in four blocks running the entire length of the house. It contained some 3,500 pots (large 24's), three bulbs in a pot, and from each pot there averaged twelve very fine blooms, though on many there were several in excess of this number.

This is only one of several houses of lilies in various stages of growth. Lilium speciosum album and L. speciosum rubrum make a very fine show in several houses, while several houses of carnations were looking extremely well, and crowded with bloom buds, the varieties White Perfection, Enchantress, President Roosevelt, and May Day being in grand condition.

As is the case with most of our successful market growers, Mr. Page deals only with a few things, but what he does, he does well. Liliums, roses, carnations, and narcissi are the chief crops.

T. STEVENSON.



LILIUMS FOR THE CHRISTMAS AND NEW YEAR'S MARKETS.
A house of Lilium longiflorum at Mr. W. H. Page's Nurseries, Hampton. Photographed December 17, 1909.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEASONABLE NOTES.—With the turn of the days the work in the orchid houses will become pressing. Forethought therefore is necessary to facilitate progress. By preparing potting composts, cleaning down the insides of the houses, stages, pots, etc., at the present season, we may avoid delay at the time when so many subjects need attention. While there is no frost a stock of sphagnum moss should be obtained. When procured at this season it may be stored either in a cool shed or in the open air, and if turned occasionally it keeps in good condition for months together. If the sphagnum can be picked by the outdoor members of the garden staff when conditions are not favourable to outside work, this will be of considerable advantage later on. It is a good plan to thoroughly wash the sphagnum before picking it, as this not only renders the moss clean, but also assists in removing slugs and their eggs, which are so frequently troublesome after plants have been freshly potted. While advocating that all composts should be ready for use, I do not consider it advisable that they should be intermixed until required for use.

STERILISING LEAVES. — Polypodium and osmunda fibre are at all times desirable for potting. In the case of decaying leaves there is always a possibility of small worms and insect pests, as well as fungi, all of which it is most undesirable to introduce to our houses. It is a good plan to place the leaves in a bag or sack, and plunge them into boiling water for a few minutes, after which they may be drained, dried, and chopped ready for use. In the case of osmunda fibre we frequently find quantities of tiny slugs and shelled snails when preparing it for use. This illustrates the necessity of taking every precaution to plunge the turves of fibre into the copper for a few seconds to effectually clear it of pests. The fibre can easily be drained and dried by placing it on the pipes in the stoke-hole or other convenient place.

CALANTHE BULBS.—Where the flower spikes have been removed, calanthe bulbs may now be turned out of their pots and placed under resting conditions. These plants are by no means ornamental when in a dormant state, and where the pseudo-bulbs are permitted to remain in the pots they occupy much room, which very often is needed for other purposes early in the year. There is no advantage in leaving the pseudobulbs in their pots; put all plants of the same variety together, turn them out of their pots, and after removing the potting compost, cut away all the roots to within an inch or so of the pseudo-bulb. Then place the bulbs in an upright position in ordinary seed boxes, about 3 or 4 inches deep, the bottom of the boxes having previously been covered with a layer of chopped sphagnum moss and silver sand. These boxes may then be stored on a shelf, or in some dry position in the house, where they may remain until the return of spring, and the plants show signs of renewed vitality. Where it is desirable to increase the stock the back bulbs should be saved, but be stored separately from the new bulbs; most old bulbs may be induced to produce growth if treated in the ordinary way.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

RESTING.—We have reached the first day of the New Year, and have still many weeks of cold, sunless weather to look forward to. We must therefore still consider this the resting period with many classes of stove plants. If the plants are resting we shall not have any need to be idle in the stoves. Yet it is much too early to be pushing things ahead. Within a quite recent period a great change in public taste has taken place with regard to stove plants, especially those grown for their foliage. Many of the older subjects with attractive leafage have been discarded in favour of flowering plants that require an intermediate temperature. The change is one that has its advantages, for we have now a race of begonias that has done much to oust many of our fine foliaged stove plants that were employed so generally for all kinds of house and table decoration. Moreover, specimen stove plants are grown in much smaller numbers, and the houses in most cases are used for the early forcing of all kinds of hardy shrubs, bulbs, etc.

TEMPERATURE. — The temperature of the houses at this season should not be too high. In the case of a house of crotons or dracænas, and other fine foliage plants, it should range from 65 to 67 degrees at night, this allowing for a slight fall before morning. For houses in which are begonias, euphorbias, poinsettias, and similar subjects, 55 degrees will be quite high enough at night, allowing for a 5 degrees fall before morning. Most of these plants will be quite at their best by now, and it only remains to keep them in good condition as long as possible.

WATERING.—All classes of stove plants must at this season be very carefully watered. In cases where the pots are near the pipes they must be watched, and not be allowed to become too dry, or a loss of foliage or flowers will result. This remark also applies to many of the stove climbers that are usually planted near the pipes; they require just enough water to keep the wood plump, and not sufficient to push them prematurely into active growth.

SYRINGINGS overhead may be given to crotons and a few other subjects on mild mornings, but not in the afternoon; rely more on frequently damping the paths and underneath the plants to ensure the necessary degree of atmospheric moisture. Dracænas resent overhead syringings during dull, cold weather, and if they can be arranged by themselves and kept fairly dry overhead for a few weeks, the leaves will remain in much better condition than when frequently syringed. If red spider or thrips are troublesome an occasional sponging with weak insecticide will keep these pests down, or what is quicker, a bi-weekly dipping will do away with the need of sponging except when necessary to brighten up the leaves. —T. Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

SECOND EARLY VINERY.—A vinery thoroughly cleansed, and otherwise prepared, and its borders top-dressed with fresh compost, should now be closed for the purpose of supplying a succession of fruit. Provided the house contains vines that have of late years been started early in the New Year, there need be no difficulty about the rods breaking satisfactorily into growth. Vines with their roots confined to inside borders are most suitable for starting at this date; in fact, we prefer inside borders in any case, and if the soil is at all dry it should be given sufficient tepid water to moisten it through. Use enough artificial heat to keep the night temperature at from 45 to 50 deg., and that for the day slightly higher; promote a fairly moist atmosphere, and on bright days syringe the vines in the morning, and again in the afternoon. Should any of the vines carry young rods bend these down in order to assist the buds to break throughout their whole length.

LATE VINERIES.—There should now be no delay in relieving vines of their fruit and safely storing it in a grape room, where the atmosphere can be kept dry, and a temperature of from 45 to 50 deg. be upheld. To afford the vines the benefit of a perfect rest, fully open (except when frosts are very severe) the ventilators of the house, and prune the vines by cutting each lateral back to two good basal buds, i.e., if the ordinary short spur method of pruning is adopted. This should be done without delay, and be followed by giving inside borders an efficient watering and by thoroughly cleansing the house and its vines. In attending to the vines, first free them of all loose bark, particularly of that from about the spurs, and thoroughly wash them with a suitable brush and a fairly strong insecticide. The most effectual way, however, of dealing with mealy bug is by cyaniding, but the inexperienced operator should obtain an expert's advice before venturing upon this method of insect eradication. After removing the surface of the borders top-dress with a fresh compost of sound loam, freely mixed with wood ashes, fine mortar rubble, and a smaller quantity of a good artificial vine manure.

MELONS.—There is no gain in raising melon plants before the New Year commences, but those raised from seeds sown now will have the benefit of lengthening days in which to develop, and with the assistance of favourable weather there should be no difficulty in securing from a free-setting early variety good ripe fruits by the end of April. For the seeds use 2½in. pots filled with fine loam, slightly mixed with leaf-soil, plunge the pots in a gentle hotbed, and cover with a sheet of glass, which will both assist germination and protect from mice. As soon as the plants appear, place them near the glass, upon a shelf, where they have a night temperature of from 65 to 70 deg. with a corresponding rise by day. In our case a pine house is made use of for this purpose, and the plants are subsequently put out at two feet apart in a firm ridge composed of sound loam mixed with crushed mortar rubble and a little soot. This ridge is placed well up towards the glass, over a bed of tree leaves, with heated pipes beneath it. Failing conveniences of this description, a carefully prepared hotbed, formed of tree leaves and stable litter, should be made ready for planting. — T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

PLOT ARRANGEMENTS.—To become successful in the cultivation of vegetables, a plan of the garden is far more important than perhaps appears. A plan can easily be made of the vegetable quarters, in which the names of the future subjects should be inserted. It will then become an easy matter to prepare each piece of ground to suit the requirements of the intended crop. Such a system as suggested is the most satisfactory, and expense is curtailed in the application of manure, as many taprooted vegetables require no manure if a good dressing of burnt refuse, soot, etc., is given when trenching.

PREPARING THE GROUND. — Some growers advocate autumn preparation, others the spring. Which is best can only be decided on the spot, when one knows the nature of the soil. Light or sandy soils can be prepared with advantage in the autumn or early in winter, leaving the heavy land until February or March, though this should be turned over roughly the previous autumn, after the crops were stored, for the weather to pulverise and sweeten.

BROCCOLI.—Should not enough be turning in to meet the demand, take up the forward-looking ones with a good ball of earth attached, and place them in pits, or even frames, and encourage them in every way, but give air on all favourable occasions.

SEAKALE.—If this crop is not already taken up, lose no time in lifting it. The best and healthiest root-thongs should be cut off and prepared for sets during bad weather, the forcing crowns being laid in soil or fine ashes in a cold yet sheltered situation, until required for forcing. Introduce chicory, rhubarb, and endive to the mushroom house as the demand requires it.

GENERAL REMARKS.—Have fir boughs, bracken, or long litter in readiness for protecting celery, broccoli, and other tender vegetables, but uncover these during favourable weather if only for a few hours in the day. Have quantities of loam, sand, leaf-soil, and burnt refuse under cover, as many seeds will have to be sown towards the middle of the month. Make boxes about twenty inches long, nine inches wide, and two and a-half deep, for seed sowing. Stand early varieties of potatoes upright in boxes in a light position to sprout previous to planting in pots and frames.—G. Ellwood, Swanmore Park Gardens.

THE LEAMINGTON AND COUNTY FLOWER SHOW
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EXHIBITIONS AND MEETINGS.

◆

National Dahlia Society.

DECEMBER 21.

The annual meeting of this society was held at the Hotel Windsor, Westminster, on December 21, when Mr. E. Mawley, V.M.H., presided over a small attendance. The minutes of the last annual meeting having been read and confirmed, Mr. E. F. Hawes, one of the co-hon. secretaries, read the annual report, which is as follows:

ANNUAL REPORT.

It had long been felt that there was no room for two societies devoted to the interests of the dahlia, and the committee are glad to be able to record the amalgamation, at the close of 1908, of the London Dahlia Union with the National Dahlia Society. This year two shows have been held, one at the Crystal Palace, on September 2 and 3, the other at the Botanic Gardens, Regent's Park, on September 21 and 22. The wet cold summer was altogether unfavourable to dahlias, and the early show suffered considerably owing to the late season. The classes for amateurs were fairly well contested, although there was a falling off in the classes devoted to those who had never won a prize at any previous exhibition of the society.

At the second show, at the Botanic Gardens, practically all the classes were well filled, and the attendance was most satisfactory. The total number of entries for the two shows was 387.

Altogether some 150 new varieties were submitted to the society, and ten certificates were awarded, four at the first show, two at the second, and four by a joint committee of the Royal Horticultural Society and National Dahlia Society. Twenty certificates were awarded to new varieties last year; fifteen in 1907.

The committee paid a visit to Slough and inspected the trials of pompons in Mr. Charles Turner's nursery. Several varieties obtained three marks as garden dahlias, and others gained three marks as exhibition varieties. These are named below. The committee wishes to acknowledge its indebtedness to Mr. Turner for his valuable assistance in conducting this trial.

The committee desire to convey their best thanks to the donors of special prizes, viz., the President, the Crystal Palace Company, Messrs. J. Cheal and Son, Messrs. Dobbie and Co., Mr. S. Mortimer, Messrs. J. Stredwick and Son, Mr. John Pinches, Mr. R. Sydenham, Messrs. T. S. Ware, Lim., Mr. John Walker, Mr. W. Stephens, and Mr. J. S. Brunton.

Arrangements are being made to hold two exhibitions during 1910, one at the Crystal Palace, on September 8 and 9, and the other at the Royal Botanic Gardens on September 20 and 21.

It has been further arranged to hold a conference on dahlias in March, at the Essex Hall, Essex Street, Strand. This, it is hoped, will have the effect of stimulating interest in the dahlia world.

It is interesting to record that for the first time this year the N.D.S. offered prizes for pæony-flowered dahlias, also for garden cactus varieties, and, further, decided to award certificates to any new cactus varieties considered to be suitable for garden decoration.

Three new sections are enumerated in the "Supplement" for 1910, namely, pæony-flowered, decorative, and collarette, with a list of the most useful varieties under each particular heading.

Three marks have been awarded as the result of the pompon trials at Slough to the following exhibition varieties: Edith Bryant, Daisy, Clarence, Mars, Douglas, Cyril, Portia, Montague Wootten, Ideal, Orpheus, Nellie Broomhead, Nerissa, Tommy Keith, and Adela. Garden varieties: Darkest of All, Daisy, Mars, Falcon, Iris, Portia, Montague Wootten, Ideal, Isabel, Romulus, Silvia, Nerissa, Tommy Keith, White Aster, Whisper, Vara, Zerlina, Virginale, and Adela.

Mr. E. Wilkins, the honorary treasurer, presented a financial statement and balance-sheet for the year. The financial statement showed that the income, including the balance of £6 6s. 2d., from the previous year, amounted to £193 10s. 4d. Of this amount the sum of £89 11s. 6d. was received as subscriptions, £25 from the Crystal Palace, and £22 15s. for admission to the exhibition in the Royal Botanic Gardens. The expenditure amounted to £194 17s. 11d., and of this amount the sum of £129 8s. 6d. was disbursed in prizes, £9 12s. 7d. in medals, and £14 16s. 6d. in challenge cups.

The President, in moving the adoption of the report, financial statement, and balance-sheet, referred to the unfavourable character of the season, so far as it related to the dahlia, and to the good work that had been accomplished in various directions. He felt the time had come when a special effort should be made by the society to bring into greater prominence the value of dahlias for garden decoration, and he anticipated much good from the conference that will be held in March next. Other speakers included Mr. J. Cheal, Mr. G. Gordon, Mr. Brousson, Mr. Stredwick, and Mr. West. At the close of the discussion the motion was carried unanimously. Mr. E. Mawley was re-elected president, and Mr. G. Gordon, chairman of committee. Mr. Wilkins having intimated his intention of retiring from the treasurership, he was elected a vice-president, and Mr. G. Green was elected treasurer. Mr. H. H. Thomas retired from the position of co-hon. secretary owing to his many engagements, and Mr. E. F. Hawes was elected hon. secretary.

Votes of thanks to the officers, and to Mr. E. Mawley for presiding closed the proceedings.

St. Ives.

The eleventh annual exhibition of the St. Ives Farm and Dairy Produce, Root, and Fruit Society was held, as in former years, in The Broadway, St. Ives, Hunts, on Monday, December 20, and proved very successful. The quaint old town of St. Ives on this occasion is thronged with visitors from the surrounding villages and towns, and the show, being held on a market day, is looked forward to with much interest. Probably this show is almost unique in its kind, a huge marquee being erected in the middle of the main street, lighted with gas, and charmingly decorated with plants and flowers; and, above all, the competition was extremely keen in almost every department. Farm produce was largely shown, and potatoes, onions, and hardy fruits made a brave show. The fruit included some of the most perfectly-finished and highly-coloured apples and pears that had been exhibited in the last quarter of 1908. For five culinary apples every dish shown was first-rate, the leading prizewinners were: Sir A. W. Marshall, Buckden Towers; Mr. F. Rule, Needingworth; Mr. R. Brown, Somersham; and the most notable examples were those of Bramley's Seedling, Wellington (very fine), Peasgood's Nonsuch, and Mère de Ménage. For five Cox's Orange Pippin, Mr. R. M. Copley, Burleigh Hall, St. Ives, staged an extraordinary dish, the fruits being large, perfectly shaped, and highly-coloured; Mr. G. D. Day, St. Ives, second with specimens large in size, and of high quality. For five specimens of any kind of dessert apples, Cox's Orange Pippin excepted, Mr. R. M. Copley was again first, staging Ribston Pippins of the highest quality; Mr. T. Longman, Warboys, second; and Mrs. G. Hobbs, Ramsey, third. For three dishes of cooking apples, Sir A. W. Marshall was well first; Mr. C. Cousins, Croxton Park, second and third. For three dishes of dessert apples Mr. R. M. Copley was a splendid first, and Mr. C. Cousins second and third. For a dish of twelve apples, cooking and dessert mixed, two of each, Mr. R. M. Copley again scored in a fine competition; Mr. C. Cousins second; and Sir A. W. Marshall third Pears were equally well shown. For five dessert pears Mr. T. Longman was first and second with magnificent and splendidly-preserved Doyenne du Comice; Mr. G. D. Day third. For three dishes of dessert pears, distinct, Mr. Longman was again first, showing very fine Doyenne du Comice; Glou Morceau, and Josephine des Malines; Sir A. W. Marshall second; and Mr. R. M. Copley third.

Potatoes were splendidly shown. Mr. C. Cousins was first, and Mr. C. H. Coote, Houghton Grange, second for twelve kidney varieties. For twelve rounds Mr. Coote was first, Mr. Cousins second, and Mr. E. E. Chambers, St. Neots, third. Onions were largely shown, and the specimens generally well preserved. For twelve Mr. C. Cousins was first and second with perfectly-finished bulbs. Mr. C. E. Girling, Hemingford, third. The committee and officers of the society are to be highly congratulated on the success they have achieved, and especially the secretary, Mr. G. H. Cannon.

Royal Horticultural Society of Ireland.

On December 19 the annual meeting of this society was held at 35, Dawson Street, Dublin, under the presidency of Captain Lewis Riall, when the following report was submitted.

The council congratulates the society on its improved position, both financially and in number of members. Through the courtesy of the Royal Dublin Society, as presaged in last year's annual report, your council was able to hold the Spring Show in the Arts Industries Hall, Ballsbridge, in conjunction with the Spring Cattle Show; the Royal Dublin Society gave the use of the hall free, with a grant of £50 towards expenses. The results were satisfactory to your society, and it is hoped also to the Royal Dublin Society. Your council desire to express sincere thanks to the Royal Dublin Society for the facilities and assistance given on the occasion of this show, and for permitting the experiment to be tried. Arrangements are now practically concluded for again holding the Spring Show in conjunction with the Royal Dublin Society's Spring Show at Ballsbridge in 1910. The Summer Show, held in Merrion Square, was, unfortunately, not a financial success, and resulted in serious loss to the society. In point of number of entries, and in the excellence of the exhibits, this show was a record for recent years, and it is therefore the more to be regretted that so few people took advantage of the opportunity of seeing it. The same apathy on the part of the public was in evidence at the Winter Show at Ballsbridge, which entailed serious financial loss to your society. Special commendation must be given to the quality of the great majority of the exhibits at this show, the quality of both apples and pears showing what a distinct advance has been made in fruit culture in Ireland. The fine colour and finish of many of the exhibits from Clare, Cork, Kilkenny, and other counties, is evidence of the steady progress which is being made in Ireland in the important industry of fruit growing. Prizes in important sections were given by the Department of Agriculture, and by the Royal Dublin Society, to encourage this special branch of your society's work, and valuable assistance was also given by the Dublin Industrial Development Association. Your council does not feel justified in risking so heavy a loss on a winter fruit show in 1910, and, further, with the desire of encouraging other branches of gardening, purposes, subject to your approval, to hold the following shows in 1910: (1) A narcissus and general spring show in April, at Ballsbridge; (2) a summer show early in July, for roses, herbaceous plants, flowering plants, fruits, and vegetables; (3) an autumn show late in August for sweet peas, dahlias, carnations, flowering plants, fruits, vegetables, etc.

The losses sustained by the society in members during the year being seven by death and eleven by resignation, the total membership now stands at three honorary, 44 life, 317 annual, and 73 practical members, with three affiliated societies—a total membership of 440. The council take the opportunity of expressing grateful acknowledgments to the donors of prizes, whose generosity has enabled the society to maintain the status of its prize list, best thanks being due to your president, Lord Ardilaun, the Marquis of Londonderry, Viscount Iveagh, the Department of Agriculture, the Royal Dublin Society, Lady Albreda Bourke, Lady Annaly, Clara Lady FitzGerald, Mrs. Greer, Mrs. Goodbody, Sir Horace Plunkett, K.C.V.O., Sir J. G. Nutting, Bart., John Jameson, Esq., D.L., and Messrs. Hamilton Drummond, F. W. Moore, H. P. Goodbody, Rev. T. Harris, Ernest Bewley, W. H. Odlum, R. White, James M'Kellar, James Inglis, W. P. Geoghegan, Howard St. George, L. O. Hutton; also the firms of Messrs. Hogg and Robertson, Mr. Hugh Dickson, Messrs. Thomas M'Kenzie and Sons, Lim., Messrs. Edmondson Brothers, Messrs. Charles Ramsay and Sons, Mr. Thomas Smith, Messrs. W. Drummond and Sons, Lim., Messrs. Sir J. W. Mackey, Lim., Mr. S. A. Jones, Messrs. Hopkins and Hopkins, Messrs. Dicksons, Lim., Chester; Messrs. Henry Eckford and Sons, Messrs. William Thomson and Sons, and Messrs. Thomas Rivers and Sons (per Messrs. Edmondson Brothers).

The Chairman, in moving the adoption of the report, congratulated the members on the splendid work that had been accomplished during the year. It was much to be regretted that the attendance of visitors, both at the summer show in Merrion Square and at the winter show at Ballsbridge, fell so far short of what it should have been, having regard to the great excellence of these shows. It was most desirable there should be an increase in the membership, for if they had an increase of from 150 to 200 members, the society would be self-supporting. The motion was seconded by Canon Hayes, and carried unanimously.

Messrs. W. F. Gunn, F. W. Moore, V.M.H., George M. Ross, H. P. Goodbody, Robert Anderson, C. M. Doyne, D.L., and T. F. Crozier were elected members of council. Votes of thanks were passed to Messrs. Dudgeon and Crozier, the auditors; Mr. E. Knowldin, the hon. secretary; Mr. F. W. Moore; and the Chairman.

Bournemouth Gardeners' Association.

The members of this association met on Tuesday, December 21, to hold the last meeting of the year. "Questions and Discussion" formed the programme. Occasionally meetings are held when questions on various subjects connected with horticulture are put down on strips of paper by the members present, and are then placed in a box. The chairman takes out the questions one by one, and reads them; as each one is read a discussion on it follows, and in this way the member asking the question receives valuable information.

The following are a few of the more interesting of the questions put, namely: "The Best Way of Growing Dandelions for Salad." Various replies were given, the one finding most favour being as follows: Cultivate the plants in the open ground similarly to chicory during the summer months, then lift the roots carefully, plant them in beds of soil, or flower pots, and force the crowns as seakale is forced. Earthing-up in the open border was also advocated.

Another question was: "What is the best plunging material for forcing plants in?" Cocoanut-fibre refuse was the material most favoured. Sawdust, ashes with the fine dust removed, and cork dust were also recommended.

Another important query was, "Why do certain branches of apricot trees go wrong while in full leaf?" Several theories were advanced, but no member could, in giving his opinion, feel that he was perfectly right. Some thought that imperfect root action was the cause; others were of opinion that, through some kind of check being given the previous year the sap vessels were damaged, and then, when the new growths had exhausted the stored-up sap the branch collapsed owing to lack of fresh sap, which could not flow on account of the damaged vessels. A hearty vote of thanks to Mr. Dowell, the chairman, brought to a close a very enjoyable evening.

Reading Gardeners' Association.

At the final meeting of the 1909 session on Monday, December 20, there assembled one of the best gatherings of members ever seen in the Abbey Hall, Mr. A. F. Bailey (chairman) presiding, when, apart from the usual fortnightly lecture, there was the attraction of a magnificent exhibit of onions put up by Messrs. Sutton and Sons.

After the minutes of the last meeting had been read and confirmed, the nomination of officers for the coming year was proceeded with.

The lecturer for the evening was Mr. E. Hickey, of the gardens, Maiden Erleigh, one of the prizewinners at Mr. Chas. Foster's classes for young gardeners held during last winter. The subject was "How to plant a bush fruit garden, 44 yards square." It was at once manifest that Mr. Hickey was perfectly at home with his subject, and he rendered his paper in a clear and forcible manner, which thoroughly engaged the attention of his audience throughout. Taking gooseberries, currants (red, black, and white), raspberries, and loganberries as the subjects for his bush fruit garden, the lecturer gave full instructions as to the preparation and planting of the ground and all information respecting the after-treatment of the trees. He also gave a comprehensive list of the best varieties in each class to grow, stating fully the qualities and chief characteristics of the different trees, and concluded his paper by excellent advice on the prevention and eradication of many of the pests to which bush fruit trees are subject.

Mr. Hickey was most heartily applauded, and in the debate which followed, he was

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repeatedly complimented by the speakers on the really able manner in which he had delivered his "maiden" paper. Mr. Hickey answered readily all questions put to him by the members, and at the close of the meeting received a very hearty vote of thanks.

Mr. D. Turner, head gardener to A. E. Huggins, Esq., Wargrave Hill, exhibited well-grown Ailsa Craig onions.

The annual general meeting of the association is fixed for Monday, January 10, 1910.

Hawick Horticultural Society.

The annual business meeting was held a few days since. The annual report which was submitted to the members showed the society to be in an active and otherwise satisfactory condition. Two very successful shows were held during the year. It was resolved to have the summer show on Saturday, August 27, and two days' chrysanthemum show in November, on dates yet to be fixed. The following office bearers were appointed to carry on the work for the coming year: President, John Turnbull, Esq., Beaconsfield Terrace; vice-presidents, Mr. A. Forbes, Buccleuch Nurseries; Mr. Alex. Wood, Wilton Lodge Nurseries; and Mr. A. Kyle, Yarrow Terrace; committee, Messrs. A. Glendinning, William Gordon, H. Ferguson, R. Fisher, G. Hogg, A. B. Haig, R. Hope, T. Kennedy, D. Miller, D. Oliver, R. Reid, John Ruthven, and W. Rutherford; treasurer, Mr. G. H. Blake, Beaconsfield Terrace; Mr. William Oliver, 20, Slitrig Crescent, was again unanimously appointed secretary.

TRADE NOTE.

A very striking single chrysanthemum is the one named Caledonia that was shown so well and at so many of the leading shows in November and early December last. We received a few flowers from Messrs. G. Williams and Sons, of Manor House Nurseries, Cardiff, and were surprised at the substance and size of the blooms, many of them exceeding seven inches across. The colour is rosy pink, with a white zone round the disk. To the notification that the variety has gained a Certificate at Edinburgh, and an Award of Merit from the Royal Horticultural Society, there is no need to add further evidence of the merit of the variety.

The Gardening Year Book for 1910.—The continued increase in the popularity and sales of an annual publication that has reached its fifty-second year is of interest as evidence of the appreciation by its many thousand readers of the care that is taken to keep the immense amount of information it contains fully abreast of the times; and to add from time to time such new features as are likely to add to its interest and usefulness. As in previous years, "A Year's Work in the Garden" is dealt with in a series of monthly chapters, and a page of ruled paper is provided in each month for memoranda relating to the garden. New plants, orchids, flowers, fruits, and vegetables that were introduced in 1909 are concisely described and many are illustrated. The chapters on hardy border flowers, conservatory plants, fruits, and vegetables contain such information as will enable the reader to select the finest kinds, and to grow them to a high degree of perfection without special difficulty. The chapters on insect pests and fungoid diseases afford much information on the identification and life history of the many enemies of plant life and the best means of combating them. To those who are interested in horticultural societies and public parks the directories of these will be of much value, for they are full and trustworthy. The book, neatly bound, is published by Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C., and the price is 1s. net, or post free, 1s. 3d.

ANSWERS TO CORRESPONDENTS.

DECORATIVE AND SINGLE CHRYSANTHEMUMS.—R. H. H., Banbury: Half a dozen excellent decorative chrysanthemums suitable for exhibiting early in November are Source d'Or, Crimson Source d'Or, Lizzie Adcock, Etoile Blanc, Phœbus, and Charles Davis. Other good varieties are Florence Davis, Lady Hanham, Soleil d'Octobre, W. Seward, Viviand Morel, and Lady Hopetoun. Good single varieties are Edith Pagram, Bronze Pagram, Metta, Mensa, Jessie Curtis, and Mrs. H. Redden, with such varieties as Merstham Jewel, Exmouth Yellow, Altrincham Yellow, Crown Jewel, Mary Anderson, Roupell Beauty, and Modesty.

PLANTING BELLADONNA.—T. A. K., St. Ives: If you refer to the Belladonna Lily (Amaryllis Belladonna), then we have to say that the bulbs planted near fruits and vegetables are not at all likely to produce any injurious effects, but if so planted we should not expect the lilies to be a success, as a well-drained warm border, sheltered by a terrace wall, or greenhouse wall, is the place where success is most likely to be achieved. If, however, you refer to the Belladonna (Atropa Belladonna), then your reference to bulbs does not hold good, because it is the berries of the Belladonna, a solanaceous plant, that are so exceedingly poisonous. It should be kept out of the kitchen garden. But perhaps you are thinking of the deadly Aconite (Aconitum napellus), which has stout, fleshy roots, somewhat like horseradish; this plant should not be allowed in the kitchen garden under any pretence or consideration, lest its roots be mistaken for something else, and fatal results follow

SOOTY MARKS ON LEMON LEAVES.—N. D. C., Taunton: The sooty marks on the leaves are due to the presence of a fungus, a species of Meliola. Set to work at once to thoroughly cleanse the tree and its surroundings, using warm water to which a little soft soap has been added. Change the water frequently during the operation. When this has been done remove the leaves that still show very large sooty areas, and burn them, and then syringe the tree with an approved insecticide. Take every care to keep the tree clean, because aphis gather on lemon and orange leaves and secrete honeydew, and it is on this exudation that the fungus seems to appear, eventually affecting the leaves and so injuring them that they cannot perform their functions, and so the tree is weakened. Once the tree is clean, keep it clean, and "sooty-mould" will not appear.

PROPAGATING DIEFFENBACHIAS. — A. P. P., Heaton: Dieffenbachias are very easily propagated in a moist atmosphere, especially in a heated pit, where there is some bottom heat. The tops may be "rung" and mossed up, and when new roots have formed these tops may be removed and potted in the same way as dracænas. But where a number of plants are needed the old stem, after the removal of the top, should be laid in cocoanut fibre refuse, in a hand-light or frame, in the pit, over bottom heat. Under these conditions, and kept moist, the latent buds in the stem will soon begin to push into growth, and roots will form along the nodes of the old stems also. When these young growths are a few inches high cut through the old stem on either side, and pot them up, or remove then with a slice of the old stem, and treat them as cuttings; putting them in sandy soil, and keeping them in the propagating frame until rooted. D. nobilis, D. Leopoldi, D. Chelsoni, D. D. Baraquiniana, D. Rex, D. Regina, D. magnifica, and D. Carderi are all good dieffenbachias.

CREEPING DAVALLIA.—F. E. H., Abingdon: Almost all the davallias are of creeping habit, so that to ask us to name any one species on the description given is to put an impossible question. However, the suggestion that the fronds are not unlike some adiantums leads us to believe that the plant in question is Davallia repens, a Bornean species, with simply pinnate fronds, ranging from eight to eighteen inches in length. It is an interesting and graceful fern, suitable for basket culture, or for a raft or piece of old tree fern stem. Odontoloma repens is a name under which it was formerly known. Persuade your friend to send us a frond, and we will do our best to identify it.

GALLS ON LEDUMS.—S. W. C., Killarney: The gall-like productions on the leaves of the ledum are produced by a fungus that is a form of Exobasidium rhododendri. This latter is found on Rhododendron hirsutum and R. ferrugineum. It is not often the disease spreads in such a way as to do great harm, and so far as our experience goes it does not attack the stronger pontic and other garden varieties of rhododendrons. The only means of infection is by spores, and these are produced in summer, the outward and visible signs of their readiness to disperse being a delicate "bloom" over the gall-like swellings. To prevent infection the plants attacked should be carefully and regularly examined each spring and early in summer, all affected leaves being removed and burnt as soon as detected. In this way the dispersion of spores is prevented, and the possibility of a recurring attack is reduced to a minimum.

CASHEW NUTS.—T. W. J., Hendon: The Cashew Nuts are the reddish fruits of a West Indian tree, named Anacardium occidentale. The flowers are small, yellowish, and very sweetly-scented. The plant is of fairly ornamental character, and is occasionally grown in a collection of stove plants.

DWARF ROSES. — C. M., Rochester: Dwarf roses are usually budded, and the aim of the propagator is to insert the bud as close to the root-stock as possible, because this reduces the propensity of the stock to throw suckers after the scion has grown away, and low budding induces the scion itself to root out below the soil, so that in a year or two the rose is practically on its own roots in many instances. So far as we are aware, there is no book dealing solely with the subject of budding and grafting. You would find "Roses and their Cultivation" (2s. 10d., post free, GARDENERS' MAGAZINE Office, 148, 149, Aldersgate Street, E.C.), of very great help to you.

NEW APPLES.—G. H. D., Sittingbourne: You can obtain the various new apples referred to on p. 956 of our issue of December 4, 1909 (at least, so far as they are in commerce) from or through any of the leading fruit tree specialists and nurserymen who advertise in our columns. Write, asking for quotations for the quantities and varieties you wish to secure, to several of the firms, and kindly mention that the varieties were referred to in our columns.

NAMES OF PLANTS.

F. E. H., Abingdon.—See separate answer.

T. S., Merton.—1, Cypripedium insigne; 2, Panax Victoriæ.

B. L. R., Lincoln.—1, Abies Douglasi; 2, Skimmia japonica; 3, Jasminum nudicaule.

S. C. D., Bournemouth.—1, Luculia gratissima; 2, Abutilon megapotamicum; 3, Davallia pallida.

NAMES OF FRUITS.

L. R., Staines.—1, Probably Scarlet Pearmain; 2, Gravenstein; 3, Alfriston.

C. W. G., Chingford.—1, Hacon's Incomparable; 2, Passe Colmar; 3, Forelle.

A. N., Worcester.—1, Emperor Alexander; 2, Braddick's Nonpareil; 3, not recognised.

M. B. B., Malvern.—1, Verulam; 2, Ribston Pippin; 3, Golden Noble; 4, Mère de Ménage. Very good samples.

FORTHCOMING ENGAGEMENTS.

MONDAY, January 10.—Royal Horticultural Society, Parks Examination, 10 a.m.

Reading Gardeners' Association, Annual Meeting.

TUESDAY, January 11.—Royal Horticultural Society; Meeting of Fruit, Floral, and Orchid Committees, at noon; Scientific Committee, 4 p.m.

SATURDAY, January 21.—Société Francaise d'Horticulture de Londres, Annual Dinner.

MARKETS.

◆

COVENT GARDEN.

Flowers.

There has been a less brisk demand since the holidays without any material alteration in prices.

		s. d.		s. d.
Acacia	per bunch	0 9	to	1 0
Adiantum cuneatum	per doz. bun.	6 0		9 0
Arums	per doz.	4 0		6 0
Asparagus	per bun.	1 0		2 0
Azalea, Ghent	per bunch	1 0		1 6
Bouvardia	per bunch	4 0		5 0
Camellias	per doz.	1 6		2 6
Carnations	per doz. blms.	1 0		3 0
,,	per doz. bun.	9 0		10 0
,, Malmaisons	per doz.	6 0		9 0
Cattleyas	per doz.	12 0		14 0
Chrysanthemums	per doz. bun.	3 0		6 0
Croton leaves	per bun.	1 0		2 6
Cypripediums	per doz. blms.	2 0		4 0
Eucharis	per doz.	3 0		4 0
French fern	per doz. bun.	0 6		1 0
Gardenias	per doz.	2 0		3 0
Lapagerias	per doz.	2 0		3 0
Lilac, French	per bun.	4 0		5 0
Lilium auratum	per bun.	2 0		3 0
.. speciosum	per bun.	1 6		3 6
.. longiflorum	per bun.	4 0		8 0

Vegetables.

Supplies continue excellent and the prices are satisfactory.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	3 6
Asparagus	per bun.	3 0		7 6
Beet	per bush.	1 6		2 6
Brussels sprouts	per bush.	1 6		2 6
Cabbage	per tally	3 6		5 6
Carrots	per doz. bun.	1 6		2 6
Cauliflowers	per tally	4 0		8 0
Celery	per doz. rolls	5 0		10 0
Celeriac	per doz.	1 6		2 6
Coleworts	per tally	2 0		4 0
Cucumbers	per doz.	2 0		3 6
Endive	per doz.	1 3		1 9
Horseradish	per doz. bun.	8 0		12 0
Leeks	per doz. bun.	1 6		2 6
Lettuce,	per doz.	0 9		1 6
Mushrooms	per doz. lb.	6 0		12 0
Onions	per cwt.	4 6		6 0

CATALOGUES RECEIVED.

DOBBIE AND CO., ROTHESAY.—This firm has issued a most attractive and useful catalogue. Seeds and plants are listed, and florists' flowers, notably sweet peas, violas, dahlias, fuchsias, pelargoniums, marigolds, and aquilegias are given special prominence.

W. J. GODFREY, EXMOUTH.—In this catalogue of chrysanthemums Mr. Godfrey is offering five Japanese, four decorative, and nine single varieties, all new, in addition to many new varieties from other raisers and a list of old and popular sorts.

MISS HEMUS, UPTON-ON-SEVERN.—Twenty-four pages are devoted wholly and solely to sweet peas, and make up a very interesting catalogue of these popular flowers. Miss Hemus lists twenty-four pedigree novelties for 1910, but two of these she cannot supply until next season.

Death to Rats and Mice.
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DATE. 1909. DECEMBER 19 TO DECEMBER 25.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Dec. 19—Sunday	2 0	30	30	43	28
,, 20—Monday	6 30	28	27	37	26
,, 21—Tuesday	2 30	22	22	52	22
,, 22—Wednesday	—	52	51	54	23
,, 23—Thursday	—	50	51	52	50
,, 24—Friday	6 24	36	35	45	36
,, 25—Saturday	4 6	39	38	48	31
Means	(total) 21 30	37	36	47	31

DATE. 1909 DECEMBER 19 TO DECEMBER 25.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Dec. 19—Sunday	0.04	39	42	44	21
,, 20—Monday	—	32	41	44	20
,, 21—Tuesday	0.52	36	40	43	16
,, 22—Wednesday	0.03	36	39	43	21
,, 23—Thursday	0.12	41	40	43	46
,, 24—Friday	0.03	42	42	43	28
,, 25—Saturday	0.03	38	41	43	23
Means	(total) 0.77	38	41	47	25

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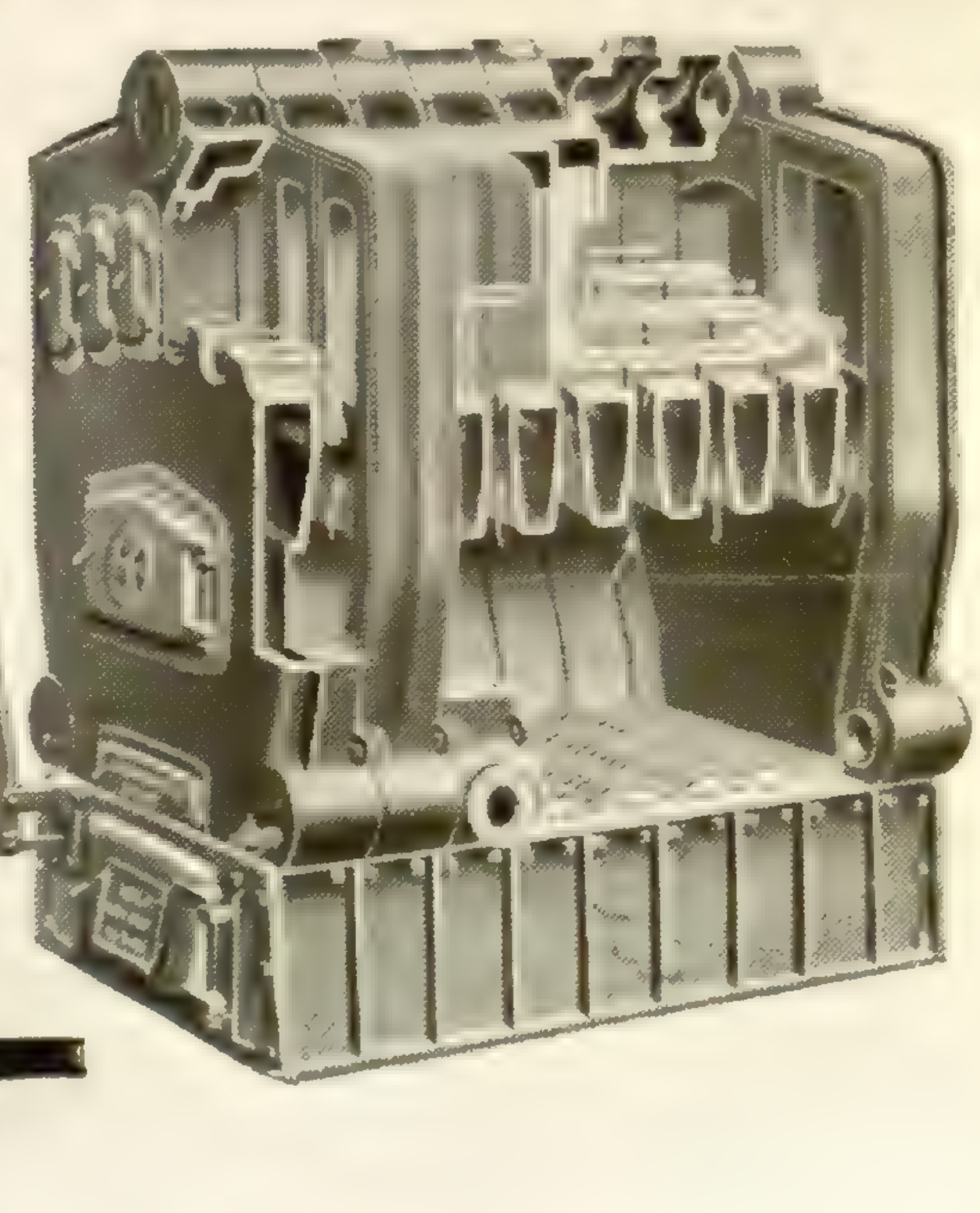

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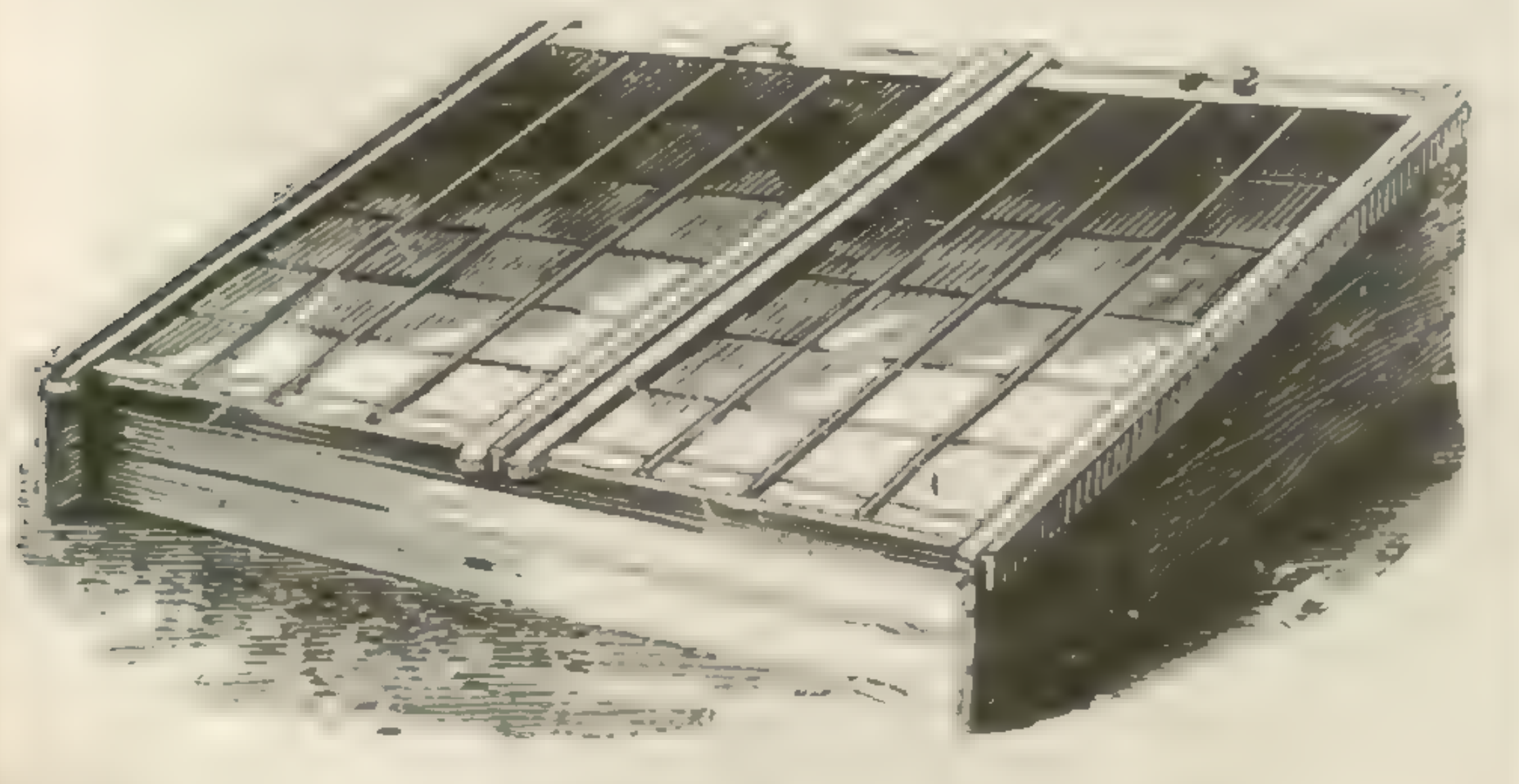

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'BALCH'S FILLBASKET'

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A very early, vigorous and heavy cropper of fine fruits, yielding from
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Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

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GARDENER (Head).—Advertiser seeks RE-ENGAGEMENT in first-class establishment, where several are employed; life experience, and thoroughly practical in all branches; five years as head in last situation; can be strongly recommended. Apply DUNKLEY, The Gardens, Mill House, Bourne End, Bucks.

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GARDENER (Head Working, where two or more are kept); 23 years' practical experience Inside and Out; age 37; abstainer; married, two children. Mr. SIMMONS, Head Gardener, Tandridge Court, Oxted, Surrey, will be pleased to recommend A. CAMP as above.

GARDENER (Head Working); life experience in all branches; 10 years last place, 6 as head; highly recommended; age 30; married when suited. H. J. KING, 1, Pretoria Cottages, West Lane, South Hayling, Hants.

GARDENER seeks SITUATION; Single-handed or with help; good experience; good references; age 28; single. E. CHANDLER, 38, Newgate Road, St. Leonards-on-Sea, Sussex.

GARDENER (good Single-handed, with help), good all-round Man, in all branches. Inside and Out; would take moderate wage for a comfortable place; middle-aged; or would take a good jobbing situation; excellent testimonials from last and previous employers. F. OSBORNE, 48, Bradshaw Road, Watford.

GARDENER (Single-handed or good Second), married; age 28; 10 years' experience in all branches; early and late forcing; willing to make himself generally useful; used to driving gas plant, etc.; can be highly recommended. A. BEACHER, 2, Church Lane, Warblington, Havant, Hants.

GARDENER (Single-handed) seeks SITUATION in Kitchen Garden, Flower Garden, and Greenhouse; married, one child; age 35; left through no fault; good experience; excellent references. J. BURFITT, 9, Woodbridge Place, Guildford.

GARDENER (Single-handed) or Kitchen Garden, age 36, married, no family, wants Situation; life experience; good references. TURNER, 2, Trinity Place, Mile Town, Sheerness.

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GARDENER seeks SITUATION, Second or First Journeyman; thoroughly experienced Inside and Out; height 5ft. 10in.; age 27; Single; 5 years' good reference last situation. Apply R. CLARK, Hasseior Hill, Alcester, R.S.O.

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F. WESTRON, Rhinefield Gardens, Brockenhurst, will be pleased to recommend R. MIDDLETON, age 28, as GARDENER (Head of two or three); 12 years' experience Inside and Out in good places; married when suited; three years' reference from present place.

SMART YOUNG MAN (24) seeks SITUATION, private, under a good foreman; Inside and Out; 12 years' experience; 5 present situation, retail nursery; before private; used to growing a good collection of pot plants, cucumbers, tomatoes, etc., also kitchen garden; Bothy; disengaged when suited. A. E. TURNER, Benton Hall, Witham, Essex.

GARDEN LABOURER, married Man, requires SITUATION as above; aged 28; used to horses; can milk if required, and willing to make himself generally useful; good references. G. STEPHENS, 11, Dairsie Road, Well Hall, Eltham, Kent.

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For JANUARY 15, 1910.

Please Repeat my Advertisement.

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Date..............................

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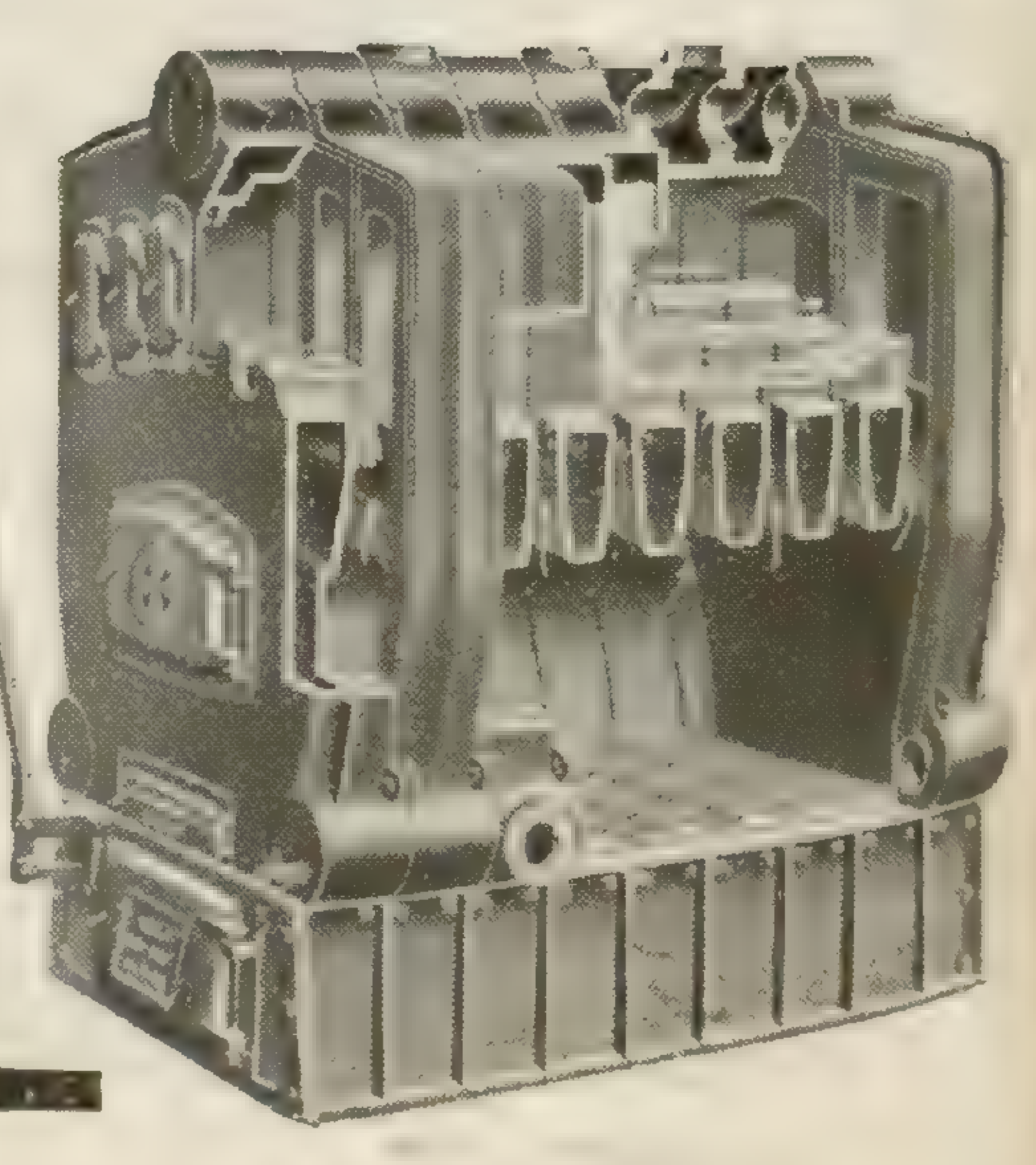

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Save your money & buy direct from the Raiser & Grower.

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THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Seeds and Seed Orders.

The wealth of seed catalogues now placed at the disposal of the gardener, whether he be amateur or professional, should afford him some pleasure, not a little interest, and, it may be, cause considerable perplexity, the last named in, as a rule, inverse proportion to the amount of experience gained in garden management. Some of the catalogues that will come to hand will be quite simple, while others will be so luxurious in character as to possibly give rise to the feeling that they have reached a point beyond which it would be difficult to go. The cultivator, instead of troubling much about this matter, should at once give his attention to making a selection of the seeds that will be required during the year, and very carefully examine all the catalogues he has received previous to making a list of his requirements. We suggest the selection of seeds being made and sent on to the seedsmen as soon as convenient that there may be no delay when the proper time arrives for sowing the seeds, whether it be under glass or in the open. It would be well worth ordering flower and vegetable seeds early in the year for the purpose of relieving the strain that is imposed upon seed houses when the season is farther advanced, but ordering early is an essential point in good practice. The cultivator should, as a matter of course, select for the staple crops established varieties, that, as the result of experience, have been found well suited to the soil and climatic conditions of the district, and the requirements of the household. To the selection should be added a few of the more promising novelties, to be grown experimentally in small quantities. These will make the work of the garden more interesting, and serve a useful purpose, inasmuch as a comparative trial, conducted on proper lines, will enable the cultivator to determine whether or not he can improve his selection in the following year by the addition of varieties of recent introduction. It should be remembered that the improvement in the several classes of plants is still in progress, as the result of the activity of those in the seed trade, and the best kinds only should be grown. In comparative trials of new and old varieties the same course of procedure should be followed in the garden as at the experimental station, and this, briefly stated, is to grow all the varieties of any particular kind under precisely the same conditions. This should be self-evident, and in a large number of cases is carefully done; but we often find novelties growing under much more favourable conditions, and this fact, notwithstanding their being compared with staple varieties. There is a tendency that is very difficult to check, to bestow greater care in preparing the ground for, and making the sowing of, seed of an expensive variety than in dealing with seed of one that is obtainable at a cheap rate, and this is most marked, perhaps, in the case of peas. The proper course is to grow the novelties precisely the same as the staple crops. A detail of some importance is to clear out the seed cupboard before the order for seeds is executed, that there may be no risk of sowing old instead of new seeds. We suggest also that a time table for sowing be arranged, not to be slavishly adhered to irrespective of weather or the condition of the soil, but for general guidance. The value of such time table, used with due regard to weather conditions, will be great, as it will reduce the risk of the proper time of this or that crop being overlooked, and considerably reduce the strain upon the cultivator during the busy seasons. All seeds should be labelled when sown, and there will be a considerable saving of time presently if the labels are written now and put with the seed packets. The labels should be a historical record, and the best course of procedure is to write the name down the label from top to bottom; across the top should be drawn two parallel lines, on the top line write the name of the seedsman, and on the second line add in due course the date of sowing. It is also a good plan to keep a record in a notebook of the amount of seed sown and the resultant crops therefrom, so that the subsequent orders may be larger or smaller as may appear desirable from the record. It is most desirable the special predilections of the lady and gentleman of the house be carefully studied as far as space, time, and the upkeep of the garden and the supply of the kitchen will permit, and it is essential that gardeners should keep their employers interested in the garden and in their work. This may not in some instances be free from difficulty, but the endeavour will invariably meet with its reward, because when the employer takes an interest in the work that is in progress and the results obtained therefrom, he is the better able to understand the difficulties incidental to garden management, and be in a position to readily appreciate the value of both administrative ability and cultural skill. There is no occasion now to refer to the details essential to success in the raising of ornamental plants or useful crops from seeds, as our able contributors, in dealing with the several classes of subjects with which they have been entrusted, will give them due attention. One or two points of general application should be mentioned, and the first of these is the importance of not subjecting seedlings of hardy and half-hardy plants raised under glass to a temperature beyond that necessary to ensure the germination of the seeds and maintaining a steady growth. The other is to take advantage as far as practicable of a moderately dry state of the soil for sowing seeds in the open during the spring months, and where the soil is heavy and moist, to scatter a moderate quantity of fine soil over the surface of

MR. A. D. RICHARDSON,
Secretary of the Scottish Horticultural Association.

the beds or in the drills previous to sowing the seeds. When this is done the germination will be more even, and the growth more satisfactory than would otherwise be the case.

Mr. A. D. Richardson, whose portrait is given in this issue, has for so considerable a period been closely associated with the horticultural activities of Edinburgh, and accomplished so much useful work, that it is not surprising his friends should regard his assistance as essential to success in any movement that may have for its object the advancement of gardening in the widest acceptance of the term. On the retirement some years ago of Mr. Lindsay from the curatorship of the Edinburgh Botanic Gardens, he was appointed the head of the practical side of the work of the gardens, and in connection therewith he achieved much success. After occupying this position several years, he, evidently desiring a wider scope for the exercise of his abilities, retired from the Royal Botanic Gardens, and engaged in the profession of landscape gardener, and, it would appear, has made rapid progress therein. A short time after Mr. Richardson had entered on his new sphere of activities the secretaryship of the Scottish Horticultural Association became vacant; the council at once invited him to fill the vacancy, and this invitation he accepted. This association has from the first been especially fortunate in its secretaries, and while the services of the horticulturists who have filled the post of secretary are remembered with gratitude by those who have been acquainted with the association from its earliest days, they are ever ready to acknowledge the great ability with which Mr. Richardson discharges what, having regard to the large number of members, and the holding of meetings throughout the year, may well be described as his onerous duties.

The Gardeners' Magazine Almanack.—The Almanack which we have the pleasure of presenting with this issue will be found of much value for the information it contains relating to the numerous meetings that have been arranged for the current year. It will be of interest also for the admirable illustration of two varieties of the sweet pea, which is now so deservedly popular in the gardens of all classes. The varieties illustrated are typical of the many beautiful forms now in cultivation, and their selection for the Almanack may be safely regarded as evidence that these fragrant flowers will receive a full share of attention in these pages during the year on which we have entered. As a further proof we would mention that we shall devote our issue for January 22, chiefly to sweet peas, and, with the co-operation of the leading experts, shall in a series of illustrated articles give full information on matters that will engage the cultivator's attention for some time hence With that issue we shall also give a finely-executed coloured plate depicting one of the finest of the sweet peas of recent introduction.

Southern Spring Shows.—Among the many spring shows to be held in the South of England this spring the chief are: Torquay, March 17; Cornwall Daffodil Show at Truro, April 12 and 13; Devon Daffodil Show at Barnstaple, April 19 and 20; Falmouth, April 21 and 22; Exeter Daffodil Show, April 22; Devon County Show, at Exeter, May 13, 14, and 15; and Bath and West and Southern Counties Show, at Rochester and Chatham, on May 24 to May 28.

Christmas Trees in Germany.—With reference to the popularity of the Christmas tree among the German people, Consul Dunlap, writing from Cologne, expresses the opinion that it is safe to say that of the 6,000,000 families in the German Empire, 5,500,000 purchase a tree. He then proceeds to say that, as a rule these evergreens are spruce, which grow in all sections of the empire. The planting as well as the cutting of trees is all under control of the Government officials, and it may be said without fear of contradiction that there is not now an evergreen growing in Germany that was not artificially planted. In the initial stage the young plants are set in rows about four feet apart with the plants one foot apart in the row. As the trees develop they are gradually thinned. When one foot high many are transplanted into pots and form miniature Christmas trees. The great mass of trees offered for sale are from two to ten feet high, the medium being used most, and cost retail from eightpence to two shillings each, the average price being about eighteenpence. Thus a very large sum is annually expended by the German people in the purchase of Christmas trees, a point of considerable practical importance, as thereby a large part of the earlier thinnings of the woods devoted to spruce is disposed of with profit.

Fancy Perpetual-flowering Carnations.—Although the perpetual-flowering carnations with self-coloured flowers are the most useful for decorative purposes generally, the fancy varieties of high quality are of considerable value for giving interest to the collection and for bouquets, and for vases in the drawing-room. The number of fancy varieties in this section is as yet small, hence the introduction of so promising a variety as the crimson-flaked Emperor, illustrated on page 29, which has been introduced by Mr. H. Lancashire, Victoria Vineries, Guernsey, is a matter of considerable interest.

Dunfermline Horticultural Society.—This society has evidently had its lines cast in pleasant places, and certainly the executive has had good cause to congratulate itself in being able to fall back upon the Carnegie Dunfermline Trust in the endeavour to maintain a balance between the income and expenditure. The society held two excellent exhibitions during the year at a total cost of £283, and of this the sum of £150 was disbursed in prizes. The total income was £120, leaving a balance of £162 17s. 5d., which was contributed by the Trust. We believe this body subscribes thus liberally to the funds of the society on condition that the charge for admission is almost nominal, for the purpose of enabling the poorer residents to visit the shows. The annual meeting was held a few days since, when the report and financial statement were passed, the silver medals awarded at last year's exhibitions handed to the winners, and Mr. James Dunagan elected president, Mr. T. Kilgour treasurer, and Mr. J. Hynd secretary.

Trial of New Roses at Bagatelle.—For several years past trials of new roses have been conducted at Bagatelle on somewhat new lines, and have on the whole proved satisfactory. It has been a condition that the varieties submitted for trial should be grown for two years to give the members of the jury an opportunity of becoming well acquainted with their characteristic merits before making their awards. With reference to the conditions under which the roses sent for trial are received, M. Forestier, who has charge of the arrangements, informs us that the plants must have been grown in pots, and that several examples of each must be sent, five being the minimum number. They must reach the Bagatelle rosery before April 15, and be accompanied by the names of the senders, particulars as to their parentage where known, and the names of the varieties. The roses will be planted in beds out of doors when they are received at Bagatelle, and remain in them until the month of October of the year following. In case any of our readers may wish to send new roses for trial, we would add, the packages should be addressed as follows: M. le Conservateur des Promenades, Roseraie de Bagatelle, Abbaye de Lonchamp, Bois de Boulogne, par Neuilly-sur-Seine.

Flowering of Cycas circinalis.—The flowering of the finely grown specimen of this handsome cycad in the gardens of Balruddery, Dundee, the residence of J. M. White, Esq., has attracted much attention in the district. This is not altogether surprising, for the specimen is in so high a state of development as to represent cultural skill of a high order on the part of Mr. G. Davie, the head gardener, and this is the first time it has bloomed in the collection.

The Welwitschia at Home.—In his account of the Percy Sladen Memorial expedition in South-West Africa, contributed to "Nature," Professor H. H. W. Pearson makes the following reference to the Welwitschia, one of the most remarkable of plants. "Welwitschia plants were found in abundance about forty miles to the south of Mossamedes in the direction of Cape Negro, the locality in which it was discovered by Welwitsch. The plants had coned freely, but almost without exception the cones, severely attacked by a fungus (probably a Cladosporium), were in a state of decomposition—no doubt another consequence of the excessive atmospheric humidity earlier in the season. A large number of young seedlings were found. The Damaraland localities previously referred to, in which no Welwitschia seedlings have been found within recent years, are about forty miles from the sea. But even in these southern latitudes normal seed-reproduction seems to occur on the coast. It is not improbable that a condition of its seed-germination in nature is a degree of atmospheric humidity which is constantly realised near the sea, though now usually absent from desert places inland."

Bacteriology.—In the course of an address delivered by Professor McKendrick, F.R.S., at Glasgow, he said that in the public mind there is a widespread impression that bacteria and other organisms are the enemies of man, but this is far from being the case with the great majority of these humble plants. Of the thousand or fifteen hundred species now known, probably only fifty or so are inimical to man. The others are highly beneficent. Some are engaged in taking nitrogen from the air for the use of the higher plants: others in splitting up complex substances existing in the bodies of dead plants and of dead animals, and in restoring simpler substances to the soil; others purify our rivers and lakes; even the ocean is the theatre of their activities; and others have to do with the varied phenomena of fermentation. A knowledge of the life-history of these microbes has enabled the physician and surgeon not only to do much in the way of preventive medicine, but to benefit mankind in the treatment of many diseases; and, what is probably of even greater interest, we now recognise that the rôle played by these organisms is of the greatest importance in many industries.

Horticulture at the Brussels Exhibition.—Three competitive horticultural exhibitions will be held in conjunction with the Brussels International Exhibition next year. The first of these will be held from April 30 to May 3, and is for hardy and tender plants, forced fruits and vegetables, and floral decorations. The second show will be held from September 24 to 27, and the subjects invited are fruit and the products of market gardens. Chrysanthemums and fruit are specially invited to the third of the shows, which will be held from October 29 to November 2. Schedules and entrance forms may be obtained on application to the secretary of the Horticultural Committee, 8, Whitehall Place, S.W.

Manuring of Pasture Land.—A few years since Lord Londonderry placed thirty-one acres of poor pasture land on his Wynyard Park estate at the disposal of the Armstrong College of Agriculture for experimental purposes. Some part of the land is a poor, shallow clay resting on boulder clay, the other being rather light and sandy. One acre of the land was marked off as a control plot and the remainder of the land was dressed with basic slag at the rate of 10 cwt. to the acre. Ten acres of the dressed land received in addition an application of muriate of potash at the rate of 2 cwt. per acre. The effect of the manures was soon apparent, and now the herbage is so far superior that it is able to maintain quite double the number of cattle. The muriate of potash had no appreciable effect on the clay soil and but little on that of a light character. The beneficial effects of the basic slag was so marked at the end of the first year that eighty-seven acres on another part of the Wynyard Park estate were similarly dressed, and here also the application has proved highly beneficial. In both cases the growth of red and white clover has been greatly stimulated, with advantage to the food value of the herbage.

The Soy Bean Industry is becoming a very important one, owing to the value of the beans (Glycine hispida) for cattle feeding purposes. The bulk of the beans imported come through the ports of Dalny, Vladisvostock, and Newchwang, from Manchuria. The "Journal" of the Board of Agriculture points out that the total production of beans in Southern Manchuria, which is served by the ports of Dalny and Newchwang, is stated to have been 580,000 tons in 1907, and 830,000 tons in 1908, while in Northern Manchuria the Vice-Consul reports that the crop in 1908 probably amounted to 900,000 tons, and the prospects for the crop in 1909 indicate a yield larger possibly by twenty per cent. The beans from Northern Manchuria come through Vladivostock. The price in London in November last was reported to be about £7 10s. a ton.

Falmouth Spring Show.—Under the auspices of the Town Development Committee of the Falmouth Chamber of Commerce a spring flower show will be held in the Gyllyngdune Gardens of that famous Southern town on April 21 and 22. The dates originally fixed were April 26 and 27, but the alteration is likely to improve the show, as we understand that Her Royal Highness Princess Christian has consented to pay a special visit to Falmouth to open the show on April 21. An excellent schedule has been arranged, and valuable prizes are offered for daffodils, flowering trees and shrubs, rhododendrons, camellias, violets, polyanthuses, etc. The hon. secretary, from whom schedules can be obtained, is Mr. R. E. Gill, 14, Market Place, Falmouth.

WINTER SPRAYING.—No. I.

Among the many progressive movements which have stirred the gardening world during the past few years none has made more rapid progress than "winter spraying." Years ago it was considered a very good plan to thoroughly wash the stems of trees with hot lime, and also, in the case of bush fruit, to scatter freshly slaked lime on the trees when wet with dew or mist. But beyond this nothing was ever done to cleanse the trees in winter.

Less than ten years ago the use of the caustic alkali wash first became general among progressive growers, and it is only during the last three years that so much attention has been bestowed upon the subject by the Gardening Press, manufacturing chemists, and the majority of fruit growers, both private and trade. Doubtless the two former classes have served to stimulate the latter, for many patent spray fluids have been much advertised and written about until one has gained the impression that such and such a spray has only to be used and all the fruit grower's troubles with regard to pests will be at an end.

Such was the position in the winter of 1907 and the spring of 1908. The grower was given to understand that these spray fluids, if properly used, would corrode the eggs of the Apple Sucker and the various caterpillars, as well as destroy the hibernating spores of apple scab fungus. Many gardeners and fruit growers used these remedies, many of them winter spraying for the first time, and with most conflicting results. Where the work was properly carried out the mosses and lichens were killed and the trees had a thorough clean up, but only in a few cases were the various eggs destroyed. Indeed, many fruit growers, in the Evesham district particularly, who had abandoned grease banding because of the supposed efficacy of winter spraying had a terrible infestation of Winter Moth caterpillar, so severe in cases that the trees were completely defoliated.

Naturally, this gave a setback to the practice, and in the winter of 1908 and the following spring considerably less winter spraying was done than in the previous season. There is, however, no need to drop winter spraying, as it accomplishes a great deal of good, providing too much is not expected of it. Much of the misunderstanding which arose about the Apple Sucker eggs proceeded from the fact, which has since been discovered, that the vitality of the eggs is considerably affected by the severance of the twig or bough from the tree, so that if the portion of wood is kept for any length of time, the eggs failed to hatch out, a desirable result which was placed to the credit of the particular spray employed, whereas it was really because of the severance of the piece from the tree. It scarcely seems possible that anything will ever be discovered which will be strong enough to act upon the eggs and destroy them, and yet do no harm to the tree. Indeed, with the caustic soda wash, it is distinctly unwise to winter spray year after year without a break as there is a great danger of injuring the bark, making it spongy and giving to it a most unhealthy appearance. Such an undesirable result would be even more likely if the spray fluid used contained paraffin.

There is not, however, generally any need to repeat the operation for a year or so when using one of the paraffin winter washes, as the mosses do not seem to grow again quite so quickly after this spray as after the caustic soda. It is very efficacious in cases where there is much American Blight, for paraffin in some form or other is a sovereign remedy for this pest. Considerable force must be used when trying to eradicate this foe, as it is nearly always entrenched in cracks and crevices in the bark which an ordinary washing would not penetrate, and it is also covered with a kind of down which helps to shelter it from the spray, unless it be a very fine and powerful one.

The principal effect we must look for from winter-spraying is undoubtedly the destruction of the mosses and the lichens on the tree, so giving it a clean, healthy appearance. The cleansing, however, is only a part of the benefit which is accomplished, for the destruction of the moss removes the hiding-places of the hibernating insects, particularly the Apple Blossom Weevil, as well as affording less lodgment on the tree for any spores of fungi. This treatment manifestly places such hibernating insects at a great disadvantage, and must in the end tend to reduce their numbers considerably. If the spraying is thoroughly carried out and a good dose of the fluid given that most troublesome pest the Mussel Scale will be generally killed, though in very bad cases, so thick is the layer of scales, a second spraying may need to be given ere a clean sweep be made of it.

The circular scale which is to be found on gooseberries and currants can also be killed by winter washing with any of the well-known fluids, if the extent of the attack should warrant it. As I said before, the spray used should be a powerful one, and with great penetration, with greater force than the mist spray which is needed for use with poison washes, and not so coarse as that needed when large quantities of aphis wash are being used. It is a very difficult matter to use force enough to obtain the requisite amount of penetration while not wasting too much material, because of the large pressure throwing the material through and beyond the tree, particularly in the case of big trees where the nozzle has to be held at a considerable distance from the part being sprayed. Indeed, this latter seems to point the most likely method of getting over the difficulty, i.e., by the use of long lances to be able to get the nozzle close to the portion being sprayed so that we may use one giving a high velocity at the orifice with a comparatively short range of throw.

The amount of liquid wasted when some precaution is not taken is very serious indeed, particularly where an expensive fluid is being used, but it cannot be avoided where a fire engine sort of tackle is employed, for the amount of surface of wood in the tree is in very small proportion to the total area of space between the branches, consequently much of the fluid thrown passes through when there are no leaves to assist in stopping it. Unfortunately, with such a spray as I have described, the influence of the wind is rather serious, it being very difficult indeed to drive the fluid against a strong wind. Consequently only one-half or two-thirds of the tree (that to the windward) can be done, the other being left for a change in the direction of the wind.

Naturally, seeing that all these various fluids and washes are required for the purpose of burning away all rubbish on the tree, they are liable to injure the face, hands, and clothes of the operator, which should be protected as far as possible. A sou'-wester hat, a smock, and a pair of stout leather gloves, should serve to form an adequate protection for anyone who is moderately careful. Rubber gloves are sometimes used, but they are open to the objection that they seldom fit at all tightly at the wrist.

Frank Hammond.

Pilgrim's Hatch.

SCREENS FOR HERBACEOUS BORDERS.

In preparing and planting a herbaceous border the difficulty sometimes arises in finding a suitable background for shelter, as a screen from other parts of the garden, or for some other purpose. When a herbaceous border is made in front of a hedge, wall, or shrubbery, such difficulties do not occur, but in the open the circumstances are different. An opportunity then is afforded to erect a fence of wire with iron standards, or it can be made with larch poles or peeled oak boughs, with a view of giving it a rustic character.

If the screen is made of wire stretched horizontally to stout iron standards, and the corner straining posts made firm in the ground with concrete, such a screen will last many years, especially if it receives a coat of dull-coloured paint occasionally. In any case it should not be less than twelve feet high, two feet more would be better, producing a more satisfactory effect and admitting of bolder plants to be grown. Circumstances will, of course, govern this detail. If the border is to be narrow—say, six feet to eight feet, then the screen should be in accordance. Where the border is, say, ten to twelve feet wide, then the figures given at first will be appropriate. Such a screen as this provides ample opportunity for a great variety of plants remarkable for foliage and flower, and for all seasons alike, and cannot fail to be an interesting portion of the garden.

In planting the herbaceous subjects, some discretion should be used in not putting them nearer than three feet from the screen, except in the case of bulbous subjects of low growth. Those utilised for spring decoration before the regular occupants of the border reach a third of their normal height, will form an interesting feature. This space of a yard or so will allow opportunity for passing along at the back of the border and attending to the roots of the climbing plants as well as their branches, and certainly the former will need frequently some manurial assistance, water during a spell of dry weather, and so forth.

The choosing of subjects for planting in such a position affords a wide scope for variety. As a guide to intending planters I will give a list of suitable subjects for spring, summer, autumn, and winter, including in each division both flowering and foliage plants.

Spring-flowering: Clematis montana, Akebia quinata, Berberis stenophylla, Honeysuckle Early Dutch, Pyrus japonica, Forsythia suspensa, Wistaria sinensis, laburnums, Philadelphus Gordonianus. The same foliage plants I shall name for winter will be applicable for the spring.

Summer-flowering subjects: Ceanothus azureus, C. Gloire de Versailles, C. Veitchianus, Escallonia macrantha, E. phillipense, Jasminum officinale major, Passiflora Constance Elliott, Polygonum Baldschuanicum, Carpenteria californica, Choisya ternata, Fabiana imbricata, Romneya Coulteri, Clematis Belle of Woking, blue mauve; Countess of Lovelace, blue lilac; Venus Victrix, delicate lavender; Duchess of Edinburgh, pure white; and J. C. Veitch, light blue. Roses of approved forms will come into this section, none but those naturally adapted for such a purpose by their trailing habit of growth should be planted. Many of the so-called climbing H.T.'s are much too thin in their growth to be classed as climbing subjects. Dorothy Perkins, Lady Gay, Claire Jacquier, Brunonis, Crimson Rambler, Euphrosyne, Felicite Perpetue, Mdme. Alfred Carriere, Paul's Carmine Pillar, Psyche, Rubin, Una, and The Garland are admirably suited for the purpose in view.

For foliage: Aristolochia sipho, Vitis (vines) purpurea, Humulus lupulus foliis aurea (Golden Hop).

Autumn-flowering subjects: Clematis Jackmani, purple; C. j. alba, white; C. flammula, white, sweet-scented; C. Mdme. Grange, crimson violet; C. rubella, rich claret-purple; Victoria, deep red-mauve; Beauty of Worcester, blue-violet; Henryi, cream-white; Louis van Houtte, blue-purple; and Regina, lavender-blue. Autumn-flowering roses are worthy of attention. Gardenia, yellow, changing to white; Rose Transon, rose; Paul's Single White, and Aimée Vibert, Bignonia grandiflora rubra, honeysuckles, Late Dutch, Halliana, flexuosum and aurea reticulata, Solanum jasminoides, Buddleia variabilis Veitchi, Cotoneaster Simmondsi, C. microphylla, Tamarix hispida æstivalis, Abelia rupestris, Exochorda grandiflora, Fuchsia Ricartoni, and Spiræa Lindleyana.

The autumn is rich in subjects grown for foliage alone; these make a charming addition to any garden. The following are desirable: Actinidia arguta, Ampelopsis Ledeiacea, A. Veitchi, Vitis Coignetæ, V. dissecta, V. Thunbergi, and V. Brandt.

Winter-flowering climbers naturally are scarce, the best being Jasminum nudiflorum, and Garrya elliptica, with the Fire Thorn, Cratægus pyracantha, and C. p. Lelandi.

E. Molyneux.

PERPETUAL CARNATIONS FOR PRIVATE GARDENS.

In selecting the best perpetual carnations for private gardens I put quality of flower first. I also keep in mind the essentials of a sound constitution, correct shade of colour, scent, etc., whilst the age of a variety does not influence my selection.

Reds or Scarlets.

Britannia will be generally conceded to be the best red variety. Its only shortcomings are lack of scent and slow growth in the winter. The latter weakness is overcome by not growing this variety in too large a pot. Let the plants be well root-bound by August, and do not stop them after mid-June. Britannia should always be cultivated under glass protection during the summer. If this is done it will be found proof against disease.

O. P. Bassett, the new American scarlet, is a most excellent second. It has very large fimbriated flowers of good colour and scent, good stem and calyx, and strong, healthy habit of growth.

Beacon is the freest-flowering scarlet variety. The flowers are a little undersized, and inclined to come a poor shade of colour in midwinter; yet it is, perhaps, the best market variety.

Victory is prone to disease, whilst Robert Craig is far too shy a bloomer.

There are other red varieties, but none of them are worthy of our consideration.

Whites.

White Perfection produces the purest flowers with the most refined appearance, always surpassing its contemporaries at the shows. This variety should be propagated before March, and given special care in the early summer in the matter of air and potting, so as to obtain a strong, vigorous plant. If this variety is not well grown it is practically useless.

White Enchantress. I allude exclusively here to the pure white stock. This is the freest-flowering white, and the best for market growers. It should be grown in a good, light greenhouse, with a low temperature.

Sarah A. Hill is undoubtedly a most excellent variety, which has been overlooked by many. The flowers are very large, pure in colour, with a rich old-clove scent. The habit of growth is always healthy and free, and much superior to the average American variety for pot cultivation.

Mrs. J. C. Vaughan is one of last year's American novelties which has failed over here.

Crimsons and Maroons.

Black Chief will easily lead the other varieties, mainly owing to its strong, free habit of growth, which appears almost proof against disease. The flowers are of medium size, and possess a strong old-clove scent. It is best grown out of doors in the summer, and not stopped after early in June. Like Britannia, it prefers a small pot to flower in.

Harlowarden is a bad second, owing to its weak habit and poorly-built flowers.

Other crimson varieties, which have been tried and found wanting, are: Havard, far too shy in flowering; The President, requires more sun in winter than we can give; Harry Fenn also fails in mid-winter; Wanoka, an American novelty, is a complete failure; Ruby, yet another American candidate, may improve, but as yet it is poor in colour and inclined to split its calyx.

Pinks.

Enchantress leads in the flesh-pink shade and is too well known to call for comment; yet it is most essential that only good cuttings from healthy parents should be propagated, and so preserve the true type.

Mr. Charles Knopf is a new variety in the same class of colour, only quite a shade darker. The flowers are also larger in size. In short, it is a glorified Enchantress which has a future before it. It has been considerably over-propagated in America, and is at present suffering from the effect.

May Day is the best and freest-flowering variety in the salmon-pink shade. The blooms are not large, but almost perfect in form. It makes a very compact, bushy plant, and has a wonderfully healthy growth.

Delight is a salmon-pink, very similar in form of flower and habit of growth to White Perfection, to which it is closely allied.

Mrs. Burnett has made many friends, but its poor constitution has outvied the other good qualities.

Afterglow has quite superseded Mrs. T. W. Lawson and all other varieties in the cerise-pink shade. The habit is very strong and healthy, the flowers are of good size with evenly-formed fimbriated petals, whilst its stem and calyx are most reliable. The colour is a decided improvement upon its predecessors, being free from any magenta shades.

Rose-pink Enchantress is the best rose-pink variety for private growers, provided the true stock is procured. It is larger in size than Winsor, has a better stem, and grows much easier than many other varieties.

Fancy Varieties.

Rose Dore.—A novelty of the salmon-red shade, with Rival as its only serious contemporary. The former produces slightly larger flowers, whilst the latter will excel in quantity. One or the other of these varieties should be in every collection.

Jessica is, perhaps, the leading variety of the white-pencilled-scarlet class. The flowers are very large and bold in appearance.

Such varieties as Royal Purple (purple), Mikado (heliotrope), Helen M. Gould (pink, pencilled, and spotted rose-pink), are purely a matter of taste. We also wait for a truly good yellow perpetual variety.

Montagu C. Allwood.

THE FUTURE OF SINGLE CHRYSANTHEMUMS.

Just at the present moment when the season of the chrysanthemum is practically over, the question arises as to the future of the various types of the Autumn Queen. Realising that the large Japanese, incurved, and other double-flowered types may enjoy many years of fair prosperity, I would fain remind readers that in the rapidly rising single-flowered section we have a type that will speedily attain to a dominant position in the floral world.

Although many may regard my statements as rank heresy, I cannot regard the giant specimen, mop-headed, show chrysanthemums with any kindly feeling. Acknowledging that they represent the skill of the raiser, and the care of the grower in no uncertain degree, yet to my mind, for sheer beauty of formation and picturesque effect they cannot for one moment compare with the simplicity of the better single-flowered varieties.

For conservatory decoration, for cutting for the boudoir, or for the table, the simple blossoms of the single forms are of exceeding value. The future of the chrysanthemum lies largely with them, and certainly no garden should be without a small collection of the finer forms. At the majority of the exhibitions the singles occupy as yet a secondary or even lower position. They are not to be ranked with their wondrous brethren of massive proportions, though for the matter of that, they are gradually winning their way to a front rank position.

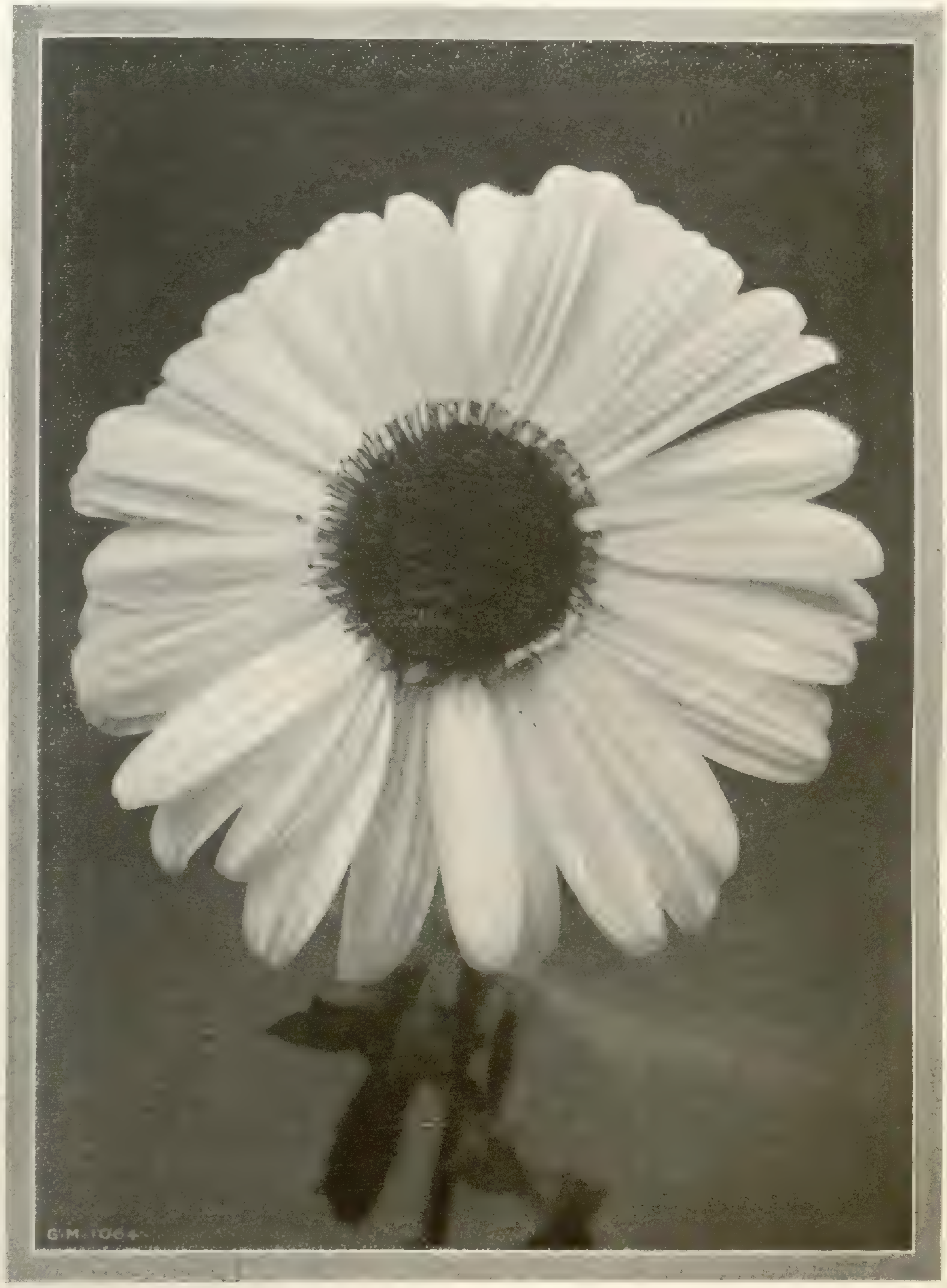
One surety of the future of the single chrysanthemums is the appreciation of the gentler sex, and where the ladies can admire and find beauty, it is of little avail for the rigid floriculturist to stem the tide of popular appreciation. The lightness, daintiness, and symmetry of these blossoms together with their freedom and good range of colouring, will appeal to the flower-lover, and the result will be an ever-extending reign of the single chrysanthemums. Take, for example, the pictured beauty of Mensa as a case in point, or such a glorious variety as Altrincham Yellow, with its appealing charm, and any uncertainty which may be in your mind concerning the future of the group should speedily vanish.

Again, the value of Mary Anderson, Edith Pagram, and their respective sports is too well known to need repetition, while the fine and extensive range of noteworthy varieties leaves nothing to be desired as far as colouring is concerned. There are good whites, yellows, bronzes, pinks, and crimson hues, in profusion, to say nothing of the indescribable wealth of intermediate shades, which combine to give us fine material for decorative purposes. There is a wonderful diversity in the way of petal formation, many types being met with in a representative collection, and this same diversity will make work for the selectors, when the day comes (as it surely will) for the standardisation of form in the single chrysanthemums.

As in all florist's flowers there will be definite rules laid down regarding the form of the blossoms, and future varieties will have to be judged by the standard fixed, thus settling their fitness or unfitness by a fixed decree. Apart from this, the single chrysanthemum is going to have a good future as a popular market flower. The light, graceful forms, the clear colourings, and their ease of arrangement, will all tell in favour of our subjects, and these, together with a wise selection in choosing varieties which will travel well, will do much to hasten their hour of popularity.

By fixing a standard of form as soon as possible, the officials of the N.C.S. will do much to advance the cause of the single chrysanthemums, and will thereby gain the thanks of the flower-loving community.

P. S. Hayward.



NEW SINGLE CHRYSANTHEMUM MENSA.
A beautiful white variety. A.M., R.H.S., Mr. H. J. Jones, November 23, 1909.

CENTROPOGON LUCYANUS.

There seems to be a certain amount of doubt as to the origin of this plant, but there can be no question that it is a very desirable winter-flowering subject for a structure where an intermediate temperature can be maintained. It is a soft-wooded plant of a sub-shrubby character, clothed with oblong lanceolate leaves of a bright green colour. The flowers, borne in loose clusters at the points of the shoots, are curved, tubular in shape, and of a bright carmine colour. Given favourable conditions, they are borne from autumn to spring, and, of course, are then much appreciated.

When grown as a bush it should be secured, but not too stiffly, to a central stake. The weight of the flowers will cause the branches to assume a gracefully arching character, and treated in this way a very pleasing specimen is the result. Beside this it is well adapted for growing in suspended baskets, the clusters of blossom having a very pretty effect when viewed from below. This centropogon can be readily struck from cuttings of the young growing shoots in the spring, but it is not a vigorous rooting subject, hence overpotting must be guarded against. It thrives best with a liberal amount of leaf-mould in the potting compost. Though different authorities are not all of one accord as to the exact origin of this centropogon, it is stated in the "Dictionary of Gardening" to be a garden hybrid raised by M. Desponds, of Marseilles, in 1856. It is a plant that can be readily obtained from the nurseries.

K.

Trenching and Manuring.—Deep cultivation should always be resorted to as far as possible, as it warms and drains the soil in wet seasons. Besides this, it brings a good depth of soil quickly into a high state of fertility. Some crops will assimilate more manure than others, therefore these must be added with discretion according to the prospective crop. Long stable manure and tree leaves form excellent material for the bottom trench, adding partly decayed farmyard manure beneath the top spit.—G. E.

A YEAR'S SUPPLY OF "GREEN VEGETABLES."

At this particular season of the year the gardener is inundated with attractive seed lists, all setting forth in persuasive language the merits of recognised types and newer forms of the great cabbage family, and he will soon be busy making up his mind what kinds and varieties are to be his sheet anchors for the year's supply. Most growers like to make their selections of seeds early in the new year, therefore the earlier noteworthy types are brought to their notice the better, and especially so when the seed supplies are limited. A month or so ago when looking over an extraordinary and educative exhibit of brassicas, staged by Messrs. Sutton and Sons at the Horticultural Hall, Vincent Square, I was greatly impressed with the national importance of the cabbage as a food plant. The many distinct forms evolved from the common type now supply us with green vegetables the whole year through, and so careful have our raisers and selectors been that the majority of the varieties may be relied upon to produce themselves true to character.

From the time when the first dainty cabbage in the early spring is ready to be severed from its stem, we have a continual supply of green vegetables, with distinctive taste, hardiness, and other important characters. At the present time, too, we have in several instances combined features upon the same stem, as in the many-headed or sprouting broccolis of general utility, while in years to come the sprouting savoy, with its crumpled leaves, and the headed cabbage, with sprouts and smooth leaves, will probably become universal favourites.

In restricted gardens it is important that the grower chooses only those green vegetables which, with proper treatment, will yield sure returns in their seasons. There are many cultural points to be thought out in connection with a year's supply of green vegetables, and, like many other details in connection with the management of a garden, the preparation of the soil, the sowing of the seed, and, in some cases, the pricking off of the young plants before finally transplanting them, have all a bearing upon the ultimate results. As the length of time required for each crop varies very much, definite knowledge is necessary, and while some cannot be grown too quickly others must only advance to a given point at certain seasons or disappointment will follow.

Succulent cabbages cannot be grown upon a poor diet, yet the feeding must be correct. Should it be given to autumn plantations intended for the spring crop the growth may be too "proud" during the autumn and early winter; but it is not the largest and softest specimens that mature the earliest in the following spring, but those with a hardened tissue and good root hold. These latter will respond to spring forcing when the time comes for it, without bolting. Whether the stimulants, like nitrate of soda or sulphate of ammonia are given in February or March depends upon the season, the point is that before the applications are made the plants should have assumed the hearting attitude, then succulent material is quickly formed.

For August or late July sowings of the smaller forms, Sutton's April, Veitch's Market Garden, Ellam's Early, and Early Offenham are very good. Flower of Spring, Webb's Emperor, and Wheeler's Imperial are all good to follow these. For sowing in the spring, to mature quickly, there are such excellent varieties as Veitch's Earliest of All, Sutton's Earliest, and Carter's Early Heartwell, and those of larger size, and later in maturing, like Winningstadt, Enfield Market, and Maincrop. Little Gem and Christmas Drumhead are valuable for late autumn, and remain in good condition after others have rotted. Little Gem may be sown with the Hardy Green and Rosette Coleworts.

Perhaps the cauliflower is the choicest of all this family, and it must be liberally treated if good heads are to result, because these are only produced in perfection when sufficient leafy growth is made to protect their flower head. The frame or early maturing varieties, such as First Crop and Early Dwarf Forcing are best sown at the turn of the year and grown steadily in a little warmth, then, if carefully hardened before being planted out in a rich soil and a warm position, they will be early and useful. Snowball, Magnum Bonum, and Early London, from autumn-raised seedlings, follow the small type successionally, and other fine varieties are Veitch's Pearl, Sutton's Purity, White Queen, and Carter's Early Emperor, Early Giant, Extra Early Autumn Giant, Autumn Mammoth, and that grand and veteran variety Veitch's Autumn Giant. Those named are the cream from which a good selection may be made.

The Brussels sprouts, being tolerably hardy, are important from the time of the first autumn frost until the secondary and tender shoots formed in the spring are exhausted. A long season for growth upon firm ground, with full exposure to air gives the most satisfaction to the grower. All the leading seed firms have good strains of Brussels sprouts, and the variety known as Exhibition is the best for the earliest supplies; Carter's Perfection, Sutton's Matchless, and Veitch's Market Favourite, are also fine cropping varieties, but one of the most serviceable for private gardens is Dwarf Gem. If very large sprouts are desired Cambridgeshire Champion, The Aigburth, or Scrymgers Giant will, with proper cultivation, provide them.

The broccoli is one of our most uncertain crops, and the continuation of supplies from October to June largely depend upon the weather, however, provisions for a succession must always be made, and in those cases where brick pits are provided, a succession is more easily maintained. For autumn use Michaelmas White, Self-Protecting Autumn, and Walcheren are excellent; Superb Early White, Snow's Winter White, and Christmas White, turn in during open weather in December and January. Successional varieties during late February, March, and April often turn in rapidly, and amongst the forms that head in twelve months after sowing the seeds there are the Purple and White Sprouting, Knight's Protecting, Snow White, Veitch's Spring White, Leamington, Sutton's Perfection, Penzance, and Reading Giant are all good varieties. The later maturing ones are Model, Satisfaction, Late Queen, Universal Protecting, and Latest of All. In gardens there is no need to prolong the broccoli season after the more dainty cauliflowers turn in, which should be towards the end of May.

Turning again to the autumn when the heavy rains and frosts have mutilated many of the cabbages we are able to continue supplies in the curled-leaved forms, and very excellent they are. Such small savoys as Tom Thumb, Early Dwarf Ulm, and Sutton's Reliance are of splendid quality; the latter variety is later and keeps well. Dwarf Green Curled is a universal variety, and Best of All is a fine Early Drumhead type, and for large establishments always needed, as is also a breadth of the late Green Drumhead. The savoy often escapes caterpillars better than some other forms of brassicas do. All the same, when these pests are numerous, the curled savoy does not escape their notice entirely.

The borecoles, or kales, are too often neglected, and sometimes condemned as lacking quality; the latter point is true enough if they are served out of season, but having withstood the rigour of the winter, in early spring their tender young shoots are very wholesome. Among recent introductions to this section Veitch's New Sprouting, and Carter's Chou de Russie are well worth growing, both varieties showing good qualities in the Wisley trials. The curled forms are many, Sutton's A1, Veitch's Exhibition, and Carter's Dwarf Extra Curled are all ornamental and good, and nearly all the Scotch Curled strains offered are valuable. The very dwarf forms of Arctic Curled are exceedingly hardy and rarely damaged by frost. Cottager's Kale, or the more uniform selection of Hardy Sprouting should also be included. The Drumhead Kales are of fine quality, but are often irregular in growth, and suffer from wet and frost too much to be relied upon. Of course, the Asparagus Kale is always excellent in the spring, providing it has escaped mildew during the previous summer's growth.

Enough, however, has been said to cause those interested in the multitude of forms to seek for further knowledge, but the varieties named here in their sections have been tried and found reliable, and there are many others, too, that serve a useful purpose in special cases. Utrum horum mavis occipe. C. FOSTER.

Sutton Green.

FIGS ON PERGOLAS.

Besides the usual methods of culture there is another useful and ornamental way of growing figs in the open air. We may find, at the present time, in some of our old country gardens, old veteran trees growing, and trained to walls; but that is not the way that I would treat the fig in the open air, except in the more northern counties. I prefer to plant the trees and train the branches over pergolas.

In one garden that I had charge of for many years, there was a row of fig trees about three hundred feet long. Originally the trees were intended to be trained on a wall, as they were planted close to the latter; but the trees were nearly one hundred years old, and their branches had not only covered the wall space, but a plot of ground about twenty-five feet wide besides, running the whole length of the wall. Twelve feet distant from the latter a very strong pergola was erected and the giant branches were satisfactorily disposed over it, the effect being a noble one. Very little feeding took place, and these old trees bore heavy crops of fruit every year on well-matured wood.

Starlings were their chief enemy, as the birds would swoop down in flocks and clear the whole of the fruit away in less than two days just as it was approaching maturity. But the loss from this cause was prevented, after one or two experiences, by spreading large fish nets over the top of the trees; the branches were so strong that a number of men could climb from one to the other with safety while engaged in placing the nets in position. White Ischia, Black Ischia, Brunswick, and Brown Turkey were the principal varieties grown. In other parts of the garden the trees were treated as huge bushes and not stiffly trained to the walls.

GEO. GARNER.

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Price per 100 on application.

DWARFS AND CLIMBERS, smaller plants, in 5 inch pots, **10/6** to **18**/- per doz.; **75**/- to **£6** per 100.

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COLLECTION No. 1—Twelve Useful Varieties, 1/3.

Dainty, white, with slight pink edge; **Dorothy Eckford**, white; **Gladys Unwin**, waved pink; **Henry Eckford**, salmon-orange; **Hon. Mrs. Kenyon**, pale primrose; **Jeannie Gordon**, carmine and buff; **Miss Willmott**, salmon-red; **Navy Blue**, deep violet blue; **Queen of Spain**, salmon pink; **Romolo Piazzani**, rich blue; **Salopian**, deep mulberry red; **Triumph**, rosy salmon and blush.

COLLECTION No. 2.—Twelve Good Varieties, 1/9.

A. J. Cook, pale lavender purple; **Duke of Westminster**, rosy violet; **Evelyn Byatt**, orange and rose bicolor; **King Edward VII.**, rich crimson; **Lady Grisel Hamilton**, pale lavender; **Lord Nelson**, dark blue; **Lucy Hemus**, carmine and buff; **Mrs. Collier**, pale primrose; **Nora Unwin**, waved white; **Paradise**, rich pink, waved; **Prince of Wales**, rich deep rose; **Sybil Eckford**, creamy buff, flushed pale pink.

SINGLE PACKETS OF ANY VARIETY IN COLLECTIONS Nos. 1 and 2, 2d. EACH.

COLLECTIONS Nos. 1 and 2, when bought together, will be 2/6,
and a packet each of "Janet Scott" and "Jet" will be added free of charge.

COLLECTION No. 3.—Twelve Best Varieties, 2/6.

Black Knight, rich, dark bronzy chocolate; **Chrissie Unwin**, cerise-scarlet, waved; **Clara Curtis**, the best waved primrose; **Countess Spencer**, large wavy pink; **Etta Dyke**, the finest waved white; **Frank Dolby**, waved lavender; **George Herbert**, waved carmine and rose; **Helen Lewis**, waved orange and rose; **Helen Pierce**, marbled blue; **Mrs. Hardcastle Sykes** (30 seeds only, as this variety partly failed), waved blush pink; **Mrs. Walter Wright**, rich rosy mauve; **Queen Alexandra**, the best crimson scarlet.

SINGLE PACKETS OF ANY VARIETY IN COLLECTION No. 3, 3d. EACH.

COLLECTIONS Nos. 2 and 3, may be had together for 3/6,
and a packet of "Phenomenal" and "Millie Maslin" will be added free of charge.

SPECIAL PRICE FOR THE THREE COLLECTIONS, 4/6,

and when bought together, the four added packets and a packet each of the four best striped varieties, viz.:—

Jessie Cuthbertson, Mrs. J. Chamberlain, Prince Olaf, and Unique

will be added free of charge, making 44 of the very best varieties in cultivation, at an average cost of about one penny a packet.

PRICE OF EITHER OF THE EIGHT ADDED VARIETIES IF WANTED ALONE, 2d. EACH.

COLLECTION No. 4.—The Twelve Newest Varieties 4/-,

Or, what we consider the best of the newest.

SPECIAL NOTICE.—The price of, and number of seeds of each variety in Collection No. 4 varies. The number of seeds in each packet is stated in figures after each name. Any variety not priced cannot be sold apart from the collection.

Apple Blossom Spencer (40), rosy pink and blush, waved **6**d.; **America Spencer (15)**, bright rosy-scarlet flake, waved; **Black Knight Spencer (25)**, rich dark maroon, waved, **6**d.; **Constance Oliver (20)**, creamy buff ground, flushed deep pink, waved; **Evelyn Hemus (20)**, waved, primrose with picotee edge of pink, **6**d.; **Marjorie Willis (15)**, a **Prince of Wales Spencer**; **Miriam Beaver (6)**, a pinkish-salmon on buff ground, **3**d.; **Mrs. Charles Foster** or **Asta Ohn (20)** beautiful waved lavenders, **9**d.; **Paradise Ivory (20)**, a pale primrose with slight tinge of pink, waved, **8**d.; **St. George (40)**, a grand orange scarlet, **6**d.; **Sunproof Crimson (6)**, a large, well waved rich crimson, a much improved **The King**, and absolutely sunproof, **1**s.; **The Marquis (15)**, a large waved rosy mauve.

COLLECTIONS Nos. 3 and 4 may be had together for 5/6,
and a packet of the New White Everlasting Pea, WHITE PEARL, 25 seeds added free of charge.

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which, with the nine added varieties, will be 57 in all, and making it the best collection, considering the varieties, ever offered for the money.

A few packets each of Burpee's MARIE CORELLI (10 seeds), 6d.; Burpee's W. T. HUTCHINS (6 seeds), 6d.; MRS. CHARLES MANDER (25 seeds), 6d.; MRS. ROUTZAHN SPENCER, re-selected (20 seeds), 6d.; OTHELLO SPENCER (15 seeds), 6d.; PARADISE CARMINE (15 seeds) 6d.; TENNANT SPENCER (15 seeds), 6d.; ZEPHYR (15 seeds), 6d., or a packet of each for 3s., but they are sold without guarantee as to their being perfectly fixed.

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This Edition will be bound in stiff covers and charged **6d.** each, but the Sixpence may be deducted from the first five shilling order.

The best and most useful book published in a compact form. Size, about 6 inches by 4 inches.

NOW READY.

BEGONIAS FOR SUMMER BEDDING.

In referring somewhat briefly to the begonias most suitable for the production of colour effects in the flower garden during the summer months, there is no occasion to dwell at length on their value for that purpose. Their utility is great, but it is now generally recognised, and the question uppermost in the minds of those who are concerned with begonias for bedding is not so much whether they can be successfully employed in the flower garden as the relative merits of the several types. Sometimes comparisons are instituted between begonias and zonal pelargoniums, but these do not appear very desirable, because the two classes of flowers differ so widely from each other, except in colour, that both should be included in a scheme of a comprehensive character. This general statement applies, of course, to gardens where both begonias and zonal pelargoniums are satisfactory in ordinary seasons; but should the weather conditions of a district be more favourable to the one than the other, a careful comparison should be made between them for the purpose of determining which of the two is the best adapted to the conditions that obtain in the particular locality. As a guide to those who have not instituted such comparison, it may be stated that where the soil is light and the climate comparatively dry, as in the south and eastern parts of England, zonal pelargoniums will bloom so freely as to leave but little to be desired; and that in the western and northern parts, where the rainfall is usually heavy, the begonias will produce the best effects. In wet seasons such as the summer of last year, begonias are the most satisfactory, while in dry ones the advantage will be in favour of zonal pelargoniums. Much may be done by thorough soil preparation to reduce the difference in flower production in the several districts that are not, generally speaking, equally suited to both.

A BEAUTIFUL BED OF BEGONIAS AND FINE-FOLIAGE PLANTS

In the gardens of Hopetoun House, Linlithgowshire.

In making selections, owners of gardens will, as a matter of course, be guided by their taste; and gardeners will give full consideration to the wishes of their employers. If bold flowers are preferred they will select from the large-flowered tuberous varieties now so generally grown; but if flowers of medium size are regarded with most favour, attention will be given to the small group of varieties of which Worthiana is typical. Again, if the begonias are simply wanted as a carpet or groundwork for beds filled with flowering or fine-foliage plants of some height, or for the formation of marginal bands to beds, then the dwarf semperflorens varieties will be selected. In the majority of cases the best effects will be obtained by utilising all three types in due proportions.

A commencement might in each case be made by raising a stock from seed, and if the sowing is made at once, and the seedlings grown under favourable conditions, they will be of a suitable size for bedding out at the end of May, and for commencing to flower freely before the summer is far advanced. This, however, is not the best course to follow in raising a stock for use in the flower garden, because the seedlings will vary considerably in growth, size of flowers, and colour, and the effect will probably fall short of the expectation. The best course will be to purchase a stock of bulbs raised from seed sown last year, and selected according to their colours. Even the best selections are not really costly, and if the colours required are stated, and the medium or higher priced selections purchased, there will be no difficulty in producing the desired effects. For use in the flower garden next year a stock may be raised from seed sown early in February, and the plants so raised be grown in the kitchen garden during the coming summer. When in bloom they can be readily marked with short sticks in such manner as to allow of their being readily assorted according to their colours when lifted in the autumn.

The tubers should be ordered rather early in the year, and be started at the beginning of March, a frame being the best place in which to put them. It is an advantage to place the pots or boxes on a mild hotbed, and to maintain a temperature of about 60 degrees, and a rather humid atmosphere until growth has made some progress. From this stage very little artificial heat will be required, and the ventilation should be moderate, and the plants receive a light spraying. The one point at which to aim is a firm, short-jointed growth.

The varieties that can be grouped around Worthiana are mostly dwarf in growth, have a free branching habit, and bear their elegant flowers quite clear of the foliage. The flowers of Worthiana are quite pendulous, but those of the others are not so, or only to a small extent. Varieties belonging to the group do not appear to have obtained a very prominent position in trade collections, and they are usually met with in private gardens either without name, or bearing names which suggest that their nomenclature has become much mixed. The following may be mentioned as especially desirable: Bertini, an improved form of Worthiana; Bertini nana compacta, a dwarfer variety with larger flowers; Washington, Swanley Bedder, and Halton Bedder, these all have scarlet flowers, and are remarkably free. The last-named is used with much success by Mr. T. Hay in the flower gardens at Hopetoun House, the seat of the Marchioness of Linlithgow, the beds being, as in the case of the one illustrated herewith, simply carpets of flowers, that would be almost painful in their brilliancy were not variegated abutilons and a few other light foliage plants tastefully interspersed. Especially noteworthy, also, in the Hopetoun House Gardens was Madame Mandiot, a dwarf growing begonia with pleasing pink flowers, of much value for bedding.

These varieties should, for bedding purposes, be raised from cuttings to ensure uniformity in growth and colour. Cuttings can be readily rooted during the summer, and if care is taken to see that each cutting has a bud in the axil of the leaf at the lowest joint, there will be no difficulty in obtaining a free growth in the spring. Cuttings may also be rooted after the growth has commenced in the spring, but summer propagation is preferable. The tubers should be started into growth in much the same manner as advised for the large-flowered varieties.

The varieties of Begonia semperflorens that are utilised for bedding are of dwarf growth, ranging from six to twelve inches, and vary from white to bright crimson. Crimson Bedder, which has deep bronze-coloured stems and leaves and bright crimson flowers, and Fairy Queen, pink and white, are perhaps the most useful of the taller forms. These may be raised from seed or from cuttings, as may be desired. G.

CONIFERS FOR LAWN SPECIMENS.

When growing under favourable conditions, with suitable surroundings, many coniferous trees are unsurpassed in usefulness for garden decoration, whether planted in groups or used as isolated specimens on lawns. Unfortunately, it but too frequently happens that the conditions under which the trees are planted are such as to render it quite impossible for them to develop properly, and instead of forming really beautiful objects they become an eyesore and a disgrace to their kind. Even when the best cultural conditions possible are at hand, a few kinds obstinately refuse to thrive, but this is an exception, and a few kinds only are really difficult. The most favourable conditions under which conifers thrive are nearly approached in sheltered positions on the West Coast of Scotland, and in the south-west counties of England and Wales and in Ireland, where the temperature is fairly equable, the atmosphere humid, and the soil rich and moist, but fairly well drained. Perhaps the most unsuitable conditions prevail in manufacturing towns where the atmospere is heavily charged with smoke and other impurities, and where the soil is naturally hot and dry in the summer-time. In fact, conifers are not town trees, that is, towns where large works are carried on and smoke abounds, and it is unwise to introduce them to gardens in such places. Conifers again, are not the best kind of trees to plant in tiny villa gardens, for many of the more ornamental kinds assume very large proportions, and require abundance of room to develop properly and exhibit their individual peculiarities to the best advantage. Cooped up in a tiny garden these lordly trees are quite out of place; therefore, they ought to be left to gardens of more pretentious dimensions. There are, of course, some small-growing conifers that might be used, but, as a rule, it is the larger growing kinds that the owners of tiny villa gardens aspire to.

Lawn specimens usually have abundance of room given to them, and the green carpet of turf round about adds materially to the appearance of the trees. It is always advisable when first planting the trees to work the ground thoroughly, and each tree should have a hole eight feet in diameter trenched for it, and, if poor, the ground ought to be enriched by soil of better quality and by half-decayed leaves. The nature of the soil, of course, has to be taken into consideration when the holes are being prepared, a larger hole being necessary in very heavy or very poor soil than in that of a lighter or richer character.

In such a large family there is, of course, a considerable number of meritorious subjects, but it will be advisable to mention a limited number only, consequently, although the subjoined list is made up of really good trees, they cannot be said to be better than some which have had to be unavoidably left out; they will, however, serve to direct attention to the family and perhaps assist some persons in the selection of their lawn specimens.

Cedrus.—It is possible that no exotic tree enjoys so much popularity as the Cedar of Lebanon, C. Libani, and it is difficult to imagine a more imposing object than a mature example, with a massive trunk and large canopy of branches, many of which are to be seen about the metropolis and home counties. It is not, however, to this tree that special attention is directed now, but to the Blue Atlas Cedar, Cedrus atlantica glauca. This is a free-growing tree, of noble presence. When young it is of pyramidal outline, uniformly branched from base to summit with ample foliage of a rich glaucous colour. It requires plenty of room to show its attractions to the best advantage.

Pinus excelsa is a handsome species belonging to the five-leaved or Strobus group, with long, pendulous, silvery-marked needles and pendant resinous cones nine inches long. It is a native of the temperate Himalaya, and is commonly known as the Bhotan Pine. When once established it grows vigorously and forms an imposing tree. P. insignis is the principal pine of the south-west counties, and in Devonshire and Cornwall and such like places it grows with astonishing rapidity, and forms an exceptionally handsome tree. Its peculiarities are its bright green leaves and large cones, which are much more fully developed on one side than on the other. P. Bungeana, the Lace Bark Pine of Northern China, is a rare and little-known species, but one which is eminently suited for planting as a lawn specimen. It is of rather dense habit and somewhat slow growth, and possesses the peculiarity of shedding its bark in a similar manner to the plane.

P. monophylla is also the sort of tree to treat as a lawn specimen. This differs from other pines by its leaves usually appearing singly, not in bundles as in other kinds. It is of slow growth, and requires less room than the previously mentioned kinds.

P. sylvestris.—As a young tree, this, the Scot's Pine, has nothing particular to recommend it as worthy the honour of a place as a lawn specimen, but where old examples exist they are usually jealously guarded, for no more imposing objects can be imagined in a landscape than a number of old Scot's Pines with long trunks quite branchless, except for a comparatively small head of branches which have weathered the storms of a couple of hundred years, and, though battered and broken, are nevertheless beautiful.

Cupressus Lawsoniana, or Lawson's Cypress, is represented in gardens by a large number of varieties, many of which are decidedly ornamental. Three only, however, are mentioned here as representative of the rest. They are C. L. filiformis, an elegant variety with pendant secondary branches and green foliage; C. L. intertexta, an ornamental green-leaved form of very pleasing outline, and C. L. gracilis aurea, a free-growing, golden-leaved variety. Other cupressus of pleasing appearance are C. nootkatensis pendula, C. obtusa Crippsii, and C. pisifera plumosa aurea.

Libocedrus decurrens is a stately Californian tree of columnar outline, with very dark foliage. It forms an attractive object standing sentinel-like amongst other trees on a lawn, or planted half a dozen or so together to make a specimen group.

The Japanese Umbrella Pine (Sciadopitys verticillata) ought to occupy a sheltered position, and be given moderately light soil containing a little peat. It is a most interesting tree, and of very ornamental appearance. A position may be given where a slow-growing specimen is required. Ginkgo biloba, the Maidenhair tree, is a general favourite, and worth planting as a select tree. Its curious flattened leaves which resemble in form the pinnules of a Maidenhair fern, are distinct from anything else we have. It is, of course, deciduous, and it thrives fairly well in towns.

Another deciduous tree of more than ordinary merit is the Golden Larch, Pseudolarix Kæmpferi. This is a Chinese tree which is seen at its best in autumn, when the foliage takes on a brilliant golden colour previous to falling.

A damp place near the margin of a stream or lake might well be given up to a specimen of the deciduous cypress, Taxodium distichum. When young, this is of somewhat columnar outline, but with age a looser habit is developed. Its leaves are a delightful shade of green in spring, and a rich copper in autumn previous to falling.

Amongst the spruces we have Picea Morinda, a Himalayan tree, with long pendulous branches and long leaves. It forms a large tree of noble outline. P. pungens glauca is a stiff-habited tree, with rich bluish leaves. It is, however, a rather difficult tree to deal with, for, whilst it thrives excellently in one garden, it may be an utter failure in the next from no apparent cause. The Servian Spruce, Picea Omorika, has lately attracted attention as an ornamental tree of free habit and pleasing outline. The firs offer numerous suitable examples for lawns, such kinds as Abies concolor, A. Lowiana, A. Pinsapo glauca, A. Mariesi, and A. brachyphylla being all beautiful. When at their best A. nobilis and A. magnifica are very pretty, but unfortunately it is very rarely that one sees them in good condition, for they are martyrs to disease.

Several yews demand attention, particularly Taxus baccata var. Dovastoni, T. b. elegantissima, and T. b. adpressa, all of which are worth conspicuous positions.

Pruninopitys elegans, the plum-fruited yew, forms an excellent bush for the outskirts of a lawn. Though of yew-like character, it is quite distinct from the yew, and is of lighter appearance. Another good substitute for the yew and a tree of less sombre aspect is Tsuga Sieboldi. It grows freely and forms a large bush clothed to the ground with branches, or, if crowded, a tree-like habit is assumed. Another Tsuga of pleasing appearance is T. Pattoniana glauca. It has pretty glaucous leaves, and forms a shapely bush. Unfortunately, it is only hardy enough for the milder counties.

For the milder counties Fitzroya patagonica and Athrotaxis cupressoides form a couple of useful subjects, whilst Saxegothea conspicua might be more frequently used.

W. D.

SEASIDE ROSES.

I often wonder why so many people have an idea that only a few of the very hardiest roses will thrive by the sea. Provided we give a little judicious shelter from direct wind off the water, I think there could scarcely be a more ideal situation. Perhaps the greatest drawback is the unsuitable soil in many cases, poor, chalky soil so often predominating. A lover of flowers would soon remedy this, and at comparatively little cost.

During the summer of 1909 I saw many of the choicest and generally delicate varieties of roses doing extraordinarily well at Brighton. They were just away from the sea wind, which is often too boisterous for most plants, independently of its saline properties. In this instance, as is so often the case, the soil was full of small flints; so much so that the whole soil to a depth of many feet had been passed through a screen in order to secure the flints for road making. The resulting soil was a stiff yellowish loam, that did not bind particularly close owing to the presence of flint chips and coarse sand, which had passed through the screen. When I say the garden consisted of such soil to a depth of four or five feet, and my friend had manured liberally, there is little cause for surprise he had such grand results.

We cannot all do this, but there are very few places where roses could not be grown if a little attention were paid to suitable drainage and manure. Too often it is the builders' refuse and excavations from cellars, etc., that are dumped down to form a garden, and this must be remedied in some way. A little consideration will suggest what is most needed in each case; but I think we do not allow enough for the excessive drainage generally found in town gardens, and, in addition to this, it is only occasionally that the soil has a thorough soaking naturally. With adjoining houses, and the great absorption of moisture by the walls of all buildings, there is seldom more than surface moisture, unless applied artificially. Too dry a soil is no doubt the frequent cause of failure when growing roses upon walls or buildings; but if we really appreciate our plants this matter will be soon remedied.

I would recommend lifting a portion of the soil, going sufficiently deep to find what sort of bottom exists, and then making up the compost accordingly. Sooty matter, and the old mortar rubble left by the builder often predominate, and may be helped by stiff loam. It not infrequently happens that there is fairly good loam buried beneath this refuse, and before putting in any plants I would certainly ascertain what there is below. No special soil is absolutely necessary for roses; if it was we should not see such grand exhibits in all parts of the kingdom, and from such varying soils.

To place roses upon walls facing the open sea is courting failure, but upon the sheltered sides, and in enclosed gardens, there is no reason why we should not have a good show if the most suitable varieties are chosen. Any that do well in the suburbs will do even better by the coast if direct sea-wind is guarded against.

Gloire de Dijon, Ards Rover, Felicité Perpetué, Madame Alfred Carriere, William Allen Richardson, and Reine Olga de Wurtemburg, are half a dozen good hardy climbers giving a good range of colour. Most of the Wichuraianas are delightful during the early summer months, and do well when slightly protected from wind. In fact almost all roses will thrive upon the coast, and the greater freedom from frost, owing to the saline properties, is helpful rather than harmful, as I fear many amateurs imagine.

We have some beds to plant where there are only a few inches of soil above chalk. The adjoining piece of ground was planted two years ago, and I have seldom seen roses thrive better. Of course, in this case labour is a considerable item. It is absolutely necessary to remove the chalk to a depth of three or four feet, and replace with good loam, but the results from the previous planting are so good that this will be amply repaid. It is a good object lesson to note how differently the plants are doing in the two adjoining gardens. Those in the shallow soil have found it difficult to exist, while upon the prepared ground they are most satisfactory, and the warm situation, helped by the natural chalk drainage, produced a more than usually good show during the wet and cool season of 1909.

Liquid manure during the growing season is a great help where there is rapid drainage, and this can be supplemented by a fairly rich mulching early in the spring. Personally, I do not favour heavy winter mulching of roses. It retains the wet too much, and few things are more injurious than wet and frost combined. Nor are the roots sufficiently active to use such food when washed down to them, and to my mind a great deal of waste thus occurs.

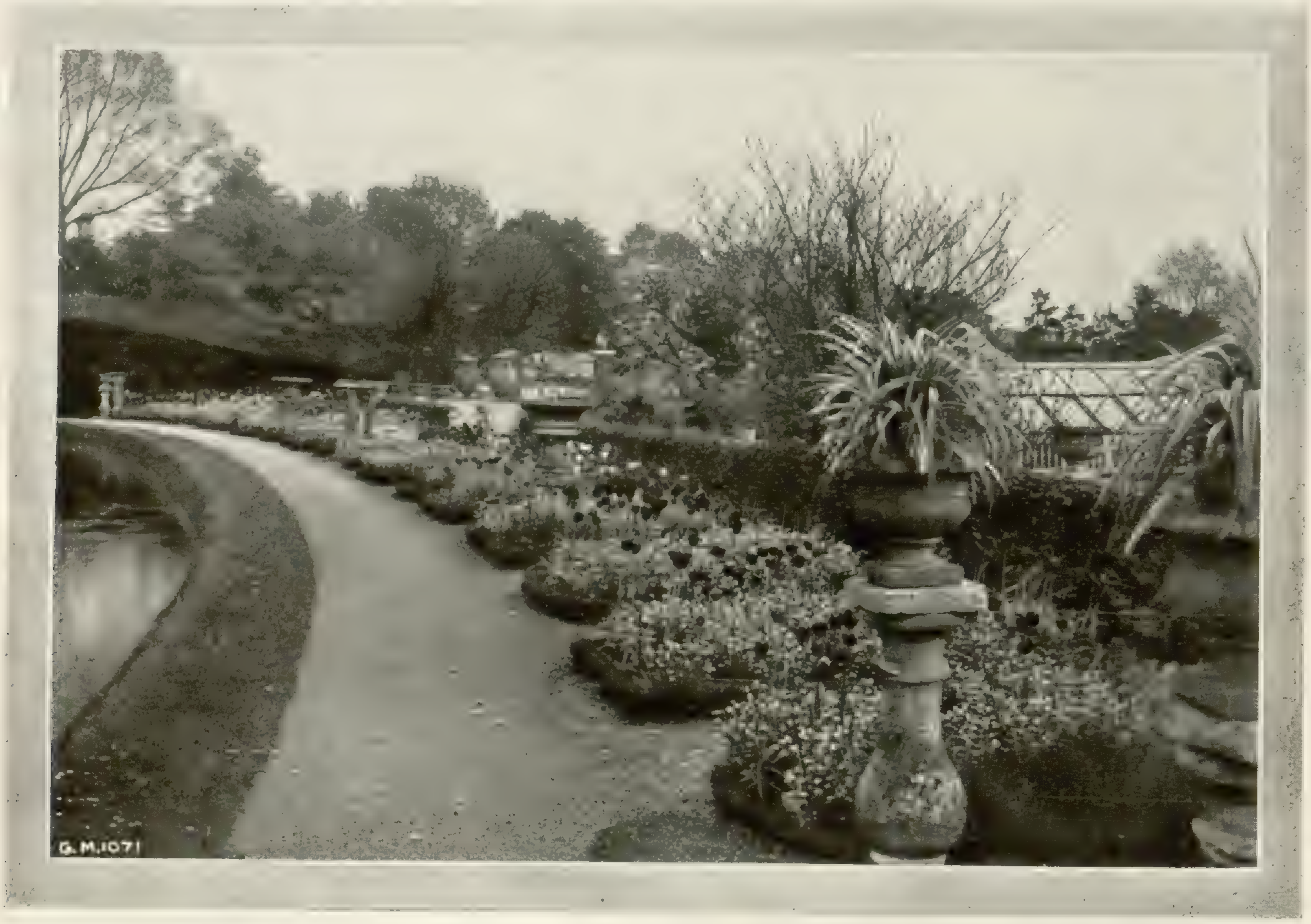
Uckfield. A. PIPER.

VIEW IN ROCK GARDEN, MYDDLETON HOUSE.

Ordering Seeds.—This important matter will now claim our attention. Pains should be taken to include varieties of the very best type for the main crops, remembering those which are successful in one's locality. A few novelties should be included for comparison with the standard kinds, as these are always of interest, if not at all times superior to others. The selection of seeds from the many seed lists is interesting work during the long winter evenings.—G. ELLWOOD.

MYDDLETON HOUSE GARDENS.

Those who have had the pleasure of being associated with Mr. E. A. Bowles in the horticultural work that is done at Westminster, whether it be round the table of the Floral Committee or at the meetings of the Scientific Committee, over which he so ably presides, will not need to be told that he occupies a foremost position among the leading authorities on hardy plants. Nor will they be surprised to learn that the gardens of Myddleton House abound in interest, and are rich in attractions to the plant lover. On the other hand, to those who have not had an opportunity for becoming acquainted with Mr. Bowles' remarkable knowledge of the various classes of plants that thrive under the outdoor conditions that obtain in this country, a walk through these gardens will afford a succession of surprises and not a little pleasure, especially if he be their guide. The surprises will perhaps be all the greater because the gardens are free from the peculiarities that sometimes characterise those in which special attention is devoted to some particular class of plants. The spacious grounds, in which stands the stately edifice that reminds us of Sir Hugh Myddleton, who projected and carried out the great scheme for bringing water to London, contains noble trees, handsome shrubs, roses in groups and running riot over a rustic pergola, closely shaven lawns, and other objects that at once appeal to all who appreciate the charms of a well-furnished garden. In addition, there is a large rock garden, in which the plant lover might spend a day without exhausting its interest; breadths of iris, in which many varieties have a place, and a comprehensive collection of May-flowering tulips that, in the month in which the varieties forming the section yield of their floral beauty, forms an especially attractive feature.



MAY-FLOWERING TULIPS, MYDDLETON HOUSE.

As an indication of locality it should be mentioned that Myddleton House is situate about two miles to the north of Enfield, and is midway between that town and Waltham Cross. The mansion is of handsome elevation, and its substantial character suggests that it belongs to the time when the district enjoyed a high degree of popularity for residential purposes among the wealthy citizens of London. The grounds are extensive, and tastefully arranged, and among the many fine trees that add grace and dignity to them is a noble Cedar of Lebanon, which may possibly be a direct descendant from the tree in the Enfield palace grounds, that has long been regarded as of historic importance, and as the parent of several of the specimens that at the present time grace the gardens north of London. Associated with the many noble trees of considerable age are some that are comparatively young, and these are of interest as indicating an appreciation of kinds that are remarkable for beauty of their flowers or leafage, and have been brought prominently into notice within a recent period. On the south side of the lawn contiguous to the house trees and shrubs were, in the distant past, planted in such manner that now they have attained their full development form a broad belt, and afford shelter from strong easterly winds, and also grateful shade during summer days.

The grounds are intersected by the New River, which flows placidly along on the other side of the belt of trees, and while nothing has, for obvious reasons, been done to utilise it in the cultivation of water-loving plants, its banks have been made highly attractive. These are necessarily formal, but as the eye roams over the tasteful grouping of flag irises on one side, and the glorious display of tulips on the other, the enjoyment of the scene is not lessened by the formality of the boundaries of the river. There is no occasion to give a lengthy description of the river scene, or to speak in eulogistic terms of the taste and judgment evinced in planting the banks, for the reader who carefully examines the illustration of it will at once recognise that it is of surpassing beauty, and must have been the work of someone possessing exceptional taste. The irises in the immediate foreground comprise some of the finer forms of Iris florentina, and a few plants of the typical I. germanica, these latter being added with a view to break up the uniformity characteristic of a group consisting wholly of the former. Immediately beyond are several of the finest of the German irises now in cultivation, which, as in the case of the varieties of the Florentine iris, prove to demonstration their suitability for planting on the higher ground alongside running streams, and on the margins of ponds and lakes. Round the bend of the river are large groups of Iris pallida in variety, and of the yellow-flowered kinds, as I. flavescens, I. variegata, etc., and these, it need hardly be said, are immensely attractive. Mr. Bowles is careful that these flowers have good cultivation, and an essential feature of this is periodic replantings, and in case it might be thought that the group illustrated is rather thin, it may be well to mention that replanting had been done in the year previous.

The opposite bank is hardly less attractive than the one to which reference has been made, but the attractions are of a quite different character. Instead of irises growing as if they had been planted by the hand of Nature, there are formal beds filled with tulips, that, whatever may be their charms, and these are great, possess the formality that so strongly characterises flowers that have been in some degree moulded by the florist in his endeavour to compel them to conform to his ideals of beauty. Mr. Bowles devotes much of his attention to the May-flowering tulips, and

The photograph is marked "G.M.1071".

some part of his comprehensive collection he utilises in beautifying the riverside late in spring. In each bed one variety only is planted, and the whole of the beds have as a groundwork Warley Blue forget-me-not, a variety of great merit, being alike remarkable for its freedom in blooming and for the relatively large size and rich colouring of the flowers. The other part of the collection of tulips have a place in the borders of the kitchen garden, and it would be difficult to imagine anything more delightful, floriculturally speaking, than to spend an hour or so with Mr. Bowles among his tulips. The stone pillars associated with the tulip beds are part of the balustrade of the old London Bridge.

Recrossing the river there is, midway between the irises illustrated and those round the bend, a recess occupied by choice shrubs, and conspicuous among them is an old market cross, which long occupied a position in the market place of Enfield, and was acquired some years since. Here we have also the south end of the rustic pergola, which, richly furnished with flowering and ornamental-leaved plants of scandent habit, constitutes a feature at once distinct and attractive.

A CHARMING WATERSIDE SCENE, MYDDLETON HOUSE.

For some years Mr. Bowles has devoted a considerable share of the attention he has given to these delightful gardens to the study and the cultivation of alpine plants and other choice subjects that thrive under similar conditions, and as the result he has formed an extensive collection and placed the several kinds under the conditions most favourable to their full development. The rock garden has the advantage of being sufficiently spacious to afford accommodation for an extensive collection of plants, in which many differ considerably in their cultural requirements, and it occupies a position with sufficient slope to remove any apprehension with regard to the escape of surplus moisture. It will be seen from a glance at the illustration herewith of a portion of it that it has been constructed in such a manner as to afford the best possible accommodation for the plants, rather than to display skill in the arrangement of rock work. The general design is a series of valleys and ridges, the latter of moderate height, and sufficient rockwork is used to keep the slopes in position, and to provide the conditions essential to the successful cultivation of the various kinds that have found a home upon them. By this somewhat simple arrangement so great a diversity of aspects have been provided that no difficulty has been found in giving the plants the positions best suited to them, and, what is not less important, the whole of the plants can be readily reached, and their distinctive characteristics seen from within a short range.

One of the valleys is admirably shown in the accompanying illustration, and on the high ground of this part of the rock garden there are numerous leguminous plants of special interest. Prominent among other fine kinds are Cytisus purgans, one of the prettiest of the species; and C. fragrans, a distinct species bearing pale pink flowers with the scent of the hyacinth. On the crown of the ridge to the left is growing a collection of brooms, prominent amongst the several forms being Cytisus hirsutissimus, C. trifoliatus, C. sessilifolius, C. Kewense, a charming hybrid, that is highly attractive when seen, as is the case here, spreading over the rocks, and carpeting them with its soft yellow flowers. Still further to the left are C. austriacus, C. glabrescens, C. capitatus, C. sericeus, and C. decumbens, the last-named trailing over the stones at the left-hand edge, and Genista germanica and G. horrida.

Immediately in the foreground, to the right and left of the pathway leading through the valley, small bog gardens have been formed, and in these a goodly number of plants that thrive in bogs give evidence of being quite at home. In the bog to the right grow the white Erica tetralix and E. cinera, and Rubus arcticus, which fruits freely; and in the chinks of the stones that form the back of the bog garden to the left are the blue and white forms of the Pyrenean ramondia, which annually in their season produce a wealth of their exquisitely beautiful flowers. The bog garden to the left is filled with a very deeply-coloured form of Primula rosea, Pinguicula grandiflora, and the blue and white forms of Lobelia syphylitica.

There are on the slopes attractive breadths of the double Arabis saxatile and Arabis albida, and also of the green-leaved and variegated arabis with single flowers. There are also fine breadths of the best of the perennial candytufts, which grow vigorously and bloom profusely; and conspicuous among other good things is the beautiful Anemone sylvestris grandiflora. The dark tree at the top left-hand corner of the rockery is a large specimen of Azara microphylla, and below it, to the right, is an example of Ægle sepiaria, which was raised from a seed given to Mr. Bowles by Canon Ellacombe, who had taken it from a fruit ripened in the open in his garden at Bitton. On a dry bank at the top of the garden is a collection of hardy opuntias, which are of so much interest as to render it a matter of regret that space will not admit of their being referred to with some detail.

GEORGE GORDON.

Double Arabis and Muscari Heavenly Blue.—I quite agree that the brilliant blue of the latter would look "very distinct above the white flowers" (see answer to "W. H. C.," on p. 1,001, G.M., 1909). But all the double arabis which I have grown hitherto would very quickly cover and completely hide the delicate little muscari.—J. C.

THE SWEET PEA YEAR OF 1909.

Retrospection is almost always interesting, but if it is no more than that it serves a very small purpose. If, however, looking backward for a while helps us to look forward with more confidence, impresses upon us the causes of failure and success, and leads us to provide against the one and for the other, then it serves a very useful purpose.

Almost every seed catalogue that arrives contains some reference to the unfortunate seed season of 1909, and these references serve usually as an apology for short stocks of seeds and higher prices. In the case of novelties there is unquestionably a shortage, and many a grower of new sweet peas has been quite unable to put certain of the new varieties on the market. "Crop failed" is printed under, over, or at the side of the description of some charming sweet pea, and so we must be satisfied with the description alone. There is an idea abroad among some keen amateurs that "crop failed," "short crop," etc., are merely sharp practice on the part of seedsmen, who wish to obtain excessive prices and prevent the variety from getting into the hands of other dealers quickly. I am sure this idea is a huge mistake, and it is adding insult to injury to write offensive letters to the already troubled raisers and distributors.

PERGOLA AND OLD MARKET CROSS, MYDDLETON HOUSE.

The way in which sweet peas collapsed in many gardens at the end of July was extraordinary, and those who did not experience this disappointment cannot have any idea of the rapidity with which row after row of promising plants, all apparently in fine health and the full flush of flowering, collapsed. I grew about sixty varieties, some on ground that had been trenched, and some on land merely dug over. So far as I could gather no sweet peas had been grown on the land previously. The plants did very well after being planted out, but before long there came a spell of dry, cold weather, and growth was checked. Then followed wet weather, not overmuch rain, but dull wet weather, and growth progressed fairly well. Then we had a spell of sunshine, ten days or a fortnight of summer weather, and the sweet peas fairly jumped along. There was some bud dropping, but not much, and presently the rows were a grand sight, such varieties as Marjorie Willis, Asta Ohn, Evelyn Hemus, Mrs. C. W. Breadmore, Clara Curtis, Kitty Clive, Mrs. H. Bell, Lord Nelson, Helen Lewis, The King, and Etta Dyke looking particularly well, and giving spikes of four flowers each in great profusion. We cut and came again for about a week, and then a few plants here and there turned yellowy, and shrivelled up like straw. These were pulled up and burned, but, alas, within ten days from the time the sweet peas were "an ocean of loveliness," they had become a veritable "slough of despond."

Those who had similar experience condoled with me. Mr. Chittenden opined that physiological disorder was the cause of trouble, and that Thielavia besicola found on the roots of similar specimens could hardly be regarded as the real cause of failure. Mr. Massee was of similar opinion. Those who had not my tragic experience (of course, I should have wrested the championship from Mr. Stevenson but for this collapse), expressed regret, and nodded their heads in an exasperating fashion, as if to suggest that had I known better (as they did) this thing would not have happened. One Midland seedsman, well known for his vegetable stocks, was kind enough to say, "Well, well, a man may be a very excellent secretary of a society, but have no practical experience of the flower that society is formed to encourage." This took my breath away, and he was gone before I could humbly suggest that for the last fourteen years I have never grown fewer than two dozen varieties, and good rows and clumps of each, and that the number has been mostly from forty to eighty varieties.

High breeding has no doubt affected the constitution of sweet peas. By this I mean that the newer varieties have not, as a whole, the stamina that will withstand untoward climatic conditions as had the earlier varieties. Enormous growth and great spikes do not necessarily mean a hardy, virile constitution. High breeding and bad weather were the cause of failure, and very few growers, trade or amateur, entirely escaped the trouble. Those with open gardens and fields, and wide set rows, where there was the greatest possible circulation of air, seemed to escape the best.

But there were some wonderful flowers at the leading exhibitions, both from autumn sown and spring sown seed. Mr. Stevenson, Mr. T. Jones, Mr. Hopkins, Mr. Basile, Mr. Usher, and Mr. Prophet were in fine form, to mention only a few, and probably no finer flowers were ever seen than those Mr. Stevenson displayed at the London Show of the National Sweet Pea Society. Sweet peas were a good feature at the Temple Show in May, and they were leading attractions at Woodbridge, Southampton, Leicester, Luton, Wolverhampton, Cardiff, Hanley, Edinburgh, Carlisle, York, Gloucester, and Shrewsbury. At Saltaire the display fell short of expectations in the matter of extent.

The National Sweet Pea Society had a successful year, raising its membership well on towards the thousand, and attracting to itself about one hundred affiliated societies. It did well financially. The work of its Floral Committee is to the great advantage of the general public, but the bracketing of certain varieties as too much alike has not been accepted with very good grace in some quarters. If all seedsmen and raisers would conscientiously accept the findings of the society, based as these are on the society's independent and extensive trials, they would directly benefit themselves. The past season suggests that registration of new varieties is a matter of pressing importance and that nomenclature is a serious problem. Under present conditions, the multiplication of names for varieties that present only such differences as exist between Tweedledum and Tweedledee can only lead to one end, and that will be a slump in named varieties and an enormous loss to the trade. The intense loyalty of some firms and raisers to the society is a splendid thing; I hope it will prove infectious. If the greatest good for the greatest number is kept in view then the sweet pea trade may hope for a long and successful future. Selfishness will soon kill the goose that is now laying golden eggs.

The Sweet Pea Conference, following the annual meeting of the N.S.P.S., was another fine feature of the sweet pea year now gone. The good spirit permeating the remarks made during a brisk discussion was good to feel, and promises well for future events of a similar character. The decision of the society to add a beautifully executed certificate to the silver medal granted to affiliated societies should draw the children closer to their parent, and also increase the family. The further decision to investigate sweet pea diseases should be the means of attracting many new members.

The keenness with which the firm of Vilmorin is taking up sweet peas in France; the formation of a National Sweet Pea Society in the United States, with trials of its own at Cornell University; the fact that one town in the Western States gives itself up to a huge sweet pea fête for a couple of days or so; the proposal to form a National Sweet Pea Society in New Zealand; and the increasing number of affiliated societies, all point to the great and wonderful popularity of sweet peas, and prove, notwithstanding its many drawbacks, that the sweet pea year of 1909 was a good one.

Charles H. Curtis.

Ampelopsis Veitchi.—Our botanical friends have "fairly done it" this time. For the future this popular climber is to be known by the name of Parthenocissus tricuspidata. After running the gamut through Ampelopsis Veitchi, Ampelopsis tricuspidata, and Vitis inconstans, the correct name according to the December number of the "Botanical Magazine" is Parthenocissus tricuspidata. Whatever prompts this continual chopping and changing about puzzles the average gardener, who is often completely at sea with the latest thing in names. Neither euphony nor brevity can be urged in favour of this last change, and as a plain gardener accustomed to call a spade a "spade" I only voice the opinion of many others who regard these changes as an attempt to baffle all those outside the sacred circle of botanists. With the vast number of plants in cultivation a good deal of application is necessary in order to acquire a fair knowledge of many of them, and with this persistent changing of names the work is greatly increased. We have quite enough to do without unravelling puzzles which this sort of thing sets us. It is to be hoped that to-morrow some other botanist of sufficient weight will give us a more simple name before we have had time to commit to memory the unwieldy one of Parthenocissus tricuspidata, or will tell us that Ampelopsis Veitchi is, after all, the right name!—A Gardener.

SAXIFRAGA APICULATA.

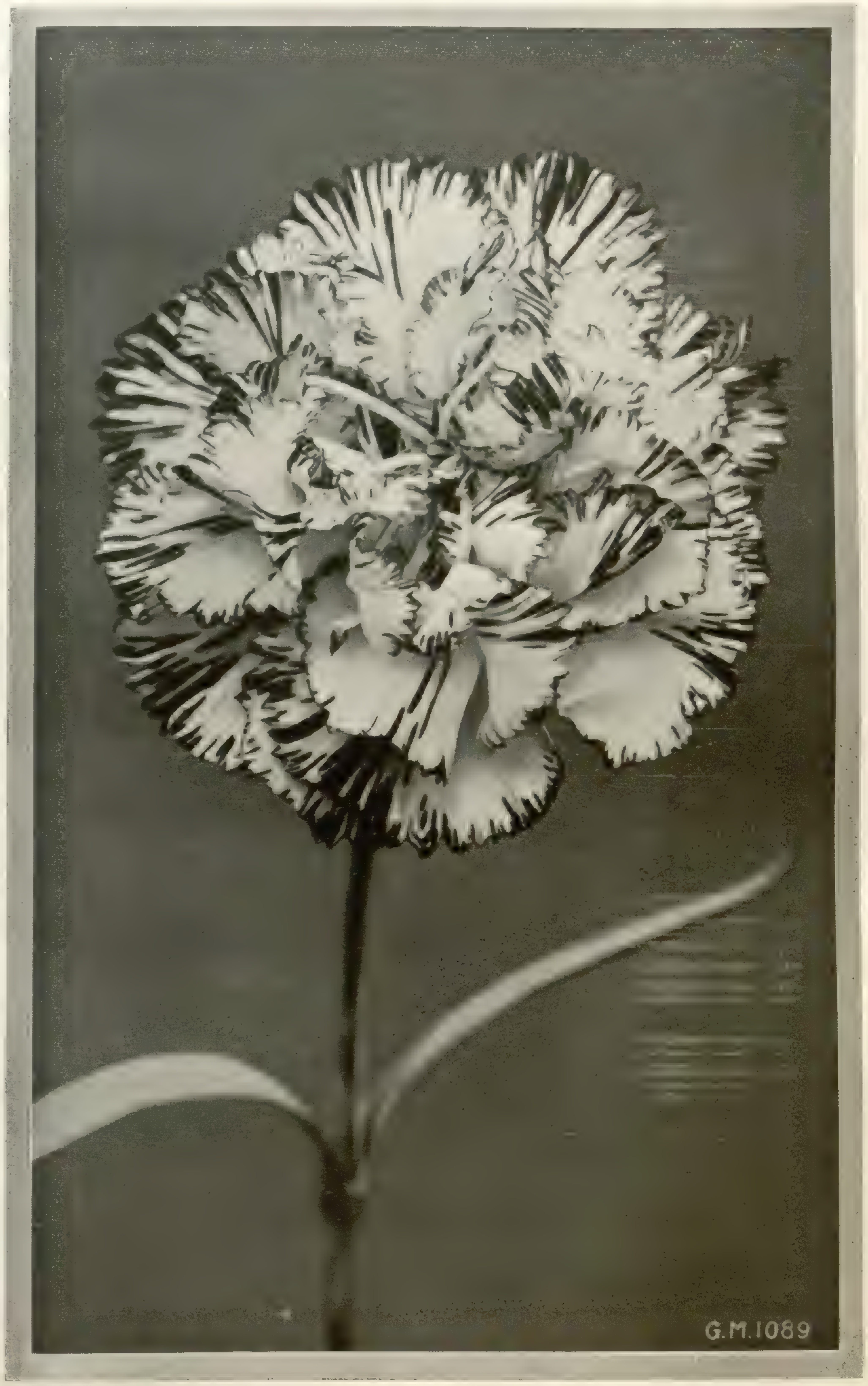
It has been frequently remarked that the genus Saxifraga is so rich in species and varieties that one might easily clothe a large rock garden by their agency, as the majority of them have distinct merits, and an irresistible charm invests nearly all of them, irrespective of their flowers.

The species under notice is a plant of common occurrence in many gardens, being easy to grow and most reliable in flowering. Like a few others, its generous nature in this latter respect is not fully recognised, as among the earliest spring-flowering species it is perfectly distinct, particularly so in regard to the colour of the flowers, which are of a soft shade of lemon. The individual flowers are in clustered heads upon short stems about three inches in height, the colouring of the flowers is in marked contrast to the deep green, close-set branches, whose stems and bristling leaves form a dense carpet, which at all seasons is pleasant to the eye.

Saxifraga apiculata is a plant of fairly rapid growth, at least in so far as this term is applicable to these diminutive alpines; it grows with marked vigour upon strong limestone soil, flowering most profusely where it is fully exposed to sun. It prefers a well-drained position, a compost of grit and limestone soil, and no overcrowding by stronger neighbours. Once fairly established, the bristling spiny growths push out on ever side, so that in a comparatively short time it forms a patch several feet in circumference. A large mass of Saxifraga apiculata, with its primrose flowers, adds greatly to the interest of the spring garden, and where broad effects are desired in preference to varieties this species should by no means be overlooked.

Thomas Smith.

Walmsgate Gardens, Louth.

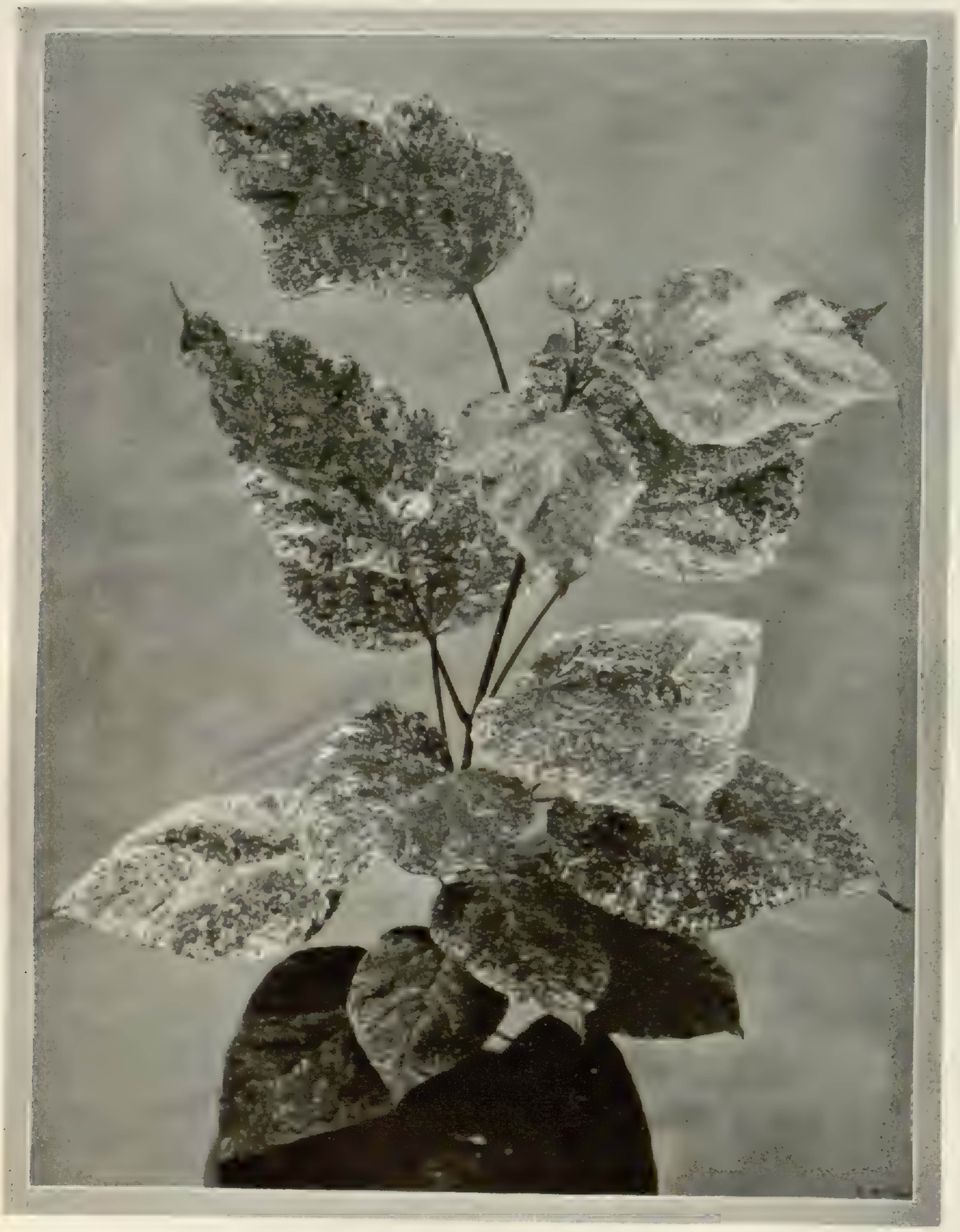


NEW PERPETUAL CARNATION EMPEROR.

A distinct variety, with crimson-flaked flowers, raised by Mr. Lancashire, Victoria Vineries, Guernsey.

NEW HARDY TREES AND SHRUBS OF 1909.

Last year, in my review of the hardy trees and shrubs (exclusive of roses) that had during 1908 received either First Class Certificates or Awards of Merit from the Royal Horticultural Society, I remarked that, compared with 1907, there had been a decided falling off. In 1909 the decrease still continued, the numbers being two First Class Certificates and only four Awards of Merit, while in 1908 it was two Certificates and eight Awards of Merit. The previous year (1907) there were three Certificates and fifteen Awards.



CATALPA SPECIOSA PULVERULENTA.
A distinct variety, with leaves freely speckled with cream-white; introduced by Messrs. Paul and Son.

Of the limited number of those honoured in 1909 the most notable feature is that Chinese shrubs are again strongly represented, most of them being the result of Mr. E. H. Wilson's travels in China. The complete list is as follows:

Viburnum Carlesi.—A beautiful species of viburnum; its flowers, borne in rounded heads, are individually larger than those of the laurestinus, and are very fragrant. The colour of the expanded blossoms is white, but the buds are reddish. It is a deciduous species, and though a native of Corea, is quite hardy. An Award of Merit was given to this on April 14, 1908, at which time it was figured in the Gardeners' Magazine. Last year, that is to say, on May 4, 1909, the Award of Merit was increased to that of a First Class Certificate.

Hydrangea Hortensia alba.—A pure white variety of the common hydrangea, which should become a popular plant for decorative purposes, as it is more robust than the variety Thomas Hogg, which has been generally grown for the sake of its pure white blossoms. Exception may, perhaps, be taken to including this with hardy shrubs, as Hydrangea Hortensia is so generally grown for indoor decoration, still, in many districts it is exceedingly valuable solely as an outdoor shrub. An Award of Merit was given to the variety alba on May 4.

Rhododendron Souliei.—Another new Chinese rhododendron, for which we are indebted to the Messrs. Veitch. Judging by the specimen exhibited, it is quite a dwarf plant, which, being quite hardy, should be valuable as a rockwork shrub or for similar purposes. Though the plant shown was under a foot in height, it is of sturdy growth, clothed with ovate leaves, cordate at the base, and of a firm leathery texture. They are when young of a reddish tint, as well as the young shoots, and also have a glaucous bloom, which soon disappears. The flowers, borne in a neat truss, are comparatively large, being almost four inches in diameter, and of a rose-pink colour. They are flatter than those of most rhododendrons, in fact they are in shape somewhat suggestive of those of a kalmia. A First Class Certificate was given to this rhododendron on May 18, a distinction which, in the opinion of everyone, was well merited. Rhododendron Souliei is a native of Western China, where it occurs at altitudes of 9,000 to 11,000 feet. It is there said to vary in height from three to twelve feet, which latter stature will take a long time to attain. A lifelike illustration of this charming new shrub is given in the Gardeners' Magazine for May 29, 1909. It has not yet, as far as I know, been put into commerce.

Spiræa Veitchi.—An exceedingly floriferous shrubby spiræa, of very graceful habit. It is a shrub which will reach a height of six feet to eight feet, or even more, and pushes out long gracefully arching shoots, which are, during the flowering season, thickly studded on the upper surface with clusters of white blossoms. An illustration of this spiræa, showing well its main characteristics, may be found in the Gardeners' Magazine for July 31, 1909. It is a native of China. An Award of Merit was given to Spiræa Veitchi on July 20.

Rhus sinica.—This comparatively new sumach, from China, is not much known. Its general appearance may be seen from the small specimen figured in the Gardeners' Magazine for September 18 last. The compound leaves of this species are from eighteen inches to two feet in length. The leaflets in summer are of a deep green colour, with reddish stalks and principal veins. Like other of the sumachs, the foliage in autumn changes to an orange-red colour, in which state it is wonderfully effective, and should form a striking feature on a lawn. This rhus was given an Award of Merit on September 14.

Vitis Wilsonæ.—Another of the new Chinese vines, and one somewhat after the style of Vitis armata. It is one of the large-leaved species, and a decidedly ornamental one. The leaf is almost regularly five-sided, while the margins are nearly entire. All the principal veins, however, terminate with a slight point. The leathery leaves change to a bright crimson in autumn. An Award of Merit was given this vine on September 28.

Catalpa speciosa pulverulenta.—During the year a distinct variety of Catalpa speciosa was introduced by Messrs. Paul and Son, of the Cheshunt Nurseries, and when it becomes more fully developed will not fail to obtain recognition. The leaves are of the usual size, and freely speckled with cream colour. W. T.

GARRYA ELLIPTICA AS A LAWN TREE.

This evergreen is usually regarded as a good wall plant for western and northerly aspects, where many choice subjects are considered to be unsuitable, or do not succeed. But as a specimen on the lawn this garrya is a handsome subject, especially if shelter from north and easterly winds can be given it, and it is carefully pruned after flowering to keep it in shape, and thus provide it with a greater density of leaf than is usual if it is allowed to grow away uninterruptedly.

On the lawn at Herriard Park I recently saw an extremely fine plant. Two years since the plant was 12 feet high, and had a circumference of twenty-two feet; when thickly loaded with catkins it makes a fine sight in December. Herriard Park is fully 600 feet above sea level.

E. M.

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THE NEW ORCHIDS OF 1909.

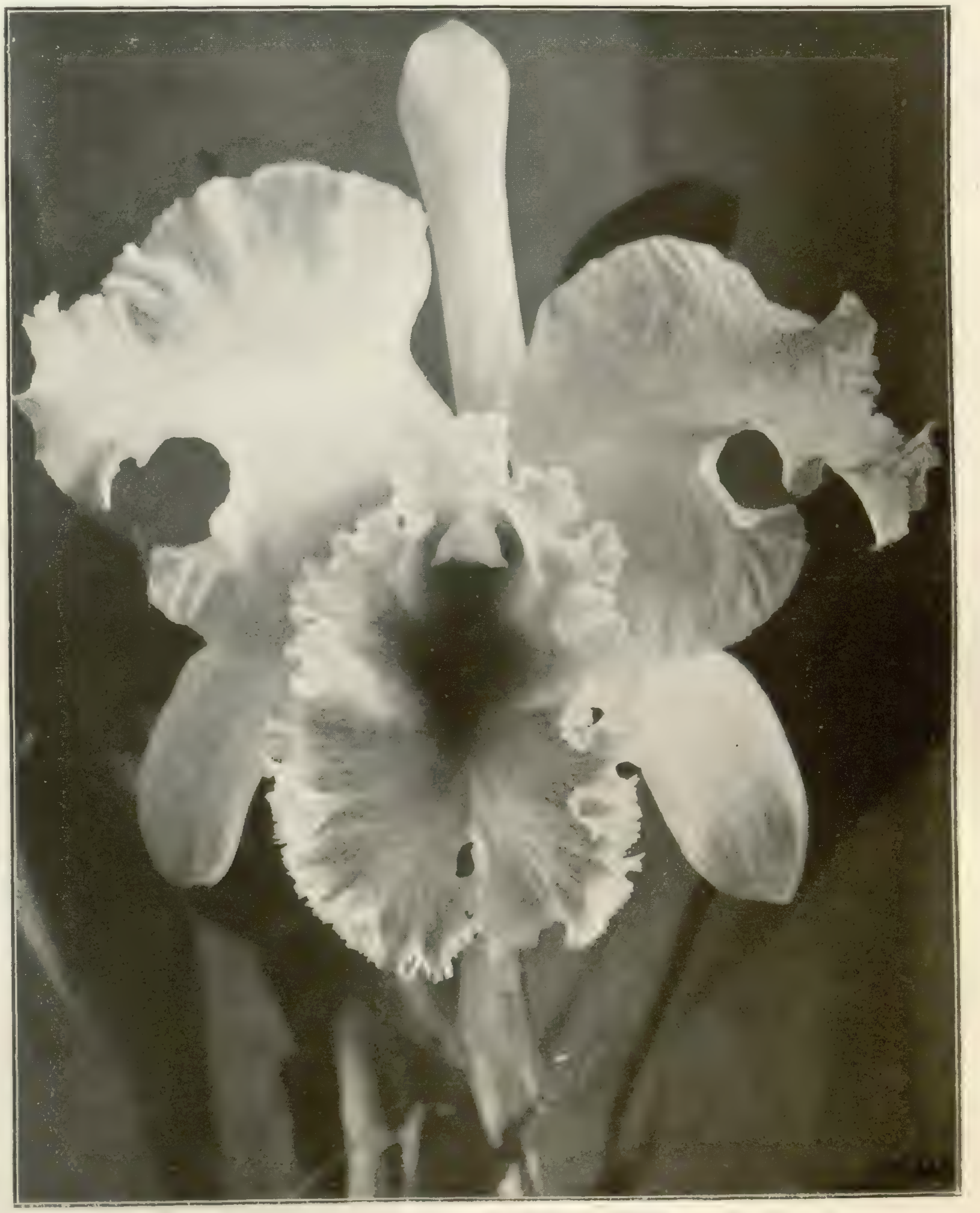
Quantities of new, or presumably new, orchids were placed before the members of the Orchid Committee during the year 1909, and at some of the meetings the business proved long, and somewhat tedious. Here, as in the case of other flowers that become popular and valuable, there are not a few people who believe their own geese are as fine as most people's swans, and so large numbers of plants are put forward that stand no chance of recognition, but these have to go the round of the table and be inspected by every member. A high standard of form is now required in a new cypripedium, and if a flower has a narrow-based dorsal sepal it must have some remarkable points in colour or size to obtain an award. The lælio-cattleyas, too, multiply apace, and have to be of very fine form or distinct colouring to pass muster.

In some cases awards or certificates are granted at a meeting, but subsequently withdrawn because the owner did not submit a flower for the purpose of having its portrait painted. At each meeting the society's collection of orchid paintings is at hand, and all varietal forms of hybrids are judged in the light of these portraits of their older and certificated brethren. I believe thirty-nine First Class Certificates, fifty-three Awards of Merit, and four Certificates of Appreciation were granted during 1909. The orchids that gained these awards have been described, and, in many instances, figured in the pages of the GARDENERS' MAGAZINE, and the abridged descriptions, together with those of orchids figured in the "Botanical Magazine," are brought together in handy alphabetical form in the "Gardening Year Book for 1910."

Varieties of cattleyas were fairly numerous, and one outstanding variety was the beautiful C. Schroderæ The Baron, from Lieut.-Colonel Holford's collection. Lælio-cattleyas were also prominent, and a few of the best were L.-c. King Manoel (Wellesley), L.-c. Nelthorpe Beauclerk (Charlesworth), L.-c. Barbarossa Westonbirt var. (Holford), L.-c. Dr. Schiffman Westonbirt var. (Holford), and L.-c. Firmini (Lambeau). Besides these there were the exquisite yellow and golden lælio-cattleyas such as L.-c. Gold Crest, L.-c. Goldfinch superba, and L.-c. Golden Oriole Westonbirt var., all from Lieut.-Colonel Holford's collection, and all of delightful colour and freedom, although lacking something in breadth of petal and form, and, perhaps, all the more elegant as a consequence.

Dendrobiums have not been so obtrusive among new orchids as was formerly the case, but there were two species introduced that caused a small sensation; these were the fine D. Sanderæ, from Messrs. Sander and Co., white, with rosy lip; and D. acuminata, from Messrs. Moore, Lim. (now Messrs. Mansell and Hatcher), with a long spike of pink flowers. The hybrid Dendrobium atro-Brymerianum (D. atroviolaceum crossed with D. Brymerianum), raised by Mr. Thwaites, was a striking and novel orchid, and to it was granted the first Certificate of Appreciation—a new award. Cirrhopetalum longissimum, shown on November 3, by Sir Trevor Lawrence, Bart., will long be remembered for its grace and beauty.

Odontoglossums were presented in fairly good numbers, but here again the high standard set up is not often reached. Mr. De Barri Crawshay is to be ocngratulated upon his O. Theodora, a delightful cross between O. Rossi majus and O. triumphans. O. ardentissimum Phœbe, from Mrs. Cockson's collection at Wylam; was another very beautiful orchid, while Mons. Vuylsteke's splendid hybrids, O. mirum Emperor of India, O. Princess Victoria Alexandra, and O. Aglaon, each of which gained a F.C.C. at the Temple Show, were of unusual beauty.



BRASSO-CATTLEYA CLIFTONI MAGNIFICA.
F.C.C., R.H.S. March 9, 1909. Messrs. Charlesworth and Co. Flowers considerably reduced, sepals and petals white, tinted rose, the lip crimson.

Among bigeneric hybrids Messrs. Charlesworth and Co.'s Miltonioda Harwoodi is the latest advance. Odontiodas have multiplied, and foremost among them is O. Bradshawiæ Cookson's var., with flowers of large size and brilliant colouring. O. Lutetia, from Messrs. Charlesworth and Co., derived from Odontoglossum luteo purpureum and Cochlioda Noetzliana; O. Grairiana, from O. Rossi majus and C. Noetzliana, and exhibited by Mons. H. Graire, of Amiens; O. Ernest Henry, shown by Mr. H. S. Goodson last April—O. Queen Alexandra crossed with C. Noetzliana; O. Keighleyensis, a small-flowered bright scarlet hybrid, raised by Messrs. Charlesworth between O. cirrhosum and Cochlioda Noetzliana; O. Keighleyensis Fowler's var., a brilliant orchid, exhibited by Mr. J. Gurney Fowler at the last meeting of the old year; and O. Vuylstekeæ Crawshayana, Mr. Crawshay's hybrid between O. Pescatorei and Cochlioda Noetzliana.

Other bigeners of note that appeared during 1909 are Brasso-cattleya Cliftoni magnifica, shown by Messrs. Charlesworth and Co., on March 9, and regarded as one of the finest cattleyoid orchids of the year. Mr. Thwaites raised two new Sophro-cattleyas, i.e., S.-c. Thwaitesi (Sophronitis grandiflora crossed with Cattleya Mendeli), and S.-c. Blacki, derived from S. grandiflora and C. Hardyana; both are very interesting and pretty hybrids. Two Sophro-lælio-cattleyas appeared, S.-l.-c. Olive coming from Mr. Gurney Fowler, and S.-l.-c. Marathon var. Vesuvius, from Messrs. Charlesworth and Co.

Comparatively few cypripediums secured awards, and the most distinct of these are C. Boltoni, from Mr. Bolton; C. Our Queen, from Mr. W. Thompson; C. Faire-Maide, from Mrs. Cookson; C. The Lion and C. Mrs. F. Sander, from Messrs. Sander and Sons; C. Cynthia and C. Earl of Tankerville, both from Lieut.-Colonel Holford. Two new oncidiums have to be recorded, O. Charlesworthi, a fine species of the O. crispum group, which attracted a great deal of attention at the Temple Show; and O. hybridum, raised by Messrs. Charlesworth and Co.

From this brief summary it will be gathered that new species of orchids rarely appear, but the hybridists are very busy, especially among cypripediums, cattleyas, lælias, and odontoglossums, in their endeavour to add to bigeneric and trigeneric hybrids.

C. H. C.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

THE COOL HOUSE.—The different species and hybrids of odontoglossums will, in the majority of cases, be now in their most vigorous stage of growth. It is while in this condition that, in my opinion, they need the most encouragement. I have often seen it contended that a temperature of from 40 to 45 degrees is ample for the odontoglossum house during the winter season, and I do not wish to contend that the plants cannot be grown in such a low temperature during the winter months, because it is quite possible; but plants grown under these conditions, in practically all cases, show the result of such treatment in their stunted appearance. If we treat the plants more liberally we find growth becomes more robust, and we are able to procure growths and pseudo-bulbs, often much larger than those found on fresh imported plants. It is all very well to permit the temperature to fall to the degrees mentioned during periods of severe frost and extreme outside conditions, and less injury will probably occur to the plants under these lower readings of the thermometer than if excessive artificial heat is used in the endeavour to maintain the temperature at a higher degree; but with normal conditions prevailing outside we find that considerable advantages are derived from a temperature of 53 to 55 degrees at night, this permitting a fall of three or four degrees, so that the temperature of the house rarely falls below 50 degrees during the winter.

BETTER CONDITIONS. — With the higher temperature we are able to give the encouragement necessary at the period when the plants are in their most active state, and when they are producing their flower scapes. As the season advances every facility should be given to assist the plants in hardening and ripening their growths and pseudo-bulbs. It is often contended that flowers of better quality are produced from the smaller pseudo-bulbs than from large ones. This is quite possible, for unless we have the larger and more robust growths thoroughly matured, they fail to produce satisfactory results. It is only natural that plants grown under warmer conditions will be of a more succulent nature than those of the same kind grown cooler, and it is utterly impossible to produce satisfactory flowers unless we obtain maturity. Light and free ventilation are the chief factors to be employed in producing these desirable results. In the early weeks of the new year no shading whatever is necessary in the cool divisions, but there is more risk of danger from too much bright light when the days are lengthening than is the case during the closing months of the year. The plants having been now for some weeks without strong light are naturally of a softer nature than was the case after the summer and autumn season, and they are thus unable to withstand without injury, the rapid increase of light which takes place when the year is only a few months old, and the atmosphere is clear. Shading naturally requires close attention, or the older bulbs and foliage will become discoloured, for the excessive bronziness of the foliage will generally be found disadvantageous in the end, as such plants usually shed their leaves at an early period, and loss of foliage does not add to health or appearance.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

PRIMULAS.—Primulas coming into bloom will be benefited by weak liquid manure, which may be increased in strength in a few weeks' time. Seeds should be sown now of Primula sinensis, and P. obconica in variety; as soon as the seedlings are fit to handle, prick them off into 2½in. pots or in boxes, in good loam, peat, and sand in equal parts. Keep the seedlings near the glass. To secure some large plants for special purposes keep a few of the old ones, and grow them in a cool frame during the summer.

ZONAL PELARGONIUMS.—Give very little water to plants in bloom, as these will do better if kept rather dry. Those in 3-in. pots should be shifted into 5½-in. or 6-in. pots, to follow the winter blooming stock. Where there are cuttings in boxes, keep these on a shelf and pick all dead leaves from them regularly. If kept at all wet these are liable to damp off. Begonias that were late in flowering should be examined and stored away in a dry cool place. Cyclamen in flower, and those coming into bloom, should receive plenty of light and air. Another sowing of seed should be made to provide successional batches.

HIPPEASTRUMS.—These should be examined and a few selected for an early start. Any that were late in flowering and have seed-pods on should be carefully watched, and as soon as the seed-pods are ripe sow the seeds at once, and keep the seedlings growing steadily until they flower, which will be in about two and a-half years from the time of sowing.

CHRYSANTHEMUMS.—Those in the conservatory should be very carefully watered. Keep everything as fresh and clean as possible. A batch of the strongest cuttings should be inserted as these mean better flowers in the autumn.

MALMAISON CARNATIONS. — Give plenty of light and air on all suitable days, and if any rust is noticed, pick every leaf infected and burn in the furnace. As soon as rusted plants have done flowering throw them in the furnace. Plants in small pots will be better for a shift into 5½-in. pots. If any cuttings can be obtained insert these in small pots singly, and keep them in a hand-light until rooted, afterwards giving plenty of air. These will give some good blooms in late autumn, when the flowers are becoming scarce.

WINTER-BLOOMING CARNATIONS.—Give plenty of air to these, and fumigate them once in three weeks, for once green-fly attacks carnations severely the plants look very bad all the season.

HELIOTROPIUMS in the conservatory, growing up pillars or in corners, should be now cut hard back, as they will very soon grow again. As soon as the new growths are long enough make use of them by inserting six or seven in a 4½-in. pot, and when rooted, pot off singly. These will be found useful when bedding-out time comes round. —W. STAWARD, Belford Hall Gardens.

THE FLOWER GARDEN.

ALPINES or other hardy or half-hardy plants that are being wintered in pits or frames should be occasionally examined, and have all decayed or decaying portions removed. With many choice subjects, a light dusting of black sulphur over the affected parts will greatly minimise the risk of losses from damp. In most instances it is safer—during the dull days of January—to keep these subjects somewhat dry at the roots, but any risk from shrivelling should be carefully guarded against. It is just as well at this time of the year to carefully and systematically label all hardy plants held in reserve for the Alpine or hardy flower garden, as nothing causes greater confusion at planting-out time than worn-out or illegible labels. Pinks and carnations that were potted up during the autumn or early winter months, and are under protection, should have abundance of air on all favourable occasions, especially where the situation is damp. Weather permitting, anemones and ranunculi that were not planted in the autumn, should be attended to without delay; on light soils, however, this should have been done long since.

GENERAL REMARKS.—Neatness in the flower garden is an important factor at this season of the year, and the remarks apply equally to the shrubberies and borders. The transplanting, or the removal of shrubs and other subjects that have become overcrowded, should be carried out, for it is a mistaken policy to delay these operations if climatic conditions are at all favourable. Complete thoroughness in the perfomance of this kind of work alone can insure success, and is a matter that can only be left in the hands of those qualified to deal with it, and not to an ordinary garden labourer, who, more often than not, cares little or nothing about his employer's interests or his chief's reputation.

CLIMBING PLANTS growing on walls, arches, or pergolas, should be secured against rough winds and snowy weather, otherwise serious losses and breakages may occur. Bulbs and tender plants should be mulched or otherwise protected during severe weather, especially on cold and heavy soils. All vacant borders and beds should be dug or trenched, and gaps in the herbaceous borders be made good. If not already done, autumn-planted shrubs should be amply protected against extreme frosts or cold, cutting winds, bracken fern, half-decayed leaves, or litter of almost any description placed over the roots, will prevent the admission of frost and keep the soil near the roots at a more equable temperature; in some instances it may even become necessary to protect with mats or straw during very inclement weather, removing these upon the cessation of extreme cold, or the advent of showery weather.

BEDDING PLANTS should be examined forthwith, and all insect pests destroyed by fumigation or other means, before propagation is proceeded with. Do not unduly excite these subjects by submitting them to too high a temperature, and air should be given in abundance whenever possible. If not already done, a list of all seeds required for the flower garden during the forthcoming season should be made out and despatched to the seedsman. Early attention to this matter will prevent delays and disappointments during the busy season. In all instances—where possible—order enough and a little to spare, to provide against accidents and climatic disabilities. Nothing is gained by parsimoniousness when dealing with the seed order, a point that should be remembered by those directly responsible.—W. HEDLEY WARREN, Aston Clinton Gardens.

HARDY FRUITS.

GENERAL WORK.—The pruning of hardy fruit trees in the open quarters should be pushed on without delay. In pruning young trees of apples and pears, the leading shoots that are required for extension should not be shortened too much, as when well ripened no wood breaks into bud with more freedom than these two kinds of fruit. The object to aim at in pruning should be to build up good trees as soon as possible, furnished with bearing branches down to the ground. If any grafting has to be done later on, now is the time to select well ripened shoots, tie them in bundles, with their proper names attached, and place them in the soil under a north wall until required for use. In many localities the pruning of gooseberry bushes should be deferred till late in the spring, owing to the depredations of birds. At this time select cuttings of gooseberries and currants for propagation, which should be about one foot in length. The buds of gooseberries and currants (red and white) should be removed with a sharp knife to the height of nine inches from the base of the stems, but no buds on the cuttings of black currants should be cut out, as these eventually throw up growths from the base and ensure plenty of young fruiting wood.

WALL FRUITS.—The work of pruning wall trees should be carried on as expeditiously as possible. Before tying or nailing apples, pears, and plums on walls, the trees should be well sprayed with a good winter wash to cleanse them from lichen, moss, insects, and their eggs. We use here as a winter spray a caustic alkali solution, made from 1lb. of caustic soda, ¾lb. commercial potash, 10oz. of soft soap, and 10 gallons of water heated to 120 deg. Fahr. This is applied as a spray, taking care to wet all the twigs and branches. The hands should be well protected

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MACKERETH'S SPECIAL SWEET PEA MANURE is the best Special S.P. Manure on the market. ANALYSIS: 4½% Ammonia, 14% Soluble Phosphate, 11% Insoluble Phosphate, 9½% Sulphate of Potash, with a judicious incorporation of Sulphate of Iron. Sold in Tins: 1/- each (post free 1/4), 2/6 each (post free, 3/-). Sold in Bags: 14lbs., 5/-; 28lbs., 8/6; 56lbs., 14/-; 112lbs., 25/- Carriage Paid. For Special Agents, see Sweet Pea Annual,

G. H. MACKERETH, Seedsman, ULVERSTON.

with rubber gloves during spraying operations. As a winter wash for peaches, nectarines, and apricots, use a solution of soft soap and water, with a little flowers of sulphur added. Spraying operations should not be carried out when there are any indications of frost. The work of refastening peach and nectarine trees should be deferred for some weeks yet; after pruning and cleaning the trees, the branches and twigs should be tied up in loose bundles and firmly secured to the wall, as this will materially retard the flowering period and prevent damage from spring frosts.

GROUND WORK.—If the soil is in a good working condition it should be lightly forked over in and around fruit trees as the work of pruning is completed.

PREPARATION FOR PLANTING.—The ground for planting fruit trees is usually made ready early in the autumn, so that the trees may be planted before the New Year. Where circumstances would not allow this being done, the work should be taken in hand at once. If possible, the soil should be trenched to the depth of 3ft., and if of a very poor character, a little well decayed manure, wood ashes, and soot should be added as trenching proceeds. This operation entails time and labour, but the results amply repay the labour thus involved.—Henry R. Farmer, Cardiff Castle Gardens.

Chrysanthemum Miss Hilda Rowley.—With the exception of blooms at Edinburgh I have not seen this Japanese variety exhibited in good condition until last season, when, at York, Mr. Vert staged an exceedingly fine bloom of it, measuring nine inches in diameter and fully eight inches in depth, with a perfectly-filled centre, the florets radiating in a half-drooping character making a most graceful blossom. The colour is pleasing, a rich shade of silvery amaranth. I would strongly advise those growers who have not hitherto done so, to give this variety a trial.—E. M.

THE QUAMASH.

The Camassia, or Quamash, is a good summer-flowering bulb, not much cultivated in the garden of the amateur, but deserving of a little more consideration than it has hitherto received at his hands. It is a hardy bulbous plant of much beauty and distinctness, giving spikes of good flowers in May or June. I find that the camassias are best in rather damp places, and there they will live for many years. Among the best of those in cultivation are:

Camassia Cusicki, which is a fine grower, reaching, in good soil, three or four feet in height, and giving from amid pretty glaucous foliage, spikes of closely-arranged pale blue flowers. One of the most handsome of all.

Camassia esculenta is the best known in gardens, and its bulbs were at one time, and may still be for anything I know, eaten by the North American Indians. It grows about three feet high, and has fine spikes of rich blue flowers set above fine glaucous green leaves. It seems to flourish in damper places than the others, and there is really fine.

Leichtlin's Quamash (Camassia Leichtlini), as at first introduced, is not at all plentiful, the flowers being of a pretty creamy white, and growing about two feet high, or a little more when in a damp place. There is a very beautiful white variety called alba, with purer flowers and of bolder growth, reaching sometimes as much as four feet high, but usually a little smaller. Then a good blue variety is called atrocærulea, and this has very dark blue blooms. Then there are to be purchased mixed seedlings of this species, with flowers that vary from deep blue through pale blue to white. These are highly ornamental, and worth growing at the price they cost.

These camassias will grow in common loam, and may be planted with the tops of the bulbs three or four inches deep.

S. Arnott.

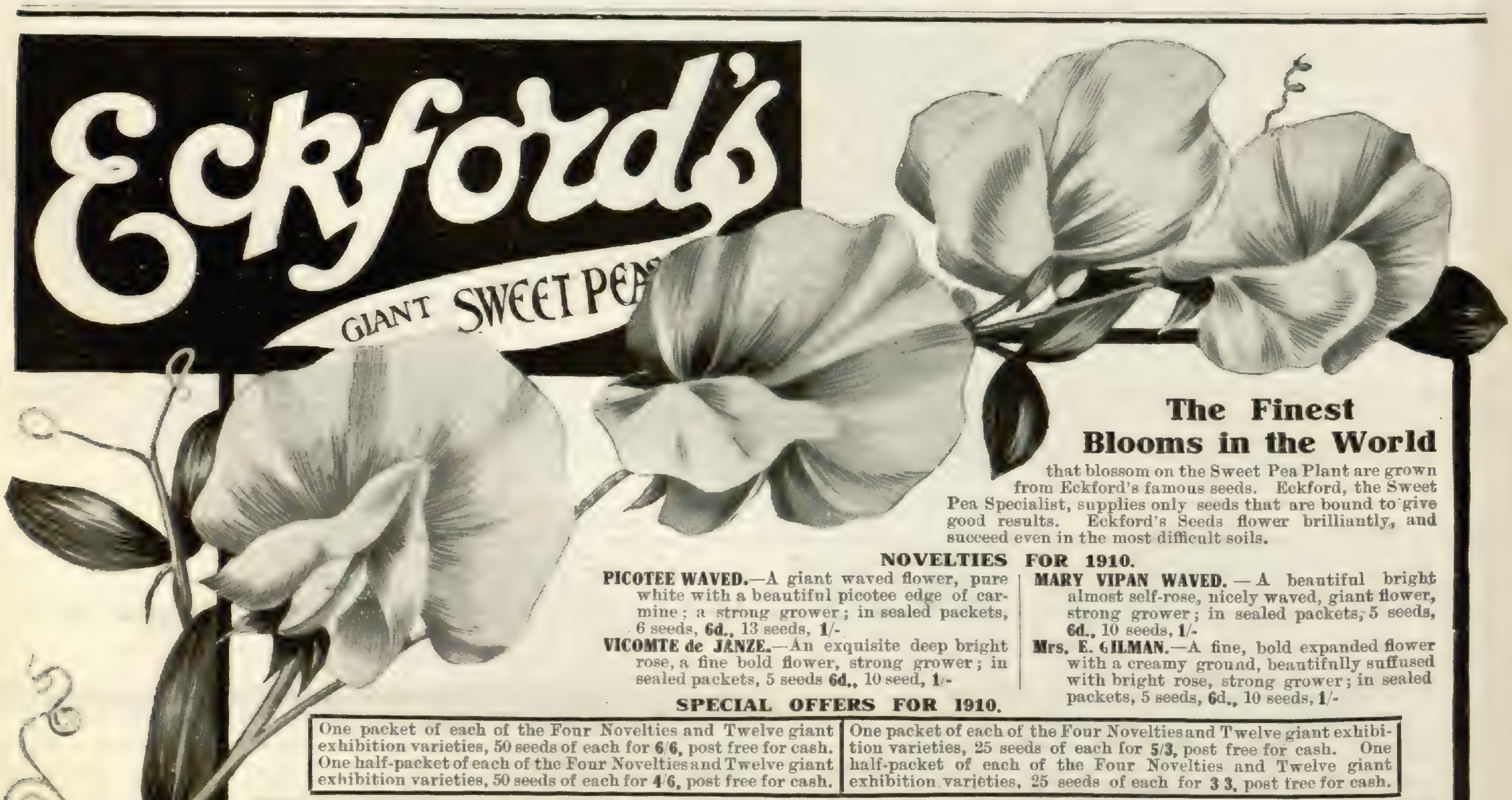
ZIZANIA AQUATICA.

The Canadian Rice plant (Zizania aquatica) is an excellent subject for planting in water, and therefore a suitable plant for the water garden. It grows from 4ft. to 6ft. in height, and soon forms a good clump. The growth is of light and elegant appearance, while the long narrow leaves recurve in a graceful manner. The attractiveness of the plant is further increased by the tall spikes which have branching heads. The seeds are like an elongated oat; the flower heads are straw-coloured, with rosy-brown scales which fall off as the flowers open. The plants seed freely, and, if required, the seeds should be watched, and gathered as they ripen, as waterfowl are very fond of them, and seeds which drop into the water are generally eaten if waterfowl are near.

So far the plants have proved hardy, and seeds sown in pans of water germinate freely. When germination has taken place, the young plants should be transferred to other pans of water, in which a layer of soil has been placed to form a rooting medium and enable the young plants to be more easily moved to their permanent stations in the water.

To display itself to advantage the plant requires considerable space. Some seeds should be sown annually, and, if sown early in the year, good plants will be produced in one season.

T. H. Slade.



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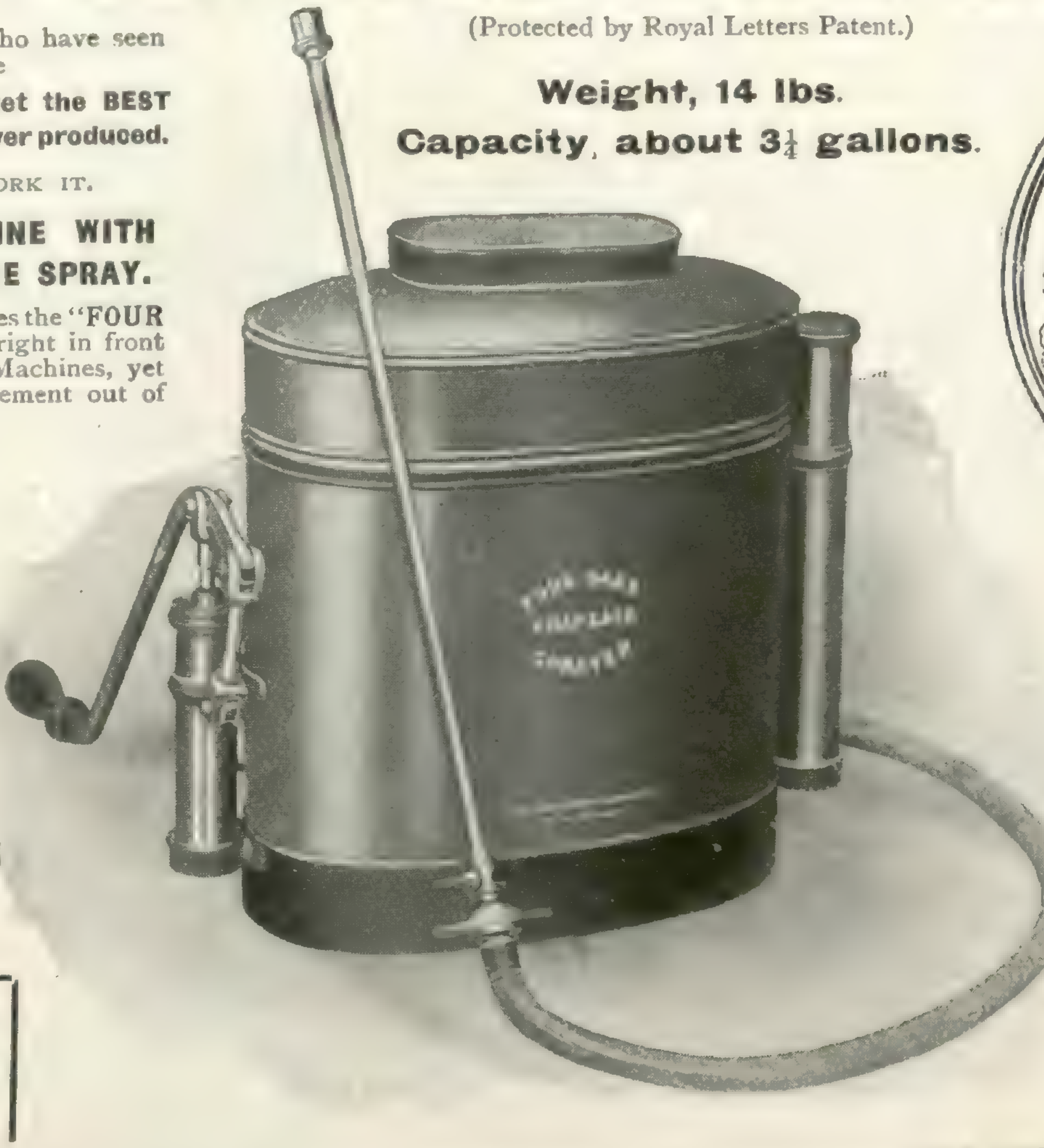

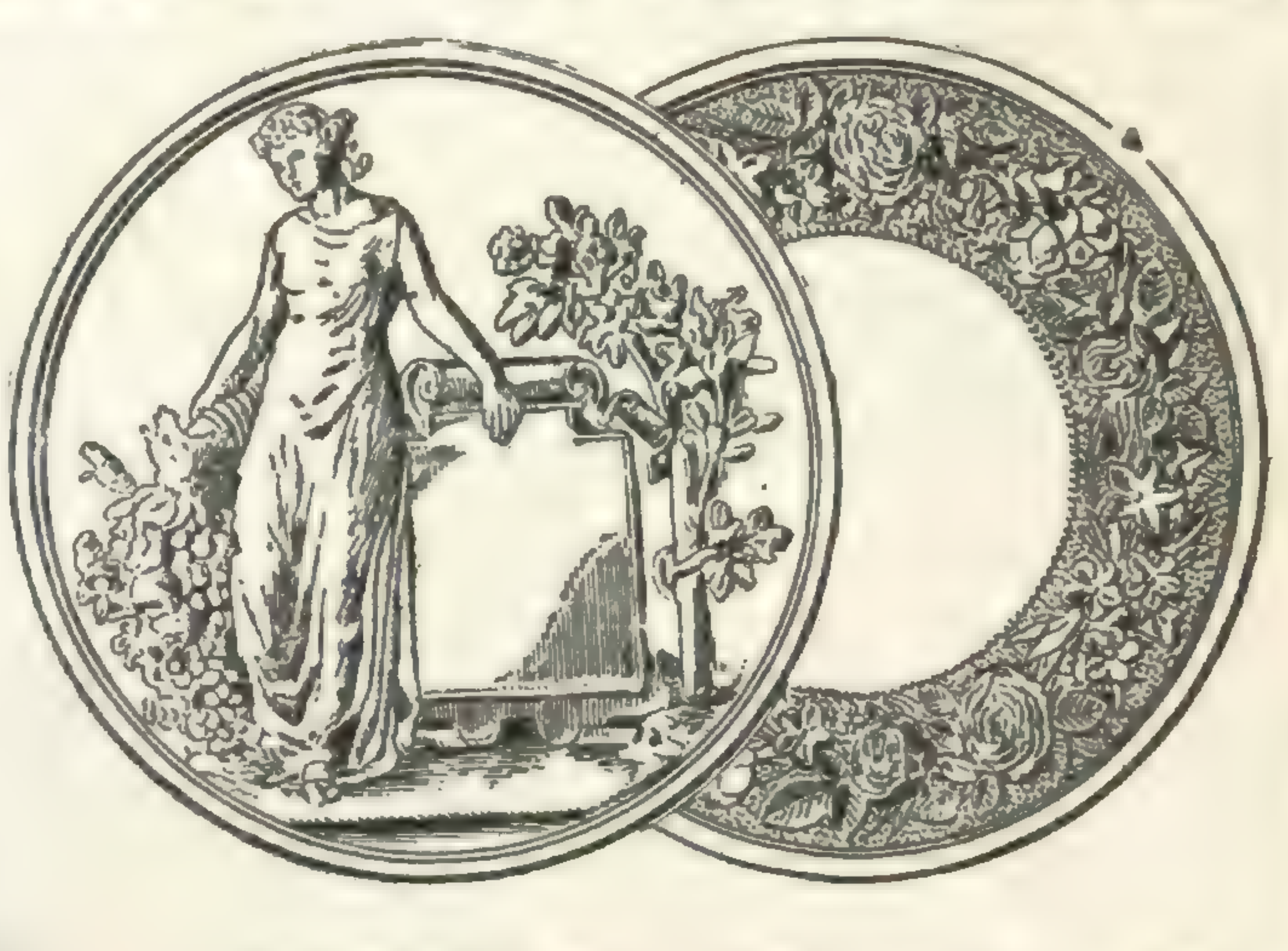

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The ordinary length of **India-Rubber Tubing**, as supplied with the machine, being too short for the management of the long lance by two men, ought to be replaced with an India-Rubber Tubing of 8 ft. in. length. Price, with union, **7/-** extra.

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No. 1.	Best quality, with teak handle Large size, 1¾ by 20 in., **25/-**	**1½ by 20 in., 21/.**
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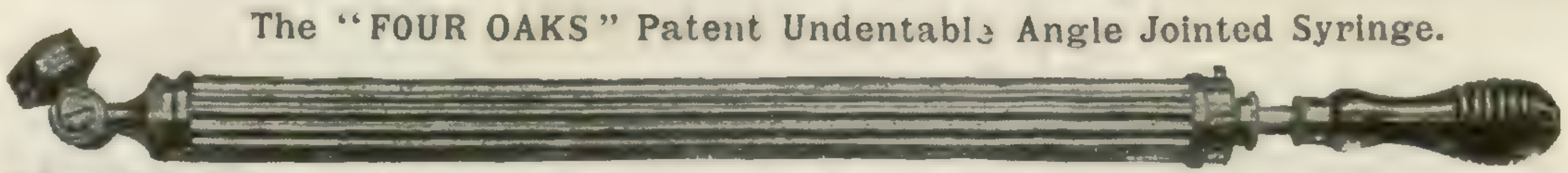

"Four Oaks" Undentable Angle Jointed Syringe. Invaluable for syringing the undersides of leaves and branches which cannot be reached by the ordinary syringe. Is the Undentable Syringe illustrated above, with the addition of an Angle Joint.

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No. 4.	Best quality, teak handle ...	**1¼ by 20 in., 27/-**	1¾ by 20 in., **32/-**
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The "Four Oaks" Undentable Spraying Syringe. The most useful Syringe it is possible to have in a garden. Gives a fine vapour or mist like spray. Invaluable for ordinary spraying or for distributing Insecticides.

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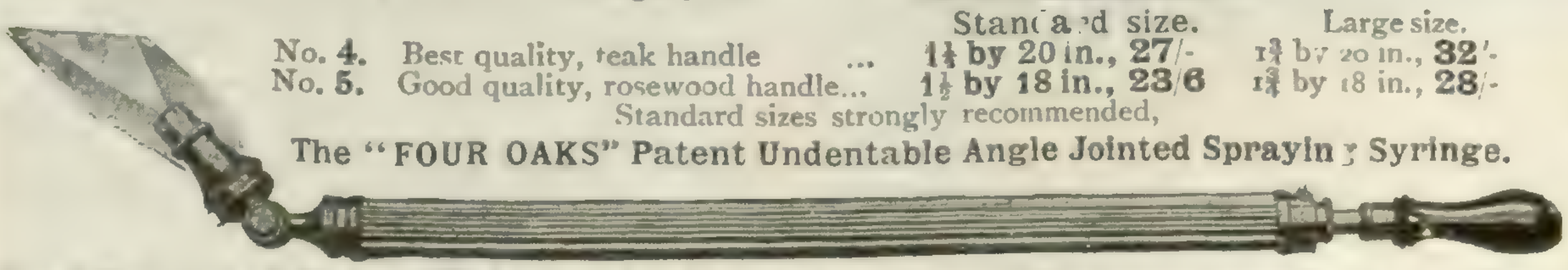
Is fitted with quick filling ball valve.

The 1⅜ in. by 20 in. size strongly recommended.

The "FOUR OAKS" Patent Undentable Angle Jointed Spraying Syringe.



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EXHIBITIONS AND MEETINGS.

◆

Croydon Gardeners' Association.

This society completed its second session for 1909-10 with a meeting of exceptional interest and usefulness. On this occasion there was a large attendance, and the members were entertained with a lecture and demonstration on floral decorations by Mr. R. H. Felton, of the firm of Messrs. Felton and Son, Court florists, Hanover Square, W. Mr. Felton's reputation as a floral artist is universal, and, with a keen sense of humour, throughout his lecture he kept his audience fully alive. His one great master which he copies in all designs is Nature, and his whole study is built up in this manner.

To illustrate the practical part of his work he exhibited a photograph of an overmantel decorated with the common dog-rose, and truly a beautiful picture it was, so that it exemplified clearly the artistic embellishment which can be acquired with flowers within reach of anyone. Other designs were shown where choicer flowers were used, but even in these the same talent was apparent, for the arrangements of the flowers were such that one concluded at once they were occupying the natural position as when growing. Stereotype design is unknown to him, and he strongly advised originality wherever possible. Present-day tastes accept anything original, and in this way the true artist's talent can be shown.

In his demonstration he made a bouquet of lilies of the valley, and before a very critical audience he fashioned it in a way which was very tasteful, and still could be carried without being a source of trouble to the carrier. His experience covers the whole range of floral decorations, illustrations of which he passed round to his audience, and they included receptions, dinner-table adornments, the Royal box at the Olympia, Court gatherings, and the floral emblems for those whose memory one cherishes when their labours are over, and they take their long rest.

Mr. Felton never tires in his work—at least, he appears not to do so—for, although in the midst of a busy decorative season, he was reluctant to bring his lecture to a close, and the chairman had to remind him of his late train to take him back to London. Tireless as he was, so were his audience, for they regretted exceedingly when he had to leave. It need hardly be said that the vote of thanks accorded Mr. Felton was of the heartiest.

TRADE NOTE.

The spraying of fruit trees during the winter months has now become such an essential part of the practice of experienced fruit growers that it is now being adopted by the general body of cultivators. For a considerable period one of the difficulties with which those growers had to contend who were desirous of adopting winter spraying as a part of their practice was obtaining spraying appliances adapted to their requirements. This difficulty no longer exists, for, owing to the efforts of the more enterprising of the manufacturers, cultivators can readily obtain machines that are exactly suited to their requirements. We have now before us the catalogue of the spraying machines manufactured by the Four Oaks Undentable Syringe and Spraying Machine Company, Sutton Coldfield, Birmingham, which is of much interest as showing how fully the needs of cultivators have, so far as spraying apparatus is concerned, been provided for. There are machines that are used as knapsacks, machines with oak and iron containers that run on wheels, machines with oak and iron containers that may be carried about by hand or in cart, a machine of oak that is carried about by two men by means of handles that have a resemblance to those of a hand-barrow. We advise those of our readers who are interested in spraying operations to obtain a copy of the catalogue. The machines are throughout remarkable for the excellence of materials and workmanship, and therefore the only point to be considered is their suitability for the purposes for which they may be required.

Sweet Peas.—Growers of sweet peas will welcome the third and revised edition of Mr. C. H. Curtis's popular work, "Sweet Peas and their Cultivation," just issued by Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London. The book has been thoroughly brought up to date, so as to include all the new varieties introduced last year, and several new illustrations have been added. The price is 1s. net (by post 1s. 2d.), or bound in cloth 1s. 6d. (by post 1s. 8d.).

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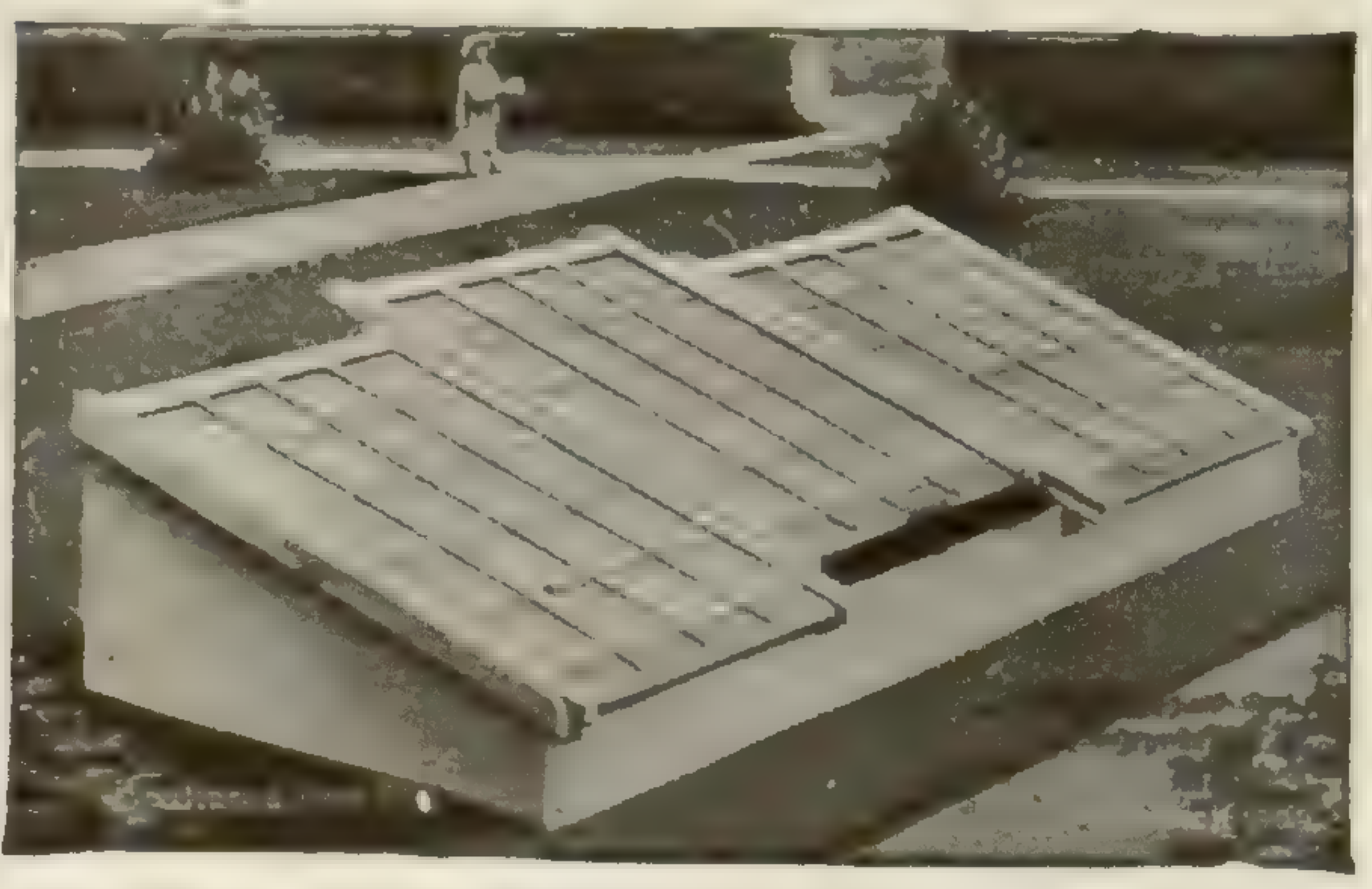

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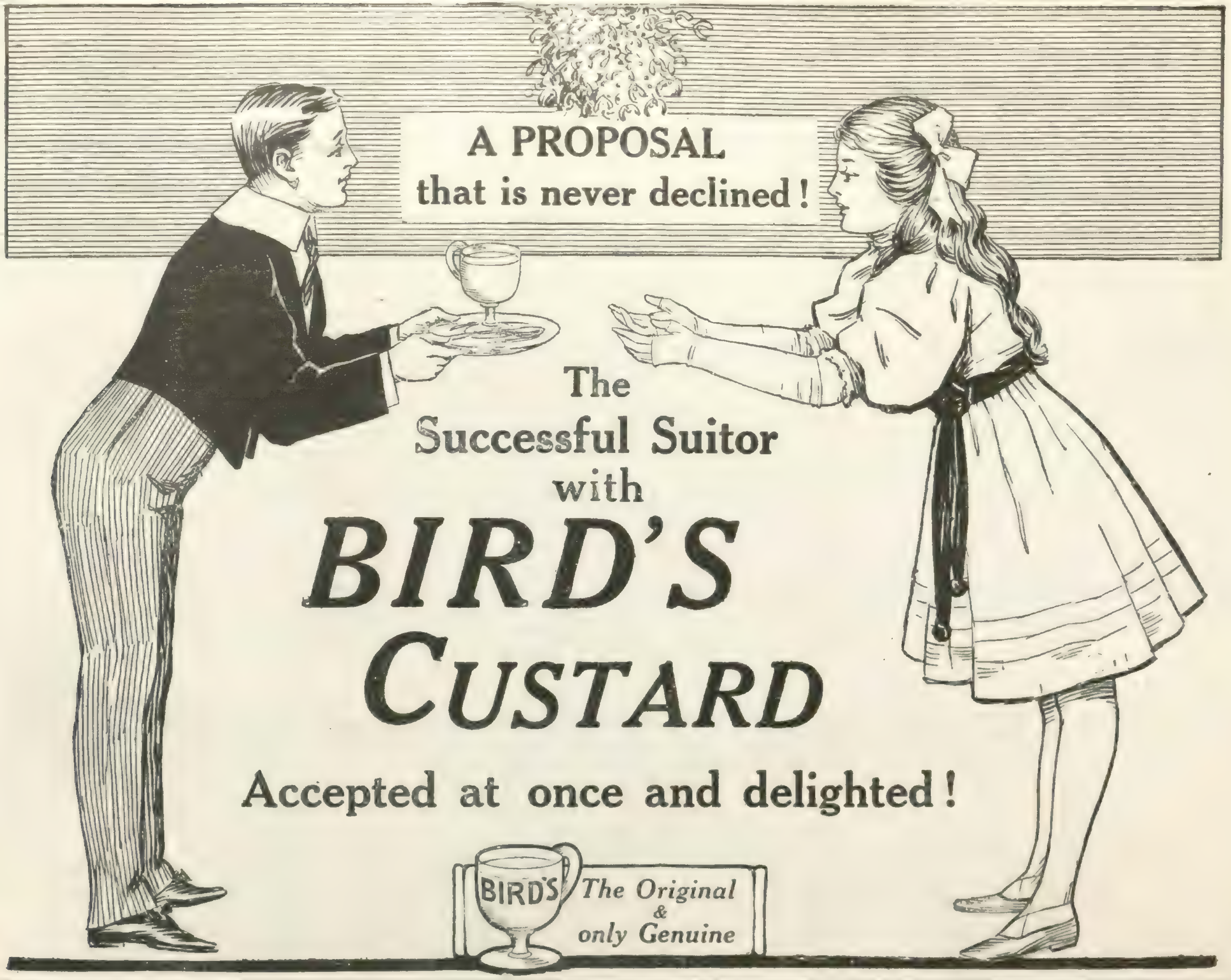

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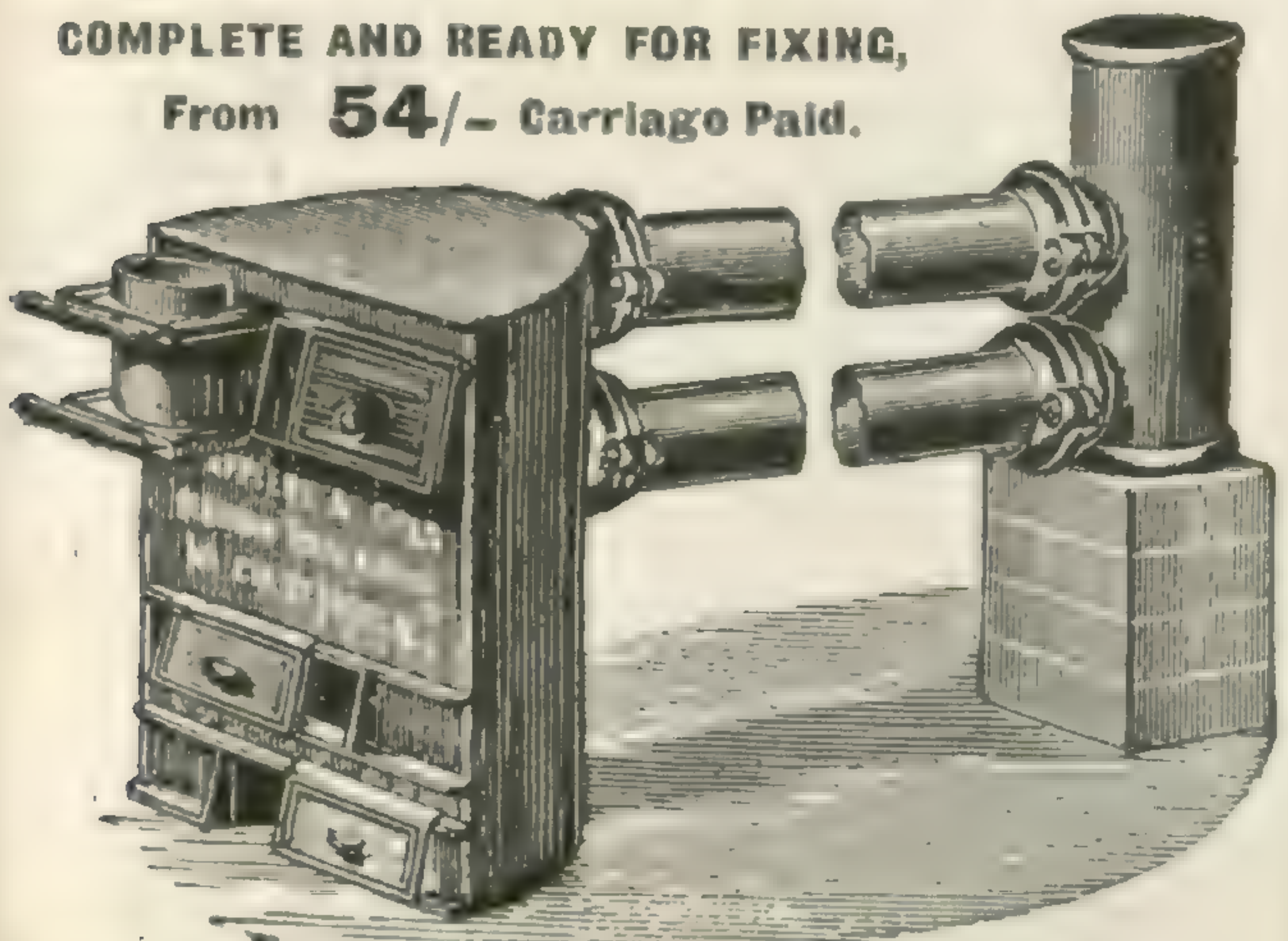

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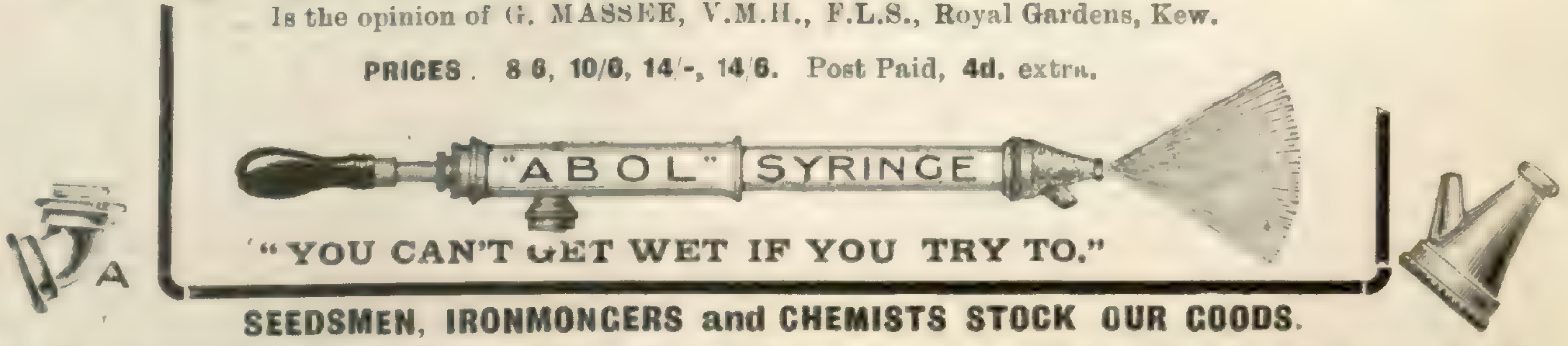

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ANSWERS TO CORRESPONDENTS.

RED SPIDER ON VIOLETS.—H. S., Chelsfield: Red spider on the undersides of violet leaves is usually a sign of drought. In other words, red spider is encouraged by keeping both the roots of the plants and the atmosphere of the frame very dry. At this season of the year the difficulty most experienced is that of keeping up a circulation of air sufficient to prevent damping of leaves and flower buds; you do not tell us whether the frames are heated, and if so, by what means? Remove all decaying leaves and flowers, see that the soil is thoroughly moistened, and early on a bright mild day spray the plants with a warm solution of soft soap, using sufficient soap to make the water soft and slightly adhesive. Some flowers of sulphur may be added, or may be dusted on to the leaves while they are still moist.

CYCLAMEN FLOWERS DAMPING. — H. S., Chelsfield: Probably the greenhouse is too cold, and this, coupled with a moist, heavy atmosphere induced by lack of heat, sunshine, and ventilation, will soon cause flowers to damp off. In dull, mild weather artificial heat may not be greatly needed to maintain the temperature of a greenhouse, but it is very desirable that the pipes be kept comfortably warm and ventilation given so that the atmosphere of the house circulates freely and is kept at about 55 degrees. Water the plants carefully, and take advantage of bright mornings to water all that need it, so that surplus water is drained away or evaporated before evening.

WISLEY GARDENS.—S. L. H., Northampton: We have described and illustrated various features of the Royal Horticultural Society's gardens at Wisley on several occasions, and the work done at those gardens has been again and again referred to in our columns. It is quite impossible to describe the gardens in a brief reply; you should visit them. The gardens consist of about 60 acres of land presented to the society by the late Sir Thomas Hanbury, K.C.V.O., and includes the celebrated wild garden of the late Mr. G. F. Wilson, V.M.H. Several acres of fruit trees have since been planted, and an outdoor vineyard has been started as an experiment; fine collections of flowering shrubs and of roses have been presented; trials of vegetables and of hardy flowers and plants are continually in progress; and an extensive range of glass houses, including orchard house, vinery, stove, propagating pits, etc., has been erected, so that all departments of horticulture are represented. Each student also has a small plot allotted to him; and a botanical garden, in which plants are systematically arranged according to a natural system of classification, is in course of formation. A well equipped meteorological station is situated in the garden. Weybridge is the nearest railway station.

STANDS FOR CACTUS DAHLIA BLOOMS.—R. C., Sheffield: The regulations of the National Dahlia Society govern these matters. All boards must be three inches high in front and nine inches high at the back. For twelve blooms the board measurements are, 26in. long by 19½in. wide; for twenty-four blooms, 52in. long by 19½in. wide; and for forty-eight blooms, 104in. long by 19½ in. wide.

HERBACEOUS PLANTS AMONG RHODODENDRONS.—Cork, Ireland: In the absence of manure for regular top-dressings it will be a great mistake to plant herbaceous phloxes, helianthuses, chrysanthemums, and other strong growing subjects between the newly planted rhododendrons. The herbaceous plants would not be a success after the first year unless amply fed, while their strong roots and great need of food and moisture would make them the worst of neighbours for the rhododendrons, consequently both would suffer. Almost all the hardy lilies would do well in the peaty loam, among the rhododendrons, and would not in any way harm the latter. If you do not plant lilies or wish to spread the expense of so doing over a couple or three years, the vacant spaces may be devoted to thinly planted annual flowers.

HEERIA ROSEA.—B. J., Ireland: Heeria rosea is a somewhat rare stove plant, and one that is very useful for winter-flowering when well managed. It thrives best in equal parts of sandy peat and loam. Propagation is by means of cuttings taken in February or March, and inserted in sandy soil in a close propagating frame. Young stock should be grown freely in a warm house until the summer, when a frame or pit will suit them, and towards the end of the summer the lights of the frames may be entirely removed for a few weeks. Older-established plants need similar treatment, but they should be gradually hardened after new growth is made, and be put out of doors in a sunny position during the summer. Heeria rosea should be brought indoors early in the autumn, and, as the weather grows colder the plants should be transferred to a warm intermediate house, or stove. So far as we can gather from your letter, the failure to flower Heeria rosea is due to late housing, and, probably, to excess of heat when the plants are first brought in from out of doors. As the plants are gradually inured to outdoor conditions in the summer, so they should be gradually returned to the warm conditions of a stove or intermediate house. Heeria rosea is a sub-shrubby evergreen plant, from Mexico. It belongs to the order Melastomaceæ; Heterocentrum mexicanum is a name under which it was once known. The moist atmosphere of the South of Ireland is probably not the most suitable for flower-production in the case of a plant from a comparatively dry country, consequently shelter from heavy rains during the time Heeria rosea is out of doors suggests itself as a necessary point to be observed in its cultivation.

NAMES OF PLANTS.

L. B., Leamington.—1, Chorizema Lowi; 2, Plumbago rosea; 3, Dracæna terminalis.

R. G. J., Watford.—1, Cypripedium Leeanum, a very good variety; 2, Primula verticillata.

T. W. O., Peel.—1, Fuchsia triphylla; 2, Begonia manicata; 3, Acacia dealbata; 4, Jasminum nudicaule; 5, Solanum jasminoides.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909-10. December 26 to January 1.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Temperature of the Air. At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Dec. 26—Sunday ……	0 18	48	47	52	36
„ 27—Monday……	—	50	49	53	47
„ 28—Tuesday ……	1 0	48	49	52	50
„ 29—Wednesday .	5 24	42	38	45	42
„ 30—Thursday …	0 24	29	29	45	26
„ 31—Friday.. ….	3 24	45	45	50	29
Jan. 1—Saturday …	0 6	36	35	49	34
Means	(total) 10 36	43	42	49	38

Date. 1909-10. December 26 to January 1.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	Temperature of the Soil at 9 a.m. At 2 ft. deep.	Temperature of the Soil at 9 a.m. At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Dec. 26—Sunday ……	trace	39	41	43	27
„ 27—Monday…	0.08	42	41	43	41
„ 28—Tuesday……	—	45	43	43	47
„ 29—Wednesday .	—	44	44	43	37
„ 30—Thursday …	—	40	43	44	25
„ 31—Friday…….	trace	41	42	44	31
Jan. 1—Saturday …	0.04	39	43	44	27
Means …	(total) 0.07	41	42	43	34

NEW BOOKS.

GARDENING YEAR BOOK FOR 1910.

By George Gordon, V.M.H.. (The "Gardeners' Magazine" Office, 148 and 149, Aldersgate Street, E.C.) Price 1s. net; 1s. 3d., post free.

In referring to the issue of the "Gardening Year Book" for the current year, it is a matter of some interest to call to mind the fact that it is the only annual of its kind that has been the guide of amateur and practical horticulturists for upwards of half a century. It is certainly a matter of satisfaction that, high as its popularity has been throughout the past fifty odd years, it has not been regarded with so much favour by those interested in gardening as at the present time, as shown by the largely-increased demands that are now being made upon the publishers.

The remarkable success of the book is unquestionably due to the adoption of a plan which a wide experience in horticultural matters had shown to be the most likely to prove useful to the general body of its readers, and then endeavouring year by year to perfect it in its various details. Equal attention has been paid to the necessity for making such changes from time to time as would keep the contents fully abreast of the times, and thus fully meet the requirements of readers who give immediate attention to new methods of procedure, and to the various classes of plants that at frequent intervals come into special prominence.

As in previous issues, the "Year's Work in the Garden" forms a feature of much importance, for therein the reader is provided with a complete guide to the work that has to be done month by month throughout the year, and also to the manner in which the various details should be carried out. The section devoted to "Hardy Flowers for Beds and Borders" places the reader in possession of all the information he could desire on

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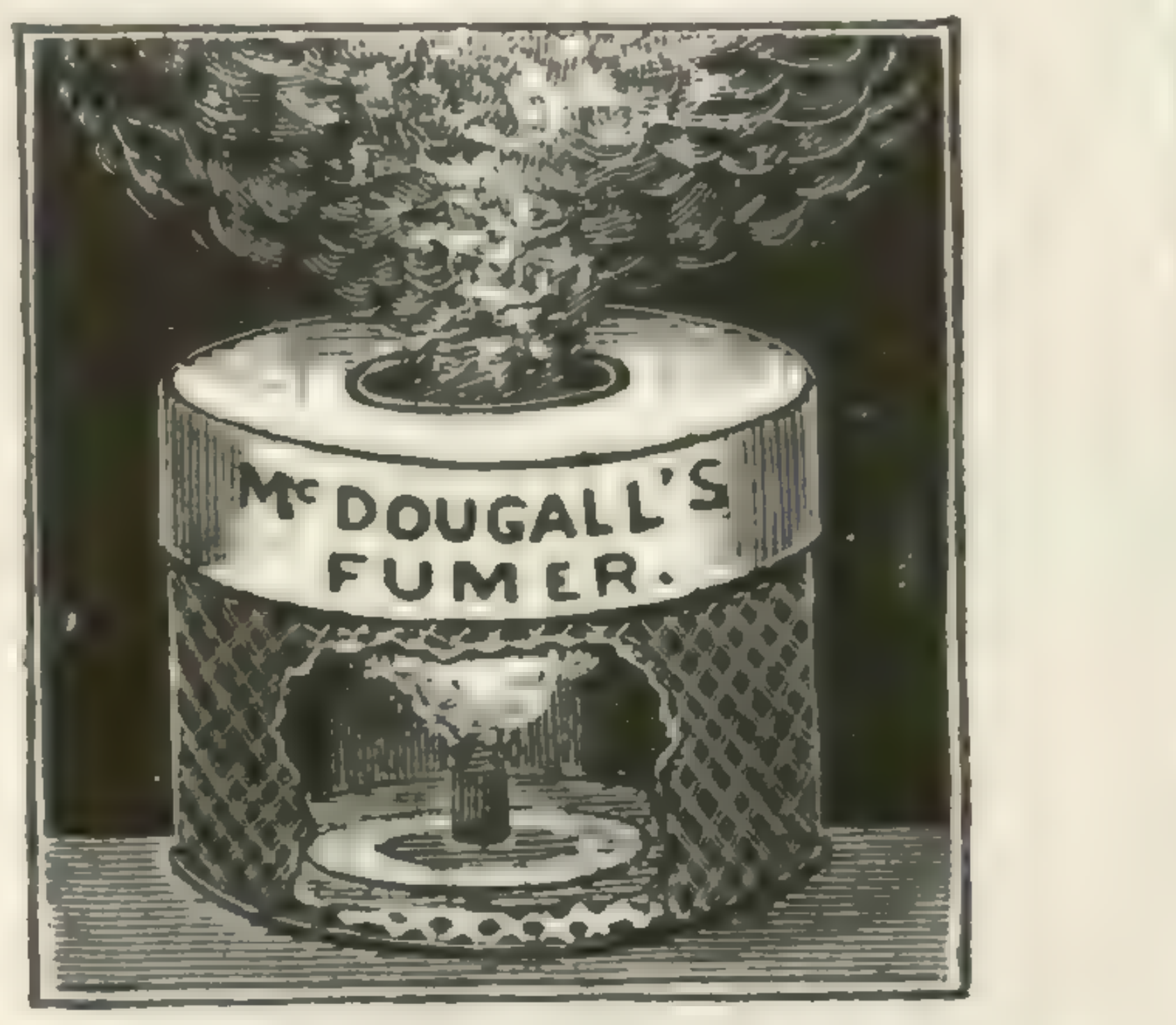

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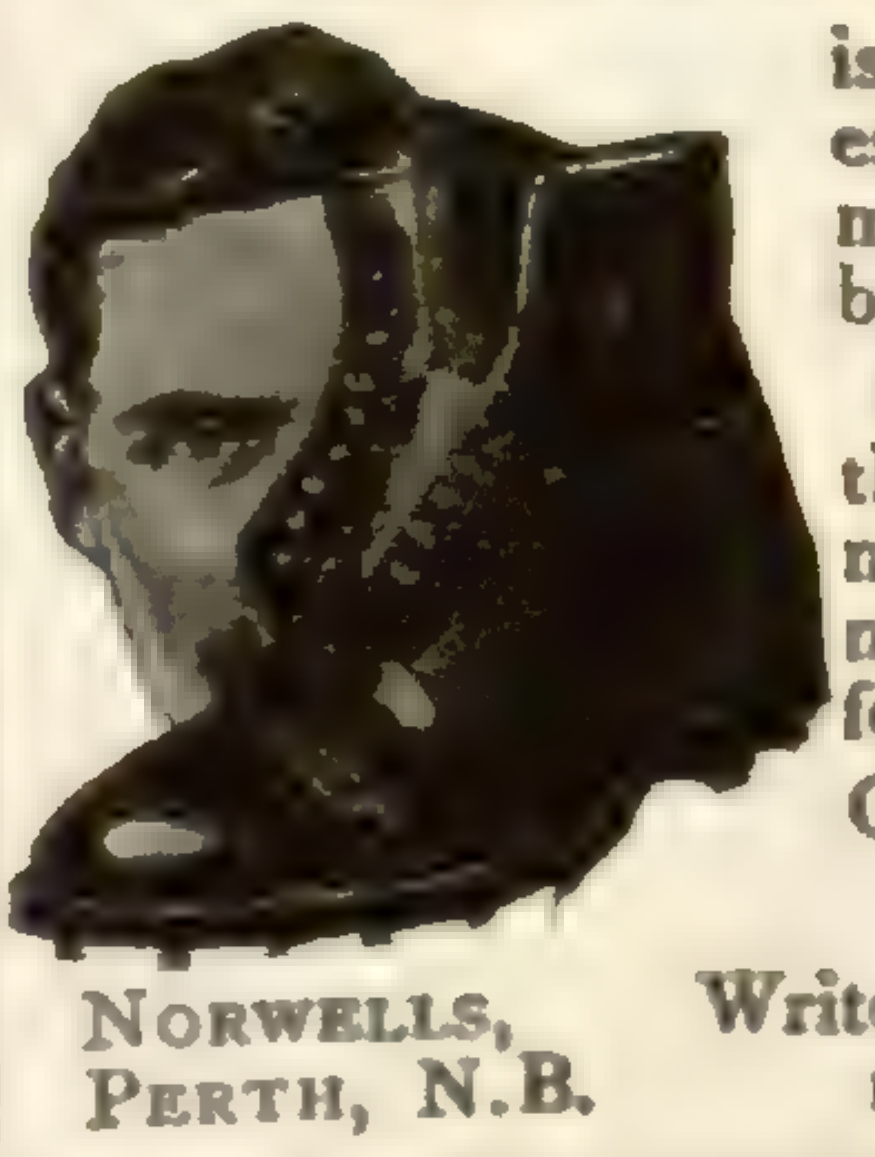

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Invaluable as records of the work that is being done in the improvement of ornamental plants, fruits, and vegetables are the descriptive lists of the new plants, flowers, fruits, and vegetables that received distinction during 1909. Of a high degree of utility also are the directories of public parks and gardens, and of horticultural societies in the United Kingdom, for they are comprehensive, and as accurate as it is possible to make them. We would add that the book contains several coloured plates and a large number of illustrations in black and white.

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FORTHCOMING ENGAGEMENTS.

MONDAY, January 10.—Royal Horticultural Society's Public Parks Examination, at Royal Horticultural Hall, at 10 a.m.

United Horticultural Benefit and Provident Society; Committee Meeting.

TUESDAY, January 11.—Royal Horticultural Society; Committees meet at 12 o'clock; Scientific Committee at 4 o'clock.

Horticultural Club: House Dinner at 6 p.m., to be followed by a lecture on Ceylon, by Mr. Alexander.

WEDNESDAY, January 12.—East Anglian Horticultural Society.

THURSDAY, January 20.—Gardeners' Royal Benevolent Institution; Annual Meeting, Election, and Supper; Simpson's, Strand.

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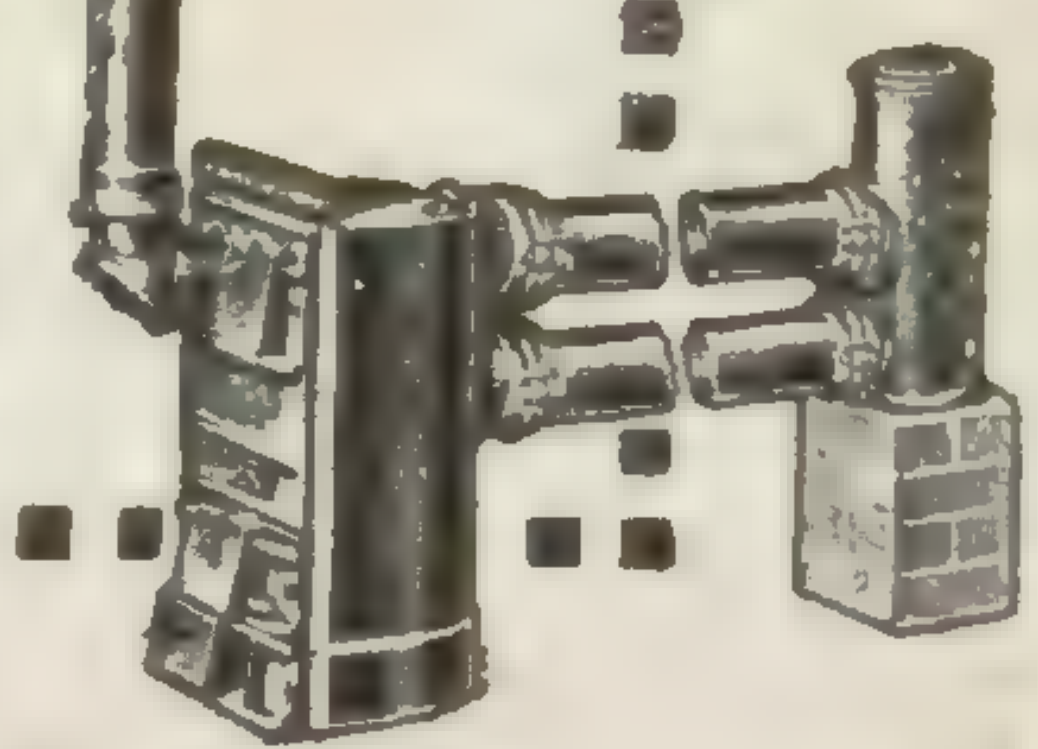

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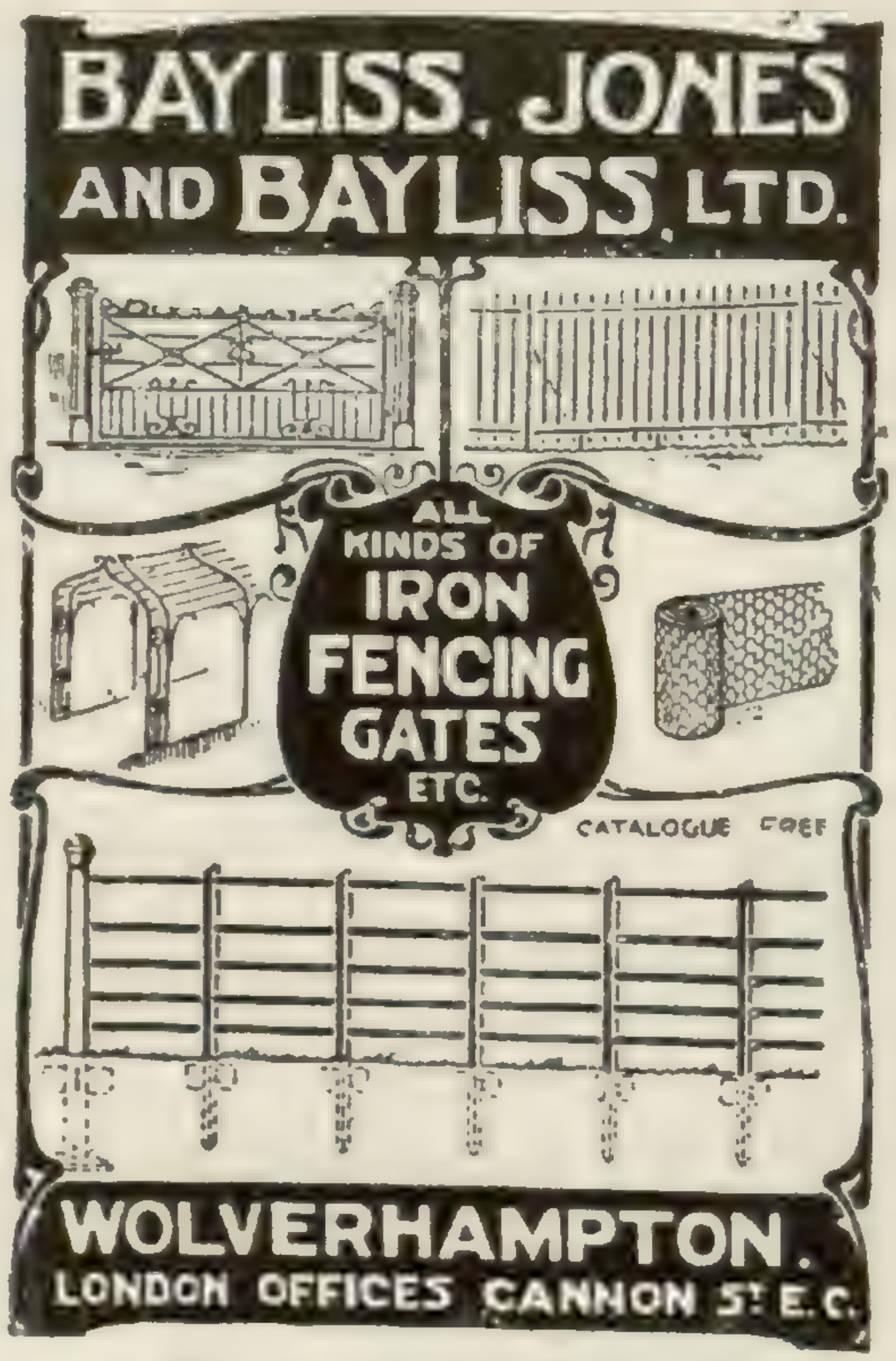

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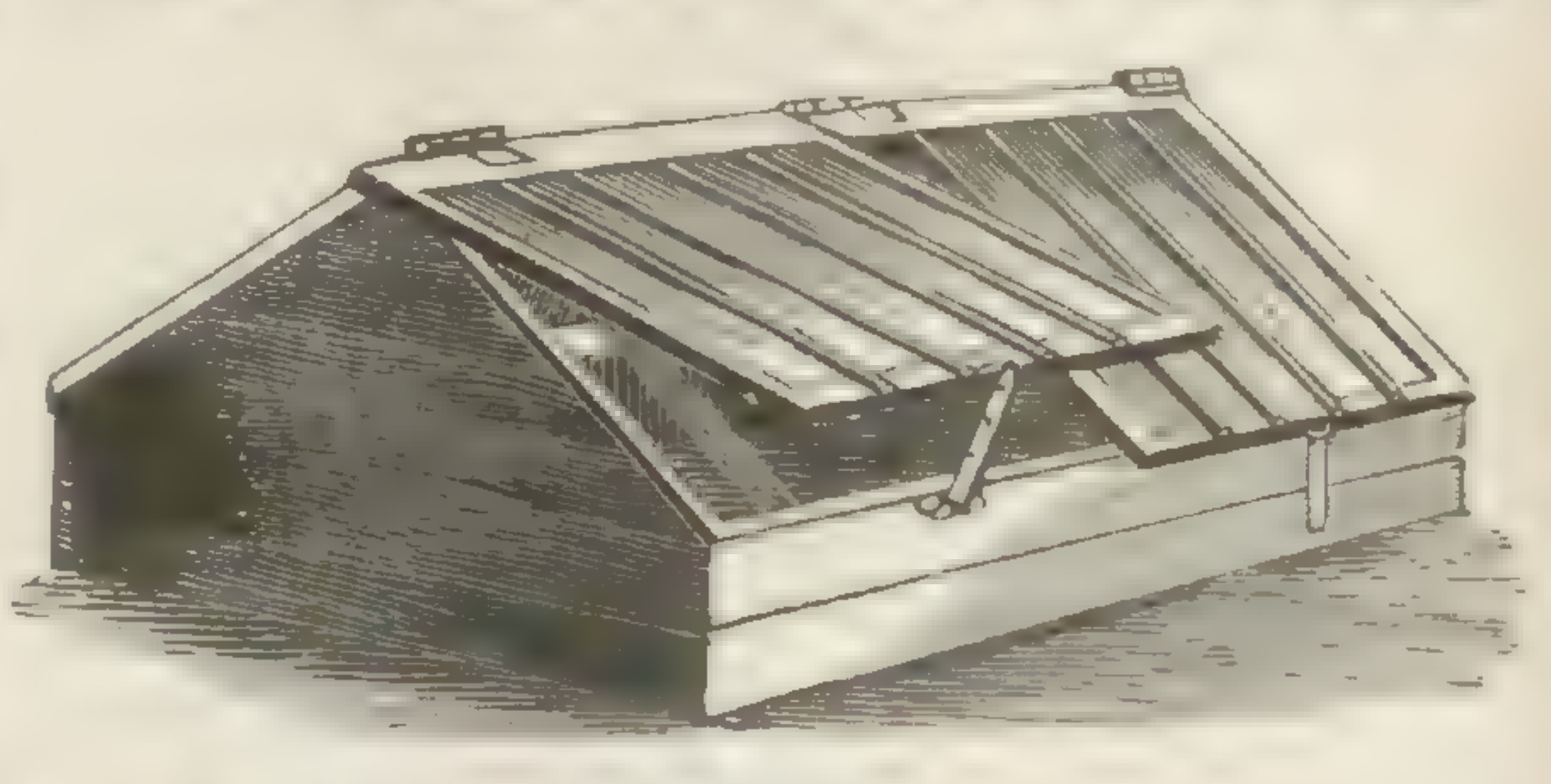

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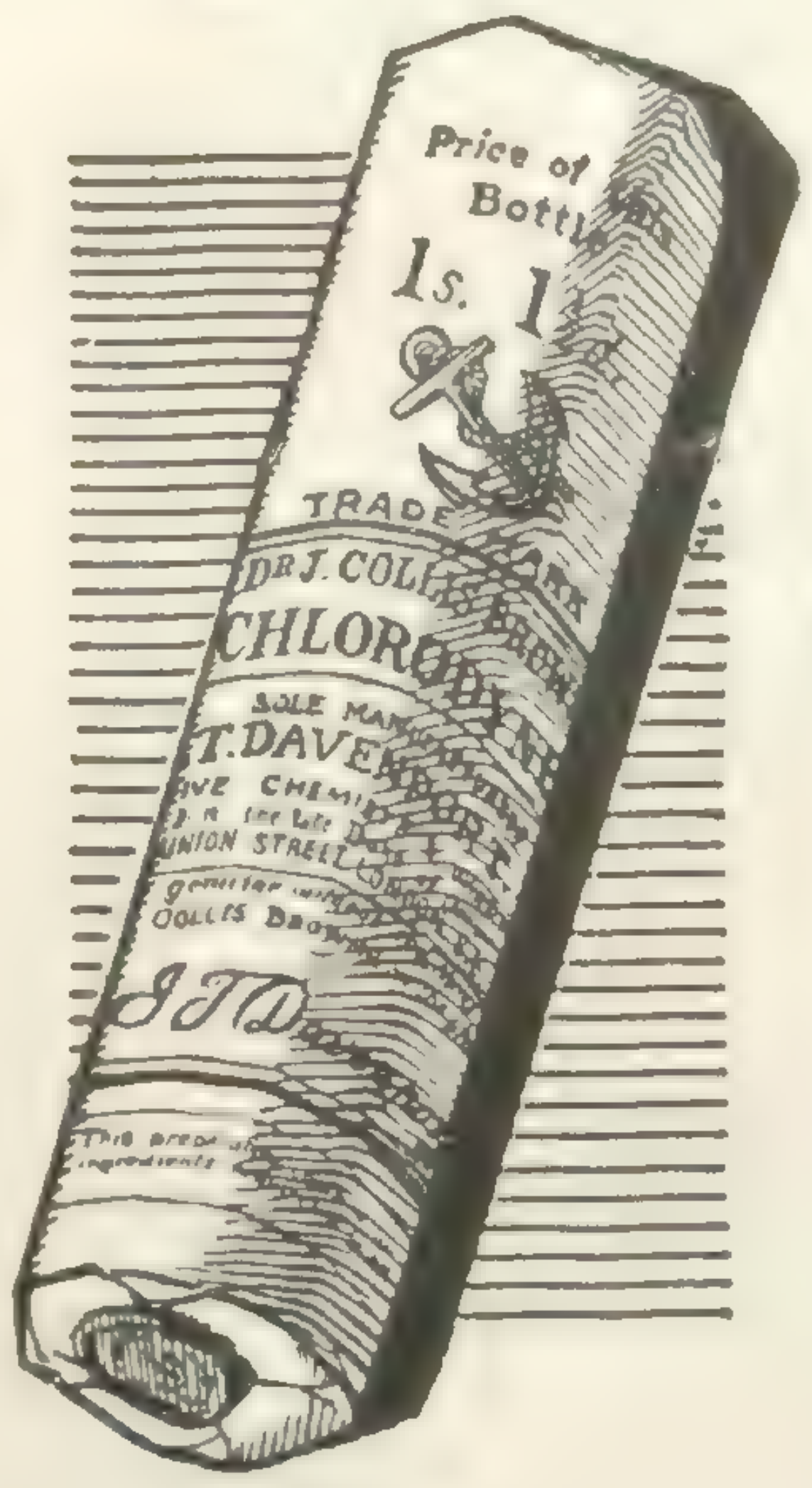

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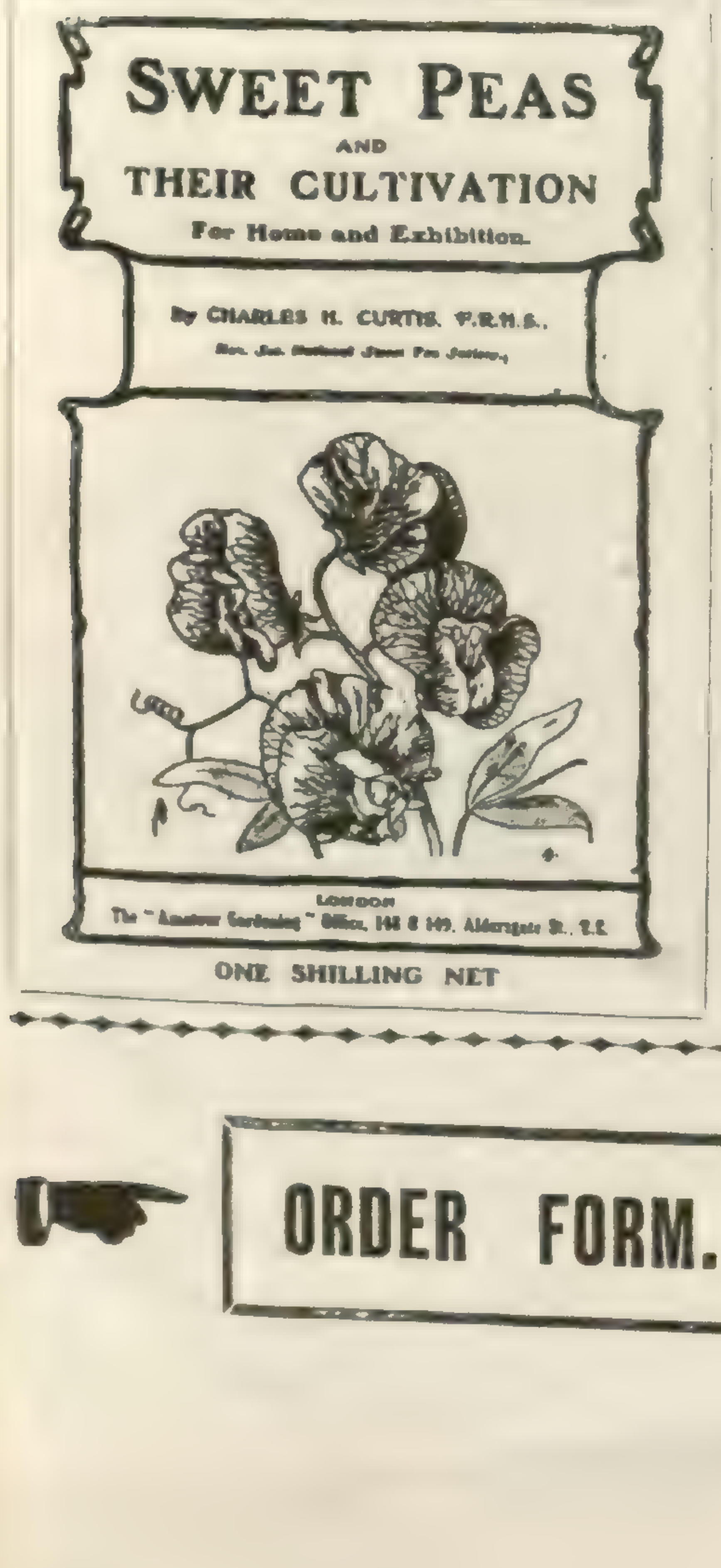
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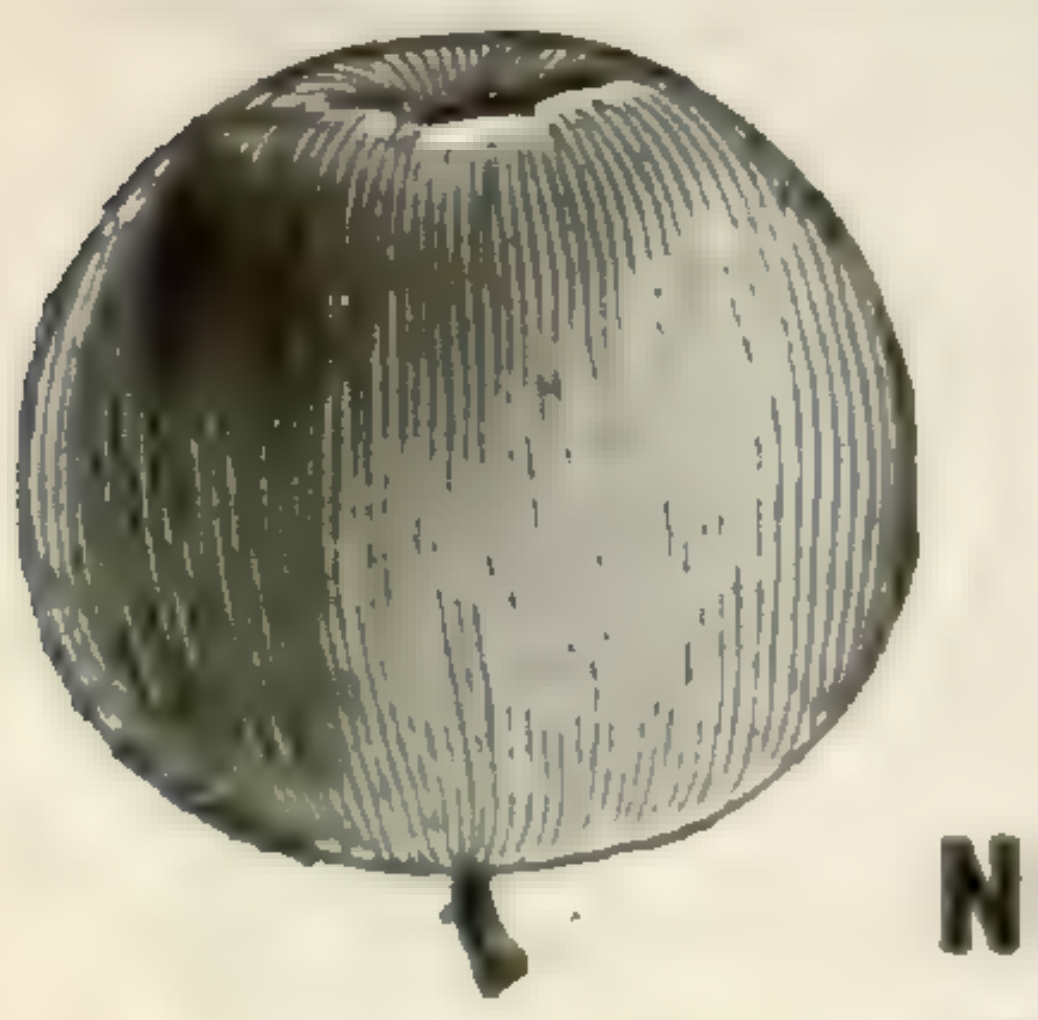

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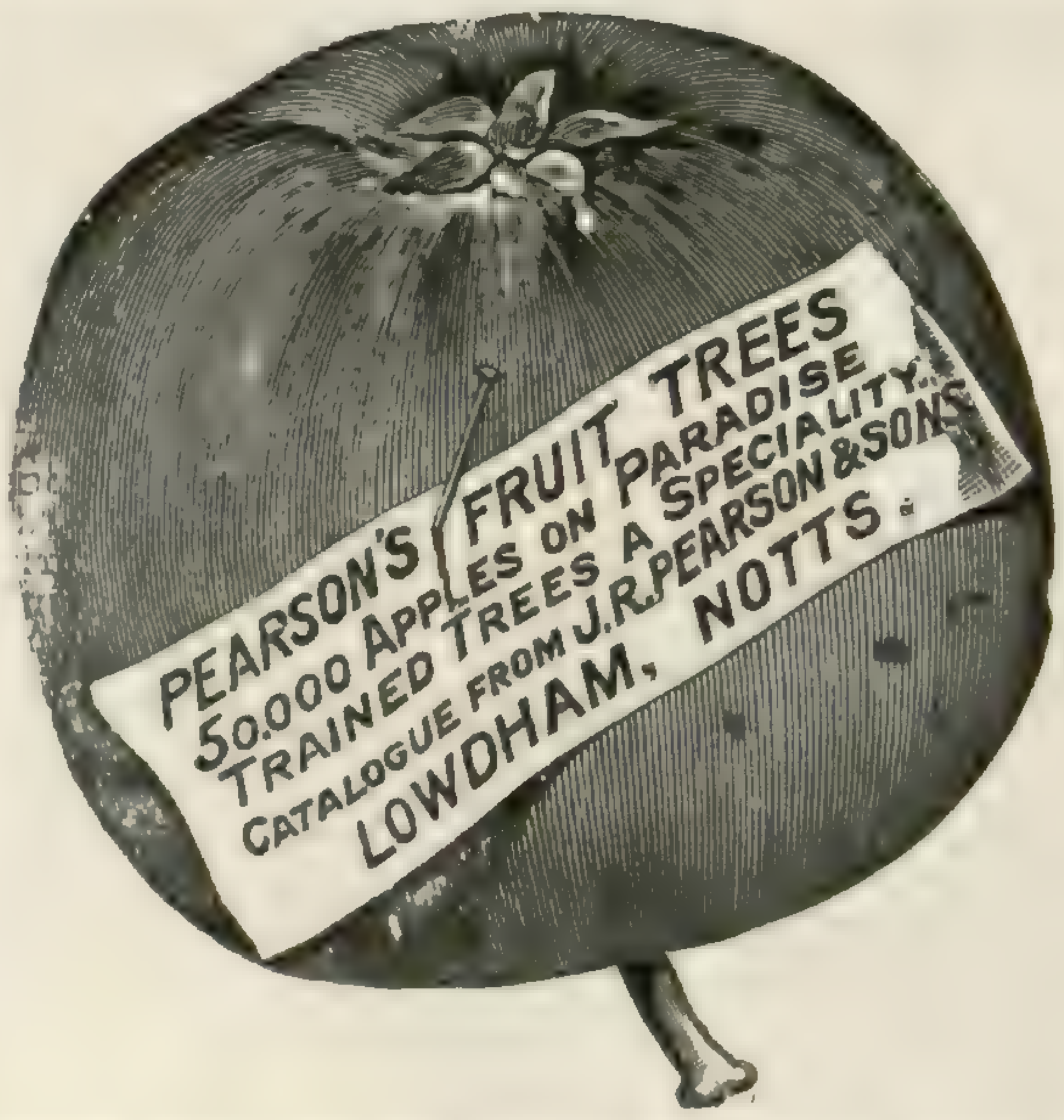

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VOL. LIII.—No. 2,933. SATURDAY, JANUARY 15, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Insect Foes and Friends.

With plants under cultivation, it is always one of the main tasks of the grower to keep at bay, as far as possible, the insect foes which are always invading his preserves, and attacking in overt and covert ways his most precious possessions. The very fact that many of these plants are of exotic origin, and, therefore, necessarily grown under artificial conditions, which render them extra toothsome morsels for the depredators, in many instances increases the difficulty. Few plant lovers, too, know anything of entomology; to most of them, all insects are foes, save, perhaps, the bee, whose services as fertilising agents are generally recognised. Hence the knowledge that probably every foe has its own individual insect antagonist, which, if encouraged instead of being destroyed, would help him greatly in the struggle, could scarcely be too widely inculcated. Thus, for instance, the ladybird, in both its larval and perfect form, is a voracious devourer of aphis, so that a few of them will speedily clear an infested plant. The lacewing fly, whose long-stalked eggs are often seen and wondered at, is equally an aphis destroyer. Then we have a large number of slender-bodied ichneumon flies, all destroyers of other insects, most, if not all of which are foes. The spider, as a purely carnivorous insect, must be reckoned among the friends, but it is a very remarkable fact that no species of spider has been apparently evolved to deal with such easy and succulent prey as the aphis. Every gardener occasionally finds spiders at home in straggling webs in his pot plants, where there seems little or no likelihood of flies proper being entrapped, yet all the while, within a few inches of the presumably hungry insect, an ample meal of aphis is spread, which only needs a visit to fully satisfy his appetite. Even the lanky-legged sprawling harvest man, with which we are so familiar in the autumn, which spins no web, and is always stalking some invisible prey, is never seen contentedly appropriating a family of aphis, as one would desire, as a gardener, that he should do, and do thoroughly. The several varieties of thrips, including the white fly, seem similarly immune from spider attack, though obviously the easiest of prey, since, at any rate in their larval form, they are entirely sedentary. Even in slugland the gardener is apt to kill a friend instead of a foe, when he comes across specimens of the yellow haliotis, whose prey, despite its resemblance to an ordinary slug save its colour and rudimentary shell on its back, is slugs and worms, so that it should always be spared when identified. In short, so far as regards the internecine war which reigns in the insect world, as in all realms of natural history, the gardener has undoubtedly much to learn, and if the scientific entomologist could epitomise the cases where insects are particularly the gardener's friends, giving descriptions by which they could be recognised, good service would be done. In the broad sense, and apart from this internecine conflict, the insect friends in the plant world must certainly predominate over the foes. Many of the so-called foes, though playing a destructive part in one phase of their life history, make up for it by good service at another. Thus it is with the moths, butterflies, bees, and some beetles, which, in their perfect, or flying state, have done an infinity of work in plant evolution by instinctive selection of pollen from the brightest and most conspicuous blossoms, and its transference to similarly conditioned flowers elsewhere, at once strengthening the constitution by cross-fertilisation, and improving the type by the selection aforesaid. The caterpillars or grubs of all these either feed upon the foliage or on material collected from the flowers, and, in the former case, are regarded by the plant lover as terrible pests, since, unless their numbers be checked by birds or other means, the destruction they cause is apt far to counterbalance the good they do, in, so to speak, a future state. Left to herself, Nature keeps a fair balance, and it is only where man steps in, and by introducing artificial conditions, or transfers the insect, as with the codlin moth in the United States, to fresh woods and pastures new to it, and void of its natural checks, that calamity results.

MR. D. KIDD.

Mr. D. Kidd, who for many years past has had charge of the extensive and extremely beautiful gardens of Carberry Towers, the seat of Lord Elphinstone, has by reason of his administrative ability and cultural skill attained to a foremost position among the leading gardeners in the important district of which the City of Edinburgh is the centre. The gardens of Carberry Towers are not, perhaps, so frequently visited by horticulturists staying in the Scottish capital as some others, but this is owing to their not being so readily accessible as are some other of the leading establishments. That they are of much interest and of great beauty there can be no question, and it would be surprising were it otherwise, for the noble owner takes the keenest interest in them, and, as already indicated, they are under the charge of a gardener who possesses exceptional skill. The gardens abound in fine trees, handsome shrubs, attractive herbaceous borders, and an extensive water garden; and a comparatively recent addition is a Dutch garden, in which there is an excellent example of mural gardening. It is interesting to recall to mind that Mr. Kidd has from time to time taken part in the Scottish exhibitions, and has invariably proved a very formidable competitor, more especially with grapes. Mr. Kidd has shown his interest in the Royal Caledonian Horticultural Society in other ways than by contributing to its exhibitions, for he has had for some years the honour of occupying a seat on the Council of this venerable society which has done so much for horticulture in Scotland during the past hundred years.

"Gardeners' Magazine" Sweet Pea Number.—As previously announced, we shall devote the GARDENERS' MAGAZINE for the 22nd inst. chiefly to sweet peas and their cultivation. The contents will include articles on "New Sweet Peas for 1910," "Culture of Sweet Peas for Exhibition," "Sweet Peas in Scotland," "Sweet Peas in the Garden," "The American Sweet Pea Boom," "Decorative Uses of Sweet Peas," "A New Floral Hobby for Parsons," and "Sweet Peas in the Flower Garden." The number will be freely illustrated, and, in addition, a coloured plate will be presented of one of the finest of recent introductions.

Fruit Imports, 1909.—British markets were liberally supplied by fruits of foreign growth during the past year, and to those who believe in the possibilities of England as a fruit-producing country they will be regarded as larger than they should have been. The more important of the fruits that can be successfully grown in this country are apples, and of these 3,129,646 cwts., of the value of £2,007,911, were imported, these figures representing decreases as compared with the two previous years. Of apricots and peaches the imports were 52,724 cwt., of the value of £83,443, or a substantial increase, as compared with 1908. Bananas make a good showing, the number of bunches imported having been 6,238,065, and the value £1,752,190, or a slight decrease both in number and value. The imports of cherries aggregated 185,464 cwt., of the value of £210,679, or an increase of about 25,000 cwt., and a decrease of about £24,000, the low prices being due to the comparatively large crop that was gathered in England, and the wet weather that was experienced during the cherry harvest. Currants show a considerable advance both in quantity and value, the aggregate imports having been 131,442 cwt., of the value of £151,552. Gooseberries, on the other hand, were imported in decreased quantities, the total having been 27,078 cwt., of the value of £13,496. The imports of grapes were also on a considerably reduced scale, the total being 490,003 cwt., of the value of £508,111, or a decrease in quantity of about 182,000 cwt., and in value of about £220,000. Lemons were imported in slightly decreased quantities, while in the imports of oranges and nuts there were material increases. The value of the lemons was £475,967, and of oranges £2,522,491. The imports of pears amounted to 569,467 cwt., of the value of £504,423, these figures representing an increase in quantity of about 46,000 cwt., and a decrease in value of about £11,000. Plums also were imported in larger quantities, the total being 486,757 cwts., of the value of £474,749. Of strawberries, the imports were 36,829 cwt., of the value of £47,877, and the value of unenumerated fruits was £306,031, or a comparatively small increase as compared with the previous year. The total value of the fruit imports was £10,559,043, or an increase approaching £200,000, as compared with 1908, and a decrease of about £163,000, as compared with 1907.

Peter Barr Memorial Fund.—The members of the Executive Committee of this fund met at the Royal Horticultural Hall on Tuesday, January 11, and decided to issue an appeal to all admirers of the work of the late Mr. Peter Barr, V.M.H., for a sum of money sufficient to provide a gold medal annually, to be awarded by the Narcissus Committee in connection with work among daffodils, and for the maintenance of one orphan through the medium of the Royal Gardeners' Orphan Fund. Mr. William Marshall, V.M.H., is chairman; Mr. Henry B. May, treasurer; and Mr. C. H. Curtis, hon. secretary of the fund.

Gardeners' Royal Benevolent Institution.—The annual meeting and election of pensioners will be held at Simpson's, 101, Strand, London, on Thursday next, the 20th inst., when the chair will be taken by Mr. Harry J. Veitch, V.M.H., F.L.S., at 2.45 p.m. At 6 p.m. on the same day, at Simpson's, the annual friendly supper will take place, and at this gathering N. N. Sherwood, Esq., V.M.H., one of the trustees, will preside. The seventy-first anniversary festival dinner will be held at the Whitehall Rooms, Hotel Metropole, on June 22, under the presidency of the Hon. Harry L. W. Lawson.

Vegetable Imports were on a large scale during the past year, although there was a considerable decrease in two cases. The imports of potatoes were smaller than for several years past, the aggregate having been 4,282,866 cwt., of the value of £1,408,251. In 1908 the imports exceeded 7,000,000 cwt., and in 1907 they were 8,249,366 cwt. Of onions the imports were 7,470,775 bushels, a decrease of about 400,000 bushels. Tomatoes have on the other hand decreased in quantity, and increased in value, but the differences are not great. The total was 1,161,308 cwt., of the value of £954,400. Unenumerated vegetables continue to steadily increase, and the value of last year's imports was £402,739.

Kew Guild.—We are requested to state that it has been decided by the committee that the annual general meeting, to be followed by a social gathering, will be held at Kew this year on the Monday preceding the Temple Show, and not at the Holborn Restaurant as formerly. Old Kewites are further asked to note that, in accordance with the decision at the last annual meeting, the next "Journal" will not be issued until June, and will in consequence be a double number. Mr. A. Garnett has undertaken the duties of honorary secretary, pro. tem., and Mr. J. Coutts has been appointed honorary treasurer.

National Vegetable Society.—As previously announced in these pages the Duke of Portland, president of the National Vegetable Society, generously promised £10 as the first prize in the class for twelve kinds of vegetables at the society's exhibition in September next. We are informed that Lord Howard de Walden has very kindly promised to give a second prize of £7 7s. in the class, and that the committee hope to obtain a good third prize, as it is desired to ensure a very strong competition in this important class.

Withholding Prizes.—The importance of the exercise of the greatest care in the withholding of prizes in consequence of a supposed failure to comply with the conditions of competition, has been exemplified at Scone. It appears that, after the exhibition held by the Scone Horticultural Society last year the committee decided to withhold the prize of 2s. 6d. that had been awarded to an exhibitor of four tomatoes, on the ground that the visiting committee did not consider the tomatoes were of the exhibitor's own growing. The exhibitor threatened legal proceedings for the recovery of the prize money, and the parties after some correspondence agreed to submit the matter to arbitration, and appointed Mr. Edward Joss, superintendent of gardens, Montrose, the arbiter. After a consideration of the case submitted, Mr. Joss has made his award in favour of the exhibitor. He states that tomatoes can be successfully grown in an unheated frame by obtaining strong plants about the first week in June, and potting them on or planting them out on a bed of suitable soil. Then, if they are trained on wires a foot from the glass, fed and top-dressed when the first two trusses of fruit are set, and careful attention given to ventilation, watering, and feeding, to stopping the side shoots and pinching out the point of the main stem when it reaches the top of the frame, plenty of ripe tomatoes can be had by the third week in August.

A Good Record.—Mr. C. Medley, of Romsey, Hants, who has died at the age of ninety-one, worked in the Broadlands Gardens seventy-nine years, his first employer being Lord Palmerston.

Cross-fertilisation of Sweet Peas.—A correspondent of "Nature" writes: I have recently seen two further reiterations of the statement that the sweet pea is invariably self-fertilised, a statement which I think is often based on an opinion of Charles Darwin's. It may therefore be worth while placing on record an observation made by me in 1907, when examining daily and closely a large quantity of sweet peas. While Apis mellifica failed entirely to open the flower, it was done perpetually by Megachile willughbiella, and there was not the least doubt about the cross-fertilisation being effectively brought about by this bee. The point has probably been noted before, but it is worth recording once more in view of the repetition of statements as to the self-fertilisation of sweet peas.

Mr. G. F. W. Oman, who is retiring from the secretaryship of the Ancient Society of York Florists, states that during the eleven years he occupied the position of secretary, the sum of £568 1s. 9d. was received for special prizes; £2,025 17s. as subscriptions, and £526 9s. 6d. for advertisements. He also mentions that he received for salary during the eleven years £430, which is certainly not a large sum.

Want of Observation.—In speaking upon the all-important subject of nature observation, at a meeting held in Norwich, Mr. Rider Haggard expressed the opinion that, if a nation wanted to keep its virility, if it wanted to be able to match itself against foes, if it wanted to continue to thrive and breed healthy offspring, it must keep in touch with nature, and, to a certain extent, keep itself out of cities. Oddly enough, the people who lived upon the land are themselves often oblivious to the charms of nature. He thought it would be within the experience of many of them that the agricultural labourer, taken as a class, seemed to be singularly dead to the beauties among which he lived, and moved, and had his being. It might be that he really did delight in them, and that he did appreciate the beauty and loveliness of the morning and evening skies, the sound of running water, and the singing of the birds; but, if he did, then he kept it uncommonly close. But this was by no means confined to the agricultural labourer. He had known highly educated people who, although they had lived amongst rural scenes all their days, had not known the difference between an oak and an ash, or a thrush and a blackbird. That showed the want of observation. He believed they would find that unobservant people were unsympathetic people, although he did not say that this was always the case.

Beneficial Effects of Work in the Garden.—Speaking the other day at a public meeting Lord Hardwick stated that he knew a Duke who worked in his garden every day, and who, as the result, had muscles as good as those of a Billingsgate fish porter.

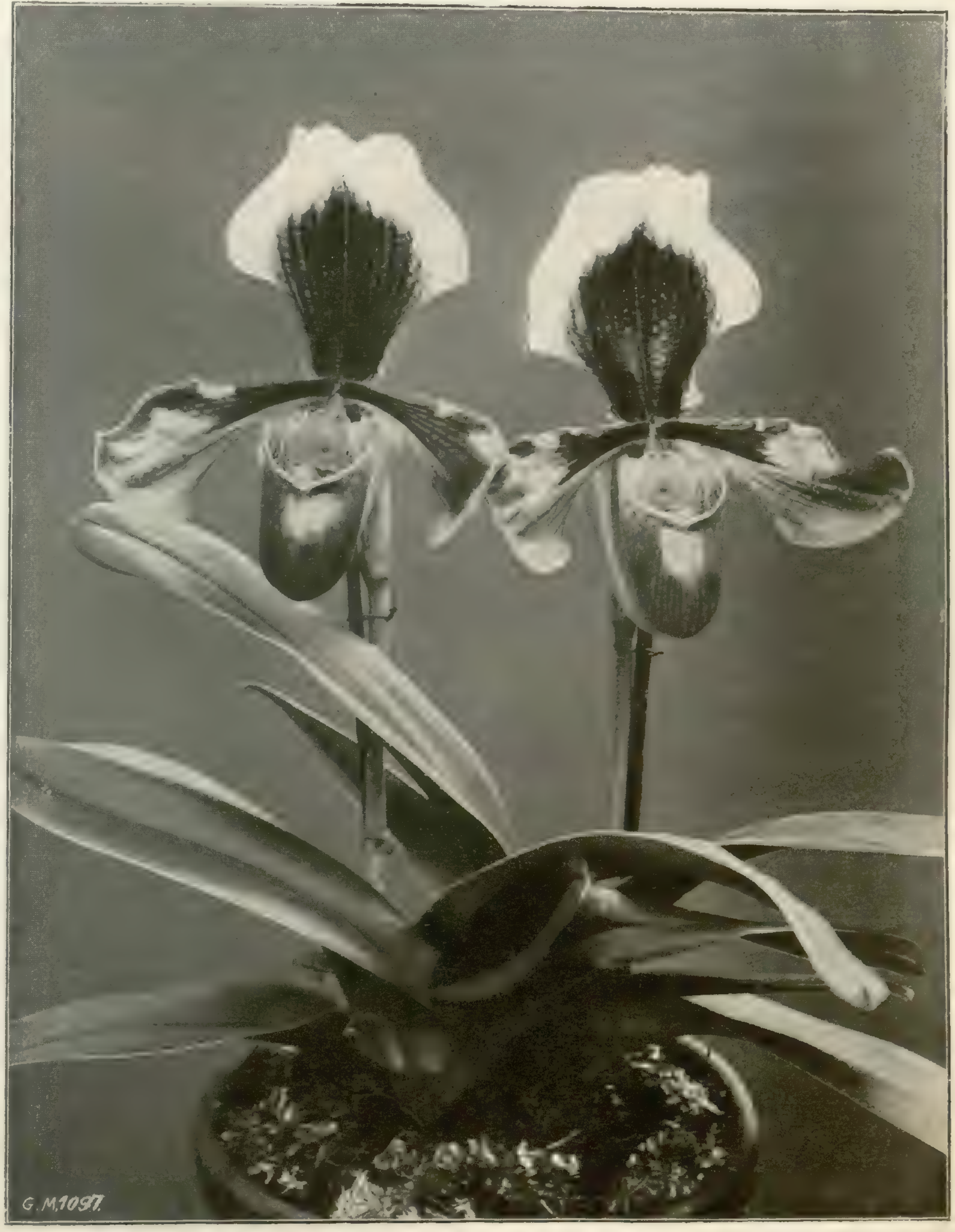
JOTTINGS: CRITICAL AND OTHERWISE.

The following sentence appears in an article on manuring lawns, in the volume of the GARDENERS' MAGAZINE for 1909, page 1,008: "I would advise that light and frequent dressings of lime and soot mixed be applied from time to time throughout the autumn, winter, and spring. Its effects are very beneficial, and most pronounced." Will the writer of the article, Mr. Walter H. Aggett, kindly go a step further and explain his reasons for mixing lime and soot together, because in the use of these two excellent materials the general advice is to apply them separately. As most people are aware, soot is a nitrogenous fertiliser, and when lime is brought into contact with it the immediate result of the mixture is the liberation of free ammonia into the air. One can always detect this by the pungent odour of ammonia in the air, and the sum and substance of the thing is that the fertilising property in the soot, i.e., the nitrogen, is driven into the air by the action of the lime, and wasted. Both soot and lime are good for lawns, but why use them together if the action of one spoils the fertilising properties of the other?

The members of the Bristol Gardeners' Association learnt something new at a recent meeting, when they were informed by Mr. Gostling, the lecturer for the evening, that fir needles were beneficial as a fertiliser for potatoes. If this is so, what a tremendous quantity of this product has been wasted in ignorance! Most of us, I am afraid, are in the habit of treating fir needles as a nuisance, and, for the most part, they are consigned to the rubbish heap. And, now, after all this, to learn that one might have grown potatoes with them, and saved the manure. It would be interesting, by the way, to know what particular fertilising properties are contained in fir needles, but, whatever they are, they do not appear to act beneficially on turf, hence the anxiety to get them swept up as fast as they fall. I hope the information given by Mr. Gostling fell on credulous ears, and that a trial of fir needles will be given next season when the potatoes are planted. Further, if this note catches the eye of Mr. Gostling, perhaps he will be good enough to favour the readers of the GARDENERS' MAGAZINE with the benefit of his experience in respect of fir needles as a potato fertiliser.

Two types of individuals are met with at gardeners' meetings, and other meetings as well, for the matter of that. One is the man who has got something to say, but cannot be induced to express himself, and the other is the individual who is so fond of talking that there is no stopping him, and nobody else has a chance. How to deal with the latter is a problem, but the Reading Gardeners' Association has adopted an idea for bringing the former out, and it promises to work well. At a recent meeting a list of questions was prepared, each one bearing a number, and when the chairman drew from a batch of tickets bearing corresponding numbers, and called one out, the holder of the number arose and spoke on the subject named on his question paper. The result was that members, including some young gardeners, who are not often heard, were induced to speak, and the interest of the whole proceedings was enhanced. I think that the departure made by the Reading Society might be followed by other gardening associations.

It is disappointing to hear that the Birmingham Chrysanthemum Society, after an existence of half a century, is in such a bad way that its future is a matter of grave concern. Mr. T. Humphreys, the treasurer of the old society, is no pessimist, but he recently pointed out the necessity of a change in the society's finances, which means, of course, that more support must be forthcoming if the Birmingham shows are to be continued. What is one to conclude from all this? Is it that the popularity of the chrysanthemum as an exhibition flower is waning, and that the interest of the public in "mum" shows is getting played out? It would appear like it, when the possible break up of a society like that of Birmingham is hinted at.



CYPRIPEDIUM BANTAM.

A handsome hybrid with large flowers, attractively coloured brown, crimson, yellow, green, and white. A.M., R.H.S. Lieutenant-Colonel Holford, January 11.

Gas tar as a preventive remedy for potato disease! There is something original about this, and it came about in the following manner. A cottager, so it transpired at a recent meeting of the Birmingham Gardeners' Association, last spring applied a heavy dressing of street sweepings to his potato patch, the sweepings being impregnated with the gas tar coating of the streets. The ensuing potato crop was entirely free from disease, and the assumption is that the gas tar must have been a potent remedy. I have heard the opinion expressed that sweepings from tar-sprayed roads are injurious to gardens, and it would be interesting to know if there is any further evidence forthcoming as to the action of tar-impregnated road sweepings as a preventive of potato disease.

In an editorial reply to a correspondent, on page 1,018, it is stated that in the experience of the GARDENERS' MAGAZINE and others the variety of black currant known as Boskoop Giant does occasionally become attacked with the bud mite. Well, a few years ago, a friend of mine thought he would make a fresh start, and be done with big bud for ever, so he planted some Boskoop Giants. He has lived to be disappointed, however, and when I examined his bushes of the above variety last spring I never saw a finer lot of fat buds, and the trees were covered with them. It was no question of a light attack, but a very severe one, and Boskoop Giant as a mite-resisting variety is a failure. At least, this is the conclusion I have come to. H.

NEW TREES AND SHRUBS.

The last of the issues of the "Kew Bulletin" for 1909 is of special interest to tree lovers for the notes by Mr. W. J. Bean on new trees and shrubs of Chinese origin, accompanied by illustrations of several of the kinds. We reproduce the notes in an abbreviated form:

The wonderful beauty and variety of the arborescent flora of Western and Central China, long ago suggested to us by the dried material of Mr. A. Henry and other travellers, is now being strikingly revealed by the living plants themselves. The present decade has witnessed the introduction to cultivation of a more remarkable assemblage of new hardy trees and shrubs than any previous one, even if we include the busiest years of such collectors as Douglas, Fortune, and William Lobb. Primarily, we owe this to the business enterprise of Messrs. J. Veitch and Sons, and to the liberality of Harvard University. Two expeditions on behalf of the former and one on behalf of the latter have been made by Mr. E. H. Wilson, an élève of Kew. The combination of qualities that have made him one of the greatest of plant collectors must be recognised as having had much to do with their success.

One of the most remarkable things about these Chinese introductions is the number of new and monotypic genera that there are amongst them. Apart from whatever beauty of flower or leaf they may possess, there is always a peculiar charm and interest attached to these solitary types. Most of the following are of this character, and it is thought that a few notes placing on record their first introduction to cultivation and a brief description of their leading features may be of some value to the growing number of cultivators of hardy trees and shrubs in the British Isles.

Carrieria calycina (Franchet).—A deciduous tree 20 to 30 feet (sometimes 40 feet) high, with a wide-spreading head of branches. Leaves ovate, up to five inches in length with a short acuminate tip, coarsely crenate. Flowers in terminal panicles six inches long, cup-shaped, one inch across, very pubescent, bluish-white. Fruit a capsule three to four inches long, covered with pubescence.

Mr. Wilson describes this tree as one of great beauty in flower. It was introduced by him for Harvard University, and from seeds presented to Kew by that institution this year small plants have been raised. It is a native of Central and Western China at altitudes of 2,000 to 3,000 feet. Of its hardiness nothing certain can be stated, but other trees and shrubs from similar elevations have proved capable of withstanding our winters. Monotypic.

Dipteronia sinensis (Oliver). — Although closely allied to the maples, this species is remarkably distinct, especially in foliage and fruit. It is a bush or small tree up to 25 feet in height, with deciduous pinnate leaves, about one foot in length on adult trees. The small white flowers are borne in erect pyramidal panicles nine to twelve inches long. The fruits are winged like those of a Wych elm or a ptelea, being flat, obovate, and three-quarter to one inch long.

This tree is growing well in Messrs. Veitch's nursery at Coombe Wood, and has recently been presented by them to Kew. It is undoubtedly hardy and, having a marked beauty of flower and leaf, as well as very interesting fruits, it should prove a most desirable acquisition to gardens. A native of Central China up to 5,000 feet.

Kolkwitzia amabilis (Graebner).—This is a deciduous shrub, five to six feet high, with opposite, ovate leaves, very pubescent. The flowers do not appear to have been seen by botanists but the fruits are quite remarkable. They are produced in short terminal clusters, each fruit about ¼-inch across, covered, like the pedicels, with numerous long, yellowish-brown bristles. This singular shrub has for several years been growing in the Coombe Wood nursery, having been introduced for Messrs. Veitch by Mr. Wilson. It grows in Hupeh on the watershed of the Han and Yangtse Rivers, among rocks at 9,000 to 10,000 feet altitude. Coming from these elevations it should undoubtedly prove hardy.

Prinsepia sinensis (Oliver). — When this shrub was first described by Professor Oliver as plagiospermum in Hooker's Icones Plantarum, t. 1,526, it was, in the absence of fruit, doubtfully placed in celastraceæ. That was in 1886, and since then not only has fruit become available, but the plant itself is in cultivation. It is now found to belong to prinsepia, a small genus of rosaceæ. Kew owes it to the generosity of M. Philippe de Vilmorin, who sent a small plant in the autumn of 1908 which stood uninjured in the Arboretum nursery during last winter, and is now very healthy.

This is a deciduous spiny shrub of lax spreading habit, now about six feet high with M. de Vilmorin at Verrières. Leaves alternate, oblong-lanceolate. Flowers bright yellow, produced singly on slender peduncles in few-flowered fascicles. Fruit red, resembling a small plum. A native of Manchuria, and appears to be a very attractive flowering shrub of a type quite new to gardens.

Poliothyrsis sinensis (Oliver), small tree, 30 feet or so high, with variable but more or less ovate leaves six to nine inches long, three to six inches wide, pointed and shallowly toothed. The flowers are greenish-white and borne in a large, erect panicle. The fruit is a dry, ellipsoid capsule, ¾ inch long, and thus very distinct from the globose, dark red berry of the Idesia.

Its fine broad leaves should make it a desirable lawn tree. It is common in Hupeh at 2,500 to 3,000 feet, and was introduced by Mr. Wilson for Harvard University in 1908. From seed presented to Kew by that institution a number of small plants have been raised, most of which survived the winter of 1908-9 planted out in the Arboretum nursery.

Sinofranchetia sinensis (Hemsley).—The Lardizabaleae section of this Natural Order is already represented in gardens by the asiatic genera Holboellia and Stauntonia, to which this new plant is allied. Neither of them is really hardy away from a wall or similar protection, whereas five plants of the Sinofranchetia in the nursery at Kew passed through the winter of 1908-9 absolutely unaffected by cold, although they were only young seedlings planted out the previous spring.

This is a large deciduous climber which covers trees 40 feet high. Its main stem is often three to four inches thick, and, after the fashion of its allies, the branches uphold themselves by twining round whatever support is available. The leaves are ternate, glaucous; the petiole six to nine inches long. The flowers are dull white, small and inconspicuous, and of no beauty. The fruits, however, are striking; they are borne in threes at intervals on an elongated rachis eight inches or more long, each fruit blue-purple, and about the size of an average grape. A native of Central and Western China, up to 7,000 feet, introduced for Harvard University.

Sinowilsonia Henryi (Hemsley).—A deciduous shrub or small tree occasionally over 20 feet in height. The leaves are broadly elliptic to obovate, rather like those of a lime, three to six inches long. The greenish flowers are in slender pendulous racemes nine inches long. Introduced by Mr. Wilson for Harvard University from Hupeh, China, where it inhabits the banks of mountain streams at altitudes of 3,000 to 4,000 feet.

Sycopsis sinensis (Oliver).—Although several species of Sycopsis are known, this is the only one hitherto found which is capable of withstanding our winters. There is no doubt it is perfectly hardy. Without any protection, young plants stood the winter of 1908-9 quite unaffected. It is an evergreen shrub up to 20 feet high, its habit, according to Mr. Wilson, comparable to that of our native hazel (Corylus avellana). The plant has little beauty of blossom, having short dense racemes of flowers, the most conspicuous feature of which are the red stamens. Native of the mountains of Central China at 4,000 feet.

Tapiscia sinensis (Oliver).—A small deciduous tree usually about 30 feet high, although one specimen found by Mr. Wilson was 90 feet high, with a trunk 12 feet in girth. The leaves are pinnate, 12 to 18 inches long. Flowers in axillary panicles four to six inches in length, yellow, quite small, with a pleasant honey-like fragrance. Young plants of this species from seed presented by Harvard University survived the winter of 1908-9 in the Arboretum nursery. Should it prove to be hardy, its fine pinnate leaves (changing to yellow in autumn) and its fragrant flowers should make it a welcome addition to our collection of small trees. A native of Western Szechuan and Western Hupeh at altitudes of about 4,000 feet, fairly common in the former province, but rare in Hupeh.

Tetracentron sinense (Oliver).—According to Mr. Wilson this is amongst the very largest of the broad-leaved trees of the Chinese forests (that is, excluding Conifers). It is often 80 feet and upwards high, with a trunk 20 feet in circumference. The Tetracentron bears a considerable resemblance to Cersidiphyllum japonicum, but is roughly distinguished by its invariably alternate leaves. It was introduced by Mr. Wilson for Messrs. Veitch about 1901, and presented by them to Kew. It is certainly quite hardy. The leaves are deciduous, broadly-ovate with a subcordate base. Flowers small, yellowish, in slender spikes about four inches long. A native of Central and Western China from 5,000 to 9,000 feet.

DECEMBER, 1909.

The last month of 1909 will be remembered for the various extremes of weather; perhaps more changes could not possibly have taken place in thirty-one days. Snowfall and rainfall during the month amounted to 6.49 inches with us. For the greater part of the month outside work was at a standstill, for either snow or rain fell on twenty-three days. The twenty-first was a very typical winter's day, clear sunshine, keen frost, and trees and everything around covered with snow. At sunset a change took place, clouds commenced to gather, and the wind began to rise, so much so that by midnight there was a terrible gale blowing. The morning of the 22nd was memorable for the hurricane of wind which caused the snow to form in immense drifts, and made locomotion exceedingly difficult, whether on railway, tramway, or for pedestrians, or vehicular traffic on the roads.

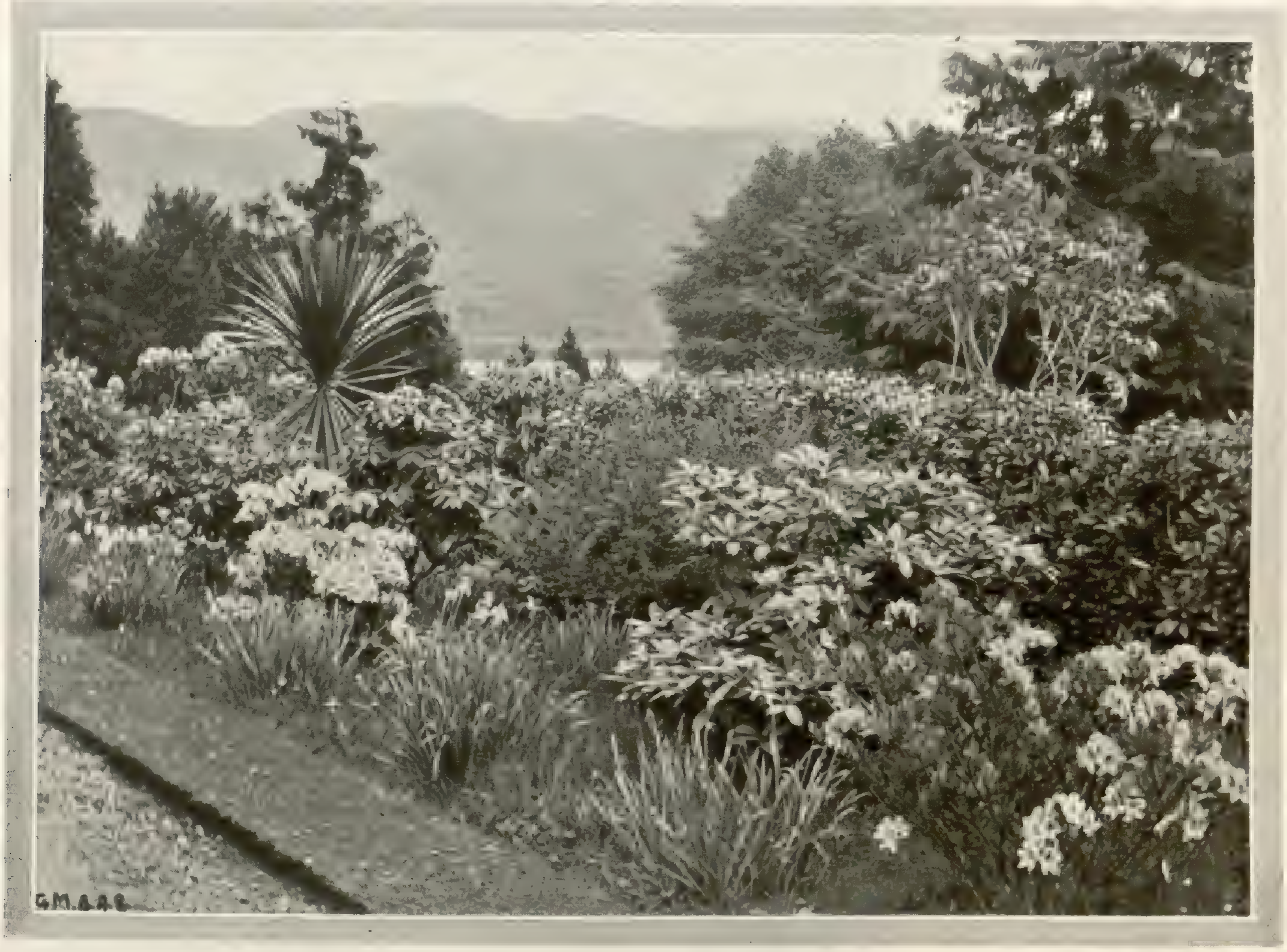
With regard to the garden the trees all added their quota of rotten sticks, and in many cases large boughs were torn off by the extreme violence of the wind. Never in my experience have I seen so many green leaves blown off rhododendrons, the grounds were literally strewn with them. I accounted for this, quite a phenomenal state of affairs, to the very sudden change in temperature, so sudden that there was not sufficient time for the branches to thaw. Consequently, the trees presented a rigid front to the violence of the storm, with the result that the leaves were ruthlessly torn off, and the ground bestrewed with them. In many cases the trees look rather naked and bare, but I do not think much real damage has been done. The toll of the storm was very great in different ways, as we have cleaned up many cart loads of debris.

Cheshire. W. M.

Potato Experiments.—In the Cirencester experiments in potato growing last year, described in the "Agricultural Students' Gazette" for December, a larger return was obtained from Irish than from Scottish seed tubers, though the produce of the former showed more disease. As regards the manuring trials, non-nitrogenous materials alone gave no increase of crop, while of the nitrogenous manures sulphate of ammonia was the best, but it is suggested that it should always be used in conjunction with superphosphate and generally a potash manure as well.

FLOWERING PLANTS IN THE WILD GARDEN.

The wild garden, with its distinctive charms and informal outlines, gives opportunities for natural grouping, that, if taken full advantage of, and suitable subjects utilised, cannot fail to make it an ideal portion of the country garden. There are so many diversities in a well-arranged wild garden, and at every other step one is confronted with the most delightful little scenic effect, which combines to make a most pleasing and interesting whole. Shady dells, where fern and foxglove foregather, emphasise with fulness the half-shady glades and the lightly wooded portions, where a perfect riot of scillas, anemones, narcissi, primroses, and a host of similar subjects cover the ground during the spring season with their wealth of beautiful blossoms.



[Photo: Miss S. M. Wallace.

A BEAUTIFUL EFFECT PRODUCED BY NATURALLY ARRANGED PLANTS IN AN IRISH GARDEN.

Open stretches and sun-touched slopes give an opportunity for a host of perennial plants, including shrubs, which would lose half of their beauty in shaded spots, while the lower margins, reaching to the flower-hung streamlet and the lily-strewn pools, open up great possibilities to the flower lover. Tennyson had truly caught up in his mind the charming effects of this wild garden beauty when he sings of

> "The tall flag-flowers when they sprung,
> Below the range of stepping-stones."

and one can picture with him the glories of the king-cups:

> "The wild marsh marigold shines like fire
> In swamps and hollows gray."

And no one will cavil at his appreciation of the wild waterside scenery, nor will they assuredly regard, in a much less degree, the water lilies which had such an influence upon the poet's thought.

But leaving the charms of the watersides, and noting the great possibilities of such subjects as the astilbes, spiræas, lythrums, epilobiums, and many others, in the beautifying of the moisture-laden margins, I would desire to devote a little space to many of our denizens of the perennial borders, with a view to their inclusion in gardens designed and planted on natural lines.

For instance, the open spaces and sunny drifts which present themselves at pleasing intervals could be devoted to great informal masses of delphiniums, bocconias, Michaelmas daisies, helianthus, heleniums, and similar subjects. Picture, if you will, the effect of the delightful blue spires of the delphiniums en masse in the sunlight, with a background, perhaps, of flowering trees, or the light greenery of birches and hazels.

Or, again, the soft delightful shades of blue, lavender, mauve, and white of the taller campanulas. Drifted masses, encroaching on either side of a wide informal pathway, with countless spikes hung with those satiny bells, and comprising such effective plants as C. grandis, C. persicifolia, C. macrantha, C. celtidifolia, etc., together with their beautiful varieties, a very wealth of beauty surely.

Glorious indeed are the rich, glowing masses of the Oriental poppies, when grouped boldly in sunny spots. Colours which are intensified by the softer colours and the greenery around them, yet harmonising delightfully withal, and giving that touch of Oriental brilliancy which seems to wake the garden to fuller light and life. Pæonies are very effective grouped on the grassland, their handsome foliage and imposing blossoms seem never more at home when thus naturalised, and one can employ such a range of beautiful forms and colourings, and arrange them to their individual fancy, or intermix them at will, that whatever the choice may be beauty will reign. Many other delightful subjects come to mind. Gaillardia grandiflora, with its rich gold, orange, and crimson colourings, is well adapted for naturalising, as also are the graceful linarias, especially the taller forms, such as vulgaris, dalmatica, and purpurea.

Irises are very effective in the wild garden, and of the bulbous forms the Spanish and English irises will do well in grass, if the soil is fairly good, while of the flag irises the Germanica section is especially suitable. Of these one should choose the stronger-growing sorts. The old common purple is useful, but more especially would I advise such handsome gems as dalmatica, Albert Victor, asiatica, flavescens, and Madame Chereau. For moister spots in the sunlight, one, of course, could utilise the handsome moisture-lovers, such as aurea, intermedia, gigantea, Monnieri, spuria, and others of the same type. They are, indeed, glorious, and well repay for planting in suitable spots

One might go much further, the list is indeed endless, and the combinations of flowering plants which one can effect are endless also. In the more open part of the wild or semi-wild garden the hardy azaleas may be successfully utilised in the production of colour effects late in spring. The charming garden on the margin of Lough Esk, co. Donegal, herewith illustrated, is a proof of this. It will be seen that the azaleas give a good succession to the flowers of the daffodils. Need I say more? It will assuredly be sufficient to point out the possibilities of the wild garden, saying, "This way lies beauty."

P. S. HAYWARD.

SHOULD FRUIT TREES BE CULTIVATED?

I note how sceptical is "G. H. H." on certain of the results of the Woburn experiments. In regard to the manuring of the trees I agree with "G. H. H." that the finest fruits come from trees manured in some form or other. Instances of the truth of this can be seen daily. I am sure that where trees are liberally manured annual crops of fruit are much more likely to be found than upon trees that receive little, if any, assistance in that direction. The reason is not far to seek. Trees growing under the latter category are weaker in every respect, and thus the blossoms of such trees do not fertilise nearly so readily nor so strongly, and the fruit cannot take its initial swelling in nearly so vigorous a manner as where the trees are stronger and have more energy. I have in my mind two examples of the truth of my views in this phase of the culture of fruit trees.

Some years ago I paid special attention to a bush tree of Lane's Prince Albert and one of Stirling Castle, annually using Thomson's vine manure as a spring top dressing, and frequently watering in the same stimulant during the summer. The result was free, healthy growth, no sign of canker in the latter variety, and abundance of very fine fruit on both trees. A change in the management took place, these two trees, along with the others, received ordinary treatment, pruning, digging about the roots, but no stimulative food regularly, in fact, seldom. The result is just an ordinary crop of fruit when there is a bountiful general crop. The second example is a small garden close to where I write, owned by an enthusiastic amateur who has abundance of stable manure at command. His apples are mainly espalier trained, and include, with others, Cox's Orange Pippin, Bramley's Seedling, Lord Derby, Worcester Pearmain, and suchlike. Manure in quantity is dug in about the roots annually, with abundant top dressings. The result is vigorous clean growth and liberal supplies of fruit every year. These two instances, apart from any other experience, are sufficient to convince me that trees are benefited by the aid of manure.

I am not an advocate of the non-pruning method, especially for newly-planted trees, and I am surprised when I see persons advocating it, when they know quite well the results that accrue from non-pruning the first year. Trees not pruned the first season after planting, especially standards, make but little growth for several years, and that of a weakly, indifferent character, surely that is a step in the wrong direction. What is required is a rapid growth of branch covering as wide an area as possible in the shortest possible time, and from which the greatest quantity of fruit will be obtained. Cutting back the main, in fact, all shoots to within a few eyes of the base induces a rapid, vigorous growth by concentrating the energy of the tree into a limited space.

The non-pruned trees, in their weakened condition of removal, cannot support the whole of the growths that are produced from the many eyes on the retained shoots, the result is the leading growth is puny from the terminal buds, while three parts of the shoot either forms fruit buds or the buds remain dormant. The advocates of this non-pruning method tell us the trees should be cut hard back the next year, when the trees have had time to recuperate from the check caused by transplanting! In these days of haste, when we wish to see full crops of fruit in the shortest possible time, surely this is not the way to obtain success. No, no, this advocacy will not do for me. I have planted and managed too many trees to ever think of such slow progress.

Hants. S.

WINTER SPRAYING.—No. II.

In a publication of this kind it is impossible to recommend any one of the various spray fluids which are manufactured for winter spraying to the detriment of others. Some of them rely simply upon the caustic action of the soda for their cleansing process, others combine paraffin with the caustic soda in some form, and others again substitute carbolic acid for the paraffin in combination with the soda, some to the extent of quite 60 per cent. of the material. The action of this last class on the moss on the trees seems a very gradual process indeed, so that one seems to have done no good at all for a month or two. The first time I used such sprays I was very disappointed, but I found the final result after six months was very good indeed, and now after a lapse of two years most of the trees are quite bright and clean, and can be easily distinguished from the unsprayed ones.

Unfortunately, the same cannot be said as far as my experience goes for a pure and simple caustic soda wash. I have frequently been much chagrined by the rapidity with which the trees took on their coat of green after being dressed with this wash. The paraffin washes are very excellent, and are not open to this objection; moreover, they make a splendid clearance of all Mussel Scale, American Blight, and such things, and probably give as big a percentage of mortality among Psylla eggs as any winter wash, but I greatly question if they have any direct action at all upon fungi, only indirectly by cleansing, and therefore destroying some amount of harbourage for spores.

In many ways it is a good thing that a winter wash containing much paraffin should have a lasting effect, as it would be, in my opinion, distinctly dangerous to the health of the tree to dress it with strong doses of paraffin winter after winter. The simple caustic wash can be easily made up by the operator, but all the others should be obtained from one of the many excellent firms of manufacturing chemists, whose specialised knowledge and up-to-date machinery enable them to combine the various ingredients much better than the mere layman possibly can.

Mr. Pickering's experiments at Woburn seem to point to the fact that the carbonate of potash which was formerly used with caustic soda in the old caustic alkali wash is unnecessary, the formula he recommends being 2 to 2½ lbs. of caustic soda (98 per cent. purity), dissolved in ten gallons of water. In his eighth report, however, he speaks of the rather dangerous nature of such strengths, and advises the provision of a basin of vinegar and water in readiness to bathe the face or hands if any should get on them.

The manufacture by many firms during the last year or two of machines which will successfully drive a heavy lime wash through comparatively fine nozzles without choking has rendered it possible, without any trouble, to cover every twig on a tree with a thick coat of lime. Various substances have been recommended for combination with lime, either for the purpose of increasing its beneficent effects or with the idea of making it more adhesive, so as to hinder the hatching out of Psylla eggs. In the former case salt has been used, also sulphur, while for the latter all sorts of substances have been tried, including resin, fish glue, waterglass, and treacle. The lime and salt wash is the most popular one, and it is in very general use in many of the fruit-growing districts, the addition of waterglass being often considered as scarcely worth the extra expenditure. It is made by taking 1 to 1½ cwt. of good flare lime, slaking it gradually, and then mixing it with 100 gallons of water in which 30 to 40 lbs. of salt have been dissolved.

Of course, it is necessary thoroughly to strain this compound, otherwise the taps and nozzles will be continually choked by small portions of lime. The greatest efficiency with these lime washes is obtained by delaying the application till the last day possible in the spring, so as to kill the hatching Psylla without damaging the opening buds.

In the spring of 1908 many trees were dressed in the middle of April, with very little damage to the buds, and splendid success with the destruction of Psylla. I have used self-boiled lime wash applied quite hot, without the addition of any other substance, and have had excellent results from it, both for its insecticidal value and for its adhesive quality. It was put on as thickly as it was possible to get it through a very powerful pump working at a pressure of 80 lbs. to 100 lbs. per square inch, and so hot that the hose pipes were almost too hot to hold in the coldest weather. It has been suggested that the reason for the excellent adhesion of this pure lime is that when applied to the tree it takes up carbonic dioxide from the atmosphere, and makes chalk upon the tree, which has been proved to be far more adhesive than if that substance had been sprayed on as chalk in the form, say, of whiting. Whatever be the reason I have found a good proportion of lime still on the tree eighteen months after, and then, not merely hanging in flakes, but firmly fixed on the tree, proving the efficacy of pure lime for this work. Unfortunately, the fungicidal value of this wash as a direct agent is absolutely nil, though probably a little better results would be obtained with a self-boiled lime-sulphur wash.

Where the fungus that causes the disease known as apple scab is known to be wintering in the bark of the young wood, a simple solution of copper sulphate at the rate of 4 lbs. to ten gallons of water used as a winter wash should do a good deal towards checking the disease, particularly if a quantity should remain on the bark, owing to the absence of heavy rains, until the spores germinate in the spring. Copper sulphate can be used with paraffin and caustic soda, so as to combine the insecticidal as well as fungicidal action, but this wash is too difficult for an ordinary person to make, and should be obtained from some manufacturing chemist. Whatever the wash used, care should be taken to use machines which will give the requisite force and penetration to perform the operation carefully and well, so that as little surface as possible escapes the spray. Do not spray immediately before rain falls if it can be avoided, and finally use every precaution to get as little of the wash as possible on the person or clothes.

Winter washing is not going to cure all the evils that fruit growers suffer from any more than is grease-banding or any other operation, but I am convinced that, properly carried out, it will materially reduce the amount of labour which has to be bestowed upon spraying in the summer, and so aid in the difficult work of successful fruit growing.

Frank Hammond.

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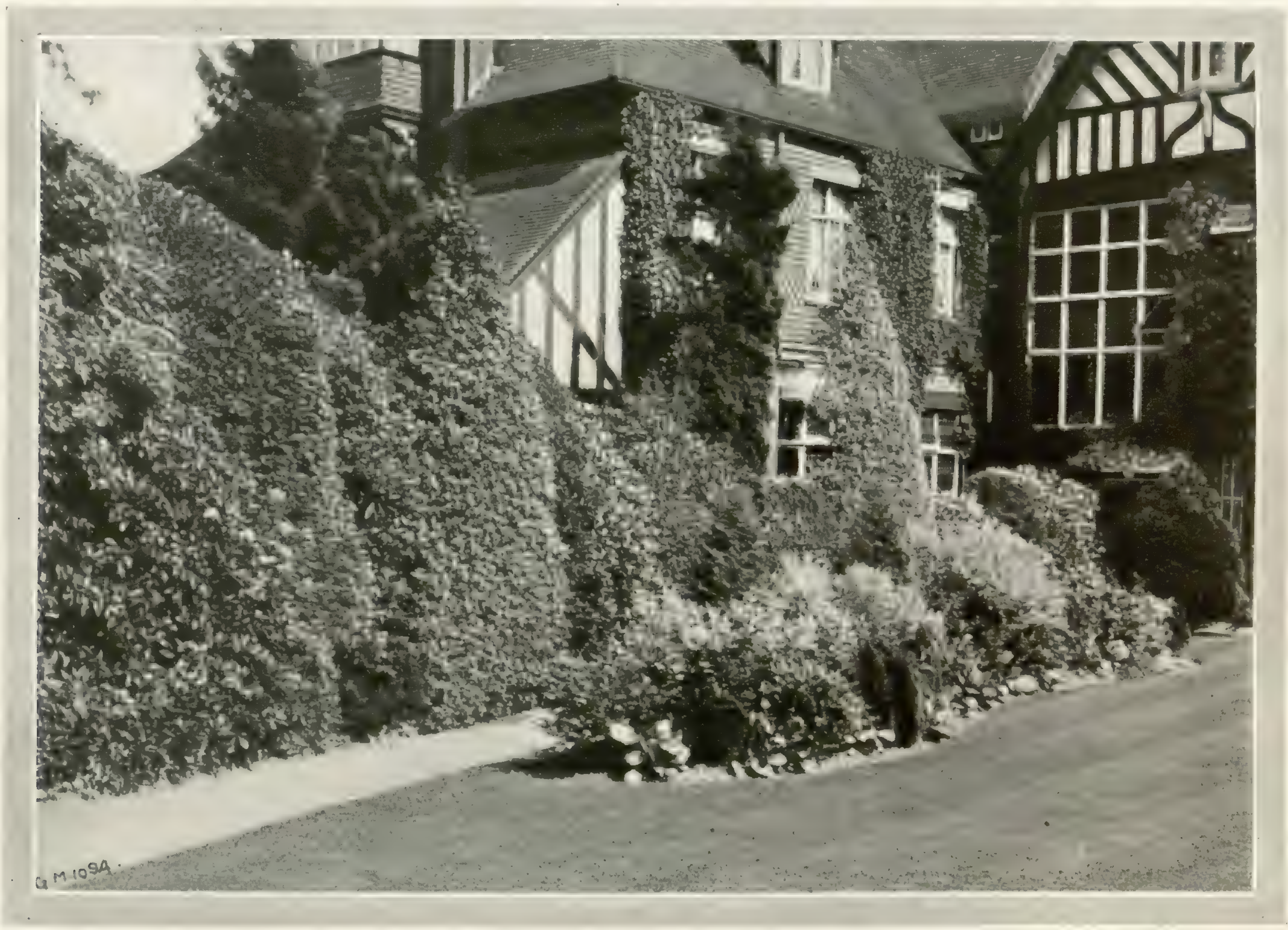
SUCCESSFUL USE OF RICHLY COLOURED SHRUBS.

The value of trees and shrubs with effectively coloured foliage in garden scenery is well known to those who are actively engaged in gardening, and if not always so freely used as might be desired, there are usually reasons other than a want of knowledge of the finer kinds. In the planting of the grounds of Ely Grange, Frant, the residence of J. Waddington, Esq., they have been used freely, and with much success, and in walking through the beautiful gardens, the eye is charmed by the striking effects that have been produced by the judicious association of trees and shrubs with golden and silvery leafage with those having leaves of various shades of green.



AN EFFECTIVE ARRANGEMENT OF RICHLY-COLOURED SHRUBS
At Ely Grange, Frant.

It is not, however, to the general use of richly-coloured leafage in the Ely Grange gardens, but to the success that has been achieved in beautifying the space around one of the garden entrances to the mansion that we wish to refer. The walls of the mansion are of red brick, and the roof is covered with red tiles, and the colours have been softened to a very pleasant shade by time. On the walls are variously coloured ivies, and along the narrow border that skirts the mansion are variegated hollies that sparkle in the sunlight, and golden cupressus, which assume the richest of hues, and are singularly effective. In the large bed are shrubs of various kinds, with green, variegated and golden leafage, that combine to produce a colour effect at once rich and tasteful, and not less beautiful in winter than in the summer. The brightness of the colouring of leaves during the duller months of the year is perhaps one of the strongest recommendations that the free use of evergreen shrubs with highly coloured leafage in positions such as the one herewith illustrated could well be had. We may heartily congratulate Mr. Goldring on the success he has achieved in giving practical expression to his employer's wishes.

PLANTING.

To the gardener a knowledge of how to plant is essential, and should therefore be thorough. The experienced practical man will not require to be told how to do it, or how not to do it. It is the careless planter that should give thought to the subject.

Improper planting may not always be the fault of the planter, it may be that the workman has not had much experience in the work, or, on the other hand, he may proceed in a careless, or don't want to know manner.

Planting is a portion of the work of young gardeners, to which many of them might devote more attention than I fear they do. It is not merely digging a hole and putting in the tree or plant much as one might put in a stick, it is rather giving each tree ample room, the proper laying out of the roots in the direction they may incline to. The roots, which very often are in tiers, should be carefully laid out, the lower ones first, carefully covering these in and treading the soil placed over them before laying out those above, thus, as the work proceeds, covering each tier of roots and treading the soil firm until the proper height of planting is attained.

A varied experience of the work convinces me that proper planting is a very important factor in the future well-being of the subject planted. In carrying out the operation of planting I always prefer treading the soil firmly, except the soil just on the top, which, providing the tree or plant is made quite firm, should be left untrodden. This enables the air and water to pass down more freely to the roots. It is no uncommon thing to see the soil so firmly trodden or pounded on the surface that the water may be seen standing in pools, instead of passing down through the soil, and consolidating it.

There is also the proper height at which the plants or trees should be covered above the roots. Generally speaking, the roots may be covered about an inch, or rather the old ball of soil, which may hold the roots, should have an inch of soil over it. With roses and fruit trees, according to the stock they are worked on, the union should be covered in the planting. Trees of shrubs of any size should, after planting, be firmly staked, and in the case of standards three wires should be placed to them, triangular fashion, especially if subjected to high winds, for it is impossible for the roots to attach themselves in the land if the tree is allowed to move in any way after planting.

In securing all subjects against abrasion of the bark some soft material should be placed round the stems. For half or full standards, where they can be placed, and where one stake is sufficient for steadiness, the "Beckett" tree fasteners are admirable.

In so far as possible planting should only be done when the land is dry enough to be workable. Much depends on the nature of the land to be planted, whether light or heavy. If the land is not moved too much beforehand, and the rain has not penetrated deeply, planting will proceed under more happy conditions.

All newly-planted subjects should be frequently overlooked, and any movement from the vertical or other position should be rectified.

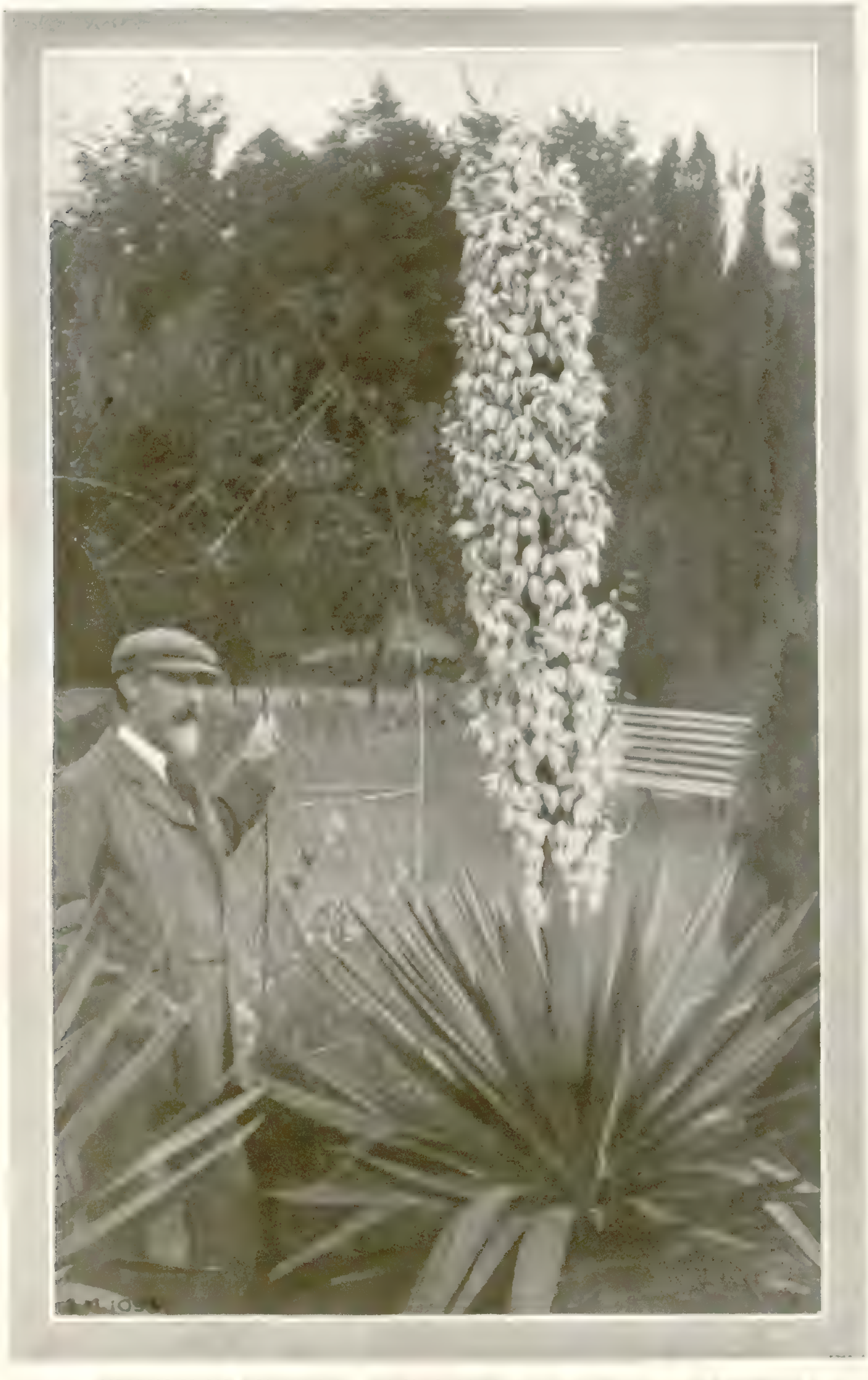
T. H. SLADE.

A HANDSOME YUCCA.

Adam's needle, as the well-known Yucca gloriosa is familiarly designated, is so distinct in character and tropical-like in appearance as to contribute materially to the attractions of gardens in which it has a place, provided suitable positions are selected. There should not be any great difficulty in selecting sites that are in every way suitable for the display of its distinctive charms, for whether forming part of a geometric arrangement in the flower garden, occupying a prominent position on the lawn, or grouped in the wild garden, it appears to be admirably adapted to its surroundings, and it invariably enhances the scene.

Occasionally a difference of opinion arises whether this species appears to the best advantage when grown singly, as in the case of the remarkably fine specimen that is herewith illustrated, or allowed to form large branched specimens. There is not, however, much in the different views that are sometimes expressed, because the question is one that largely depends upon environment. If the plants are to be utilised in beautifying a geometric arrangement of flower beds or a small garden that is formal in design, those with a single stem will be preferable, but for large lawn spaces and in the wild garden bold specimens with several stems will be the most effective, although they will not, as a rule, produce such finely developed flower spikes as the first-named. In some cases groups varying in size according to the space may with advantage be formed with plants having single stems, and if from five to seven are arranged in association they will form a feature that is at once distinct and attractive.

The cultivation of a few plants of this yucca will not involve a very large expenditure, or give rise to any difficulties in placing them under the conditions most conducive to their full development. The first essential to success is to select a position where they will enjoy a fair amount of sunlight, and the second to see that the soil is well drained. Should the soil be heavy a liberal addition of coarse grit and leaf-mould, when the sites are being prepared, will be an advantage. In low-lying positions it will be an advantage to raise the surface of the beds or sites from twelve to eighteen inches above the surface, and for keeping the soil in position either burrs or large rough pieces of stone, as may be the most readily obtained, can be used.



A FINELY-FLOWERED SPECIMEN OF YUCCA GLORIOSA
In the gardens of The Grove, Carisbrooke, Isle of Wight.

The splendidly flowered specimen we have the pleasure of illustrating is growing in the gardens of The Grove, Carisbrooke, Isle of Wight, the residence of A. L. Marvin, Esq. This yucca is, we are informed by Mr. Marvin, one of two offsets taken and planted by his gardener some ten years ago, and is generally regarded by those who have seen it exceptionally fine, both in growth and flowering. The illustration shows that the opinion held by Mr. Marvin's friends with regard to the development of the specimen is amply justified; we are unable to call to mind an example of Yucca gloriosa bearing so fine a spike.
G.

APPLE COURT PENDU PLAT.

For a period of ten years I closely watched the growth of two standards of this grand variety, and they did not fail to bear a good average crop each year. The tree is distinct from that of any other variety in growth, and the inner, or central branches bear more fruit than those similarly placed in other trees. My trees were generally in full bloom when those of a good collection of varieties had passed the flowering stage, and, in many cases, had set their fruits. Rarely were the blossoms of Court Pendu Plat damaged by frost on account of their lateness in opening. During the early part of summer it was a very difficult matter to distinguish the fruits from the leaves, even when close to the tree, so similar in colour were they. But as the autumn time came the fruits assumed a very rich colour, which deepened considerably after they were stored. The fruits are very even in size, rather flat, coloured the same nearly all over, and are of a very agreeable flavour from Christmas till April. This variety should be more largely grown. For the benefit of the inexperienced, I may add, the tree, when once established, should have good top dressings of manure, as the shoots mature well, as they are not very gross in growth.
G. B.

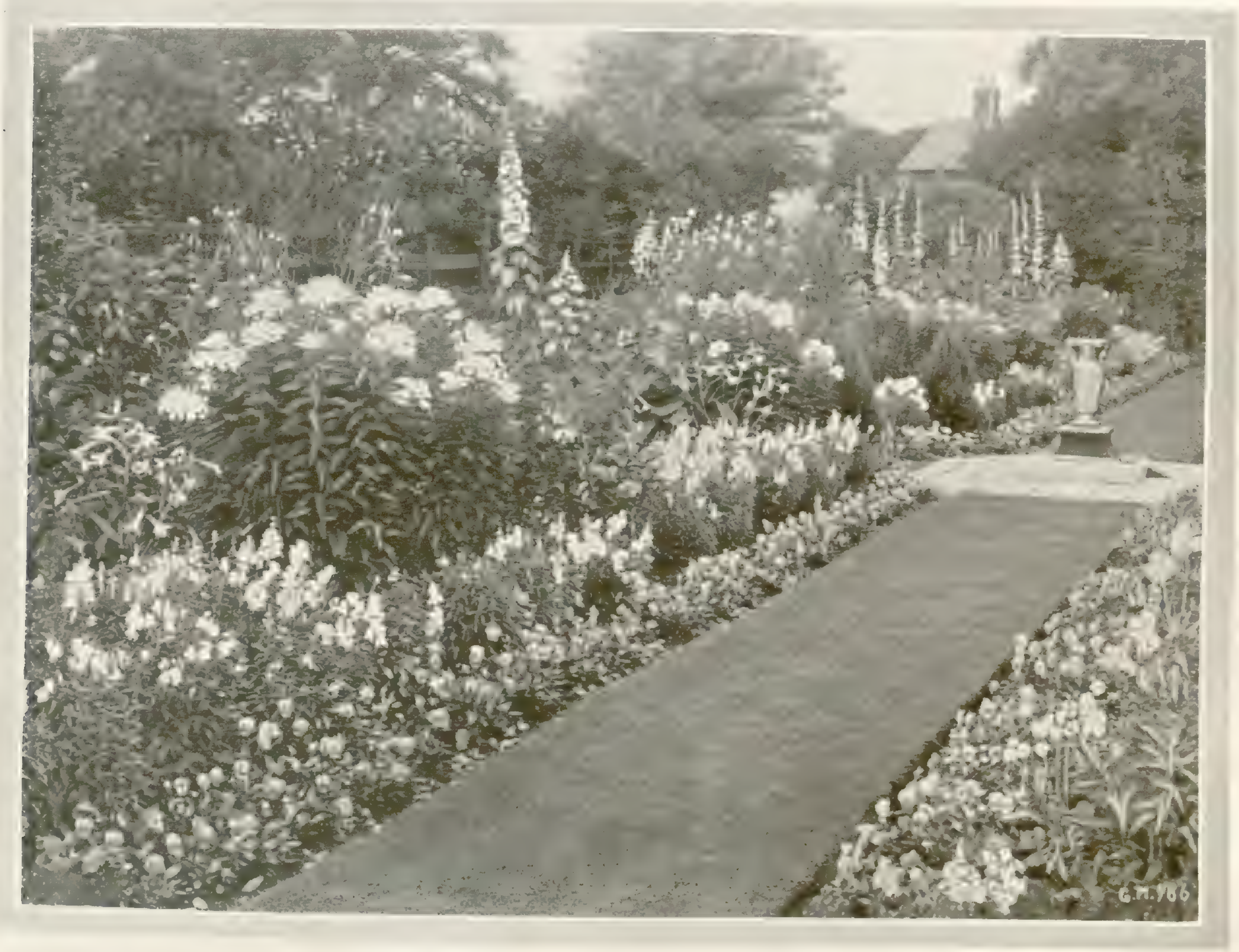
Accelerating the Ripening of Fruits.—For many years, according to the "Morning Post," the Arabs have applied cloths moistened with vinegar to bunches of dates in order to "sweeten up" unripened fruits. Following up this hint, Professor A. E. Vinson, of the Arizona Experimental Agricultural Station, has succeeded in ripening the fruit of a seedling date into a perfect commercial product in less than three days. The sprays of fruit are subjected to the vapour of acetic acid for twelve or fifteen hours. At the end of this time they have become nearly transparent and will ripen naturally without further treatment. The process can be accelerated by heating for some hours at a temperature of 45 deg. Centigrade. The process would enable dates to be shipped green, and their ripening to be effected artificially at the port of their destination. The fresh ripe date is very soft and prone to deteriorate quickly, while the unripe fruit is very firm and not easily bruised. The rapid deterioration is due largely to the inversion of the cane sugar of the date, and the fine flavour of the best dates—in the land where they can be eaten fresh—is due to the fact that the cane sugar has not been inverted but has remained as cane sugar. By artificially ripening dates at the destination they can be placed on the table with their full quota of cane sugar, and consequently of flavour.

A BEAUTIFUL BORDER OF FLOWERS.

There are not wanting writers who appear to regard the maintenance of borders chiefly devoted to hardy perennials in an attractive state after July has run its course as extremely difficult, if not impossible. The writers who hold this view state that there is an abundance of flowers throughout June and July, but with the opening days of August there is a considerable diminution, and that as the month runs its course the flowers so rapidly diminish as to closely approach the vanishing point by the end. It may be those who write thus have flower borders that are sadly wanting, both in interest and attractions, during the month in which the conditions are especially favourable to the full enjoyment of the garden, but if this is so the method of planting is at fault. To so arrange a border of hardy perennials that a continuous succession of flowers will be obtained is not the easiest of gardening matters. A thorough acquaintance with the finer plants, and judgment in selecting to ensure a proper proportion of early, mid-season, and late-flowering kinds, are essential to success in the arrangement of the various plants that should have a place in the mixed border.

If the knowledge and judgment suggested as necessary to the planting of a border that will give a succession of flowers is forthcoming, the task will be readily accomplished. The illustration of a border in an Essex garden may well be regarded as a proof of this. The owner is an amateur who devotes a considerable part of his leisure to his garden, and is careful to select subjects that possess much beauty, and thrive under ordinary conditions, and the example is one that might be followed by amateurs who are engaged in business or professional pursuits that impose a severe limit upon the time available for gardening. In this garden there is not at any period between the opening days of spring and the closing days of autumn any dearth of flowers, and there is invariably a rich display in the month of August, when the photograph of which the illustration is a reproduction was taken. There are, it will be seen, bold groups of herbaceous phloxes, stately hollyhocks, both single and double, glowing masses of antirrhinums, broad belts of violas that are simply carpets of flowers, and so on. There are, it will be seen, many other subjects, but for our present purpose it will suffice to point to those which can be readily recognised in the portion of the borders that came within range of the camera. The illustration is of interest as a successful example of grouping, but its greatest value is the proof it affords of the possibility of having an attractive display of flowers in the hardy plant border late in summer.

G.



A BEAUTIFUL BORDER OF SUMMER FLOWERS IN AN ESSEX GARDEN.

Onions.—It is now a recognised rule to raise a part of the plants for the onion crop under glass, as a great advantage is gained over those sown later in the open ground, the chief point being a longer season of growth, early maturity of the bulbs, and almost complete absence of the dreaded onion fly, which often attacks so severely those raised from seed sown in the open ground. The seed should be sown in well-prepared soil of a light character, in carefully-drained boxes, about the middle of the month. Place in a very gentle heat—a vinery or peach-house just closed answers admirably. On no account must too much fire heat be employed.—G. Ellwood.

A COLD FRAME IN WINTER.

A good frame may almost be regarded as one of the indispensable things in the smallest garden worthy of the name, but although almost everyone who takes gardening at all seriously possesses one or more, not everyone by any means seems to realise its possibilities of usefulness. As an extreme instance I might mention that quite recently someone to whom I was speaking on this subject said that his experience of putting plants in the frame for the winter was that when he went to look at them a month or two afterwards they were dead. The implied want of attention during that period of a month or two explains the loss of the plants, and apparently the owner did not remember whether the frame was open or closed during that time.

Management of an Unheated Frame.

First we will deal with the general management of the frame during the winter months, say, from November to March inclusive, irrespective of its contents. The ventilation of the frame is of supreme importance, air being scarcely less necessary during the winter except during periods of severe frost—than in the summer. If the sash or light is pushed all the way down, or pulled all the way up, during mild weather, the plants are likely to have that excess of moisture which is often more fatal to them than frost. When the plants have become dry, as they will do at any season if sheltered from the rain, removing the sash is one way, though not the best, of having them watered when the rainfall is sufficient, but otherwise the better way

MO. BOT. GARDEN
1911

is to water occasionally those pots that need it, and keep the sash in its normal position on the frame, raising it a couple of inches both top and bottom by inserting wooden blocks, saucers, seed pans, etc., so affording a current of air right through the frame.

If the sash is only raised at one end, as is usually done in summer time, there is apt to be stagnation of air at the other end unless the sash is pulled up for a time every day—and the result will be seen in many of the plants becoming weakly or mildewed. The frame may be left in this well-ventilated condition for weeks at a time in open weather, even 5 or 10 degrees of frost not necessitating closing it at night unless it contains rather tender plants or those which are rather less than half-hardy. During a sharp spell, or on any single evening when there seems likely to be more than 10 degrees of frost, it should be shut for the night, and opened again in the morning if the frost is merely a night frost, or likely to be soon dispelled by the sun. If it is severe winter weather it may be kept shut night and day, and even kept covered with sacking, mats, etc. In fact if the weather is severe enough to justify its remaining shut it is best kept covered up also, thus keeping the plants in a more or less frozen condition, when they will take no harm. When the sun reaches the frame, even during a sharp spell of frost in midwinter, it thaws the plants and causes evaporation, with the consequent risk of mildew. Nothing is more fatal to plants than being thawed by the sun in a closed frame.

Advantages of the Unheated Frame.

We will next deal with the uses of the frame. There are many hardy or half-hardy plants which, in cold, damp soils and situations, often fail to stand the winter, and of these may be mentioned such old favourites as pentstemons, eschscholtzias, antirrhinums, sweet peas, Lobelia cardinalis, scabious, gaillardias, and Iceland poppies. Such may be potted up in the autumn, or, better still, seedlings of them raised in the summer may be grown on in pots, or, in the case of pentstemons and antirrhinums, cuttings grown on in the same way, and all put in the frame to be ready for the first sharp frost, which is generally to be expected soon after November comes in. And not only may such plants be kept from excess of cold and wet in this way, but they may be preserved from the ravages of slugs if the bed of the frame is properly prepared beforehand. This may be accomplished by thoroughly liming the surface of the soil where the frame is to be placed, two or three times at intervals of ten minutes, on a damp morning, and then, when the frame is put in position, or before if preferred, a three or four-inch layer of cinder ashes over the bed will make the frame pretty nearly slug-proof for the winter if slugs are not put in with the pots, each of which should be carefully inspected before being put in.

If annuals are raised in pots such a frame is very useful for storing some of the hardiest, which would otherwise fall victims to the slugs, among which may be mentioned cornflowers, sweet sultans, clarkias, Bartonia aurea, larkspurs, lupins, Dianthus sinensis, annual chrysanthemums, and the like. No less useful is it, too, for keeping stools of early-flowering chrysanthemums, which, in a slug-infested soil, so often fail to produce any cuttings in the spring, or even to survive at all. A few plants of favourite sorts, if potted up or put in boxes, and kept free from slugs before they have suffered too much already in the autumn, will provide abundance of cuttings. Lastly, a cold frame with a good bed of cinder ashes is the best place for pots of bulbs during the autumn and early winter. They should be completely immersed in the ashes as soon as potted—the sooner after August the better—and then taken out a few at a time, as wanted, to force in the greenhouse, or to grow on more naturally in the frame, remembering to shade them from full sunlight for a week or so after the callow shoots are exposed to the air. An inverted flower pot over each pot of bulbs is not a bad device, enough light entering through the drainage hole of the protecting pot to serve for a few days.

Arrangement of Occupants.

If one has a couple of frames or more it saves some little trouble and attention if those plants which simply need protection from slugs or excessive wet are put in a frame by themselves, as then there need be no question of shutting or covering up that frame except in very severe weather, such attention being confined to the one containing the half-hardy plants. Those with no other glass than a cold frame may grow many pots of flowers for indoor decoration, beginning with Roman hyacinths and snowdrops in January, and continuing with narcissi and hyacinths in March, and tulips and various members of the primula family in April. Other plants which lend themselves admirably to the slight expediting which even a cold frame affords if put in a sunny corner of the garden, are Dielytra spectabilis, Lenten roses, wallflowers, Solomon's seal, and violas. Alger Petts.

THE DOUBLE BULLATE CROWFOOT.

Of the various double crowfoots which we find cultivated in gardens that named Ranunculus bullatus plenus is probably the most ornamental and showy. It reminds one in some ways of the double calthas, or marsh marigolds, but is more refined in its way than they, and is better suited to the border. The plant forms a neat bush a foot or so high, having pleasing green leaves, and a number of prettily imbricated double flowers of a good yellow, approaching to orange in their hue. It is a flower which comes from the Mediterranean region, but is perfectly hardy with us. I have known it for many years, and in no case have I ever been aware of its suffering from the effects of the most intense winters we have experienced. Like many of its family, the double bullate crowfoot likes a rather strong soil, but it is not insistent upon this, and I have grown it well in a sandy soil, when no stronger one was available at the time. It flowers in summer, gives us its handsome blooms for a considerable time, and is very readily increased by division, either in spring or after its flowering period is over. S. Arnott.

Chrysanthemum Mrs. L. Thom.—This Japanese variety came from Australia some three years ago, but has not been seen in good condition until the season just past. It is a loosely incurving variety, building up a large bloom possessing much quality, while its colour, soft canary-yellow, is all that could be desired. Now that first-class blooms of this type and colour are not over-plentiful, exhibitors would do well to include this variety in their collection. Naturally an early-flowering variety, it should be propagated quite late, and stopped once, securing the first crown bud on single-stemmed plants.—E. M.

EXHIBITION ONIONS.

The craze for cultivating large onions seems to be increasing rather than diminishing year by year, and the original champion growers of this useful and wholesome bulb are adding to their numbers. The fact that soil conditions and high-class cultivation are to a large extent responsible for success is demonstrated when we sow a pinch of the same stock of seed in barren soil and in rich soil for comparison; the former crop attains a size no greater than that desired for "picklers," while the latter produces moderately-sized bulbs.

Soil Conditions.

It is useless to attempt the cultivation of large exhibition bulbs unless very special preparation is given to the soil, and needless to say, as in the cultivation of many other plants, some soils seem to be naturally adapted to the cultivation of the onion. In this district of Basingstoke, I was impressed many years ago by the excellence of the onions grown by Mr. Bowerman, of Hackwood Park, and by Mr. Kneller, of Malshanger, and other gardeners in the neighbourhood. Finally, I was filled with a desire to try what soil of a similar character a little further afield would accomplish; the result was that within two years I found little difficulty in growing onions averaging two pounds in weight. A few turned the scale at 2½ pounds, and one well-formed bulb weighed exactly 3 pounds 5 ounces.

Sowing the Seeds.

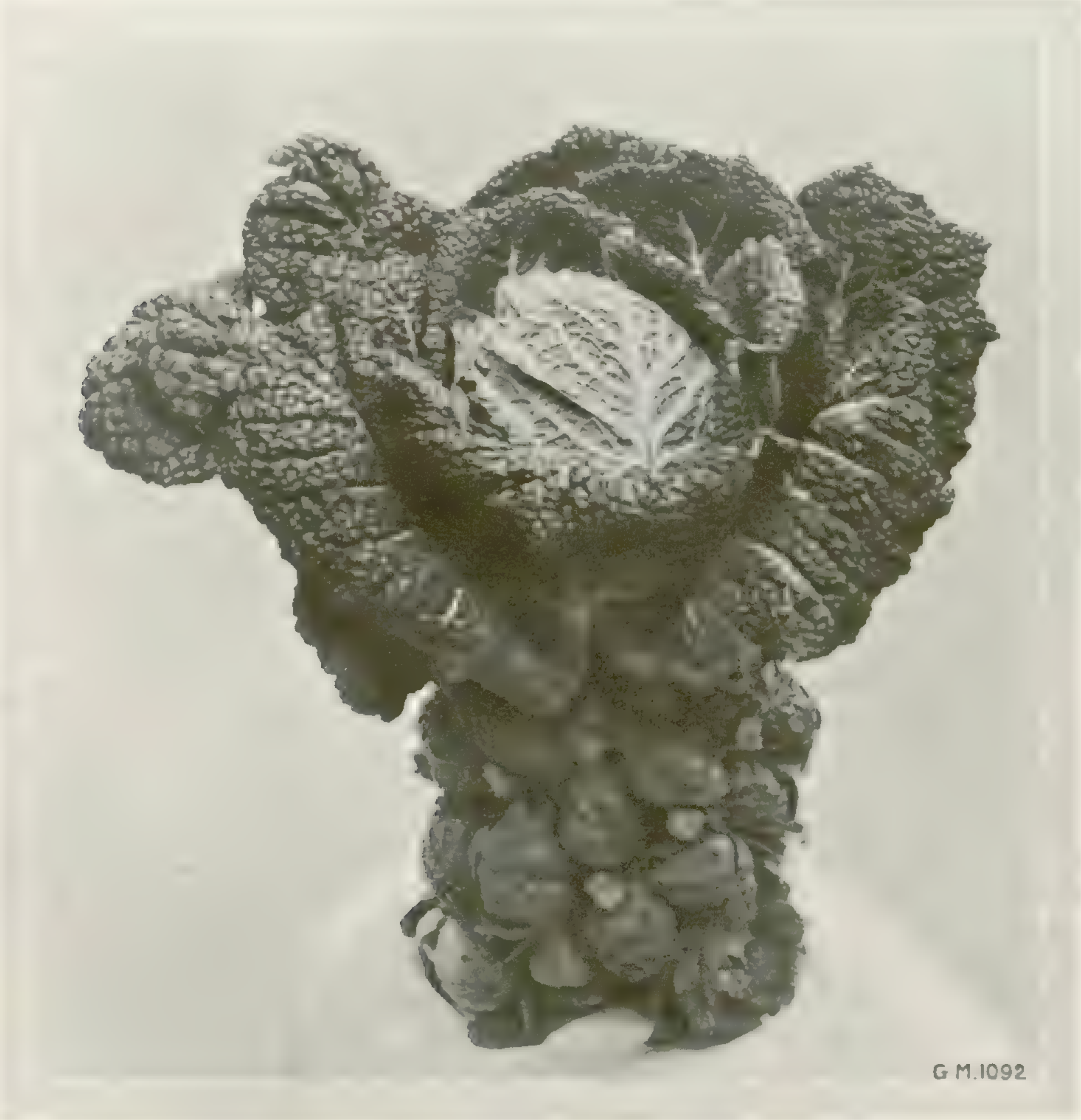
Seed is best sown in boxes during the month of January or early in February. The boxes need not contain more than three inches of soil. In a temperature of from 60 to 65 degrees germination soon takes place, provided a good watering has been given, which should not be repeated oftener than is necessary, once or twice proving ample.

I once had a failure with seedlings through an excessive quantity of soot getting into the soil by accident, which had the effect of severely checking their growth. When the seedlings are large enough to handle, they should be transplanted into boxes; for preference these boxes should be two feet long, one foot wide, and five to six inches deep.

In preparing the boxes for the reception of the plants first place a layer of rotten manure at the bottom, then fill up with fairly rich soil, for example, old chrysanthemum soil that has been well aerated and sweetened, and which has previously received an abundance of liquid manure. After making the soil comparatively firm commence to prick out the plants three inches apart and place them near the glass, meanwhile keeping the house or frame closed for several days in order to stimulate root action. When this is established air must be admitted freely night and day except during severe frosts. If seedlings are allowed to get drawn up and thereby weakened, they never do so well as strong, robust plants which have been well hardened off.

Selection and Treatment of Soil.

Needless to say, all growers of exhibition onions must trench their soil early in the season, particularly when it is of a stiff, retentive character. There is no better aspect than one facing south or south-west. Take out a trench two spits wide and two spits deep, wheeling this soil to the other



NEW SAVOY SPROUT.
Exhibited by Messrs. Sutton and Sons.

end of the ground where the bed is to finish —unless it is preferred to divide the ground down the centre and make trenches shorter in length to avoid much wheeling. Dig up the third spit, allowing it to remain at the bottom of the trench, and spread over it a good layer of well-rotted manure, that produced from fattening or cake-fed animals for preference. The first spit of the next trench should be put on this, and on the top of this another layer of manure, which cover in turn with the second spit, the third spit being dug up and left in the bottom as in the first trench. The rougher the surface on the top of the ground is left after trenching the better, as then the frost will penetrate the soil more readily, and with better results than when the soil is left smooth on the surface.

What is of equal importance is that with heavy soils this treatment will prevent the particles from running together so easily when subjected to heavy rains. As the month of March approaches, or in February if the weather is open and dry, the ground should have a liberal dusting of soot, lime, and wood ashes forked over the surface. Towards the end of March or April a similar dressing should be given again, but this time supplemented with a sprinkling of dry poultry manure or guano. The lime will make the soil sweeter, and it will also work better, as also will the wood ashes in addition to supplying potash in a very available form, especially beneficial to soils light in texture. This dressing, as well as the previous one, need not exceed one ounce of each to the square yard. The soil must now be forked over to the depth of a digging fork if its freeness and porosity admits of this being done.

Planting.

In the South of England, planting out is usually commenced about the middle of April, selecting if possible a dull, showery day, but not sufficiently wet to cause the ground to be injured by treading upon it. Windy days should be avoided as the young roots are very sensitive, and if dried either by wind or sun the seedlings receive a severe check, more so than they do by frost arresting their growth after being planted out. Never plant inferior looking plants, but only those of sturdy habit. Plant with a trowel and take all possible care of the roots, removing them from the box with a ball of earth attached. The plants must be given ample room both between the rows and from plant to plant; in the former case allow at least 18 inches, and not less than 15 inches from plant to plant. Firm planting is essential, and as the work proceeds, give a liberal watering through a fine rose. If the weather should continue dry, this watering may be continued merely until the plants cease to show signs of "flagging."

Old Basing. J. C. NEWSHAM.

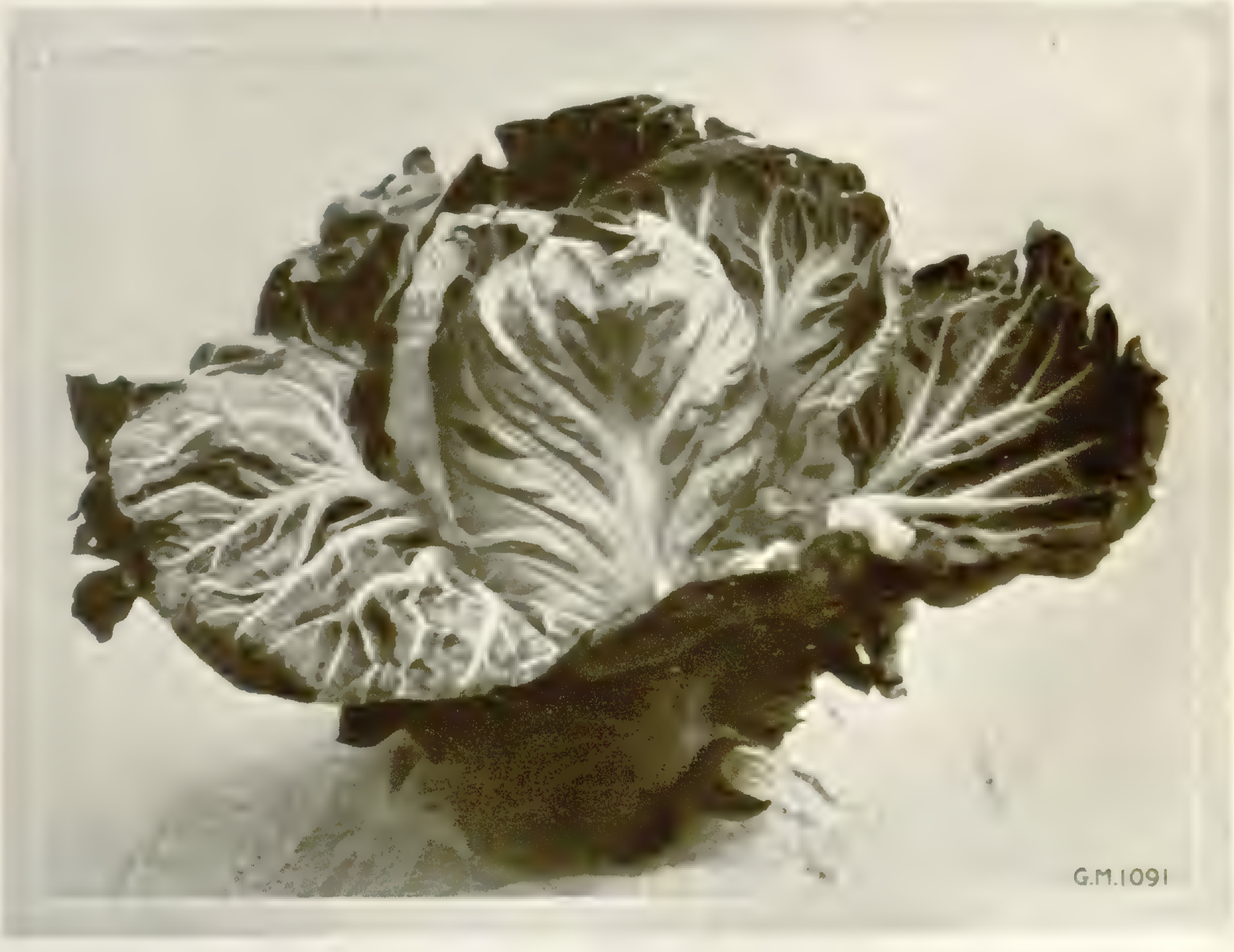
(To be continued.)

NEW BRASSICAS.

To the first of the two meetings held by the Royal Horticultural Society in September last, Messrs. Sutton and Sons, of Reading, contributed a collection of brassicas, which, as stated in our report, was remarkable for its comprehensive character, and for the inclusion of several quite new types. It was of much interest to see at a public exhibition fully-developed plants that had been grown from seed collected from specimens of the wild cabbage growing in its native rocks on the English coast, and still more interesting was it to have an opportunity of seeing the latest results in cross-breeding in the great family of brassicas. The new types were three in number, and of these we were specially attracted by the Savoy Sprout, because it has the promise of proving a useful addition to the list of green vegetables available during the winter. This has a stem of moderate height bearing throughout its whole length compact sprouts, and surmounted by a medium-sized savoy. The sprouts, like the head, have the distinctive characteristics of the savoy, and will, unless we are much mistaken, be much appreciated by those who like the flavour of small green savoys, but have an objection to the large, compact heads so much in vogue. The general character of this new vegetable is well shown in the illustration of one of the specimens exhibited on the occasion referred to.

Next in importance is the Hearting form of Couve Tronchuda, or Portugal cabbage. The typical form is of strong growth, with wide-spreading leaves, and is grown for the leaf-stalks, which, when nicely cooked, make a most acceptable dish. In the new type the growth has been so compressed that the leaf-stalks have all but disappeared, and the leaves form a compact heart that closely resembles one of the high-class, medium-sized cabbages with conical heads. The appearance of the hearts of the new cabbage suggest that they will be tender and delicate in flavour. Of this also we give an illustration.

The third of the new types is a Brussels sprout with a cabbage head. G. G.



A NEW HEARTING FORM OF COUVE TRONCHUDA.
Exhibited by Messrs. Sutton and Sons.

NOTES FROM KEW.

Erlangea tomentosa is a comparatively new composite from Central Africa, and though it can scarcely be called showy, is remarkably free flowering, and has the advantage of being at its best in the depth of winter. In general appearance it suggests an affinity with the ageratums and eupatoriums, forming like most of them a free growing, freely branched plant of a half-shrubby character. The broadly lanceolate leaves of this erlangea, which are clearly serrated, are, as well as the young shoots, clothed with a whitish tomentum, thus giving to a specimen a distinctly hoary appearance. The flower heads, which are borne in terminal corymbs, are individually small but very numerous. The colour is pale lilac with a lighter centre. A group of plants about a yard high and in full flower, is very noticeable in the greenhouse No. 4. Though as above stated this erlangea is not showy, yet it is, I think, destined to become popular. Its ready propagation and easy culture are great points in its favour.

Buddleia asiatica is in no way a novelty, for it was introduced in 1874, but after that it seems to have been lost. It was reintroduced by Mr. Wilson when travelling for the Messrs. Veitch in 1902, and rapidly became popular, being given a First Class Certificate by the Royal Horticultural Society on January 23, 1906. Though at that time comparatively unknown in this country it would appear to have been extensively grown on the Riviera, and according to Mr. Wilson himself it was a popular plant in the gardens of the Far East when he sent it home. The same writer states that it is found throughout Eastern Asia and Java, while in China it is fairly common in the Yangtsze Valley, Yunnan, and South China generally. In a state of nature it occurs as a large shrub, but under cultivation good flowering examples may be grown in pots from six to nine inches in diameter. In this way it forms a loose bushy specimen, nearly every shoot of which is terminated by a long narrow raceme of white fragrant flowers. Its beauty in this state is well shown in the greenhouse, where for the last couple of months or so it has gained many admirers. Like most members of the genus it strikes root readily from cuttings, and grows freely.

With the exception of the old Crassula (or Kalosanthes) coccinea, very few members of the genus are regarded as flowering plants. But C. lactea, an old species, for it was introduced in 1774, is, in the shape of dwarf bushy plants, employed as an edging to a group of taller subjects, and very pretty it is in this way. The stems, though less than a foot in height are very stout, and clothed with ovate leaves of a thick succulent character. The flowers, borne in flattened panicles, are individually starlike in shape and of a pure white colour. Being a native of South Africa it only requires greenhouse treatment, and as a winter-flowering subject it is certainly well worthy of note.

The Correas, known popularly as Australian fuchsias, were favourite subjects for specimens in the days when hardwooded plants were cultivated far more extensively than they are now. The flowers of the whole of them are of an inflated tubular shape, and the segments recurving at the tips. They are disposed in a drooping manner, and are altogether suggestive of a fuchsia, hence the popular name. One of the brightest of all is C. cardinalis, whose flowers are scarlet, tipped with green. The "Dictionary of Gardening" gives March as its season of blooming, but it is just now very effective in No. 4 greenhouse.

Senecio canalipes, the climbing member of the groundsel family, has been several times referred to in the Gardeners' Magazine. It is flowering freely in the succulent house, at Kew, a condition in which it has been for a long time, the dry atmosphere and genial temperature apparently meeting its requirements. It is a desirable rafter plant for a good-sized structure, being a vigorous grower with heart-shaped leaves, partially lobed and thick in texture. The flowers, which are borne in large, branching, loosely disposed clusters, are a little over half an inch in diameter, and of a rich yellow colour. A succession of them is kept up from autumn to spring. In the same structure, and also in flower, is a specimen of the Cape Ivy (Senecio macroglossus) which is a much better-known plant than the preceding. The flowers are a great deal larger and of a paler yellow, but at no time is there the wealth of blossom that one finds in Senecio canalipes.

In that portion of the T range where an intermediate temperature is maintained some of the aphelandras are conspicuous by reason of their bright coloured blossoms. Notable among them are A. aurantiaca, with prettily marbled leaves and spikes of orange scarlet flowers; A. Fascinator, whose leaves, dark green above and purplish beneath, have the midrib and principal veins marked out with silvery white, the flowers being scarlet; and A. nitens, with bronzy green leaves and scarlet flowers. All are easily grown, and from the brightness of their flowers they make a goodly show at this season.

Ipomæa Horsfalliæ Briggsi is flowering freely in the Victoria Regia house, and so beautiful is it that one wonders why it is not more often met with, as flowers in the depth of winter are none too numerous. Though the typical I. Horsfalliæ is listed in most nurserymen's catalogues, I have searched in vain for the variety Briggsi. This is certainly surprising, for it is, at least in my opinion, superior to the type, from which it differs in its smaller and deeper coloured flowers, and the greater profusion in which these are borne. Added to this I. Horsfalliæ often flowers in autumn, whereas Briggsi is, as a rule, at its best in December. It must be nearly twenty-five years since I first met with this variety at Kew, and it has been a delightful feature every winter since.

Some bushes of the choicest hybrids of the Javanese section of rhododendrons which were a few years ago planted out in the Mexican or warmest end of the temperate house are now in flower, and very bright and effective they are. As seen during the dull half-light of a mid-winter day those with blossoms of an orange or orange-scarlet tint stood out by far the most conspicuously. For some reason or other, probably owing to the fact that their blossoms are not suitable for cutting, these rhododendrons do not receive their due share of attention. K.

Apple Barnack Beauty.—This is one of the best late-keeping apples that I know of. It is a useful variety for March, April, and May, being at that time firm of flesh, high coloured, and of good flavour, better than many dessert varieties then in season. The fruits are medium sized, suffused with yellow and red in the autumn; as the spring time comes richer streaks of red appear which give to the specimens a very attractive appearance indeed. I have found this variety a really good one grown as a standard, and very prolific, but it is best grown as a pyramid or bush.—G. B.

FORCING OUTDOOR RHUBARB.

The season for rhubarb having commenced, various devices find their several advocates actively engaged in procuring the means whereby a succession of this much-sought edible is obtained. The familiar cone-shaped pot or flour barrel find a ready purpose at this time of year, and the time-honoured manure bed, which is all the more lasting and steady when tree leaves form a component part, may be seen in most gardens. Rhubarb is very adaptable to this form of culture when the earlier sorts are chosen. Late varieties, like Victoria, do not readily respond to warmth before the new year is advancing, and for the earlier supplies most gardeners avoid this kind, excellent though it is for later service. Forced in this way, there is a taint of manure imparted unless care is exercised in providing means of escape of steam through a tilted cover, and when strongly flavoured by contact with manure the sensitive palate rebels. Grown in pipe-heated mushroom houses there is a much more natural flavour in forced rhubarb, and it is consequently less offending to the critical palate.

The common course of procedure is to heap the fermenting manure round the pots first to about one-half their height, adding further layers as this becomes necessary; but though seldom practised, the most economical and most effective system that has come under our notice is to plant the roots in special beds raised slightly above the ground surface, and having wide alleys between. These are dug out sufficiently deep to allow of manure and leaf beds being made to a depth of eighteen inches to two feet, slightly covering the adjacent soil around the pots. The heat generated acts directly on the roots to their whole depth, which naturally brings about a much quicker response than that following the more common practice of heaping on the open surface about the pots. These beds have two rows of plants in them, their width about three feet, and trenches between them two feet wide. It must be said that duplicate beds are necessary, so that they do duty every alternate year, a practice that is followed in the case of ordinary cultivation. It might be suggested that in adopting this particular course for the purpose of early outdoor forcing short beds, say, twelve feet in length, that would accommodate a dozen plants, would be more convenient for the private garden. If this could be formed on the frame ground it would be more readily accessible both for application and removal when the heat is exhausted. It would be advantageous to allow the manure to remain in the trench during the summer, as this would obviously lessen the need for applied moisture to sustain them in their growing period. The removal of this manure to the whole depth of the trenches would expose the whole surface of the bed to the action of frost, air, and sunshine, all tending in turn to assist maturity of crown, conditions so essential to economic forcing in early winter.

Specially made beds reserved for the earliest supplies will, by the rotative course of forcing, submit more readily in course of time, and supply daily gatherings as early as the season demands, which is about the period of Christmas. Those readers who may not have adopted this course, and have pressing demands made upon rhubarb supplies, may find it advantageous to prepare such beds during the present winter as a possible provision for future requirements. To support the sides and keep the soil from crumbling down by the action of the weather, it will be obviously necessary to fix light boards and stakes, unless the trenches are opened at a future period, when the soil has had time to settle perfectly. This might appear the more adaptive, because unless good strong crowns are set apart for this intensive system, two years must elapse before forcing is attempted, and by that time the ground would be firm, and the sides rigid.

It may be said in passing that since the cost of horticultural buildings and heating has been so reduced and popularised the need for outdoor primitive methods of forcing has not been so great as was the case in bygone years, at the same time it still has a limited application.

W. Strugnell.

STOCKS FOR ROSES.

When we consider the great variation of soil often found in a very small area, the necessity of using foster roots that naturally prefer a certain class of soil is evident. The question of suitable stocks is a wide one, for we can make no hard and fast rule even for a given class or section of roses; while in not a few instances it is even better to use no stock at all. So many opinions are given upon this matter that I do not expect to escape criticism, and merely give a few of my own experiences and observations.

We use the brier in three forms, seedling, dwarf cutting, and as standards of more or less height, from the hedgerow. Then there are the manetti, De la Grifferaie, polyantha, and sometimes a few of the stronger-growing varieties. Some of the easiest to grow are Dorothy Perkins, and others of like habit from the Wichuraianas. These root very freely, and most varieties grow well upon them. Unfortunately the persistent and natural tendency to produce root suckers is very troublesome when making use of these as stocks, but with this exception I like it better than De la Grifferaie or Rosa polyantha simplex. It is certainly a good foster stock for the stronger growing teas and hybrid teas when upon a rather light soil, which does not suit the brier so well as that of a cooler and closer nature. But the suckers must be kept down, and these push from the roots like those of the blackberry and raspberry. Stocks of these roses are very soft in the bark, and swell more evenly with the growing bud of a strong variety than in the case of briers. But it is fatal to a weak grower for the same reason, as it soon overgrows, and practically swamps it with its excessive supply of sap, much more than any but a strong grower can accommodate. Another point in its favour is its doing so much better upon a dry and naturally sandy soil than is the case with brier, and yet does not provide the same rankness of sap—if I may use such a term—as the manetti: I also find it quite as early to push into growth. In fact, if it were not for its tendency to form suckers rather freely away from the base of the plant I should esteem it much more.

Referring to the manetti, it must be said that this stock is not nearly so much used now, not even for the hybrid perpetuals and Bourbons, two classes that, a few decades back, were seldom grown in any other form than as dwarfs. It is better than the brier in a few instances, such as very light soils, that we seldom find the brier thriving upon in a wild state. Like the stocks previously mentioned, the manetti is not very suitable for weak growers, and yet we find a few notoriously indifferent habited varieties do well upon it in the maiden stage, and perhaps most of the best flowers of Horace Vernet, Marie Verdier, Louis Van Houtte, A. K. Williams, and Monsieur Noman, among others, are obtained the first season from budded manetti. As a rule, however, these deteriorate rapidly, and seldom live more than three or four years.

There is little choice between the cutting or seedling brier stocks. The first certainly throws a better maiden plant, and frequently gives some grand first flowers, but it soon reverts to its natural habit of deep rooting. Both are the best all-round stocks we have. A much deeper shade of colour is obtained, particularly among the crimsons and maroons, while the season of flowering is certainly lengthened, and I find plants upon brier longer lived; nor are they so subject to red rust as when upon the manetti, although the same variety is growing side by side upon the two stocks.

If the manetti is not so useful for teas and hybrids in the open, plants often do well when grafted, or even budded, in the open and lifted for pot culture, probably because the roots are unable to wander and get into so strong a condition.

A stock that pleases me very much where a few really good flowers are wanted, in preference to greater numbers, is the short hedge brier. When these break from eighteen to twenty-four inches from the ground we can grow varieties with a drooping tendency better than when upon the usual dwarfs. The very fact of these flowers being so full and heavy causes them to hang down, and often be splashed in some form. Most of these roses, too, are produced upon much more slender growths than the trusses of smaller and lighter varieties. I am alluding to such as Dean Hole, Catherine Mermet, Bridesmaid, Medea, Mrs. Edward Mawley, Maman Cochet, and its white sport. Abnormally short-habited kinds, like Lady Mary Fitzwilliam, Lady Alice, and others, are also helped by the short brier stems, and I have generally succeeded in obtaining better individual blossoms of most trees when grown in this form.

Just a word about soils. We have grown roses upon stiff clay, and upon a clayey soil that pulverised almost to dust when exposed to the air. Here we find brier the best. By the way, such soil as I have just described is excellent to intermix with light sandy loams, and does more good than so much manure without this stay. Black, sandy, and peaty loam suited the manetti better than the brier, but the stock grew too rank for many varieties. A rich, stiff, and fairly deep loam is the most suitable. But we can make up our soils with a very little trouble, far less in fact than when growing lilies, rhododendrons, azaleas, etc., upon soils not naturally suited to them. Much depends upon manures supplied. Use a stiffer and moister natured manure upon light soils than upon those already on the close or stiff side.

These notes will, I hope, help the amateur who intends planting out stocks this season for budding upon next summer. We do not plant out our dwarf stocks until early in the spring, so that there is ample time yet, but it is undoubtedly better to have all hedgerow briers planted by November; October is my favourite month for these.

A. Piper.

Uckfield.

There is no better guide to the kitchen garden than Vegetables and their Cultivation, by T. W. Sanders. It is a complete treatise on the general management of the garden, and the successful culture of vegetables, saladings, and herbs for home use. Price 5s. net, by post, in box 5s. 6d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

SUCCESSION OF FLOWERS.—There is a material difference between a purely orchid collection and an ordinary private collection which is limited in the numbers of plants grown, and also the accommodation provided for their cultivation. It very frequently occurs that in these limited establishments the plants are expected to be in bloom at a particular season of the year, or a prolonged season of successive flowering plants is desired. It is not so difficult to provide orchid flowers at a stated season, because only those plants need be grown which bloom at the desired periods. In the case of limited accommodation, and a desire to have plants in bloom during the whole or the greater portion of the year's cycle, certain numbers must be grown under conditions that are not altogether suitable to their requirements. Also accelerating or retarding the flowering in some cases must be done. To carry out the details successfully considerable forethought is necessary on the part of those in charge, and the grower must have more than an ordinary interest in his work. In years such as 1909, when so many plants fail to properly mature and ripen their growth, the difficulty is very great in maintaining a continuous succession of flowers. I frequently feel that those of us who are working under more favourable conditions fail to appreciate the difficulties that have to be surmounted, and it is seldom that contributors to the gardening Press give much help to those working under limited conditions. True, the difficulties have been very greatly minimised since the raising of orchid seedlings became so generally practised.

SELECTIONS.—There is little difficulty in making selections, that, under favourable conditions, should supply the requirements in this direction, but to do this satisfactorily I consider that cool, intermediate, and stove temperatures are necessary. I am quite prepared to admit that where sufficient numbers of odontoglossums and other cool house orchids are grown we have the material that rarely leaves a break in flower production throughout the year, but this is in part owing to the durability of the flowers. In the intermediate house, where the temperature is retained at from 55 to 60 degrees in winter, the whole section of winter-flowering and other cypripediums can be accommodated, as also many other kinds of orchids suitable for successive flowering. Here also the stove or warm house kinds may be rested, or placed when in bloom to prolong the flowering. This house is indispensable. In the stove we may grow such kinds as the dendrobiums, phalænopsis, vandas, ærides, calanthes, phaius, and those of the South American kinds, such as the cattleyas, the warm-growing oncidiums, and others that require a brisk temperature and a humid atmosphere in which to make their growths. There are a number of gardens in this district where no houses are specially set apart for orchid cultivation, yet many of these have a goodly number of orchids, and the success achieved is so great that in many cases frequent additions are made. I have no doubt that in due course some of the owners who are so much interested will become prominent orchid collectors.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

HOUSE CLEANING.—As the opportunity occurs the stoves should have their annual cleansing, and in none of the plant houses is this more necessary than in the stove. Therefore when commenced no detail should be overlooked that would tend to make this operation most thorough, for if troubled with any pests, such as thrips, red spider, mealy bug, or ants, the present time is the best in which to master them; and if it is not done properly now it may mean many days' additional work during the season, and probably just when time is precious. When possible all the plants should be removed from the house, as this will greatly facilitate the work. After this has been done all climbers, such as stephanotis, allamandas, etc., that may be planted out should be carefully pruned. Retain only the wood necessary to furnish a supply of young growths for the coming season, the remaining growth should then be sponged, dipped, or syringed with some insecticide: if these are planted out in borders or brick pits it is wise to cover them over during the process of washing down, as if they receive a thorough soaking of water they are rather apt to start into growth before they are wanted. After the house or houses have been thoroughly scrubbed with soap and water, and had a good washing down with the hose, I like to give the whole house, woodwork, glass, stages, in fact everything, a good spraying with a mixture of clear water and paraffin, fairly strong, and this will kill nearly everything in the way of pests that may be about. Before returning the plants to their quarters again, all ashes, shingle, or shell should be taken from the stages and thoroughly washed, or replaced by fresh, whichever may be deemed necessary, but this will only be required every second or third year. All walls should be whitewashed, using a little sulphur and paraffin mixed with the lime, and if this is slaked down immediately before using it will be found to dry white and hard, and not come off on to one's clothes. Also the pipes should receive a coating of lamp black and oil (boiled). This will make the houses look clean and neat, and if the blacking is done one day and the pipes briskly heated at night, they will be quite dry next morning, and nearly all the smell will be gone. The plants, where necessary, should be carefully sponged and syringed before they are returned to their places, and any that have become leggy or otherwise unsatisfactory should be pitched away, providing, of course, there is sufficient young stock to take their places.

ADIANTUMS.—In many stoves adiantums are often grown in quantity, and where this is the case these, when returning the other plants after washing down, may be left in an intermediate house for a time and kept fairly dry. This will tend to rest them, and growth will be stronger when they are repotted and returned to their warmer quarters.

CROTONS AND DRACÆNAS.—These, where they have become leggy and are wanted for young stock, should be ringed at once, as by so doing fairly large plants may be taken off quite early before the sun will have gained much power. Otherwise they are very apt to flag, and many of the bottom leaves are lost. After ringing or tonguing all the plants so treated should be kept as close together as possible, so that they may receive frequent sprayings overhead to keep the moss in a moist condition, under which treatment they will make root quickly. I do not advocate this method of propagation, as I always find cuttings put in during the autumn or early in the spring make much lighter and more graceful plants.—Thomas Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

EARLY PEACHES.—Houses in which peach trees, either planted out or in pots, are swelling their buds, should have a night temperature of 50 degrees, with a rise by day from fire heat of 5 degrees, and an increase of 10 degrees from sun heat, accompanied with a little top ventilation. A fairly moist atmosphere should be maintained, and in the mornings of fine days the trees be syringed with tepid water, but avoid keeping the buds constantly wet. As a preventive of greenfly, vaporise the house immediately before the blossoms open. During the blossoming period raise the temperature 5 degrees, discontinue the use of the syringe, promote a gentle movement of the air by opening more or less, as external conditions dictate, both the front and back ventilators, and assist the fertilisation of the blossoms by distributing the pollen at midday by the aid of a camel-hair brush or rabbit's tail. As soon as the fruits set resume syringing, and when the shoots are about one inch in length commence disbudding by rubbing out the most forward of misplaced shoots. This operation should be gradually done at intervals of a few days.

SUCCESSIONAL AND LATE PEACH HOUSES.—A house having been prepared should be closed in time to keep up the supply of fruit, and if not already done, late houses should be made ready for closing as required. After cleansing the house, well wash the old wood and the fruit-bearing shoots with a solution of some approved insecticide. Be careful to dislodge scale, and to avoid injury to the buds of the trees. In training, if there is more young wood than is required to clothe the trees at five inches apart, thin out that which is gross or weakly, always bearing in mind that crowded wood does not produce good fruit or good wood for future crops. Remove the surface soil of the border, replace it with fresh compost, and top-dress with short stable litter that is free of woodlice. Should the borders require water, moisten them thoroughly.

STRAWBERRIES. — Patience must be exercised in forcing this fruit, especially during the early stages of its growth, for until the flowers expand the night temperature should not exceed 50 degrees, and that by day from fire heat 55 degrees. As soon as the blossoms open a rise of 5 degrees should be allowed, a circulation of air—avoiding cold draughts—maintained, and artificial heat, as advised for peaches, be given to ensure perfect fertilisation. Thin the fruit once it can be observed that enough are set for the crop, bearing in mind in doing so that over-burdened plants cannot yield large fruits, and expose it to the sun by supports. Closely attend to the removal of runners, and watering, at no time permitting them to suffer from drought. As nourishment, give occasional light dressings of suitable artificial compounds, or regular supplies of diluted farmyard liquid, from the time leaf growth commences until the fruit begins to colour, while the plants in fine weather should be daily syringed, except in their blossoming and fruit ripening periods. Batches of plants to meet demands should be introduced into warm quarters at suitable intervals of time, and in all cases keep the plants well up to the glass upon shelves placed in sunny positions.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

CAULIFLOWERS.—If seed of the early varieties, such as First Crop and Early Forcing, was not sown last month, let it be done at once in boxes filled with sandy soil that has been sifted, and place in a temperature of about 50 deg. Put the seedlings into 2½in. pots when ready. Others could be boxed off, and eventually planted in frames where a gentle heat can be maintained till the heads are fit for cutting. These will be found to fill a great gap, should inclement weather occur to retard late broccoli. Raise in the same manner Magnum Bonum, Defiance, and White Queen for succession.

CUCUMBERS.—Seeds of cucumbers should be sown singly in thumb-pots filled with a light compost and plunged in a hotbed. If this is not available, plunge the pots in an evaporating trough filled with cocoanut fibre refuse or coarse leaf-soil. Be very careful with the water, a moist atmosphere almost sufficing till germination takes place. Put the seedlings in 3½in. pots, and replunge till ready for their final planting on hotbed mounds.

PEAS.—A few boxes should now be sown with seed of an approved variety, to finally plant into a frame where they will produce their crops. Sow broad beans likewise.

FRENCH BEANS.—To maintain a constant supply a fortnightly sowing should be made. At this dull season of the year the best results are obtained by sowing six seeds in 4in. pots. When ready, shift into 7in. or 8in. pots, using for this purpose a compost consisting of equal parts loam, coarse leaf-soil, and spent mushroom-bed, warming the whole thoroughly before using. Keep a warm, moist atmosphere where growing freely, and top-dress weekly. For first crop sow Sutton's Forcing and Ne Plus Ultra, and for later crops Canadian Wonder.

LEEKS.—If specimens are required for early supplies the seed should be sown about the 21st of the present month. In this case sow in 6in. pots, and when the seedlings are ready for pricking off place them in a similar temperature to that advised for onions, and give them a position near the glass.

TOMATOES.—A sowing of seed should now be made of tomatoes. Sow in 6in. pots at this season of the year, and use a compost consisting chiefly of leaf-soil, with a little loam and coarse sand added. Warm the soil previous to sowing, and place the seed pots on a shelf in a warm house quite near the glass. When the seedlings are showing the first true leaf pot off singly, using thumb-pots and more loam to the compost, but keep them in the same temperature. Excess of moisture must be avoided both at the roots and overhead.

POTATOES.—If the sets have been encouraged to form healthy sprouts, lose no time in endeavouring to procure at an early date small dishes, by planting three sets in each 10in. pot, using a friable compost. Always leave enough room for further top-dressings. Place in warm temperature, but aim at a steady growth. Sutton's May Queen and Webb's Express are splendid varieties for this mode of culture.

MUSHROOMS.—Where a good supply of fresh horse manure is obtainable beds should be made at frequent intervals to maintain a regular supply. If the manure is not forthcoming in good quantities small beds should be made more frequent still, as, if the material is not gathered almost at one and the same time for preparation, much of the value of the droppings will be lost.—George Ellwood, Swanmore Park Gardens.

DOUBLE ARABIS.

This useful spring plant (Arabis albida fl. pl., syn. Corbeille d'Argent) has obtained a great vogue during the last few years, and is now regarded as quite indispensable for spring bedding. Whether it is a newly-raised plant or not is perhaps not certainly known, but it is only very recently that it has come to be generally grown, being given an Award of Merit by the Royal Horticultural Society in 1900. I read in a six-year-old catalogue that "this new double form is undoubtedly destined to become one of the most popular border plants," which was truer than many of the catalogue prophecies. It forms one of a trio, the other two members of which are aubrietia and Alyssum saxatile, which look extremely well grown together in a bed by themselves. As a surfacing plant for a bed of hyacinths, for those who like such artificial and formal beds, there is nothing better, no matter what their colour may be.

The double arabis comes into flower rather later than the single form, and lasts much longer, practically throughout April and May, and even later, the flowers being useful for cutting. Like the other rock cresses, of which aubrietia is one, it is better grown in sunshine than in shade, and it matters little how dry it is, or whether the soil is heavy or light, though in a damp soil on the level it is apt to die away and become untidy during the winter.

As it does not produce seed it must be propagated by cuttings, which are best taken about flowering time or soon after, and dibbled in a reserve border to be ready for putting into the flowering positions in the autumn. It spreads very fast, and is best replanted every two years. If allowed to encroach on the iris, the latter will die away in a few months. Alger Petts.

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EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

There was a comparatively small display on Tuesday, January 11, but, as often happens when exhibits are fewer than usual, the interest and quality of the display were high.

FLORAL COMMITTEE.

A beautiful group of plants, finely set up opposite the entrance by Mr. Prime, gardener to the Marquis of Salisbury, Hatfield House, Hatfield, was a great feature of the show. The centre consisted of very fine examples of the brilliant and graceful Euphorbia jacquinæflora, margined with freely-flowered plants of Saintpaulia ionantha, and flanked by groups of the handsome Begonia Gloire de Sceaux, and the useful Gesnera refulgens. Messrs. H. B. May and Sons, Edmonton, brought up a most interesting exhibit of ferns, showing delightful plants of the exquisite filmy ferns Trichomanes scandens, T. radicans, T. alabamense, T. maximus umbrosum, T. auriculatum, Todea superba, T. pellucida, and Hymenophyllum caudiculatum. These proved a great attraction. Various nephrolepis, platyceriums, and other ferns were shown, with a few daphnes and Indian azaleas.

In the large group submitted by Messrs. James Veitch and Sons, Chelsea, the leading features were well-grown flowering plants of perpetual carnations, the fragrant Daphne indica, and freesias, Begonia Patrie, the new Erlangea tomentosa (A.M.), the graceful Moschosma riparium, and the showy blue Tillandsia Lindeni. Some splendid carnation flowers were charmingly set up by Mr. H. Burnett, Guernsey, who had beautiful specimens of Mrs. H. Burnett, Bridesmaid, Rose Dorée, Rose Pink Enchantress, Marmion, Alvina, and Britannia, as well as numerous yellow and other seedlings.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, contributed a wide selection of cyclamens, of various forms and colours, a group of Daphne indica, and a goodly collection of popular varieties of carnations. The graceful and elegant Primula malacoides, freely flowered, was shown by Messrs. Bees, Lim., Liverpool, who staged several dozen plants. Messrs. H. Cannell and Sons, Swanley, showed some large examples of Begonia Socotrana, and a selection of brilliant zonal pelargoniums. Messrs. Barr and Sons sent up some delightful Christmas roses, lachenalias, hyacinths, heaths, and snowdrops.

Perpetual carnations were again finely shown by Messrs. W. Cutbush and Sons, Highgate, their vases of Mr. T. W. Omwake, Rose Dorée, Mrs. H. Burnett, White Perfection, Countess of Onslow, Afterglow, Aurora, Beacon, and Enchantress coming in for a great deal of admiration. The same firm showed Christmas roses, Schizanthus coccinea, the lovely little Iris histrioides major, daphnes, forsythias, and hamamelis. Begonia Patrie was beautifully shown by Mr. A. Young, Oxted Nursery, Oxted, plants in small 60's, and in 48's and 32's, being all smothered with carmine flowers.

ORCHID COMMITTEE.

Mr. Collier, gardener to Sir Jeremiah Colman, Bart. Gatton Park, Reigate exhibited good spikes of Lælia anceps Sanderiana, L. a. Williamsi, L. a. Hilli, and a big plant of Masdevallia Schroderiana. Messrs. Stanley and Co., Southgate, contributed Odontoglossum Duvivierianum and Cypripedium Gisela von Bulow, the latter a handsome flower with splendid dorsal sepal, and effective markings, derived from C. Euryades and C. Beckmani. Mr. E. Rogerson, West Didsbury, Manchester, brought up some choice cypripediums, such as C. Hindeanum, C. Actæus, C. Leeanum Clinkaberryanum, C. Hiawatha, C. Zeus, and C. Helen II. Mr. G. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney Hill, exhibited Odontoglossum Wiganianum Goodson's var., O. Lambeauianum, O. eximium Goodson's var., O. Rolfeæ, and some fine forms of O. crispum.

Messrs. James Veitch and Sons, Chelsea, submitted a very interesting and attractive group of orchids, consisting chiefly of cypripediums and odontoglossums. Among the former we made special note of C. insigne Sanderæ, C. Actæus, C. Euryades, C. Little Gem, C. Actæus Langleyense, C. Elatior, C. Simoni, and numerous fine C. Leeanum and C. Lathamianum varieties. The odontoglossums were crispum varieties. Mr. Edward V. Low, Vale Bridge, Hayward's Heath, showed Lælio cattleya Charlesworthi, some good forms of Cattleya Trianæ, Cypripedium aureum Surprise, C. Minos Youngi, C. Ville de Paris, C. Olivia, C. Euryades splendens, etc.

In the large display put up by Messrs. Charlesworth and Co., Haywards Heath, calanthes, Lælia anceps, and odontoglossums were the leading features, and there were numerous fine spikes of all of them. The dark varieties of L. anceps were especially good. Odontoglossum Phœbe, O. Ossulstoni, and O. crispum varieties were extremely beautiful. The contribution from Messrs. Stuart Low and Co., Bush Hill Park, Enfield, was made very bright by flowering examples of Lælio-cattleya Charlesworthi, Oncidium varicosum, Epidendrum Cooperianum, Odontoglossum Harryano-crispum, Cypripedium Curtmanni magnificum, C. Leeanum giganteum, C. Orion var. Bella, and the handsome Cattleya Percivaliana splendens.

Messrs. Sander and Sons, St. Albans, submitted the new yellow and white Phaius Cooperi (B.C.). Mr. W. H. White, orchid grower to Sir Trevor Lawrence, Bart., Dorking, showed three large spikes of the curious long-tailed Habenaria Ugandæ, and received a cultural commendation for it. Messrs. Cypher and Sons, Cheltenham, brought forward a group of well-grown cypripediums that contained fine flowers of C. Charlesianum Cypher's var., C. Mrs. Mostyn, C. Fascinator, C. Leeanum Clinkaberryanum, C. Mons. de Curte, C. Niobe, etc. Mr. Maurice Mertens brought over a few splendid seedling odontoglossums, and a fine plant of Miltonia Bleueana nobilior. Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, scored with two cypripediums, gaining an A.M. for both C. Bantam and C. Atlas, the latter of large size, and the former finely marked with bright brown. Cypripedium Leeanum His Majesty, from F. Wellesley, Esq., Woking, was a fine flower.

Very beautiful was the white, lemon-lipped Lycaste Skinneri armeniaca (F.C.C.), submitted by Mr. Balmforth, gardener to F. Menteith Ogilvie, Esq., The Shrubbery, Oxford. Messrs. J. and A. McBean, Cooksbridge, showed a few fine cypripediums, and a good example of Odontioda Groganæ. Messrs. Wm. Bull and Sons, Chelsea, showed Cypripedium Hobarti magnificum and Odontoglossum crispum Flora, finely marked.

FRUIT AND VEGETABLE COMMITTEE.

A grand display of apples and pears was made by Messrs. Jas. Veitch and Sons, Chelsea. The fruits were plump and otherwise well preserved, and they were a centre of interest all the day through. The fruits were excellent examples throughout, and represented one hundred and fifty-two varieties. A few of the apples that were specially attractive included Beauty of Stoke, Ribston Pippin, Wadhurst Pippin, Lord Derby, Lady Henniker, Baumann's Red Reinette, Bismarck, Chas. Ross, Newton Wonder, Alfriston, Lane's Prince Albert, Golden Noble, Gascoigne's Seedling, Beauty of Kent, Bramley's Seedling, Tyler's Kernel, Annie Elizabeth, Easter Pippin, and Blenheim Orange. The finest of the pears were Catillac, Bergamotte d'Esperen, Beurre Rance, President Barabé, Marie Benoist, Olivier de Serres, Blickling, and Beurre Alexandre Lucas.

CERTIFICATES AND AWARDS.

First-Class Certificate.—To Lycaste Skinneri armeniaca, from F. Menteith Ogilvie, Esq. (gardener, Mr. Balmforth), The Shrubbery, Oxford.

Award of Merit.—To Erlangea tomentosa, from Messrs. Jas. Veitch and Sons, Chelsea; to Cypripedium Bantam and C. Atlas, both from Lieut.-Colonel Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

MEDALS.

Gold.—To Messrs. Jas. Veitch and Sons, Chelsea, for a large collection of apples and pears.

Silver-Gilt Banksian.—To the Marquis of Salisbury (gardener, Mr. H. Prime), Hatfield, for stove flowering plants; to Messrs. H. B. May and Sons, Edmonton, for filmy ferns, etc.

Silver Flora.—To Messrs. W. Cutbush and Son, Highgate, for carnations, etc.; Messrs. Jas. Veitch and Sons, Chelsea, for greenhouse flowering plants, and also one for orchids; Messrs. Charlesworth and Co., Haywards Heath, for orchids; H. S. Goodson, Esq., (gardener, Mr. Day), Putney, for orchids.

Silver Banksian.—Messrs. Stuart Low and Co., Bush Hill Park, Enfield, for carnations, etc., and also one for orchids; Messrs. J. and A. McBean, Cooksbridge, for orchids; Mr. E. V. Low, Vale Bridge, Haywards Heath, for orchids; Messrs. Jas. Cypher and Sons, Cheltenham, for orchids; Mr. Rogerson, West Didsbury, for orchids.

Bronze Flora.—To Messrs. H. Cannell and Sons, Swanley, for begonias and pelargoniums.

Bournemouth Gardeners' Association.

On Tuesday, January 4, Mr. W. Reeves, Durrant Gardens, Bournemouth, read a very able paper on "The Cultivation of Culinary Peas." After referring to the introduction of the pea to this country, and to its great value as a vegetable in our gardens, Mr. Reeves dealt with the cultivation in such a way as to show how thoroughly he had studied the subject. The pea, he said, required a rich loam of good average depth; deep trenching was advocated to encourage the roots to penetrate freely, and the land should be well drained. The lecturer advocated the sowing of seeds in long boxes, specially constructed where the soil was naturally heavy and retentive; the boxes should be at least 4in. wide and the same in depth, inside measurement, the bottom board being screwed in with well-oiled screws. Having duly prepared the ground and opened shallow drills, the boxes should be placed in them, the screws and bottom board removed, and the young plants left in rows to be earthed-up, and sticks placed to them. Cool peach and similar houses and frames should be used to bring on the young plants in the boxes.

The sowings in the boxes may be made in the autumn or in January. Mr. Reeves referred to a plan he had at one time adopted of raising the young plants in 10in. pots in a cool peach-house; in due time placing the pots in rows in sheltered positions outside and sticking the plants there; but he preferred the long boxes.

Even where the ground was light, said the lecturer, the autumn-raised plants did not fruit many days earlier than those raised from sowings made early in February. Where open-air sowings were entirely depended upon Mr. Reeves then advocated sowings in November, in January and February, in very warm corners in light soils, and successional sowings from the month of March until the middle of June. All maincrop peas, he said, should be grown in the open quarters of the garden, in rows running north and south. Where the soil was retentive the lecturer recommended the sowing of peas in ground that had been previously manured for crops such as those of celery.

In all cases the lecturer advised cultivators to open broad drills for the seeds, and to sow the latter thinly and evenly. As a guard against ravages by mice, the seeds should be first soaked in sweet oil, then coated with red lead, and finally covered with a thin layer of sifted coal ashes before the soil was put on.

A very animated discussion followed the reading of the paper, practically every member present taking part in it, showing how generally interesting the subject was to them. Many questions were asked, and readily answered by Mr. Reeves, who gave some interesting details of experiments that he had made with different varieties to ascertain their earliness and productiveness. A hearty vote of thanks to Mr. Reeves and to Mr. Taylor, who ably presided, brought a most pleasant new year's meeting to a close.

Preston Gardening Society.

The annual meeting of this society was held, under the presidency of Mr. H. Phelips Batten. A letter was read from the President, regretting his inability to be present, and congratulating the members on the success, financially and otherwise, of the society. The President also expressed his pleasure at the increased membership, and the increasing interest taken in the lectures and competitions. The Hon. Secretary (Mr. W. Hobby) then presented his report and balance-sheet, which were of a very encouraging character. There were forty-five members on the books and a good balance in hand. Seven new members joined at the meeting. In moving the adoption of the report, Mr. Warry spoke in eulogistic terms of the work of Mr. Hobby and of his interest in the society, as evidenced by his coming in from Brympton to attend the meetings. Mr. Hobby, in reply, expressed his gratification at the growth of the society, and urged the members to do their best to make the society even more successful next year. The officers were then all re-elected. The prizes, in points, for the year were awarded as follows: E. Brake, 24; H. Brake, 20; G. Irwin, 18; Mrs. Hawkins, 14; J. Hawker, 11; M. Brake, 10; Mrs. Grist, 10; Mrs. Corpe, 9; Mr. Warry, 6; G. Pippard, 5; and others. Special prizes, given by Miss Griffiths, of Yeovil, were won by Messrs. E. Brake, H. Brake, and G. Irwin. There were no competitions, but Mr. Hobby set up a first-rate group of plants, composed of primulas, cyclamen, Roman hyacinths, and maidenhair fern, which attracted much attention.

Croydon Gardeners' Association.

The following is an abstract of the report presented to the annual meeting of this society: The committee, in submitting this report of the past year's work, desire to return thanks to the members and friends who have done so much to promote the objects and aims of the society. Success has attended our efforts in the distribution of knowledge of the various subjects lectured upon at our meetings, and the sincerest thanks of all are due to the lecturers and readers of papers. Another pleasing feature at the meetings has been the display of exhibits which members and friends have brought. The annual dinner, which is an event always looked forward to, was held at the Greyhound Hotel on February 10. The company attending numbered eighty-five. The president, Mr. J. J. Reid, was in the chair, and was well supported by the vice-presidents. Mr. E. H. Jenkins very ably assisted in the duties of vice-chairman. The spring flower show was held at the Horniman Hall (Y.M.C.A.), North End, Croydon, on May 6, and was highly attractive to the big crowd of visitors who came to view it. The sincerest thanks are due to the exhibitors, who, without any monetary benefits offered them, came forward in such a generous manner to give the public a treat in spring flowers. The annual summer outing took place on August 11. Gunnersbury House and Park, the seat of Mr. Leopold de Rothschild, were opened for inspection, and about thirty-five members and friends attended this gathering. The excellent culture carried on at these well-known gardens was keenly noted and appreciated. Following a good luncheon at Kew, a visit was paid to the Royal Gardens, Kew, and the remainder of the day was well spent there. The usual evening visits in June and July were well attended, and thanks are due to the owners of the two establishments, Mr. Panto Ralli, Ashtead Park, and Sir Everard Hambro, K.C.V.O., Hayes Place, for allowing us to inspect their gardens. Those members who attended were highly delighted with the methods of culture found in the gardens, and the respective head gardeners, Messrs. Hunt and Grandfield, were heartily congratulated on their success. These visits are a means of education to the members, especially the younger men. In October last this society competed with other affiliated societies in a class for collection of fruit offered by the Royal Horticultural Society. The first attempt was not good enough to secure the silver cup. It was, however, gratifying to know that members are fully alive to the aims of the society in promoting horticulture generally. That excellent institution, the Gardeners' Orphan Fund, benefits to the extent of £1 10s., collected at the meetings during the past year, and this has been forwarded to the secretary.

National Vegetable Society.

There was a meeting of this society on the 11th inst., when the Schedule Sub-Committee appointed by the General Committee presented the rough draft of the schedule of the prizes for the show on September 28, nearly £200 being offered in prizes. The chairman reported that Lord Howard de Walden had kindly promised seven guineas as the second prize in the class for twelve dishes of vegetables, distinct, the president, the Duke of Portland, K.G., giving the first prize. The National Vegetable Society gives twenty substantial prizes for single-dish classes, and there are valuable open classes, with liberal special prizes. Lord Northcliffe, through Mr. Foster, has promised most interesting and valuable prizes for small holders in several classes, ranging from twenty to two acres. The secretary hopes to have the schedule ready in a very short time, and a large number are to be issued. The treasurer reported several additional subscribers and vice-presidents, and invites those interested in vegetables to become members of the society.

Bristol Gardeners' Association.

A meeting of this society was held on December 30, 1909, at St. John's Parish Rooms, and presided over by Mr. W. E. Budgett. A departure was made from the usual routine, the meeting being given up entirely to the young members. Through the kindness of Mr. Budgett prizes had been offered for the best essays upon gardening, and there was a good response from the young men. Five entered, and prepared really excellent papers upon various subjects. Mr. Whiting dealt with "Pleasures and Grievances of Under-gardeners"; Mr. Extence, "Winter Flowering Carnations"; Mr. House, jun., "Insect Pests"; Mr. Webber, "The Origin and Culture of the Cucumber"; and Mr. Newman, "The Chrysanthemum." The three first-named were awarded the prizes in the order given. There was general and pleasurable surprise as to the way in which the papers were prepared and delivered, and the society have every cause for congratulation on the ready response the young members have made. Some societies appear to have a difficulty in keeping the young men interested in the meetings, but there is no such difficulty at Bristol. A goodly number regularly attend, and receive every encouragement by being given something to do; holding competitions for spray bouquets, floral designs, etc., also finding a place for two or three on the committee, one holding the office of librarian, one as registrar. For three flowering plants Mr. Shelton won among several exhibitors, Mr. Gostling had three points and Mr. Curtis one for orchids.

Cardiff Gardeners' Association.

The recent fortnightly meeting of the above association was held at the Sandringham Hotel, Mr. Mark Toy presiding. A vote of condolence was passed to the chairman of the association, Mr. J. Mountney, on the death of his father.

Mr. Horne, gardener to Major-General Lee, The Mount, Dinas Powis, gave a most instructive lecture on "The Cultivation of Winter-flowering Begonias," dealing in a most practical manner with the propagation and after treatment of these most popular plants, advocating propagation by leaves as giving the best results. He dealt with the B. Gloire de Lorraine group, and with the hybrid sections principally.

The debate, which was opened by Mr. Cossom, was taken up in a most enthusiastic manner by the members, especially in the direction of the cause and prevention of "rust." Mr. Horne answered the various questions put to him, and the chairman, in closing the meeting, announced that Mr. J. Julian would give the next lecture, on "Lifting and Transplanting Trees and Shrubs."

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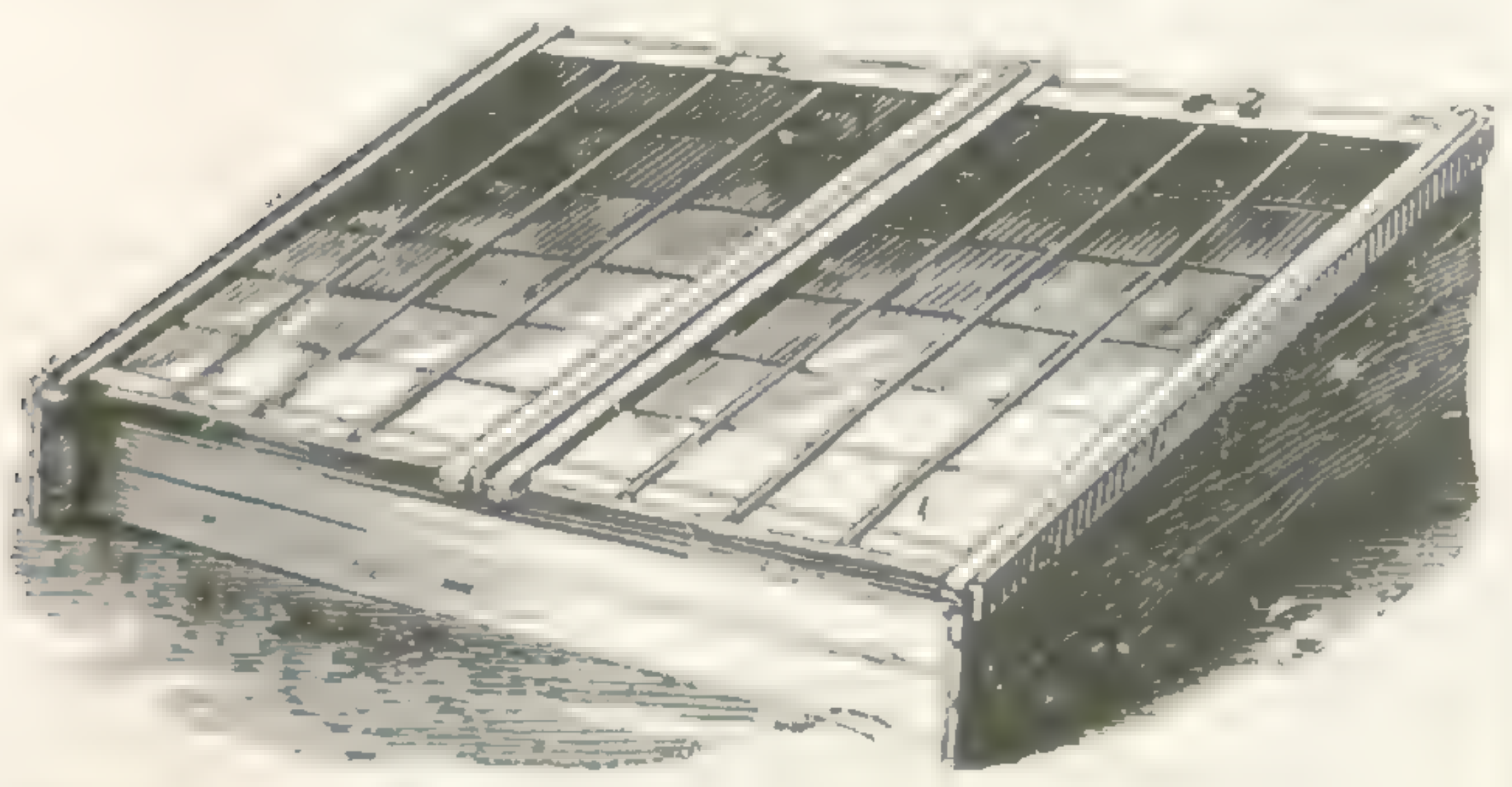

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Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

VALLOTA PURPUREA.—Amateur: The plants should for the present remain undisturbed, and be kept quite dry at the roots. A position in a greenhouse from which the frost is excluded is the best that could be given the plants.

PHLEBODIUM AUREUM.—W. H. P.: This handsome fern will grow vigorously in a compost consisting of fibrous loam and peat three parts each, and leaf-mould and coarse sand one part each. The peat and loam should be used in a rather rough state, and the finer particles that are shaken out in the process of breaking up should be put on one side to use for some other purpose. The pots should be efficiently drained.

SPECIMEN IXORAS.—T. Smith, Wilts: Specimen ixoras of large size which were popular a quarter of a century or so ago, are no longer appreciated, and it will probably be advisable to replace those in the collection of which you have recently taken charge by bushy plants of smaller size. As they have become leggy, and are in other respects unsatisfactory, we suggest you ask your employer whether he has any objection to their being replaced. If he has none, keep the old specimens for a few weeks longer, then take cuttings from them, and when it is seen that these are rooting, throw the specimen plants away.

KILLING HARES AND RABBITS.—M. B., Gloucester: It is very vexatious to have crops destroyed by hares and rabbits as in your case, but you must not resort to poison as a means of ridding your garden of them. If you do so you may incur the risk of being prosecuted under the Ground Game Act, 1880; or, what is more important, of causing injury to the health of some person who may find the dead animal and use it for food. Section 6 of the Act provides that no person having a right of killing ground game under the Act or otherwise shall use any firearms for the purpose of killing ground game between the expiration of the first hour after sunset and the commencement of the last hour before sunrise; and that no such person shall, for the purpose of killing ground game, employ spring traps except in rabbit holes, or employ poison; and any person acting in contravention of this section is, on summary conviction, liable to a penalty not exceeding two pounds. It will be seen that the Act expressly prohibits the setting of spring traps in the open for the purpose of taking hares and rabbits. If a spring trap is employed at all it must be set actually in the rabbit hole, and it has been held in a Scotch case that "rabbit-hole" does not include the run at the mouth of the hole, but is confined to "that part of the ground which is inside the ground and covered by the roof."

WALLS VERSUS GLASS.—B. M., Lancashire: We are certainly not in agreement with those who regard the production of good crops of peaches and nectarines on open walls as practically impossible. On the contrary, we have stated in these pages more than once that, provided the climatic and soil conditions are favourable, excellent crops of these fruits can be obtained from trees trained to open walls. The trees require equally as much care as those grown under glass. It is possible that the conditions which obtain in your district will not be sufficiently favourable to enable you to achieve success, and we advise you to have a look round some of the best gardens and see what is being done in them. The case in favour of glass culture may be thus stated: Owing to the changeability of the British climate, more especially during the early spring months, the cultivation of choice fruits against open walls is attended with considerable risk, and the cultivator has to be prepared for the unpleasant experience of seeing the whole of the prospects of a crop destroyed by a single night's frost, or a spell of cold and otherwise unfavourable weather at a critical period. It occasionally happens that, stimulated by a period of warm, genial weather, the trees come into bloom early, and then as soon as the flowers are fully developed there is a change to colder conditions—it may be a heavy rain followed by a sharp frost—and the flowers are destroyed. In other years the flowers pass through their several stages, and later on the greater proportion, if not all, of the young fruits are destroyed. The destruction of the crop is frequently followed by blistered leaves and browned shoots, which are sure indications of injury to the trees. In the northern counties, and in districts in which the rainfall is heavy, peaches and nectarines cannot be successfully cultivated in the open, as the wood fails to ripen, and therefore, to have these luscious fruits in perfection, the aid of glass is essential.

PLANTING FRUIT TREES.—F. W. S. G., Essex: We quite agree with you that a practice which has been found to give good results should not be changed until it has been conclusively proved that another is decidedly better. At the same time, the observant cultivator, while following the course of procedure by which he has achieved his greatest success, will carefully examine every deviation therefrom that is advised by those whose position is such as to command respect.

TEA-SCENTED ROSES FOR THE GARDEN.—W. F. K.: Tea-scented roses will thrive in light and heavy soils provided the drainage is efficient. They are not so suitable for low-lying cold soils as some of the other sections, for on soils of this description they fail to ripen their wood, and unripened growth of roses quickly succumbs to severe frosts during the winter. The shoots of dwarf plants can be readily protected from severe frosts by drawing the soil in sufficient quantity about them to bury from six to eight inches of the lower part, this being done in much the same way as celery is earthed up. To protect standards insert a rod firmly in the soil, and of sufficient length to stand eight or nine inches above the tops of the shoots. Draw the latter about this and cover them with a handful of straw, or a few fronds of bracken to be fastened to the stake at the top and just under the heads. Those of moderate growth should be pruned to the second or third prominent bud from the base, but the varieties with sufficient vigour to be used for pillars and walls should have the shoots that flowered in the previous year cut away at the winter pruning and the young rods be laid in to take their place, the soft portion only being taken off.

CHRISTMAS ROSES.—R. B. S., Essex: You are under some misapprehension with regard to the relative earliness of the flowering of Helleborus niger and its large-flowered variety. You might not have clearly understood what you were told by your friend who, you say, grows both in considerable quantities. The specific form commences to bloom about Christmas, and continues to yield of its flowers well into January. H. niger maximus, on the other hand, commences to bloom about the middle of December, and continues in bloom for some time. We suggest you should not limit yourself to one of the forms, but grow both in equal quantities, for if the flowers of the type are small in comparison with its large-flowered variety, they are quite large enough for decorative purposes, and are of much value for providing a succession. In growing the Christmas roses, as in your case, for the supply of flowers for decorative purposes in a cut state, the shelter of glass throughout the period of flowering will be necessary to protect them from frosts, and maintain such temperature as will ensure the expansion of the flowers in severe weather. It is an excellent plan to grow them in a bed just large enough to receive in the autumn the frame for sheltering them, and if the position is such that they will be screened from the sun during the hottest part of the summer days, it will be an advantage. The plants are sometimes grown in beds and lifted in the autumn and put in frames, but unless they are lifted with large balls of soil and packed in the frames without these being broken, many of the buds will not open so kindly as could be wished. Very good results can be obtained from pot culture. The plants should be grown in comparatively large pots, and be plunged in a bed of ashes that has been made up in a rather shady position. When coming into bloom they can be taken to a pit or frame, or be placed in the greenhouse. A temperature of about 55 degrees may be maintained if it is desired to accelerate the development of the flowers, but they should not be forced in a strong heat. It remains to be said that a deep, friable loam is the best suited to the requirements of these hellebores, and if the position is an open one the bed should be mulched in spring.

EARLY CHRYSANTHEMUMS.—H. S., Chelsfield: Good early-flowering chrysanthemums of terra-cotta shade are Cactus, Comtesse Foucher de Cariel, and Jack. Good pink varieties are plentiful, but the range of pink colouring is a wide one; the following are all good: Dora Blick, Francois Vuillermet, Goacher's Pink, Kitty, Mabel Roberts, Perle Rose, and Pink Bedder.

OUTDOOR TOMATOES.—B. R. W., Sussex: If you require a continuous supply of tomatoes extending over a considerable period, a glass structure, in which the plants can enjoy full exposure to the sun, and a free circulation of air, is essential. If you simply require a supply of fruit late in the season, an outdoor crop will meet your requirements. There is some uncertainty as to the results, because the tomato plant requires a high temperature and rather dry atmospheric conditions. In cool, wet seasons the growth is so slow that but few of the fruits ripen. Much, of course, depends upon the district, and as you reside in one of the southern counties you should in the majority of years obtain a good return. The following, briefly stated, is the best course of procedure: One of the chief points in the outdoor culture of tomatoes is to have plants well established in five-inch pots, bearing a truss of fruit when bedded out at the end of May. To obtain plants of this description sow the seed in March, pot off as soon as large enough into three-inch pots, and when these are well filled with roots shift into others five inches in diameter. Plant about two feet apart, against walls or in lines in the open, the lines to be three feet apart, and the plants to be eighteen inches apart in the rows. In either case train to a single stem, stop when three or four feet high, and regularly remove the laterals by pinching them off when two or three inches long.

Proposed Amalgamation of Edinburgh Horticultural Societies.—At a well-attended meeting of the joint councils of the Royal Caledonian Horticultural Society and the Scottish Horticultural Association on the 7th inst., with Mr. J. W. McHattie in the chair, the position of the two societies was fully discussed. On the motion of Mr. W. H. Massie, it was unanimously resolved to report to the annual business meetings of the two societies that at a joint meeting of the councils held on January 7, it was agreed to recommend to the members that in the interests of Scottish horticulture, it is highly desirable that negotiations be entered into with a view to their amalgamation.

OBITUARY.

◆

MR. ROBERT SMITH.

With much regret we have to record the death of Mr. Robert Smith, which occurred at Brickendonbury, Hertford, on the 10th inst., after a short illness, in his seventy-second year. In the Gardeners' Magazine of November 13, 1909, we had the pleasure of giving a portrait of Mr. Smith, accompanied by a sketch of his horticultural activities during his long and strenuous life. It is not necessary to recapitulate what has been so recently written with reference to this singularly able gardener and estimable man, but we would mention that he attributed much of his success in life to unremitting endeavour, and to taking full advantage of such opportunities as may arise for the acquisition of knowledge and advancement in life. Mr. Smith was an all-round gardener in every sense of the word, but he specially distinguished himself in the cultivation of hardy fruits, and both at Presdales, Ware, now the residence of A. G. Sandeman, Esq., and at Brickendonbury, the residence of E. E. Pearson, Esq., he proved to demonstration that the gardens had possibilities in fruit production of a high order. As evidence of his success, the silver cup offered by the Hertford Horticultural Society, for hardy fruit grown in the county, was awarded to him four times in eight years, notwithstanding the fact that two years ago Mr. Smith was seriously ill for a considerable period. Mr. Smith was of a modest and retiring disposition, and was highly esteemed, both by his employer and those who served under him.

MR. ROBERT TODD.

We regret to record the death of Mr. Robert Todd, which took place suddenly on the 2nd inst., at his residence, Shooter's Hill Gardens, Eltham, Kent, in his sixty-seventh year. Mr. Todd had only settled at Eltham a few months ago, on retiring from Woolton Wood after the death of his late employer, Holbrook Gaskell, Esq., J.P. Mr. Todd received his training at Dalkeith Gardens as journeyman, thence he went to Alnwick Castle as fruit foreman, a position he held for six years. This led to his appointment as head gardener to A. B. Stewert, Esq., of Rawcliffe, Largside, Glasgow, and Avoig Hall, Bute, where he was thirteen years. Whilst at Rawcliffe Mr. Todd proved his abilities, being a foremost exhibitor at the leading exhibitions at Glasgow, Edinburgh, Dundee, Carlisle, etc., principally with plants, filmy and exotic ferns, and fruit. On the death of his employer he was appointed superintendent of grounds of the 1886 Edinburgh Exhibition. His next step was to take charge of the Woolton Wood Gardens in 1887, which, at that period, held one of the most important collections of orchids in the North. Mr. Todd was one of the promoters of the Woolton Gardeners' Mutual Improvement Society, and was a consistent worker for twenty-one years. He was also a warm supporter of the Gardeners' Royal Benevolent Institution, serving on the committee of the Liverpool Auxiliary from its infancy, and was ever willing to assist in the advancement of gardeners and gardening. Mr. Todd leaves a widow, two sons, and two daughters.

FORTHCOMING ENGAGEMENTS.

THURSDAY, January 20.—Gardeners' Royal Benevolent Institution; Annual Meeting, Election, and Supper; Simpson's, Strand.

TUESDAY, January 25.—Royal Horticultural Society: Committees meet at 12 o'clock; Lecture at 3 p.m. on "Intensive Cultivation of Vegetables in Madeira," by Miss Armitage; Scientific Committee at 4 o'clock.

The Harry Veitch Portrait will be on view at the Royal Horticultural Hall, and a dinner to Mr. and Mrs. Harry Veitch will be given in the evening.

SATURDAY, January 29.—French Horticultural Society of London; Twenty-first Anniversary Dinner at the Café Royal, Regent Street, under the presidency of Mons. Philippe de Vilmorin.

ROSES IN THE OPEN AIR AT CHRISTMAS.

At Christmas, and even on New Year's Eve, there were some lovely blooms of the variety Mrs. W. J. Grant growing on a pillar-trained plant in my garden. The buds were subjected to about 12 degrees of frost a fortnight ago, but they were apparently not seriously damaged. They have not been protected in any way. The petals of this lovely rose always seem more delicate than those of very many other varieties, and I am much surprised to see these now open so pure, sound, and rich in colour.

I first put out the plant in a greenhouse, but as it interfered with some of the other occupants, I removed it to a pillar in the open border. Throughout the past summer and autumn many buds have formed and developed well, but I did not expect to be able to gather fine flowers on the last day of the old year.

G. B.

NEW PLANTS, ETC.

◆

BULBOPHYLLUM CAMPANULATUM.

An elegant little orchid that belongs to the Cirrhopetalum group. It comes from Sumatra. The whole plant is less than six inches high. The flowers are rosy-purple, borne in a little umbel depending from the curved apex of the scape. Bot. Mag., t. 8282.

CISSUS ADENOPODUS.

This climber hails from Uganda, bears its panicles of tiny flowers in the autumn, and ripens its round black fruits in spring, under glass. Its trifoliate leaves are green above and bright red beneath, both surfaces, as well as the footstalk and stems, being hairy. Bot. Mag., t. 8278.

Hamamelis mollis. — A distinct and beautiful winter-flowering shrub is found in the comparatively new Witch Hazel (Hamamelis mollis), this genera being already represented in gardens by the well-known H. virginica and H. arborea. The species under notice has broad rugose leaves which are densely clothed with fine hairs, the stems of the young branches having also a grey covering of fine downy hairs. The flowers are yellow, formed of narrow strap-like petals, which are curiously twisted, whilst the calyx lobes are coloured chocolate. It flowers in the open from the end of January onwards, and the blossoms remain in good condition right into April, the rigours of winter having no baneful effect upon them. Specimens of Hamamelis mollis flower in a very small state, and while progress at first is rather slow, yet in a few years it attains a size in which the specimen gains in interest and charm, so that when in full flower it is a most conspicuous object in the shrubbery.—Thomas Smith.

The Cornel Tree (Cornus Mas) is a common plant in many shrubberies, but how rarely do we find it receive full recognition as a spring-flowering subject. Already the leafless branches are thronged with tiny knob-like swellings that in a few months will burst into golden flowers. When well grown and suitably placed, a well-flowered specimen readily attracts attention. It succeeds in indifferent soil, provided it receives a fair amount of sunshine in order to mature the wood. Pruning should be carried out as soon as the flowers fade, and is particularly beneficial while the plants are young, as while imparting greater strength to the main stems, it also secures greater compactness with the branches, consequently a specimen gains in effectiveness when in flower. The Cornel Tree produces its flower in advance of the leaves—from February to April, according to the season—so that where it can be planted in front of some evergreen, the latter will act as a background, against which the yellow flowers will appear in strong relief. —Thomas Smith.

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MARKETS.

◆

COVENT GARDEN.

Flowers.

Flowers of high quality are plentiful and with a good demand and prices are well maintained.

		s.	d.		s.	d.
Acacia	per bunch	0	9	to	1	0
Adiantum cuneatum	per doz. bun.	6	0		8	0
Arums	per doz.	5	0		7	6
Asparagus	per bun.	1	0		1	6
Azalea, Ghent	per bunch	1	0		1	6
Bouvardias	per bunch	4	0		6	0
Camellias	per doz.	1	6		2	6
Carnations	per doz. blms.	1	0		4	0
,,	per doz. bun.	9	0		12	6
,, Malmaisons	per doz.	6	0		9	0
Cattleyas	per doz.	12	0		14	0
Croton leaves	per bun.	1	0		2	6
Cypripediums	per doz. blms.	2	0		3	6
Daffodils	per bun.	1	0		1	6
Eucharis	per doz.	3	0		4	0
French fern	per doz. bun.	0	6		0	9
Gardenias	per doz.	2	6		3	6
Lapagerias	per doz.	2	0		3	0
Lilac, French	per bun.	4	0		5	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		3	6
,, longiflorum	per bun.	4	0		8	0
Lily of the Valley	per doz.	8	0		10	0
Marguerites, white	per doz. bun.	3	0		4	0
Mignonette	per doz. bun.	2	0		3	0
Narcissus, Paper White	per doz. bun.	3	0		4	0
Odontoglossums	per doz. blms.	2	0		2	6
Pelargoniums	per doz. bun.	4	0		8	0
Roman Hyacinths	per doz. bun.	7	6		10	6
Roses	per doz.	1	6		7	0
Smilax	per doz trails	5	0		8	0
Tuberoses	per doz. blooms	0	3		0	4
Violets	per doz. bun.	2	0		3	0

Fruits.

Apples are plentiful and maintain their prices; but grapes meet with a rather slow sale. Pine apples still continue cheap.

		s.	d.		s.	d.
Apples, English	per bush.	3	6	to	9	0
,, Californian	per case	8	0		12	0
,, Cox's Orange	per ½-sieve	9	0		12	6
,, American	per barrel	12	0		18	0
,, Canadian	per barrel	12	6		22	0
,, Nova Scotian	per barrel	12	6		15	0
Bananas	per bun.	4	0		10	0
Brazil Nuts	per cwt.	33	0		40	0
Cobnuts	per 12lb.	4	6		6	0
Chestnuts	per bag	7	0		10	6
Grapes, English	per lb.	0	8		4	0
,, Guernsey	per lb.	0	6		1	0
,, Almeria	per barrel	12	0		22	0
Lemons	per case	8	0		23	0
Melons, Valencia	per case	4	6		6	0
Oranges, Jamaica	per case	9	0		12	0
,, Jaffa	per case	7	6		10	6
,, Navels	per case	10	0		12	6
,, Denia	per case	10	6		22	0
,, Tangerines	per box	0	7		1	6
Pears, French	per crate	7	6		10	6
,, Californian	per case	8	0		15	0
Pineapples	each	1	6		4	0
Walnuts	per 12lbs.	2	0		3	0

Vegetables.

Vegetables continue about equal to the demand.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	6
Asparagus	per bun.	3	0		7	6
Beet	per bush.	1	6		2	6
Brussels sprouts	per bush.	1	6		2	0
Cabbage	per tally	3	0		5	0
Carrots	per doz. bun.	2	0		3	0
Cauliflowers	per tally	4	0		7	0
Celery	per doz. rolls	5	0		9	0
Celeriac	per doz.	1	6		2	0
Chicory	per 12lb.	3	0		3	6
Coleworts	per tally	2	0		4	0
Cucumbers	per doz.	5	0		8	0
Endive	per doz.	1	3		1	9
Horseradish	per doz. bun.	10	0		12	6
Leeks	per doz. bun.	1	6		2	0
Lettuce	per doz.	0	9		1	6
Mushrooms	per doz. lb.	6	0		12	0
Mustard and Cress	per doz. pun.	1	3		1	6
Onions	per cwt.	4	6		6	0
Parsley	per doz. bun.	2	0		2	6
Parsnips	per bag	2	0		3	0
Radishes, French	per doz. bun.	1	3		1	6
Seakale	per doz. pun.	12	0		15	0
Spinach	per ½-sieve	2	6		3	0
Tomatoes, English	per doz. lb.	4	6		6	6
,, Canary	per case	10	0		14	0
,, Guernsey	per doz. lb.	2	6		4	0
Turnips	per doz. bun.	3	0		3	6
Watercress	per flat	4	0		6	6

LONDON POTATO MARKETS.

The supplies are fairly good and move off slowly.

		s.	d.		s.	d.
Bedfords	per ton	60	0	to	65	0
Blacklands	per ton	50	0		55	0
Dunbars	per ton	85	0		95	0
Essex Kidneys	per ton	55	0		65	0
Evergood	per ton	55	0		60	0
Kents	per ton	60	0		65	0
Lincolns	per ton	55	0		65	0
Presidents	per ton	60	0		65	0
Up-to-Date	per ton	65	0		75	0

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1910. JANUARY 2 TO JANUARY 8.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Jan. 2—Sunday	1 42	49	43	57	36
,, 3—Monday	0 6	48	46	49	48
,, 4—Tuesday	—	43	43	45	42
,, 5—Wednesday	—	41	41	42	40
,, 6—Thursday	—	37	36	41	37
,, 7—Friday	—	39	38	42	37
,, 8—Saturday	—	41	40	49	38
Means	(total) 1 48	43	41	46	39

DATE. 1910. JANUARY 2 TO JANUARY 8.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Jan. 2—Sunday	—	42	42	44	42
,, 3—Monday	—	44	44	44	46
,, 4—Tuesday	0.01	43	44	44	33
,, 5—Wednesday	—	43	44	44	40
,, 6—Thursday	—	43	44	44	37
,, 7—Friday	—	42	44	44	38
,, 8—Saturday	0.02	42	43	44	37
Means	(total) 0.03	43	43	44	39

In consequence of a new order from the Meteorological Office, the thermometer on the grass is now set at sunset, instead of at 9 a.m., as before (this accounts for the higher reading on the grass).

Saxifraga Burseriana. — Few hardy plants are invested with so great beauty and interest as that surrounding this little alpine subject. Throughout the greater part of the year it calls for no particular notice, the evergreen, close set, juniper-like stems form a mat only an inch or two above ground level. In February the scarlet-coloured buds appear, and soon the stems begin to elongate, and in March these commonplace tufts bristle with great white blossoms as chaste and pure as the snow which often enshrines these precocious gems. It is a species that succeeds in rich limestone soil, preferably in a well-drained position, and flowering best when fully exposed to sun. It increases with wonderful rapidity, considering the diminutive habit of the plant. One can scarcely overplant Saxifraga Burseriana, and every rock garden will gain in character and interest where this species and its varieties are liberally represented.—THOMAS SMITH.

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,, Column	3	0	0
,, Page	9	0	0

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F. WESTRON, Rhinefield Gardens, Brockenhurst, will be pleased to recommend R. MIDDLETON, age 28, as GARDENER Head of two or three; 12 years' experience Inside and Out in good places; married when suited; three years' reference from present place.

GARDENER (Head).—Advertiser seeks RE-ENGAGEMENT in first-class establishment, where several are employed; life experience, and thoroughly practical in all branches; five years as head in last situation; can be strongly recommended. Apply DUNKLEY, The Gardens, Mill House, Bourne End, Bucks.

GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

SITUATION as GARDENER (Head, where two or more are kept); married; age 40; one son out; 7½ years' good character; leaving through no fault. F. PALMER, Victoria Lodge, Chapel Road, Hythe, Southampton.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

GARDENER (Head Working); age 33; married. H. MARKHAM, gardener to Viscount Enfield, Wrotham Park, Barnet, strongly recommends a gardener of good practical experience in choice fruits, plants, and the general requirements of a good place; strong and energetic.

GARDENER (Head Working).—Thorough practical experience in all branches of the profession, Inside and Outside; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working); life experience in Early and Late Forcing of Fruit, Flowers, and Vegetables; Certificate from R.H.S. Examination in Horticulture; age 40; nearly six years' excellent reference; 10 years' previous. H. CRAWLEY, 3, Fair View, Seaford Road, Wokingham, Berks.

GARDENER (Head Working); life experience in all branches; 10 years last place, 6 as head; highly recommended; age 30; married when suited. H. J. KING, 1, Pretoria Cottages, West Lane, South Hayling, Hants.

GARDENER (Head Working), age 30, practical man all branches, seeks SITUATION as above; highest references as to character and abilities. J. HEARN, Grendon Underwood, Aylesbury, Bucks.

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GARDENER seeks SITUATION; Single-handed or with help; good experience, good references, age 28; single. E. CHANDLER, 38, Newgate Road, St. Leonards-on-Sea, Sussex.

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VOL. LIII.—No. 2,934. SATURDAY, JANUARY 22, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Water in Soil.

Of the several factors that have a distinct bearing on the growth of plants water is unquestionably one of the most important. By means of its solvent power it is the medium through which the solid substances are conveyed to the leaves to undergo the necessary changes and be then carried to the different parts of the plants to be utilised in the formation of tissue, or to be stored up in seed, stem, tuber, or bulb for future use. Recognising the importance of water in the economy of the plant, Professor Gamble, of the Ontario Agricultural College, carried out a series of investigations for the purpose of studying the action and movements of water in the soil, and his report on them is of considerable practical importance. He points out that the water, with its dissolved plant food, is absorbed from the soil by the roots of the plant, and is then carried by the upward flow of the sap to the leaves. When it reaches them some of the water, and all the salts, are retained for various purposes in the economy of the plant. Much more water reaches the leaves than is required for nutritive purposes, the excess being necessary for the conveyance of the plant food from the soil; and when this has been accomplished the excess is given off by the process known as transpiration. Under ordinary conditions plants part with large quantities of water by transpiration, and, in Professor Gamble's opinion, before it is possible to properly understand the importance of the moisture which reaches our gardens and fields by natural agencies, it is necessary to clearly understand what relation this amount holds to the amount that is actually required for the production of good crops of different kinds. Investigations have been made with a view to ascertain how much water is required to produce one pound of dry matter in some of the leading crops. From the table given by Professor Gamble in summarising the results obtained by Professor King, we learn that in the case of barley 505.7 pounds of water were required for the production of one pound of dry matter, and that this quantity of water was 2.8 times the season's rainfall. We also learn that the yield obtained under experimental culture was 2.6 times the yield in the field. Much less water was required in the case of clover and oats, but it was considerably in excess of the season's rainfall, and the experimental crop was about double that obtained under ordinary cultivation in the field. In stating the results obtained it is hardly necessary, we should point out, that while liberal supplies of water in well drained soils is an important factor in crop production, whether it be in garden or on the farm, the fertility of soils does not wholly depend thereon. Climatic conditions, the system of manuring, and the method of tillage have an important bearing on the growth of the plants; but it is suggested, were the water supply under greater control than is usually the case, the crops would be materially increased. Professor Gamble conducted a series of experiments for ascertaining the relative amount of water which soils of different kinds are capable of holding, and also to learn what effect the fineness of the particles had upon the absorptive power of soils. The results show that the extent to which soils are capable of absorbing and retaining moisture varies considerably. This is exactly what might have been expected, and it is not surprising to learn that the water-holding capacity of a soil increases with the fineness of its particles. This fact is regarded as having an important bearing upon the season of the year in which clay soils are broken up, and the results are considered by Professor Gamble to emphasise the necessity of cultivating them in the autumn or early in the winter to expose the soil brought up from below the surface to atmospheric agencies, and the disintegrating action of frost. This is in accordance with the views that have long been held in this country, but within recent years there has been a tendency to recommend the spring season as that in which clay soils should be broken up. The cultivator has, of course, not only to consider the quantity of moisture contained in a soil, but he must take into account the conditions most favourable to seed germination, and to the rapid development of the root system. We need hardly say that a soil which has been thoroughly pulverised by the weather is more conducive to the growth of the plant during its earlier stages than are those in a more or less rough state. Not less interesting was the experiment conducted to determine the rate at which water rises by capillary attraction in different soils. In this experiment the soil was steam dried, and passed through a fine sieve, and put in glass tubes three feet long and three-quarters of an inch in diameter. The experiment extended over three months, and in the result the water in the tube containing sand reached the surface in three days while the height of the water in the tube containing clay was 28¾ inches at the end of three months, while in the case of the two tubes containing loam the height of the water was 32½ inches and 33 2-3 inches respectively at the end of the same period. These figures are of interest as showing that when a soil has become very dry, it

MR. N. N. SHERWOOD, V.M.H.,
President of the National Sweet Pea Society.

lifts water very slowly, a point of some interest, as evidence of the value of a layer of loose dry soil on the surface in checking the loss of water by evaporation. As so well known to the observant cultivator, the loss of water by surface evaporation from the soil is large during the earlier portion of the season of growth, and especially when the ground is left undisturbed for any length of time. Investigations were conducted by Professor Gamble to ascertain the exact loss from stirred and unstirred soil, and the result showed that the percentages in the case of three stirred soils were 21.4, 21.95, and 17.84 during fourteen days, and in the case of the unstirred soils they were 27.2, 27.37, and 27.71. These figures fully confirm the views of those who regard surface stirring as an important aid in conserving the moisture in soils, and the results generally bring into strong relief the necessity of thorough cultivation in crop production.

Mr. N. N. Sherwood, V.M.H.—It gives us special pleasure to present to our readers the portrait of Mr. N. N. Sherwood, head of the great wholesale seed firm of Messrs. Hurst and Son. Entering the firm as a quite young man, Mr. Sherwood applied himself so diligently to business that he rose rapidly from the ranks, eventually becoming manager, partner, and proprietor. Mr. Sherwood has never shirked the responsibilities of life, and this, joined to his business ability, unfailing good humour and broad charity, has placed him in an unique position in the world of horticulture. He was one of the first sixty horticulturists to receive the Victoria Medal of Honour in Horticulture; he has been Master of the Worshipful Company of Gardeners; he has provided horticultural scholarships; he was treasurer of the Royal Gardeners' Orphan Fund until quite recently, and has been succeeded in that office by his son, Mr. Edward Sherwood; he has been president of the Nursery and Seed Trades' Association, and, until this year, has been treasurer of the National Sweet Pea Society since its foundation, but was recently unanimously elected to the presidency of that body. He is a trustee of the Gardeners' Royal Benevolent Institution, and presided over the friendly supper held at the close of the annual meeting and election of that body during the present week. It will be seen from this brief account that, though eminently successful in business, Mr. Sherwood has not forgotten the claims of charity, but the account does not show that, besides devoting much time to the work of the gardening charities and other good works, he has also given liberally to all of them, and set a splendid example of loving one's neighbour as one's self. His gifts have been princely, and always inspired by a deep sympathy for the needy and helpless. It was Mr. Sherwood who founded the convalescent fund in connection with the United Horticultural Benefit and Provident Society. Mr. Sherwood has enriched our gardens by the introduction, through his firm, of many fine novelties in flowers and vegetables. Fixity and purity of seed stocks he has always put at a very high standard, and a visit to the trial grounds at Kelvedon and Fering show what great pains and care are taken to maintain that standard. Mr. N. N. Sherwood has, since his severe illness, allowed the chief burden of his large business to fall upon the shoulders of his son, Mr. E. Sherwood; and so, with strength restored, we and all who know him sincerely hope that there are many years of health, usefulness, and happiness before him.

Our Coloured Plate.—With the present issue we present our readers with a coloured plate representing one of the most brilliant of sweet peas. The variety is Edna Unwin, raised by Mr. W. J. Unwin, of Histon, Cambridge. It belongs to the bright orange-scarlet group, and gives that touch of brilliant colouring so admired in the garden, and so very necessary at exhibitions. Edna Unwin has colour, form, and size to recommend it, and it is also of fine free growth, and everyone knows that Mr. W. J. Unwin has a splendid reputation for the fixity of the varieties he introduces.

Peter Barr Memorial Fund.—Large numbers of daffodil lovers having expressed a desire to see a fund raised for the purpose of commemorating the life and work of the late Mr. Peter Barr, V.M.H., the members of the Royal Horticultural Society's Narcissus Committee recently met to consider the matter. Various proposals were put forward, but those finding most favour were: The institution of a Peter Barr Memorial Medal, to be awarded annually in connection with work among daffodils, and the provision of a fund for the maintenance of an orphan through the medium of the Royal Gardeners' Orphan Fund. To carry out these proposals a general committee, consisting of the members of the Royal Horticultural Society's Floral and Narcissus Committees, was at once formed, with power to add to their number, and five members of each body were nominated to form an executive committee, as follows: Mr. William Marshall, V.M.H., chairman; Mr. Henry B. May, treasurer; Mr. J. T. Bennett Poë, M.A., V.M.H., Mr. William Cuthbertson, J.P., the Rev. Joseph Jacob, Mr. R. Hooper Pearson, Mr. William Poupart, Mr. Charles E. Shea, Mr. Walter T. Ware, and Mr. Charles H. Curtis, hon. secretary. Mr. Peter Barr's great work was among daffodils, and he may be said to have created the British daffodil industry; but he also took an active part in the improvement and introduction of tulips, hellebores, Michaelmas daisies, lilies, and other hardy flowers. He was also one of the founders of the Royal Gardeners' Orphan Fund, and served on the committee of that charity for many years. In these and many other ways Mr. Peter Barr did so much to advance horticulture that the committee appeal confidently to the great flower-loving public for a sufficient sum to carry out the above proposals. Cheques and postal orders, crossed "London and Provincial Banking Company," should be sent direct to the treasurer, Mr. H. B. May, Stanmore, Chingford, Essex. Copies of this appeal for distribution among members of daffodil and other floricultural societies will be gladly sent on application to the hon. secretary, Mr. Charles H. Curtis, Adelaide Road, Brentford, Middlesex.

R.H.S. Bulb Show.—We are asked by the Rev. W. Wilks to remind our readers that an exhibition of bulbs will be held at the Horticultural Hall on March 8 and 9. The schedules comprise numerous classes for hyacinths grown in soil in accordance with the orthodox practice, and classes for hyacinths, tulips, and narcissi grown in moss fibre, and a class for hippeastrums.

Beautifying London Railway Stations.—With the laudable desire of improving the amenities of travel, most of our railways offer annual prizes for the best-kept station gardens. The results usually please both passengers and porters, in addition to the other people concerned. The District Railway, now that its tunnels have been purged of fumes inimical to horticulture, has, we learn from the "Railway Gazette," adopted a "competition for improved appearance of stations and adjoining railway premises." The necessary soil for the plots is to be provided, together with 5s. for the purchase of seeds, but "the person undertaking the cultivation may expend of his own money any additional amount which he pleases," and may also avail himself of the produce of the plot, if any. Vegetables must not be grown, "as the object of the cultivation is decorative." The sum of £20 will annually be distributed in prizes, which will be given for the best result on the line and the best result for men of each department. The special conditions and difficulties of each station will be taken into account in making the awards. The company is also desirous of making a display of evergreens and similar plants, in hanging baskets, etc., at underground stations, such as the Temple, and our contemporary is informed that it is prepared to receive offers from seedsmen and florists.

Botanical Congress at Brussels.—According to the provisional programme of the botanical congress that will be held at Brussels in May next, the members will arrive on the 14th of that month. On the following day they will be received by the Royal Botanical Society of Brussels at a special seance. The congress will commence at 10.30 a.m. on May 16, and will be continued until May 22. During this period excursions will be arranged to Antwerp, Ghent, the valley of the Meuse, Haarlem, and several other places. The subscriptions of the members of the congress is 15 francs (12s.), and for ladies who accompany their husbands to the congress 10 francs (8s.), and these amounts must be sent to the Secretary of the State Botanic Garden, Brussels.

R.H.S. Parks Examination.—The large number of men employed in the public parks in London and in the principal provincial towns, who presented themselves at the Horticultural Hall on the occasion of the annual examination, was so large as to show that the opportunity given them for having their knowledge tested is much appreciated. The examination, as in previous years, was held between 10 a.m. and 1 p.m., and the questions had to be answered in part on paper and part orally.

Yorkshire Gala and Floral Exhibition.—The schedule of the great gathering that will be held at York on June 15 and the two following days is before us, and, in glancing through its pages we have the best possible proof that the executive are fully alive to the desirability of maintaining the great excellency of the floral display. The classes are numerous, and the prizes liberal, and the exhibition should be at least equal to the magnificent displays that have been produced in previous years. The most important of the classes is perhaps that for a group of miscellaneous plants in and out of bloom, occupying a space not exceeding 300 square feet. In this the first prize is £20, the second £15, and the third £12. There is a second class for miscellaneous plants, and in this the space occupied must not exceed 200 square feet; and the four prizes amount to £3 An amount still larger is offered for a group of hardy herbaceous and perennial plants, which are to be naturally arranged. In this class the prizes amount to £4 Orchids receive liberal encouragement, as also do roses, carnations, begonias, gloxinias, and fruits, the most important of the classes for the last-named being for a decorated table, which is to be judged by points.

SWEET PEAS FOR EXHIBITION.

This subject is one which no doubt just now is under very serious consideration by gardeners, amateurs, and cottagers alike, and more so by the fact that the time is now drawing near for the spring sowing of these very beautiful flowers. Those who wish to grow them successfully, with the view of entering in good competitions, have several very important points to keep before them, and nothing must be left undone that will be conducive to the well-being of the plants from the very earliest stages The point of utmost importance is the preparation of the ground, and whether this is to be trenched in the autumn or spring is a matter to be decided by the individual on the spot. A good rule to follow is to trench light soils late in the autumn or early in the winter, and soils of a heavy and clayey nature any time from January till the end of February, but choose, if possible, a dry time for the work. If trenched earlier heavy soil is very apt to run together again very close under heavy rains, and thus necessitates the trouble of forking over perhaps two or three times before it is in any way fit to plant or sow in. Therefore, those who have not already prepared their ground would be well advised to proceed with it at once, whether the soil is light or heavy. Any kind of manure is useful for the enrichment of the soil, but where good cow manure can be had there is not much to surpass it, but I do not believe in it being put in the trenches in four or six-inch layers, but rather mix it well in each trench as the soil is turned over, and this, I am sure, induces a much better root action. With the top spit in heavy soils, or light for that matter, leaf-mould may be added with advantage, and it is surprising how freely the young roots will take to this, and a healthy and short-jointed growth result.

Sowing.

As before mentioned, the present is a very good time to make a spring sowing under glass, although, according to my experience, sowing late in the autumn is preferable, as, no matter how well one treats the spring-sown plants, they have not the same amount of root, nor are they as hardy as those raised in the autumn It is really a matter of no importance as to whether the seed is sown in pots or boxes. If the former, 48's or 32's are suitable sizes, if the latter the boxes may be twenty inches long, twelve inches wide, and five inches deep, and it is surprising how many strong plants can be raised in a box of this size. Not less important is the fact that the plants must be perfectly hardy by planting out time. Consequently, after the seeds are sown stand the pots or boxes on a shelf in a house, or near the glass in a frame, where the night temperature does not exceed 50 degrees. A little higher temperature from sunheat during the day may be allowed; sun will not hurt. Of course, a heated frame will do, but if very cold weather sets in, possibly immediately after germination has commenced, the chances are that many of the seeds may rot, and where they cost from one penny to sixpence each one must be careful. But if treated as advised, and given just a little warmth, then they should be quickly through the soil. Give plenty of air at this stage, and by the end of February they will be strong plants an inch or so high, and may with safety be removed to the cold frame, but if once they become attenuated all the care possible will not make them strong again. If in boxes they will fall about all over the place, and at the time of planting will require a stake or stakes to keep them off the ground. This is just what the cultivator should avoid, as plants raised in the spring should be able to stand upright without any support for three weeks.

Planting.

This is also a point of considerable importance, and I believe many people are rather later than they need be in putting their plants out. Providing they are two inches high, and thoroughly well hardened off, they can with safety be planted out any time after the middle of March. The soil must, of course, be in a suitable condition. If naturally heavy it may require forking over once or twice before it is fit to plant in, breaking it down as fine as possible.

Cultivators have their own particular ways of setting out their ground, but after trying several ways, I prefer now to plant in double rows. I allow five feet from centre to centre, but this might be increased with advantage to six, or even eight feet, but, the space at my command being very limited, I have to put them rather close together. If the rows run from east to west, then those varieties that require shade will only need it from one side.

In planting shake out each plant separately, with as little injury to the roots as possible, and arrange twelve inches apart each way, thus a row would be after this fashion:

. . . .

. . . .

A good hole should be made to allow of the roots being spread out carefully, and not with their points turning up, but all going downwards. Press the soil fairly firm, and make it very fine around the stem of the plant. Sprinkle soot around them, and then if covered over with a net to protect them from the birds they should not require much attention till they are so far advanced as to require staking, although it is wise, especially during a season like the past one, to keep them regularly dusted with soot to prevent the ravages of slugs.

A FINE TABLE OF SWEET PEAS OF THE SPENCER TYPE.
Shown by Mr. Silas Cole in competition for the W. Atlee Burpee Cup at the National Sweet Pea Society's Exhibition, 1909.

Staking and Thinning.

Whatever method is employed for staking the peas, it should be done well, as under the good cultivation that should be given them they attain a height that, a few years ago was unheard of. For exhibition purposes stakes standing nine feet out of the ground are none too high, and if the rows are of any length it is wise to tightly strain a wire the whole length of the rows on each side to steady them, fixing a post at either end to fasten the wires to. This should be done before the plants become very high, and if they break out well from the base they should be thinned out somewhat, and, if necessary, given a tie here and there to make the shoots more regular amongst the stakes.

From now every encouragement should be given the plants to induce them to make free growth. Hoe between the rows frequently, and if the weather sets in hot a good syringing overhead occasionally will keep the plants clean and healthy, but if the ground has been well prepared watering should not be necessary till the plants are well in bloom. On light soils it may be found necessary to give a good mulching, and possibly a soaking or two of water during June. But where peas are grown for exhibition these extra helps should be left, if possible, until just before the flowers are actually required, when a good mulching, watering, and manuring will be of immense assistance.

As mentioned before, if the ground has been carefully prepared, and well manured, heavy and continued doses of artificials will not be necessary, yet there are times when a little stimulant is needed, but it should be given in mild doses, or the colour of the flowers will fly. Either nitrate of soda, nitrate of potash, or sulphate of ammonia will do all that is necessary, using each at the rate of half-ounce to one gallon of water, and, say, a three-gallon can to every yard run of peas, and this is better given after a good soaking of clear water.

It is not necessary here to go into the subject of varieties; it is really not a matter of what we shall grow, but rather what we shall not grow, as the number and beauty of them are unlimited; so restrict, as far as possible, the number of varieties. Thomas Stevenson.

WINTER-FLOWERING SHRUBS.

It is astonishing, when one commences to reckon them up, how many shrubs there are which blossom during the early weeks of the year: in fact, it is often possible to find a greater number of shrubs in flower throughout the latter half of January than during the first fortnight in March. This is really a very good thing, for it serves to add interest to the shrubbery and woodland at what would otherwise be a dull and dreary time. With this in view, these early-flowering shrubs deserve encouragement, and every garden of anything like pretentious dimensions should contain them.

The laurustinus forces itself on one's notice by reason of its flattened heads of white flowers, which are set off to advantage against the dark evergreen foliage. As it grows into a shapely, handsome bush, it is useful alike for shrubberies and specimen plants. The various witch hazels are decidedly showy, and extremely interesting during January, the narrow curiously twisted golden petals having a weird spidery look. The twisted petals are found in the Japanese species Hamamelis arborea and H. japonica, whilst in the newer Chinese species, H. mollis, the twist gives place to a curved or hooked end to each petal. The flowers of all are fragrant, but those of H. mollis are deliciously scented. A near relative of the witch hazel is found in Parrotia persica, which is prominent in February, by reason of its profusion of bright red flowers, which, though small individually, are conspicuous because of their numbers. It is well worth a position.

Two honeysuckles favour us with flowers very early in the year. They are Lonicera fragrantissima and L. Standishi. The former bears white flowers, the latter cream blossoms. Both are very fragrant. Jasminum nudiflorum is rendered conspicuous in most neighbourhoods by its bright yellow blossoms, which are frequently at their best early in January. The "Winter Sweet," Chimonanthus fragrans, may be detected from a distance owing to its deliciously fragrant cream and brown flowers. Although often planted against a wall, it thrives excellently in the open shrubbery. A variety, known as grandiflora, is even more effective than the type, as the flowers are larger and golden in colour. Garrya elliptica is conspicuous during January by means of its catkins of yellowish-green flowers. For general effect the male form is far ahead of the female; in fact, the latter is only of value for its seeds. The male catkins are frequently five inches long.

Whilst speaking of catkins, the hazel nuts deserve a word of commendation, for when covered with their golden male inflorescenes, towards the end of January, they look very cheerful. A close inspection will reveal the bright red styles of the female flowers, which, however, cannot be said to be very conspicuous. Planted against a south wall Cydonia japonica may be expected to produce a few flowers during January, whilst in the open ground, should the weather prove mild, Prunus Davidiana may be found in flower early in February. A few years ago the writer remembers seeing a good-sized tree of this species in full bloom on January 22. The white form of P. Davidiana is even more showy than the type, its glistening flowers being very conspicuous on a sunny day. A couple of heaths are attractive throughout January and February, and flowers may have been found on them during December. These are the tall growing white flowered Erica lusitanica and the dwarf E. mediterranea hybrida. The winter-flowering form of the Mezereon, Daphne mezereum grandiflorum, has had a number of blossoms open during December, but it is during January that it is at its best, whilst as its flowers fade in February, those of the type and the white variety expand. In sheltered corners flowers may be observed on Rhododendron dauricum, the colour being reddish purple, and showy. Unfortunately, they can withstand a very small amount of frost, and are soon damaged.

Though not particularly showy, Nuttallia cerasiformis is worth consideration, for it blossoms early, and if the two sexes are planted together a crop of orange-red fruits is produced at a later period. The Cornelian cherry should find a place in shrubberies more frequently than it does at the present time, for its bright yellow flowers make it very showy in February, whilst its scarlet fruits later in the year add interest. It is also worth consideration for plantation work. To some people the name of Cornus mas may be more familiar. With this list to select from it may be readily seen that there needs be no dearth of flowers in the shrubbery during January and February. D.

SWEET PEAS IN PUBLIC PARKS.

Until recent years sweet peas were scantily employed in public parks and gardens, but owing to their popularity, which shows continuous increase, they are now in every open space in our cities and towns, represented upon a very large scale, much to the delight of the public generally. The very spacious borders and beds which exist in most parks, etc., lend themselves to their cultivation, and the production of imposing displays, and, happily, prominent positions are set apart for this purpose.

It is gratifying to know that sweet peas are less fastidious than many another subject with respect to pure air and clear atmosphere, and even in congested and manufacturing districts they do not fail to yield a good display of bloom, which is maintained for at least three months, while under more favourable conditions, where the parks and gardens are well outside the city or town area, their behaviour is identical to that in the country.

Experiments made by the writer with autumn and January sowings of the seeds went to show that it is inadvisable to commence operations until early in March in congested smoke-laden districts. It was found that the young plants suffer much from the combination of chemical impurities, smoke, and fogs, which militates against vegetation generally, and they failed to compare with the March-sown colonies in every respect.

Further, in view of the fact that stable manure and leaf-soil is invariably employed in public parks, I would advise that where the natural soil is light and porous cow manure be substituted, and on a liberal scale, and if a barrowload of loam is added to each site, or in the case of beds a four-inch layer be incorporated with the staple, all the better.

It is a significant fact that plants or colonies which receive overhead waterings in the early stages of their growth make vastly better progress and stronger growth than those that receive no attention in this way. This is most pronounced in town gardens and parks, and I am firmly convinced that it is a very important factor in the successful management of most subjects under these conditions. There is much to recommend the setting apart of a good stretch of border within eight or ten feet of the walk, and to arrange a fairly representative collection, including the very best and finest varieties, in large batches, with a prominent label so placed and written that the general public will experience no difficulty in learning the names. One often sees enthusiastic amateurs and others busily engaged in taking notes of the arrangements of plants and subjects that appeal to them in public parks, and I think everything should be done to facilitate matters, and thus encourage the practice of the gentle art. A word as to varieties most suitable for this purpose. It is true that for some reason or another varieties that are identical in growth and constitution vary considerably as regards their behaviour near towns, but the following can be recommended with full confidence as being satisfactory in every way: Queen Alexandra, Phenomena, White Spencer, Countess Spencer, King Edward VII., Queen of Spain, Unique, Othello, Mrs. George Higginson, Jun., Lord Nelson, Frank Dolby, Hon. Mrs. E. Kenyon, Black Knight, Lady Grisel Hamilton, Horace Wright, Dorothy Tennant, Prima Donna, and White Eagle.

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APPLES FOR ORCHARDS.

After singing the praises of the paradise stock, and admitting all the virtues of bush trees worked on it, the standard is still indispensable, and a grass orchard is a useful adjunct to any establishment. We may go to our dwarf trees in the garden for our finest apples, and to the commercial fruit grower the system of bush culture may be the quickest way of making profits, but there is still a good deal to be said for the orchard. It is true standards are a longer time than bushes in coming into bearing, but when they do begin they go on indefinitely, each year the trees get bigger, and occupiers of orchards can testify to the weight of fruit, useful, if not up to exhibition form, that a fully-grown standard is capable of bearing in a good season. Again, standards do not occupy all the ground, the grass underneath is worth something for grazing purposes, and, considering what they produce, the trees demand little in the way of labour and attention. In short, it is not the object here to draw any comparison between standard and bush trees so much as to say a good word for the former, and in more than one establishment, while apples from the garden supply the dessert table, it is the orchard which provides for the requirements of the kitchen.

At this season of the year new orchards are being planted, old ones are being filled up, and the moment is opportune for saying a few words which may act as a guide to planters, and possibly prevent the making of mistakes. Any man who plants a standard tree does something for the future, and under the best of circumstances he must wait a few years before he gets any return for his outlay and labour. If after waiting the time specified he finds that he was all wrong at the beginning, and he has to start afresh, the position is, to say the least of it, disappointing, and how many people are there, I wonder, in the fruit growing world who would act differently if they could see their time over again?

When planting apple trees in orchards nothing is of greater importance than the selection of suitable varieties, and many people have lived to regret early mistakes under this heading. There are few districts in which varieties may be planted indiscriminately in orchards, and, therefore, care should be taken to choose only those which experience has proved are adapted for the purpose. If any man is advised to plant a variety of apple in his orchard as a standard which he knows nothing about, the first question he should ask is, "Will it grow?" In other words, has the variety got a good constitution, will the tree grow as a standard, make a good head, and look after itself? If there are doubts on this point the best plan is to have nothing to do with the variety, because in orchard fruit culture more failures have been brought about by planting varieties that had no business to be there than anything else.

But a novice might ask, how am I to tell the varieties that will grow? If he resides in an orchard district he might do worse than ascertain which varieties are doing best in the neighbourhood and, failing that, he should seek the advice of an expert. To select apples merely from catalogue descriptions is not good enough for orchard planting, nor is it wise to decide what varieties shall be planted from specimens at a show. Will the tree grow, should be the watchword: and now let us discriminate. There are apples in cultivation which are unsurpassed for certain methods of culture but almost useless for others. Take Lane's Prince Albert, for instance, which is admittedly one of the finest apples grown for a garden or plantation, but I have never seen it a complete success in an orchard, and the reason is that it will not grow. This variety is a heavy fruiter, it produces fruit buds freely, but it is at the expense of growth, and it does not get away and make a good head. If anyone wishes to prove this let him plant Lane's Prince Albert and Bramley's Seedling side by side in an orchard, and wait ten years. At the end of the period the latter will be a fine spreading tree, and the former not much bigger than when it was planted. Stirling Castle is another of the non-growing fraternity when planted in an orchard, and others might be mentioned, but the above are notable examples of the varieties to avoid.

Will it canker? is another question that the orchard planter would do well to ask himself. I know, of course, that all varieties are prone to canker under certain conditions, but some are great offenders in this respect, and should be strictly avoided if soil and situation are not ideal. In many an orchard to-day are to be seen mere relics of trees of Lord Suffield, Wellington, and others of the cankerous type, which were planted without consideration of their one weakness, and at the time when they ought to be large and profitable they are mere derelicts, and a discredit to the orchard. One might discuss cures for canker, but prevention is the best remedy, and it should take the shape of shunning varieties that are prone to it.

Having said so much about what not to plant, the next question is what should be planted, and, happily, there is no lack of varieties to select from. The object of this article is not to give long lists, because it is well known that apples have their likes and dislikes in regard to locality, but the varieties I suggest for orchard planting are those which combine cropping and growing powers, and the following may be taken as examples: Ecklinville Seedling, one of the best September apples we have; Bismarck, Gascoyne's Scarlet, and Warner's King (though this displays the canker weakness in some places), Beauty of Kent, Annie Elizabeth, Newton Wonder, and Bramley's Seedling, the last two being perhaps the best pair of orchard apples in cultivation. Thousands of Bramleys and Newton Wonders have been planted in orchards during the past few years, and they illustrate to the letter the class of variety that is best adapted for this purpose.

It is perhaps, however, in the selection of dessert varieties that the orchard planter is faced with the most difficulty, because, as a whole, they lack the vigour of the culinary section. If there were no points to consider everyone would, of course, plant Cox's Orange Pippin in the orchard, but I would say, hesitate unless the conditions are first class, and to plant Ribston Pippin in many orchards would be the height of folly. Worcester Pearmain, brightest and most profitable of early apples, is a weakly grower as a standard, and it wants everything in its favour to make a good standard tree. Beauty of Bath, the old Devonshire Quarrenden, and Mr. Gladstone, the weakness of which is the softness of the fruit, are useful apples for orchards, and to succeed them we have Allington Pippin, which has more vigour than Cox's, King of the Pippins, Duchess's Favourite, small but reliable, and, I might add, Tewkesbury Baron, a red-cheeked apple of fair quality that is grown in the West of England. The evidence of thousands of old trees still in existence proves that the place for Blenheim Pippin is in an orchard, and in selection some people would put Blenheim first and the rest anywhere. This, however, is prejudice on the side of the old favourite, which is a long time coming into bearing, and I seem to fancy that as an apple Blenheim Pippin has deteriorated in late years. Court Pendu Plat, Christmas Pearmain, Allen's Everlasting, Hormead Pearmain, and Wyken Pippin are good types of late apples that will grow as orchard standards, if the conditions are reasonably favourable. In all cases, of course, there follows the necessary attention in details of planting, protecting, pruning, and feeding, details, by the way, which in too many cases are neglected where orchard trees are concerned; but, nevertheless, the rule laid down in this article respecting the establishment of young orchards, and the renovation of old ones, stands good, i.e., plant trees that will grow.

H.

THE AMERICAN SWEET PEA BOOM.

Everything that is anything is boomed in America, and as sweet peas are looming pretty large in these enlightened days they have been subjected to the inevitable, and with the usual result.

Readers of the Sweet Pea Number of the **Gardeners' Magazine** will naturally inquire how the boom originated, and the object of the present article is to answer the question as fully as the available information permits. So far as the writer is able to learn, there is good reason for believing that its origin was the interest taken by British gardeners who had settled in the Eastern States, particularly Massachusetts, in the important work of Henry Eckford.

Many of these worthies hailed from the Land o' Cakes, and naturally took a sympathetic interest in the achievements of a "brither Scot." The enlightened and important Scotch element in the seed trade of Boston, the centre of the movement, was not slow to take advantage of the opportunity thus presented to foster the culture and love of this beautiful flower, and, incidentally, of course, gather in the shekels at the same time. The horticultural societies did all in their power to develop the interest thus aroused, and the comparative ease with which they could be grown soon filled New England with enthusiasts, and thus started the boom.

Amongst the earliest and most wholehearted of the devotees at the sweet pea shrine was the Rev. W. T. Hutchins, who was located at that time at Indian Orchard, Mass. A fluent speaker, and a prolific writer, full of energy and zeal, his glowing descriptions of the beauty of the flower, and practical demonstrations of its adaptability to the New England climate, soon found their way into the most widely circulated journals and magazines in the Yankee States.

As only a paltry 300 miles separate Boston and New York, the leading seed firms in the Empire City were soon close upon the heels of their confrères in the modern Athens, and the contagion soon spread to the city of brotherly love. Mr. Burpee having satisfied himself that the sweet pea was "all right," by submitting it to severe and practical tests on his Fordhook Farm, with characteristic foresight enlisted the practical sympathy and aid of the Rev. W. T. Hutchins, and from this point the success of the sweet pea boom was assured.

For a time the principal source of supply was Europe, and particularly England, but as the possibilities of California as a seed growing centre were becoming more widely recognised every day, experiments were made with sweet peas, and the result of the culture is known to us all, it having been demonstrated that some of the best sweet pea seed in the world could be produced in that glorious climate.

As the cheap Chinese labour was available, and the crop, at prices then ruling, was extremely profitable, the growers quickly lost their heads, and the market was soon glutted with a huge surplus, which, in the main, had not been cultivated with much regard to quality or purity of stock. As the American market was then practically closed to European growers, save for stock seed of the latest novelties, the culture on this side was naturally curtailed, and as the California growers did not care to continue a culture which threatened to become unprofitable, it appeared, for a time, as if there would be a sweet pea famine, but this was prevented by the intelligent action of Morse, Rohnert, and the Sunset Company, who resolutely set themselves to remove the existing reproach which rested on the quality of California-grown seed, and, by winning back the confidence of the buyers, obtain a price which would enable them to grow it at a profit.

The unfortunate seasons which European growers have experienced since that time have been all in favour of the Californian grower, who has once again contracted the sweet pea fever, and, but for the European failure, would have been heavily overloaded once more. Nearly 1,000 acres in different parts of that vast country were devoted to this crop last year, and so abundant has been the harvest that some of the large commission houses have been able to obtain their supplies at less than half the contract prices. This will, it is to be hoped, check the wild speculation referred to, and place the culture on a sound, profitable, and honourable basis.

As regards the culture of the sweet pea in America, by the Americans in their own private gardens, I am pleased to be able to report that it is still going strong. The good work done by the N.S.P.S. in this country is being taken up in America, and a National Sweet Pea Society has been established in New York State, which will carry on the good work initiated in London.

Very interesting testimony to the enthusiastic cultivation of the flower will be found in my article on "A Sweet Pea Carnival," which appears in the N.S.P.S. "Annual" for the present year; doubtless similar conditions obtain in many other places. All this goes to prove that in these days, at any rate, the sweet pea is not

"A flower born to blush unseen,
And waste its sweetness on the desert air."

S. B. Dicks.

SWEET PEA DORIS USHER.
A charming variety; colour, bright pink on a cream-coloured ground; raised by Mr. A. E. Usher.

NEW SWEET PEAS FOR 1910.

We have just left behind us the most deplorable of years, from the general standpoint of the seedsman who deals largely in sweet pea novelties, however good many of the newer introductions may eventually prove to be. We may safely say that more trying climatic influences than those of last season they are not likely to encounter. However, the season of 1909 has taught us a few lessons that we shall do well to bear in mind, and doubtless many raisers will be testing for themselves various cultural methods whereby they may be the more assured of obtaining the greatest quantity of good seed for distribution. Even the raiser of improved forms of sweet peas likes to be able to diffuse their charms over the largest possible area, and thus we feel with the reawakening of another season before us that we are again on the up grade, and that we have something in embryo to encourage us, and stimulate our anticipations until the arrival of another flowering season.

New sweet peas for 1910. Yes; there are some quite distinct from the already large number now in commerce, and some few are not only distinct, but desirable additions to the existing army. Then there are others of very great refinement, possessing the finest qualities in given shades; their names are legion, their differences not so pronounced, only as cultural science is applied or lacking; in either case this means much to the flowers grown.

Amongst varieties recognised during the past season Mrs. W. J. Unwin was one of the most pronounced, and although a flaked pea, it is a decided gain, and correctly described as a white ground artistically flaked with the orange-scarlet of St. George. The pea appeared to have a good constitution, and produces a very pleasing effect growing. There are one or two others similar in colour to this pea; they, however, lack the size and general appearance of the variety named, which received the A.M. of the N.S.P. Society.

Another distinct variety thus honoured was Charles Foster. Nothing quite like this pea had previously been seen: it is a tinted cream or "pastel pink" shade, and possesses a satiny blush tint that is to be found in one of our best godetias: Mr. R. Bolton is the raiser. It is a strong, healthy growing pea, with a distinct and pleasing effect; its future will be watched with interest, as everyone is not agreed as to whether the colour will be popular or not.

Mr. C. W. Breadmore's pea, named Dazzler, is a very bright colour, and those in search of a really splendid St. George must have this variety. The stock is very fine, and for the type very free in growth. Edna Unwin, of which a coloured plate is given with this issue, is also a fine pea, with very bright flowers, and the remarks about Dazzler are almost applicable to it.

Mrs. Townsend was staged in good form at the Holland House Show, and received the R.H.S. A.M. The pea was largely shown last year, and is best described as a good Phenomenal; it throws a very delicate variety, named Mrs. Cawthorne, which is also worth notice. The true Mrs. Townsend is very pretty, and when the blue colouring is defined, mostly to the outer edge of the flower, its effect is charming. Another variety herewith illustrated, that was recognised at the same meeting, is Doris Usher. I have seen this variety in exhibition stands only, but on several occasions. Whether it is cultural science, or the variety, or both, there is something very marked about this flower, and my several descriptions made are to the effect that it is a cream ground Audrey Crier, and, as I have seen it shown, a most lovely flower. I have descriptions of others that come in the vicinity of the one named. Gladys Burt is one, Mrs. R. Hallam another. Lancashire Pink and Mrs. Watson are also most striking in this colour. Then again Mrs. Henry Bell Improved, now named Mrs. Hugh Dickson, is a very beautiful stock of a cream ground pea with a pink flush. An A.M. from the National Sweet Pea Society stamps it as a fine thing in the cream-pink section. A vigorous and floriferous type that should be included in the smallest collection grown.

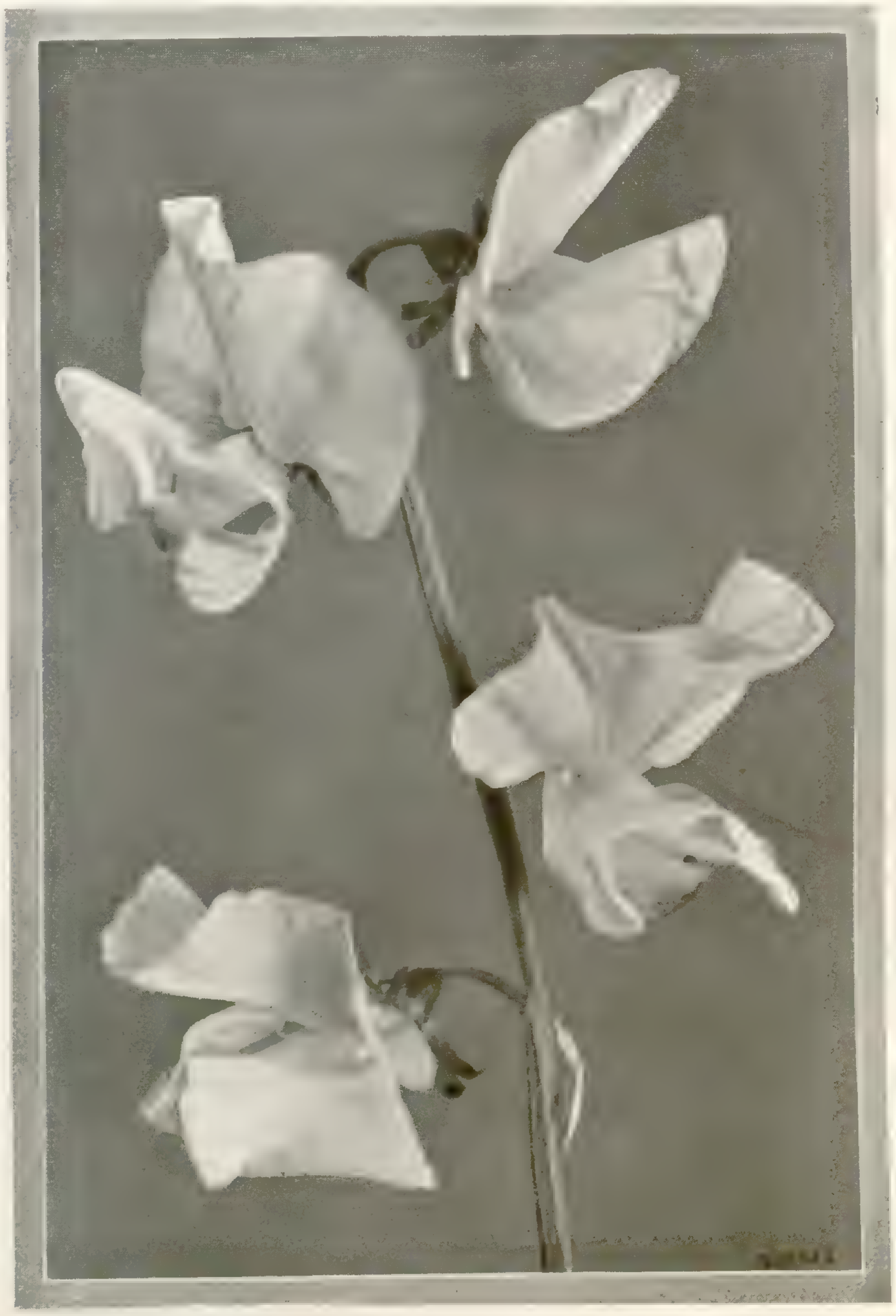
True stocks of lavender-coloured peas have been slow in coming; however, patience is rewarded with Masterpiece from over the border, and most beautiful it is when seen at its best; indeed, like some other colours, there appears a general tendency to fixity in lavender shades, and careful selection and building up from the right type are now assuming definite shape, so that good stocks are more plentiful in this slightly variable class. Frank Unwin, Lavender George Herbert, Asta Ohn, and Mrs. E. Noakes are some of the more recent names added to this Mrs. Charles Foster section. At the National Show, the Temple, Holland House, and other large exhibitions lavenders were in excellent form, and the variety illustrated, Masterpiece, is one of the best.

Very fine primrose waved stocks that are true are not uncommon now. Since the advent of Bolton's Clara Curtis sweet peas have gained much, there being no better or freer flowering peas grown, and the F.C.C. awarded has been verified since the original award was made. Good constitution, with free growth and abundance of flowers, marks this colour. Unwin, Deal, Dobbie, and others have fine stocks, and I have seen Deal's Giant Primrose and Breadmore's Princess Juliana finely shown, but Clara Curtis, in this section, stands first. For garden decoration Colleen is offered by Mr. Deal, it is a pea that will please most people, being charmingly light and pretty. It is one of the varieties recommended by the N.S.P. Society for the garden, and when well grown is a good exhibitor's variety for including in larger collections.

No sooner has The King had time to settle into steady ways than we are confronted with others, amongst which Dobbie's Sunproof Crimson received the N.S.P. Society's A.M. This is a fine type of The King, said not to disfigure by sun heat. There are other very fine Spencer stocks of The King, and there is nothing finer than this variety in its best form. Possibly it is more vigorous than any other sweet pea grown.

Edrom Beauty, A.M., is a very effective pea, and a row in full beauty is not easily forgotten: similar in colour to Helen Lewis, but with less orange, and a pronounced cream keel, a very true and uniform shade of colour that appeals to all who see it.

Queen of Spain, in Spencer form, is being carefully guarded. Mercia is a fine stock, and is specially recommended to market growers. Zarina, from Miss Hemus, and Queen of Spain Spencer, from Messrs. Dobbie, were most telling at Holland Park Show, the dark stem and pedicle harmonising splendidly with the salmon and pink-coloured flowers, a very free-flowering type, with wiry growth and dwarf habit. No collection would be complete without this section.


SWEET PEA MASTERPIECE.
A beautiful bright lavender-blue self, raised by Messrs. Dobbie and Co.

Amongst white flowers we have a plain standard variety in Blanche Stevens; its purity of colour is its greatest feature, and for market growers it may prove a good thing. Mr. Jones, of Lewisham, thinks highly of it, and with further selection to improve the setting of the flowers upon the stem it would, when known, be largely grown. Stark's White, now named Florence Wright, is a very vigorous grower, and throws some fine distinct flowers, the variety, however, is not quite constant in the type of flower produced.

Earl Spencer is now being distributed; it is a lovely shade of colour (and the best colour is only produced under artificial shade). Another variety, named Stirling Stent, is a fine acquisition, and Tortoiseshell, as seen at Shrewsbury, was exquisitely refined. Nancy Perkin is now offered, and also requires shade; it is a totally distinct colour, and not so bright as Earl Spencer. Orange King (Bide) is, if anything, brighter in colour than Stirling Stent, and is a plain-flowered variety: all of these must be given shade to preserve the colour. Some fine dark peas are now being offered. Gilbert's Countess of Ancaster, Gerhold's May Gerhold, House's Nubian, Unwin's Douglas Unwin, Burpee's Othello, and Breadmore's Prince of Asturias are all new and good. The varieties vary. Some are good chocolate selfs, others have a decided plum-purple shading, and others are maroon coloured; they are all healthy growers and fine exhibition varieties. Dorothy Tennant Spencer is a good Marquis type, with flowers very nicely placed, and Ida Townsend is a similar thing.

The waved scarlet George Stark may be relied upon to do credit to the raiser if there is plenty of sunshine. In its true character it is the finest pea of its class now being offered. A new pea that forms a good companion to the Queen of Spain Spencer forms is Gilbert's Cherry Ripe, a very beautiful pea, even more pleasing in colour than the old Coccinea. A little shade is necessary for this pea in unsteady weather. Chrissie Unwin is also a very pretty variety in this class.

Kathleen Macgowan was the first pea seen of the beautiful silvery sky-blue section. These are very pleasing additions, and are really more "Unwin" in form than "Spencer." The names are rapidly increasing, and include Anglican Blue, Flora Norton Spencer, Miss Philbrick Spencer, Zephyr, and others. These are all novelties, and one variety should be grown in every collection.

A good pea with heavy chocolate markings on a lighter dull ground is Senator Spencer; it is a very strong grower, and makes a distinct change that some like. Spencer Aurora is also a good pea, and Mrs. Wilcox; these make up three good distinct varieties. Of less vigour, but pretty, are Miss L. E. King, orange flake; Stark's Elegance, and Silver Wings, and are also useful.

Bolton's W. R. Beaver is very vigorous, and one of the best chocolate flaked peas.

C. Foster.

Sutton Green.

SWEET PEAS IN FLOWER BORDERS.

The addition of judiciously placed and well grown clumps of sweet peas in the herbaceous or annual flower border is a distinct gain, adding to the variety in colour as well as to quantity of bloom. In the ordinary herbaceous border there are periods in July and August when tall-flowering species are not over-plentiful, and these are the periods in which sweet peas will be a distinct gain. I need hardly say that the manner in which they are cultivated will determine the effect produced. For instance, if the sweet peas are so crowded with a vigorous patch of helianthus, Pyrethrum uliginosum, or Chrysanthemum maximum that the growth of the sweet peas is crippled for want of light, then the method of culture is at fault, and not the principle of combination. Again, the arrangement of colours will have much to do with the effect produced. For example, Dorothy Eckford sweet pea should not be planted close to a clump of Chrysanthemum maximum or Pyrethrum uliginosum, but one of King Edward VII. or George Stark would be more appropriate. Many more examples might be given, but that is purely a question of detail, and may well be left to the cultivator, after pointing out how desirable it is to arrange the colours that they will produce a harmonious whole. Sweet peas in the flower borders should be of decided colour to be effective, such as bright red, rose-pink, yellow, and white, rather than of a bicolor or striped type, as they are more easily made to harmonise with the surroundings.

SWEET PEA MRS. TOWNSEND.
An effective variety, flaked and shaded heliotrope-blue on a white ground; raised by Messrs. Jarman and Co.

The aim also should be to have a quantity of blossom in a mass for producing the desired effect, rather than having a limited number of exhibition flowers. With this end in view, instead of removing all the side shoots from the main stem, they should be encouraged to grow freely and vigorously. Many of these side growths will extend quite six feet in length in a season; such growths give an immense number of flowers, especially if the seed pods are removed directly the beauty of the blossoms is past.

The number of plants in each clump will depend upon the space at command. Six sweet pea plants, given abundant space, will make a handsome clump, especially if the haulm is early and carefully spread outside the supports, giving the main stems space to develop fully their lateral shoots.

The supports for the haulm should be thrust into the ground in a perpendicular manner, not sloped into the centre, as is much too common a practice even with edible peas; such a method robs the plants of light, air, and space, and if those who practice this method would but stop to think of its disadvantages I do not think they would continue it. The ordinary hazel or beech stakes make good supports, but have not such a pleasing appearance in the border as the tops of larch trees, with the side branches retained about eight inches long, to which the sweet pea tendrils readily cling. With a little time spent in training the plants to these larch supports a really effective clump can be had.

Sowing the seed in pots should be the invariable rule, because in the flower border the plants would be such a ready prey to slugs, which are so prevalent amongst the herbaceous plants, especially while the plants are so small, if sown in the open where they are to bloom. The early part of February is a good time to sow the seed in pots in an unheated frame. If three-inch pots are employed the plants should be transferred to six-inch pots later on to encourage a stout and otherwise vigorous growth. There is a natural tendency to draw the plants up rapidly amongst the taller herbaceous plants, and as anything like weakly growth is opposed to a profusion of flowers it should be guarded against.

The positions in the borders in which the plants are to grow should be carefully prepared in January by digging out the holes three feet deep, and adding manure freely.

After planting cover the surface with finely sifted coal ashes for a distance of six inches from the plants, as a means of warding off slug attacks. Sparrows also are troublesome, much more so among the border plants than in the open; black cotton is still the best plan of keeping these birds off: it should be wound around the supports.

Some few of the free-flowering Cupid sorts might be employed near the front of the border if space permits; they would be effective if planted on slightly raised mounds, with a few stones. Clumps a yard high or a trifle over might be introduced in suitable positions; these should be obtained by pinching the plants to induce dwarfness in growth; such plants hardly ever give quite the same wealth of blossom as those allowed to grow away uninterruptedly.

As to the varieties there is not much to say. Amongst pinks Audrey Crier, Countess Spencer, Gladys Unwin, and Mrs. Hardcastle Sykes are difficult to surpass. Dorothy Eckford and Etta Dyke are of great merit as white-flowering varieties. King Edward VII. and Queen Alexandra are especially to be recommended for effective colouring. George Herbert I look upon as quite one of the best of garden varieties; the colour is a rich rose-carmine. I think it more desirable than John Ingman. Clara Curtis, Queen Victoria, Harold, James Grieve, and Primrose Spencer are the most desirable of the so-called yellows. Amongst blue sorts Navy Blue, Frank Dolby, Lord Nelson, Marbled Blue, Mrs. Charles Foster, and Romolo Piazzani are desirable, embracing, as this selection does, various tints of blue. Of light colours Princess Victoria, Sutton's Queen, Mrs. Routzahn, Miss Hemus, Mrs. Henry Bell, and Constance Oliver are remarkably good. Orange-coloured varieties, like Henry Eckford, are liable to sun scorching in the open borders.

E. Molyneux.

Flowers of Foreign Growth were plentiful in British markets during 1909, as indicated by the fact that their value was returned as £244,855. These figures compare with £229,802 in 1908 and £233,802 in 1907.

SWEET PEAS FOR THE GARDEN.

Sweet peas are so largely grown in the gardens of all classes that there is no occasion to write much about their usefulness in adding to the attractions of the flower garden, or to refer at length to their value for the supply of an abundance of flowers for indoor decorations in a cut state. That they possess a high degree of utility for both purposes is beyond question, and sweet peas should not only have a place in the flower garden, but they should be grown to as high a degree of perfection as possible. With a view to assist those who have not had much experience, I will briefly describe the method of procedure by which an abundance of flowers of high quality are obtained in the gardens under my charge.

SWEET PEAS AS GROWN IN BRICKENDON GRANGE GARDENS.

To obtain good results in the cultivation of sweet peas, it is necessary to begin early, and thus give the plants time to become well rooted and strong before the flowering season arrives. My practice is to sow the seeds about the middle of February, but a few days either way is not a matter of great consequence. Pots four inches in diameter, and a substantial and moderately rich compost are used, and five seeds are put in each pot. The pots are placed in a warm greenhouse, and in this the seeds germinate within a short period. When the young plants are well above the surface, and are commencing to grow freely, they are removed to an unheated frame and placed within a short distance of the glass. The chief point is to encourage a firm short-jointed growth, and to keep them sufficiently hardy to permit of their being planted out towards the end of March.

While the plants are making progress under glass, the cultivator must give attention to the preparation of the borders or other positions in which it is intended to grow them during the spring and summer months, so that everything may be in readiness when the time comes for planting them out. It is generally acknowledged that a deep well-worked soil is the best for sweet peas, and, as I have in the course of my experience found this to be the case, I am careful to have the ground broken up to a depth of not less than two feet. A deep rich loam is the most suitable for sweet peas, but the best has to be done with the soil at command. It is advisable that it should contain a liberal proportion of calcareous matter, and in most cases a liberal dressing of lime or chalk should be incorporated in the process of preparation. A liberal application of manurial matter is also necessary, and my practice is to deeply trench the ground, and well work in plenty of farmyard manure at about a foot below the surface. Deep working of the soil is necessary to enable the roots to penetrate the soil to a depth that will place them beyond the influence of short periods of dry weather. They require plenty of moisture during the summer, and an application of liquid manure from the farmyard once a week will be found of great assistance in promoting a vigorous growth and the production of flowers of high quality. The soil is kept open on the surface by the occasional use of the hoe in dry weather, as the loose soil assists in checking evaporation in hot weather and enables the rain to readily pass down to the roots.

Here we grow the sweet peas in rows alongside the grass walks that intersect the kitchen and fruit garden, and one of the rows is illustrated from a photograph taken in the course of the past summer. The rows are made up with lengths of different varieties, and this method of arrangement has the advantage of producing a varied effect, and of facilitating the gathering of a quantity of flowers of any colour for indoor decoration, or of selecting the flowers required for making up an exhibition collection. It should be added that the peas should receive support at an early stage, and that the sticks used should be strong and stand six or seven feet above the surface.

The following varieties are of much merit, and will form an excellent selection for the garden. White, Dorothy Eckford, Nora Unwin, and Etta Dyke; yellow, Mrs. Collier; cream ground, tinted, Evelyn Hemus, Jeannie Gordon, and Paradise Ivory; delicate rose and blush pink, Countess Spencer and Mrs. Routzahn Spencer; pink shades, Miss Willmott, Constance Oliver and Agnes Johnson; red shades, Queen Alexandra, The King, King Edward VII., John Ingmans, Chrissie Unwin, and Helen Lewis; pale blue and mauve, Frank Dolby and Lady Grisel Hamilton; dark blue, Lord Nelson and Navy Blue; blue and purple-flaked, Prince Olaf and Helen Pierce; purple and maroon, Black Knight.

C. Cox.

Brickendon Grange Gardens.

A Swiss National Park.—It is reported, on what appears to be very good authority, that the project which has for its object the creation of a national park on the lines of the Yellowstone Park in the United States, to preserve the Swiss flora and fauna, has made sufficient progress to justify the hope that it will be brought to a successful issue. The offer of the Commune of Ternetz to let for the purpose a large tract of land in the Lower Engadine, at a nominal rental for twenty-five years, has been provisionally accepted. This tract of land contains primitive forests, and thickly wooded valleys, and as it is beyond the track of the tourist wild life is not likely to be disturbed.

THE DECORATIVE USES OF SWEET PEAS.

Unless I am much mistaken we shall all agree that the sweet pea is pre-eminently a decorative flower, and, by reason of its manysidedness, it lends itself most delightfully and artistically to all decorative purposes, as well as to the garden and the show board, and the development it has undergone since it celebrated its bicentenary at the Crystal Palace in 1900 (just ten years ago) speaks for itself. I remember being present on that memorable occasion as one of the chosen judges for the decorative classes, and there was a measured mile of sweet peas! and part of that wonderful mile was devoted to decorative classes. The National Sweet Pea Society is, I believe, the outcome of that grand exhibition, and since then the sweet pea has, as a decorative flower, held its place, second only to the rose. It is a universal favourite, the chosen of the dinner table, the basket, and the bowl, and largely used in bouquets, sprays, and buttonholes; it possesses a charm alike of fragrance and colour, is self-supporting, and lends itself to almost every form of decoration. And in this sceptical age, if any reader doubts the truth of this assertion, let him or her go to the National Sweet Pea Society's exhibition at Vincent Square, and become a convert; tables will meet the eye of every colour, yes, and every shade of colour, too. I think I am right in saying every tint and colour of the rainbow meets here, and brings with it a note of joy to the onlooker. The fact, too, of this flower being so easy of cultivation is a vast help, for it is with us all through the summer months.

With regard to dinner-table decorations, may I give a few hints to decorators. The colour and style of the dining-room or banqueting hall is a very powerful factor to reckon with, and must be duly considered in the scheme of decorating the tables. All light shades are better for artificial light; if the room be of oak panelling the palest colours should be employed, but where the decoration of the room is white, pale yellow, pale pink, or green, deeper shades may be used with advantage. Never attempt mauves or blues for artificial light, although for a luncheon table nothing can surpass them. Harmony of colour must ever be a foremost consideration.

Some few years ago, when sweet pea Edward VII. was a novelty, I remember seeing it to perfection at Holland House. Our beloved Queen Alexandra was going the round of the tents clad in silver-grey silk, and was presented with a magnificent bunch of the sweet pea called after our gracious King. Memory goes back, and revels in the exquisite harmony brought about by the silver-grey and crimson. Never crowd in arranging, nor use too many colours together; two or three shades of colour will be more effective, and harmonise better than a variety. For all kinds of decorations, viz., tables, bowls, baskets, vases, etc., remember that sweet peas never show to greater advantage than when they are in company with their own foliage. Nature knows best the green that suits them. Always strive after a light arrangement, and take Nature as your guide. The beautiful tendrils of the sweet pea lead us away captive, and recall that sweet and realistic verse of Keats:

"Here are sweet peas, on tip-toe for a flight,
With wings of gentle flush o'er delicate white,
And taper fingers, catching at all things
To bind them all about with tiny rings."

We ought to feel very grateful for the modern mode of growing this charming flower; the long stems of the present day lend themselves so delightfully for the artistic treatment that is meted out to them. White glass vases are preferable to coloured glass, the stalks showing through the pure water. The little air bubbles soon settle on them, and add their mite to the beauty of the picture. Our friend Keats tells us that the poetry of the earth is never dead, and, may I add, it never will be while the sweet pea holds its own.

H. C. Philbrick.

PROSPECTS OF THE N.S.P.S.

It is not for me to claim the rôle of prophet, indeed I have always disclaimed any special gift of prophecy, but one may in some measure judge the future by the past, because history is ever repeating itself. There is one great difficulty about this kind of judgment or prophecy, in that men may become wise enough to avoid the pitfalls of the past and prevent a repetition of floricultural disasters. They that are wise will heed these things.

Not yet has the sweet pea reached the zenith of its popularity, and personally I am in no hurry to see it do so. There is a great need for steadiness, both among our enthusiastic amateur growers, and the raisers and distributors of novelties. If the National Sweet Pea Society is, or becomes, strong enough, through the work of its committees, to exercise this steadying influence, then not only will the Sweet Pea Cult flourish in 1910, but for very many years to come.

The prospects of the National Sweet Pea Society are excellent, but the position in which the members of that body have placed me, is one in which sooner or later I hear of most things that happen in the sweet pea world, and so, while I am anything but a pessimist, I cannot shut my ears and eyes to the tendencies and influences that may presently defeat the best interests of the society, and the sweet pea industry. Right ought to be might, and to argue that certain things may be done with impunity because a society is not powerful enough to strike at the root of the matter, is to belittle the society, and—well, I suggest that it is possible to play too long on a volcano, the strength of which has not yet been gauged.

As the society continues to issue an "Annual," and to conduct independent trials, I feel sure its work will appeal more and more to the great body of sweet-pea lovers, and as these good people increase in number and attach themselves to the society so will their voice and power be heard and felt. The sweet pea is a flower for the million, not merely for the millionaire, indeed not only for the competitor. The beauty of the many lovely sweet peas that are never likely to figure on the show table is beginning to appeal to the multitude. Practically all sweet peas are good garden flowers, but they are not all up to exhibition standard, therefore the award of commendations for garden or market purposes is a step in the right direction and must make for increased membership.

The Sweet Pea Society has progressed so fast that expectations run high, and folks expect a floricultural Utopia at once. To these I would say join in and help us with your subscriptions, your influence, and your suggestions, so that the ideal may be reached as nearly and quickly as possible. I have just made from our list of members the final deletion of those who did not pay their subscriptions in 1909, and more than a hundred names had to be removed. To add two hundred and eighty members and lose one hundred and thirteen, means a net gain of a hundred and sixty-seven. I maintain that we ought to increase at the rate of two hundred and fifty per year, and I think we should do so if all our seedsmen were to push the claims of the society and do their best to secure new members. At present by far the greater number of new members are introduced by amateurs.

The conference held just after the annual meeting was a great success, and as it was a function I suggested, its success was pleasurable to me. The prospects for 1910 include one or more conferences dealing with sweet pea matters. The "outings," now so interesting and instructive a feature of the doings in any year, promise to be quite up to the standard of other years. The trials will be given more room this year than previously, and as they will be conducted at Guildford there will be a new centre to visit. How many varieties and stocks will be tested I cannot say at present, as the books have not yet been made up. America and France have sent many packets of seeds. What the exhibition of 1910 will be like I cannot possibly say, the Clerk of the Weather will have a good deal to do with it. We are trying a two-day show, and if arrangements can be made for filling up all the vases with water at the close of the first day, the flowers ought to last well enough, and so the show and the society will get, on the second day, the full advantage of the first day's advertisement. But if the flowers are badly faded on the second day I am afraid both the society and the traders will suffer.

The Floral Committee has no light task before it, but the members are fully alive to their responsibilities and are capable of the work they have to do. Registration, re-organisation of the colour classification, and regulation of nomenclature, are some questions that will be discussed this year, and a very important matter the society is taking in hand is the investigation of sweet pea diseases.

In the matter of officers and committee the prospects of the society are again excellent. Mr. N. N. Sherwood, V.M.H., has earned the presidency by his work in the past, and by the great influence for good his high position in the seed trade has enabled him to exert through his office as treasurer; and with Mr. Edward Sherwood now following his father on the "treasury bench," the financial soundness of the society is assured. Commander Humphery, R.N., chairman of committee, joins knowledge to enthusiasm, and is sure to add to the prestige of the society; he would like to see the sweet pea become the floral emblem of the British Empire.

Finally, nothing succeeds like success, but the greatest success in a society like ours is that which is brought about by the efforts of the many. Every member should make himself or herself responsible for the introduction of at least one new member this year, and then we should make a splendid advance. And, after all, our influence must be very small if we cannot persuade one other sweet-pea lover to join the National Sweet Pea Society.

Charles H. Curtis.

Brentford, Middlesex.

HARDY FLOWERS are always popular, as they make the garden bright and attractive, and require but little attention. All the information required for their successful culture is given in Easily Grown Hardy Perennials, by G. H. Vos. Price 5s. net, by post in box, 5s. 6d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

PRESERVING CUT PERPETUAL CARNATIONS.

Precisely the best method of handling cut carnation blooms took the wholesale market grower years to find out. First one and then another idea was followed, until at the present time all large growers of cut flowers are agreed and practice the same method. I think it would be a distinct gain in the private establishment if some of the wholesale growers' methods were practised, that is, when large quantities of bloom are wanted for one special occasion. Too often the flowers are cut and taken direct from the greenhouse into one of the rooms, to do service without having been previously prepared for the ordeal.

All lovers of the perpetual-flowering carnation will realise how important a thing it is that the flowers should last well after being cut, so that all that is possible in the way of lasting capacity can be got out of them. Nothing is more appreciated by the recipient of a floral gift than that such gift should remain fresh for several days.

In a commercial establishment carnation flowers are always cut in a half-developed state. The flower is still in its youth, so that a slow development goes on for several days after it has been cut. The flowers are not broken off at a joint, but are cut with a sharp knife between the joints, this being considered a matter of no small importance, as it has been proved that the stem takes up water more readily when so cut. The cutting is also done in the early morning, while the air is cool and laden with moisture. The flower and stem is also more full of sap in these early hours than later. This view of the matter is quite common knowledge and generally understood, yet too often neglected.

The bloom shed is always an important department in an establishment where cut flowers are the staple commodity. A dark cellar, which stands at about 45 degrees as an average during the four seasons of the year, is almost ideal. Scrupulous cleanliness should be the keynote. The air should always be pure and sweet. Large earthenware vases are greatly to be preferred. They should hold some two gallons of water, and be of sufficient depth to allow the stems to be half submerged in the water, which should be changed every twenty four hours. The flowers should not be allowed to hang their heads over the sides, but stand up erect.

As soon as the flowers are cut in the early morning they should be taken direct to the bloom shed, and not be left out of water more than a few minutes. Remove several of the lower leaves and place two dozen blooms in each vase, not close together, but spread out, allowing them plenty of room, so that the outer petals do not touch. How long a carnation bloom should remain in water in the dark room greatly depends upon the time and season of the year. For instance, in the summer the flowers greatly benefit if cut when half open and left in water for fifty hours before being used. The petals are then much stiffer and last longer when exposed to full light and air. They also have a much clearer and brighter colour. In the winter time twenty-four to thirty-six hours is long enough. Some varieties improve in water much more than others. For instance, Victory gets quite one-third larger in water, while Aristocrat, owing to its hard, wiry stem, does not improve at all in water. Such matters are quickly learnt by the observant gardener.

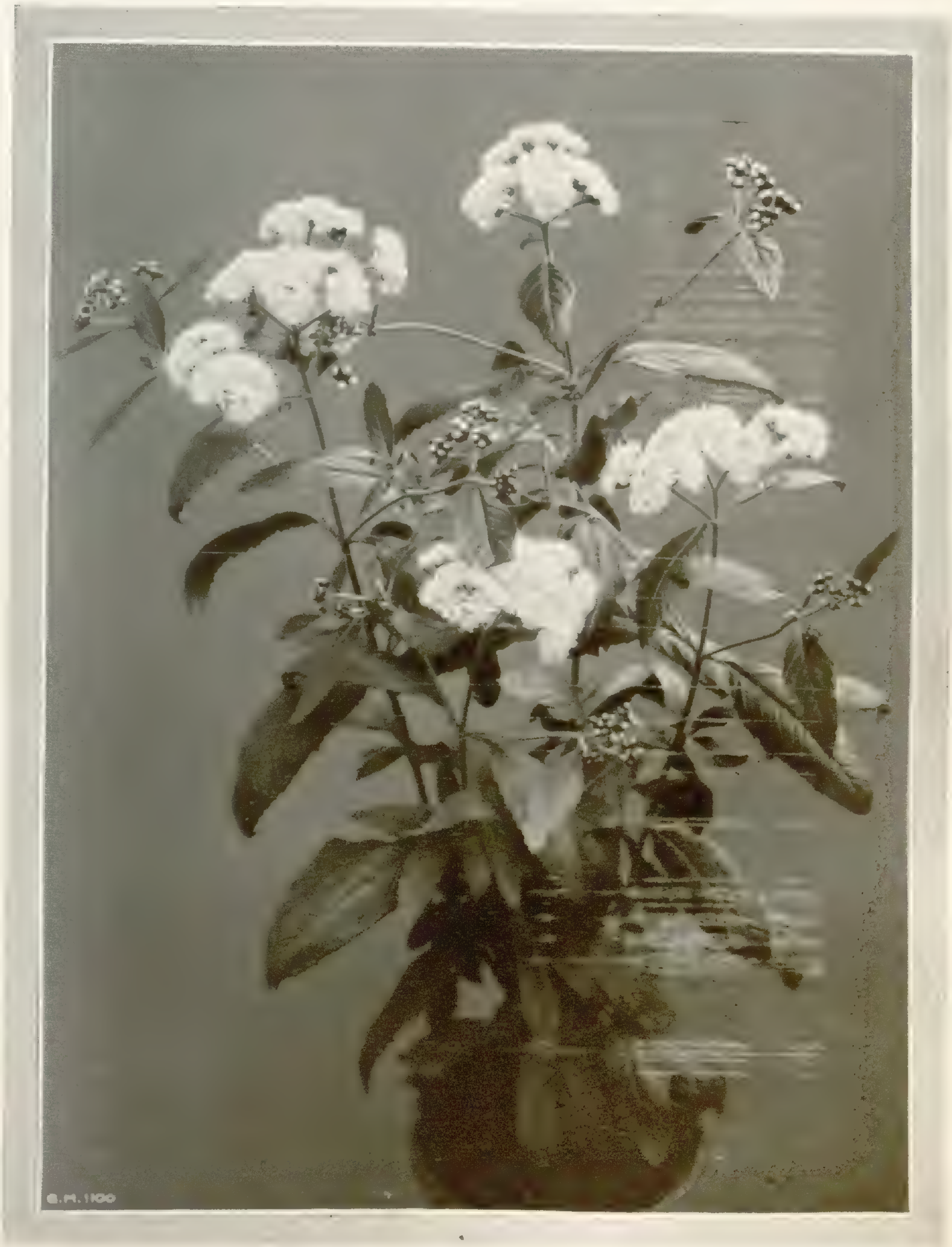
The large cut flower grower does not reserve his flowers for any special occasion by leaving them on the plant, but he cuts them as they arrive at the correct condition for cutting, placing them in his flower room where they keep fresher and last better.

I will venture the remark that all the best blooms at our leading perpetual-flowering carnation shows which carry off premier honours, have been cut from three to six days previous to the show. Carnation blooms which are cut in the afternoon upon a hot, bright, windy day, when plant and flower are in a somewhat flaccid state, cannot be expected to last long. If blooms are taken from a warm greenhouse and plunged into icy cold water they are sure to be affected by the sudden change, and their life shortened, and if taken from a cool greenhouse and suddenly placed in a room with a warm, dry atmosphere, they in like manner will feel the sudden change.

Few flowers last longer than the carnation if handled in a practical and reasonable way, but if the plants or flowers are exposed to sudden extremes it is unreasonable to expect the best results. Nothing is more beautiful than a fresh, fragrant flower, yet what can be more sordid, or depressive, than a wilted, half-dead specimen?

MONTAGU C. ALLWOOD.

Bush Hill Park.



ERLANGEA TOMENTOSA.

A useful new winter-flowering plant, somewhat like an eupatorium. Flower heads rosy-lilac, leaves fragrant. A.M., R.H.S., January 11. Messrs. James Veitch and Sons, Chelsea.

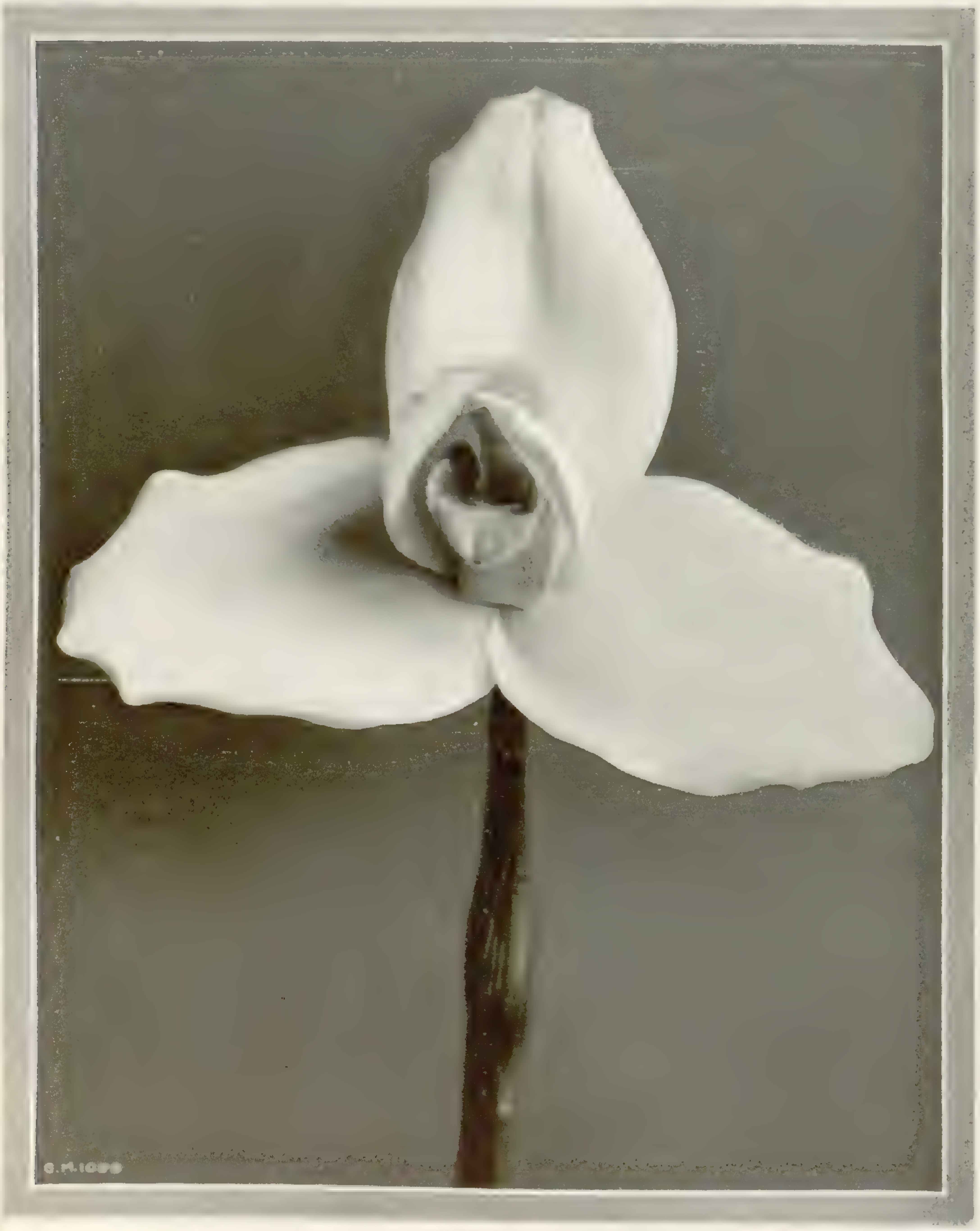
A NEW FLORAL HOBBY FOR PARSONS.

When reference is made to the hobbies of clergymen, it is sometimes thought by those who have had no experience of parochial work that they are not needed so much for purposes of refreshment and recreation as for helping to pass the time away in a pleasant manner. I am not disposed to speak harshly of those who regard the work of clergymen as very light, for not until one has had experience in the administration of a parish can a proper idea be had of the calls upon the time of those engaged in it, or of the trying nature of many of the duties that have to be performed. Of course, the work is more arduous in some parishes than in others, and the same amount of work will press more heavily upon one man than upon another, but, writing from, what the gardener loves so dearly, namely, practical knowledge, I am strongly of the opinion that the parson is wise who has a hobby.

A very considerable number of my brother clergymen have a hobby, and obtain much pleasure therefrom. Some devote attention to bees, and are able not only to supply their table with pure honey, but are able now and again to send a piece of comb or a small pot of honey to some parishioner in need of a simple delicacy. They are also able to show to their people how they might, with a few hives, obtain a good supply of honey at a small cost, and that, by enlarging their apiary they may augment their income by the products thereof. Beekeeping as a hobby has much to recommend it, but unfortunately there are many who, like myself, are not able to handle bees. While admitting that bees when handled properly seldom sting those who attend to their needs, the fact remains that some of us fail to understand how to manipulate them without making them angry, and suffer so severely as to compel us to have as little to do with bees as possible.

Not a few make a hobby of hardy fruit culture, and an excellent hobby it is, for when a fair measure of success is achieved the household supplies are greatly improved and materially increased, and much interest is derived from the carrying out of the various operations. It is not, however, the parson alone who derives pleasure from fruit growing. The influence of a well-managed rectory or vicarage garden is felt far beyond its boundaries. From what I have seen in various parts of the country I should be much surprised in visiting a clerical friend who has made a hobby of fruit growing not to find when walking round his parish a goodly number of excellent apple trees in the cottage gardens. The number of those who have hobbies that are useful as well as interesting is large, but unless I am much mistaken, not so large as those who have floral hobbies. There must be an immense number of parsons who make a hobby of roses, and so hard is it ridden by some that they consider it the only floral hobby worthy of the name. I so far respect their feelings as to feel that it would be unkind to question their judgment. Rose growing is a delightful hobby, so at least I have found it, and not the least pleasurable part of it has been the occasional bringing home of a first prize for a six or twelve that has been won in a keen contest for premier honours.

It is not my intention to ask one of my brother parsons to give up rose-growing as a hobby, but the time has come when it appears desirable to suggest the cultivation of sweet peas as a new hobby for parsons. One of its strongest recommendations is its suitability for those who have not the space, the time, or the inclination for engaging in beekeeping, fruit growing, or rose culture. The cultivation of sweet peas can be successfully carried out in the smallest of gardens, and without a very heavy tax on the time or the pocket of those who engage in it. Seed of really good varieties is cheap enough, even in a season following on a bad harvest, and the requirements of the plants are few. The soil has to be deeply dug and liberally manured, and the plants to be properly staked, and to have the dead flowers removed before the seed pods have time to impose a strain upon the plants. The return is an abundant supply of flowers of exquisite beauty for at least three months. Nothing could be more refreshing to the overwrought brain or the depressed spirit than to walk along one of the rows and enjoy the exquisite form, the charming tints, and the delightful fragrance of the myriads of flowers. This is not by any means all. Every room in the rectory or vicarage where flowers are admissable can be readily decorated with sweet peas, and few things would be more acceptable to parishioners on the sick list than a bunch of sweet peas. Then with the aid of the rows of sweet peas in his garden the parson can show how well suited they are for cottage gardens, and thereby encourage their more general cultivation among those whose resources as well as their gardens are very restricted. M. A.



LYCASTE SKINNERI ARMENIACA.

A beautiful white variety, with lemon-yellow lip. F.C.C., R.H.S., January 11. F. Menteith Ogilvie, Esq., The Shrubbery, Oxford.

NEW PLANTS, ETC.

LYCASTE SKINNERI ARMENIACA.

This beautiful and rare orchid was finely shown on January 11. The flowers are of fine form and substance, the broad sepals being pure white, the petals white, with lemon-yellow markings, and the lip lemon-yellow. Two plants were shown, and both were finely grown. F.C.C., R.H.S., January 11. F. Menteith Ogilvie, Esq. (gardener, Mr. Balmforth), The Shrubbery, Oxford.

CYPRIPEDIUM BANTAM.

A very interesting, beautiful, and distinct variety, obtained by crossing C. Sallieri Hyeanum with C. Euryades. It was figured in our previous issue. The dorsal sepal has a white apex, and the basal part is green very heavily and beautifully stained with deep, rich, burnished brown and purple-brown. Lip and petals are yellowish-green shaded with bright brown. A.M., R.H.S., January 11. Lieut.-Colonel G. L. Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

CYPRIPEDIUM ATLAS.

A very fine cypripedium, derived from C. Fascinator and C. insigne Harefield Hall. The flower is very large, and all the parts are broad and rounded. The dorsal sepal is white with a yellow-green base, spotted freely with deep purple. The yellow petals are shaded with purple-brown, and marked with a deeper shade. Lip, yellow shaded with purple-brown. A.M., R.H.S., January 11. Lieut.-Colonel G. L. Holford (grower, Mr. H. Alexander, Westonbirt, Gloucester.

ERLANGEA TOMENTOSA.

This new winter-flowering greenhouse plant has sweetly-scented leaves, and clusters of small rosy-lilac or mauve flowers, that very much resemble in form those of an eupatorium. The species is from Central Africa, and has been on view at Kew during the present and last winters. A.M., R.H.S., January 11. Messrs. James Veitch and Sons, Chelsea.

APPLE WILLIAM CRUMP.

This fine new apple, raised from Cox's Orange Pippin and Worcester Pearmain, gained an Award of Merit on December 22, 1908, and was described in our columns. It is a dessert variety of high merit. A.M., R.H.S., January 11. Mr. W. Crump, V.M.H., The Gardens, Madresfield Court, Malvern.

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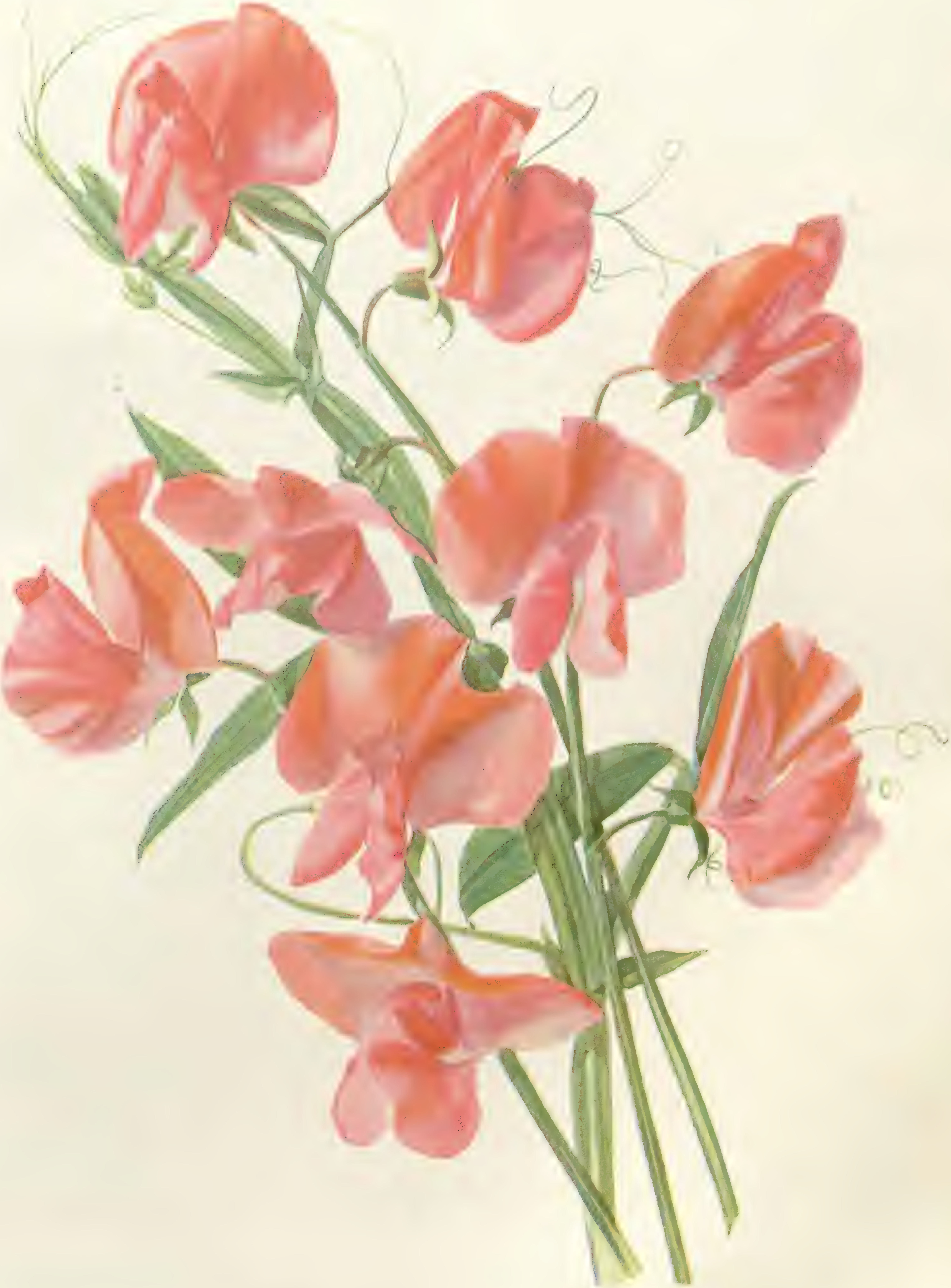
pplement to "The Gardeners' Magazine," January 22nd, 1910.



SWEET PEA—"EDNA UNWIN."

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EXHIBITION ONIONS.

(Concluded from page 51.)

◆

Manurial Stimulants.

It is fatal to commence feeding the plants until they have become thoroughly established and have produced abundance of roots; similarly, much harm can be done to onions if feeding is continued too late in the autumn, when the roots, which are annual, have completed their season's work, as indicated by the tips of the leaves turning yellow. About the middle of June a sprinkling of finely powdered nitrate of soda or nitrate of potash (saltpetre) may be given, alternated with guano once a week in the quantities already recommended; this application should be given (whenever possible) just previous to a shower of rain, which readily washes a soluble manure like nitrate of soda into the ground. Last season, I substituted nitrate of lime for nitrate of soda with very satisfactory results. If the weather continues dry, these manures should be watered in.

I am not an advocate of the continuous watering of onions, as I have found from experience that if the ground between the plants is kept well hoed, better bulbs are produced than when the water pot is too freely used. I refer to a fairly retentive soil trenched to a depth of three feet. Liquid manure in the form of drainings from a manure heap, a pigstye, cowsheds, or stables are invaluable, but they must be used with care and judgment, and never given unless well diluted with rain water, the latter in preference to well water. Never water over the foliage with liquid manure. I once lost the greater part of a large bed of onions through carelessness in this respect; the foliage rotted off and the damp spread into the centre of each bulb. This was just previous to their ripening off.

Fungoid Diseases and Insect Pests.

Like all other highly cultivated plants, onions are attacked by diseases and insect pests, which often prevent their being cultivated on the same ground for a number of seasons. I once produced large bulbs from the same piece of ground for five years in succession, but had eventually to change to new ground owing to an attack of mildew, for which it is always well to keep a sharp look-out during the month of July. If taken in time, I find that there is nothing better to arrest the spread of mildew in onions than sulphide of potassium, using half an ounce to each gallon of water; light sprinklings of flowers of sulphur between the plants once a fortnight are also very effective. I have never experienced attacks of the onion maggot among transplanted onions; the absence of this pest may to some extent be due to the special preparation of the soil, accompanied by the dressings of lime and soot, together with the advanced growth of the plants at the time of planting.

Harvesting.

Onions badly harvested keep badly, and particularly so if over manured late in the season. Late manuring is also responsible for many of the bulbs becoming badly shaped and finally splitting, and also developing their flower spikes. If the period of natural ripening is prolonged through wet, unsettled weather, it may be necessary to assist nature by bending over the necks of the more robust plants; this will check growth and considerably hasten the resting period of the bulbs. In very wet soils it may also be necessary to partially lift the bulbs by means of the prong. In ordinary autumns the bulbs should be placed on the surface of the ground, bottom upwards, so as to thoroughly harden the under flesh and skin. Exposure in this way will also deprive the neck of its surplus moisture. Storing is best done in a well ventilated outhouse, the bulbs being either suspended by fastening string to their necks, or placing them on open shelves. If the rafters under the roof of the outhouse are sufficiently strong to bear the weight, there is no better place for winter storing.

Varieties to Grow.

The most popular variety for exhibition purposes is Ailsa Craig, yet it is an open secret that from a bed of Ailsa Craig it is possible to pick out quite a number of distinct types of onions resembling varieties such as Southampton Champion, Sutton's A1, and even Cranston's Excelsior. The latter I have found very useful for exhibition purposes, and it can be grown to quite as large dimensions as either Ailsa Craig or Southampton Champion.

J. C. NEWSHAM.

Old Basing.

SWEET PEAS IN SCOTLAND.

The wave of enthusiasm—shall we say—for the culture of the waved sweet pea is high, and points still higher for the future, in Scotland. High and low, rich and poor, grow their quota, and can it be wondered that they do so? The quality of the flowers is magnificent, owing to the plants having room to grow and develop properly.

Speaking broadly, prizes won at shows are the result of arrangement, rather than outstanding merit in the flowers. The growers are well up in nomenclature, and it is surprising to note the number who tell you truly the name of the variety in your buttonhole. That denotes keen observation and praiseworthy enthusiasm. We have some fun at times—oh, yes, the serious Scotch people are not altogether oblivious to humour. I remember showing a pink seedling to a batch of enthusiasts, when a worthy came up noted for his "knowledge." Asked by one of the party, "What is that?" he rubbed his hands, held it up critically, and, not to be had, with a long face, said, "It's no Black Knight, ony wey." Another, a Highlandman, who knew what he was talking about, when the best bunch in a show was under criticism, remarked, "I vote for Mrs. Skies." He meant "Mrs. Hardcastle Sykes," and wasn't far wrong in lauding her to the skies, was he?

The Scottish growers have learned the secret of success, viz., thin sowing or thin planting. New growers, acting on that advice, are almost certain of success, because they have fresh soil to work with, and the astonishing specimens obtained at the first attempt gives them a fever from which they do not very rapidly recover. I have seen some glorious groups grown on fresh soil without manure, and single plants grown in boxes, and well attended to that were nothing short of revelations even to experts. My friend, the Rev. MacDuff Simpson, of Edrom Manse, grew some in boxes last year for late blooms that would have won prizes anywhere. These were grown in quite ordinary soil, with no manure added. My friend had a show there last year non-competitive—which brought forth an extraordinary display. Why? because exhibitors who do not compete at shows turned up. One could not help regretting after seeing such a fine display that they do not compete. I never saw anything finer, and similar exhibitions—for charitable objects throughout the country, would give a further impetus to the possibilities of the sweet pea. In this district there are many growers whose flowers are of the highest quality. The soil varies greatly—still, all obtain grand results. In every case the rule is "ample room." There is an art, of course, in getting size and quality combined. I cannot warn growers enough, of the appearance at shows of great thick and long stemmed specimens, which have a faded, lustreless hue, when compared with the fresh and dainty specimens beside them. They are over the Border, too, and when judging along with my friend, Horace Wright, at a big English show, I was delighted when he passed such exhibits without remark.

In many of the gardens belonging to the landed proprietors the sweet peas are used for massing with grand effect. Those who have seen John Ness' sweet peas in Captain Aitken's garden at Nisbet, and Gideon Kerr's in Mrs. Baillie Hamilton's, at Langton, will not readily forget them. No disbudding, no thinning of laterals, and yet every spray fit for a show bench. Then again, you have them worked into the landscape gardening colour scheme, as at Floors Castle. I got a delightful colour shock when I visited the latter garden. They were grown quite differently from the two just named; the flowers were small in comparison, but what a sight. It was late in the season, and the eye caught great masses of Michaelmas daisies in the mid-distance of the picture, giving a subtle atmospheric effect. It was something new and charming. A combination of summer and autumn tints, yet in complete harmony. What will groups of Earl Spencer and Masterpiece look like against a background of prunus, or the Marquis acting as a background for montbretia, and so on? The possibilities are endless, and the scope for individuality abundant.

The Spencer type is dominant in Scotland—the old type—and what sweet pea grower does not look back with pleasure to its reign—is recessive. The newcomer proves that Scotland recognises and adopts improvements that are dainty and artistic in flower formation, and her competitors at shows have chosen, and chosen wisely, that Cole's Spencer type is their Queen.

The Scottish exhibitors at the great competitive gatherings have shown signs—especially at late autumn exhibitions—of a falling off in numbers, but a Scottish Sweet Pea Society is in embryo, and with such enthusiasts as Messrs. Frank Cuthbertson and T. McIlwrick cracking the egg, a healthy and vigorous chicken will be heatched, and this, perhaps, will develop equal to the N.S.P.S. itself.

It is hoped that numbers of employers who meantime prevent their gardeners exhibiting, will see their way to do so now. That is all that is needful to ensure success.

A. MALCOLM.

Town House, Duns.

Seed Sowing.—Active preparations must soon be made for the sowing of such seeds as auriculas, hardy primulas, and polyanthuses. They should be sown in shallow, well-drained boxes, or pans, and placed in a temperature of about 45 or 50 degrees, or even in a cold but sheltered frame. These seeds germinate slowly, hence a longer period is needed for their germination and subsequent growth if strong plants are required by the following autumn. On no account must the soil be allowed to become dry during the time the seeds are germinating, or the results will be disastrous.—W. HEDLEY WARREN.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

INSECT ENEMIES.—With a constant necessity for the use of artificial heat at this season of the year, every encouragement is afforded for the development of insect life; especially is this the case where the atmosphere is at all dry. A constant observance of the plants is necessary to prevent damage and disfigurement of the leaves by red spider, various kinds of thrips, and aphis. Such plants as cymbidiums, lycastes, phaius, dendrobiums, spathoglottis, bletias, sobralias, and others, with their evergreen foliage, are almost sure to become infested with red spider, at periods of the year when fire heat is at all excessive, or, for example, where the atmosphere is of a drying nature in any particular portion of the house. As soon as this pest is observed, the plants should be carefully sponged, as they quickly cause permanent disfigurement of the foliage, and should the conditions be favourable, the undersides as well as the tops of the leaves should be sprayed with some safe insecticide. Occasional fumigation will also keep these pests in check. Thrips are undoubtedly the worst enemy that the grower has to contend with, and nothing short of fumigating or vaporising and spraying at regular intervals will keep these pests in check. It is expensive, I am well aware; but the decrease in the time occupied in keeping the plants free from the unsightly disfigurement of foliage and growths more than compensates for the initial expense. The eggs of black thrips deposited on the undersides of the foliage in the autumn will be hatching out at this season, and where the thrips are found, search should be made to see that no traces of eggs are allowed to remain. Where they are discovered, carefully sponge all signs of deposit off. This sponging takes more than an ordinary wiping over the surface, so care must be observed to prevent scratching of the foliage. Where there is trouble with yellow thrips, which are such pests to cypripediums, I would recommend that the plants be dipped once or twice a week for three or four weeks. If winter-flowering cypripediums have been badly attacked, any repotting requirements should be postponed until the grower is satisfied that the pests have been destroyed. The plants will then be benefited by the new potting compost. Cypripediums should be sprayed with some safe and effective insecticide at least every alternate week throughout the year, excepting during the time the plants have their flowers expanded. Aphis or green fly are not difficult to keep in check. A very light fumigation with a safe nicotine preparation keeps these in check and effectually destroys any of the insects that are alive. The larval stage of the small black fly is passed in the potting compost of seedling orchids, and causes no end of trouble. The larvæ frequently eat out the node at the base of the developing growth, and are not discovered until the plants have been destroyed. The only relief I have found is from the vaporiser, and with the generations forming in the potting compost, it is a difficult matter to keep these in check, as only those on the wing and exposed are effectually destroyed. Cockroaches may be destroyed by poisons advocated for the purpose, or traps set about their haunts for their destruction.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CALLAS OR RICHARDIAS will now be growing freely, and they should have plenty of room and a free circulation of air about them. Supply with water in which sheep droppings have been steeped for a month at least.

FREESIAS that are unsupported should be attended to at once, placing four or five stakes in each pot and two strands of raffia round them to keep them upright. A shelf near the glass will be the best place for them.

KALANCHOE FLAMMEA.—The plants that were rooted last spring and were grown on in a cool frame throughout the summer will be developing their flower spikes, and should have a neat stake placed to them and be secured with raffia. Those coming into bloom should have the assistance of some artificial manure. If any shoots suitable for cuttings are noticed at the base of the plants secure them at once, using sandy soil for the cutting pots. When potting them off singly, use 4½-inch pots, with plenty of drainage, and as soon as they are growing freely place in a cool house till the weather be suitable for transferring them to a frame through the summer.

CINERARIAS.—Both stellate and large-flowering varieties will be fast coming into bloom. Supply with liquid manure three times weekly, and do not allow them to become dry. If green fly be seen, fumigate at once, otherwise the plants will soon be crippled and have an unsightly appearance.

HERBACEOUS CALCEOLARIAS.—Plants in 5-inch pots should be shifted into 8 or 9 inch pots. Use a compost consisting of good fibrous loam, sharp sand, leaf-mould, and horse droppings, and secure an efficient drainage so that the soil will not become sour. Keep them near the glass to prevent their becoming drawn, and on no account hasten the growth with artificial heat. On the other hand, keep in a cool house in which the temperature does not fall below 45 degrees.

GREVILLEA ROBUSTA AND EUCALYPTUS plants that are in small pots and have become pot-bound, should have a shift into larger pots. They will very soon begin to grow away freely. Water sparingly after potting until the roots obtain a firm hold of the fresh soil. Seeds of these subjects should be sown now to give the plants a long season in which to make their growth.

ROSES.—A batch of roses put into a warm greenhouse will start nicely into growth, but before taking them indoors give them a good wash. If a house can be exclusively devoted to grow roses, it will be an advantage. Roses just potted up are not of much value for flowering under glass, but if they were potted in the spring of 1909 and grown on they will be in every way suitable.—W. STAWARD, Belford Hall Gardens.

THE FLOWER GARDEN.

HELLEBORES.—Much as these dislike disturbance at the roots, they must at intervals be divided and new plantations made if the supply of finely developed flowers is to be maintained. This is necessary because the crowns become partly exhausted in the course of a few years. Much depends upon the treatment the plants receive, but they will amply repay the grower for the extra care and outlay when generously dealt with. When they have ceased flowering and the young growths are making their appearance is a good time to divide the roots; in doing this, do as little injury to them as possible, and plant at once in well manured and deeply dug ground. Under no consideration must the roots be allowed to lie about and become dry; this is only too frequently the cause of failure with imported clumps and crowns. In suitable situations the hellebores may be used as rock plants, the effect they produce being distinctly pretty, and welcome at a dull season of the year; but they require more frequent renewals than when grown in beds or borders.

VERBENAS that have been under cool treatment may now be removed into a temperature of 60 or 65 degrees of heat, to induce the plants to produce suitable growths for propagating. If possible they should be placed on a shelf near the glass; the result will be stronger and healthier cuttings. Detach the growths when about two inches in length, insert in sandy soil, or even clean silver sand, and plunge in bottom heat. For this purpose nothing answers better than a hotbed made up with equal parts of fresh stable manure and leaves, this mixture giving a steady, moist, and lasting heat. During the process of rooting keep the lights or pit as airtight as possible; if the cuttings are of a suitable kind roots will be emitted within a week or ten days, after which they must be removed into cooler quarters, or the pots withdrawn from the heated material, and air gradually admitted into the structure. At a subsequent date the plants must be potted off singly into 72 size pots, and finally into medium or large sized 60's. Under this treatment strong, healthy plants are obtained by the month of May.

GLADIOLI, DAHLIAS, CANNAS, BEGONIAS, and similar bulbs and roots must now be examined, and losses made good by division of the roots or rooting the growths, as the case may be, when the time arrives for these to be dealt with.

PENTSTEMONS, ANTIRRHINUMS, AND BEDDING CALCEOLARIAS raised from cuttings during the autumn, and still under cool treatment, should have their points removed to induce a bushy growth. These, at a later date, must be potted, or placed in boxes, as circumstances and space may allow. —W. HEDLEY WARREN, Aston Clinton Gardens.

HARDY FRUITS.

RASPBERRIES.—Where the work of pruning was not done as soon as the fruit was gathered, the old fruiting canes should be now cut away, and if trained to wires—which is preferable to stakes—the best placed fruiting canes should be selected, about six inches apart, and tied securely but loosely to the wires. If, on the other hand, they are grown to stakes, leave five or six good fruiting canes to each support. We always cut away the unripened tops of the canes as the tying and thinning is finished. The ground between raspberries should not be roughly dug over, but it will do no harm to lightly fork over the soil, not too near the base of the plants, then give a good dressing with decayed farmyard manure. Owing to the climatic conditions being all that could be desired in this locality for the past ten days, we have been busy planting raspberry canes, the soil having been previously well manured and trenched. Where such favourable conditions exist, planting should be proceeded forthwith. The canes should be planted in rows four feet apart, and fifteen inches asunder, and should be trained to stout wires, fixed to strong posts, running from end to end of the rows. We do not cut our canes down to within two feet, or less, of the ground, when newly planted, as many growers advise, only the unripened tops are cut off. This method has always been adopted here, and has given satisfaction.

MULCHING.—I do not recommend the practice of mulching established fruit trees in the open quarters and under walls at this season of the year; but if not already done, trees that were recently planted should be mulched at once with long stable litter, as far as the roots extend, to protect them from frosts. Do not on any account mulch trees when the ground is frozen, far better to wait until the frost has disappeared before proceeding with this work.

STAKING.—All newly planted trees should be firmly staked and securely tied, so that the trees are held in their proper position, and the roots are not strained with the wind. Good stout ash or larch stakes should be used for this purpose, using felt or sacking, so that the ligatures, or stakes, will not chafe against the bark of the trees. Many young fruit trees are practically ruined by indifferent staking and tight tying. Trees that were planted last year in exposed positions should have their stakes examined, and if decayed, these should be replaced with new ones, and carefully tied. Especially is this the case where espalier trees are trained to stakes. It is a good plan to cut away all the old ties on these trees, and renew them, after the stakes have been carefully examined.

GENERAL WORK.—The pruning of fruit trees and the preparation of the ground for planting, as advised in the last calendar, should be proceeded with, where the climatic conditions are favourable.—HENRY R. FARMER, Cardiff Castle Gardens.

BEES IN RELATION TO GARDENING.

At the second of the two meetings held by the Royal Horticultural Society, in August last, Mr. Walter F. Reid, F.I.C., F.C.S., vice-chairman of the British Beekeepers' Association, read a paper on the relation of bees to gardening, and, in view of the importance of the subject, we reproduce a portion of it from the society's "Journal." The paper was freely illustrated by lantern slides, and a considerable proportion of these have been reproduced for illustrating the paper:

Many of the greatest advances of modern science have been due to the recognition of the fact that even the minutest organisms and particles of matter are fully as worthy of detailed study as the grosser units that could alone be investigated before the invention of the microscope. The utility of such study has been abundantly demonstrated by the discovery of the bacterial origin of disease, and the isolation of radium, which has revolutionised our views of matter itself. Botanists were among the first to recognise the importance of the infinitely little; knowing how small a seed could produce even the largest tree they readily accepted the microscopic marvels that were listened to with incredulity by many of their contemporaries. The discovery of the fertilisation of flowers by means of pollen opened a new era for the horticulturist; but it is only since the classical researches of Mendel have been appreciated at their true value that the reign of law has succeeded to the reign of chance in the improvement of those products of the vegetable world that are necessary for our existence.

No sooner was it ascertained without doubt that pollen played a part in the production of some of our most important crops than a series of investigations into the methods of its distribution commenced, and these investigations are still by no means complete. It is established beyond doubt, especially through the patient researches of Darwin, not only that insects are concerned in the pollination of flowers, but that certain insects and flowers are adapted to each other in a most wonderful manner. He found that bees especially contributed very materially to the production of some of our most important crops; in fact, without their aid the seed would, in many cases, have been sown in vain.

While all kinds of bees are useful to the agriculturist, it is the hive bee in particular that is his greatest friend, yielding, as it does, useful products of its own in addition to its utility as a fertilising agent. That the beneficent action of these little workers was not sooner realised was due in a large measure to the erroneous belief which prevailed as to the nature of the substance which bees could be seen to collect from the flowers. Until the middle of the eighteenth century the little pellets of pollen which bees bring into the hive were mistaken for wax. It was not then known that wax was secreted by the bees themselves in glands specially adapted for that purpose. That bees generally visit the same kind of flower on each flight had not escaped notice. Aristotle was aware of the fact more than two thousand years ago; but the important bearing of this habit on the fertilisation of flowers has only recently been fully appreciated.

There are several ways in which the hive bee conveys the fertilising pollen from one flower to another, and, in considering these we must recollect that it is the worker bee only that visits flowers. Neither queen bee nor drones are ever seen on flowers; they are consumers of food and do not collect it. The organs of the worker bee are specially adapted for the work it has to perform, while the corresponding organs of the queen and drone are but partially developed. First in importance to the bee itself as a means of collecting pollen are the so-called pollen-baskets with which the hind legs are furnished. It is upon these that the bee brings home the pollen that is one of the ingredients of the food upon which it feeds its young. The hairs upon the body and legs are, however, the first instruments used in detaching the pollen from the flower. If you observe a bee issuing from a flower in which pollen is plentiful you will notice that it hovers for a moment in the air, and that its legs are in rapid motion. They are collecting the pollen grains from the body hairs and packing them upon that portion of the hind legs that is specially adapted to receive and retain them. But the bee cannot itself reach all parts of its body, and some pollen is sure to remain on the hair. The tongue of the bee is an organ of great importance from the point of view of the horticulturist, as it can convey pollen into flowers which are much too small to permit of the entrance of the insect itself. The tongue is even more densely clothed with hairs than the body, so that any pollen grains that may come into contact with it are caught and retained. Some flowers are visited by the bees for the pollen alone, especially in the spring, but, whether it come for pollen or honey, the bee cannot avoid carrying out the duties which the flower requires in return for the nutriment given.

The mutual advantages of this arrangement are very great. Where a plant is dependent upon the wind for fertilisation an enormous quantity of pollen has to be produced, with a corresponding strain upon the plant, and yet the fertilisation is so imperfect that in some cases, of which the date palm is a familiar instance, harvests cannot be relied upon without human assistance. It has been estimated that one maize plant will produce 50,000,000 grains of pollen. Compared with such figures the quantity of pollen that a single bee can carry may seem small; but the activity of the insect more than compensates for any deficiency in this direction. Estimates as to the number of blossoms a bee visits on each journey differ considerably; but there is little doubt that it may amount to several thousands.

While the pollen gathered by the bee is of primary importance to the flower itself the same does not appear to hold good with regard to the honey, which is certainly one source of attraction to bees. Some authors have considered that honey is secreted by flowers as a bribe for their useful visitors. But some plants, such as the laurel and the Jerusalem artichoke, have nectar glands upon their leaves, and these are frequented by bees and wasps without any apparent benefit to the plant. Although it is customary to speak of bees gathering honey from flowers, what they really collect is nectar, which differs both in chemical constitution and consistency from the honey that we get from the hive. The nectar extracted from the flowers is stored in a small bladder known as the honey sac, in which it is subjected to a preliminary process of concentration. On arrival at the hive the contents of the honey sac are ejected into a cell in which a further process of ripening and concentration takes place. Until the honey is so concentrated that it will not ferment the bees do not cap the cells over, and the beekeeper who extracts uncapped honey soon finds to his cost that he has still a lesson to learn from his bees.

Whether the hive bee visits flowers for honey or pollen it invariably encounters some device by means of which it is deprived of a sufficient quantity of the latter to fertilise the flower. I use the term hive bee advisedly, because the humble bee is less conscientious and often refuses to pay the price that the flower has the right to demand from it. Its powerful jaws enable it to bite through the corolla of a flower and thus to reach the nectary without coming into contact with the pollen. Darwin states that he has seen whole fields of red clover treated in this way, and that in the neighbourhood of Bournemouth he did not succeed in finding a single flower of Erica tetralix that had not been perforated. Such is the demoralising effect of the desire to acquire riches quickly that even the highly civilised hive bee will utilise the holes gnawed by the humble bee, and, where these abound, it will fly straight to them, without even looking at the proper entrance to the flower. Where humble bees are plentiful, gardeners will frequently notice the blossoms of scarlet runner beans perforated at their base, but I have not myself noticed any diminution in the crop of beans in such cases.

(To be continued.)

FLOWERS OF THE VAR VALLEY.

The Valley of the Var has been rightly described, observes the "Globe," as the metropolis of flowers. Bathed in the brilliant sunshine of the Riviera and Provence, the climate is eminently suitable for their culture, and acres of jasmine, violets, roses, orange, and other flowers, scent the air with their delicious fragrance. For seven months out of the twelve, the flower farms of Nice, Cannes, and Grasse produce enormous quantities of flowers, which are principally used in the Grasse distilleries, where they are made into scents. The traffic in cut flowers is also so great that the market gardeners and florists of Cannes and the neighbourhood dispatch nearly four hundred tons of cut flowers during the spring and summer months to different parts of Europe.

The season begins with the double Parma violets in January. They were planted in October in long furrows under the shade of the olive, citron, and lemon trees, to protect them from the heat of the sun. In November dots of colour appear among the leaves; the green is gradually overpowered, till in December, the whole plantation bursts into a glorious sheet of vivid blue. The blossoms are picked twice a week, for they lose their fragrance if allowed to remain long on the plant. Scents are sold so cheaply in these days, that it will come as a surprise to some people to learn that the essential oils of some of the commonest plants nearly touch the price of radium. Pure essence of violets is quoted by some of the Grasse distillers at over a hundred and twelve pounds an ounce; thirty-three tons of fresh flowers are required to obtain a kilo of essence, and often a kilo of fresh violets costs a shilling a pound to buy. Violet essence can, however, be marvellously imitated by a compound of tincture of orris root, which, when cleansed with alcohol and solidified, has an odour of violets, stronger than the perfume of the actual flowers themselves, and resembles the genuine violet scent so closely that only experts can tell the difference. The violet season lasts till the end of March, and the flower farms of Nice and Cannes together grow nearly four hundred thousands pounds' weight of violets annually.

From May to the end of September is the busiest time of all the busy year to the flower farmers, for roses, orange, jasmine, lemon-scented geranium, heliotrope, and many other flowers, beside herbs, are then in full bearing, and the people are in the fields from morning till night, picking the blossoms, separating the petals, and taking them to the perfumeries. Roses are cultivated by the thousands, and in the season as many as a hundred and fifty tons are gathered in the province of the Alpes Maritimes. They are celebrated for a peculiarly delicate perfume exhaled by the flowers, which is said to be due to the pollen carried by the bees from the orange groves to the rose beds. Directly the blossoms are picked they are taken to the factories, spread upon a cool floor, and the petals separated from the stalks. Roses in the Var Valley are principally used for the manufacture of spirituous extracts, pomades, and soaps; very little attar is prepared, the enormous number of flowers required to make even a small quantity prevents its being sold in sufficient quantity to ensure a profit. A hundred thousand kilos of flowers are required to make four and a-half pounds of attar, and though there is no limit to its price, it generally costs at the rate of a pound a drop.

Even more important than the rose to the flower farmer is the orange tree, and he considers it the most lucrative of his stock. From the flowers he obtains an otto worth ten shillings, and a fat worth eight shillings the ounce, and when distilled with water the blossoms yield a fragrant oil used in making eau de Cologne; from the leaves another fat worth three shillings the ounce; from the rind of the fruit an otto worth twelve to sixteen shillings the pound, and when all the juice has been extracted, the pulp is sold to feed the cows, and greatly improves the quality of their milk. The wood of the tree, which is yellowish-white and close grained, is used for inlaying and turnery. In the Var Valley the orange is chiefly cultivated for its blossoms. The season begins in April; gathering the flowers is weary, back-breaking work, for the pickers sit hour after hour, perched up in the trees under the blazing sun, and many fall to the ground, overcome by a peculiar form of syncope, caused by the intense fragrance of the blossoms. Rose leaf geraniums, mignonette, tuberose, jasmine, and other flowers occupy the grower till October, and the flower cycle ends in December with the cassia and the olive.

The Valley of the Var was celebrated during the middle ages, and during the thirteenth century the little town of Grasse, round which the flower trade centres, rivalled Marseilles in commercial importance. Though its greatness is now a thing of the past, it has never lost its position in the perfume industry of France. The peasants who grow the flowers and prepare them for the market are a hardworking, thrifty race. In many cases it is they who own the farms and who dispose of their produce to the perfumers, the prices they receive varying with the amount and quality of the flowers they sell. They are all born gardeners, and their speech bears many evidences that their forefathers inherited the trade from the Arabs, who were excellent agriculturists. They are never out of work. During the summer months, when the plants are in full bearing, every man, woman, and child is employed, and during the winter, which is very short, they are busy collecting, melting, washing, and clarifying the grease, lard, and beef suet in readiness for the coming summer. They live mostly on bread and vegetables, with goats' flesh once a week for a treat. As their trade is never fluctuating, they manage to save a considerable sum during the year, which they regularly deposit in the savings bank, and we learn that "the wealth per head of this peasant population is equal to that of our most flourishing English commercial towns." We in England could learn many a lesson from the flower farmers in the Valley of the Var.

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EXHIBITIONS AND MEETINGS.

◆

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, January 11.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Messrs. A. Worsley, A. W. Hill, G. Gordon, J. Fraser, J. W. Odell, E. M. Holmes, W. E. Ledger, A. D. Michael, H. J. Veitch, W. Fawcett, W. Hales, R. Hooper Pearson, and F. J. Chittenden (hon. secretary).

NOMENCLATURE OF GARDEN PLANTS.—The secretary reported that a recommendation on the nomenclature of garden plants had been drawn up and sent for the congress in Brussels in the spring.

POLYGONUM AMPHIBIUM.—Mr. J. Fraser showed specimens of Polygonum alpestre, which was at one time naturalised at Kew, where it had grown for thirty years, but its habitat had been destroyed by the erection of the new bridge, and the plant exterminated. He also showed specimens of Polygonum amphibium, showing the two forms which are sometimes recognised by botanists growing on one and the same roots.

VARIATION IN FERNS.—Mr. Chittenden showed a specimen of a variegated form of Nephrolepis canaliculata from Wisley, where Mr. Blakey, the propagator, had noticed a solitary specimen among a batch of young ones in 1908. The plant was isolated and grown on, and in 1909 produced spores which were sown separately, and some three hundred young plants were raised and grown on. Every plant showed the variegation in a greater or less degree, some more markedly than the parent, some less. The variegation was in no case particularly marked, but the case is interesting as an example of a sudden variation in kind being reproduced true, although the degree of development of the variation, which probably depends largely upon external conditions, varied in the different plants. He also showed a specimen of a congested form, which likewise reproduced the variation in every plant raised from its spores. The breeding true to a sudden variation does not appear to be at all uncommon, especially if care is taken to isolate the plants before the spores are gathered, in order to prevent mixture of spores and possible crossing.

VARIATION IN BEAN SEEDS.—Mr. H. J. Veitch showed a number of bean seeds, the history of which is as follows: In May, 1908, Mr. James Scott, of the Glade Gardens, Ditton Hill, sowed seed of the Dwarf Bean Plentiful. These are of a rather pale dun colour. After gathering beans several times the plants showed a tendency to climb, and subsequently reached a height of 5ft. The flowers were pale heliotrope. After harvesting the seed was found to have a dark testa marked by light splashes. These seeds were sown in 1909, and produced plants reaching a height of 6ft., and bearing foliage considerably larger than that of the ordinary scarlet runner, while the flowers were of three kinds—pure white, pale heliotrope, and brownish. The seed of this generation varied greatly in colouring, the following types being present: White, with extremely pale veinings; purplish-brown; pure black; reddish-brown; pale pink, with brown streaks and splashes; dark greyish-brown, with pale grey mottling; pale pink, with dark grey-brown streaks and splashes; dark dun, with whitish dots; dark red-brown; dark grey, with whitish mottling; red-brown, with whitish streaks and patches; and grey, with white dots and markings. The original coloured bean does not appear to have been reproduced. The seed will be grown on, and its behaviour followed. A probable explanation is that the crop was cross-pollinated in 1907, and segregation occurred in 1909. There is, of course, a possibility that crossing occurred also in 1908, as bees were within a short distance, and other beans were growing about fifteen yards away; but beans are usually self-pollinated.

VIRESCENT CYCLAMEN.—Mr. Fabius, of Redlands Nursery, Emsworth, sent a plant of cyclamen bearing rosettes of small leathery green leaves in place of flowers. All the flowers were modified in this way. No trace of similar malformations had been noticed in the strain before. It had been raised at Emsworth, and all the plants for seed purposes hand-pollinated. Mr. Bowles and Mr. Hill took examples to endeavour to root the rosettes and note their subsequent behaviour.

ERIODENDRON ANFRACTUOSUM.—Mr. F. H. Seed, F.R.H.S., of Mombasa, British East Africa, sent pods and seed of this wild cotton tree, which grows abundantly in the neighbourhood of Mombasa. The trees bear when about four or five years old, and attain a height of from 40ft. to 70ft., growing very quickly. The pods are about 3in. in length, and when ripe burst open, so that the white, cotton-like substance is set free and distributed by gusts of wind, carrying the seed with it. The cotton is beautifully soft and silky, but the fibres are not very long, and are probably unsuitable for spinning; but it is used for making lifebuoys in Africa, and for a variety of other purposes in India, where it also grows. The tree is valuable also for its timber. A few of the natives collect the pods and sell them to Indians in Mombasa, but it is probable that

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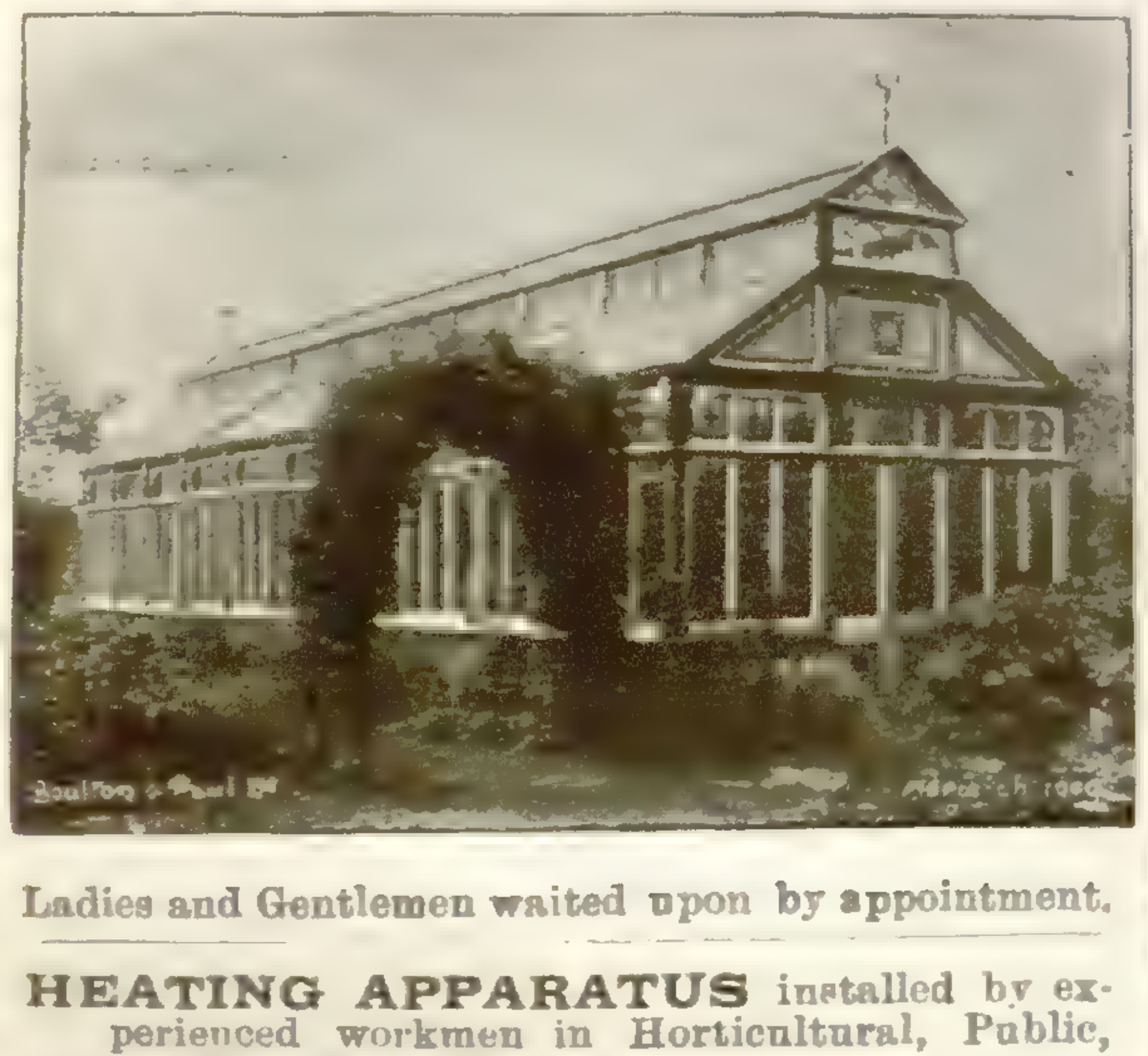

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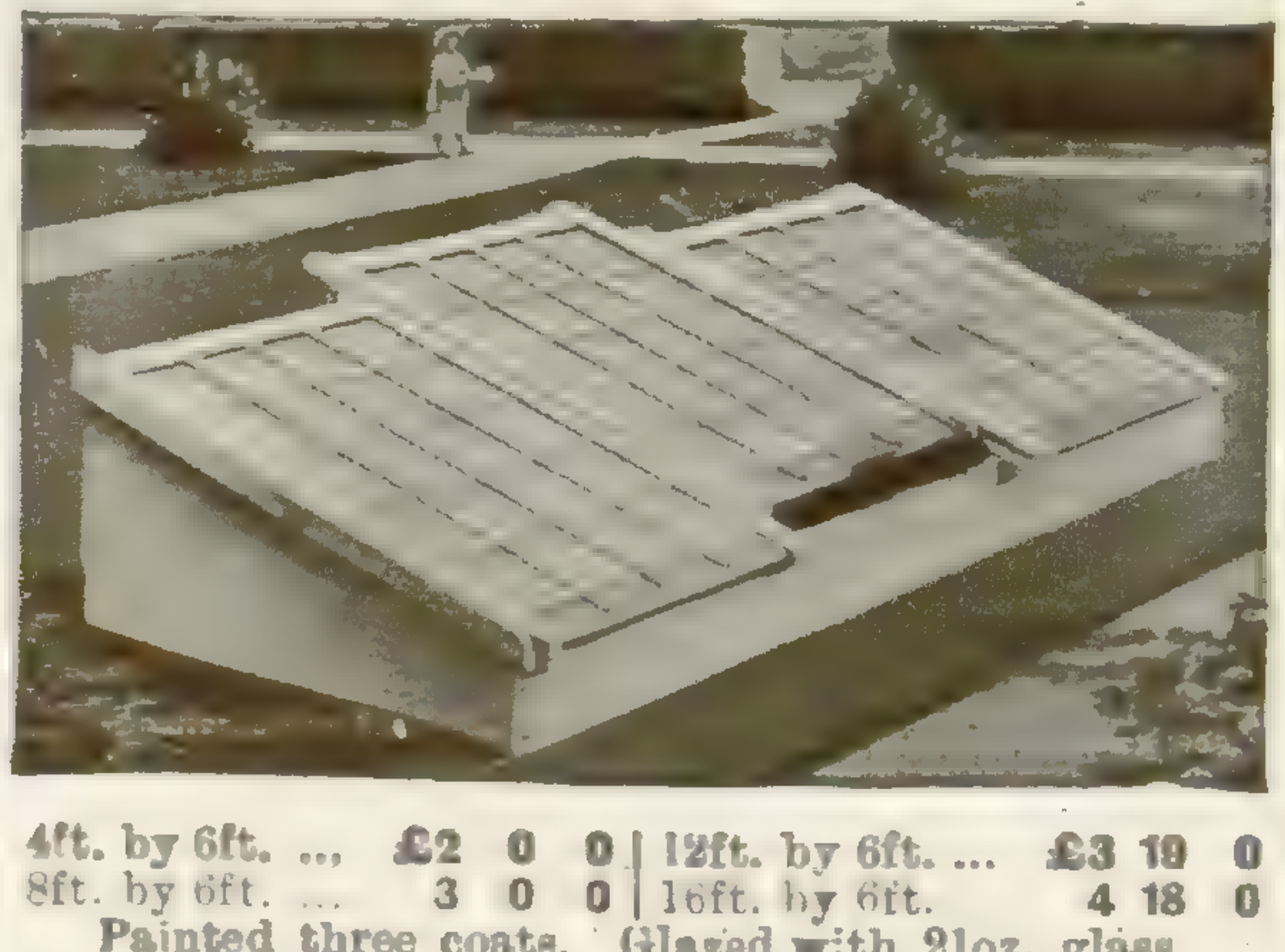

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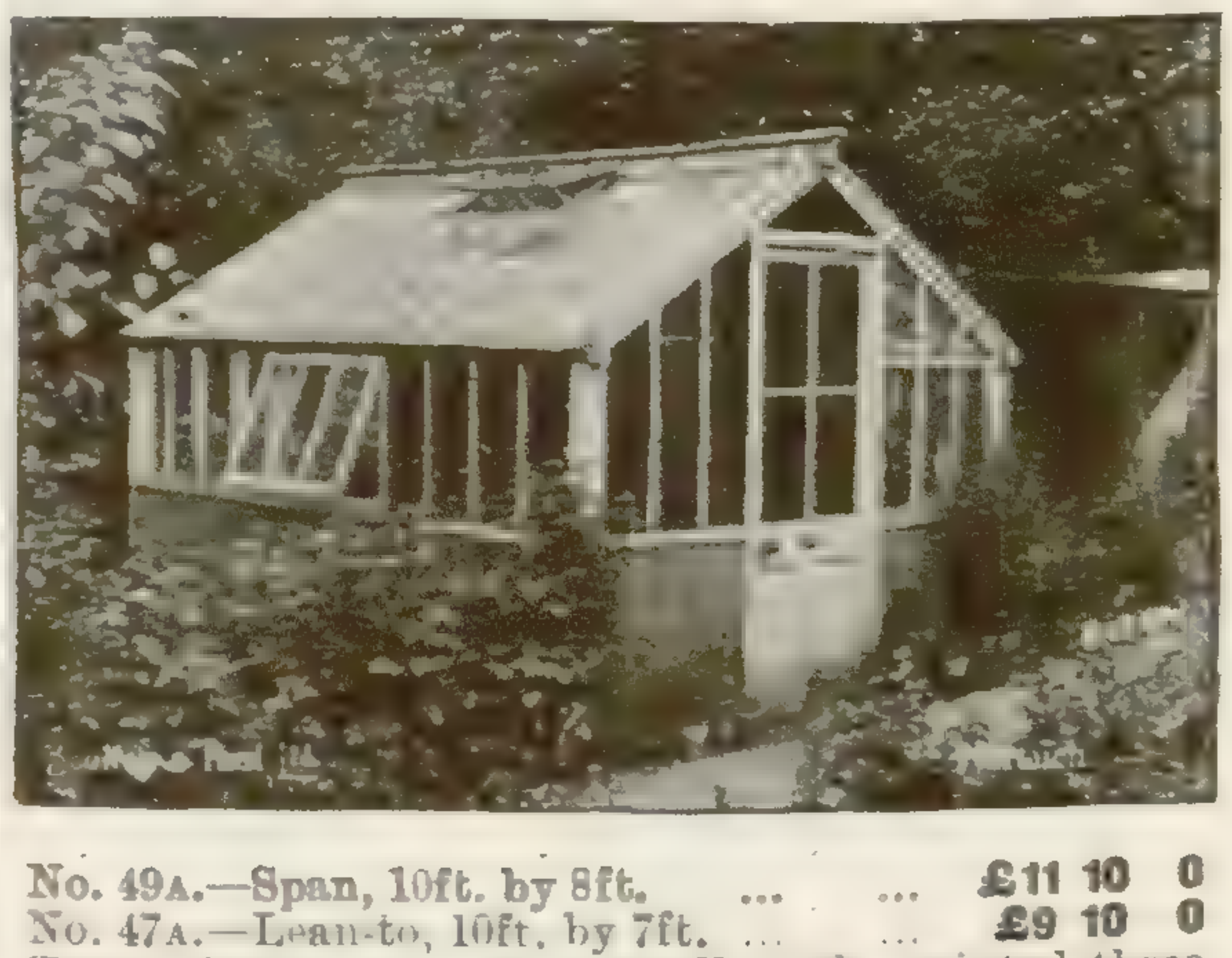

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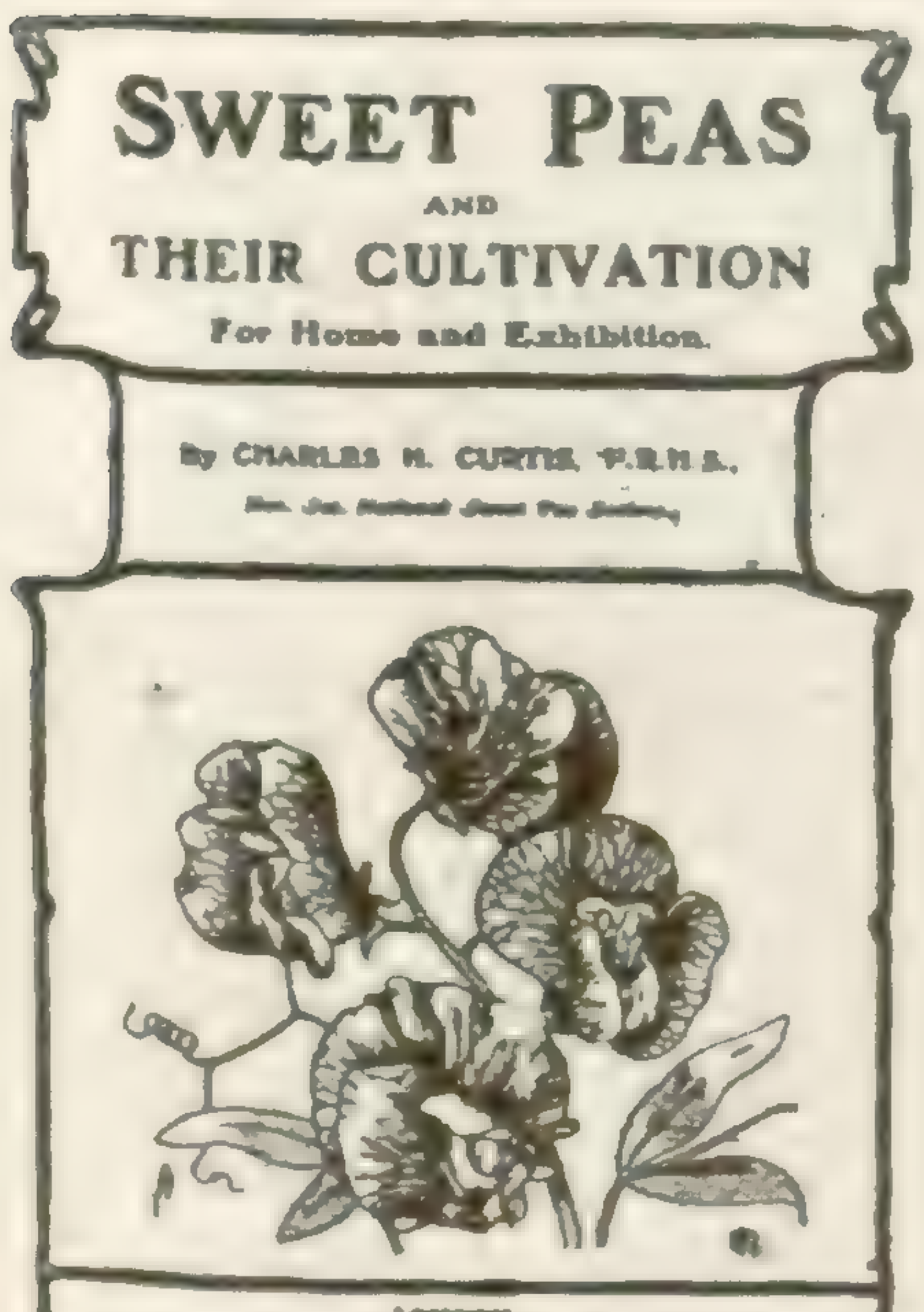

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many other uses might be made of the material than at present.

ORCHID HYBRID BETWEEN ALBINOS.—Mr. Thwaites, F.R.H.S., of Streatham Hill, showed a flowering plant of Cattleya Gaskelliana alba crossed with C. Mendeli alba. The flowers were not pure white, as in the parents (although they appeared to be so in the bud), but had a faint and very pleasing pearly-pink flush over them. So far two plants have flowered with the same character; others are in bud.

Horticultural Club.

"THE GARDEN OF THE EAST—CEYLON'S ISLE."

After the usual monthly dinner of this club at the Hotel Windsor, on the 11th inst., Mr. Harry J. Veitch, V.M.H., presiding, and a good number of members and guests being present, Mr. J. A. Alexander gave a very interesting lecture on the above subject, illustrating his remarks by a number of very fine lantern slides depicting the scenery and flora of Ceylon. The first slide, representing a map of the island, was utilised to show the three regions into which it is divided as regards the climatal and geological conditions which determine the culture of most of the valuable products it yields. In the south very moist and warm conditions prevail, and large areas were marked out as devoted to the culture of rubber, while all round the coast were dense belts of the cocoanut palm, extending over some 830,000 acres, which palm, when these groves were shown in detail, the lecturer described as probably the most valuable all-round tree in existence. Another slide showed an exhibit of the numerous uses to which it is applied in the way both of food and industrial products. A special group of palm flowers and incipient fruit gave a striking idea of Nature's lavishness in the production of possible fruits, as compared with the actual capacity of the tree to bring them to maturity, dense panicles of many hundreds of incipient cocoanuts resulting in the production of a dozen or two ripe ones. In the centre of the island lies the mountain region with an intermediate climate. The mountains are not very high, the loftiest summit of Adam's Peak only attaining some 8,000 feet. A photograph taken by the lecturer from this summit in the early morning presented a curiously weird effect, the defined pyramidal shadow of the mountain being thrown right across the landscape to the distant horizon. It is in this region that the tea plantations which form the chief staple of Ceylon's industry are situated. Coffee, formerly largely grown, had been practically annihilated by the insidious leaf disease, the spread of which it had been found impossible to resist. The third region, the dry one, occupies the north of the island, and it is here that rich mines of sapphires, rubies, and other precious stones are found to replace the wealth of valuable plant life which the prevailing drought precludes from cultivation.

Several illustrations relating to the rubber industry were very interesting, and the curious fact transpired that this substance, so much in demand in these days, was obtainable from trees of quite different orders, mostly from the ficus or fig tribe, which yielded Para rubber, but also from the manihot, a close relative to the tree which produces tapioca, this yields the Ceara rubber of commerce. Rubber is simply a gum, and is obtained by wounding the tree and collecting the exudation, and one slide showed how bamboo ladders were built between adjacent trees, up which the coolies were enabled to climb for the purpose of collecting to the height of 60 feet or more. The tea industry was illustrated by photographs of tea growing estates of the plant itself, only the young leaves of which, under ten days old, are utilisable, and the apparatus used for withering, rolling, firing, and otherwise preparing them for the market. Cocoa is another staple product, several slides showing its collection in the shape of large pods containing a dozen or more so-called beans. The cultivation of many spices and other aromatic plants, cinnamon, cardamons, pepper, vanilla, camphor, ginger, nutmegs, etc., was also shown, both in the form of the respective plants and the way their produce were handled, the effect upon the mind being that Ceylon was peculiarly rich in wealth of this description. A giant bamboo on the banks of a stream evoked particular admiration, so huge were the stems, and so dense the widespreading crest of foliage, that the comparatively tiny figure of a man close by was hardly appreciable. If we imagine a bamboo rod 30 feet in length, which could be cut into sections big enough for large flower pots or buckets, a slight idea is obtained of what a bush of some hundreds of such must be as a specimen of tropical vegetation.

Some views taken in the celebrated gardens of Peradoniya were also very beautiful, as was a photo of the inflorescense of the Taliput palm, like an enormous bunch of white ostrich plumes 40 feet in height, independently of the stately tree trunk itself. The lecture, in short, was full of interesting and practical data, and embraced a warning in connection with rubber which may well be borne in mind in these days of speculation, viz., that 10 or 12 years are requisite to establish plantations ripe for gum production, while many projects are based on five or six years' calculation, and are therefore likely to fail owing to premature enfeeblement of the young trees. A hearty vote of thanks concluded the meeting.

Beckenham Horticultural Society.

At the recent meeting of this society Councillor Lees presided over an excellent attendance of members and friends, many ladies being present. A most delightful evening was spent. Mr. Charles H. Curtis, after briefly outlining the history of the Royal Gardens, Kew, and dealing with the great work of the establishment in the furtherance of horticultural practice, botanical science, and Colonial industries, acted as "guide, philosopher, and friend" to the audience, and, by means of about seventy splendid lantern slides, conducted the members round the famous national gardens. Mr. Curtis proved an excellent guide, and his facts, figures, and descriptions, accompanied by touches of quaint humour, held the interest of everyone completely for an hour and a half; and when he concluded, the burst of applause, as also did the subsequent vote of thanks, showed how well his efforts to instruct and interest the meeting had succeeded.

British Gardeners' Association.

(London Branch.)

An interesting meeting of the above branch was held at Carr's Restaurant on Thursday, January 13, when Mr. A. W. Tidy, of Kew Gardens, gave an interesting lecture upon "The Exhaustion and Restoration of Soils." The chief points dealt with were: The classification of soils, and their chemical compositions; organic matter, including animal refuse, its decomposition, and what it yields in the way of plant food; the detrimental effect of stagnant water, and the natural processes it retards; the composition of organic and inorganic materials, and their disintegration; the loss of nitrates, etc., from the soil by drainage; exhaustion of soils by growing crops; rotation of crops as an aid in economising the constituents of the soil; restoration of soils by natural agencies, by tillage operations, and by applications of organic and inorganic manures. Mr. Tidy also explained the chemical composition of different manures, together with the best time and methods of application.

The discussion which followed was ably sustained by Messrs. Wood, Prince, Feltham, and Cowley. The lecture was thoroughly appreciated by those present, and the vote of thanks proposed by the chairman was heartily accorded.

It has been decided by the branch committee to arrange a Bohemian concert to take place at Carr's Restaurant on Saturday, March 19. There is plenty of talent among the members, and the Concert Committee find no difficulty in securing artistes when arranging the programme, proving that gardeners possess greater social accomplishments than they are usually credited with.

The proceeds of the concert will be given to a London hospital, so that the association will be in a position to offer a bed to any of its members who may be unfortunate enough to require hospital treatment.

The Executive Council have taken the first practical step in the direction of State recognition of horticulture, by approaching the Registrar-General with the request that gardeners shall be placed under a separate heading at the next census. The matter is still under consideration by the authorities.

Bournemouth Gardeners' Society.

On Tuesday evening, January 11, about fifty members of this association attended the annual supper, which was held at Messrs. Bright's Restaurant, Gervis Place, Bournemouth.

The president, J. H. Ralph Smythe, Esq., J.P., occupied the chair. Members of kindred societies also attended, and a very pleasant evening was spent.

After the supper and the loyal toasts the evening was devoted to matters having special reference to the Bournemouth and local societies, and to officials connected therewith. Songs, recitations, and music added greatly to the enjoyment of the evening.

In Bournemouth and its immediate neighbourhood a number of Gardeners' Mutual Improvement Associations now exist. Over twenty years ago Mr. J. B. Stevenson was chiefly responsible for the formation of the Bournemouth Association. He is still hon. secretary; and Mr. W. Shave, head gardener to the Dowager Lady de Tabley, Berry Court, is the hard-working assistant secretary. The membership now totals about one hundred, and during the past few years kindred associations have been successfully formed, so that at the present time there is a keen spirit of emulation among the gardening fraternity in this part of the county of Hampshire.

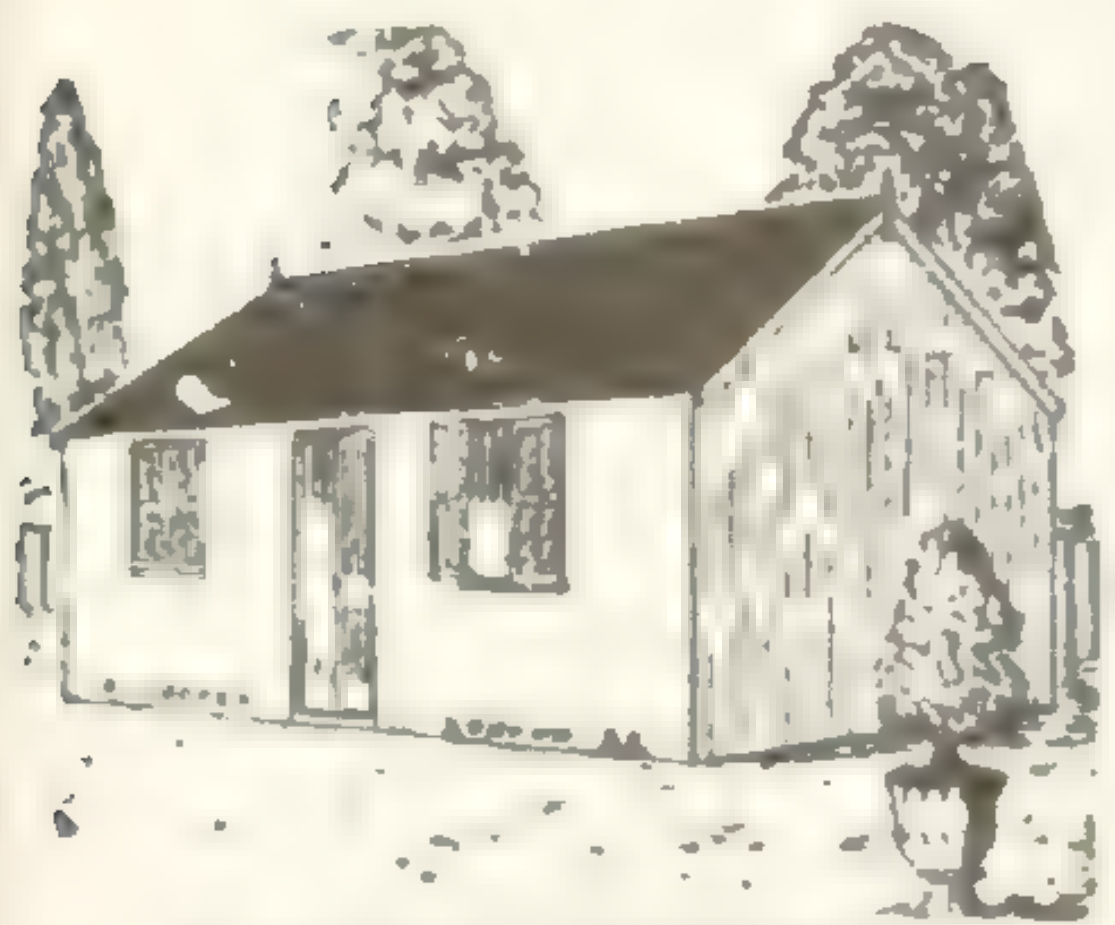
There is a strong programme of papers to be rendered during the spring months, and it is confidently expected that the meetings will be well attended. The funds are, on the assurance of Mr. Reeves, the hon. treasurer, in a satisfactory condition. Mr. Barge is the courteous librarian.

Aigburth Gardeners' Society.

The first meeting of this society was held at the People's Hall, Sefton Park, Liverpool, under the presidency of W. P. Wethered, Esq. There was a good attendance of members and friends, and the tone of the meeting gave promise of a successful career for the society. Mr. George Haigh, Highfield Gardens, Woolton, delivered a capital address on "Winter-flowering Carnations," and this was supplemented by one from Mr. C. A. Young, of West Derby, the combination giving details from the private and trade growers' points of view.

At the conclusion of the addresses a good discussion was taken part in by several speakers. A cordial vote of thanks was tendered to Messrs. G. Haigh and C. A. Young for their contributions, and to the chairman for presiding. Mr. W. Barber, Carnatic Hall Gardens, Mossley Hill, Liverpool, has been appointed secretary of the society. The next meeting takes place on February 1, when Mr. R. G. Waterman, of Woolton, gives a paper on "Soils and their Treatment."

The Loganberry.—The method of pruning the loganberry is exactly the same as that adopted for the raspberry, the old fruiting wood is cut out, and the young growth well thinned; these should be trained to wires eight feet high, and planted at a distance of six feet from row to row, and the sixteen to eighteen feet asunder.—H. R. F.



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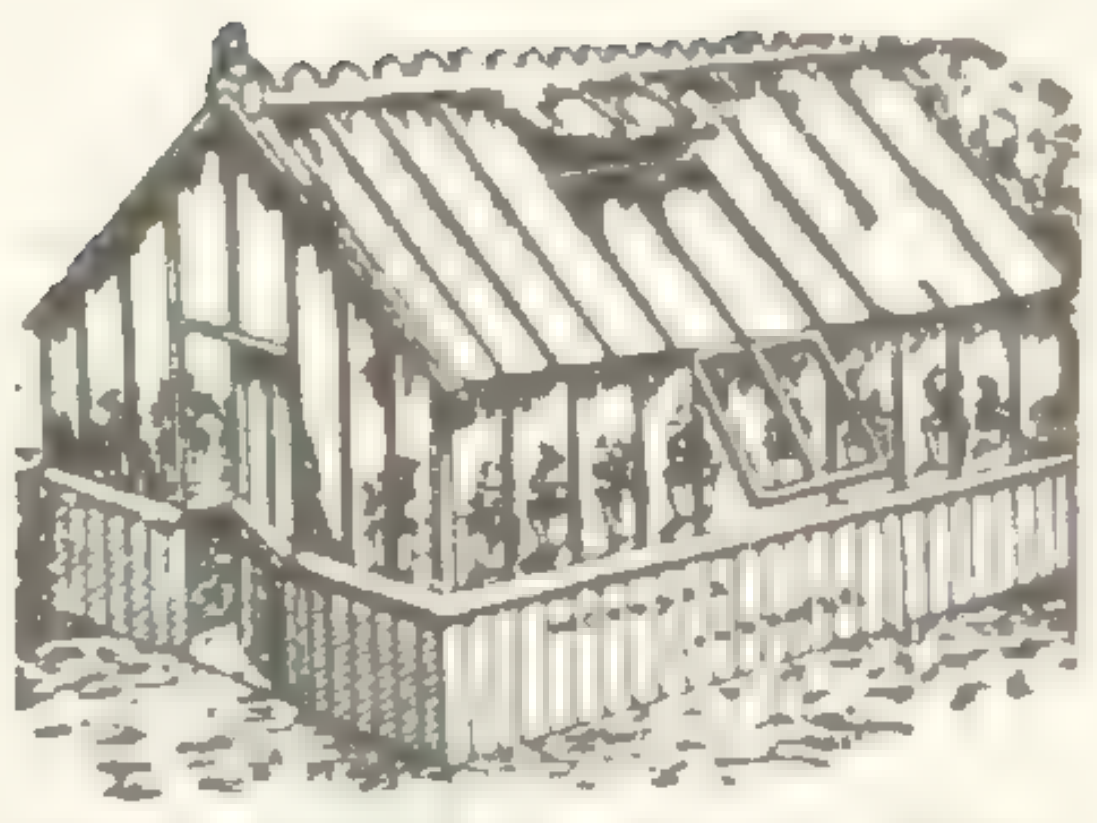

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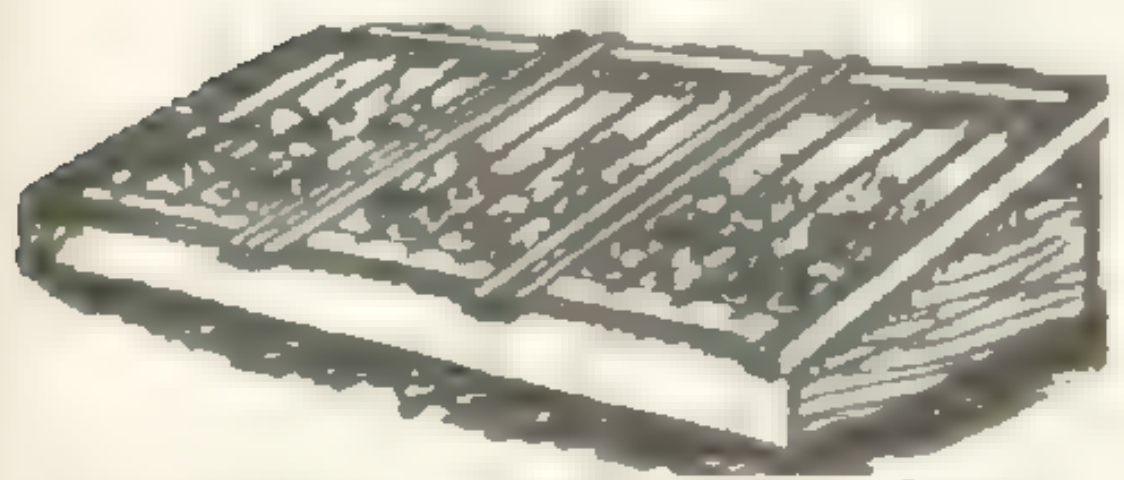

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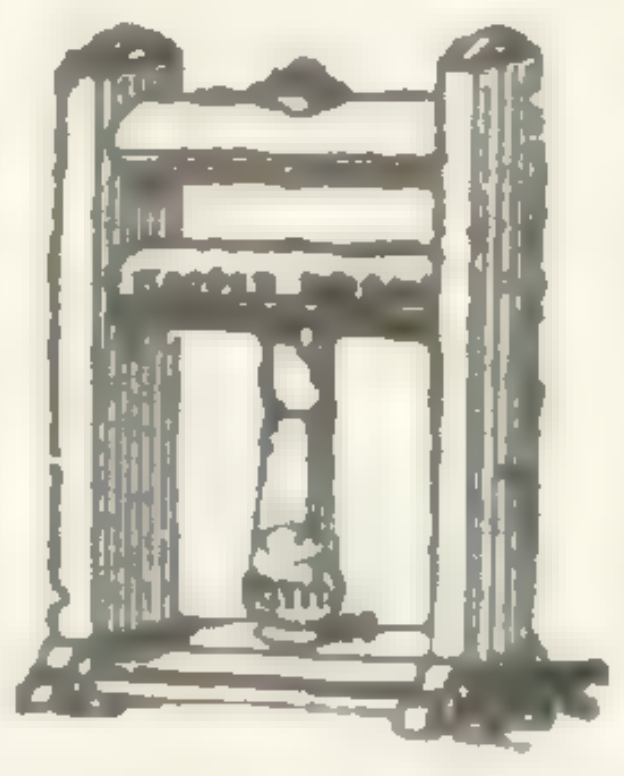

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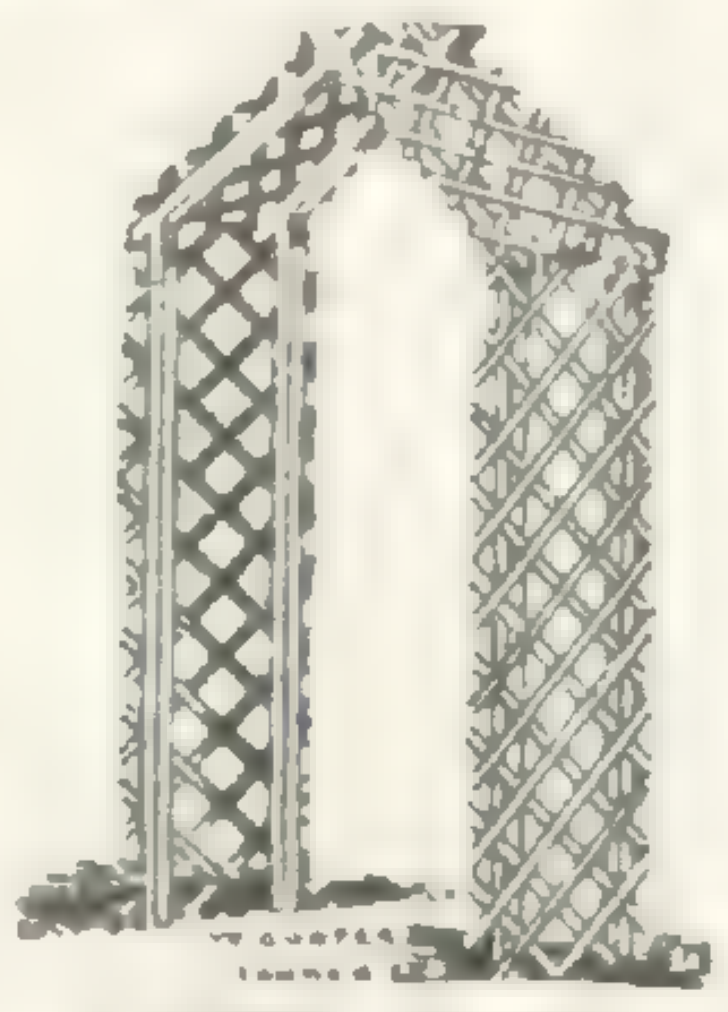

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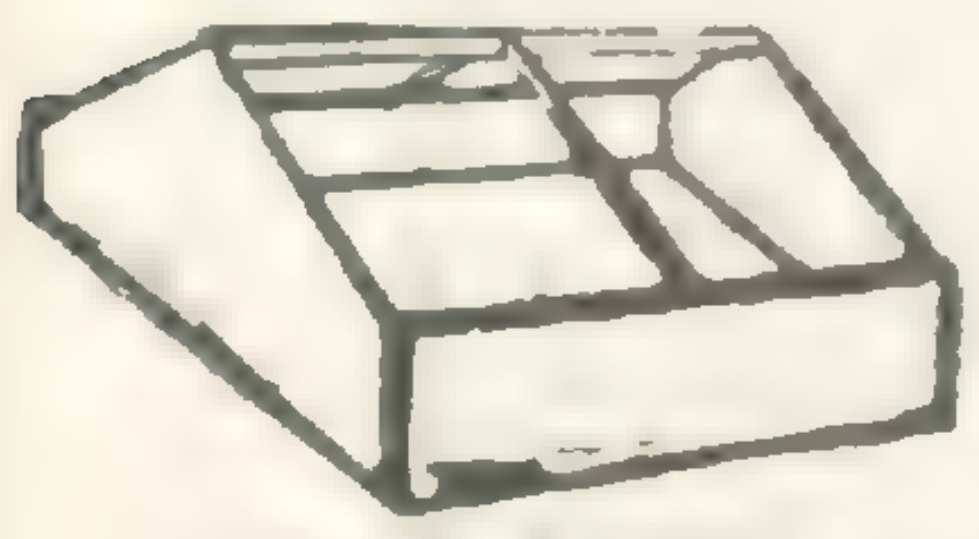

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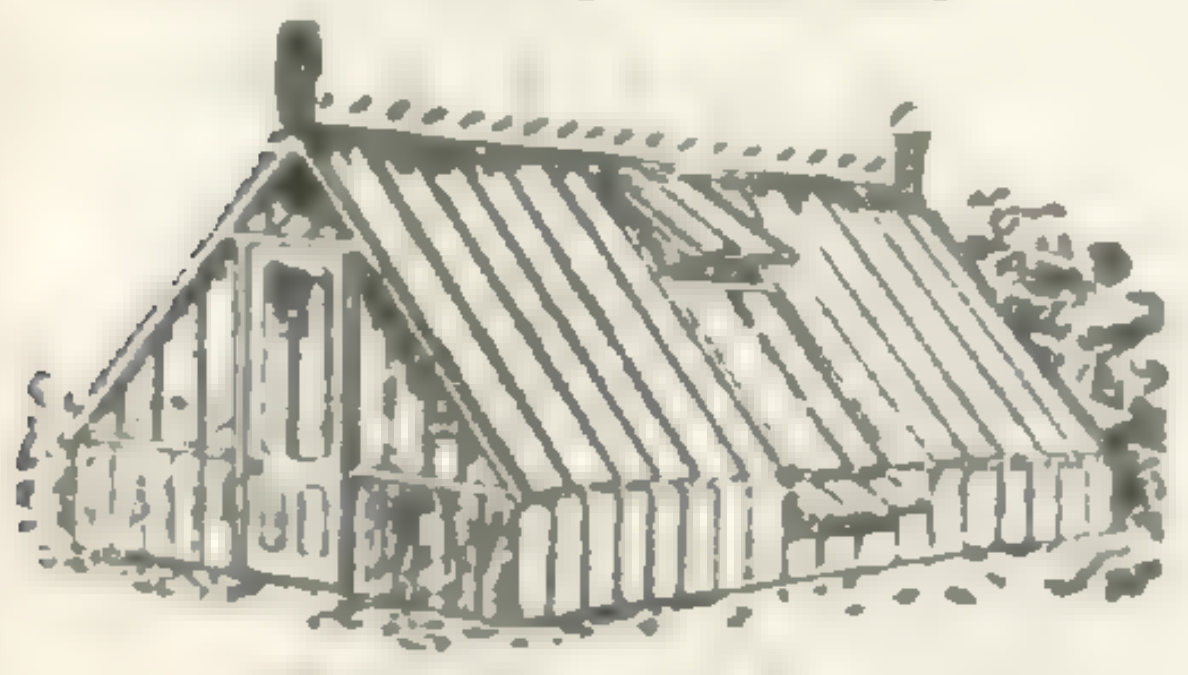

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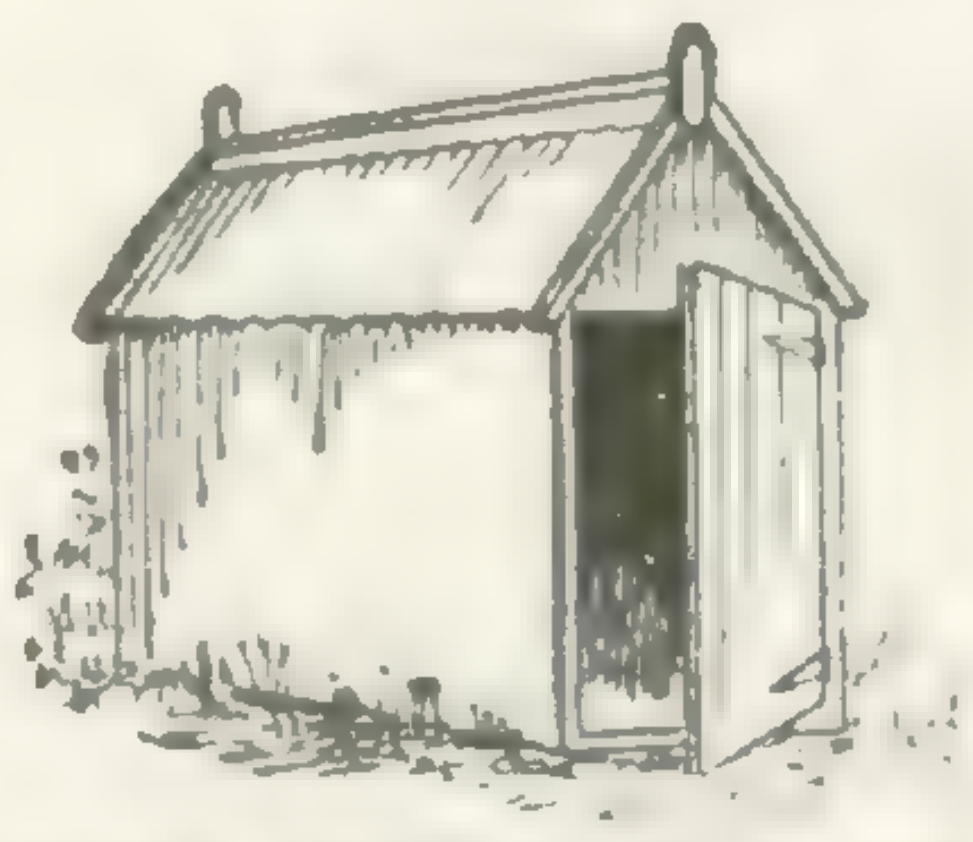
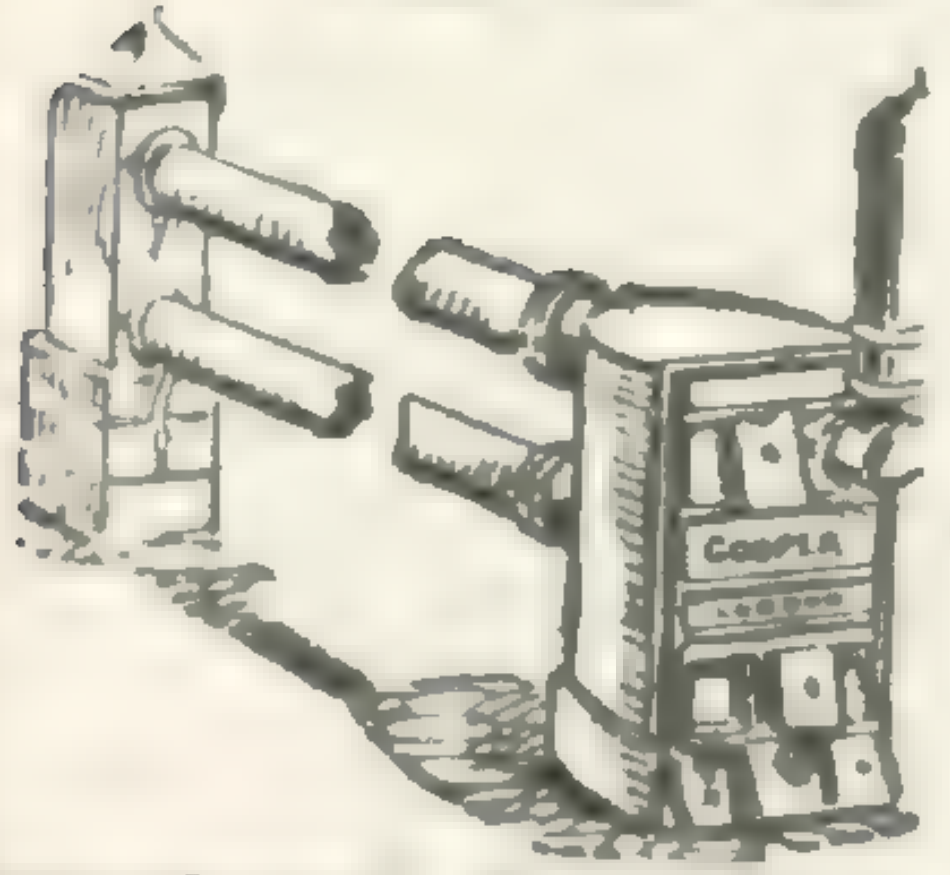
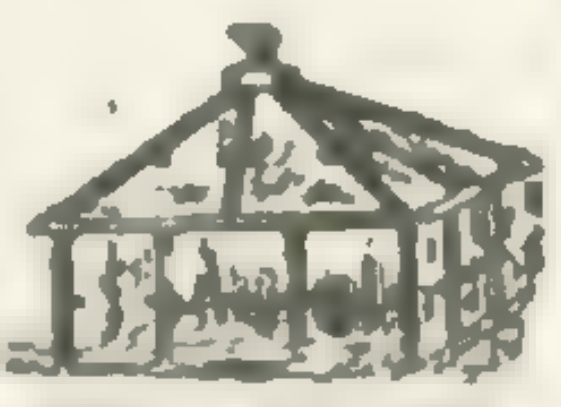


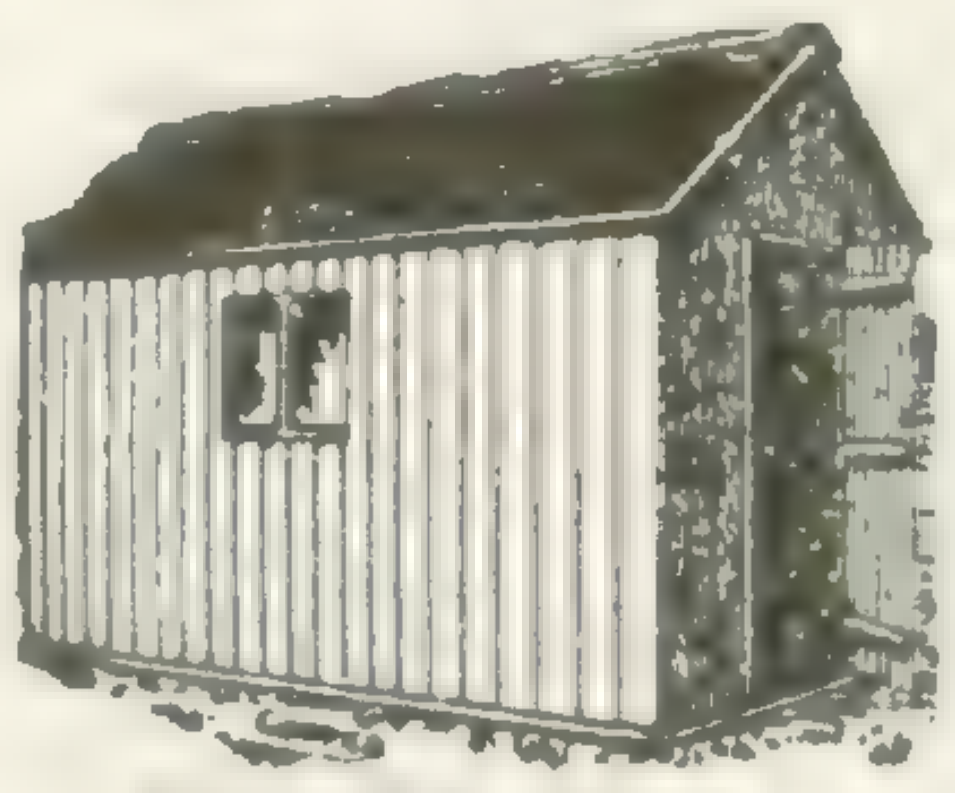
Cycle House, 32s. 6d.



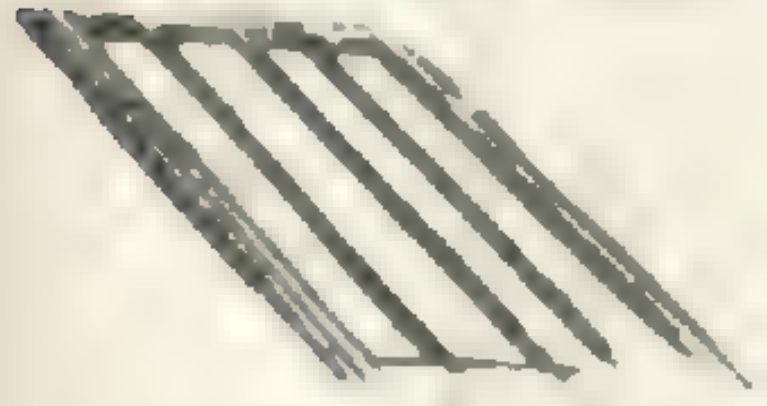
Greenhouse Apparatus, from **55s.**



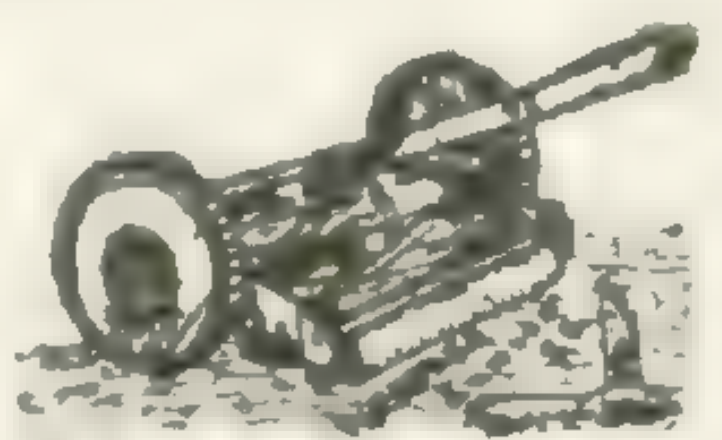
Zinc Hand Frames, from **4s. 3d.**



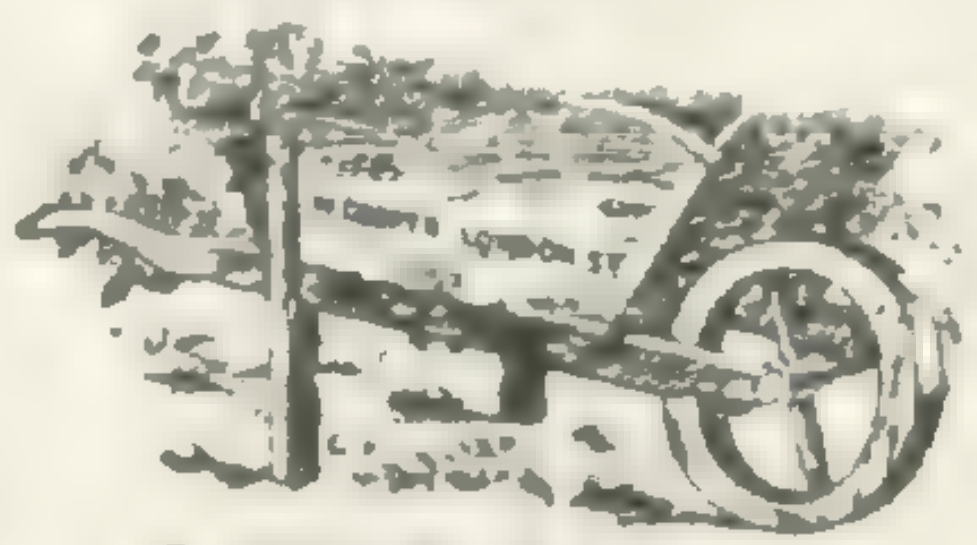
Portable Huts, from **32s. 6d.**



Garden Lights, from **1s. 8d.**



Lawn Mowers, 12s. 6d.



Garden Barrow, 16s. 6d.

DON'T DELAY.
SEND FOR YOUR COPY TO-DAY.

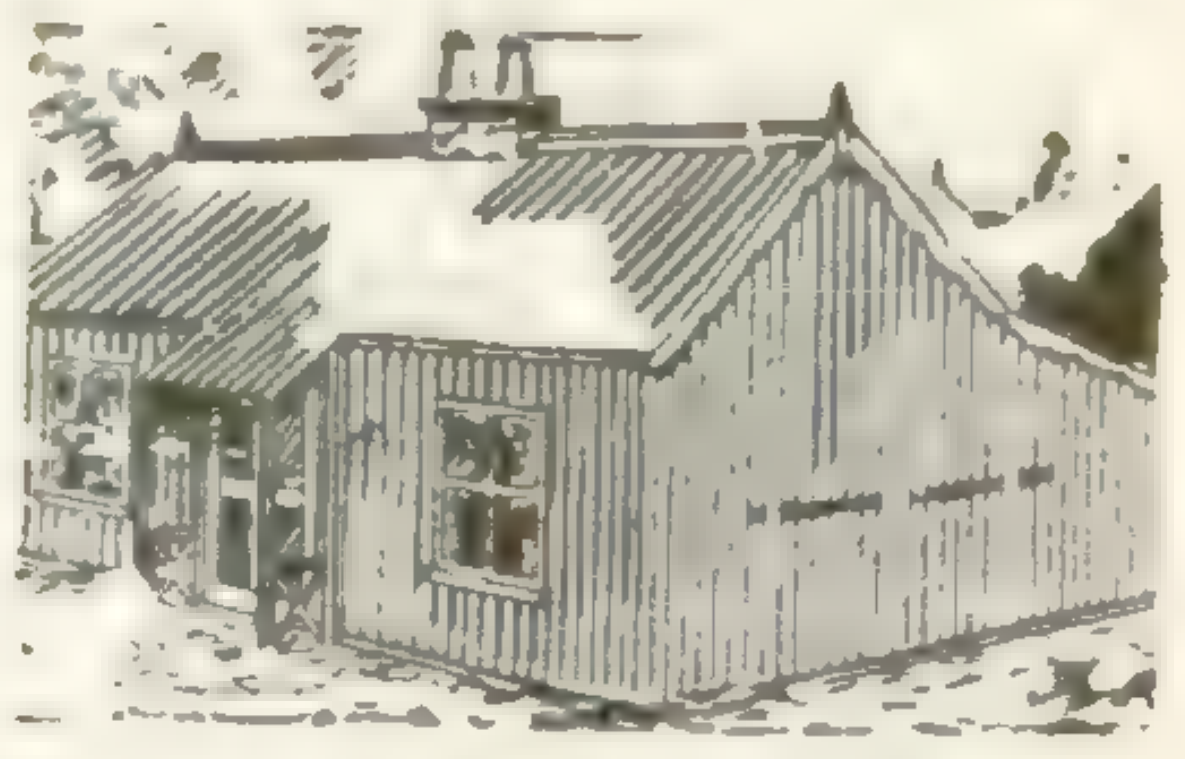
WILLIAM COOPER'S

23rd ANNUAL

CLEARANCE SALE

Of Manufactured Goods, Value over

£100,000.



Iron Cottage, £42.

To effect a clearance, all goods have been reduced 15 to 50 per cent. off usual List Prices.

MARVELLOUSLY LOW PRICES. EXTRAORDINARY VALUE.

QUALITY OF THE GOODS.– Every Article offered is New, Perfect and Complete as stated in our usual Catalogue. Good Sound Materials and Workmanship only used.

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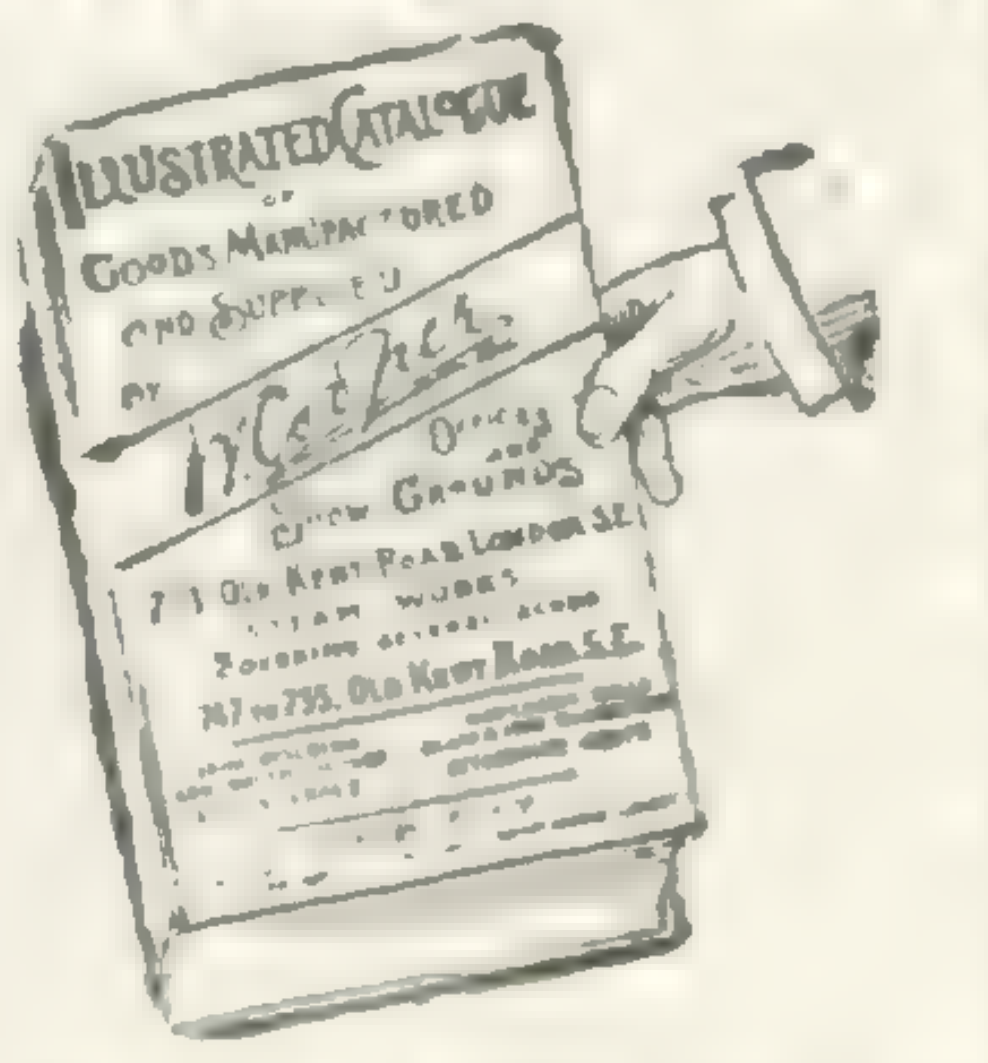
Contains Hundreds of Illustrations and Specifications of different kinds of Goods. The Biggest Bargain Book ever printed. Beats all Catalogue records for quality and low prices. Full of many things you want that you cannot buy near home, and multitudes of things of better quality and at lower prices than any other Catalogue or Store offer you. Several pounds at least is easily saved by everyone who has a garden or keeps poultry, using this Catalogue to order goods from. Many write us of saving pounds by using our Catalogue. It pays others: it will pay **YOU.** We are the originators of this business. We have been square with hundreds of Thousands of Customers for Twenty-one years. We will be square with you. Send your name and address, carefully written on a post-card or in a letter, or fill out Coupon either way that is easiest. Just say, "Send me free. one copy of your Sale Catalogue (No. 28)." Do this before you forget it—right now! We will then send it at once. We even prepay the postage. Ordering a copy of this Catalogue puts you under no obligation to buy anything of us. We ask you to send for it! read it, look at the Illustrations, Specifications, and Prices, and then when you find out how much money it saves you, you will be glad to order from it, for it means a saving of 20 per cent. to 50 per cent. on everything you require of use for Gardening or Poultry-keeping. Remember, this is no leaflet or old Catalogue, but the Genuine, the Latest, the Complete 23rd Annual Sale Catalogue, full of the very latest and newest goods that you can possibly want or use.



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Name.................................

Address ....

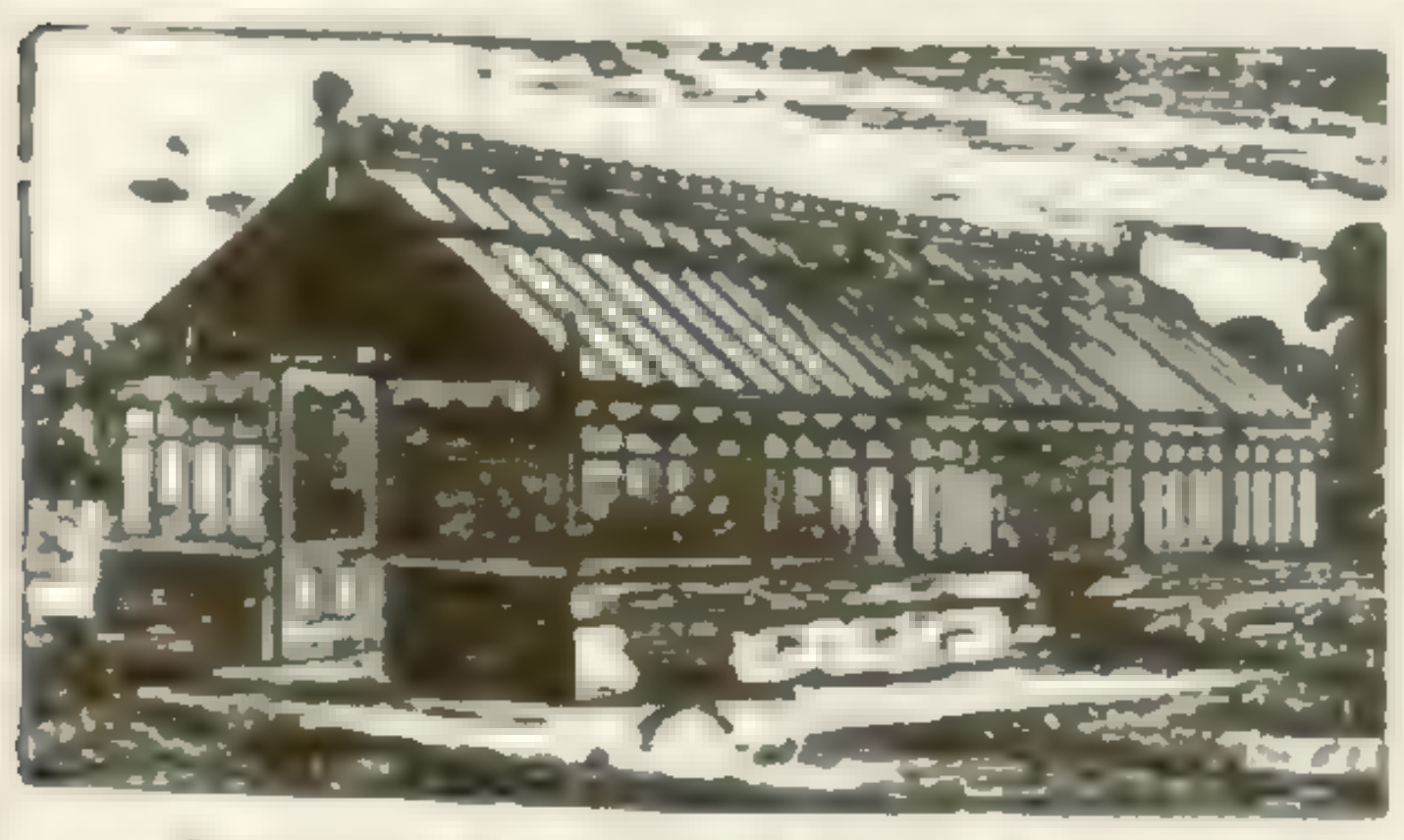
Cut this Coupon out. It will do if you send this in an open envelope and affix a halfpenny stamp.

WE MAKE NO CHARGE FOR THIS CATALOGUE.

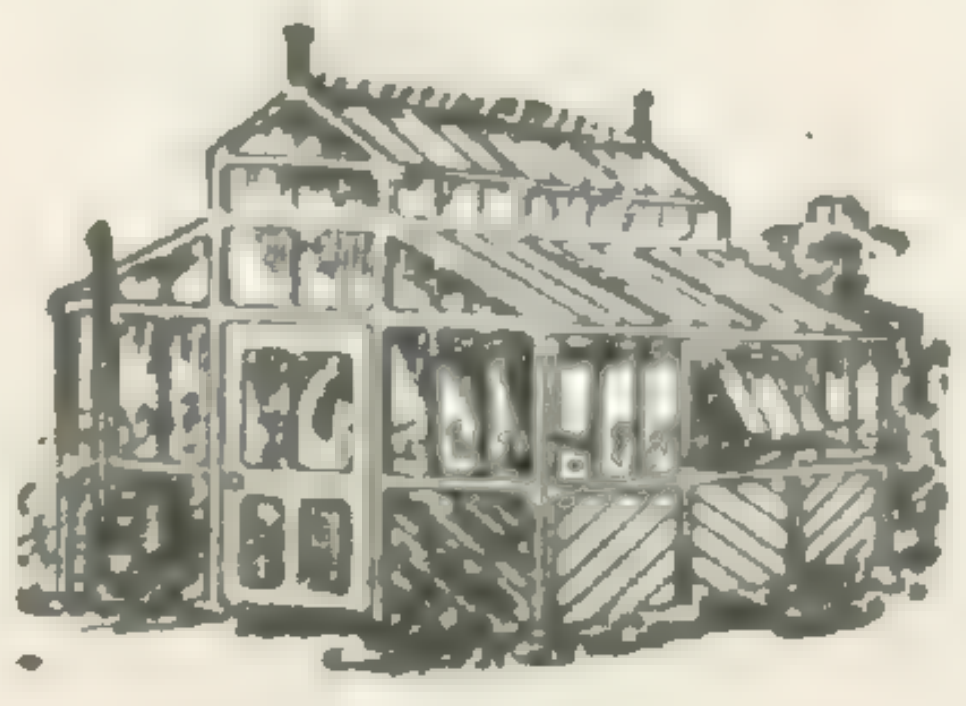
It will go to you at once per return post paid.

GENUINE BARGAINS.

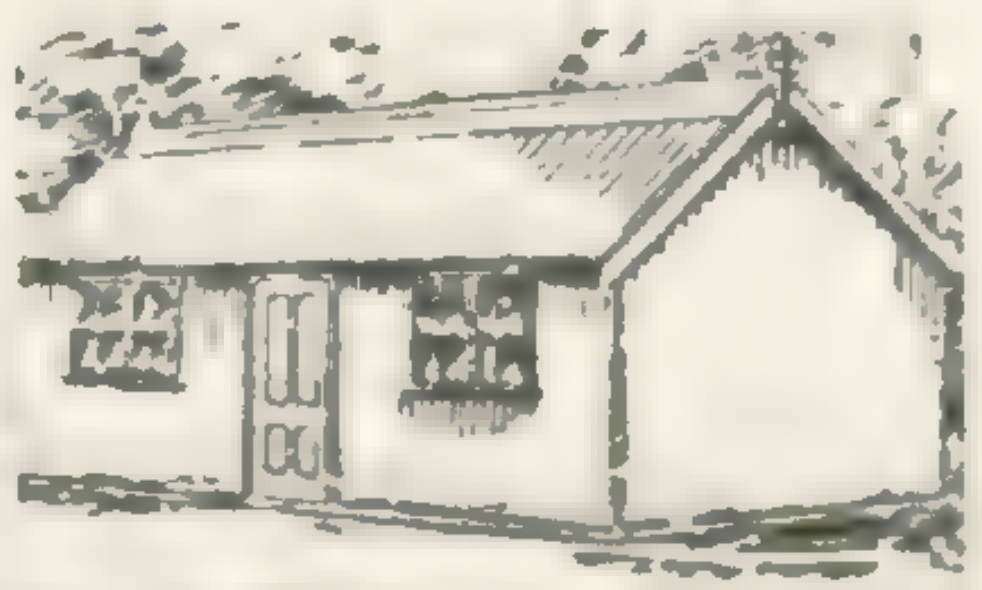
In this New Catalogue is an entire section devoted to each department, which illustrates and describes all the many goods we sell, including the following:



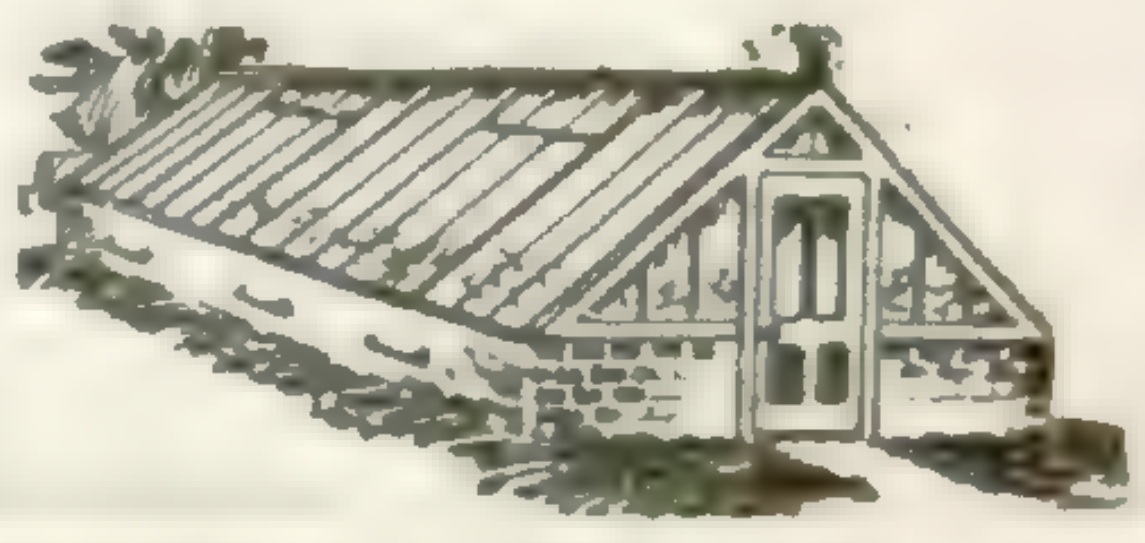
Conservatory (this design), from **£15 10s.**



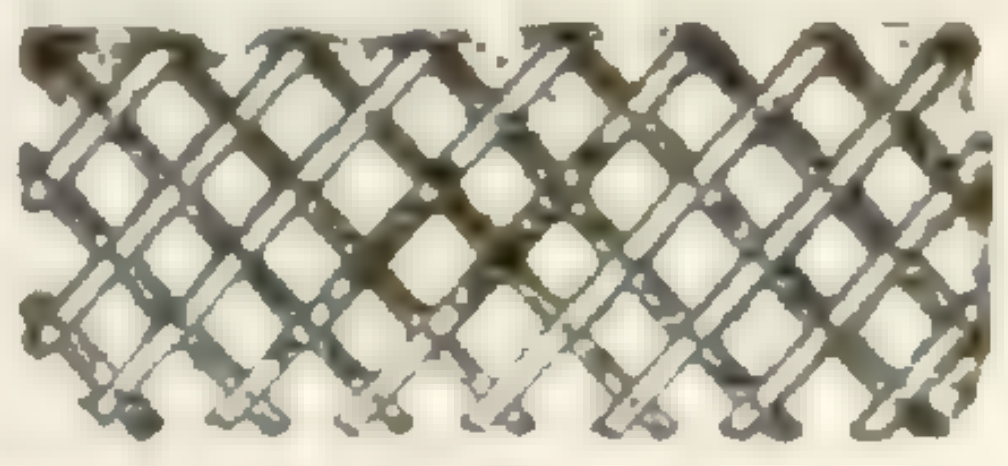
Lantern Roof Conservatory, from **£7 5s.**



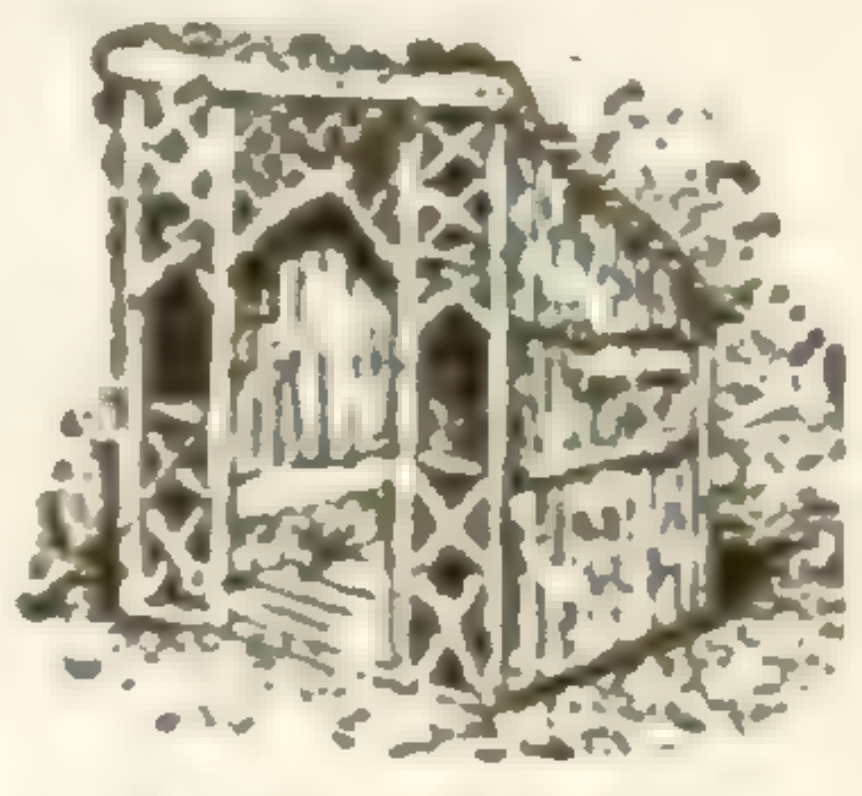
Iron Buildings, from **£5.**



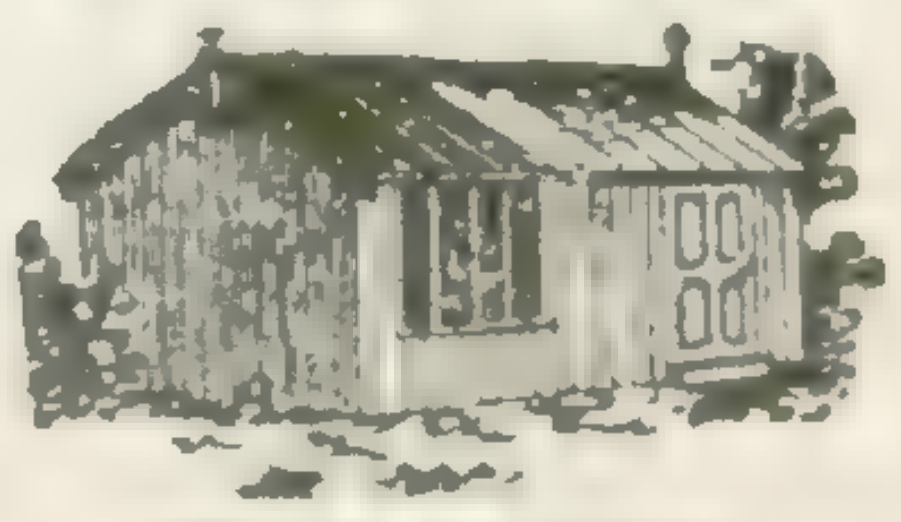
Stove House, from **£6 5s.**



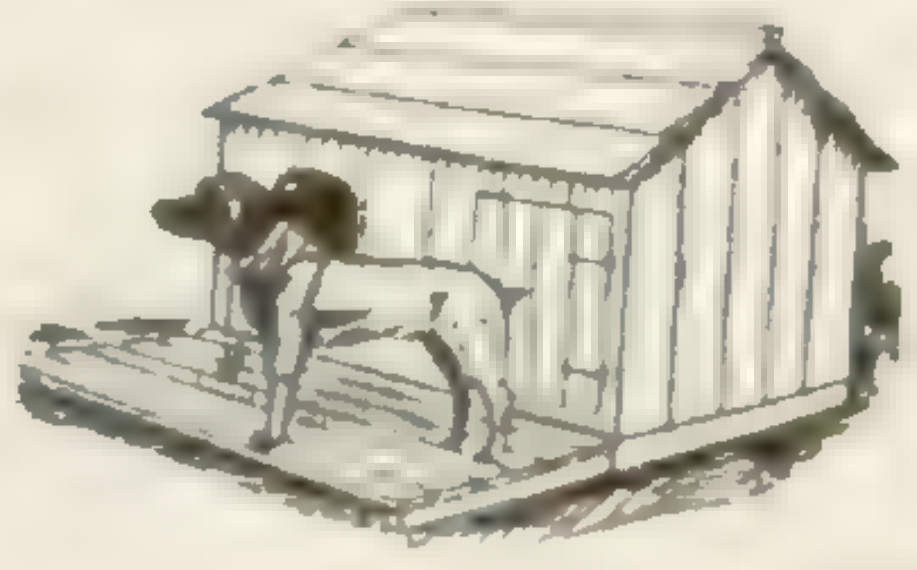
Trellis, from 6d. per piece.



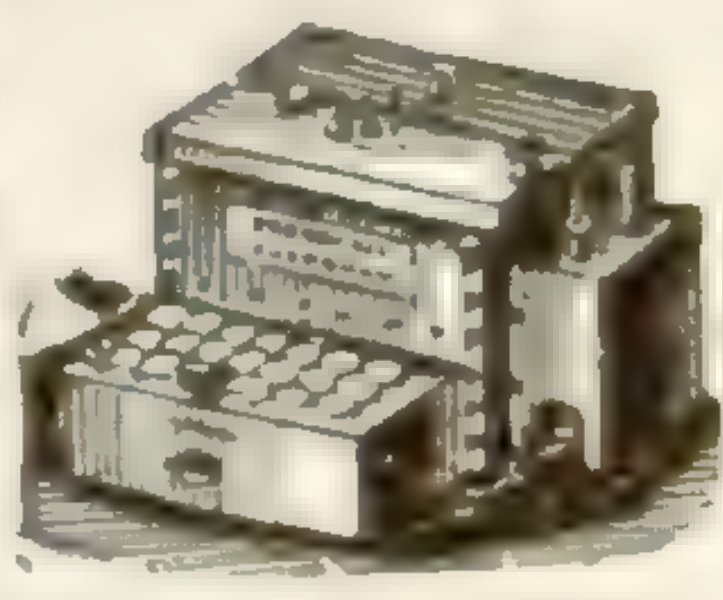
Rustic Houses, from **27s. 6d.**



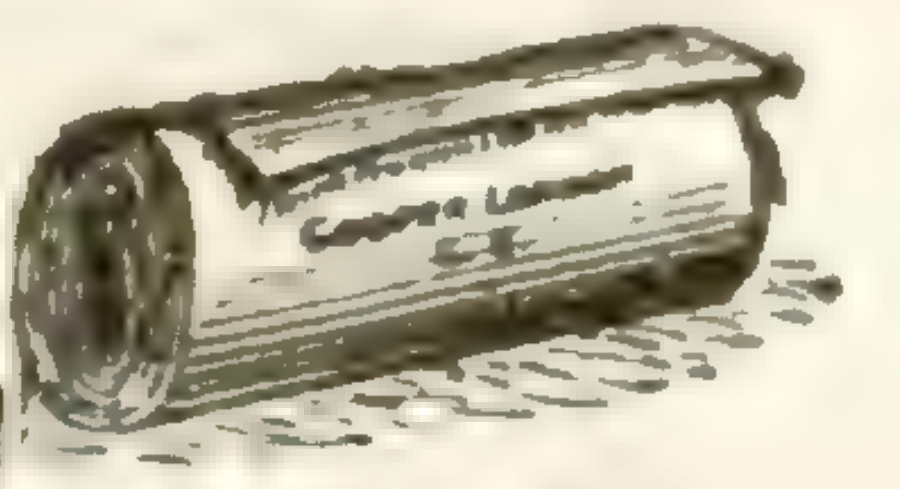
Photographic Studio, £6 15s.



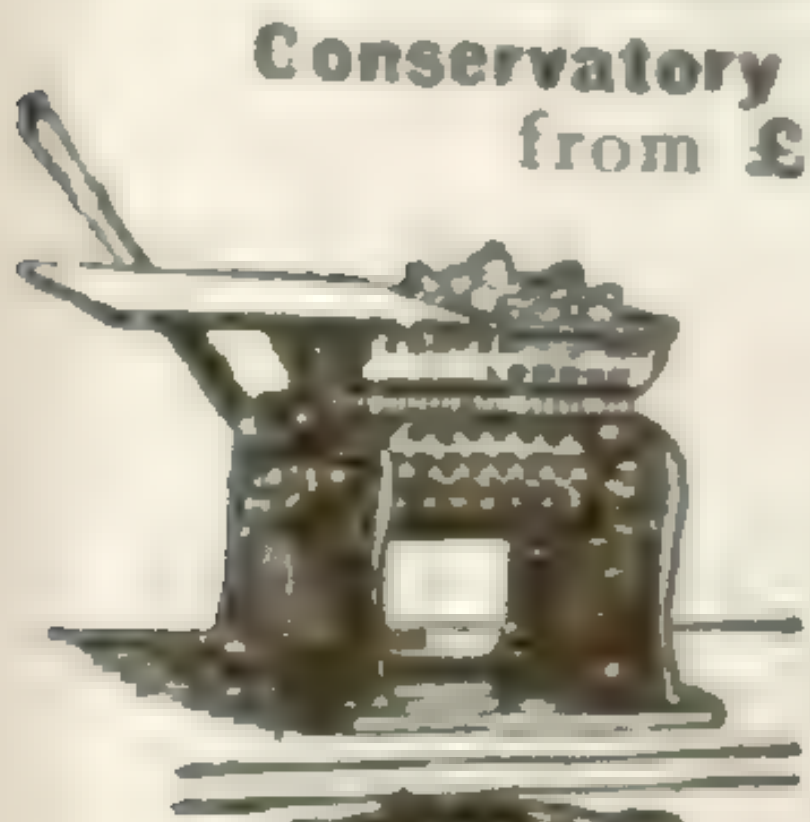
Dog Kennels, from **7s. 6d.**



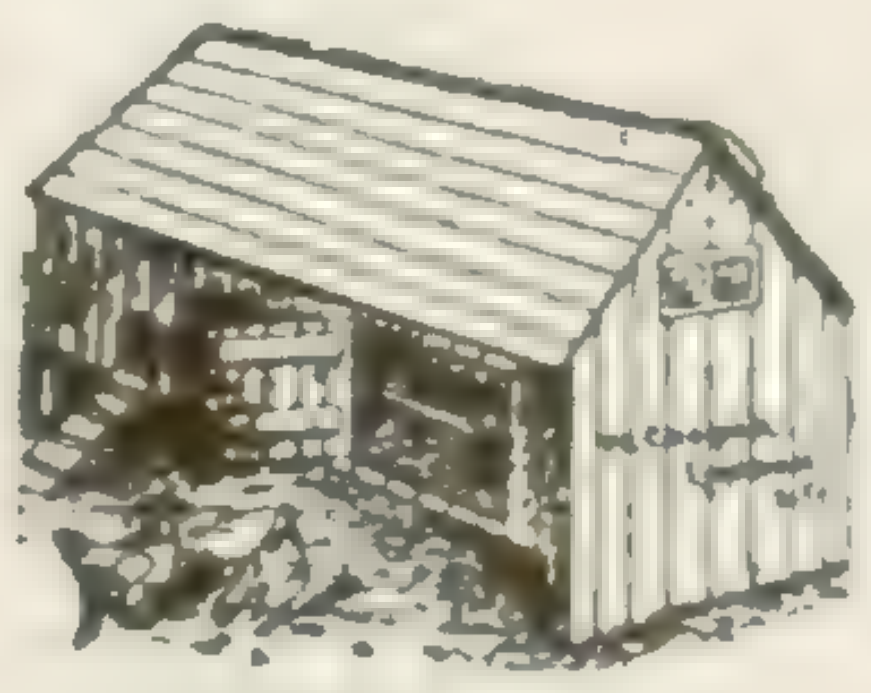
Complete Incubator, from **22s. 6d.**



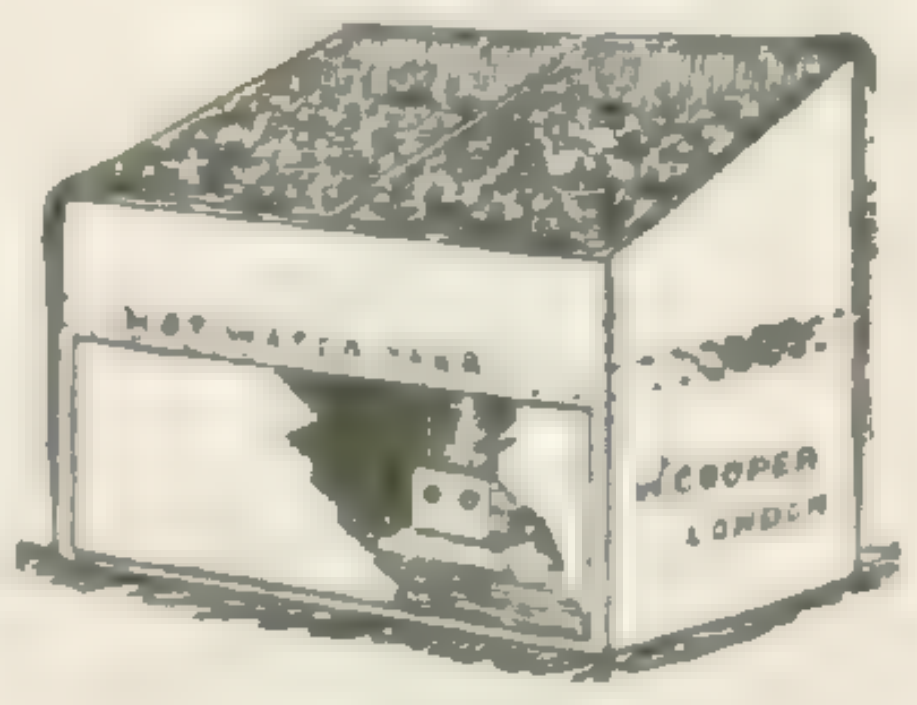
Roofing Felt, 3s. 3d. per roll.



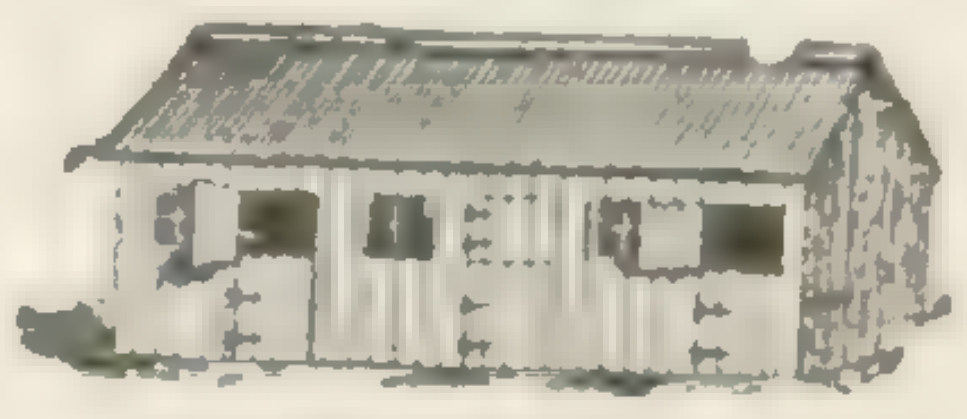
Grit Crusher, 7s. 6d.



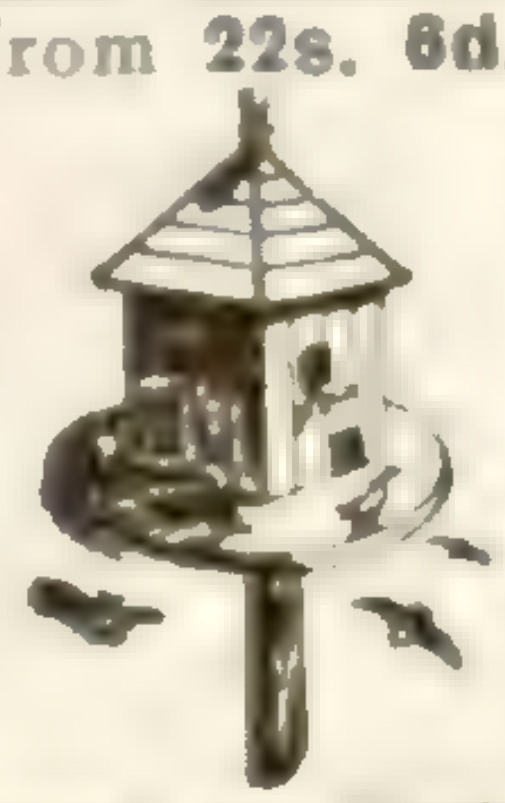
Poultry Houses, from **10s.**



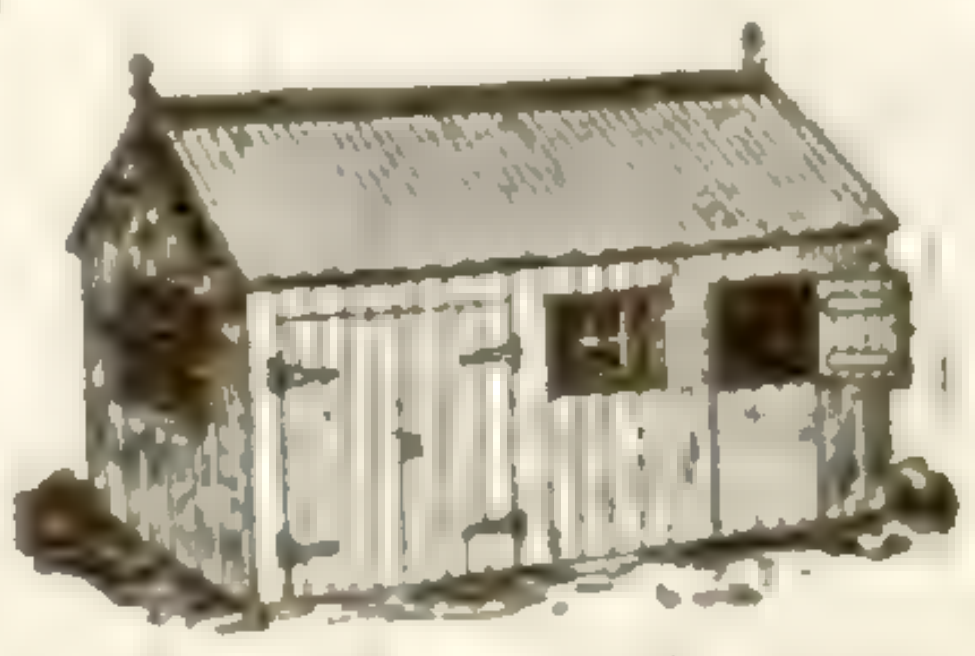
Plant Propagator, from **15s.**



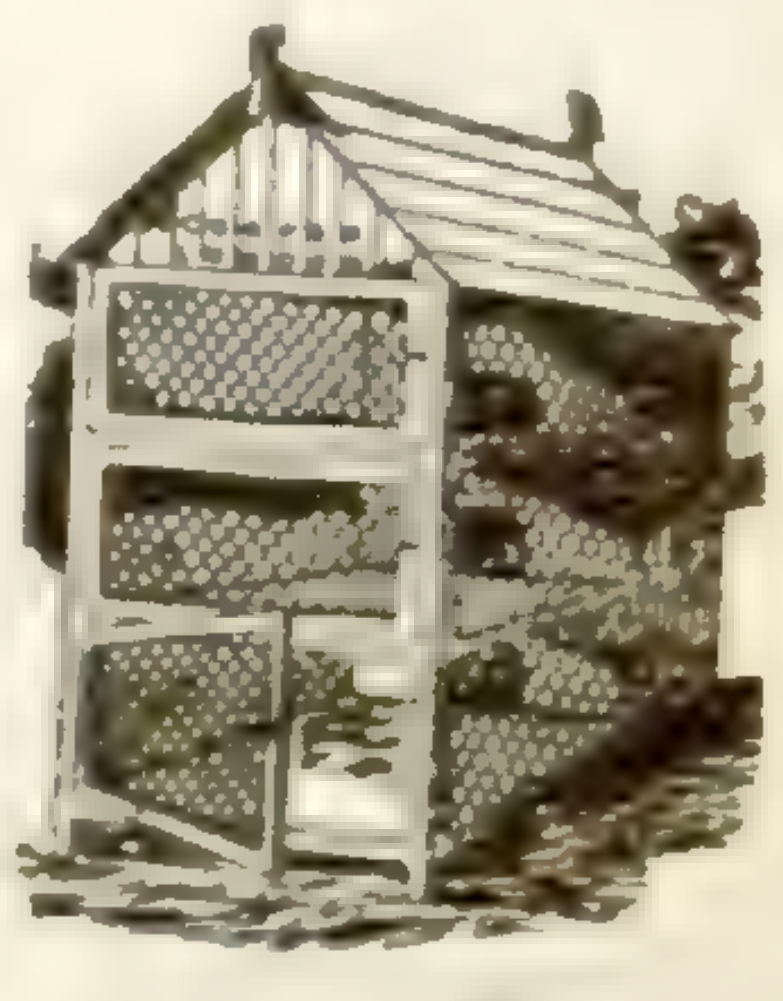
Loose Boxes, £15 10s.



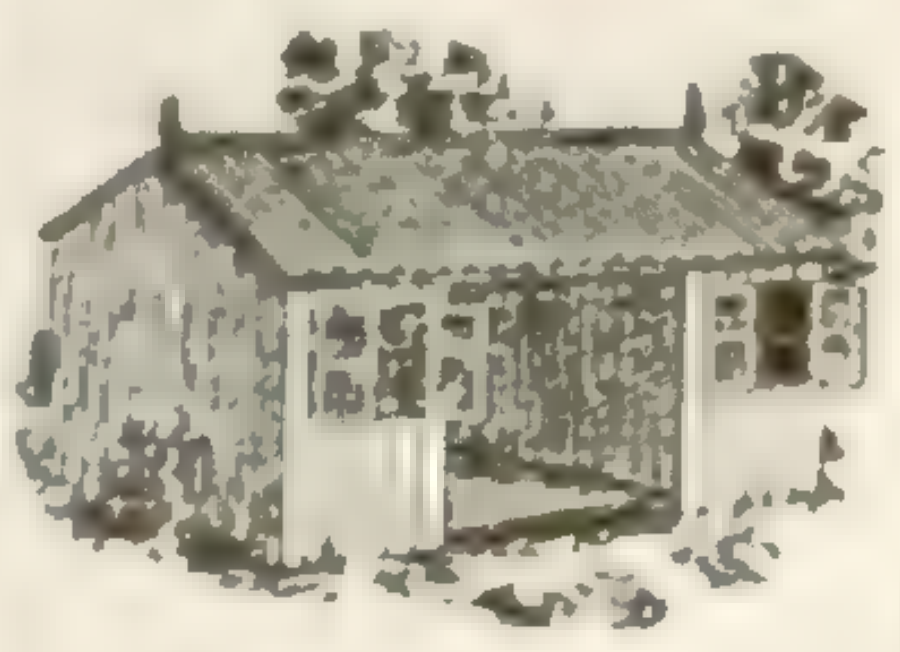
Dove or Pigeon Cote, from **18s. 6d.**



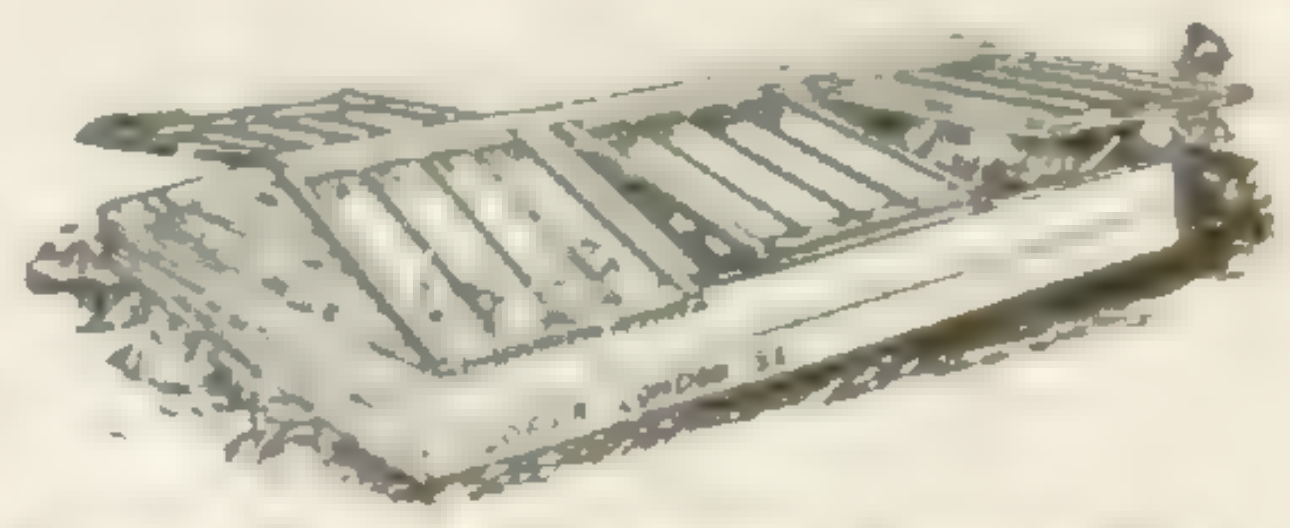
Stable and Coach from **£8 5s.**



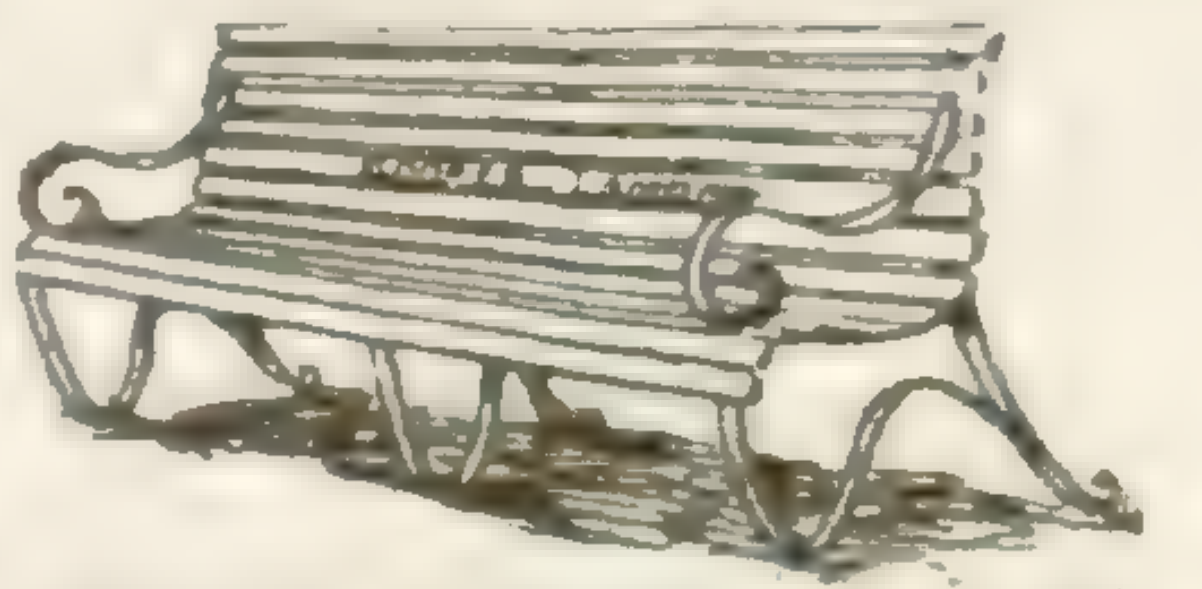
3-tier Pigeon Cote, 30s.



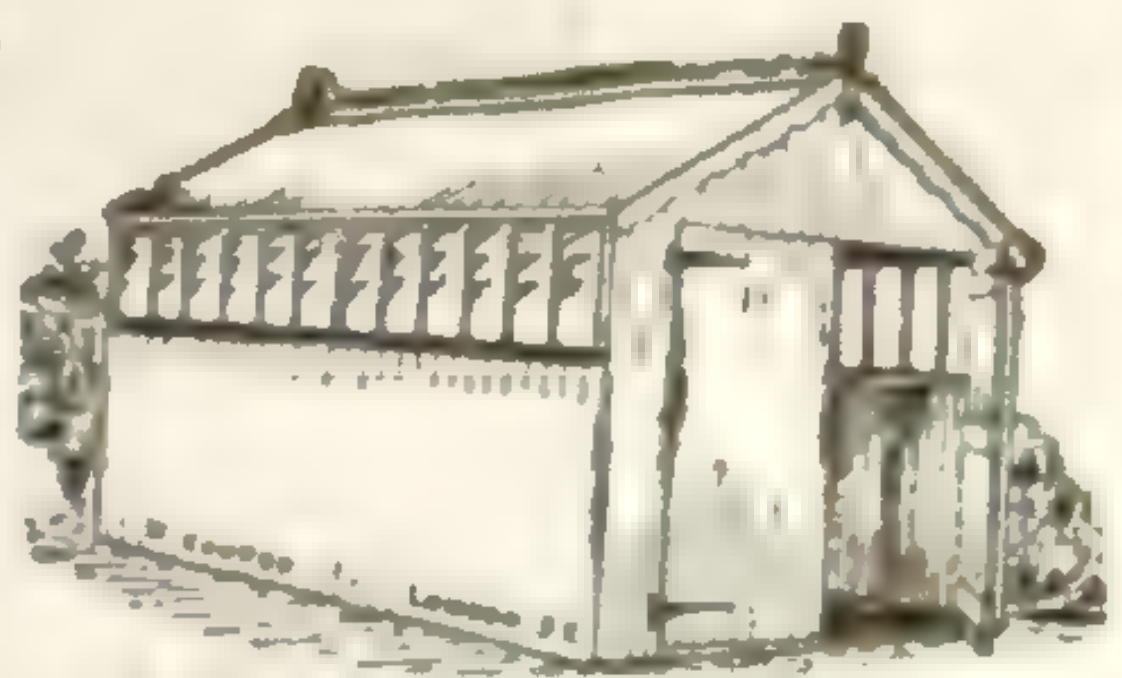
Sports Pavilion, £11 10s.



Span-Roof Frame, from **21s.**



Garden Seat, from **10s. 6d.**



Motor Car Houses, from **£6.**

Horticultural Timber, Etc.

Sash bars, 1½in., 3s. 9d.; 2in., 4s. 6d.; 2½in., 5s. 6d.; 3in., 6s. per 100ft. Half-glass Door, 5ft. 6in. by 2ft. 6in., 6s. each. Half glass Door, 6ft. by 2ft. 6in., 7s. each. Matchboards, ½in., 7s.; ¾in., 9s. 6d.; 1in., 13s. per square. Inch Floor-boards, 12s. 6d. per 100 square feet. Feather-edged boards, 7s. 6d. per square. Unplaned Battens, ¾in. by 1in., 1s.; ¾in. by 2in., 1s. 9d.; 1in. by 3in., 2s. 6d.; 1in. by 4in., 4s. 6d.; 1in. by 5in., 5s. 6d.; 2in. by 2in., 4s. 6d.; 2in. by 3in., 6s. 6d.; 2in. by 4in., 8s. 6d., 2in. by 5in. 10s. 6d. per 100ft. run. Special quotations for quantities.

Galvanised Corrugated Iron.

Length	3ft.	4ft.	5ft.	6ft.	7ft.	8ft.	9ft.	10ft.
Price	11½d.	1/3¾	1/7	1/10	2/2	2/6	2/10½	3/6

All Prime Sheets. Special Quotations for quantities.

Horticultural Glass.

Careful packing and quality guaranteed. The under mentioned sizes in stock. All 4 21oz., 200ft. Boxes. 8 by 6in., 9 by 7in., 12s.; 10 by 8in., 14s. 9d.; 12 by 8in., 16s.; 11, 12, 13, 14, 15 by 9in., 17s.; 11, 12, 13, 14, 15, 16 by 10in., 19s.; 12, 13, 14, 15, 16 by 11in., 20s.; 12, 13, 14, 16, 18, 20, 22, 24 by 12in., 22s.; 17, 20 by 13in., 22s. 6d.; 16, 18, 20, 22, 24 by 14in., 22s. 9d.; 20 by 15in., 23s.; 18, 20, 22, 24 by 16in., 23s. 6d.; 20, 22, 24 by 18in., 24s. 100ft. Boxes, half above prices and 1s. extra. Special price for large quantities. Large cases for cutting up 28s. 200ft. GLAZIERS' DIAMONDS.—Finest quality. New sheet perfect. Superior make and finish, 5s., 7s. 6d., and 10s. 6d. each.

And numerous other Goods. It is worth while to get this Catalogue, just to see the wonderful List of things that await your selection.

NEW SHOW GROUNDS NOW OPEN.

Works over Five Acres. Trams from all the Bridges pass the door. Business Hours, 9 a.m. to 6 p m., Saturdays included.

W. COOPER, 761, OLD KENT ROAD, LONDON, S.E.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

FAILING HELLEBORES.—T. E. G., Harpenden: The brown and dead leaves and the short flower-stems point to serious trouble at the roots. The failure is probably due to the grubs of the Crane Fly, which are frequently found attacking the roots of hellebores.

APPLES GRAFTED ON LABURNUMS.—D. B., Ayrshire: Neither apples nor pears would prove successful on the laburnum stock, even supposing scion and stock were to unite, which we very much doubt. Plants that have no affinity one with the other cannot be successfully united by budding and grafting. The laburnum belongs to a totally different natural order to the apple and pear; these latter belong to the Rosaceæ, and the former to the Leguminosæ. You must grub up the laburnums, thoroughly work the ground, and plant thrifty apple or pear trees, if you wish to obtain fruit.

DOUBLE ARABIS AND MUSCARI HEAVENLY BLUE.—J. C., London: To the note on p. 27, which suggests we were hardly correct in advocating Muscari Heavenly Blue in conjunction with double arabis for spring effects, we have had no reply from correspondents. Perhaps our friends are too busy with the General Election to heed the matter. However, we may say in justification of what we wrote on p. 1,001 of the GARDENERS' MAGAZINE of 1909, that for several years we had the combination referred to in our own garden, and it was eminently successful. Probably the double arabis would smother the muscaris if allowed to grow undisturbed and without let or hindrance for several years; but, if kept within reasonable bounds, and regularly transplanted between the groups of muscaris, the latter rise well above the former. In our own experience Muscari Heavenly Blue cannot be regarded as "the delicate little muscari," for we had abundance of spikes ten inches high. We make a further suggestion, and it is to plant Muscari Heavenly Blue with Narcissus Johnstonei Queen of Spain; these together, on a gentle slope, make a delightful combination.

PERENNIAL ADONISES.—M. E., Birmingham: The best of the perennial adonises are A. amurensis, A. pyrenaica, and A. vernalis. Two other species, A. Walziana and A. wolgensis, are in cultivation, but they are chiefly of interest to specialists. Of A. amurensis and A. vernalis there are several varieties, and each of these has some distinctive point to recommend it. The double-yellow variety of A. amurensis is a charming plant, and especially suitable for pot culture in a cold frame or greenhouse, as it flowers in February or early March out of doors, but is often spoiled by the weather then prevailing.

MITE IN AMARYLLIS BULBS.—E. C. P., Southampton: An excess of moisture during the resting period has brought about a condition that has rendered all sorts of troubles possible. The mites present are those of Rhizoglyphus echinopus, the Bulb Mite. Remove any decaying parts of the bulbs, wash well with hot water, and then soak the bulbs for ten minutes in water at a temperature of 125 deg. Drain and dry the bulbs, dust them freely with a mixture of fine dry charcoal and flowers of sulphur, and put them on a dry shelf in a light place in an intermediate house. After a week or so of this treatment the bulbs should be quite dry and healed, and they should then be potted in small pots and given ample drainage. The soil should be just comfortably moist, but not in any degree sticky, and no water should be given directly until growth has advanced and new roots are working in the soil. The moist atmosphere of an intermediate house, and moist material in which to plunge the pots, will provide sufficient moisture for quite a long time to come.

RHODODENDRONS.—F. C., Leicester: It was in 1906 that rhododendrons found so much favour with the Floral Committee of the Royal Horticultural Society. A resumé of the trees and shrubs gaining distinction in 1906 was published on p. 27 of the GARDENERS' MAGAZINE for January 12, 1907, and shows that, out of nine Awards of Merit granted for this class of plants, six were granted to rhododendrons, the varieties being White Pearl, Gill's Triumph, Mrs. E. C. Stirling, Marchioness of Tweeddale, Gomer Waterer, and Viscount Powerscourt. Vitis armata Veitchi, V. Henryana, and Daphne rupestris were the other shrubs to secure awards.

INSECTS ON BARK OF TREES.—A. B., Ashbourne: The piece of beech bark shows an infestation of the Beech Coccus, a pest it it very difficult to eradicate. You refer to certain measures having been taken, but without success. Kindly let us know what these measures were, and when carried out. The other pest we do not recognise at present, but we hope to reply further in a week or two.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

T. H., Newbury.—1, Ardisia crenulata; 2, Callicarpa purpurea.

L. H. B., Ipswich.—1, Cattleya Trianæ; 2, Dendrobium heterocarpum.

I. F. J., Hitchin.—1, Peristrophe speciosa; 2, Chimonanthus fragrans.

A. L. C., Burton-on-Trent.—1, Iris stylosa; 2, Erica gracilis; 3, Ruscus aculeatus.

W. G. N., Newcastle.—1, Monochætum Humboldtianum; 2, Cypripedium Leeanum; 3, probably a form of Cypripedium Euryades.

TRADE NOTE.

We have received specimens of a particularly effective and durable label from Messrs. Kirkland and Co., of Albion Potteries, Etruria, Stoke-on-Trent. These are made of double-baked porcelain, and the names of roses, fruits, orchids, or what not, are lithographed on to the material under the glaze; consequently the name is always clearly discernible, and, as weather has no effect upon name or label, the latter is practically everlasting.

FORTHCOMING ENGAGEMENTS.

TUESDAY, January 25.—Royal Horticultural Society: Committees meet at 12 o'clock; Lecture at 3 p.m. on "Intensive Cultivation of Vegetables in Madeira," by Miss Armitage; Scientific Committee at 4 o'clock.

The Harry Veitch Portrait will be on view at the Royal Horticultural Hall, and a dinner to Mr. and Mrs. Harry Veitch will be given in the evening.

SATURDAY, January 29.—French Horticultural Society of London: Twenty-first Anniversary Dinner at the Café Royal, Regent Street, under the presidency of Mons. Philippe de Vilmorin.

MARKETS.

COVENT GARDEN.

Flowers.

Prices are good and the demand is excellent for the best material.

		s.	d.		s.	d.
Acacia	per bunch	0	9	to	1	0
Adiantum cuneatum	per doz. bun.	6	0		8	0
Arums	per doz.	5	0		7	6
Asparagus	per bun.	1	0		1	6
Azalea, Ghent	per bunch	1	0		1	6
Bouvardias	per bunch	4	0		6	0
Camellias	per doz.	1	6		2	6
Carnations	per doz. blms.	1	0		4	0
,, ,,	per doz. bun.	9	0		12	6
,, Malmaisons	per doz.	6	0		9	0
Cattleyas	per doz.	12	0		14	0
Croton leaves	per bun.	1	0		2	6
Cypripediums	per doz. blms.	2	0		3	6
Daffodils	per bun.	0	9		1	6
Eucharis	per doz.	3	0		4	0
French fern	per doz. bun.	0	6		0	9
Gardenias	per doz.	2	6		3	6
Lapagerias	per doz.	2	0		3	0
Lilac, French	per bun.	4	0		5	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		3	6
,, longiflorum	per bun.	4	0		8	0
Lily of the Valley	per doz.	8	0		10	0
Marguerites, white	per doz. bun.	3	0		4	0
Mignonette	per doz. bun.	1	6		3	0
Narcissus, Paper White	per doz. bun.	3	0		4	0
Odontoglossums	per doz. blms.	2	0		2	6
Pelargoniums	per doz. bun.	4	0		8	0
Roman Hyacinths	per doz. bun.	5	6		10	0
Roses	per doz.	1	6		7	6
Smilax	per doz trails	5	0		8	0
Tuberoses	per doz. blooms	0	3		0	4
Violets	per doz. bun.	2	0		3	6

Fruits.

Business has been rather quiet during the week although apples have continued to sell well.

		s.	d.		s.	d.
Apples, English	per bush.	3	6	to	9	0
,, Californian	per case	8	0		12	0
,, Cox's Orange	per ½-sieve	9	0		12	6
,, American	per barrel	12	0		18	0
,, Canadian	per barrel	12	6		22	0
,, Nova Scotian	per barrel	12	6		15	0
Bananas	per bun.	4	0		10	0
Brazil Nuts	per cwt.	33	0		40	0
Cobnuts	per 12lb.	4	6		6	0
Chestnuts	per bag	7	0		10	6
Grapes, English	per lb.	0	8		4	0
,, Guernsey	per lb.	0	6		1	0
,, Almeria	per barrel	12	0		22	0
Lemons	per case	8	0		23	0
Melons, Valencia	per case	4	6		6	0
Oranges, Jamaica	per case	9	0		12	0
,, Jaffa	per case	7	6		10	6
,, Navels	per case	10	0		12	6
,, Denia	per case	10	6		22	0
,, Tangerines	per box	0	7		1	0
Pears, French	per crate	7	6		10	6
,, Californian	per case	8	0		15	0
Pineapples	each	1	6		4	0
Walnuts	per 12lbs.	2	0		3	6

Vegetables.

Prices are firm for greenstuffs. Foreign produce sells readily.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	[illegible]
Asparagus	per bun.	3	0		7	6
Beet	per bush.	1	6		2	[illegible]
Brussels sprouts	per bush.	1	6		2	0
Cabbage	per tally	3	0		5	0
Carrots	per doz. bun.	2	0		3	0
Cauliflowers	per tally	4	0		7	0
Celery	per doz. rolls	5	0		9	[illegible]
Celeriac	per doz.	1	6		2	0
Chicory	per 12lb.	3	0		3	[illegible]
Coleworts	per tally	2	0		4	0
Cucumbers	per doz.	5	0		8	0
Endive	per doz.	1	3		1	6
Horseradish	per doz. bun.	10	0		12	0
Leeks	per doz. bun.	1	6		2	0
Lettuce	per doz.	0	9		1	6
Mushrooms	per doz. lb.	6	0		12	0
Mustard and Cress	per doz. pun	1	3		1	[illegible]
Onions	per cwt.	4	6		6	0
Parsley	per doz. bun.	2	0		2	[illegible]
Parsnips	per bag	2	0		3	[illegible]
Radishes, French	per doz. bun.	1	3		1	[illegible]
Seakale	per doz. pun.	12	0		15	0
Spinach	per ½-sieve	2	6		3	0
Tomatoes, English	per doz. lb.	4	6		6	0
,, Canary	per case	10	0		14	0
,, Guernsey	per doz. lb.	2	6		4	[illegible]
Turnips	per doz bun.	3	0		3	[illegible]
Watercress	per flat	4	0		6	6

LONDON POTATO MARKETS.

There is no enthusiasm over the potato trade as neither prices or sales improve.

		s.	d.		s.	d.
Bedfords	per ton	60	0	to	65	0
Blacklands	per ton	50	0		55	0
Dunbars	per ton	85	0		95	0
Essex Kidneys	per ton	55	0		[illegible]	[illegible]
Evergood	per ton	55	0		[illegible]	[illegible]
Kents	per ton	60	0		65	0
Lincolns	per ton	55	0		65	0
Presidents	per ton	60	0		65	0
Up-to-Date	per ton	65	0		75	0

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1910. JANUARY 9 TO JANUARY 15.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Jan. 9—Sunday	—	49	47	52	40
,, 10—Monday	6 0	47	46	51	47
,, 11—Tuesday	5 12	43	41	44	42
,, 12—Wednesday	3 48	35	34	40	34
,, 13—Thursday	4 36	32	31	50	31
,, 14—Friday	1 30	50	49	52	32
,, 15—Saturday	0 24	41	41	51	41
Means	(total) 21 30	42	41	49	38

DATE. 1910. JANUARY 9 TO JANUARY 15.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Jan. 9—Sunday	0.06	43	43	44	41
,, 10—Monday	0.07	45	44	44	42
,, 11—Tuesday	0.20	43	44	44	37
,, 12—Wednesday	0.02	40	44	44	28
,, 13—Thursday	0.03	38	42	44	24
,, 14—Friday	—	40	41	44	35
,, 15—Saturday	0.02	42	42	44	36
Means	(total) —	42	43	44	34

CATALOGUES RECEIVED.

H. CANNELL AND SONS, SWANLEY.—This seed list is a familiar "herald of spring," and its offer of "golden seeds" comes along once more. The firm catalogues a goodly number of flower novelties and some special selections among vegetables.

CHAS. TURNER, ROYAL NURSERIES, SLOUGH.—This is a useful catalogue of select varieties of flowers and vegetables. The descriptions are to the point and the arrangement is excellent.

MESSRS. BEES, LIM., MILL STREET, LIVERPOOL.—A remarkable catalogue of flower and vegetable seeds offered in penny packets. The range of subjects is wonderful, and the closely printed little book of 128 pages is a useful work of reference.

BARR AND SONS, COVENT GARDEN.—The title of this handy, well got up and alphabetically arranged catalogue of flower and vegetable seeds is "Seeds for all Seasons and Climates." Descriptions and cultural directions are brief and excellent.

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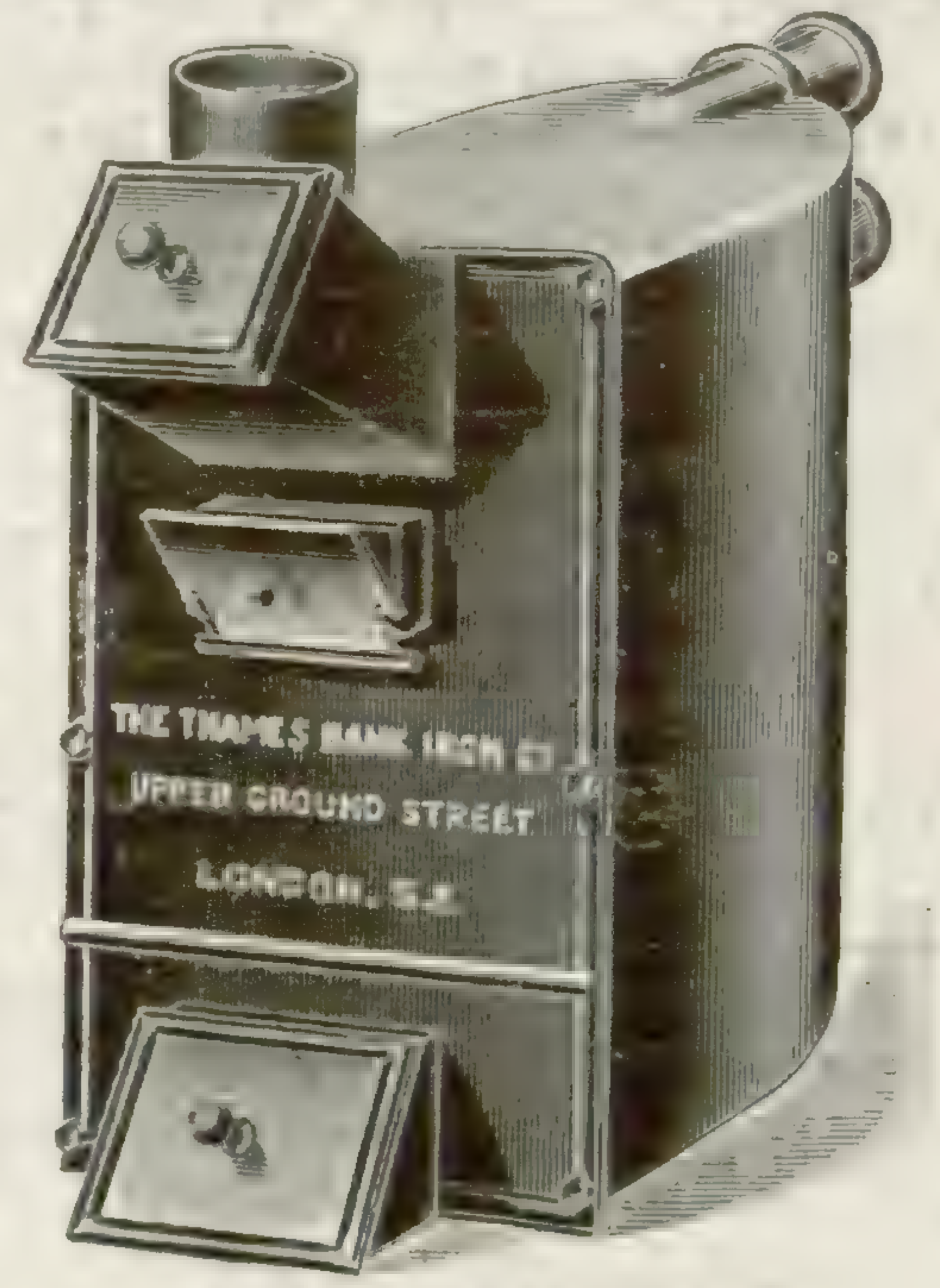

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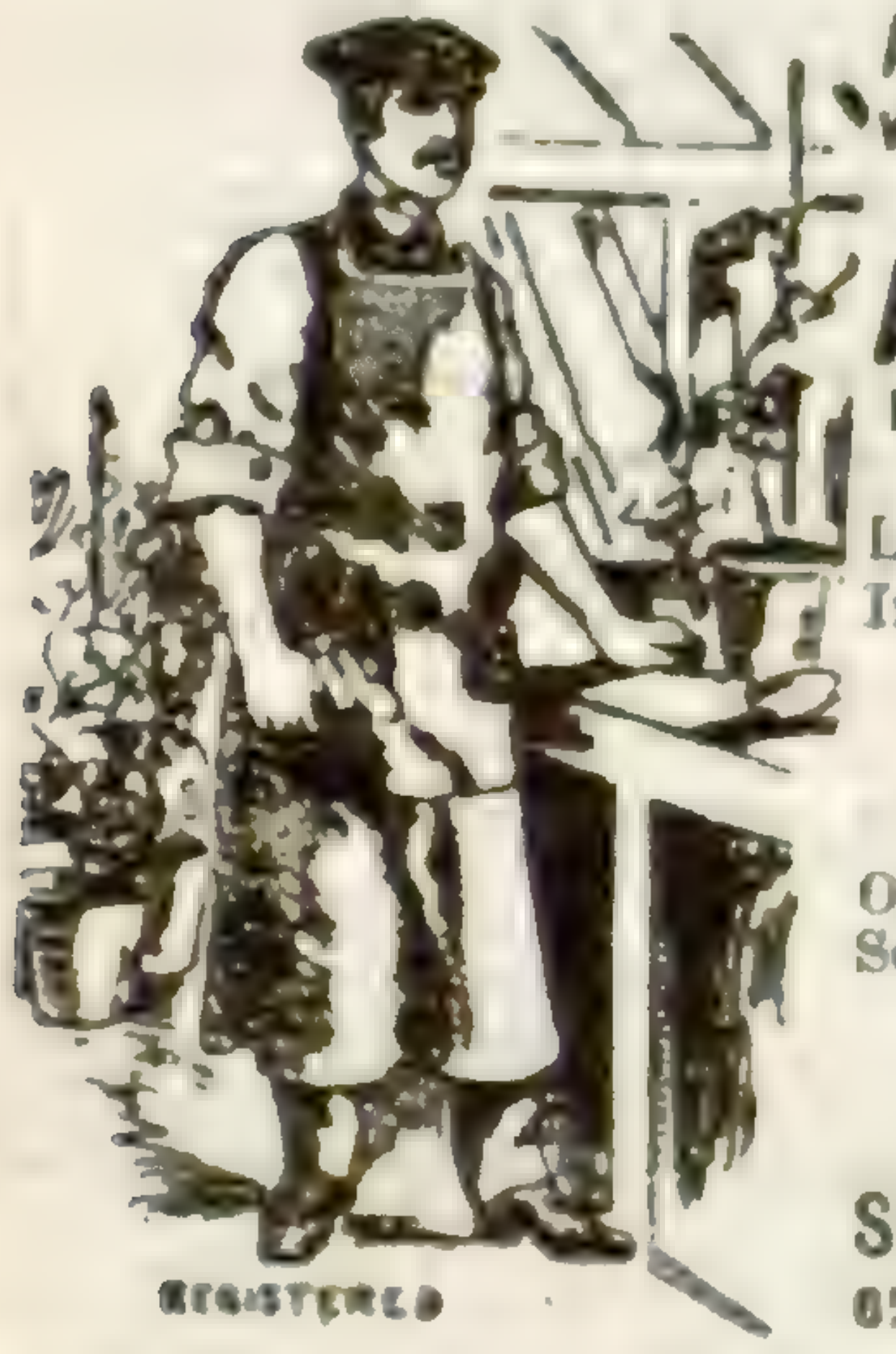

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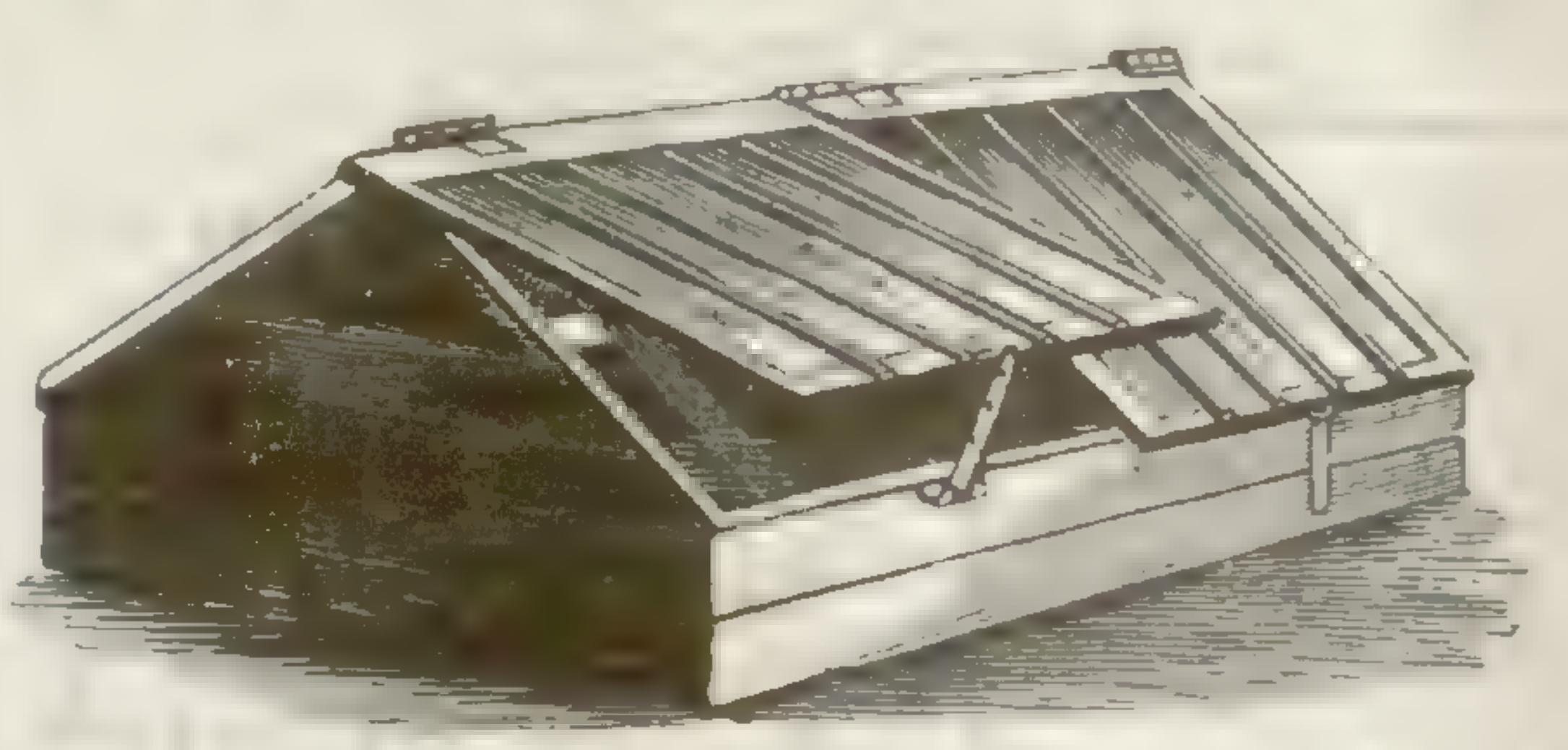

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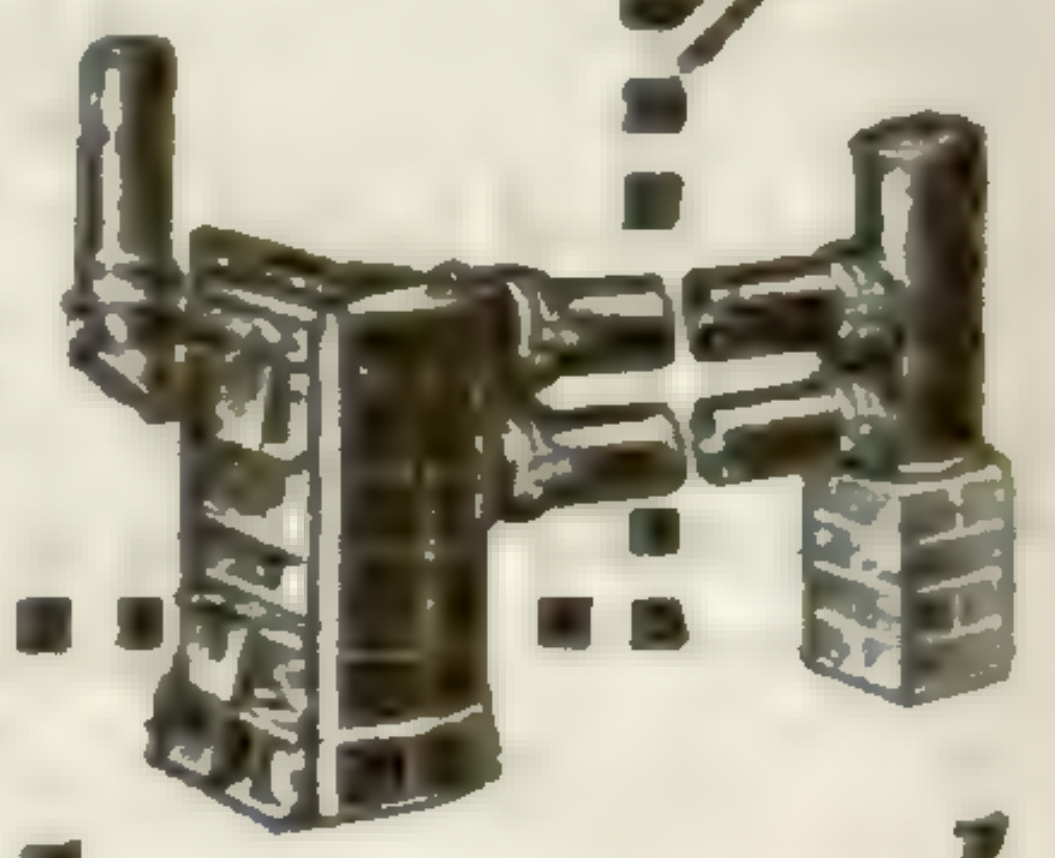

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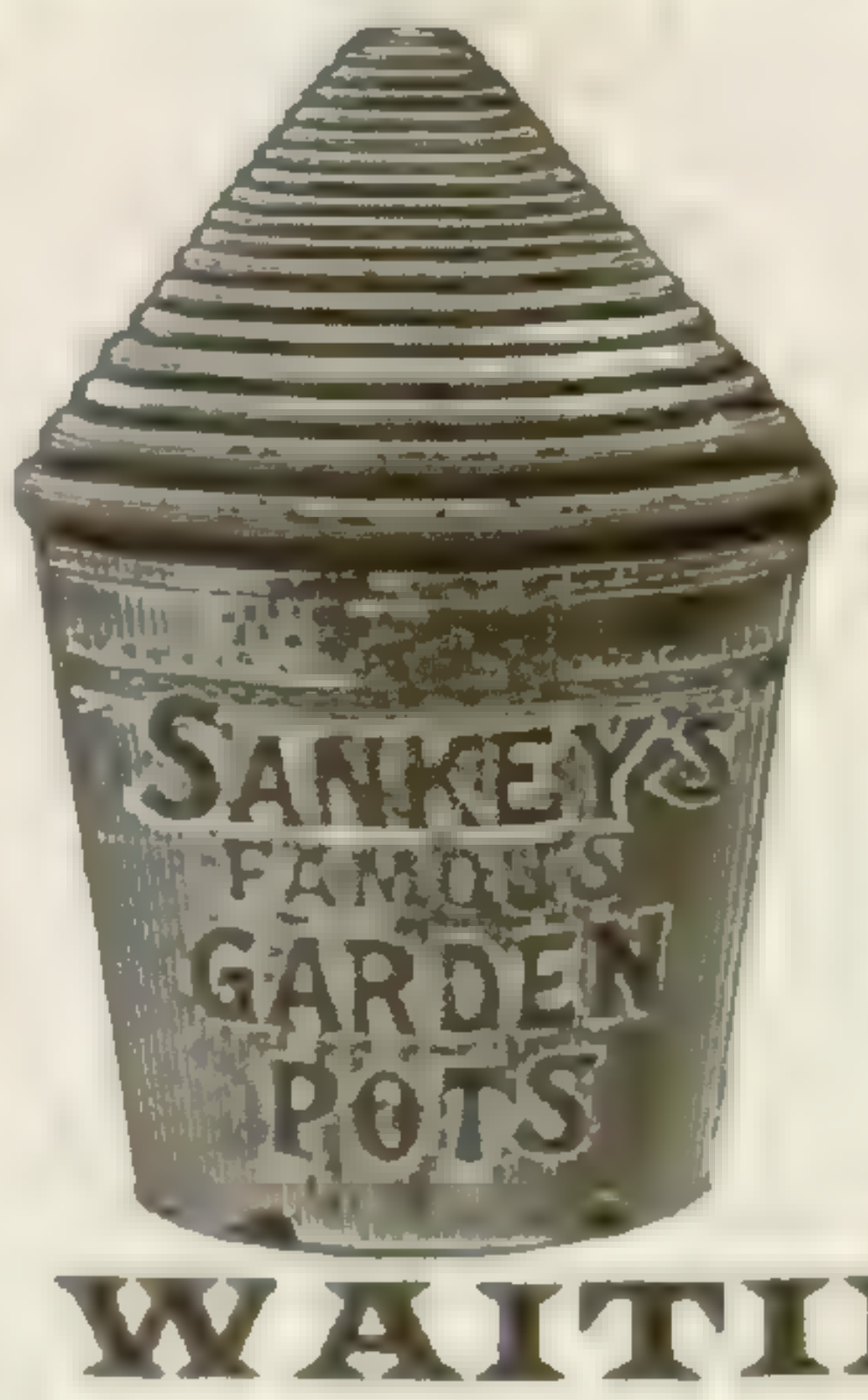

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THE GARDENERS' ATTENTION will now be occupied with the cleansing of Fruit Trees and Plants. The dormant season is the time to wage war against Mealy Bug, Scale, etc. These pests can speedily be got rid of under glass by the use of XL ALL NICOTINE LIQUID INSECTICIDE. For preparing Fruit Trees and Bushes out of doors for a clean, healthy start next spring, nothing is so effectual as a good spraying after the leaves have fallen, with RICHARDS' XL ALL WINTER WASH, which will destroy American Blight, other insects, moss, etc., and make the bark clean and healthy. Can be obtained everywhere from the Horticultural Trade. G. H. RICHARDS, Manufacturer, 234, Borough High Street, London, S.E.

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The best New and Standard varieties of Border and Tree Carnations.

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MONDAY and FRIDAY NEXT, Jan. 31st and Feb. 4th, at Twelve o'clock.—Choice Herbaceous and Border Plants, Perennials, Gladiolus, Begonias, Liliums, Tuberoses, etc.

At 1.30 o'clock.—1,000 Roses, dwarf, climbing, tea, etc., also Fruit Trees in variety, Azaleas, etc.

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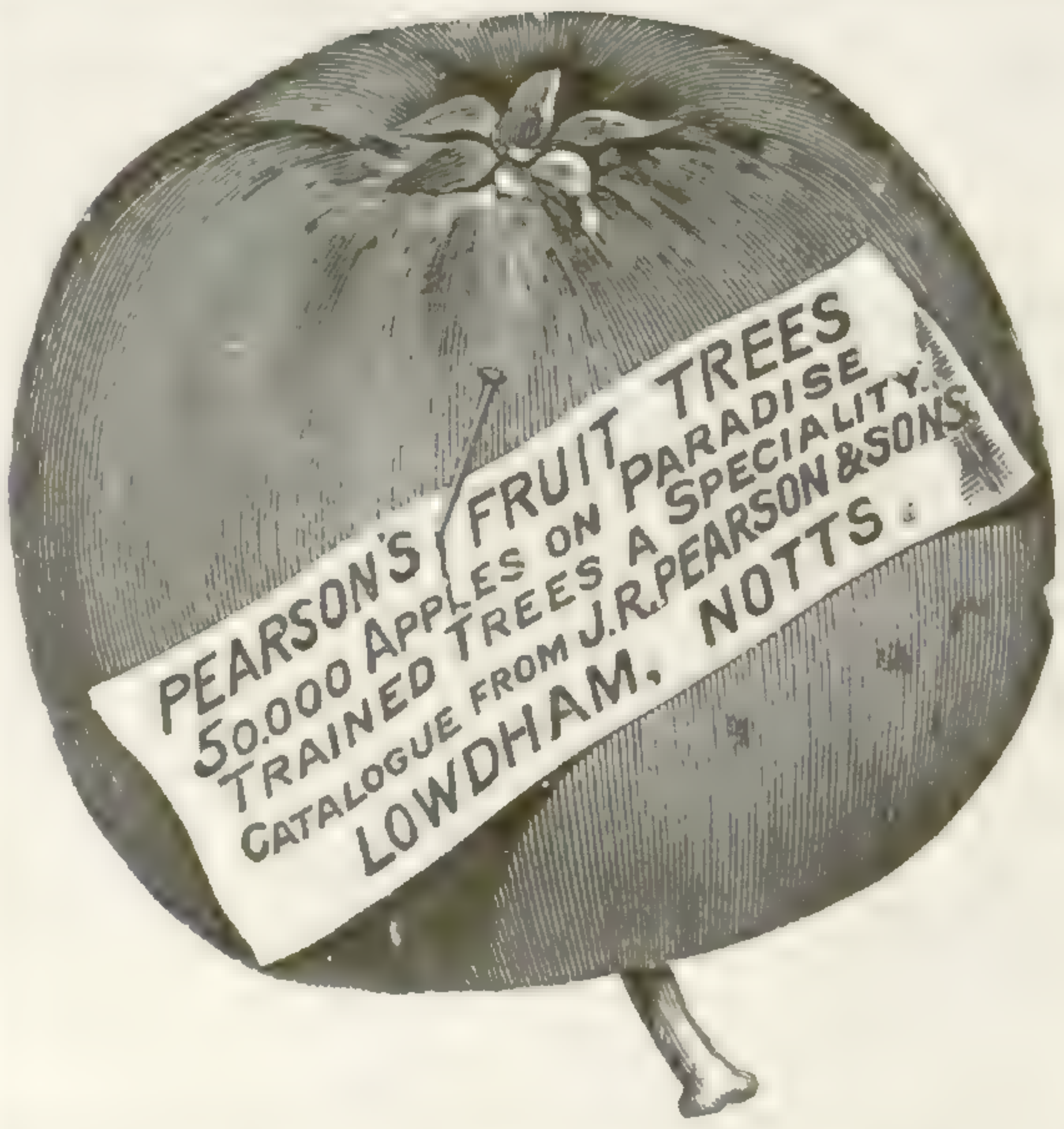
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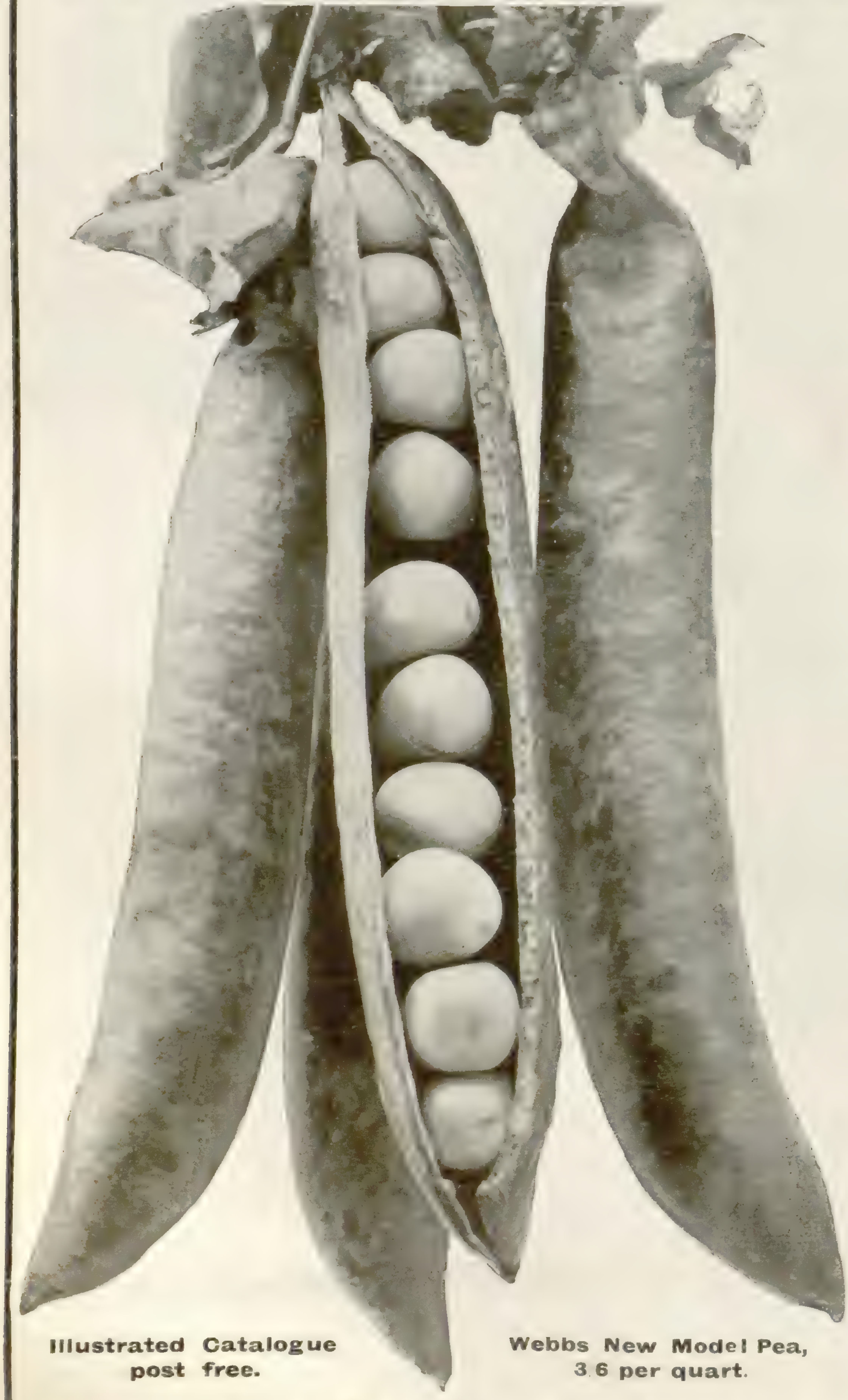

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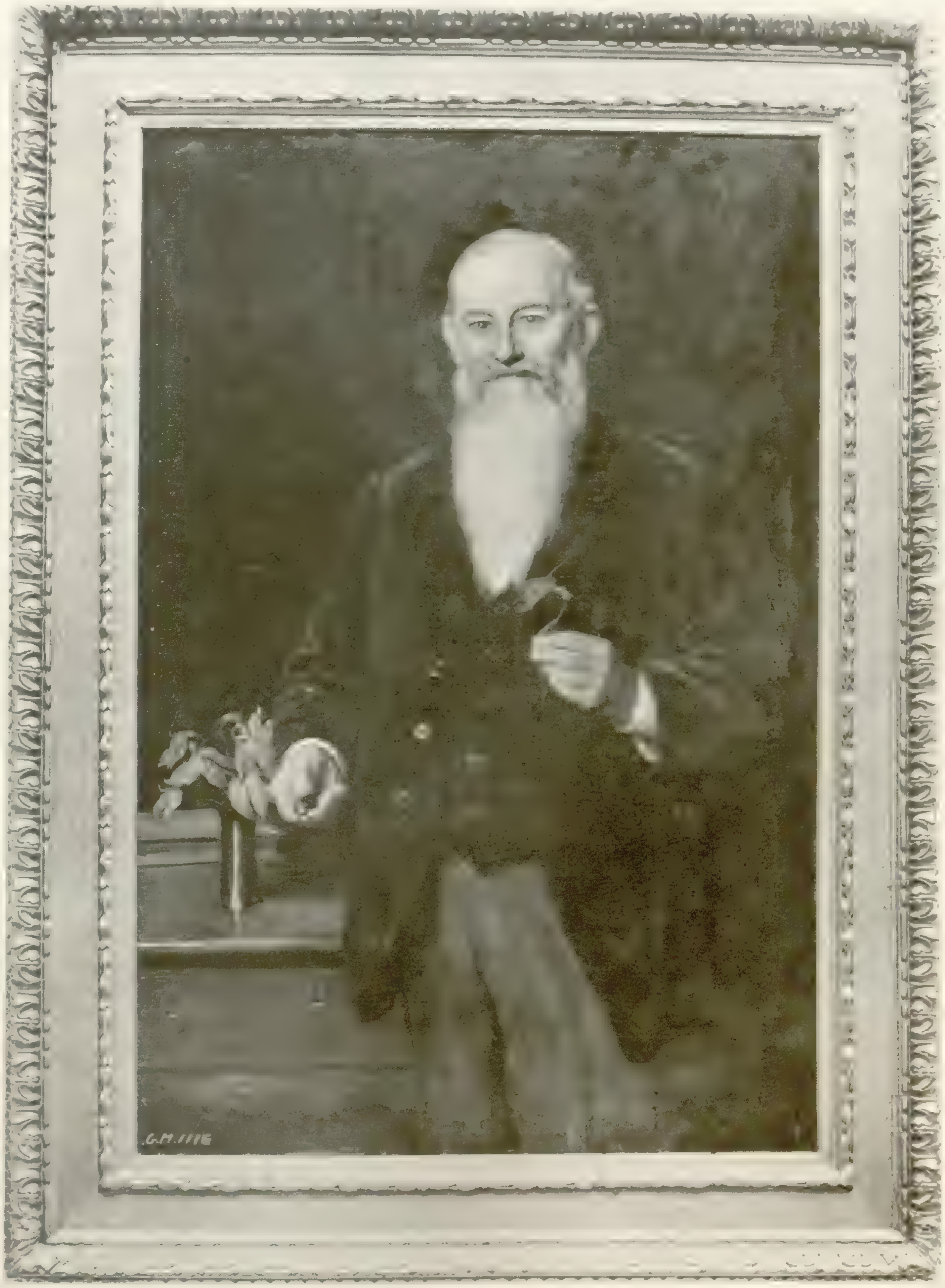
VOL. LIII.—No. 2,935. SATURDAY, JANUARY 29, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Vegetables and Animals.

In mentioning the two great branches into which organic life is divided, we have put vegetables first for the simple reason that when life was first existent on the face of this world of ours, it must have been in vegetable form. No animal can derive nourishment directly from inorganic sources as plants are capable of doing, and hence the animal could only subsequently have been evolved from a vegetable progenitor, and when evolved could only exist at the expense of the vegetation in its environment which it was able to seize upon and assimilate as organic food. Hence, as regards time, the vegetable must be the older and thus entitled to claim priority. To this day the same fundamental difference exists, and all animals must perforce maintain themselves, either by devouring vegetation direct or other animals which have done so previously. Our chemists have acquired great skill in creating drugs and medicines, some from inorganic materials, but most from organic ones; but no one has yet contrived a food which will sustain life on continued lines by mere combination of inorganic salts and gases, such as is effected in the microscopic laboratories of the cells of leaves. Another point is that, as a consequence of this, a vegetable world is conceivable with an entire absence of animal life. Popularly it is assumed that life in its two forms is maintained by a sort of mutual interaction between them, the plants absorbing the carbonic acid exhaled by the animals, and the animals taking in as their vitalising factor the oxygen set free by the plants when they have extracted the carbon therefrom, thus restoring the balance. This, however, can only be a part, and a small part of the truth, for the proportion of vegetable life on the world's surface must be far greater than that of animal life, since in many parts of the world we see vast areas of luxuriant forest growth absolutely crowding the surface, to which the animal life therein can bear no sort of counterbalancing proportion at all. Hence it may be assumed that were the animal world entirely exterminated, the vegetable one would still survive. It cannot, however, be assumed that it would continue to maintain its present aspects and types. As all flower lovers know, there is a potent interaction between the two worlds in another direction. A great proportion of our floral wealth is entirely due to the selective influence of the insect tribes which act as factors in cross-fertilisation. It is due to this that so much diversity has been evolved coupled with so much beauty. In some subtle way the flowers have responded to the varied instincts and tastes of their visitors, and there is little doubt that if these visitors ceased to exist, and so far as other than wind-fertilised flowers were concerned all plants had to fertilise themselves, there would be a general decadence of type, and probably in many cases an entire extinction of the race through lack of power in its members to adapt themselves to the altered conditions, or through gradual reduction of vigour by constant inbreeding. Apart from this we have also to consider the great modifications of form brought about by the need for protection. The thorny and prickly growths, the hard shells of nuts, the tough barks, and so forth, being no longer needed, there would be a gradual loss of these through the survival of progeny varying in a more defenceless direction, and the vegetable char-



MR. HARRY J. VEITCH, V.M.H., F.L.S.
From the presentation portrait, painted by Mr. Hugh C. Riviere, and now hung in the R.H.S. Council Room.

acter and habit would hence be modified accordingly. Then we may consider the innumerable fruits and seeds which have been evolved with attractive pulps or means of attachment, designed so as to encourage the animal world to disseminate the seed in the various ways familiar to the botanist. All these contrivances would lose their raison d'être entirely, and would consequently deteriorate and vanish, again to the prejudice and possible extinction of all but the simplest forms; so that in point of fact the process of evolution would be reversed. As a result of all this, assuming a vegetable world devoid of animal life, we must imagine it as one consisting entirely of self-fertilising plants of low degree or of wind-fertilised ones, implying plants of greater vigour and probable longevity as regards the individual race; and finally of similar plants to our ferns, equisetal mosses, fungi, and sea-weeds, embracing only such as complete their life cycles without animal intervention.

Mr. Harry J. Veitch, V.M.H., F.L.S., is so well known, both at home and abroad, wherever horticulture receives attention, and is so highly esteemed by all who are interested in gardening, that in referring to him, it appears almost superfluous to mention his splendid accomplishments, either in the advancement of horticulture, or the support of gardening charities. We have had a remarkable proof of the wide knowledge of Mr. Veitch's services in the cause of horticulture and also of their general appreciation in the painting of his portrait by subscription. A short time since, some of Mr. Veitch's friends who are associated with him in the management of the Royal Horticultural Society, felt that the time had arrived when his services should have public recognition. The painting of his portrait by subscription for the Council Room of the Royal Horticultural Society suggested itself. Mr. Veitch's consent having been obtained, subscriptions were invited, and the response was so ready and generous that the Rev. W. Wilks and Mr. H. B. May, who had charge of the matter, very soon received an amount considerably beyond what was necessary for having the portrait painted by an artist of the highest eminence. It was thereupon decided to give to every subscriber a photogravure of the portrait, and to have a second portrait painted by Mr. Hugh Riviere for presentation to Mrs. Veitch. Even this did not wholly exhaust the fund that had been raised, and it was decided to invite Mr. and Mrs. Veitch to a dinner on the occasion of the presentation to the latter of Mr. Veitch's portrait, and to ask a number of the subscribers to meet them. A report of the gathering will be found on another page of this issue, and it should here be mentioned that the portrait which appears on our first page is a reproduction of the one which now hangs in the Council Room at the Horticultural Hall. As the head of a firm of commanding importance, and possessing exceptional foresight and great business ability, Mr. Veitch has contributed largely to the enrichment of our gardens with an immense number of beautiful hardy and tender plants. Considerable numbers have been introduced from their native habitats, but a much larger number have been raised as the result of cross-fertilisation and hybridisation. To refer to the triumphs that have been achieved is not now necessary, but it must be mentioned that they have greatly enhanced the interest and attractions of our flower gardens and plant houses. Not less valuable have been the services rendered by Mr. Veitch in the cause of the gardening charities. For nearly a quarter of a century he has been the chairman of the Gardeners' Royal Benevolent Institution, and has contributed generously to its funds. At the dinner on Tuesday the Chairman stated that the princely sum of £4,000 had been given by Mr. Veitch and his firm. Although no mention of the fact was made at the dinner, Mr. Veitch must have contributed nearly half that amount to the Royal Gardeners' Orphan Fund. Four years since, Mr. Veitch had the Victoria Medal of Honour in Horticulture conferred upon him, and he would have been included among the sixty original recipients in 1897 had not the Council then resolved that no member of the Council should receive it. In 1908 he received from the late King of the Belgians the distinction of a Chevalier of the Order of Leopold.

Horticultural Club.—The annual meeting and dinner have been postponed to Tuesday, February 22, and will take place, as usual, at the Hotel Windsor, Victoria Street, Westminster, the meeting at 5 p.m., and the dinner at 6 p.m. sharp. Sir John Llewelyn, Bart., the president, will take the chair, and Messrs J. Veitch and Sons, have promised to decorate the tables with flowers, as in past years.

Horticulture in Scotland.—It is much to be regretted that the general public resident on the other side of the border do not support the Royal Caledonian Horticultural Society in a more substantial manner than it has been doing of late years. The society has done, and is doing, splendid work for the advancement of horticulture in Scotland, and yet the Council had to express regret in the report presented to the annual meeting held at Dowell's Rooms, Edinburgh, that they could not report any substantial increase in the interest taken by the public in the exhibitions. There was a further falling-off in the attendance at the spring show, and only a slight increase in the attendance at the great centenary show held in September. This apathy, for which there is just cause for complaint, has, it would appear, quickened the interest of gardeners in the society, for they have become members in increased numbers. In the course of the proceedings, Mr. J. W. M'Hattie moved: "That a remit be made to the Council, with power to hold friendly conferences with the Council or members of the Scottish Horticultural Association as to the future of both societies, and to report." As recorded in these pages, a meeting of the Councils of the Royal Caledonian and Scottish Horticultural Societies was held a short time since, and Mr. J. W. M'Hattie, who presided, stated that he could not hide from himself the fact that the public support which both societies were receiving was not sufficient for the work that should be done for horticulture in Scotland. Therefore some of those who were anxious that an improvement in the existing state of things should be made, thought that if they could arrive at some plan whereby every lady and gentleman interested in horticulture, in both societies and out of them, could fix their minds and their resources in one effort for the advantage of horticulture, and if they could possibly join forces at the same time it would be for the benefit of horticulture. If the new society were formed he made the suggestion that life members of both societies be admitted to it, and he would even go the length of admitting the ordinary members of both societies into it at the rate at which they were formerly entered. It would, Mr. M'Hattie believed, be an advantage to horticulture in Scotland to have one strong, united society, and the motion was carried.

Carnation Mrs. Burnett.—With reference to this beautiful perpetual-flowering variety, Mr. G. R. Nicholls writes from the gardens of Brockham Park, Betchworth, as follows: "I was surprised to read in Mr. Allwood's excellent article on perpetual carnations in the Gardeners' Magazine, of the 8th inst., that he considered Mrs. Burnett to have a poor constitution. I find it one of the strongest growers we have, and could show him plants that are twelve months old in nine-inch pots carrying eighteen good leads. I enclose a photograph of five plants taken a fortnight since." The plants represented in the photograph received from Mr. Nicholls are well furnished with growths that appear to be in a vigorous state.

Horticulture at Brighton.—We are sorry to learn from the annual report and financial statement that the work accomplished by the Brighton and Sussex Horticultural Society resulted in a deficit of £76 19s. 11d. We regret this result all the more because the executive has made strenuous endeavour to quicken an interest in the society and its work by making material changes in the exhibitions. For many years the society has held three exhibitions annually, but as the support was not sufficient to maintain them at the high level of excellence which has characterised them, it was decided to abandon the spring and late summer shows, and to hold a rose and sweet pea show in June, and continue the chrysanthemum show in November. The exhibition of roses and sweet peas was, as an exhibition, a decided success, but the financial results failed to realise expectations. As shown in the financial statement, the cost of the exhibition was £289 15s. 7d., and the receipts were £168 16s. On the chrysanthemum show the sum of £227 11s. was expended, and the receipts were £160 11s. These differences would not have mattered had there been a substantial subscription list, but the contributions from subscribers only amounted to £204, and from this sum £120 15s. had to be taken to defray the general expenses. The society was charged £56 11s. for the hire of the Dome and Corn Exchange, in which the exhibitions were held, and it appears to us that the municipal authorities are wanting in public spirit in charging such high rates to a society that by its efforts contributes so appreciably to the attractions of the town.

Cross-fertilisation of Sweet Peas.—With reference to this subject (see Gardeners' Magazine of the 15th inst., page 42), Dr. Francis Darwin writes to "Nature" as follows: Under the above heading a writer in "Nature" of January 6 refers to "the statement that the sweet pea is invariably self-fertilised," a statement which he thinks is "often based on an opinion of Charles Darwin's." In refutation of this opinion your correspondent describes the visits of the hive-bee and of Megachile to the flower in question. These same species were seen by Mr. Darwin to visit sweet pea flowers ("Cross and Self-fertilisation," 1876, p. 156). He goes on to ask how it is that the varieties are not habitually mongrelised, and sums up his discussion in the following words: "Whatever the cause may be, we may conclude that in England the varieties never or very rarely intercross. But it does not follow from this that they would not be crossed by the aid of other and larger insects in their native country, which in botanical works is said to be the South of Europe and the East Indies. Accordingly I wrote to Professor Delpino, in Florence, and he informs me 'that it is the fixed opinion of gardeners there that the varieties do intercross, and that they cannot be preserved pure unless they are sown separately.'"

Dry Rot of Potatoes.—An investigation has been conducted at University College, Reading, by Miss Sibyl Longman, into the dry rot of potatoes caused by the fungus Fusarium solani. The object of the research was of a threefold character: (1) To determine whether the fungus is capable of inducing the disease in the growing potato plant, as well as of setting up the well-known pathological condition in the stored tuber; (2) to ascertain whether dry rot can be induced in potato tubers directly by inoculation with spores of Fusarium solani, or whether, as is commonly supposed, dry rot only follows upon wet rot; and (3) to determine experimentally whether tubers infected by F. solani can be sterilised by heat, i.e., whether the death temperature of the fungus is higher or lower than that of the tuber. The results of the investigation serve to confirm the conclusions already reached by Smith and Swingle in 1904. It was found that F. solani is a true parasite capable of destroying both the resting tuber and also the aerial shoots of the growing plant; that there is no necessary time-relation between an outbreak of dry rot and one of wet rot, but that the disease may be induced by inoculating healthy tubers with pure cultures of the spores of the fungus; and that sterilisation by heat is not possible, as the temperature capable of killing the fungus is higher than that by which the potato loses its vitality.

Royal Gardeners' Orphan Fund.—We have much pleasure in stating that Sir Jeremiah Colman, Bart., will preside at the annual dinner of this charity at the Hotel Cecil, Thursday, May 19.

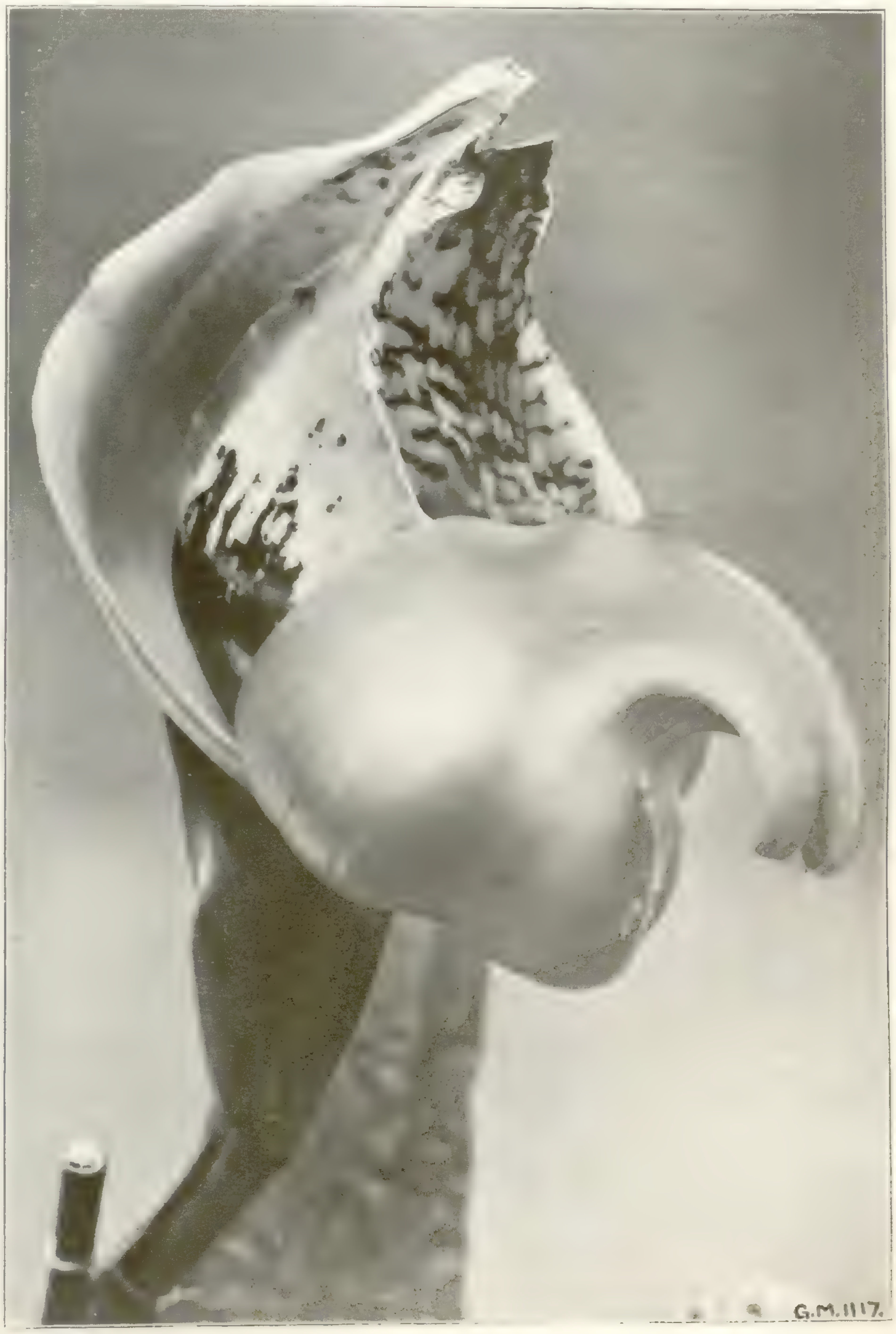
New Trees on Old Sites.—Where tree planting has to be carried out it is always most desirable to plant on fresh land, but this cannot always be managed. For various reasons it not seldom happens that a new tree must occupy the site of an old one, and when this is the case special preparation of the soil should be attempted. Discussing this matter the "Journal" of the Board of Agriculture points out rightly that "the roots of the old tree should be first removed as completely as possible so that no decaying wood be left in the soil, and a circular hole, at least 6ft. in diameter and from 1½ to 2½ft. in depth, should be dug and left open to almospheric influences as long as possible before the tree is planted. The soil may also be sweetened and freed from insect and fungus pests by a dressing of quicklime. If fresh soil can be substituted for that dug out, the newly-planted tree will have a better opportunity to flourish. Should the orchard happen to be on grass land it will be an aid to the tree also if the grass be not allowed within three or four feet of it for the first few years after planting."

Veitch Memorial Medals.—We are informed that at a meeting of the Veitch Memorial Trustees, held on the 18th inst., it was decided to present silver medals to the following gardeners in recognition of distinguished services rendered by them to horticulture, viz.: Mr. H. J. Chapman, of Oakwood Gardens, Wylam-on-Tyne; Mr. J. McIndoe, V.M.H., formerly of Hutton Hall, Guisborough; and Mr. W. H. White, orchid grower at Burford Lodge, Dorking. It was further decided to offer to the Royal Horticultural Society a prize of £5, with a medal, for an exhibit of fruit to be competed for at the forthcoming show to be held at Liverpool in connection with that of the Royal Agricultural Society; and also £5, with a medal, to the Taunton Deane Horticultural Society for competition at their next show.

Chrysanthemums at York.—We are much gratified in learning that the work accomplished by the Ancient Society of York Florists in 1909 proved highly successful. According to the report submitted to the annual meeting, the total receipts were £578 6s. 11d., and expenditure £544 18s. 3d., leaving a balance of £33 8s. 8d. to the good, thus enabling the committee to pay off the adverse balance at the bank at the commencement of the year. The funds of the society now consist of £100 on loan with the York Corporation and £1 0s. 11d. at the bank. The receipts for admission to the chrysanthemum show amounted to £237 6s. 9d., as against £236 in 1908 and £235 in 1907. The amount expended in prizes was £172 2s. 6d. Mr. Oram, who has retired from the secretaryship, after eleven years of excellent service, was, on the motion of the Lord Mayor of York, accorded a hearty vote of thanks.

ROYAL HORTICULTURAL SOCIETY.

There was a quite new arrangement of the staging at the Royal Horticultural Hall on Tuesday last, as the platform was occupied by the tables for the dinner to Mr. and Mrs. H. J. Veitch the same evening. Consequently, the left half of the hall was filled with short staging, and each exhibitor had a small space all to himself. There was an interesting display, but not a very large one. Orchids were prominent. The new presentation portrait of Mr. Harry J. Veitch, hung in the hall, proved a great attraction.



ANGULOA CLIFTONI.

A new species with yellowish-green sepals, and paler green petals that are heavily stained, especially at the base, with bright purple-red. F.C.C., R.H.S., January 25. Messrs. Charlesworth and Co., Haywards Heath.

FLORAL COMMITTEE.

Messrs. James Veitch and Sons, Chelsea, were again large exhibitors. In one group they had standard Indian azaleas, well in bloom, arranged over a groundwork of ferns. One length of tabling was filled with Javanico-jasminiflorum rhododendron hybrids, the blue Coleus thyrsoideus, the new Tradescantia White Queen, Freesia refracta alba, Erlangea tomentosa, Tillandsia Lindeni, Calceolaria Burbidgei, and Otaheite oranges. An interesting little group of early spring flowers from Messrs. Barr and Sons, Covent Garden, was greatly admired. The chief subjects were Galanthus Ikariæ, G. Elwesi, Tulipa saxatilis, various lachenalias, Hamamelis zuccariniana, Daphne Mezereon, Iris reticulata, Roman hyacinths, scillas, and varieties of Helleborus niger—a very pretty little exhibit.

Messrs. H. Cannell and Sons, Swanley, submitted flowers of their fine strains of Chinese and stellate primulas. Ferns were largely shown by Messrs. H. B. May and Sons, Edmonton, davallias, the new nephrolepis, aspleniums, and Stag's Horn ferns being the chief subjects submitted. The Messrs. May also showed a small group of azaleas. Cyclamens in a great variety of colouring, including the fine Salmon King, were shown by Messrs. Stuart Low and Co., Enfield, who also had camellias and other hard-wooded plants in flower, and cut carnations.

Messrs. Thomas S. Ware, Feltham, contributed a very interesting collection of saxifragas, Christmas roses, irises, hardy primulas, iberis, and other dwarf alpines. Mr. G. Reuthe, Keston, sent up a few irises, snowdrops, snowflakes, and small evergreen shrubs. Mr. H. F. Chapman, Guldeford Lodge, Rye, showed some very charming freesias, including the yellow F. Chapmani, and some very pretty seedlings, showing a considerable variation in colour. Some hybrids of Cyclamen ibericum were also shown by Mr. Chapman.

Mr. H. Burnett, Guernsey, showed a very beautiful lot of carnation flowers, setting up fine vases of Mrs. H. Burnett, Mrs. Tatton (new pink), Enchantress, White Perfection, Marmion, Rose Dorée, Wanoka, a fine crimson, and Snow Queen.

There were numerous exhibits of sundries on the occasion, and from the GARDENERS' MAGAZINE office came a selection of coloured plates and illustrations that have appeared in these pages, and copies of the horticultural books issued from 148, 149, Aldersgate Street.

ORCHID COMMITTEE.

Messrs. James Cypher and Sons, Cheltenham, showed a collection of cypripediums, and a few other orchids, the leading features being Cypripedium Mrs. W. Mostyn, C. Thompsoni, C. gigas Corndean var., C. Leopoldeanum, C. Clio Chardwar var., C. aureum virginale, the splendid C. Beekmani, and several good forms of Lælia anceps and calanthes. Mr. Maurice Mertens, Ghent, brought over a few seedling odontoglossums. Mr. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, showed Odontoglossum Vuylstekeæ, O. St. Peter, O. crispum Mrs. Goodson, and O. Wiganianum Goodson's var. Messrs. J. and A. McBean, Cooksbridge, were represented by some beautiful white varieties of Lælia anceps, in fine contrast with coloured forms, together with Epiphronitis Veitchi, and a few Odontoglossum crispum.

A very pretty group of orchids was submitted by Messrs. Stuart Low and Co., Bush Hill Park, Enfield, and this contained the bright Lælio-cattleya Charlesworthi, L.-c. Cappei, some fine odontoglossums, cypripediums in great variety, Dendrobium heterocarpum, some cattleyas, and a margin of the graceful Platyclinis glumacea. An array of cypripediums from Mr. C. Rogerson, West Didsbury, Manchester, contained C. aureum virginale, C. Congo, C. insigne Luciani, C. aureum Surprise, C. Lathamianum splendens, C. Hindeanum, and C. Euryades magnificum New Hall Hey var.

Mr. J. Forster Alcock, Northchurch, showed a few dozen cypripediums, but disposed the plants rather too thinly, consequently the pots were very much in evidence; there were good Leeanum and insigne varieties, C. Bingleyense, and some good varieties of C. villosum parentage, but, unfortunately, not a single plant was labelled. Mr. H. J. Bromilow, Rann Lea, Rainhill, sent up Cypripedium Lord Wolmer (A.M.), a fine cross between C. Euryades and C. Leeanum Clinkaberryanum; and C. Charlesworthi Bromilowianum. Mr. H. J. Chapman, gardener to Mrs. Norman Cookson, Oakwood, Wylam-on-Tyne, brought up the beautiful Odontioda Bradshawiæ Cookson's var., with a spike of ten brilliant blooms. Messrs. Charlesworth and Co. submitted a new anguloa named A. Cliftoni (F.C.C.); it has greenish-yellow sepals and broad light green petals that are heavily stained with bright purple-red—very distinct. Cypripedium Wellesleyæ (C. Venus crossed with C. insigne Harefield Hall) came from Mr. Hopkins, gardener to F. Wellesley, Esq., Westfield, Woking.

Odontioda Charlesworthi var., very deeply coloured, was shown by Mr. R. G. Thwaites, Streatham. Mr. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester, brought up Cattleya Miranda Westonbirt var. (C. Trianæ crossed C. amethystoglossa), A.M.; and Cypripedium Helen II., Holford's var. Mr. Edward V. Low, Vale Bridge, Haywards Heath, brought up a collection of cypripediums, some pretty varieties of Cattleya Trianæ, Cymbidium cyperifolium, and Odontioda Thwaitesiæ.

Messrs. Charlesworth and Co., Haywards Heath, had a very fine group of orchids, in which the white varieties of Lælia anceps figured largely with Lælio-cattleya Charlesworthi, the beautiful Cymbidium Sanderæ, Odontoglossum coronarium miniatum, O. Wilckeanum, O. ardentissimum, O. Phœbe, Eriopsis rutidobulbon, Vanda Watsoni, V. Amesiæ, Odontioda Bradshawiæ, Oncidium cheirophorum, and Cypripedium villosum auriferum.

A bold display of orchids from Messrs. Sander and Sons, St. Albans, contained many excellent things, such as fine varieties of Lælia anceps, good forms of cattleyas, the old Lælia superbiens with a spike of nine flowers, Cypripedium Beekmanni, Renanthera Imschootianum, the quaint Odontoglossum Groganiæ, Miltonia Bleuana, the beautiful Cattleya Trianæ Magali Sander (A.M.), and Odontioda Chelsiensis.

FRUIT COMMITTEE.

Mr. J. W. Funge, fruit grower to Mrs. Bischoffsheim, Warren House, Stanmore, exhibited three bunches each of Alicante, Lady Downes, and Appley Towers grapes, all of fair size and finely coloured. Messrs. George Fowler, Lee, and Co., Reading, showed bottled fruits and bottling apparatus.

CERTIFICATES AND AWARDS.

First-class Certificate.—To Anguloa Cliftoni, from Messrs. Charlesworth and Co., Haywards Heath.

Award of Merit.—To Cattleya Trianæ Magali Sander, from Messrs. Sander and Sons, St. Albans; to Cattleya Miranda Westonbirt var., from Lieut.-Colonel Holford, Westonbirt, Gloucester; and to Cypripedium Lord Wolmer, from Mr. H. J. Bromilow, Rann Lea, Rainhill.

MEDALS.

Silver-gilt Banksian.—To Messrs. H. B. May and Sons, Edmonton, for ferns, etc.

Silver Flora. — To Messrs. James Veitch and Sons, for greenhouse flowering plants; to Messrs. W. Cutbush and Son, Highgate, for carnations and shrubs; to Messrs. T. S. Ware, Lim., Feltham, for alpines; to Messrs. S. Low and Co., Enfield, for carnations and greenhouse plants; to Mr. L. R. Russell, Richmond, for azaleas; to Mr. J. Forster Alcock, Northchurch, for cypripediums; to Mr. Rogerson, West Didsbury, for orchids; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. J. Cypher and Sons, Cheltenham, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids.

Silver Banksian. — To Mr. H. Burnett, Guernsey, for carnations; to Mr. E. V. Low, Vale Bridge, Haywards Heath, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. J. and A. McBean, Cooksbridge, for orchids.

The Lowberry.—With reference to your note on the Loganberry, in your issue of January 22, we should like to say that the Lowberry should be grown in exactly the same way, namely, "trained to wires eight feet high, and planted at a distance of six feet from row to row, and from sixteen to eighteen feet asunder."—STUART LOW AND Co.

GARDEN FLOWERS AT ALL SEASONS.

In the bulb and perennial planting time, from autumn until early in the summer, every gardener is given the chance to collect plants that will yield a constant succession of blossom. In cold localities it may be necessary to employ handlights to cover some of the more delicate subjects, especially those that open buds in periods of frost and snow, but in southern places even this precaution can be dispensed with, and yet flowers can be had always. Simple methods of giving shelter are numerous; a horseshoe or oval-shaped low rockery will make a cosy nook in its centre; a dell dug out of the level ground and banked up with pieces of rock will have one or two wonderfully genial sides, and a plateau at the base, in which plants that object to wind can be perfectly cultivated. A bank, with some evergreen shrubs on its summit, will cast a shade welcome to many dainty alpines. Then the introduction either of peat or crushed brick rubble into ordinary soil fits it for keeping different plants in good health.

A brief review of the flowers that will bloom each month of the year out of doors will give suggestions for bed and border, bank and rockery planting.

January, which is the coldest and dreariest period of all, may have Christmas roses, the best variety then being Helleborus niger angustifolius, or St. Brigid's Christmas rose; a hedge or group, of laurustinus makes a beautiful shelter for this, giving florescence at the same time. The Winter Heliotrope, Petasites, or Tussilago fragrans, will yield spikes of lilac-coloured heliotrope-scented blossoms also from among its large clustering leaves. On a south wall, in full sunshine, may often be found the quaint brownish-yellow blooms of Chimonanthus fragrans. Winter species of crocus, such as C. Sieberi, mauve and yellow, should be bright.

February ushers in hepaticas of rosy-red, blue, and white, and opens the sheathes of the snowdrops. Colchicum montanum, a miniature lilac-purple meadow saffron, will also adorn the warm nooks of the rockery, beside the blue Iris stylosa. The south wall should show plenty of red buds opening upon the Cydonia japonica, and white fragrant flowers on the Lonicera fragrantissima. At the foot of the shrubs may be carpets of gold-starred winter aconites, and clumps of the purple Helleborus odorus purpurascens.

March is the month of countless flowers, daffodils, garden primroses, aubrietias, arabis, Funkia subcordata, so valuable for fine foliage, as well as for white spikes; golden doronicums, orange and yellow alpine wallflowers, red and white double daisies, stately crown imperials, violet, amber, blue, and white crocuses. Daphne Mezereum bushes should be in full bloom, often beginning in February; Forsythia viridissima will be covered with yellow bellflowers in sheltered wall angles or shrubbery nooks. The ordinary wallflowers will probably make the finest colour show, except for tulips of early varieties and golden narcissi; there should be carpets of forget-me-not beneath them, also around the pink Megasea cordifolia. M. H.

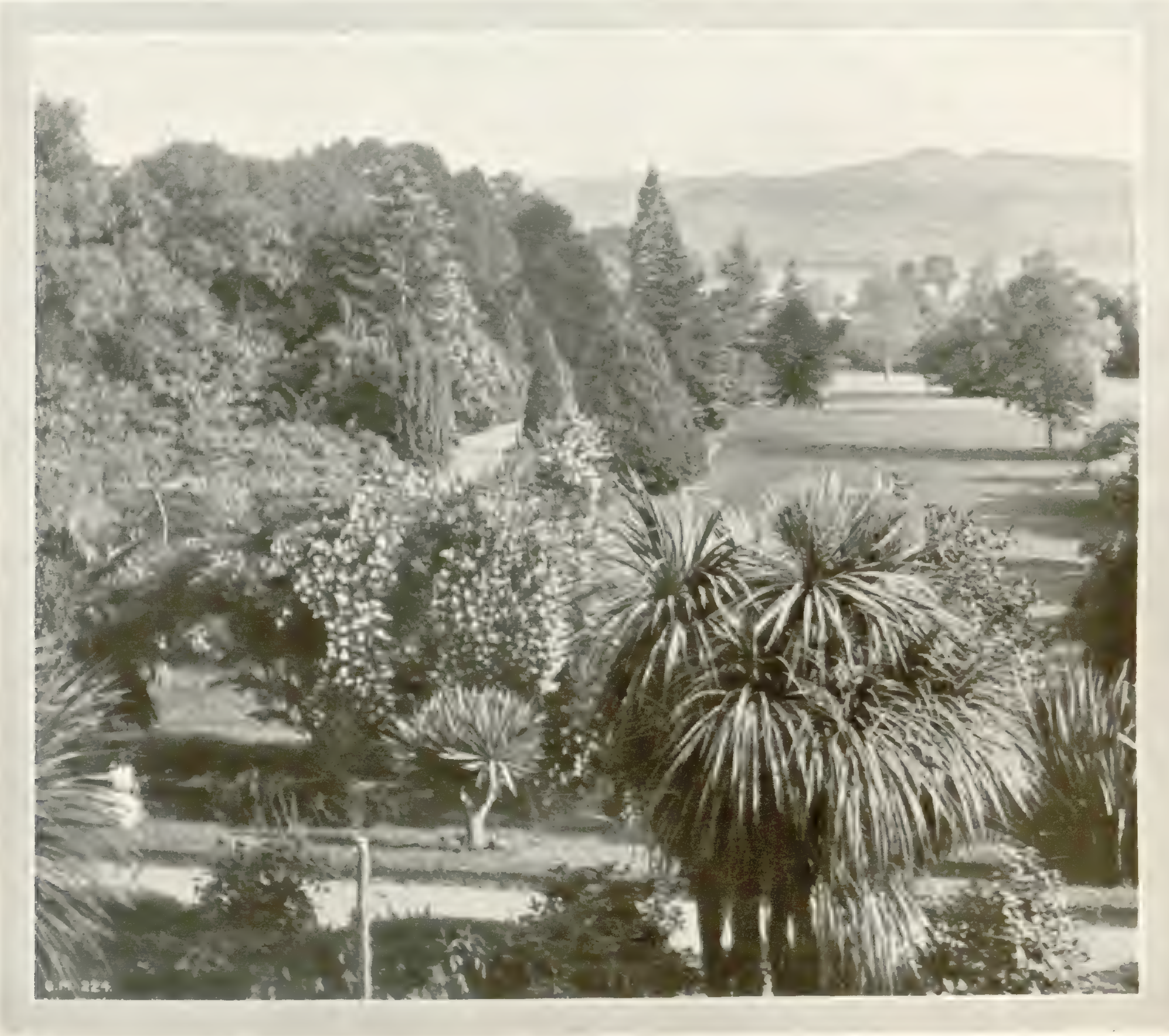
(To be continued.)

GREENHOUSE MANAGEMENT.—THE AMATEUR'S GREENHOUSE, the popular book by the Editor of "Amateur Gardening," not only treats of the selection and cultivation of greenhouse plants and flowers but gives full instructions how to build a greenhouse and how to heat it, as well as every detail as to the management of the plants and flowers grown in it. The price of this book of 416 pages is 5s. net, or by post 5s. 6d. from THE GARDENERS' MAGAZINE Office, 148, Aldersgate Street, London.

SOUTH DEVON SCENERY.

On several occasions these columns have shown how widely different is the garden scenery in the South and South-west of England, from that of the North and North-east. Temperature and rainfall combine to make this great difference, or, rather, have combined in such a way as to suggest to plant lovers that many other than native plants might thrive therein, and probably many from countries regarded as distinctly warmer than our own. Experiments were conducted on a more or less systematic and extensive scale in these favoured districts long years ago, and probably in the olden times, when Devon and Cornish men were so greatly to the front as sailors and rovers, plants and seeds were brought from other lands and given a chance to live.

However that may be, in more recent times a considerable number of plant lovers have cultivated extra-temperate and subtropical plants in these warm districts with so much success that the face of Nature has been altered, for as the rarer plants have grown the commoner ones have been removed or used only for shelter. Thus it happens that in bonny Devon, along her sheltered sunny southern coast and inlets, one may find such scenes as that depicted in the accompanying illustration. This represents a view at The Moors, Bishops Teignton, near Teignmouth, and readers will readily distinguish the big cordylines (dracænas), bristling with flower spikes, great clumps of New Zealand Flax (Phormium tenax), the well known palm, Chamærops excelsa, tall graceful examples of acacias, giant Himalayan rhododendrons, the Chilian Araucaria imbricata, and several eucalyptus trees. Fuchsias, hydrangeas, pelargoniums, and many other subjects that are greenhouse plants in the Metropolitan district and northward, are here to be seen out of doors all the year round. A visit to these favoured spots during early spring would open the eyes of those who only know many of these and other trees and shrubs as pot plants.



VIEW IN THE GARDENS AT THE MOORS, BISHOPS TEIGNTON.

WISTARIA MULTIJUGA.

The value of the well known Wistaria chinensis as a free flowering climber is appreciated all over the country, and its useful and ornamental qualities have led to its cultivation almost to the exclusion of other kinds. There are, however, several other species which, if not quite so free flowering always, have a great deal to commend them, and the one under notice, W. multijuga, is of the number. It is a Japanese species, and is used largely in Japan as a cultivated plant, while the inflorescences are employed by artists as models for the ornamentation of chinaware and for painting on silk for screens, etc.

When allowed to grow freely it is quite as rampant as W. chinensis, but, like that species, it may be grown more or less as a bush by spurring the young growths in well each year, and securing the main branches to a stout stake. No very great difference is noticeable between the foliage of the two species, but in the inflorescence there is a marked alteration, for, while the racemes of W. chinensis rarely exceed nine inches in length, those of the Japanese species are frequently between three feet and four feet long. The colour in both cases is very similar. Though, as has been previously stated, it can be grown as a bush in the open, it also thrives well on a wall or fence, but it is probably at its best when grown over the top of a pergola, so that the long racemes of blossoms may hang over a pathway, a position where their full beauty can be appreciated.

It is not an uncommon thing for this species to produce fruits in this country. The pods are similar in form to a kidney bean, and range up to nine inches in length, the outer sides being covered with a fine silky pubescence. The seeds are rounded, and thin, and three to seven or so are usually found in each pod. Except by seeds it is a somewhat difficult plant to propagate: it may, however, be increased by means of layers, or it may be grafted on to pieces of root, as thick as a lead pencil, of the other species. Loamy soil suits it best, though it will thrive in that of a light sandy nature.

W. D.

Kew.

Cabbage.—The wet autumn and winter experienced so far has been very unfavourable to the main crop. Scarcely any growth has been made in this part. A sowing of an early kind will therefore be made under glass, and planted in cold frames.—George Ellwood, Swanmore Park Gardens.

SOME GOOD TABLE PEAS.

The number of varieties of culinary peas has very considerably increased during the last ten or twelve years, and the improvement in many is great. The white round-seeded have given way to green wrinkled and greatly improved flavoured varieties. I do not think much has been done in obtaining really earlier varieties, and this was not to be expected, as our climate will not permit this. Certainly some improvement has been effected in perhaps two or three varieties, but what has been accomplished is the immense increase in the crops, and in the size of pods of the early varieties.

The earliest that I have grown is Carter's Eight Weeks, which is a very hardy pea of the marrowfat type, and grows only fifteen inches high. Reading Wonder and Pioneer are a few days behind the first-named, but both these peas are of the very highest standard of excellence in our soil, which is rather heavy. Giant Lightning is a wonderfully improved pea, the pods being three times the size of the old type. Early Morn has stood the test now for ten years, and is a very fine early marrowfat pea that matures rapidly. Mayflower is a really good variety. Daffodil is a fine pea, and especially suitable for small and intermediate gardens, as very small sticks only are required. I prefer to stick all peas, as I think they have then a better chance of development. International is a distinct pea that gained much popularity last season, and proved to be large, of excellent flavour, and a good grower. Daisy is still a good reliable variety, and Buttercup is a fine type of pea both in cropping and flavour.

Harvestman is a new and promising variety of the highest standard. Dreadnought and Quite Content have now become household words, as it were, amongst growers; the latter requires plenty of time, and should be grown in single rows, apart from any others, or it becomes drawn, and does not fill up so well as it otherwise would. Michaelmas and Late Queen are decidedly the best of late varieties, though on some soils I have seen Autocrat give extraordinarily good crops.

There are so many really good peas now to select from that it is sometimes puzzling for the beginner to select, hence these notes. All peas require deeply dug or trenched ground that has been heavily manured. On light soil I prefer trenches, treating the trenches as is usual for celery. Tall-growing varieties should stand out in single rows, and not in plots; indeed, it is better at all times to adopt this method if the convenience and ground be at disposal, and it is as well to remember that there are some garden crops that delight in a little shade during midday; the peas would give this.

Leonardslee Gardens. W. A. Cook.

Asparagus. — Where there is the convenience for forming gentle hotbeds it is very easy to obtain supplies of this vegetable. If beds have been made as advised in an earlier calendar, place four or five inches of compost in the bottom of the frames, and this should consist of equal parts loam, leaf-soil, and spent mushroom bed. Place thereon the roots, laying them thickly over the soil. Cover them with four or five inches of similar soil. Give a good watering to complete the operation. Keep the lights closed unless the temperature should rise above 65 degrees, when a little air should be admitted; close early and syringe on all favourable days.—G. E.

SELECTING CUTTINGS OF PERPETUAL-FLOWERING CARNATIONS.

In the propagation of the perpetual-flowering carnation there are two debatable points, viz., the best time to insert cuttings, and the correct kind of cutting.

In years past autumn-rooted cuttings were looked upon by some as being superior to winter cuttings, and in the case of the old English tree carnation this may have been so, but all the best wholesale growers, both in this country and America, are agreed that December is quite early enough to commence propagating the modern perpetual flowering carnation, and I maintain that finer and better plants are procured from stock propagated in December, January, and February than from cuttings rooted from September to November.

The reason why this should be so is quite easily explained. The one stage in the life of a young carnation at which it is in its weakest state, is when it is emitting roots. It will then have almost exhausted its strength during the operation, and hence will require favourable climatic conditions to recuperate and start out upon its new life. Those of us who watch plant life closely know how, in the early days of January, there comes that re-awakening into a stronger growth, which is particularly noticeable in the perpetual-flowering carnation. This fact itself must be, and indeed is, a factor greatly to be considered. Whereas, on the other hand, a cutting inserted and rooted during September has two dull, dreary months before it, from a growing point of view, just at the critical time when it most needs assistance. Many I know place these autumn-rooted cuttings on shelves in a moderately warm house, and so encourage them to grow, yet this is a poor substitute for Nature's own persuasive way, and growth so made is weak, and is certainly not a suitable foundation upon which to build a strong vigorous plant. The root action is also naturally slow and weak, hence a lighter soil has to be used, and too often the plants become hard, and it is March before they make a strong clean growth.

We may deceive ourselves, but we cannot deceive Nature. Spring is the season of the year when nearly all plants make their natural growth in preparation for the following winter, and we can but have our young plants rooted in a fit condition so as to respond readily to her early call. I feel I cannot write too strongly, or emphasise too emphatically the vital importance of only selecting the very best and strongest cuttings. We know how fully the seedsmen realise the importance of selection of seeds and how quickly the true type is lost unless this selection is carried out. Like produces like, not only in colour, habit of growth and formation of flower, but in vitality and constitution. If we propagate cuttings from diseased parents we propagate disease. Not only is this true of plants in ill-health, but if the parent plant has been weakened by forcing or irregular treatment, then the offspring or cutting must suffer from such weakness.

Select as parent plants those of the true type, pure in colour, and free and vigorous in growth, avoiding plants which have produced flowers with split calyx or weak stems. The stock or parent plants should be grown cool in a good light and under normal conditions, and should be plants that have not been fed to excess; understand, however, that I would not advise anyone to allow the stock plants to become checked owing to the lack of sufficient food. In feeding avoid fertilisers with any chemical element, using a pure natural manure, one that is more a food than a stimulant, and will build up the plant. Cuttings from such a plant would be strengthened rather than weakened.

The correct cutting of the perpetual-flowering carnation is undoubtedly that which is produced from the flowering growth. This may be in a fit state to remove just as the bud is showing colour, or after the flower has been cut. It can be taken, as a rule, that the cutting should be in a half-matured state when removed, and some two and a-half inches long. Each flower growth, taking the average variety, well grown, should produce three good cuttings; odd kinds produce more, others less. The very top cuttings which have a stem before the first set of leaves should be avoided, also the one or two small slow-growing cuttings at the base of the flower stem.

The correct cutting is found between these two opposite sets of cuttings, they being produced on the parent flower growth where the growth is thickest, and where there is a short space between the leaves, whilst they have practically no space at all between their leaves.

Montagu C. Allwood.

SOPHORA VICIIFOLIA.

Until quite recent years one species only of Sophora was known that was suitable for outdoor culture in gardens other than those in such mild climates as Devonshire and Cornwall. Ten or twelve years ago, however, another hardy species came to light in S. viciifolia. Like the older species of S. japonica, it hails from China, but here the comparison ends, for it is as unlike the well-known autumn flowering tree as it can well be, as it is of bushy habit and of low stature, whilst S. japonica forms a large tree, with a trunk of considerable size.

The leaves are small and pinnate, and are borne on somewhat spiny branches. The flowers appear from buds in the axils of the leaves in July and August. They are white in colour, tinged with violet. It is an exceedingly free flowering shrub, and is an excellent subject for a small bed on a lawn, or it may be trained against a wall. Cuttings of half-ripe wood root fairly well in sandy soil, either in a warm propagating case or in a cold frame. Like other allied shrubs, it succeeds in loamy soil, and is a rather difficult subject to transplant after it has attained five or six years of age, for, as in the case of other leguminous shrubs, branch growth is frequently out of all proportion to root growth, the roots being confined to two or three long ones with a very small amount of fibre. W. D.

Hop Shoots as a Vegetable. —In the spring when the hop plant begins to throw up shoots, it is customary in this country to thin out and throw away the shoots, leaving only two or three to each plant. In some Continental countries, however, these hop shoots are used as a vegetable, being gathered when from four to five inches long, and boiled and eaten like asparagus. They are most largely employed in this way in Belgium, where, according to information furnished by the Ministry of Agriculture, the shoots are gathered from about 2,500 acres of hops. The average production is about 70lb. per acre. They are sold fresh, and are also supplied to preserving factories. They are among the earliest spring vegetables, and appear on the bill of fare of all the large restaurants in Belgium from the beginning of March.

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SWEET PEAS IN POTS.

The cultivation of many kinds of hardy annuals in pots for conservatory, greenhouse, or home decoration is spreading in a wonderful way, and this is not to be wondered at when we remember that the expense entailed is quite small. Some amount of time and care must be spent in producing results worthy of consideration, but these are such as most amateurs who love flowers can readily give. In their earlier stages of growth sweet peas in pots need the shelter of a cold frame, and subsequently a cool greenhouse is necessary if rather early flowers are desired, but if the aim is to bring sweet peas up to or into the house at sweet pea time then no shelter beyond that of the cold frame is needed, because the pots may be stood out of doors when the plants are too tall for the frame.

Eight-inch or nine-inch pots will be large enough for most purposes, and three plants in each pot will be ample. Substantial loam with some old manure added will suffice for potting compost, but will be improved by the addition of a little bonemeal. Watering is an important matter when the pots are filled with roots, and as large quantities of water will be necessary the free use of weak liquid manure is an important item when flowers are being produced.

For verandahs and balconies, as well as for the situations and purposes already suggested, sweet peas in pots prove very useful, while for small gardens sweet peas in pots or tubs are delightful. An advantage with sweet peas in pots is that the highly-coloured varieties may be placed in positions where the sun will not affect their brilliance.

Most varieties are suitable for pot culture, but a few may be mentioned as having proved particularly useful under this method. These are Countess Spencer, Etta Dyke, St. George, Miss Willmott, King Edward, A. J. Cook, Mrs. Hardcastle Sykes, Lady Grisel Hamilton, Clara Curtis, Helen Pierce, Dora Breadmore, John Ingman, The Marquis, and Mrs. C. W. Breadmore. Most of these we have seen growing finely in pots in a small suburban backyard, and most of them were represented in the beautiful group of sweet peas in pots set up at the great Holland House Show in July, 1909, by Messrs. James Veitch and Sons, Chelsea, an illustration of which we give in the present issue.

GROUP OF SWEET PEAS IN POTS EXHIBITED BY MESSRS. JAMES VEITCH AND SONS, LIM., AT HOLLAND HOUSE, IN 1909.

ANTIRRHINUMS.

In one form or another Antirrhinum majus and its varieties are indispensable subjects for garden decoration, the dwarf kinds being extremely serviceable in beds and borders, while from the taller varieties we secure an almost unlimited supply of material for cutting.

Under favourable conditions Antirrhinum majus is perennial, but in the majority of gardens it is more or less crippled during winter, consequently the best results are obtained by treating it as an annual or biennial. Seed may be sown late in the autumn, in the winter, or early in spring, transplanting the seedlings into boxes, growing them under cool conditions, and, after careful hardening off, planting them in their flowering quarters on the first favourable opportunity during April.

Antirrhinums will often succeed under indifferent conditions, but to obtain good results a medium rich soil should be provided, fresh manure ought to be avoided, giving preference to that which is well decayed, and, when at all possible, prepare the ground some time in advance of planting. Seedlings transplant readily, and where firm planting is practised the plants will generally reach their highest floral development. Antirrhinums withstand drought without apparent injury, so that watering or assistance from stimulants is scarcely called for. Their cultural requirements are confined to supplying the necessary stakes for supporting the stems of the taller varieties, and in the early removal of all spent flowers and seed pods.

During recent years English seed houses have directed their attention to the selection of varieties having self-coloured flowers, so that it is now possible to employ these for bedding or in colour schemes without fear of an unsuitable mixture appearing to mar our results. For bedding purposes the Tom Thumb varieties are most useful, as the plants are uniform in height and breadth, seldom exceeding nine inches. When at their zenith they appear as compact masses of blossom, supported by a retaining circle formed by the deep green foliage. Employed by themselves, these Tom Thumb varieties are too stiff and formal, but when used as a groundwork to some taller plant the result will be so much more pleasing. Varieties of intermediate height rise to about eighteen inches, and are less stiff in outline than the Tom Thumbs, while the colour range is also wider; they commend themselves as groundwork plants for large beds or borders, either employed alone or in conjunction with taller subjects. The tallest varieties reach a flowering height of three feet, and as the lateral branches originate almost directly above the ground level, it is possible to secure a good length of stem, a circumstance which enhances their value when the flowers are employed for decorative purposes in a cut state. In every case the flowers are large, and last well, and it is no uncommon experience to find plants coming into flower during June retaining their decorative value until October. As pot plants antirrhinums give excellent results when grown under similar conditions to the schizanthuses, seed sown in autumn will produce flowering plants in March and April.

Like the common foxglove, the antirrhinum often becomes self-sown in the crumbling courses of walls or upon dry stony banks; under these conditions it varies considerably both in height and in size of flower, although the character of the plant generally gains in beauty from its picturesque setting. Similar conditions not infrequently come under the gardener's care —particularly in old-world gardens—and if seedlings or seed be introduced, and cared for until firmly established, few plants will yield more permanent results, coupled with beauty in a high degree, than the various forms of Antirrhinum majus.

Thomas Smith.

Walmsgate Gardens, Louth.

WEATHER AT ROTHAMSTED IN 1909.

The meteorological records of the Rothamsted Experimental Station, Hertfordshire, for 1909 show that the year was characterised by its cold and wet nature, with, upon the whole, a more than average amount of sunshine in this district. The cold was most marked during the five months May to September, which includes most of the period of active plant growth. In fact during these months the only spell of warm seasonable weather was in the first half of August. The most unseasonably cold month of the year was June, which recorded 4.4 degrees less than the average warmth extending over the past fifty years. The most unseasonably warm month was October, recording 3.3 degrees above average.

There were thirteen nights of frost in January, registering an aggregate of 72 degrees.

February, with twenty-two nights of frost, gave a total of 127.3 degrees, the extreme of cold occurring on the 22nd and 23rd of the month, when 12.6 and 14.5 degrees of frost were recorded respectively. March gave fourteen nights of frost, totalling up to 76.4 degrees. April, with nine nights of frost, registered a total of 17.2 degrees. May recorded five frosty nights, giving an aggregate of 7.5 degrees.

From this data it is seen that the first five months of the year recorded the remarkably large total amount of 300.5 degrees of frost.

The winter months of October gave on three nights an aggregate of 6.5 degrees of frost; November, on eleven nights, recorded a total of 26.4 degrees; and December, with twelve nights of frost, gave a total of 58.4 degrees.

There were nineteen falls of snow during the year, the greatest depth of about six inches occurring in March. The total rainfall for the year, including the minor deposits of dew, frost, and snow, was nearly two inches in excess of the average of the past fifty-six years at Rothamsted. There were six months of excessive rainfall, and six months of deficiency. The total number of rainy days was 195, being twenty-three days in excess of the average, and eleven days more than in the previous year of 1908.

The bright sunshine showed seven months in excess and five months deficient. The sunniest month of the year was May, when the record of sunshine exceeded the average by 103 hours. Taking a summary of each month of 1909, we find that January gave twenty-three hours more than average sunshine, slightly over average mean temperature, but 1.38 inch less than average rainfall.

February gave twenty-two hours' excessive sunshine, 2.7 degrees deficient temperature, and 1.36 inch deficient rainfall. March recorded fifty-one hours deficient sunshine, with 2.6 degrees deficient warmth, but 1.88 inch excessive rainfall. In fact, it was most probably the heavy rainfall of March which was responsible for the growth of the hay crops, and assisted the wheat crops in making a successful start. Previous to this it was a question whether large areas of wheat would not have to be ploughed up for lack of a sufficient plant. April recorded 71 hours excessive sunshine, 1.9 degree extra warmth, and just under average rainfall. May gave a total of 297 hours of bright sunshine, being 103 hours above the average record, but owing to the unusually cold nights the mean temperature was rather under average, the rainfall being also below the average amount.

June was cold and sunless, with an excessive rainfall. The sunshine was eighty-eight hours deficient, the mean temperature 4.4 degrees less than usual, but the rainfall 1.7 inch in excess. July also gave thirty hours deficient sunshine, two degrees less than average warmth, and half an inch excessive rainfall. August gave twenty-two hours of sunshine above the average, with exactly the average mean temperature, and slightly over average rainfall.

The grain crops were about three weeks late in this district, but little corn was cut until the last week in August. September was a gloomy month, recording fifty-three hours deficient sunshine, 2.1 degrees deficient temperature, and nearly half-an-inch less than average rainfall. October gave nineteen hours deficient sunshine, 3.3 degrees excess of warmth, and over five inches of rain, being the heaviest total monthly rainfall of the year, showing two inches in excess of the normal amount. November registered thirty-two hours excessive sunshine, 2.3 degrees less than average temperature, and 1.32 inch below average rainfall. December recorded sixteen hours excessive sunshine, 1.2 degree above average temperature, and more than one inch excessive rainfall. The total rainfall for the year was thirty inches, being about two inches in excess of the average of the past fifty-six years at Rothamsted. The total sunshine amounted to 1,652 hours, being forty-seven hours in excess. The mean temperature for the year was 47.1 degrees, being 0.8 degree below the usual average.

The total rainfall for the last three months of the year exceeded the average for the same period in the previous fifty-six years by 1.83 inch—which is equivalent to an excess of 41,402 gallons of water on each acre of land; last year at the same time there was a deficiency of 76,197 gallons on each acre in the underground water supply of this district.

Harpenden. J. J. WILLIS.

ROSE MOLLY SHARMAN CRAWFORD.

A tea-scented variety; eau-de-nil white. Raised by Messrs. A. Dickson and Sons, Newtownards.

ROSE MOLLY SHARMAN CRAWFORD.

Raised by Messrs. Alex. Dickson and Sons, of Newtownards, and introduced by them in 1908, Molly Sharman Crawford has rapidly passed into a high position among tea-scented roses. It is a vigorous growing variety suitable alike for exhibition, for the garden, and for culture under glass. The blooms are of fine size, full, and with broad petals, and the colour is well described as eau-de-nil white. This tea variety was shown well on several occasions during the summer of 1909. In the year it made its début, Molly Sharman Crawford secured an Award of Merit from the Royal Horticultural Society, and on that occasion, July 7, 1908, its full, high-centred blooms, exquisitely fragrant, attracted a great deal of attention from the large number of rosarians who saw it.

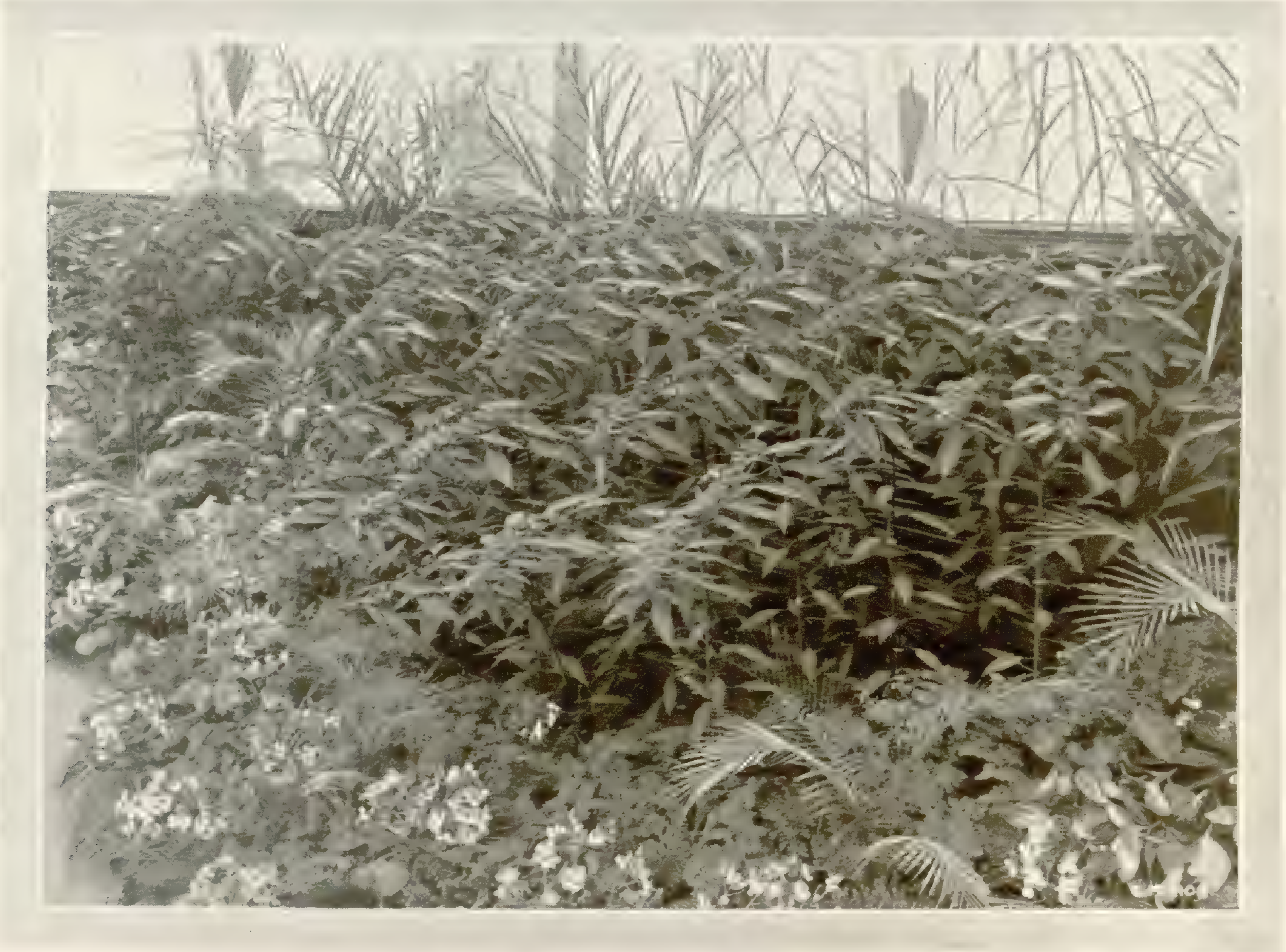
EUPHORBIA JACQUINIÆFLORA.

The highly effective group of this brightly coloured euphorbia that was exhibited by Mr. Prime, the able chief of the Hatfield House Gardens, at the meeting of the Royal Horticultural Society on the 11th inst., served to remind us once more of its usefulness in winter decoration. This group, however, did something more than this; it contributed materially to the attractions of the general display, it afforded an excellent object lesson, and the individual plants set up a standard which cultivators should endeavour to follow. It can be seen in glancing at the accompanying illustration that the plants were well grown and finely flowered, and that the arrangement was tasteful, but colours other than black and white are necessary to convey a really adequate idea of the effect produced. The colour of the flowers is, it should be said, brilliant orange, and of a depth that would justify it being described as orange-scarlet. As will be seen the flowers are arranged along the upper side of the elegantly arching stems, and with their background of bright green leaves can be utilised in decorations of the most divergent character.

It may be of interest to recall the fact that Euphorbia jacquiniæflora is a native of Mexico, and to state that it was introduced to British gardens about seventy-three years ago. The first figure that was published in this country was in the volume of Paxton's "Magazine of Botany" for 1837, and this is of great excellence. The plant from which the spray illustrated was obtained was growing in the collection of Messrs. Luccombe Pince and Co., of Exeter. In this publication the plant was figured under the name of Euphorbia fulgens. A year later it was figured in the "Botanical Magazine" (t. 3,675) under the name of Euphorbia jacquiniæflora. Since that time the plant has received a full share of attention in gardening literature, and scores of articles must have been written explanatory of its cultural requirements.

These, it must be said, are of the simplest; but simple as they unquestionably are, they must be complied with. Were one to summarise, it might be said that the main essentials are early propagation, a brisk temperature, and a light position, with rather liberal supplies of water. The first step in raising a young stock is to cut the old plants back when their flowers have lost their beauty, and keep them rather dry for a time, and thus assist the wounds to heal over. With a temperature of about 70 degrees new growths will soon appear, and when three or four inches in length they should be taken off close to the old stems and utilised in the increase of stock. Sand is preferable to soil for rooting the cuttings, and they may be put singly in small sixties or four or five in five-inch pots. Those rooted singly will require shifting on until they reach five or six-inch pots, according to their vigour or the purpose for which they are required. The others are potted off singly, and shifted on until they reach pots of the sizes mentioned, but if rather large specimens are required they can without being divided be shifted into eight-inch pots. An excellent compost is one consisting of three parts each of peat and fibrous loam, and one part each of leaf-mould and silver sand.

When grown in a mixed collection where it is difficult if not impossible to give them a position near the glass, the results are seldom so satisfactory as could be wished. The best place for them is a spacious heated pit where they can at all stages be within a short distance of the glass, and enjoy uninterrupted light, except when a light shade is considered advisable. Here they should receive rather liberal supplies of water when they are becoming pot-bound, with an occasional supply of liquid manure of a moderate degree of strength. The pit should be moderately ventilated, and when it is closed in the afternoon a light overhead syringing will be beneficial. Here we have the code of culture in a nutshell, and, if anything further need be said, it is to suggest that overcrowding should be avoided. G.



AN EFFECTIVE GROUP OF EUPHORBIA JACQUINIÆFLORA
With a margin of Saintpaulia ionantha, exhibited by Mr. Prime at R.H.S. Meeting, January 11.

RUSCUS HYPOGLOSSUM.

This is a useful dwarf-growing shrub suitable for carpeting ground beneath some taller-growing subject; for forming an undergrowth in a plantation, or for planting as an edging to a path. It is much dwarfer and neater in growth than the Butcher's Broom, Ruscus aculeatus, and may be readily distinguished by its broad leaf-like branches. It is a native of Southern Europe, and grows from six to nine inches high. The flowers are very small, and the fruits red, but it is not often the latter are borne in quantity, though when such is the case they are very effective.

It may be easily increased, for if an old plant is taken and divided up into small pieces, and each piece with a bit of root is potted up, they quickly re-establish themselves, and grow into fine clumps. Light or heavy soil appears to suit it, but a hot, dry position should be avoided, for, like the common ruscus, it is subject to scale if growing in a very sunny or dry situation. W. D.

SOME DWARF STONECROPS.

The species of sedums, or stonecrops, in cultivation are now very numerous, and one cannot in the space available for these notes enter upon a complete review of the genus, or even of those which we should class as of dwarf growth. There are, however, a considerable number of species of almost similar character which may well be grouped together for practical purposes. These are those of much the same habit as our common native species, S. anglicum and S. acre. These are so well known that they will be useful as giving an idea of the plants to which I now refer.

The stonecrops of this character have numerous uses in the garden, and, also, it may be said, in places which do not properly come under the category of gardens.

In the garden many may be used as carpeters for bulbs and other plants which do not shade the ground underneath densely, and which may leave it barer than is desired when their period of bloom is over. They are eminently suitable for early-flowering bulbs, and their low habit and shallow rooting give them a value few other perennial carpeters possess. On the rockery they can be employed with the happiest results, either as carpeters or by themselves, to form little groups, to cover dry ledges, or to plant between the crevices of the rocks, or between the stones of a rocky pathway.

Their ultra-garden uses will be manifold, as they may cover a roof, may be planted in or on some old wall, may be employed to cover some bare spot in poor soil, and in full sun, where naught but the most heat-resisting plant will survive. The majority of the sedums here referred to are hardy, while all are beautiful enough, and will well repay the closer study of the lover of plants by their beauty, which is greatly increased if the microscope is applied to the examination of the plants and flowers.

Sedums acre, aureum, and elegans.

It is unnecessary to do more than refer to the common Sedum acre, which, in masses, is such an ornament of some of our sea coasts, but which in some places becomes a troublesome weed. It is very handsome where it flowers well, with its golden flowers almost covering the low-growing plants. In its two varieties, however, we have good plants for several purposes. These are S. a. aureum, with golden foliage, and S. a. elegans, which has this of a pretty silver and green. They flower less freely than the type, but their beauty is so great in itself that they should not be neglected.

Sedum album.

This stonecrop is just a little difficult to classify with the objects of these notes, but in poor soil it will not much exceed the three inches or so one would prefer to make the limit of our choice. Grown on a roof or a wall it is closer habited, but I have it here at present some six inches high. On the roof it is excellent, but on a border or a rockery it has a tendency to become too coarse. It has rather thick and fleshy leaves, blunt at the top, and masses of little white flowers. There are several varieties, such as formosum, turgidum, pallescens, and virens. This is a very easily cultivated species, and one which will grow with the merest modicum of soil.

Sedum anglicum.

This hardly calls for notice, although it is not to be found in a wild state everywhere, and it has been proved difficult to keep alive in cultivation. It likes a very sandy soil, with full exposure to the sun, and is a truly pretty little species, with its white or rosy-white flowers on low masses of leaves of cushion-like appearance.

Sedum brevifolium.

This species and its varieties include what are almost the most desirable of the stonecrops of the class referred to in these notes, their beautiful foliage endearing them to all, while the flowers add still more beauty to plants which are charming in themselves. The type, S. brevifolium, is well called the "mealy stonecrop," from the ovoid pinky leaves, prettily arranged on the stems, and quite covered with a meal-like pubescence. The flowers are whitish. There is a variety of larger growth, but still neat, called major, but the gem of the set is Pottsi, which was, I understand, introduced by Mr. Potts, Fettes Mount, near Edinburgh. It has small leaves, prettily coloured with white and chocolate-red. One finds these brevifolium varieties a little difficult to keep in some changeable winters, but it is not rain which causes their loss, as even Pottsi is known to thrive well in wet parts of Wales.

Sedum dasyphyllum.

The daisy-leaved stonecrop much resembles S. brevifolium, and has its leaves prettily coloured also. Its flowers are more of a pinkish colour. The pretty variety called glanduliferum, also known as S. corsicum, has its leaves closely covered with very short hairs. Both of these are very desirable rockery plants.

Sedum Hispanicum.

This diminutive species is often called S. glaucum, but other authorities call it by the title here chosen. It has pretty little pinkish flowers, and its small leaves are of a charming grey-green, afterwards becoming rather reddish in hue. A beautiful little species, this is easily grown on a dry and sunny place. There is a yellow-leaved form called aureum.

Sedum lydium.

The last I purpose naming at present is S. lydium, a very attractive little species, and one of my favourites. It is a rapid, but not obtrusive grower, and makes tufts or carpets of vivid green foliage, afterwards becoming bright red towards autumn. In very dry places, such as on walls, it assumes the red colour much earlier than on the ground. It does not bloom so freely as the others, but sends up here and there over the carpet of green short, stout stems carrying a number of little pinkish flowers. It is one of the hardiest and most satisfactory of its class, and never fails to please all who grow or see it.

Cultivation.

One might have referred to several others of the same class, but one must pass to the question of cultivation, which requires but little detail. Practically all the species will grow in any light soil, but in some places it is necessary to add plenty of stones and grit, and some, such as S. acre, apparently delight in calcareous matter, such as broken shells or old mortar. One finds that this assists flowering, and checks rampant growth, although few of these species are guilty of this. On old walls and roofs an inch or less of soil will be sufficient, indeed one has planted them with less than a quarter of an inch of earth between their roots.

S. Arnott.

Sunnymead, Dumfries.

ORCHIDS FROM SEED.

It is a general practice among orchid raisers to keep in store until the turn of the days any seed pods that may ripen during the late autumn and winter. In the case of cattleyas, their allied genera, and most of the epidendrum group, this is good practice, but after the middle of January the earlier the seeds are sown the better. The increasing light, with suitable atmospheric conditions, will generally assist rapid germination, and where seeds are sown early there is less watering required than is the case if there is delay for a few weeks.

Those who are largely engaged in orchid cultivation have generally proper facilities for raising seedlings, and it is, therefore, to those who labour under less favourable conditions that I chiefly address my remarks. Experience has taught me there is no greater difficulties in raising orchids from seeds than is experienced among most other plants, and as a further encouragement I would point out that where the parent species or parent plants can be successfully grown, there should be no difficulty in germination, and in rearing the seedlings from them.

I am quite willing to admit there are considerable advantages in the early stages of growth where plants are assisted by up-to-date conditions, but the principal advantage that can then be claimed is the shortening of the period between seed sowing and flowering.

When sowing dendrobiums, cattleyas, epidendrums, sophronitis, etc., etc., the seeds may be sprinkled thinly over the surface of moderately fresh potting compost containing plants of the same kind as the seed; all moss and material that would be likely to overgrow and choke the seedlings should first be carefully removed. Care must be observed to avoid washing the seed from the surface when giving water to the plants, as there can be no question that carelessness in watering, rather than any other cause, brings failure. The seed is so light that it is easily floated from the surface in the early stages, and carried over the sides of the receptacle, and thus destroyed.

A better method than sowing on the surface of the potting compost is to procure some pieces of linen, or strips of new No. 5 shading, such as is in common use for blinds on the roofs of the houses. Cut the pieces into seven-inch or eight-inch squares, spread one over the palm of the hand, and in it place some chopped sphagnum, mixed with a little sand, then by wrapping the edges of the linen tightly round the sphagnum, make the whole into a ball. Some suitably sized clean pots, that have been filled to about one-half their depth with drainage materials should have the linen-cased ball of sphagnum placed in the centre; then fill firmly round the edges with finely chopped sphagnum to prevent the edges of the cloth from being raised up and the seeds being washed into the drainage. Water these with tepid rain water a few hours before the seed is sown. Sprinkle the seeds over the surface, and place in the warmest and most humid situation available, within reasonable distance of the roof glass. Keep the surface reasonably moist, but do not disturb the seeds when giving the necessary water.

Where a propagating case is available the seed pots may be placed therein, as considerable benefit is afforded the seedlings in the early stages where a case can be used. The warmer and more humid atmosphere, and regular temperature thus afforded conduces to rapid germination the seeds. A cross section of a scaffold pole, or any deal roughly sawn, and soaked for a few days in the rain water tank forms a good seed bed. These pieces of wood should be about an inch thick, and shaped so as to fit into a pot. Fill the pots almost up to the wood with clean broken crocks, over which place a thin layer of finely chopped sphagnum, and place the blocks thereon. Water previously to sowing the seeds, as this will assist in attaching the seeds to the wood. The disadvantages of this method are that very frequent waterings and attention are required

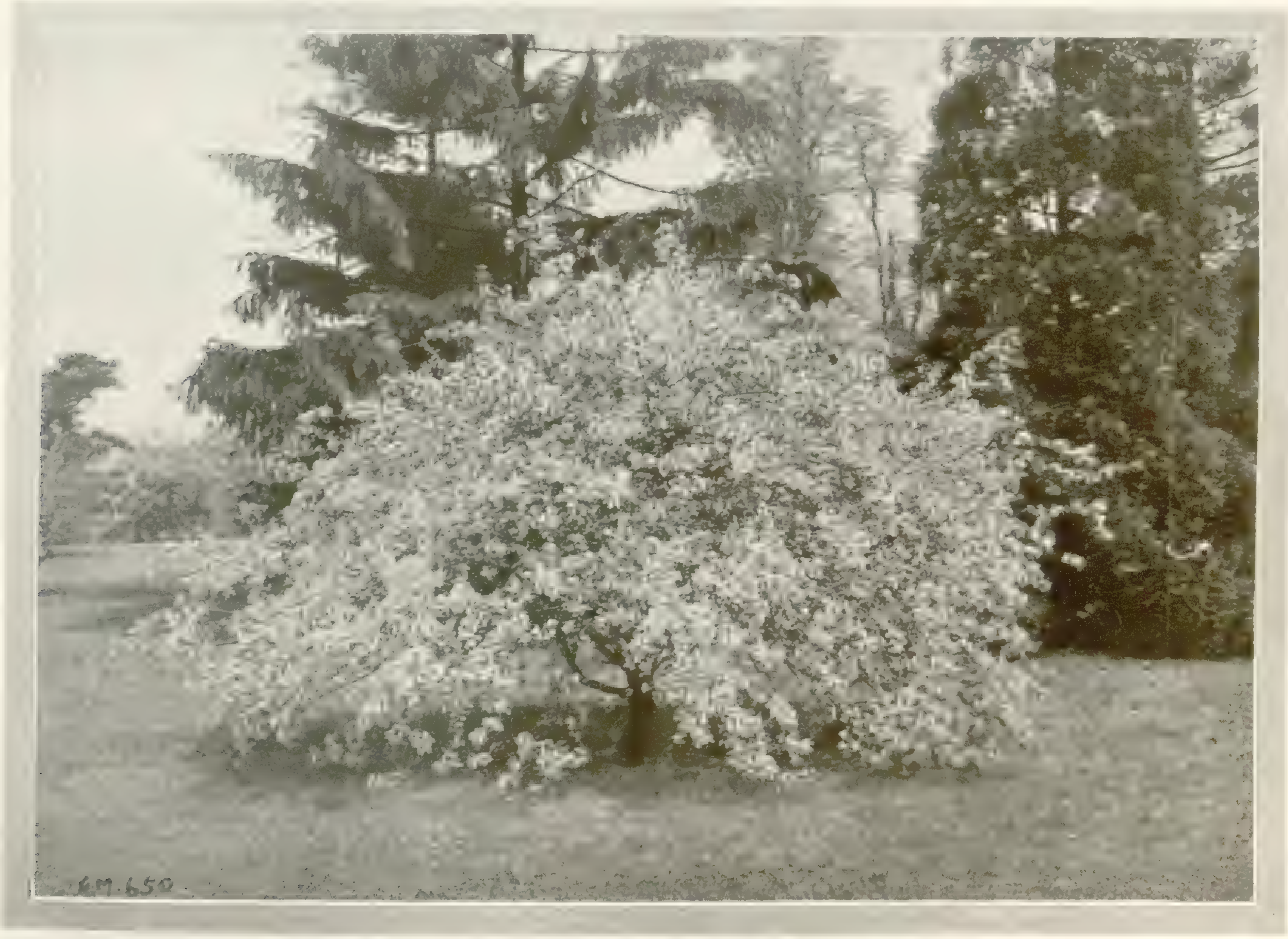
In the case of calanthes, which ripen their seeds in a reasonably short period—about three to four months after fertilisation—there is a difficulty in finding suitable seed beds. I think this seed should be sown immediately it is ripe. If the stock plants have been repotted the seeds may be sown on the surface of the potting compost. Where the plants have not been repotted select those that have started into growth, and make sure that the old compost is thorough wetted through before seeds are sown.

Cypripedium seed is best sown on the surface soil in pots containing cypripediums, but as seedling cypripediums are often found germinating under the stages and in various positions, it may be assumed that it is not altogether essential they should be sown in the position suggested. The raising of odontoglossum seedlings was a considerable mystery for many years, as only an occasional plant was procured from the thousand's of pods of seeds sown. Yet at the present time we find that odontoglossum seeds germinate more readily than those of any other class of orchids. The only reason that I can offer is the inclusion of some broken leaves in the potting compost. The seed is best sown on the surface of the potting compost of plants of their own kinds. I find it best to sow some portion of the seeds as soon as the seed pod bursts. The remainder of the seed may be wrapped in paper and placed in a light position in the odontoglossum house to complete its ripening, and be sown when ready. Select as seed beds surfaces of a lasting nature, as some of the seed may lie dormant for months, while others on the same seed bed will make rapid progress and be fit for pricking off in a few weeks. Seeds of odontoglossums must not be permitted to become unduly dry or they quickly lose their germinating power.

Oakwood Gardens. H. J. Chapman.

DWARF SPECIMEN PYRUS.

We have on several occasions directed prominent attention to the great value of Pyrus malus floribunda for beautifying the pleasure grounds in May, and we have within a quite recent period given two illustrations of standard specimens for the purpose of showing how effective they are when grown in that form. One of these was a finely developed specimen in the gardens of Aldenham House, and the other of the fine avenue which forms so characteristic a feature of the approach to Paddockhurst. We have no wish to overstate the case in favour of these elegant free-blooming trees; but it appears necessary to show how attractive they are when grown as dwarf specimens, and thus assist the reader in making a selection for special positions.



A WELL-GROWN DWARF SPECIMEN OF PYRUS MALUS FLORIBUNDA AT KEW.

The specimen herewith illustrated is one of the several dwarf trees growing on and around the mound near the tropical lily house in the Royal Gardens, Kew. These examples are of special interest, for they include the more noteworthy of the several forms, and show how graceful is the habit and how abundant is the production of flowers where sufficient space is given to allow of unrestricted growth. The tree herewith illustrated is P. malus floribunda, and when it is remembered that the buds are brilliant red, and the flowers delicate pink, it will not be difficult to imagine how attractive is a specimen when, as in this case, it is twelve or more feet in diameter. It may also be useful to mention that in favourable seasons the myriads of flowers are succeeded by a bountiful crop of fruits, which, on the approach of autumn, become attractively coloured.

Prominent among the other forms of P. malus is P. floribunda atrosanguinea, which bears flowers that are quite equal to the type, both in size and freedom of production, and are deep rose-pink. This form is so distinct and attractive that it may be described as one of the most effective of the group. The remarkably free flowering and beautiful form known as Scheideckeri is quite distinct in habit from the other forms of P. malus floribunda, for the growth, instead of drooping, is more or less erect, and it is valuable for the contrast afforded. The flowers are produced in great profusion, and are of a comparatively large size, the colour, blush-pink passing to white. The handsome P. coronaria fl.-pl. deserves a fuller recognition than it has yet received from planters. As in the case of Scheideckeri, the growth is erect, but somewhat stouter. The flowers are rose-red and white, and although not so numerous, they are much larger, and quite double. They are also highly fragrant, the perfume somewhat resembling the odour of violets. Another double-flowered pyrus that possesses much merit is P. spectabilis fl.-pl., a strong, upright growing tree that is very effective in its season of flowering. Not so graceful as the forms of P. malus, the tree makes a handsome specimen, and the flowers retain their beauty for a longer period than do the flowers of the type, and of other forms bearing single blossoms. It should be added that all these make handsome bush trees.

G. G.

HARDY FERNS IN WINTER.

Now that our hardy British ferns, in their multiform varietal types, have obtained such a hold on popular taste, a word or two on their winter requirements may be advisable.

Since all but two species, Adiantum capillus veneris and Asplenium marinum, are perfectly hardy, there is no need to provide protection from frost, and, indeed, they are the better for quite cold or normal treatment, since otherwise their period of rest is apt to be shortened, which means eventual enfeeblement of constitution if persisted in. Our remarks, naturally, apply only to such varieties as occupy cold conservatories, and not at all to those grown in the open, where they are perfectly capable of holding their own in the garden, as they do in the wild state in the glens, woods, and other natural habitats in which they abound.

Under glass the chief risk they run is drought. Some of the species are evergreen, retaining their fronds throughout the winter, and through the spring, until the new ones arise. These run far less risk of being allowed to get thoroughly dry than do the deciduous ones, which shed their fronds so entirely that nothing is seen above the soil beyond mere stumps, or, in the case of some species, not even that, their root-stocks being quite sub-terrestrial.

The result of this is too often an idea that no water at all is needed, as there are no signs of growth, but inasmuch as all pots and pans are, or should be, porous, all the moisture in the soil is sooner or later absorbed by the pots, and evaporated into the air, and a perfectly dry mass of soil, as hard as a brickbat, becomes the envelope of the root system, and, in all probability, the crown of the fern or the travelling root-stock becomes absolutely shrivelled and dead by the absorption of its vital moisture by the thirsty soil. Now, as Nature is always our best guide, we have only to consider under what condition these ferns would exist during the winter in their native habitats to recognise the fact that their roots are practically soaking in moisture the whole time, the soil is never dry, and, as a consequence, the root-stocks and crowns are kept constantly plump and healthy. Furthermore, root action begins long before we notice any obvious growth above ground, and if we pull up even a deciduous fern we shall find a mass of roots with whitish tips, indicating activity even in midwinter.

To preserve the plants then it is indispensable that water be supplied during the winter season sufficient to ensure that the ball of earth is thoroughly moist, and if this has been neglected for any length of time, the pot or pan should be plunged bodily under water for an hour or two to ensure thorough soaking, mere superficial watering simply running out as fast as supplied between the soil and the pot owing to the shrinkage of soil caused by drought. When for any reason the fronds of the evergreen species have turned brown, so much of them can be cut away, but it is not well to remove green and living ones, as they undoubtedly assist the roots in building up the new set of fronds for the following season.

In the open it is not advisable, for tidiness sake, to remove the dead frondage of deciduous ferns unless at the same time a good mulching of dead leaves be placed round the crowns. These dead fronds act as protectors from frost and drying winds, and if removed without a substitute being provided, eventual growth may be checked by the destruction of the young new roots, which in ferns always spring from the bases of the future fronds, and may be noted creeping down the sides of the projecting root-stocks to reach the soil. Once they penetrate this they are safe, and in persistently damp seasons they are probably able to hold their own anyway; nevertheless in March or thereabouts, i.e., precisely at the time when they are most to the fore, it is well to be on the right side, and either leave them their native protection of old fronds or provide the substitute suggested.

CHAS. T. DRUERY, V.M.H., F.L.S.

BEES IN RELATION TO GARDENING.

(Concluded from page 75.)

The devices by means of which flowers force bees to deliver up a portion of their load of pollen are ingenious in the extreme. They have been fully and ably described by Darwin, Müller, and Lord Avebury. In the time available to-day only a few representative flowers can be dealt with; but those illustrated each represent large and important families of plants.

In order that I might demonstrate the effect of the absence or presence of bees on the crop of fruit I carried out a series of experiments this year, and have photographed the results. Gooseberry, red currant, and black currant bushes were enveloped in muslin before the blossoms opened, and were thus protected from the visits of bees. These bushes were then compared with similar bushes in the same rows and grown under exactly the same conditions with the one exception of the muslin envelope. One protected gooseberry bush yielded only six gooseberries, but the two adjoining bushes yielded respectively 151 and 167 berries; they having been visited freely by bees from hives about fifteen yards distant. Two years ago I happened to photograph the same bush that was protected this year in order to show a friend who complained of the failure of his gooseberry crop that I had been more fortunate than he. The number of berries was nineteen when the photograph was taken, but a heavy toll had then been taken by the birds. The six berries on the protected bush were probably due to the presence of a raspberry beetle, which was enclosed in the muslin. These beetles frequently emerge before the blossoms of the raspberry are open, and then feed on the pollen of the apple, strawberry, and gooseberry. The protected red currant bush yielded a few currants, chiefly as single berries. In this case ants crawled up the main stem and may have fertilised some of the flowers, or the wind may have assisted in distributing the pollen. A similar bush in the same row had a heavy crop of currants. It is sometimes stated in the daily press that the depredations of birds are due to the lack of moisture and that the provision of a supply of water will protect the fruit. This year there was not a single day upon which a plentiful supply of water was not available at a distance of a few yards, but the depredations of the birds have been even worse than usual.

The isolation of the black currant bush by means of the muslin was almost complete, for only two berries appeared. In this case it was remarkable that the foliage of the protected bush was less fully developed than that of its neighbours. The adjoining black currant bushes gave an average yield.

The influence of the hive bee in securing the proper fertilisation of fruit trees is so generally known that the apathy of fruit growers in applying this knowledge is somewhat remarkable. Those who do so, however, have every reason to be satisfied with the result. Mr. R. Brown, of Somersham, Hunts, is a well-known fruit grower, who some years ago was dissatisfied with the yield of fruit from his trees, and, on the advice of a friend, procured some hives of bees as a remedy. The result far surpassed his expectations, for, in the ensuing year, his crop of bush fruit increased fourfold. Being desirous of ascertaining whether Mr. Brown's subsequent experience agreed with his first results I communicated with him, and he writes on August 10 as follows:

"I am thoroughly convinced that bees are the chief factors in the fertilisation of fruit blossoms, and the production of fruit both as regards quality as well as quantity. Living as I do right in the midst of a fruit growing district, and being an ardent bee-keeper as well as horticulturist, I have made this subject a special study, and have not the slightest hesitation in affirming that where bees are kept, much better results obtain in the garden and orchard. In 1907 when we had a very cold spring, and when bees could work only at brief intervals and at short distances from home, there was an abundance of fruit in three orchards close to my apiary of fifty stocks. I closely watched their movements, and made a special point of noting the results, and can affirm that, with the exception of these three orchards in the immediate vicinity of the apiary, there was scarcely any fruit at all in this district.

"This year, the weather being favourable at brief intervals for the bees to work, I have got the heaviest crop of apples I have ever had, and up to the present I have gathered 150 bushels off two acres, comprising the varieties Ecklinville, Peasgood's Nonesuch, Beauty of Bath, Julian, June-eating, etc., being only a first picking, and scarcely half the crops. This is a season when apples are quite scarce in our district!"

This favourable testimony of a practical fruit grower might be amplified by the remark that Mr. Brown obtains a large quantity of excellent honey from his hives.

MYRTLES.

The myrtle is a popular favourite with both amateur and professional gardeners. In cool or slightly heated greenhouses and conservatories one may see useful plants growing in pots, but how rarely do we see a fine specimen plant in full flower. The myrtle is, I know, mostly grown for the fragrance of its leaves, but when a good specimen flowers profusely then it has an added feature and attraction for everybody.

In the southern counties the plants will live outside year after year, and attain to a great size. In the northern counties the plants do not, as a rule, live and thrive well in the open air. In the county of Hampshire I had a noble specimen growing against a wall in a very sunny spot, and nearly every year for a long period the plant bore hundreds of blossoms, and presented, not only a novel, but a most charming appearance. It was about five feet high, and about seven feet through. Its position was at the top of a gradually sloping bank, and, as previously stated, close to a high wall. No training was attempted, the habit was natural, bush-shaped. The soil was poor, with much old mortar rubble in it, and as no feeding was done, the growths were annually small to medium in strength, but they matured thoroughly.

GEO. GARNER.

Carrots.—Make a good sowing of the seed of Inimitable on a steady hotbed, keeping the lights closed till germination takes place. Then admit enough air to prevent the seedlings becoming drawn. Sow seeds of radishes on the same bed broadcast in small quantities. Early in February seeds of the Early Gem type can be sown for succession. —GEORGE ELLWOOD.

SEMI-DOUBLE PÆONIES.

If the herbaceous pæonies do not obtain so much attention in this country as in the United States, they enjoy a high degree of popularity, and are being grown in English gardens in largely increased numbers. That they are popular with lovers of hardy plants is not surprising, for they are varied in form and colour, free in flowering, and highly effective when grown under the conditions favourable to their full development. There are the double varieties which bear flowers that at once appeal to the florist who regards plenitude of petals and a regularity of outline of primary importance, and there are the semi-double and single varieties which are much appreciated by those who prefer lightness and care but little for the "properties" of the florist.

HERBACEOUS PÆONY PRINCESS DHULEEP SINGH.
A beautiful semi-double variety, with pink flowers, raised by Messrs. Kelway and Son.

Each section contains large numbers of varieties possessing much beauty, and those who grow pæonies will act wisely in planting varieties for which they have a decided preference. If they do this they will derive more pleasure from their pæony beds and borders than will be the case if they plant most largely those sections for which they care but little, because of their having allowed themselves to be persuaded against their will by some friend who holds very decided opinions. The varieties selected should, of course, be in all cases the best in the section, or rather the best that can be purchased at a certain price.

Attention has been directed to the desirability of cultivators planting the most freely varieties belonging to sections that give them the most pleasure, because in briefly alluding to the section bearing blooms with large clusters of petaloids in the centre, it should not be thought they are recommended as superior to the other groups. It would not be difficult to write eulogistically of their varied charms; but this note is essentially of a practical character. Therefore, it will only be said that the clusters of yellow petaloids produce an exquisitely beautiful effect when seen in contrast with the crimson, rose, pink, or white guard petals.

The following comprise some of the finest varieties belonging to the section. Cendrillon cherry red, with pink and golden centre; Her Grace, white with yellow petaloids; King of England, rich ruby, with gold and crimson centre; Knight of the Thistle, deep crimson, with golden centre; Lady Cecilia Rose, white, with soft yellow centre; Moonlight, white with narrow white petals in the centre; Princess Dhuleep Singh, bright pink, with white centre; one of the best of the many fine varieties that have been added to the section by Messrs. Kelway and Son, and Treasure Cup, salmon-pink, with golden centre.

Those who intend forming new beds and borders of pæonies this season should commence the work of preparation with as little delay as possible. The soil should be trenched to a depth of two feet, and be liberally enriched with farmyard manure, and leaf-mould, or other vegetable matter. The planting may be done at any time between the beginning of February and the middle of March, provided the soil is in a suitable state.

Caladiums. — Though it is rather early to start the main batch of caladiums, it is wise to look over the stock, as here and there some may have started; these must, of course, be brought to the light, as well as a batch of the smaller-leaved varieties, C. argyrites and C. minus erubescens. Shake them from the soil, and place in a box to start, which they will readily do if syringed overhead for a few days.—T. S.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

WINTER - FLOWERING CYPRIPEDIUMS.—The bulk of the early-flowering members of this section should now be examined with a view to repotting. Work of this kind that can be attended to now should not be deferred, for as the season advances the general work increases, and everything that will facilitate matters should not be delayed longer than is absolutely necessary. I have on several previous occasions alluded to the desirability of these plants for cultivation in the neighbourhood of large towns, and by those whose accommodation is restricted. In the former there can be no question as to their utility, and in the latter we find that they flower at the season when very few other plants are procurable, and the lasting qualities of the flowers secure a display over a prolonged period, which is a great consideration.

C. FAIRRIEANUM.—I need not here enumerate those suitable for the purpose, but I cannot pass on without mentioning C. Fairrieanum. I have frequently heard complaints that this species is commencing to deteriorate under cultivation. I cannot say this has been my experience, and this notwithstanding the fact that the plants have been heavily seeded. I consider that, if anything is likely to weaken the constitution and distress recently imported plants it is using them for seed parents. Some of the earliest imported plants on their reintroduction were procured, and, naturally, as soon as the flowers were ready they were fertilised. Each year these plants have increased in size and vigour, and have now made nice specimens which have produced satisfactory flowers. The plants have been accommodated in a lofty house in a temperature that may be termed cool-intermediate, that is, where the normal temperature has been about 55 to 60 degrees at night. They have had a copious supply of moisture both at the roots and in the atmosphere at all seasons. Potting requirements have been attended to each year in the months of January and February. Many of the plants were very small when they were bought, which necessitated their being put into small pots. These small receptacles have necessitated annual attention and repotting, but as soon as the plants have reached five-inch pots and upwards they have not been disturbed. I consider if good lasting material is used these dwarf cypripediums should not be disturbed more frequently than is absolutely necessary. The pots are drained to about one-third their depth, and the potting compost consists of peat, osmunda fibre, a little turfy loam, and chopped sphagnum moss. Some coarse sand and finely broken lime rubble has been intermixed with the potting compost. I consider lime rubble benefits the whole of the winter-flowering kinds. The plants are watered as soon as repotting is completed, and the usual treatment of repotted plants has been given afterwards. I am quite sure they require no coddling, and if they are treated under the same conditions as the ordinary C. insigne no difficulty need be anticipated in their successful culture.

REPOTTING.—The remarks about repotting that I have applied to C. Fairrieanum will apply also to the other sections of cypripediums. The larger specimens should not be disturbed more frequently than is absolutely necessary. The plants should be examined, and all dead and decaying leaves, etc., be removed. When there are several growths that have flowered, with only one lead to the rhizome, it is desirable that the rhizome between the growths immediately behind the last-flowered one should be severed. If this is done, and the plants are left undisturbed or only top-dressed, it will be found that they readily produce young growths, which add to the appearance and size of the plants. The inclusion of loam in the potting compost must be left to the discretion of the grower. I found that cypripediums generally were detrimentally affected in winter where loam was included in the compost, at the time I had charge of a collection nearly in the heart of London. It seemed to retain moisture for a considerable period, and had a tendency to produce spotting and disfigurement in the foliage. See that ample drainage is afforded. —H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

PROPAGATION.—Where quantities of small plants are required for the decoration of the house, as well as to keep the stoves gay during the season, propagation must be continued more or less all the season through, with, perhaps, the exception of from October to the end of January. But once the turn of the days arrives propagation must be begun in real earnest. Unfortunately there are many otherwise well-appointed places where the accommodation for propagating is sadly inadequate, and all sorts of contrivances are used; but where there is a propagating house, or a good frame properly heated in a cucumber or melon house, propagation is generally a very easy matter, providing, of course, the air in the frame is kept in a uniformly moist condition, and, in most cases, the soil should be kept moderately moist also, for should the foliage once flag the chances are that the cutting will die. A few of the more useful plants that should be propagated now are crotons, Acalypha Sanderiana, A. musaica, A. marginata, Panax Victoriæ, dracænas in variety, gardenias, hibiscus, and ixoras. Of crotons, acalyphas, and panax I like to secure moderately strong side shoots for propagation, and prefer to insert them singly in thumb pots in a light compost of loam, peat, leaf-soil, sand, and a little charcoal, and this mixture will do for most stove plants, though for the gardenias and ixoras a much larger proportion of peat should be used.

DRACÆNAS.—These usually make the best plants when propagated from the roots, which may be placed several in a pot, and as soon as the young shoots appear through the soil should be potted off singly into small 60's. D. Sanderiana and D. Godseffiana, do not make thickened roots, and so should be rooted from offsets or points of shoots. D. Goldieana and D. Lindeni require to be cut down, and the resulting young shoots used; the latter makes one of the finest of ornamental foliage plants. Batches of ficus, fittonias, panicum, tradescantia, and Pilea muscosa should be rooted as opportunity affords, as they are always useful for planting round borders or the edges of staging, as well as furnishing the tops of pots or jardinieres in the house.

SEEDS may now be sown of gloxinias, torenias, smilax, Asparagus plumosa, deflexus, and Sprengeri; streptocarpus, etc., etc., the if there is not room in the propagating frame for them then they should be stood close together in some warm part of the stove, and have moss packed between the pots, and be carefully covered with glass. Keep a sharp lookout for slugs, crickets, beetles, ants, etc., as many of the seedlings may be eaten off unless very particular attention is paid to them.

GLOXINIAS.—A good batch may now be started, and if not already shaken out from last season's pots this should be done at once; put the most forward of the tubers an inch or two apart in boxes, just covering them with a very light compost, consisting of leaf-soil, sand, broken charcoal, and a little loam, into which they will readily root, when they may be transferred direct into their flowering pots.—T. STEVENSON, Woburn Place Gardens.

FRUITS UNDER GLASS.

EARLY FIGS IN POTS.—Trees started sufficiently early, with their pots plunged in bottom heat, to have commenced growth should have a temperature of 55 degrees by night and 60 degrees by day, with a corresponding rise from sun heat, after the top ventilators have been slightly opened. Maintain a moist atmosphere by damping the floors, and by syringing the trees in the morning and early afternoon, and by this means also endeavour to avoid attacks of red spider, but should this insect appear sponge the affected leaves with a weak solution of soft soap. As growth develops slightly raise the temperature, and make the most of the sun's warmth by closing the house early on bright days, the bottom heat being kept steady at 65 to 70 degrees. Guard against their becoming crowded by thinning out weakly and otherwise unsatisfactory shoots, and stop the fruit-bearing growths at the third or fourth leaf. The need of watering will increase in comparison with that of the trees' growth, and in like manner will assistance, in the form of diluted liquid manure, or light top dressings of artificial manures, be needful.

EARLY PERMANENT FIGS. — There should now be no delay in closing a permanently planted house that has been prepared for the purpose, to supply successional fruit to that furnished by early forced trees in pots. Until the trees show signs of growth the borders, after having been moistened, should be but sparingly watered, and enough fire heat only be given to slightly warm the pipes. Daily syringe the trees with tepid water, and keep the atmosphere moist by damping the inside surfaces of the house. After leaf growth develops, especially if the trees are well established ones, with their roots, as they should be, confined to well-drained small borders, liberal supplies of water and manurial stimulants will be required. Heavily cropped trees will likewise be greatly benefited by having their borders topdressed with rich compost, and mulched with good farmyard manures.

EARLY VINES IN POTS.—Advantage should be taken of sunny, mild weather in which to carry on the chief work of forcing early pot vines, for growth accelerated by this means is much more satisfactory than that advanced by artificial aid, and for this reason no attempt should be made to uphold under all conditions of weather strictly fixed temperatures; endeavour, however, to maintain the plunging material at 75 to 80 degrees. Disbudding should be begun when necessary by removing the weakest growths, and when completed enough of those that show the best bunches should be left to properly clothe the trellis. Maintain a fairly moist atmosphere, and on bright days syringe the vines in the morning and early afternoon. Give careful attention to watering, and also afford occasional supplies of diluted liquid manure.

EARLY QUEEN PINEAPPLES.—There should now be no delay in starting plants into growth to supply ripe fruit in summer. Unless conditions necessitate its being done it is not advisable to replunge the plants, but, in any case, the plunging material should possess a steady warmth of about 85 degrees. The night temperature of the house should be raised from 65 to 70 degrees, and that from fire heat for the day 5 degrees higher, accompanied by a fairly moist atmosphere. Slightly ventilate the house when the temperature from sun heat reaches 80 degrees; entrap solar heat by early closing, and lightly syringe between the plants. Give the plants enough tepid weak guano water to thoroughly moisten the soil.—T. COOMBER, The Hendre Gardens.

THE KITCHEN GARDEN.

SEAKALE PROPAGATION. — If the thongs are now prepared good forcing crowns may be obtained from them for next season's supply. It is not necessary to grow the crowns on for two seasons if the production of supplies for home consumption is the aim. By taking them in hand now the "sets" will have nice crowns with strong stocky growths when the April planting time arrives. This gives a gain of two months over ordinary root planting. In preparing the "sets" the strongest and quite clean root thongs should be used; discard pieces that show the smallest signs of black rot, and burn them. The sets should be six inches to seven inches in length, with the top cut square, and the base cut diagonally. This method prevents confusion as to which is the growing end. Tie up in bundles of thirty to fifty, according to their size, when prepared, and stand them upright thickly in boxes eight inches in depth, and work finely sifted soil amongst them. Water them well in, and place in a frame or vinery just free from frost.

ARTICHOKES (JERUSALEM). — When the weather is favourable Jerusalem artichokes should be lifted, placing the large tubers under a wall facing north, covering them with sand or ashes till required. If it is intended to grow them on the same plot again the ground should be forthwith trenched, adding some decayed manure as the work proceeds. Plant medium-sized tubers as soon as the work is completed.

RHUBARB.—If it is desired to replant add to the area under this crop no time should be lost. The ground should trenched, and well prepared, so that for a few years an annual top-dressing will suffice. If the land is wet and heavy also apply soil, old mortar, and burnt garden refuse. Champagne is a very early variety, with very high colour and delicious flavour. Sutton is a very large and finely coloured kind, quite distinct, and good. Division the general method in increasing the number of stools.

SPINACH.—To make sure of a constant supply of spinach according to requirements, a bed should be formed of mild fermenting materials in a frame. It is remarkable how large is the quantity that can be gathered from an ordinary garden bed when no growth of the outside crop can make headway during the cold spring days. The beds of autumn-sown spinach should be hoed weekly with the Dutch hoe, and a dusting of soot and wood ashes be given. A protection of spruce or yew boughs helps materially to maintain a sturdy growth.— ELLWOOD, Swanmore Park Gardens.

HONOUR TO MR. HARRY J. VEITCH.

There was probably no prouder man in England on Tuesday evening last than Mr. Harry J. Veitch, V.M.H., F.L.S., head of the firm of Messrs. James Veitch and Sons, Chelsea, who was honoured on that occasion by being entertained at dinner at the Royal Horticultural Hall by a large company of leading horticulturists. The event was an historic one, as the Harry Veitch portrait, painted by Mr. Hugh Riviere, was on view, and also a second portrait of Mr. Veitch by the same artist. The first portrait is to occupy a position of honour in the Council Room of the Royal Horticultural Society, and will serve to remind all who see it of one of our finest business men, a man who has been in the forefront of horticultural matters for nearly half a century, and who has been always one of the most generous supporters of and workers for the gardening charities.

The chief portrait was hung in the Royal Horticultural Hall early on Tuesday morning, so that large numbers of visitors to the meeting were able to see it, and the general concensus of opinion was that the likeness was a splendid one. It depicts Mr. Harry J. Veitch standing by a low table, holding a lens in one hand and a flower of Masdevallia Harryana in the other.

The dinner, held at seven o'clock in the evening, and presided over by Mr. N. N. Sherwood, V.M.H., was for the special purpose of honouring Mr. and Mrs. Harry J. Veitch, and for presenting to Mrs. Veitch the second portrait of her husband, one rather smaller than the first. In this the pose is very natural, for Mr. Veitch is shown with his left hand half-way in the pocket of his jacket, and everyone who knows Mr. Veitch will recognise this little idiosyncrasy.

There were about a hundred and fifty ladies and gentlemen present at the dinner, this, in addition to the chairman and the guests, including Sir Trevor Lawrence, Bart., Sir Albert Rollit, Mr. and Mrs. Bilney, Mr. and Mrs. Morgan Veitch, Mr. and Mrs. Ingram, Messrs. J. C. Allgrove, J. Anderson, C. Archer, W. P. Atkinson, G. Barr, J. Basham, J. W. Bates, T. Briscoe, G. Bunyard, V.M.H., F. J. Chittenden, W. Cobb, E. T. Cook, H. G. Cove, C. H. Curtis, A. Dawkins, C. Dixon, James Douglas, V.M.H., Charles Foster, J. Gurney Fowler, A. J. Gaskell, W. Goldring, G. Gordon, V.M.H., G. Harrow, J. Green, J. Heal, V.M.H., J. W. Howe, James Hudson, V.M.H., J. R. Jackson, J. Hatcher, H. B. May, W. H. Page, George Paul, V.M.H., R. Hooper Pearson, R. Pinches, T. Morris, F. Reader, E. Rochford, J. Rochford, J. Seden, V.M.H., E.M. Segar, Robert Sydenham, H. H. Thomas, W. P. Thompson, G. Tivey, Arthur Turner, J. G. Vert, J. H. Witty, S. T. Wright, the Rev. W. Wilks, etc.

After the loyal toasts had been honoured, the Chairman, who himself was accorded a hearty reception, rose to propose, "Mr. and Mrs. Harry J. Veitch." He first read some letters from notable absentees, including Baron Schroder, all of whom sent good wishes to the guests of the evening. Mr. Sherwood said that January 25, 1910, would always be regarded as a red-letter day by those who were taking part in the proceedings. They had all come to do honour to Mr. and Mrs. H. J. Veitch, who bore a name that was greatly honoured throughout the horticultural world, and that represented a firm which had done more than any other for the advancement of horticulture, and the introduction of plants from other lands. He referred to the coming of the Veitchs from Scotland to Devonshire, and to the removal from Exeter to Chelsea of Mr. James Veitch, Mr. Harry Veitch's father. Mr. Harry Veitch, he said, had taken part in the Chelsea business for no less than fifty-three years, and had during that time endeared himself to all by his knowledge, tact, and ability, and his great generosity. He had never forgotten the claims of the gardening charities, and had ever lent his aid to the progress of the Royal Horticultural Society. It was Mr. Veitch who so greatly assisted Baron Schroder in the scheme for the fine hall in which they were gathered. He was made member of Council in 1887, and in Council and on the committees he had furthered the work of the great society in every possible way. But, after all, said the Chairman, Mr. Harry Veitch's heart was in the Gardeners' Royal Benevolent Institution, to which he had been a subscriber for fifty-two years. He had been treasurer of the charity since 1886, had twice taken the chair with great success at the festival dinners, had given £500 to its funds as a thankoffering for the celebration of his silver wedding in 1892, and £1,000 to found the Victorian Era Fund on the occasion of the Diamond Jubilee of Queen Victoria, and later on founded the Good Samaritan fund—both in connection with the G.R.B.I. In all, Mr. Harry Veitch had given no less than £4,000 to the institution that did so much to help distressed gardeners or their widows. Mr. Sherwood, continuing, pointed out that directly the idea of honouring Mr. Veitch was mooted, the success of the scheme was assured; there had been 309 subscribers to the Portrait Fund, and the response was so liberal that they had been able to have the second portrait painted, which he asked Mrs. Veitch to accept with their united and hearty good wishes, and a hope that she might long be spared to help the original of the portrait. The Chairman then presented the best wishes of his numerous friends to Mr. Harry Veitch, whom he described as "a good, honest, true-hearted Englishman." Long and loud applause followed, and the toast was received with musical honours for both Mr. and Mrs. Veitch, and three cheers for each.

When Mr. Harry J. Veitch rose to respond, he had a most enthusiastic reception. He first thanked Mr. Sherwood for the kind and generous terms in which his health and that of Mrs. Veitch had been proposed, and then reminding those present that "pride goeth before destruction," he said that there was a just and legitimate pride, and he felt that he might be justifiably proud of the great honour accorded them that evening. He did not remember an occasion on which anyone had been given the honour of two portraits, he thought it quite exceptional, and appreciated it accordingly. His wife wished him to express her thankfulness for the great honour done her, and for the fine portrait presented to her. He felt it no small honour to have his portrait hang side by side with those of Sir Joseph Banks, Sir Trevor Lawrence, and Baron Schroder, in the Council Room. Mr. Veitch referred to his earliest recollections at Exeter, and how he remembered his grandfather sowing the seeds sent home by those famous collectors the brothers Lobb; how he raised oranges from pips, and had his first lesson in grafting when the seedlings had to be worked; how his father and old John Dominy showed him how to cross-fertilise flowers, and how he made his earliest experiments in hybridising with fuchsias. He paid a fine tribute to all who had so ably helped him and his brother in the conduct of the Chelsea business, referring especially to Mr. Manning, who was manager for so long. He thought that only Sir Trevor Lawrence could remember the Royal Horticultural Society's shows longer than he could. He remembered going to a great show at Chiswick with his father in 1851, admiring the specimen plants exhibited by Sir Trevor's mother, Mrs. Lawrence, of Ealing, and of meeting such notable men as Sir William Hooker and Dr. Lindley. It was in his father's house that the scheme for the Fruit and Floral Committees of the R.H.S. was laid. He had always had an excellent example of work and charity in his father, and had endeavoured to follow it. He expressed his great love for the Gardeners' Royal Benevolent Institution, and said that as God had given him much of this world's goods, it was incumbent upon him to use these for the benefit of others, and so pass on the blessing. In conclusion, he thanked Mr. Riviere, the artist; Rev. W. Wilks and Mr. H. B. May, the treasurer and secretary of the portrait fund; Mr. Sherwood for his kindly words; and all present and absent friends for the great honour done to himself and his wife.

Mr. J. Gurney Fowler proposed "The Treasurer and Secretary of the Portrait Fund," the Rev. W. Wilks and Mr. H. B. May, and this was heartily received. Mr. H. B. May confessed to having originated the idea for honouring Mr. Harry Veitch by means of a portrait, and expressed the hope that some day the King and State might see fit to honour horticulture by honouring such a man as their guest. The Rev. W. Wilks showed how liberal had been the response to invitations to subscribe to the portrait fund. All the smaller subscriptions, and the first guineas of those who had contributed largely had gone to provide the portrait to be hung in the hall; then the remaining money was devoted to the second portrait presented to Mrs. Veitch; this still leaving a surplus it was decided to present a photogravure of the portrait to each subscriber, and as this did not quite exhaust the sum received, the happy idea of holding the dinner was conceived and carried out.

Sir Trevor Lawrence proposed "The Health of the Chairman," and pointed out the great fitness of Mr. Sherwood for presiding over them that evening. Alluding to Mr. Sherwood's well-known generosity, Sir Trevor said that the chairman had himself provided the musical entertainment, the excellent Jubilee port wine served that evening, and also the cigars and cigarettes, so plentifully supplied. Musical honours and cheers accompanied the toast, and Mr. Sherwood briefly responded. "Auld Lang Syne" concluded the proceedings just before eleven o'clock.

The musical arrangements were in the hands of Mr. Harry Stubbs (who sang finely himself), and included charming violin selections by Miss Maud Horne, songs by Miss Muriel Webb, and humorous recitals by Mr. W. Churcher.

A New Way to Tie.—The following cutting from the weekly "Florists' Review," is deserving of the attention of those who grow chrysanthemums on a large scale: Joseph Volz and Son, the growers at Cincinnati, have been experimenting with the various ways of tying up such crops as the chrysanthemums, considering that all the generally followed methods have consumed a large amount of time, which might be employed to advantage in other directions. As a result of their trials they have hit upon a plan which they say reduces the time required by at least one-third. Their method, say with chrysanthemums, or any similar plants, is to string one wire over each row of plants, putting it high enough so that it will at all times be well up toward the top of the plants. On this wire they hang little hooks of their own invention, putting a hook above each plant. The hook is shaped like the letter S, except that the top loop is bent down so that it just slips over the wire easily, the lower loop being bent up until it is almost closed throughout its length, with a tight squeeze at the extreme end. Then a string or thread of any character is cut in pieces which will reach from the plants to the hook. A loop is tied about the plant, and the free end is then passed over the hook attached to the wire. The lower loop, being so nearly closed, grasps the thread when it is pulled down into the loop, and holds it firmly. As the grower passes along later and finds the plant again needs bringing up to the perpendicular, all he has to do is to slip the string out of the loop, draw it up until he has the plant where he wants it, and then draw the string down into the loop again, where it sticks firmly until lifted once again. Quite a number of growers who have visited the Volz establishment will try this device next season.

EXHIBITIONS AND MEETINGS.

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Gardeners' Royal Benevolent Institution.

REPORT OF THE COMMITTEE FOR THE YEAR ENDING DECEMBER 31, 1909.

Held at Simpson's, 101, Strand, under the presidency of Mr. Harry J. Veitch, at 2.45 p.m., the annual general meeting of the above-named excellent gardening charity was attended by about four dozen subscribers, including Messrs. A. W. Sutton, D. Ingamells, G. Wythes, O. Thomas, A. W. Paul, P. C. Veitch, G. Gordon, A. Dean, G. Paul, A. Turner, G. Monro, W. Anderson, W. Alderson, etc., etc.

After the usual formalities of notice convening the meeting and minutes, the report of the committee for the year was read by the secretary, Mr. G. J. Ingram, as follows:

It is a source of gratification to the committee in submitting their report for the past year, together with a statement of accounts, as audited, to be able again to express their thankfulness at the continued progress of their work, its enhanced usefulness, and its invaluable aid to those men and widows alike who have fallen in the battle of life: victims of misfortune through no fault of their own, who in their helplessness and sorrow have turned to the institution for that assistance which, happily, it is in some measure able to afford. For seventy-one years this horticultural institution has pursued its beneficent course, conferring during that time untold benefits upon those who had claim upon its sympathies and help. In the past year over £200 more has been given from the funds than in any previous year.

Since the committee issued their last report 26 annuitants have died, 17 men and 9 widows, and the circumstances of one widow having changed she thereby ceases to derive further benefit from the funds. Of the men, 6 left widows, 3 of whom have been placed on the funds at £16 a year, in accordance with Rule III., 10; two are awaiting further consideration, while the other case has been declined as not being of sufficient urgency to warrant its acceptance. The committee, after much careful consideration, have decided to recommend the election of 20 annuitants from an approved list of 72 candidates, but they hope it may be found possible after the election to recommend an addition to this number—especially as there will be so many unsuccessful applicants awaiting the permanent aid they so eagerly seek, and whose circumstances are of a pathetically sad nature.

It is impossible to exaggerate the incalculable benefits afforded by the two special funds, viz., "The Victorian Era Fund" and "Good Samaritan Fund." The former, it may be mentioned, assists all those unsuccessful candidates who have been subscribers by grants of money whilst awaiting election: and the latter gives assistance to those poor people—whether they have been subscribers or not—who are in temporary difficulty and trouble, thus helping them to tide over their period of distress and need; 82 cases were assisted from these funds during the past year. The committee cannot emphasise too strongly the value and utility of the "Good Samaritan Fund," which enables them to give immediate help in well-authenticated cases requiring aid. As the income only from these special funds can be dealt with, and as, unfortunately, the applicants for assistance are increasingly numerous, the committee earnestly solicit further support to enable them to extend their beneficent work.

The seventieth anniversary festival dinner, held in June last, under the presidency of Lionel de Rothschild, Esq., was a marked success, and the committee gratefully acknowledge their great indebtedness to that gentleman for his kindness in presiding, for his warm advocacy of the objects of the institution, and its claims upon the benevolent public—more especially of that class who love gardening, and flowers, and feel an interest in those people who in their day have ministered to their pleasures and necessities, and for his generous contribution to the funds. Grateful thanks are also tendered to those gentlemen who acted as stewards or collectors, to the members of the horticultural Press for their continued kind and gratuitous support, to those who sent flowers, to the decorators of the tables, and to other friends, too numerous to mention, who in any way so kindly contributed to the success achieved.

The committee again offer their sincere thanks to those noblemen and gentlemen who have been good enough to allow their gardens and grounds to be opened to the public for the benefit of the funds, amongst whom were Earl Beauchamp (Madresfield), Lord Northbourne (Betteshanger), Lady Battersea (Overstrand), Sir Frank Crisp (Henley), Waldorf Astor, Esq. (Cliveden), and E. J. Wythes, Esq. (Epping). The committee also accord to their esteemed colleague, Mr. Edward Sherwood, their sincere thanks for his kindness in arranging a dramatic performance in aid of the funds, which realised the handsome sum of £100; also to the Messrs. George Monro Concert Committee for again devoting a portion of the proceeds of their well-known annual concert for the benefit of the institution.

The committee have again to refer to the kindly generosity of N. N. Sherwood, Esq., V.M.H., who gave £20 each, being a year's annuity, to two unsuccessful and incurably paralysed candidates; to Arthur W. Sutton, Esq., V.M.H., who kindly provided £20 for another unsuccessful candidate, also incurably paralysed; and to George Monro, Esq., who gave a year's allowance of £16 to a poor bed-ridden, blind widow. These kind gifts have been most helpful to these poor afflicted people, who have expressed their deepest gratitude for this timely aid.

The several auxiliaries still progress, and, happily, continue to be a source of much help and interest. The admirable services rendered by the honorary treasurers and secretaries are very gratefully appreciated, viz.:

Bristol and Bath.—President, Col. H. Cary Batten; hon. treasurer, Mr. W. A. Garaway; hon. secretary, Mr. George Harris.

Worcester.—President, Rt. Hon. Earl Beauchamp, K.C.M.G.; hon. treasurer, Mr. John White; hon. secretary, Mr. Percy G. White.

Devon and Exeter.—President, C. R. Collins, Esq.; hon. treasurer, Mr. W. Mackay; hon. secretary, Mr. W. Mackay.

Wolverhampton.—President, C. T. Mander, Esq., J.P.; hon. treasurer, Mr. Bradley; hon. secretary, Mr. Tom B. Dodds.

Berkshire, Reading, and District.—President, Mrs. Rowland Sperling; hon. treasurer, Arthur W. Sutton, Esq., J.P., V.M.H.; hon. secretary, Mr. L. Castle.

Liverpool Auxiliary.—President, The Right Hon. the Earl of Derby; hon. treasurer, Mr. A. J. Crippin; hon. secretary, Mr. R. G. Waterman.

With the deepest regret the committee have again to chronicle the death of many warm supporters, no less than twenty having passed away during the year, amongst them must be mentioned Mr. C. Czarnikow, Mr. Peter Barr, V.M.H., Mr. W. Roupell, and Mr. David Thomson, V.M.H., all subscribers for very many years. The support and interest of these kind friends will ever be gratefully remembered, and as a tribute to their memory it is earnestly hoped their places may be speedily filled.

It is with much pleasure the committee are able to announce that the Hon. Harry Lawson, M.P., has kindly consented to preside at the seventy-first anniversary festival dinner in aid of the funds, to be held at the Hotel Metropole, on Wednesday, June 22 next. They feel sure he will receive liberal support from all friends of the institution in his efforts on its behalf. The names of gentlemen willing to act as stewards will be warmly welcomed.

In conclusion, the committee desire to reiterate that the institution is a national horticultural charity; it knows no creed save that of need in its eligible applicants; its operations extend throughout the United Kingdom; and whilst it is incumbent upon the committee to acknowledge with the deepest gratitude the practical sympathy and support accorded to their work for so long a period, they plead with all force and earnestness, not only for a continuance of that support, but for an increased interest in the work of the institution, and further aid to enable them to afford assistance to many more of those sad cases which so constantly and so pitifully are appealing for help.

Harry J. Veitch,
Treasurer and Chairman of Committee.
George J. Ingram, Secretary.

BALANCE-SHEET.

RECEIPTS.

	£	s.	d.
To Balance	£1,011	8	1
Amount on Deposit	3,530	0	0
Mrs. Lewis Hill's Legacy	1,007	4	5
Annual Subscriptions	1,533	10	6
Donations at and in consequence of Festival Dinner, including special gifts	2,226	4	4
Dividends and Interest	871	17	3
Return of Income Tax	42	16	4
Legacies:			
Mrs. Rylands' and Interest	3,031	1	2
Miss Wolfe	1,000	0	0
	£14,254	2	1

EXPENDITURE.

	£	s.	d.
By Pensions and Gratuities, including Special Gifts from Messrs. Sherwood, Sutton, and Monro	£4,143	19	9
Expenses of Annual Meeting and Election	11	8	9
Rent, Firing, and Salaries	571	8	10
Printing and Stationery (less Advertisements)	102	4	7
Expenses of Festival Dinner	40	8	2
Postages	53	4	2
Advertisement in "Fry's Charities"	3	3	0
Carriage, Telegrams, etc.	18	3	7
Bank charges	0	4	0
Placed on Deposit	3,180	0	0
Placed on Deposit, part of Mrs. Rylands' Legacy and Interest	1,031	1	2
Invested for Good Samaritan Fund (£2,132 Metropolitan 3½ Deb. Stock)	2,007	4	5
Invested for Victorian Era Fund (£1,091 12s. Metropolitan Water Board B 3% Stock)	1,000	0	0
*Balance with Treasurer	1,086	5	6
Balance with Secretary	5	6	2
	£14,254	2	1

*£1,200 required to meet the quarterly payments due on Jan. 1, 1910.

VICTORIAN ERA FUND.

RECEIPTS.

	£	s.	d.
Jan. 1, 1909.			
To Balance	£170	7	1
Dividends	154	12	11
Return of Income Tax	8	3	2
Mrs. Ryland's Legacy (part)	1,000	0	0
	£1,333	3	2

EXPENDITURE.

	£	s.	d.
By Gratuities	£199	10	0
Investment of Mrs. Ryland's Legacy (part)	1,000	0	0
Balance in hand, Dec. 31, 1909	133	13	2
	£1,333	3	2

GOOD SAMARITAN FUND.

RECEIPTS.

	£	s.	d.
Jan. 1, 1909.			
To Balance	£306	[illegible]	[illegible]
Donations	34	1	[illegible]
Dividends	81	13	[illegible]
Returns of Income Tax	3	6	[illegible]
Mrs. Lewis Hill's Legacy from Deposit	1,007	4	[illegible]
Mrs. Ryland's Legacy (part)	1,000	0	[illegible]
	£2,433	2	[illegible]

EXPENDITURE.

	£	s.	d.
By Gratuities	£183	[illegible]	[illegible]
Investment of Mrs. Lewis Hill's Legacy	1,007	4	[illegible]
Investment of Mrs. Ryland's Legacy (part)	1,000	0	0
Balance in hand, Dec. 31, 1909	242	13	10
	£2,433	2	3

In accordance with the rules of the Gardeners' Royal Benevolent Institution, we have audited the accounts, and certify that they are correct, and the books well kept. We also have satisfied ourselves that the securities are in the hands of the Bankers.

Bert J. Monro, }
T. Swift, } Auditors.
J. Willard, }

January 17, 1910.

The motion for the adoption and publication of the report and balance-sheet was moved by Mr. Harry J. Veitch, who referred to the large amount of money received and expended, the great value of the Victorian Era and Good Samaritan Funds, these latter, together with the pensions, being the means of distributing about £4,500 annually in relief of helpless gardeners or their widows. The motion was seconded by Mr. W. Alderson, and carried unanimously. Mr. J. Jefferies moved the re-election of Mr. Harry J. Veitch as treasurer, with hearty thanks for his services. Mr. Jefferies and Mr. A. W. Sutton, who seconded the motion, eulogised Mr. Veitch's great assistance to the fund. Carried.

Mr. George Monro moved the re-election of Mr. G. J. Ingram as secretary, and spoke very highly of the splendid service Mr. Ingram has for many years now rendered. This was seconded by Mr. G. Wythes, and heartily endorsed by the meeting. Mr. Alex. Dean moved the re-election of Messrs. N. F. Barnes, P. Blair, P. R. Barr, W. Denning, James Douglas, G. Monro, H. W. W. Nutting, and G. Wythes, and the election of Mr. R. G. Waterman, of Liverpool, in place of Mr. Vallance deceased, on the committee. Mr. Dean showed how so many horticultural interests were represented by these members—market men, seed trade, market growers, florists, and gardeners. Mr. A. Turner seconded, and the motion was carried.

The auditors, Messrs. Swift, J. Willard, and B. J. Monro, were thanked for their services, and re-elected on the motion of Messrs. Denning and Wheeler. To these auditors was also presented a life membership of the institution. Mr. P. C. Veitch moved that Messrs. B. J. Monro, R. White, and Fred Cooper be elected scrutineers of the ballot. Carried.

The meeting was then adjourned for the ballot, and declaration of the poll.

The poll was declared at 5 o'clock, and the following were the twenty candidates who proved successful: Wm. Bush, 3,526 votes; Louisa M. Elphinstone, 3,227; Samuel Gilbey, 3,029; G. F. Barnes, 3,018; H. Sawyer, 2,973; J. S. Ball, 2,932; Emma Barnard, 2,873; William Chapman, 2,786; William Ward, 2,779; H. Newman, 2,717; J. Harding, 2,708; Thomas Chapman, 2,691; R. P. Sutton, 2,599; Dugald Cowan, 2,585; Annie Hawkins, 2,584; H. West, 2,568; H. Webber, 2,492; Edwin Rattue, 2,401; James Brown, 2,390; and W. Rapley, 2,345. As several pensioners had died since the issue of the voting papers the chairman suggested the addition of George Clark, 2,286, and Alice Latimer, 2,268, and then, under Rule X, the committee proposed to add two specially deserving and unsuccessful candidates, and those selected were A. H. Hunking, 1,238, and Eliza Cosnett (89 years of age), 265. It was pointed out that W. J. Williams, 2,261, had just missed election, and was totally incapacitated. The meeting then resolved that the whole of the above twenty-five candidates be elected to the benefits of the institution, and this was carried unanimously.

Mr. Arthur W. Sutton offered to provide for one of the unsuccessful candidates for one year, and the candidate selected to benefit by Mr. Sutton's generosity was H. J. Rosam, who polled 911 votes; Mr. G. Monro also promised his continued support to Mrs. Fanny Bury, who this time secured 1,031 votes.

Votes of thanks to the scrutineers of the ballot and the chairman, proposed by Mr. G. Monro, closed the proceedings.

We may add that there were 44 unsigned voting papers, and this meant the loss of no fewer than 275 votes.

FRIENDLY SUPPER.

At the close of the business proceedings a number of the subscribers to the institution dined (or "supped") together at "Simpson's," under the genial presidency of Mr. N. N. Sherwood, V.M.H.

When proposing the toast of "Continued Prosperity to the Gardeners' Royal Benevolent Institution," Mr. Sherwood briefly reviewed the work done during the 73 years the institution had been in existence. They had been fortunate in receiving about £4,000 in legacies during the year, but more regular subscribers were needed, as well as more help for the Good Samaritan and Victorian Era Funds, which rendered such valuable aid to unsuccessful or waiting candidates. Mr. Harry J. Veitch, in response, pointed out that 25 pensioners elected that day constituted the largest number placed on the funds at one election. He pointed out that 110,993 votes had been recorded, and he promised to provide for one year for one of the unsuccessful candidates.

Mr. George Paul proposed "The Committee," and in an admirable little speech he hoped that an "auxiliary" might be formed in every county, and said he would do his best to get one formed in Hertfordshire. Mr. White, Mr. W. P. Atkinson, and Mr. G. Monro responded. Mr. W. A. Bilney proposed "The Chairman," and this was accepted with musical honours. In his reply Mr. Sherwood said he would gladly give £20 to provide for one unsuccessful candidate for the ensuing year. The Chairman gave "Mr. G. J. Ingram," a toast that was heartily received, and ably responded to by the Secretary.

The musical arrangements for the evening were in the hands of Mr. Schartau, who was assisted by Miss Doris Clayton and Mr. Valentine Hill.

Bristol Gardeners' Association.

The usual fortnightly meeting was held on January 13, at the St. John's Parish Rooms, and presided over by Mr. S. Shaddick. Mr. J. Basham, jun., representative of the Newport Gardeners' Society, gave an interesting and thoughtful paper upon "Pleasures of a Garden." Mr. Basham said he obtained a love for gardening when a child, and if the State started with the school children, and instilled in them a love for gardening and country life, we should not hear so much of the cry, "Back to the land." The lecturer took his audience in imagination to various parts of the country he had visited, and gave some reminiscences of his travels. He said that all alike could share in the pleasures derived from a garden, and the pleasure obtained was genuine, for all the senses could enjoy them. Messrs. Shaddick, Candy, Lee, Gostling, Shelton, Binfield, Extense, Webber, Harford, and Woodward took part in the discussion, and a hearty vote of thanks was accorded to Mr. Basham.

For two pots of primulas Mr. Jennings was first, and Mr. Shelton second; Messrs. Gostling and Woodward each received three points, the former for cypripediums, and the latter for a basket of Winter Beauty tomatoes.

Reading Gardeners' Association.

The annual general meeting of this popular society was held in the Abbey Hall, Reading, when there was a good attendance of members.

The President (Mr. Alderman Parfitt) occupied the chair at the opening of the meeting, but, being compelled to leave early, the vice-president (Mr. Leonard Sutton) presided for the remainder of the evening. The minutes of the last annual meeting were read and confirmed.

The committee's report for 1909 was read by the Hon. Secretary, and adopted. The balance-sheet was brought forward, and showed the association to be flourishing financially. The hon. secretary was instructed to have the report and balance-sheet printed and circulated among the members. The election of officers for 1910 was proceeded with, the result being as follows: Chairman, Mr. T. Judd; vice-chairman, Mr. F. Townsend; librarian, Mr. E. J. Dore; assistant librarian, Mr. F. W. Exler; treasurer, Mr. F. W. Macdonald, F.R.H.S.; auditors, Messrs. W. Badcock and A. Smith; committee, Messrs. F. Alexander, A. F. Bailey, G. Carter, H. G. Cox, D. Dore, F. G. Drew, C. Foster, H. Goodger, R. A. Hatton, T. Hatton, G. Hinton, F. Johnson,

IN THE HIGH COURTS OF JUSTICE

Edinburgh, an Action brought by CHAS. P. KINNELL & CO., Ltd., against A. Ballantine & Sons, Boness, N.B., resulted in a judgment in favour of Plaintiffs, interdicting and prohibiting the Defendants from using the words "HORSE SHOE" as descriptive of, or in connection with boilers NOT BEING OF THE PLAINTIFFS' MANUFACTURE, sold or offered for sale by the Defendants without clearly distinguishing such boilers from the boilers of the Plaintiffs.

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WORKS—THORNABY-ON-TEES, YORKS.

H. C. Loader, T. Neve, W. G. Pigg, T. J. Powell, G. Stanton, W. J. Townsend, T. Tunbridge, H. Wilson; hon. secretary, Mr. L. Castle.

The following were chosen to act as judges for certificates, 1910: Messrs. T. Judd, F. Townsend, T. Tunbridge, A. F. Bailey, H. Wilson, and F. W. Exler.

The donations proposed for 1910 were: Royal Horticultural Society, £2 2s.; Gardeners' Orphan Fund, £3 3s.; Gardeners' Royal Benevolent Institution, £2 2s.; Reading Horticultural Society, £1 1s.; Royal Berkshire Hospital, £1 1s.; University College, Reading, £3.

Votes of thanks to the retiring chairman (Mr. A. F. Bailey) and vice-chairman (Mr. H. C. Loader) were carried with acclamation, and the meeting terminated with a hearty vote of thanks to the president and vice-president, who had, in turn, acted as chairman for the evening.

East Anglian Horticultural Society.

The members turned up in good numbers at the annual dinner of this society, held at the Criterion Restaurant, Norwich. The chairman was well supported by the leading local horticulturists, and a capital programme of toast and song was gone through. During the evening Mr. T. B. Field, on behalf of the members, asked Mr. J. Powley to accept a marble timepiece and ornaments, also an enlarged framed photograph, from them, as a token of their appreciation of the useful service he had rendered the society during the past eleven years, as its president. Mr. Powley felt compelled to resign at the end of 1909 owing to advancing years and ill-health.

Beckenham Horticultural Society.

On Friday, the 21st inst., Mr. W. P. Bound, of the Redhill Nurseries, gave a lecture on "Winter Pruning of Fruit Trees."

Apples and pears were given priority, and these, in Mr. Bound's opinion, should not be pruned too early, i.e., not till the trees are well at rest. The lecturer's system of pruning would be such that each branch of the tree would represent a cordon. After the formation of the tree, and when sufficient shoots or branches are obtained, the extensions would not be shortened at all; by this method trees would be induced to fruit early, and by so doing would, in most cases, obviate the need of root pruning. Mr. Webster kindly brought down some wood of various fruit trees, and, by the aid of this, the lecturer ably and satisfactorily demonstrated his points. Summer pruning was not greatly favoured, and, if done at all, not till end of July. The manipulation of spurs and of side shoots so as to keep the fruit as near to the main branch as possible was explained.

Gooseberries, the lecturer said, would, in gardens, no doubt be grown mostly trained to trellises as cordons or multi-cordons. He instanced the fine exhibits placed before the Royal Horticultural Society during the summer. The fruit would be finer, cleaner, more easily protected, both buds and fruit. As usual, birds claimed some attention. The lecturer would prune gooseberries early, and spray over them some deterrent before birds got a taste of the buds. A method apparently new to the members was to collect the prunings, tie loosely in bunches, and place over the trees. According to Mr. Bound's informant, the birds will be attracted to the bunches of prunings, and away from the trees. He mentioned a fine wall of plum trees at Nutfield Priory "worth going a long way to see" (for, like Thomas of old, he had to see to believe): these are grown with the annual shoots laid in exactly like peaches, and crop remarkably.

Very hearty thanks was accorded Mr. Bound for his practical lecture.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

SPRAYING MACHINES. — ADDRESS WANTED.—A correspondent asks for the name and address of any firm or firms in the United Kingdom who sell the hand-spraying pumps made by Meyers, of Ohio, and used so largely in America and Australasia. Perhaps some reader or firm will oblige.

MANURIAL VALUE of PINE NEEDLES.—In answer to the question recently asked in our pages by "H.," as to the value of pine needles in the enrichment of the soil, Mr. A. Gardner, Schloss Strelzhof, Willendorf, writes as follows: — "Apparently not only were the members of the Bristol Gardeners' Association surprised when Mr. Gostling informed them that pine needles had a distinct value as a manure or fertiliser for potatoes, but "H." seems to have been both surprised and rather grieved that Mr. Gostling should have made such a statement. Mr. Gostling might have stated (perhaps he did) that pine needles in their natural and dry state are worthless as manure. "H." will I expect be interested to learn that in some parts of Germany pine needle mould is used as a substitute for leaf-soil. Here, in lower Austria, not many hours from Vienna, we have pine needle manure in abundance. The needles are raked up in the forests in the autumn and used as litter in the cow sheds, for every kind of straw is used up as forage. This sort of pine needle manure I have used in quantity, and find that practically all kitchen garden crops do exceedingly well on it. It is valuable because of its slow decomposition. The peasants hereabouts are able to keep many acres of arable land in a fertile state with perhaps a couple of cows, a few pigs, and an unlimited supply of pine needles. "H." remarks that whatever the fertilising properties contained in fir needles are, "they do not appear to act beneficially on the turf, hence the anxiety to get them swept up as fast as they fall." Pine needles on turf are just about as good or bad as the leaves of deciduous trees would be if allowed to remain. It is only when in a decayed or half-decayed state that either pine needles or tree leaves are of any real use as manure. [We are much obliged to Mr. Gardner for his note.—Ed. "G. M."]

ODONTOGLOSSUMS.—W. T., Lampeter: If the plants have sufficient room for the development of the new growths they are making then do not disturb them. But if more room seems desirable then potting may be proceeded with at once, so that the plants become re-established before bright and hot weather arrives. An accomplished orchid grower will pot a plant at practically any season of the year if he believes such an operation necessary, but the chief potting season for the cool odontoglossums of the O. crispum class is at the end of August and during September, while March and April are suitable months, and are preferred by some to the autumn season. Use fibrous peat and sphagnum moss as potting material, over a considerable quantity of crocks, the latter rather more than half filling the pot. Instead of the crocks, one good crock may be placed over the drainage hole, and the pot be then filled two-thirds of its depth with chopped bracken rhizomes previously killed by subjection to considerable heat—in an oven or in boiling water. Shake the fine material out of the peat, pot firmly, and so arrange the work that the base of each plant is a little higher than the rim of the pot. Newly potted plants need a little shade in bright weather, careful watering, and a moist atmosphere. Your pit seems to be a suitable place for the plants, but we expect it will not be an easy matter to keep it cool enough during summer. Write us again, reporting progress, in a couple of months' time.

CASSINIA FULVIDA.—A. G. R., Wheatley: We feel sure the plant you refer to is Cassinia fulvida, better known in gardens as Diplopappus chrysophyllus. It is a New Zealand plant belonging to the natural order Compositæ. It is a very interesting shrub, and the yellow stems of the young growths give it a distinct and striking appearance. It does well in most places south of the Thames and farther north, in sheltered places, it also thrives. Being evergreen and hardy, it is worth some shelter from biting winds. A mixture of loam and peat appears to suit it well, but the character of the soil does not seem so essential as good drainage.

SHOW AND REGAL PELARGONIUMS.—S. J. A., Worcester.—Of course it was a great mistake to have allowed the plants to grow away without being pruned back hard after they had been rested awhile. You should cut a few of the plants back at once, and encourage them to break into growth from the base; this they will do rather slowly now, but they will make useful examples for late flowering. In the case of the others, provided you are not specially concerned as to the shape of the specimens, you had better at once pot them, and then tie the stems out in such a way as to depress the naked portions, and at the same time bring the growing ends up towards the light. Pinch out the growing points, as this will also help to induce new growth from the old stems. By this means you will obtain free-flowering plants, but they will not be so fine as they would had they been duly cut back.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

F. F., Tring.—1, Galax aphylla; 2, Gaultheria procumbens.

J. B., Horsham.—1, Asparagus verticillata; 2, Semele androgyna.

M. E. J., Mitcham.—1, Pernettya mucronata; 2, Abies nobilis; 3, Strelitzia regina.

G. C. B., Minehead.—1, Quercus Ilex fastigiata; 2, Eranthis hyemalis; 3, Juniperus communis; 4, Tamarix gallica.

S. T., Stafford. — 1, Trachelospermum (Rhyncospermum) jasminoides; 2, Begonia fuchsioides; 3, Gesnera splendens; 4, Acacia dealbata; 5, Odontoglossum Wilckeanum; 6, Stenandrium Lindeni.

OBITUARY.

◆

MR. JAMES BARNSHAW.

Many who knew Mr. James Barnshaw when he was with Mr. Wm. Bull, of Chelsea, will regret to hear that he died on Sunday last at Croydon, where he had a seed and florists' business. Both Mr. Barnshaw and his wife lost their lives in a fire, which appears to have broken out very early on Sunday morning.

FORTHCOMING ENGAGEMENTS.

SATURDAY, January 29.—Annual Dinner of the French Horticultural Society of London, at the Café Royal, at 6.30 p.m.
WEDNESDAY, February 2.—Royal Society of Arts.
THURSDAY, February 3.—Linnæan Society Meeting.
SATURDAY, February 5.—French Horticultural Society of London.
TUESDAY, February 8.—Royal Horticultural Society; Committees meet at 12 o'clock; Annual Meeting at 3 o'clock; Scientific Committee at 4 o'clock.
FRIDAY, February 11.—Royal Gardeners' Orphan Fund, Annual Meeting and Election at Simpson's, 101, Strand, at 3 o'clock.

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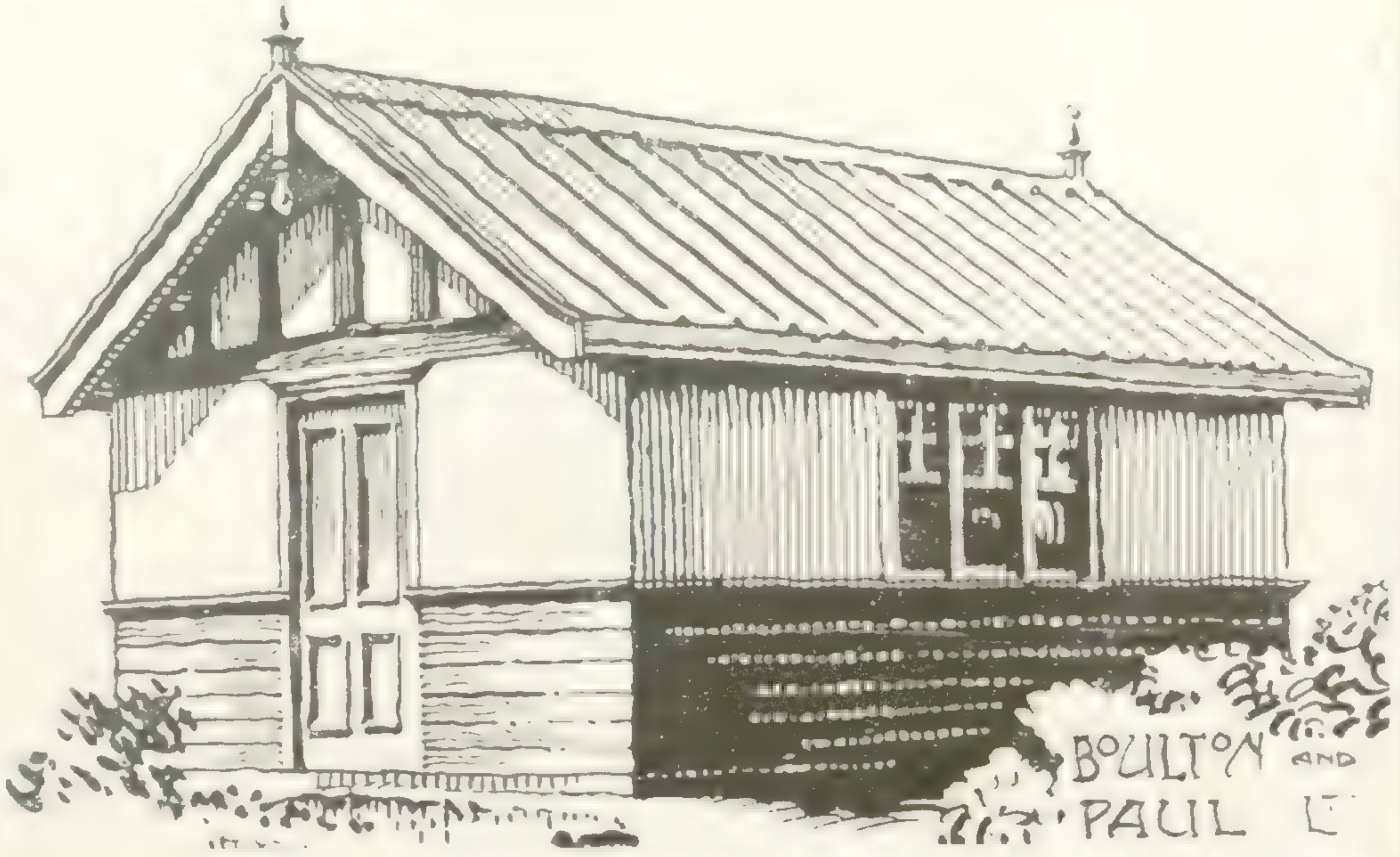

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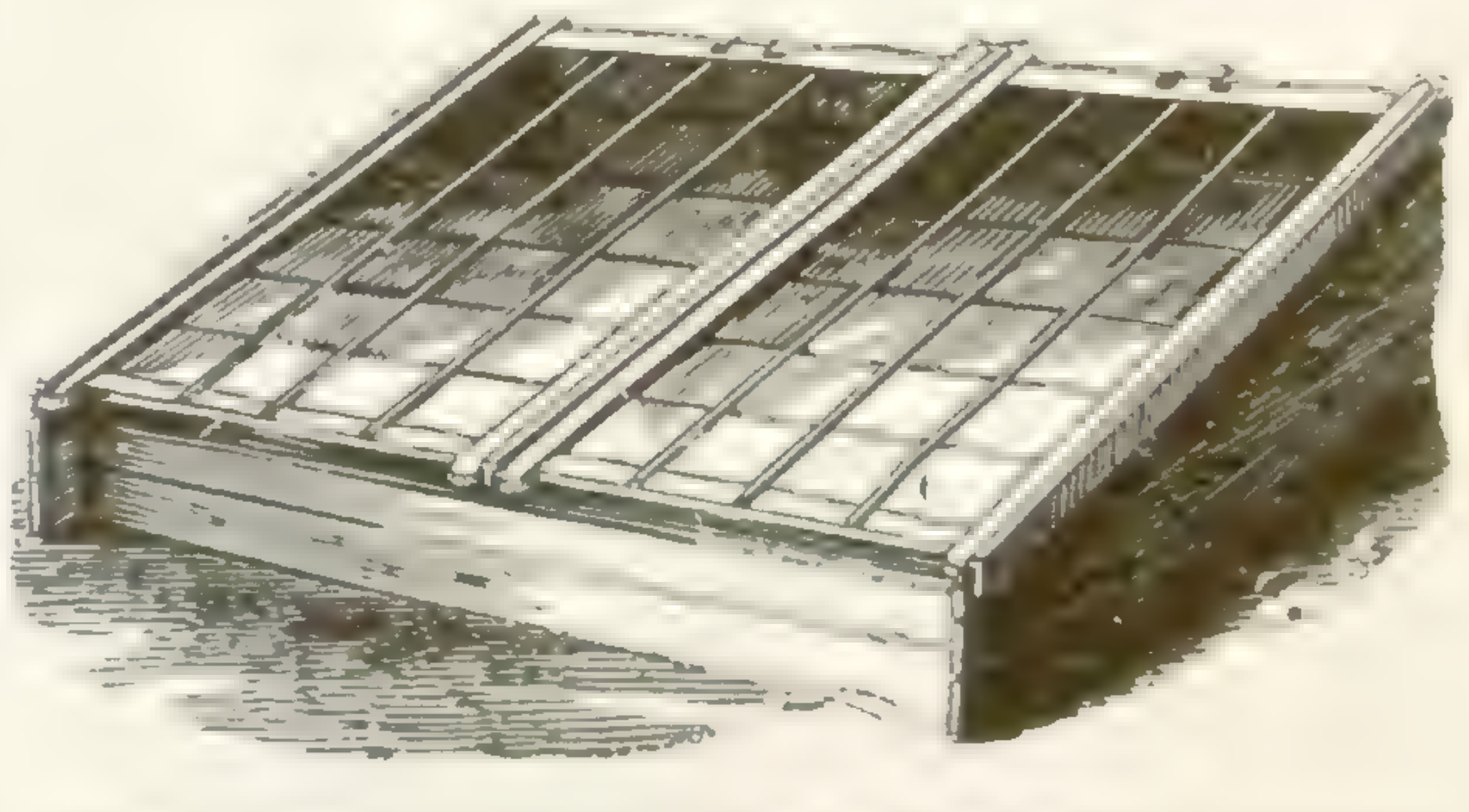

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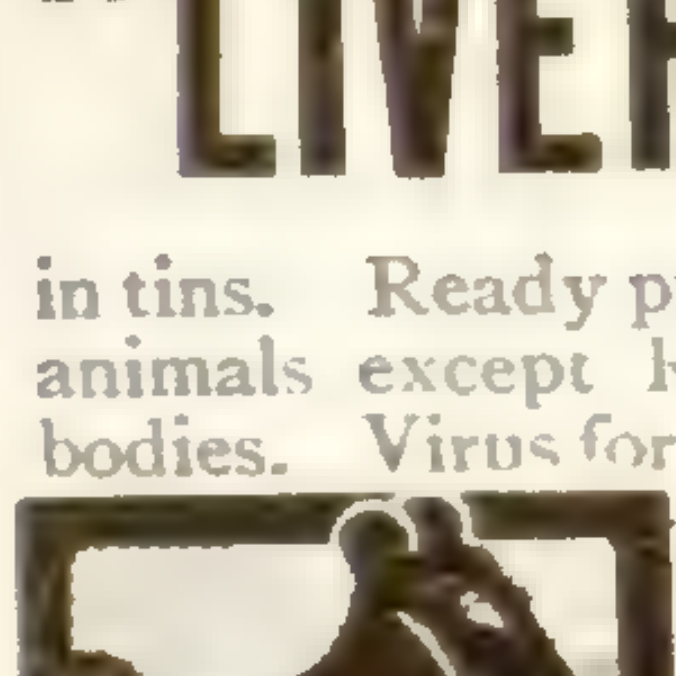

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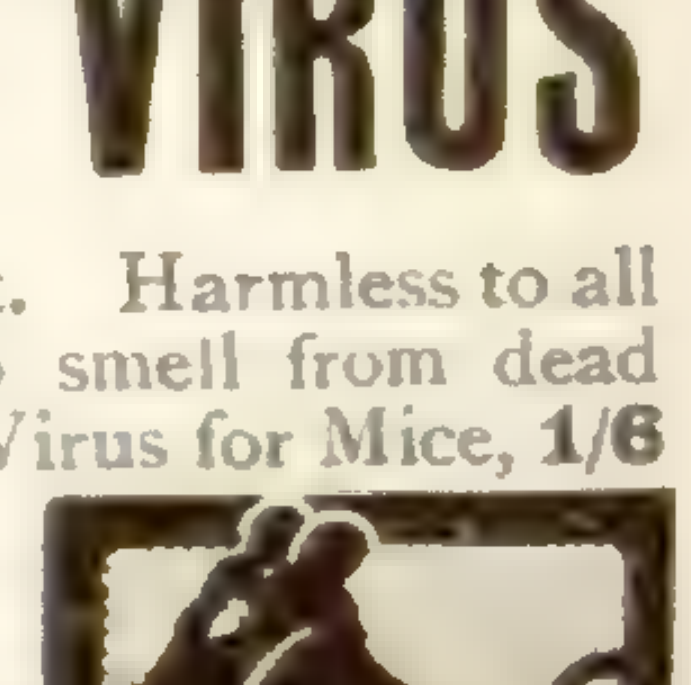

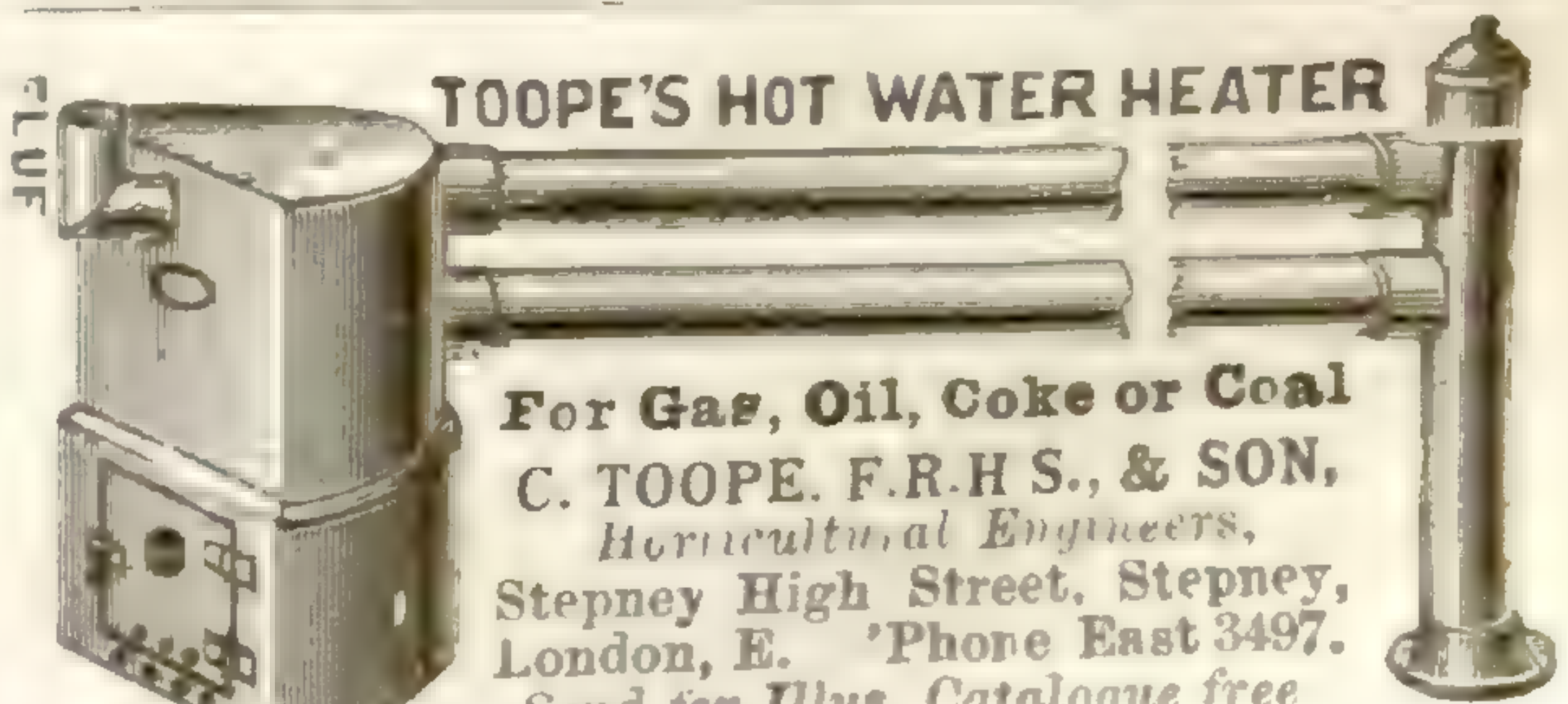

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Asparagus	per bun.	1	0		1	6
Azalea, Ghent	per bunch	1	0		1	6
Bouvardias	per bunch	4	0		6	0
Camellias	per doz.	1	6		2	6
Carnations	per doz. blms.	1	0		4	0
,, ,,	per doz. bun.	9	0		12	6
,, Malmaisons	per doz.	6	0		9	0
Cattleyas	per doz.	12	0		14	0
Croton leaves	per bun.	1	0		2	6
Cypripediums	per doz. blms.	2	0		3	6
Daffodils	per bun.	0	9		1	6
Eucharis	per doz.	3	0		4	0
French fern	per doz. bun.	0	6		0	9
Gardenias	per doz.	2	6		3	0
Lapagerias	per doz.	2	0		3	0
Lilac, French	per bun.	4	0		5	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		3	0
,, longiflorum	per bun.	4	0		8	0
Lily of the Valley	per doz.	8	0		10	0
Marguerites, white	per doz. bun.	3	0		4	0
Mignonette	per doz. bun.	1	6		3	0
Narcissus, Paper White	per doz. bun.	3	6		4	0
Odontoglossums	per doz. blms.	2	0		2	6
Pelargoniums	per doz. bun.	4	0		8	0
Roman Hyacinths	per doz. bun.	5	6		10	0
Roses	per doz.	1	6		7	0
Smilax	per doz trails	5	0		8	0
Tuberoses	per doz. blooms	0	3		0	4
Violets	per doz. bun.	2	0		3	0

Fruits.

Grapes, bananas, and apples find a ready sale, and the consignment of Cape peaches and apricots was quickly bought up.

		s.	d.		s.	d.
Apples, English	per bush.	3	6	to	9	0
,, Californian	per case	8	0		12	0
,, Cox's Orange	per ½ sieve	9	0		12	6
,, American	per barrel	12	0		18	0
,, Canadian	per barrel	12	6		22	0
,, Nova Scotian	per barrel	12	6		15	0
Bananas	per bun.	4	0		10	0
Brazil Nuts	per cwt.	33	0		40	0
Cobnuts	per 12lb	4	0		6	0
Chestnuts	per bag	7	0		10	6
Grapes, English	per lb.	0	8		4	0
,, Guernsey	per lb.	0	6		1	0
,, Almeria	per barrel	12	0		22	0
Lemons	per case	8	0		23	0
Melons, Valencia	per case	4	6		6	0
Oranges, Jamaica	per case	9	0		12	0
,, Jaffa	per case	7	6		10	6
,, Navels	per case	10	0		12	6
,, Denia	per case	10	6		22	0
,, Tangerines	per box	0	7		1	6
Pears, French	per crate	7	6		10	6
,, Californian	per case	8	0		15	0
Pineapples	each	1	6		4	0
Walnuts	per 12lbs.	2	0		3	0

Vegetables.

Greenstuffs are rather dearer owing to the colder weather; business is steady.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	6
Asparagus	per bun.	3	0		7	6
Beet	per bush.	1	6		2	6
Brussels sprouts	per bush.	1	6		2	0
Cabbage	per tally	3	0		5	0
Carrots	per doz. bun.	2	0		3	0
Cauliflowers	per tally	4	0		7	0
Celery	per doz. rolls	5	0		9	0
Celeriac	per doz.	1	6		2	0
Chicory	per 12lb.	3	0		3	6
Coleworts	per tally	2	0		4	0
Cucumbers	per doz.	5	0		8	0
Endive	per doz.	1	3		1	9
Horseradish	per doz. bun.	10	0		12	6
Leeks	per doz. bun.	1	6		2	0
Lettuce,	per doz.	0	9		1	6
Mushrooms	per doz. lb.	6	0		12	0
Mustard and Cress	per doz. pun	1	3		1	6
Onions	per cwt.	4	6		6	0
Parsley	per doz. bun.	2	0		2	6
Parsnips	per bag	2	0		3	0
Radishes, French	per doz. bun.	1	3		1	6
Seakale	per doz. pun.	12	0		15	0
Spinach	per ½-sieve	2	6		3	0
Tomatoes, English	per doz. lb.	4	6		6	0
,, Canary	per case	10	0		14	0
,, Guernsey	per doz. lb.	2	6		4	0
Turnips	per doz. bun.	3	0		3	[illegible]
Watercress	per flat	4	0		6	6

LONDON POTATO MARKETS.

Colder weather is needed to materially improve the potato trade.

		s.	d.		s.	d.
Bedfords	per ton	60	0	to	65	0
Blacklands	per ton	50	0		55	0
Dunbars	per ton	85	0		95	0
Essex Kidneys	per ton	55	0		65	0
Evergood	per ton	55	0		60	0
Kents	per ton	60	0		65	0
Lincolns	per ton	55	0		65	0
Presidents	per ton	60	0		65	0
Up-to-Date	per ton	65	0		75	0

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1910. JANUARY 16 TO JANUARY 22.	SUNSHINE.	TEMPERATURE OF THE AIR.			
		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	High-est.	Low-est.
	hr. m.	deg.	deg.	deg.	deg.
Jan. 16—Sunday	—	51	49	52	41
,, 17—Monday	3 24	42	39	45	41
,, 18—Tuesday	0 18	44	42	46	39
,, 19—Wednesday	1 0	40	37	45	40
,, 20—Thursday	1 48	36	35	43	35
,, 21—Friday	6 0	30	29	38	29
,, 22—Saturday	5 36	28	27	35	24
Means	(total) 18 6	39	37	43	35

DATE. 1910. JANUARY 16 TO JANUARY 22.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Jan. 16—Sunday	0.02	44	43	44	45
,, 17—Monday	0.10	43	44	44	36
,, 18—Tuesday	0.02	41	43	44	34
,, 19—Wednesday	—	41	43	44	35
,, 20—Thursday	—	39	43	44	29
,, 21—Friday	—	38	42	44	21
,, 22—Saturday	0.02	36	41	44	17
Means	(total) 0.16	40	43	44	31

CATALOGUES RECEIVED.

W. ATLEE BURPEE AND CO., PHILADELPHIA, U.S.A.—A most interesting catalogue from one of the largest of American seed houses; it is crammed full of descriptions, illustrations, and horticultural information and is well worth a study. Sweet Peas are a great feature.

J. JEFFERIES, CIRENCESTER.—A catalogue of useful flowers and vegetables, well illustrated and printed, containing a rigid selection of novelties.

J. K. KING AND SONS, COGGESHALL.—Under the title of a "Manual of Gardening" this firm issues its comprehensive catalogue of seeds. Many new things are offered, including new tomatoes, cabbage, cucumbers, Brussels sprouts, lettuce, and potatoes.

GEO. BUNYARD AND CO., MAIDSTONE.—Among the specialities offered in seeds by the Maidstone firm are Kentish Invicta runner bean, and a special strain of long-spurred aquilegias, both of which are represented by coloured plates.

R. H. BATH, LIM., WISBECH.—A useful catalogue of flower and vegetable seeds which can be easily slipped into one's inside pocket.

HENRY ECKFORD, WEM, SALOP.—Quite naturally we expect Sweet Peas to figure largely in a catalogue from Wem, and are not disappointed. Several new varieties are described and illustrated. Good selections of other flowers, as well as vegetable seeds are included.

JAS. CARTER AND CO., HIGH HOLBORN.—This catalogue is well arranged, and contains coloured plates of some of the Holborn specialities, and lists of vegetables and flowers in great variety. The title is "Garden and Lawns."

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THE GARDENERS' MAGAZINE may be obtained to order from all Newsagents, price Twopence, every Saturday. If any difficulty be found, a copy will be posted weekly direct from the Publisher, 148 and 149, Aldersgate Street, London, on the following terms: Twelve Months, 10s. 6d.; Six Months, 5s. 6d.

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GARDENER (Head Working, where one or two are kept), last six years second of six; experienced; Inside and Out; abstainer; married; age 27; can be well recommended. Please apply G. RUSHIN, Pinner Hill Gardens, Pinner, Mdlx.

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No. 2,936. Vol. LIII.
Reg. at the G.P.O. as a Newspaper.

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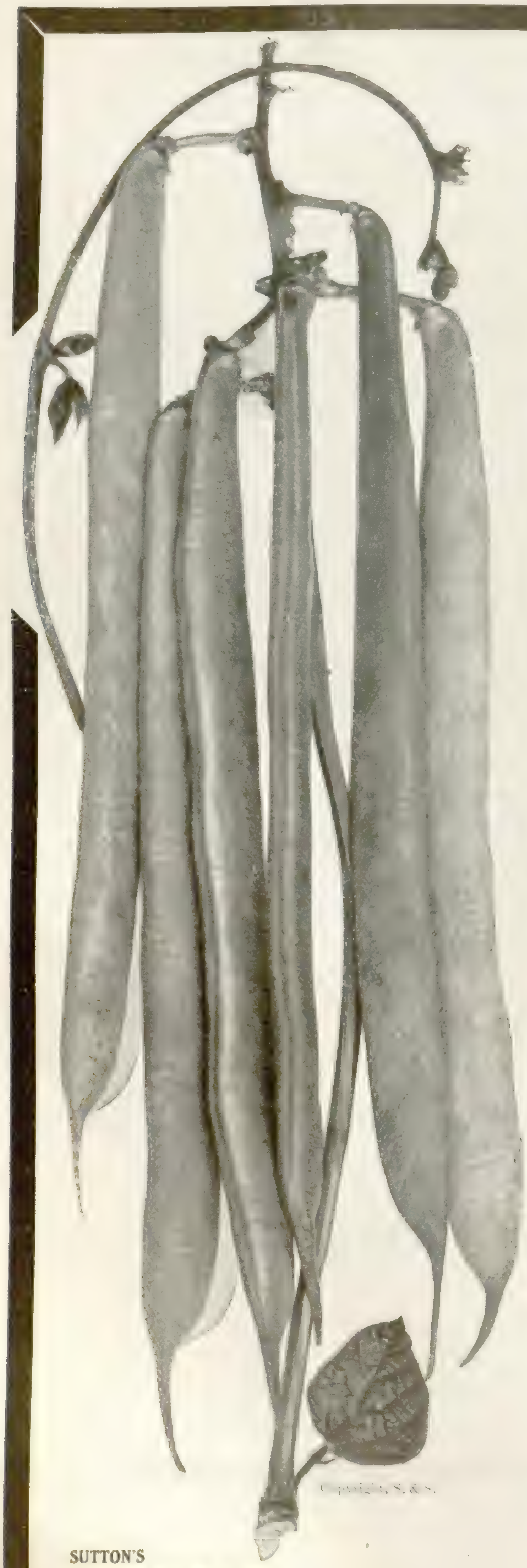

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Sutton's Universal	,, ,,	2/6 & 3/6	
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Sutton's A1	per packet	1/6 & 2/6	
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The KING'S SEEDSMEN, **READING.**

VOL. LIII.—No. 2,936. SATURDAY, FEBRUARY 5, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Seed Sowing.

The season in which the greater proportion of the seeds of useful garden crops and of ornamental plants is sown is of much interest to the general body of cultivators. It is interesting because of the remarkable diversity in the size, form and colour of the seeds of the various subjects required for the proper furnishing of the garden, and because also of the time and thought that have to be devoted to them to ensure their being sown under the conditions most favourable to their germination. If the purchase and the sowing of seeds are associated with much that is of interest in ordinary seasons when the seeds are so well ripened that there is no cause for anxiety with regard to their passing through the process of germination satisfactorily, it must be doubly so in the season on which we have just entered. Many years have elapsed since the difficulties were so great in the growth and the harvesting of seeds that are grown in the open, as those which had to be contended with last year. The long continued cold, wet weather experienced after midsummer was more favourable to leaf development than to flower and seed production, and the persistent rains subsequent to the break in the weather about the middle of August rendered the harvesting of the seeds extremely difficult, and materially increased the cost thereof. To those who are fully conversant with the conditions under which the finest samples of both flower and vegetable seeds are obtained, and take careful note of the weather, it can hardly be otherwise than surprising that the seed trade achieved so high a degree of success in the mitigation of the effects of untoward climatic conditions. We have had an opportunity of handling samples of many of the leading kinds of seeds, and we have found them of much higher quality than at one time we regarded as possible. This being the case cultivators have no cause to be unduly anxious with regard to the results they will obtain from their sowings of seeds of vegetables and ornamental plants. If there be no necessity for much additional anxiety in committing the seeds to the earth, there is occasion for exercising greater care in the carrying out the several details; and it may be for modifying in some cases the practice usually adopted. The seeds are much better than might have been expected, but they are not, as a whole, equal to the high quality that has been obtained for many years past. In some cases, and especially on cold, wet soils, it may be advisable to sow rather more thickly than usual, and to thin out sufficiently to reduce the plants to the proper number for a given area, when it is seen that they are growing freely. But we would suggest that more care be bestowed upon the preparation of the seed bed, which for the present purpose may be a single row or an area on which the seed is sown broadcast. As so generally known the conditions essential to the germination of seeds are warmth, moisture, and the free oxygen of the air, and these conditions are more necessary of fulfilment in a season when the seeds are indifferently ripened, and the food stored up within them for the support of the young plants during their earliest periods of growth is less than when they are perfect in development. There will not anywhere be a deficiency of water in the soil; but the percentage of moisture may be such as to prevent its becoming warmed as the sun's rays increase in power, and also to interfere with the full passage of the air through it, and thereby prevent the requisite amount of oxygen reaching the seeds and assisting in their germination. It will therefore be advisable to well work the surface layer with a view to making it comparatively fine to a depth somewhat greater than that at which the sowing will be made. Both warm rains and air will pass more readily through finely pulverised soil than through that which is so lumpy near the surface that it is difficult to sow all the seeds at the same depth. This latter is a point of some importance in seed sowing, and as a proof of this we would mention that many failures have come under our notice, both in garden and field, which have been caused by some of the seeds being buried at a greater depth than others. Thorough pulverisation of the surface is especially necessary in the case of clay soils, for under ordinary circumstances seed sown in the latter are several days longer in germinating than in friable loams, and with seeds below the average in strength a considerable proportion may perish if buried below the customary depth. A good tilth is advisable for another reason. The seeds, as already mentioned are not so well stored with nutrient matter as usual, and there is a risk that if the plants are not able to push their roots freely among small particles of soil to which their root hairs can readily adhere, they will not obtain sufficient food to make a healthy growth. Seed beds on heavy soils may, of course, be greatly improved by the addition of a liberal proportion of fine soil from the potting shed or frame ground, but as this is a matter of common knowledge we need not do more than briefly remind our readers of the fact.

MR. G. CARPENTER.

Mr. George Carpenter, who has occupied the position of head gardener at West Hall, Byfleet, during the past fourteen years, has, by the exercise of his remarkable administrative ability and cultural skill, obtained a foremost position among those engaged in practical horticulture, and he has achieved considerable success in plant improvement. Mr. Carpenter commenced his horticultural career at Dangstein, Sussex, the residence of Lady Dorothy Nevill, and from thence he went to Petworth Park, Lord Leconfield's Sussex seat. These establishments were under the charge of Mr. Vair and Mr. Breeze, two of the leading gardeners of their day, and much of his success in after life he attributes to their influence. After occupying various positions in private gardens and nurseries of note, Mr. Carpenter received an appointment as head gardener to C. J. Abbott, Esq., Rydens, Walton-on-Thames, and he had not long been in charge before he gave evidence of his skill as a cultivator of chrysanthemums. The first contest in which he took part was on November 13, 1884, and he obtained the premier award with a collection in which the once-popular Boule d'Or, Madame Clemence Audiguier, Elaine, and Meg Merrilees were represented. On the death of Mr. Abbott, Mr. Carpenter was appointed head gardener at Broad Oaks, Byfleet, the residence of Major Collis Browne, and during the eight years he was there he achieved much success as an exhibitor of chrysanthemums and other subjects, once being first in the competition for the Kingston Cup. During the fourteen years Mr. Carpenter has been head gardener to F. C. Stoop, Esq., who takes a keen interest in his extensive gardens, and is one of the most generous of employers, he has done but little exhibiting, and has devoted attention to plant improvement. He has been successful in raising a goodly number of Japanese chrysanthemums possessing much merit, and the best set in any one year was, Mr. Carpenter considers, that obtained in 1909. Some attention has been given to the raising of roses, but as yet the only variety that has been distributed is Kathleen, a charming variety introduced by Messrs. William Paul and Son. The work of Gardeners' Mutual Improvement Associations is regarded with much favour by Mr. Carpenter, and many are the papers that he has read before the various organisations in Surrey. In addition, he was for six years the hon. secretary of the local association.

Conference on Dahlias. Mr. E. F. Hawes, the hon. secretary, writes, I desire to inform you that the National Dahlia Society, has arranged to hold a conference on dahlias at Carr's Restaurant, 264, Strand, on Friday, March 4, at 6 p.m. The following papers will be read, and discussion invited. "Dahlias for Garden Decoration," by Mr. George Gordon, V.M.H. "Growing Dahlias for Exhibition," by Mr. J. Stredwick; and "Methods of Exhibiting Dahlias," by Mr. J. B. Riding. All members and their friends are invited to attend.

Accident while Gathering Wild Flowers.—A case of some importance to those who are interested in Nature Study, and devote attention to the collection of botanical specimens, came before the Court of King's Bench a few days since. The case arose through the death of a gentleman engaged in business at Dover, who was interested in collecting wild flowers. On the morning of the accident he had stated that he intended looking for wild orchids on the cliffs, and he was seen a few yards from the edge of a cliff, stooping, as if examining or gathering wild flowers growing thereon. Some time afterwards he was found at the foot of the cliff, he having fallen over and been killed. His widow claimed for £500 under an accident insurance policy effected by her husband with one of the accident insurance companies. The claim was not accepted by the company, who relied upon the words in the policy exempting them from liability where the accident happened "by the wilful or negligent exposure of the assured to unnecessary danger or peril." The case went to arbitration, and the arbitrator drew the inference that the accident occurred by the assured going too near the edge of the cliff, and that in going very near to the edge of such cliff he was running a risk that no ordinary prudent man would run. The arbitrator consequently awarded that the widow was not entitled to recover. A case was stated for the opinion of the Court, and Mr. Justice Bray gave judgment in favour of the award of the arbitrator, with the result that the claim failed.

The Masters' Lectures.—It will be remembered that a fund was raised to perpetuate the memory of the late Dr. M. T. Masters, F.R.S., by means of lectures directing attention to discoveries of scientific interest, but having a distinct bearing upon practical horticulture. It was also hoped by these lectures to carry on, in some degree, Dr. Masters' work of science in relation to gardening. Two lectures were given in 1909 by Professor Hugo de Vries, of Amsterdam. Two will be given in 1910 by Mr. A. D. Hall, M.A., F.R.S., at the Royal Horticultural Hall, on February 22 and March 22 respectively, and the subject will be "The Adaptation of the Plant to the Soil."

R.H.S. Provincial Show.—We are informed that negotiations are in progress with a view to the Royal Horticultural Society, co-operating in the promotion of a great horticultural show at Liverpool, in connection with the Royal Agricultural Society show. The dates of the exhibition will be June 22, 23, and 24, and full particulars will be issued in the course of the present month.

Southampton Horticultural Society.—This society accomplished much useful work during the past year, and the report that will be submitted to the members at the annual meeting to be held at the municipal offices at 4 p.m. on the 28th inst., is, on the whole, very satisfactory. The society slightly improved its credit balance during the year, but £16 1s. 1d. appears a very small balance for a society whose annual expenditure amounts to £740 14s. The society's arrangements for the current year are: Rose Show, July 5 and 6; Carnation Show, July 27; and Chrysanthemum and Fruit Show, November 8 and 9.

A Beautiful Display of Winter Flowers.—Mr. A. Alderman sends us from the gardens of Wigganthorpe, York, the seat of the Hon. H. W. Fitzwilliam, a photograph taken at the end of November in one of the greenhouses in these admirably managed gardens. The photograph is of much interest as evidence of the success that is achieved in the cultivation of the plants that are specially adapted for winter decorations, and we regret that it is not suitable for reproduction. The plants, it should be stated, are grown for the embellishment of the mansion, and are drafted from the greenhouse as required. On the front stages at the time the photograph was taken were finely flowered examples of Begonia Gloire de Lorraine, and its white variety known as Turnford Hall, and with these were interspersed dracænas, ferns, and other useful subjects with ornamental leafage. On the central stage decorative plants of larger growth were arranged, and, as these included both fine foliage and flowering plants, they evidently contributed liberally to the general effect. These, it may be mentioned, included asparagus, aspidistra, chrysanthemums, cyperus, ferns, palms, and salvias, which, as Mr. Alderman so well states, are extremely useful for producing a display at once cheerful and tasteful at the dull season of the year.

Royal Gardeners' Orphan Fund.—The annual general meeting of the subscribers to this charity will be held at "Simpson's," Strand, London, on Friday, the 11th inst., when the usual business will be transacted and 15 children will be elected to the benefits of the fund. There are 19 candidates. The chair will be taken at 3 p.m., and the poll will close at 4.30 p.m.

French Gardening Exhibition.—With the object of giving greater publicity to the advantages of intensive cultivation, an exhibition of "French gardening" is to be held at the Royal Botanic Society's Gardens, at Regent's Park. Active preparations are now in progress for exhibiting and demonstrating every aspect of the close and scientific cultivation of the soil. The exhibition will take place in July, though the exact date is not yet definitely settled. It is intended the exhibition should be practical in character. Actual "French" gardens will be shown in operation, and the ways in which the soil is fertilised and impoverishment prevented under this system, will also be the subject of demonstration. As well as actual gardens in working order, with the gardeners at work, there will be frequent lectures on the theory and practice of intensive culture, and there will be exhibits of the straw mats, forcing frames, and cloches. It is hoped that many of the proprietors of "French" gardens already established in England will be numbered among the exhibitors. As a practical inducement for them to do their best, a number of prizes will be offered.

National Chrysanthemum Society.—The annual meeting of this society will be held at Carr's Restaurant, 264, Strand, W.C., on Monday, February 7, at 6.30 p.m., when Sir Albert Rollit, LL.D., the president, will preside. The annual report and balance-sheet have been circulated among the members, and from it we are glad to find that the Society has no liabilities, its balance to the good is £79 8s. 11d., and its total assets are valued at £104 1s. 8d.

Messrs. Watkins and Simpson, the wholesale seedsmen of Tavistock Street, Covent Garden, have now formed their business into a private company. The business was founded in 1876 by Mr. Alfred Watkins, who took into partnership his friend, the late Mr. James Simpson. Mr. Watkins has always been the leading spirit in the enterprise, and under the new arrangement he is the governing director, while Mr. J. M. Bridgeford is general manager. A little booklet received from the firm contains portraits of Mr. Watkins and the heads of the various departments of the business, as well as views of the offices in Tavistock Street, the warehouses in Long Acre and Exeter Street, and of flower and vegetable seed trials conducted at the trial grounds at Feltham and Twickenham. It is on account of the business having now grown to considerable size, and for its more convenient working in association with his staff, all of whom have been with him for many years, that

Mr. Alfred Watkins has converted the firm into a private company. There has been no public issue, and no outside capital has been brought into the business.

Scottish Horticultural Association.—At the annual meeting of this society, in Edinburgh, the question of its amalgamation with the Royal Caledonian Horticultural Society was discussed, and the matter was remitted to the council to negotiate, and report. The annual report stated that during the past year there had been an increase of 38 in the membership of the association, but the financial statement was less satisfactory, as this shows a loss of £165 on the year's work, of which £141 was due to the loss on the chrysanthemum show. Mr. J. Whytock was elected president, and Mr. A. D. Richardson secretary and treasurer.

Sweet Pea Annual and Schedule.—A little later than usual, but none the less welcome, come these publications from the National Sweet Pea Society. The thousand members will have nothing to complain of in this year's "Annual," as it is full of interesting matter, and the interest is varied. The issue is several pages larger than those that have gone before, and it is admirably bound in the red cover that is now becoming quite familiar. The story of the Bozeman Sweet Pea Carnival, as told by Mr. S. B. Dicks, is startling, and the illustrations leave no doubt as to the enthusiasm of the inhabitants of Bozeman town in the Far West. Floral Committee proceedings, the story of "The Outing," several practical articles dealing with culture and diseases, a complete catalogue of sweet pea names, a list of members and affiliated societies, Notes on the Reading Trials, and a full report of the proceedings at the Sweet Pea Conference held in December last, are among the more important items, but we hope to refer to the publication again. The schedule shows that the society, assisted by its friends and supporters, is offering liberal prizes at its two-day show on July 12 and 13th next.

The Sherwood Cup.—N. N. Sherwood, Esq., V.M.H., has intimated to the council of the Royal Horticultural Society, that the cup he gives annually to the society shall in future be of the value of twenty, instead of ten, guineas, and the council will add a smaller cup as a second prize if the exhibits are sufficiently meritorious. It is this year offered to amateurs for a group of orchids at the Temple Show—quality being preferred to quantity. The award of the cups will be subject to the decision of judges appointed by the council, whose decision shall be final, and at whose discretion they may be withheld.

R.H.S. Officers.—The following list of president, vice-presidents, members of council, and officers for election has been circulated, in accordance with Bye-law 71: President, Sir Trevor Lawrence, Bart., K.C.V.O., V.M.H.; treasurer, Mr. J. Gurney Fowler, J.P.; secretary, The Rev. W. Wilks, M.A.; members of council, The Rt. Hon. Lord Balfour of Burleigh, K.T., Sir Albert K. Rollit, LL.D., Litt.D., D.C.L., Mr. James Hudson, V.M.H., vice-presidents, The Rt. Hon. Joseph Chamberlain, The Rt. Hon. the Earl of Ducie, The Rt. Hon. Lord Rothschild, Leopold de Rothschild, Esq., C.V.O., Baron Sir Henry Schröder, Bart., V.M.H., Sir John T. Dillwyn-Llewelyn, Bart., V.M.H.; auditor, Mr. Alfred C. Harper. As the number of names proposed does not exceed the vacancies to be filled, there will be no need for a ballot at the annual meeting on Tuesday.

ROYAL HORTICULTURAL SOCIETY.

The following is an abstract of the report that will be submitted by the council to the Fellows at the annual meeting of the Royal Horticultural Society on Tuesday next. The chair will, as usual, be taken at three p.m.:

The past year, though climatically unfavourable for horticulture, has, nevertheless, been a satisfactory one of progress in almost every branch of the society's work.

Wisley Gardens.

The very heavy rainfall and continual damp, coupled with lack of sunshine, has had the same effect on the society's gardens as on most other gardens in the South-East of England. The unfortunate effects have been felt especially in the trials, for which normal conditions are so particularly desirable for obtaining reliable results and records. Steady work has, however, been maintained, and many improvements effected. A new fruit wall, some 100ft. long, has been added, enabling the students to obtain instruction in the training of fruit trees on walls. A complete and commodious potting and working shed has also been built. The public path crossing the lower meadow has been fenced, in order to protect the newly-planted trees and shrubs from damage.

A large and valuable gift of orchids received from J. B. Field, Esq., together with others from the Hon. Mrs. Henry Gladstone, Colonel Rippon, Mrs. Davies Evans, and our treasurer, have emphasised the necessity for a new orchid house, which it is hoped may be built during the coming year.

The value of the research and experimental work carried on in our laboratory at Wisley can hardly be overestimated. The School of Horticulture is also making most satisfactory progress. The results of the 1909 examinations have been highly encouraging, diplomas having been gained by eight out of the nine students who left at the end of the summer as follows:

Diploma Examination (in order of Merit): A. W. Simmonds (diploma and demonstratorship of £40 for one year); W. G. Kent (diploma and prize); J. Ridley (diploma and prize); H. W. Abbiss (diploma and prize); G. A. S. Brooks (diploma); S. B. Gorringe (diploma); H. L. Robson (diploma); N. A. Phillips (diploma). Nicholson prize for observation: A. W. Simmonds. General examination: J. W. McCaig (scholarship, £25 a year for two years, silver-gilt medal, certificate and prize); W. Miles (certificate and prize); W. G. Kent (certificate and prize); H. L. Robson (certificate and prize); A. W. Simmonds (certificate and prize). Certificates were also awarded to twelve other students.

These awards were distributed on October 6 by Harry James Veitch, Esq., V.M.H., who was accompanied by other members of the council, together with the Right Hon. Arthur C. Dyke-Acland, Ex-Minister of Education, who gave a short address. Mr. James Hudson, V.M.H., also gave advice arising from a life-long experience as a practical and scientific gardener.

It was not a little gratifying to find a Wisley student, Mr. McCaig, placed first in the general examination of 291 candidates from all parts of the empire, thereby becoming entitled to the two years' scholarship of £25 a year offered by the Society and the Worshipful Company of Gardeners alternately. For the second year in succession, this distinction has been won by a student of the society. The prize of £5 given by Mr. Hudson, V.M.H., as a memento of his having passed the society's examination in horticulture just forty years ago, deserves a very pleasant acknowledgment. The amount was devoted to prizes awarded to those students who have successfully passed the society's general examination.

In 1910 diplomas are again offered by the council for the students, the following prizes being also available for award, viz.: Mr. Arthur Sutton's prize of £3 10s., to be divided amongst the students at the discretion of the council; and the Nicholson prize of £2 2s. a year, given to the student who shows the greatest power of practical observation on the fauna and flora of the garden and district. A prize of £5 has also been offered by Mrs. G. F. Wilson for the student producing the best collections of dried plants and insects, for which the council sincerely thank her.

Innes' Charity.

An order has been made by the Charity Commission respecting the charities of John Innes, in the parish of Merton, Surrey. The charity provides for the foundation of a horticultural institution at Merton for the promotion of horticultural instruction, experiment, and research. The order institutes a council of twelve representative members, nominated partly by other kindred institutions. The Council of the Royal Horticultural Society obtained the permission of Sir Daniel Morris, K.C.M.G., V.M.H., to nominate him as their representative, and are glad to find that he has at once been appointed vice-chairman of the council of the new institution. Professor Bateson, F.R.S., V.M.H., has been elected director.

Portraits.

It is a matter of great satisfaction to the council to have at last secured a full-length portrait of Baron Schröder, to whom the society has been, and still is, so greatly indebted, and who in our centennial report was justly named "The Father of the Hall," for the existence of our present magnificent building is due to Baron Schröder more than to any other single individual. A splendid portrait of this benefactor (after Herkomer) now hangs in the Council Chamber. Another long-wished-for portrait is also shortly to be hung, viz., that of the late Sir Thomas Hanbury, K.C.V.O., V.M.H., the donor of the Wisley Garden. The original artist of a portrait of which Sir Thomas thought very highly, and now hangs in his famous residence at La Mortola, in Italy, is making a copy, which, on completion, will occupy a place in the Council Chamber in company with the portraits of Baron Schroder and Sir Trevor Lawrence, Bart., our president. Information has also been received that a portrait of Mr. Harry Veitch, V.M.H., by Mr. Hugh Rivière, subscribed for by his friends, is about to be presented to the society. Perpetual memorials will thus be brought within the Council Room of some of the most notable of those who have played a foremost part in bringing the society to its present prosperity and usefulness—men whose memories will always be revered by those who follow after.

Darwin Centenary.

The centenary of the birth of Charles Darwin and the jubilee of the issue of his work, "The Origin of Species," was celebrated last June at his old University of Cambridge, and it was most fitting that the society's botanist, Professor George Henslow, M.A., V.M.H., whose father was a friend and confidant of this great scientist, should have been selected to represent the society at the celebration ceremonies. He was the bearer of an address from the council.

Jubilee of the Fruit and Floral Committees.

The council congratulate the Fruit and Floral Committees on the celebration of their jubilee, an occasion which it was thought fitting to mark by a dinner given to the members at the Hotel Windsor, Victoria Street, on July 6. It is a matter of no little pleasure to note the long uninterrupted service of many of the members of both committees, and the council, on behalf of the Fellows, again extend to them their warmest thanks for the service they render to the society, and the invaluable assistance so freely and generously given through so long a series of years. The council were glad to hear that the Fruit Committee had taken advantage of the occasion to present their chairman, Mr. G. Bunyard, V.M.H., with his portrait.

Entertainment of Germans.

It was with much pleasure that the president and council entertained at luncheon at the Holland House Show, a party of 90 members of the German Society for Garden Art, who were then in London visiting English gardens. The visitors were under the guidance of Herr Fritz Enke, with Herr Beiz, the secretary, and Herr Spath (the son of the renowned German arboriculturist), as interpreter. Our guests expressed themselves more than pleased with the magnificence of the show, and the high excellence of gardening generally in England, and it is hoped they all carried home a pleasurable remembrance of their entertainment at the hands of their British fellow-gardeners.

The Lawrence Medal.

It will be remembered that three years ago a subscription fund was formed to secure a portrait of our president, and for the founding of a medal in his honour. The choice of an artist for executing the medal led to some delay, but eventually the work was entrusted to Mr. Bertram Mackennal, A.R.A., who has worked out an excellent design. The first medal struck was rightly given to our president, whose name it bears. The 1909 medal has been awarded to Lieut.-Colonel G. L. Holford, C.I.E., C.V.O., in recognition of the beautiful exhibits of orchids which he has made during the past year.

Deputations.

It was with much pleasure that the council sent deputations to the following shows in response to invitations received, viz., Berlin International, Birmingham, Gloucester, and Cardiff, in each case being most hospitably and agreeably entertained by the organising bodies.

The council have accepted an invitation from the General Bulb Growers' Society, at Haarlem, to attend their Jubilee Show next spring, and have promised to send a deputation to visit a hardy fruit show to be held at Hexham in the late autumn.

Library.

During the year an opportunity occurred of acquiring a valuable collection of rare old horticultural and botanical books, which had been got together by one of the Fellows of the society—an opportunity which the council were only too glad to embrace. Negotiations are pending with the trustees with the object of uniting the Lindley Library more indissolubly with the society—legal difficulties stand in the way, but there is every hope that the year 1910 will see them overcome, and the union between the Lindley Library and the society placed on a thoroughly satisfactory basis.

Temple and Holland House Shows.

The 22nd Temple Show was a great success, though the continuous rain deprived visitors of much of its usual pleasure. The Holland House Show, in spite of unfavourable weather, has not been surpassed by any previously held by the society. The council extend their hearty thanks to the Treasurer and Benchers of the Inner Temple; and to Mary, Countess of Ilchester, for granting the society privileges, which, we are glad to say, have again been extended for the year 1910.

Masters Lectures.

The foundation of these lectures, in memory of the late Dr. Masters, F.R.S., V.M.H., led the council to invite Professor Hugo de Vries, of Amsterdam, to deliver the first two lectures during 1909, his subjects being (1) "Masters' Vegetable Teratology," and (2) "The Production of Horticultural Varieties." Both were well attended, and are fully reported in the society's "Journal." The Masters' lecturer in 1910 will be Mr. A. D. Hall, F.R.S., of Rothamsted, who will speak on February 22 and March 22 on the "Adaptation of the Plant to the Soil."

Pritzels' "Icones Botanicarum."

This most invaluable book, containing when first published a list of all the known plates and illustrations of plants, has not been kept up to date, and botanists and horticulturists the wide world over are most anxious for a revision brought up to date. The authorities at Kew have been approached by the society during the past year with a view to this being done. The estimated cost is about £3,000, and it was suggested that other societies and Universities should combine with us to provide the necessary funds, the R.H.S. undertaking to give a handsome proportion. Lieut.-Colonel Prain, F.R.S., most kindly interested himself in the suggestion, offering all necessary assistance. It is to be regretted that no further promises of co-operation or of funds have as yet been forthcoming, but all hope of this most-needed publication will not be abandoned. It is quite possible that some generous friend of horticulture and of botany might feel disposed to couple his name with such a permanent and enduring work.

International Exhibition.

From time to time, in recent years, International Horticultural Exhibitions have been held at various centres on the Continent, as at Paris, Berlin, Ghent, Turin, etc. The last occasion on which Great Britain took the part of host in these International courtesies was in 1866, and the council of the Royal Horticultural Society feel that it is time that our country made an effort to return some part of the hospitality which foreign countries have so often extended to us during the forty years which have elapsed since such a gathering was held in London. It has further been suggested that in connection with it a fourth conference should be held on genetics, i.e., on the origin, breeding, and heredity of plants.

Honorary Life Fellows.

Sir William T. Thiselton Dyer, K.C.M.G., F.R.S., and Sir Daniel Morris, K.C.M.G., V.M.H., have been appointed honorary Life Fellows of the society under Bye-law XVI.

Orchid Nomenclature.

The rapidly increasing number of multigeneric hybrids, and the confusion likely to arise unless a definite system of nomenclature is created, led to the formation of a Special Committee to consider what system would be most suitable. Their report has been received; it summarises the opinions of expert scientists and hybridists, at home and abroad, and the council have sent it for consideration at the International Congress to be held at Brussels in April next.

Annual Progress.

The following table will show the society's progress in regard to numerical strength during the past year:

LOSS BY DEATH IN 1909.

		£	s.	d.
Life Fellows	18	0	0	0
4 Guineas	1	4	4	0
2 Guineas	49	102	18	0
1 Guinea	70	73	10	0
	138	£180	12	0

LOSS BY RESIGNATION, ETC.

		£	s.	d.
4 Guineas	3	12	12	0
2 Guineas	168	352	16	0
1 Guinea	401	421	1	0
Associates	23	12	1	6
Affiliated Societies	22	23	2	0
	617	£821	12	6
Total Loss	755	£1,002	4	6

FELLOWS ELECTED IN 1909.

		£	s.	d.
Hon. Fellows	3	0	0	0
4 Guineas	8	33	12	0
2 Guineas	610	1,281	0	0
1 Guinea	584	613	4	0
Associates	26	13	13	0
Affiliated Societies	31	32	11	0
Commutations £404 5s. 0d	16			
	1,278	£1,974	0	0
Deduct Loss		1,002	4	6
Net Increase in Income		£971	15	6

New Fellows, etc.	1,278
Deaths and Resignations	755
Numerical Increase	523
Total on December 31, 1908	10,507
Total on December 18, 1909	11,030

Committees, Etc.

The society owes a constantly recurring debt to the members of the committees, the judges, writers of papers for the "Journal," and the compilers of extracts, the reviewers, lecturers, and the several examiners who, during the past twelve months have done so much to contribute to the potential energy of the society's usefulness, and to help maintain its high standing among the practical and scientific institutions of the world. The council also extend their acknowledgment to the Press for their invaluable assistance in reporting upon and calling attention to, the work of the society.

Income and Expenditure,

From the annual revenue and expenditure account we learn that the income for the year amounted to £23,197 13s. 3d., and of this amount the sum of £15,245 10s. 6d. was received as subscriptions; £2,229 18s. 3d. from shows and meetings; £1,169 10s. 4d. from publications; £2,049 6s. 6d. from hall lettings; and £402 10s. 7d. from the Wisley Gardens. The chief items in the expenditure are: Establishment expenses, ground rent, lighting, rates, etc., £1,637 8s. 6d.; do. do salaries and wages, printing, postages, etc., £4,857 4s. 10d.; Lindley Library, £215 7s. 9d.; shows and meetings, £2,046 10s. 10d.; prizes and medals, £785 11s. 9d.; Wisley Gardens, £1,935 13s.; laboratory, £425 4s. 9d.; depreciation, £502 15s.; and balance, £7,040 4s. 4d. The investments now aggregate £39,980 15s. 3d., and the cash on deposit at the bank and in hand amount to £2,326 4s. 8d. In addition, the depreciation, renewal, and reserve account, which is invested in 3½ per cent. India stock, amounts to £1,478 10s. 2d.

Old Yew Trees.—That there are yews as old as the introduction of Christianity into our island seems almost certain. Dr. Rock took great interest in the matter, and in his "Church of our Fathers" (1st ed., vol. ii., p. 320) he gave a long and valuable note on the subject. He directed attention to the fact that the tree in the churchyard of Aldworth in Berkshire is probably one of the largest in England. Evelyn left exact measurements of some of the most noteworthy yews with which he was acquainted, and I believe he recorded the dates when they were made. At the time that Candolle visited this country he measured these trees once more, and, comparing his measurements with those of Evelyn, came to the conclusion that in this country the diameter of the yew increases at the rate of one line a year. In the summer of 1841 Dr. Rock visited the Aldworth yew, and he found it to have increased half a yard in girth since 1760, when its measurement was given in the "Beauties of England." Dr. Rock pointed out that if it grew with regularity it must have been planted in A.D. 460. As we know from Bede's "Ecclesiastical History" that after St. Augustine came to England it was the custom to appropriate the religious buildings of the pagans to Christian uses, we may be sure that their burial-grounds were taken over also. I believe, indeed, that undoubtedly heathen graves have been found in churchyards, though I cannot at the present time mention a confirmatory instance. When yews were found growing in pagan burial-places, it is most unlikely that they would be destroyed or in any way injured. It is far more probable that the trees would be carefully protected. As there is no doubt that in later times yews were regarded as symbolic of happiness, we may well believe that our Christian forefathers entertained devotion to these stately ornaments of their burial-places, and protected these living objects which filled the minds of so many with thoughts of a blissful future.—Edward Peacock in "Notes and Queries."

JAPANESE IRISES.

The cult of the Japanese irises, particularly the well-known Kæmpferi group, is rapidly extending in this country, and of all the blossoms which make beauty in the summer garden none can surpass in charm or beautiful colourings these wondrous irises of Japan. The lesson from Japan has been well learned, and those iris gardens of the Far East have cast their bewitching influence over the gardens of England. Japan's devotion to the irises is remarkable, and the high place given to the flowers in the temple gardens, and in many others, reaches a culminating point in the beautiful garden of Hori-kiri. Here the glowing masses of the grand Kæmpfer's irises sweep down a delightful valley, forming a picture of unparalleled beauty, of rich colourings, opalescent hues, and dainty shadings, graduating to the whiteness of driven snow. Almost every colour is represented, and in shadings innumerable

The question of reproducing these grand colour pictures in this country rests with the garden maker and decorator. That they are capable of being produced is exemplified by the lake-side plantings at such places as Buckhurst Park and Aston Rowant, the masses at Messrs. R. Wallace and Co.'s gardens at Colchester; at Wisley, at Ranston House, and other places. Certainly these irises are most profuse in blossom once they are established, and the best effects are obtained from well-established groupings, which receive attention at the hands of the cultivator.

It must be borne in mind that these irises are hearty feeders during their period of growth, and, consequently, a good loamy soil, well enriched with cow manure, should be accorded them. Moisture is very necessary, especially during the growing season, and if they are not in a naturally moist position they must be provided with an occasional soaking of water. The best position for the irises is one that combines a sunny exposure with a moist soil. Mulching is of distinct value, and not only assists in the retention of moisture, but also encourages new root formation.

Propagation is usually effected by division, and I have found that clumps of first-class varieties give excellent results if divided directly after flowering. My mode is to lift the clumps, divide them into single crowns, and put each one in a 48-sized pot, using a mixture of good fibrous loam, coarse sand, and decayed cow manure for the operation. A little care in watering will soon result in good stout plants, which fill the pots with their new roots, and are ready for planting out at an early date.

While not wishing to dictate to anyone on the subject of varieties, I would urge the use of the better kinds for garden planting. There is such a wide divergence of colour in Iris Kæmpferi that discretion is certainly needed in selection, though from a good class firm one can usually depend upon being supplied with good forms.

Whites are very necessary in a collection, and some sterling gems, such as Kimono, Sierin, and Samora, should be secured, if possible, while delightful shades are obtainable in Magnifica, white, suffused with palest blue; Britannia, white, veined with rose; Nagasaki, a beautiful lavender, shading to blue; Geisha, the delightful gem in soft and mid blues; Riviera, a deep blue, deepening to violet; Kamada, a grand purple, mauve, and blue; Hana, a bold crimson, toned with purple; Yulan, a rare reddish crimson; Osaka, a lovely ruby, marked with white; and Delicia, a pale blue, shading to white, with lines of mauve. The few varieties denoted are representative of many others, and the reader will find among the Japanese irises a veritable mine of beauty.

The formation of an iris garden, where one can grow so many glorious irises, should be a subject for the consideration of all who have garden alterations in hand. A well-designed garden, with stretches of waterside irises around pools, and spreading through swampy ground, massed groupings of Iris siberica, and a wealth of Iris Germanica varieties, will provide a garden of delight. One can group old favourites and beautiful rarities, and find in them all a source of perennial interest. H. S.

TYPICAL VARIETIES OF IRIS KÆMPFERI
Growing in moist soil and sunny position.

Parsley, being in constant demand, every endeavour must be made to maintain a good supply. Seed for early summer supplies should now be sown in boxes. Place these in gentle heat, and prick off the seedlings into other boxes at two inches apart when large enough to handle; harden off, and eventually plant out early in April in well-prepared ground at twelve inches apart. The present supply should have every encouragement by stirring the surface soil, and adding regular dustings of soot. Keep the plants clean, and remove all decayed leaves. — GEORGE ELLWOOD, Swanmore Park Gardens.

GLOBE THISTLES.

These distinct and hardy flowers are very valuable for certain purposes, and have a good deal to recommend them. They will grow well in any ordinary garden soil, given a sufficiency of moisture, and when once established they need little attention for years, except that necessary to keep them within limits. They provide an abundance of flowers for cutting, and those of a colour of which we have none too many, while the character of the flowers is different from that of almost any other. As commonly grown in gardens, however, they do not show to the best advantage, for, though they require but little attention, they do not generally get that little, and they suffer in consequence, the growths being thin and weedy, and either falling over their neighbours or tied up like sheaves of corn.

The species most generally grown is Echinops ritro, from four to five feet in height, and there is a taller form of this, E. ritro giganteus, growing five to six feet in height, the flowers of which are larger, but it is a matter of opinion whether it is any improvement upon the species. E. ruthenicus, which does not grow quite so tall as E. ritro, is reckoned by some as a variety of the latter, and by some preferred to it. Only one other species need be mentioned, and that is E. sphærocephalus, which, though a handsome plant, with finely laciniated silvery foliage, is devoid of one of the principal charms of the family by reason of its whitish flower heads. The species are similar in character and habit of growth, and there is no need to differentiate between them here, so that they may be spoken of collectively as the globe thistle.

First, as to the uses to which it may be put. It should not be planted in the choicer flower borders, as it is apt to grow very rankly, either smothering its less vigorous neighbours, or starving them out by the absorption of all moisture and available plant food in its neighbourhood. Neither should it be planted in proximity to choice shrubs or fruit trees, as, when once well established, and given a free run, it gets among their roots and is difficult to exterminate. Its best place is in shrubbery borders, where its neighbours can well look after themselves, and in such positions, given liberal manuring and a good start at the time of planting, it proves very effective. Another position in which it looks well is as an isolated specimen in the turf—a big clump in a small bed with the grass growing nearly up to the stems.

One or two points in its successful cultivation are worthy of note, and it is only when grown to the best advantage that it can be recommended at all. Though it will grow in almost any soil, it makes much finer specimens if fairly liberally treated, both in the way of food and moisture, and as the handsome appearance of a well-grown clump is one of its principal claims to notice, this fact deserves consideration. Another thing to be done is to thin out the shoots in the spring, for these come up as thickly as from the crown of a phlox or sunflower, and if all are left weedy growth is the result, with correspondingly small heads of blossom. From a large old-established clump fully half, and sometimes three-fourths, of the shoots may with great advantage be pulled out early in the spring, leaving only the strongest. The plant may look a wreck after the operation, but it will soon pull itself together, and the remaining shoots will grow very vigorously.

The third, and last thing to be mentioned in its cultivation is the matter of tying up. It is rarely one sees a really well-grown clump, owing to bad practice as regards thinning out and tying up. It is a mistake to wait until the plant has gone down in a storm of wind and rain, as it invariably does if left to itself, and it is not much better than leaving it alone to tie it up to a stake in wheatsheaf fashion. If only a few shoots have been left a good strong stick, three or four feet high, should be put to every two or three shoots, which should be carefully tied to it, a further tying up being given when they have grown another foot or so. It will not look at all pleasing at first, but the plant will soon grow together, and will hide all the sticks long before flowering time. This is the only correct way to tie up tall-growing perennials, and I have often given a dozen or more sticks to a single large clump. It takes time, but no other way is so satisfactory. Grown in this way the flower heads will be larger, and, owing to the greater number of side shoots, it will last longer in bloom, and the plant will not be at all unsightly after the flowering time is passed.

The globe thistle is easily propagated. The clumps can be divided by means of a hammer and a cold chisel, or shoots can be taken off the crown in the spring with a little piece of root attached, as with so many other herbaceous perennials. Echinops ritro comes pretty true from seed, and a batch of seedlings I raised early one year flowered a little in the autumn of the same year, and, put out in rows in a nursery bed, made a fine show the following summer.

Alger Petts.

ROSE GRACE DARLING AS A STANDARD.
Grown in the gardens of Sir Richard Poynter, Bart., P.R.A., at Addison Road, Kensington.

A GOOD STANDARD ROSE FOR A TOWN GARDEN.

Many lovers of roses no doubt often feel they would like to grow a few standard roses in their town gardens, but if they live in London they will probably regard the planting of standards as a waste of time and money. The atmosphere of London is not conducive to the best results, and it certainly is useless to plant standard roses unless suitable preparation is made for them, and particularly so unless proper varieties, possesing a fine constitution, are selected. After many years' experience of rose culture in London I can heartily recommend the hybrid tea rose Grace Darling as a standard of great usefulness and beauty. It is an ideal town rose on account of its strong constitution, its freedom of flowering, and its charming colour that seems to appeal to everyone. Though introduced as far back as 1884, Grace Darling is a rose that has not yet obtained the popularity it deserves. It has fine foliage and flowers continuously through the season, and therefore is a splendid variety for London and other town districts. The accompanying illustration shows a standard growing in the gardens belonging to Sir Edward Poynter, Bart., P.R.A., at 70, Addison Road, Kensington, W.; the two fuchsias seen in the picture are of the popular variety Mrs. Marshall.

Kensington. A. C. Hill.

Development of Fruit Culture in Ontario.—According to a statement published by Mr. A. G. Turner, B.S.A.: In 1851, of the land under cultivation in Ontario, an average of $1\frac{1}{2}$ per cent. was in orchard and garden. In 1861, this amount had not increased. In 1871 it had swelled to 2 1-3 per cent., and in 1891 to $2\frac{3}{4}$ per cent. In 1901 to $3\frac{1}{4}$ per cent. These figures show a decided increase in the land under fruit, especially if it is borne in mind that the total land under cultivation has by no means remained constant, and that in spite of the increasing per cent. of all land under cultivation, that under fruit has steadily increased. In 1901 of the $3\frac{1}{4}$ per cent. stated as being in orchard and garden, some 3 per cent. or 279,571 acres were in fruit alone. According to the 1904 report of the Bureau of Industries, since the census of 1901, orchards, gardens, and vineyards in Ontario have increased at the rate of 2 per cent. per annum. Therefore, allowing this 2 per cent. increase for the six years from 1901 to 1907 gives us now a total of about 320,000 acres under fruit in the Province. Again, allowing a 2 per cent. increase, there are to-day planted on those 320,000 acres some 15,094,000 trees compared to the 14,087,936 trees planted on the 297,571 acres in 1901.

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ANGULOA CLIFTONI.

This is a wonderful and new species from Colombia. The flower is large, very distinct, and striking. The broad and pointed sepals are of curious shape, all concave, and of a light greenish-yellow shade. The petals are also very broad at the base, and pointed at the apex, pale yellowish-green, heavily stained at the base with bright purple-red, and netted and spotted with the same colour on the upper portion. The basal colouring shows right through each petal. The articulate lip is yellow, shaded with brown, and the column is white. The flower is very fragrant. (See illustration on p. 83.) F.C.C., R.H.S., January 25. Messrs. Charlesworth and Co., Haywards Heath.

CATTLEYA MIRANDA WESTONBIRT VAR.

This is a fine variety of the hybrid between C. Trianæ and C. amethystoglossa, and differs from others in its larger size and finer colour. Sepals and petals are rich rose-purple, with a deeper shading along the latter. The lip has a fine crimson apex, and a yellow disc. A.M., R.H.S., January 25. Lieut.-Colonel G. Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

CATTLEYA TRIANÆ MAGALI SANDER.

A superb variety and of especially fine size and form. The sepals and broad petals are pale lilac, and the lip is of the same colour, but has a large crimson-purple apex and yellow throat. A.M., R.H.S., January 25. Messrs. Sander and Sons, St. Albans.

CYPRIPEDIUM LORD WOLMER.

A very handsome cypripedium, obtained by crossing C. Leeanum Clinkaberryanum with C. Euryades. It has a very large, rounded, and bold dorsal sepal, white, with greenish base, and freely spotted all over the centre and base with bright purple. The petals and lip are green, shaded with brown and dull purple. If the petals had been a trifle broader the flower would have been perfect, from a florist's point of view. A.M., R.H.S., January 25. H. J. Bromilow, Esq. (gardener, Mr. W. J. Morgan), Rann Lea, Rainhill, Lancs.

MAGNOLIA DELAVAYI.

Though not hardy in the open air, this fine, broad, evergreen magnolia will thrive against a sheltering wall in the southern counties. It comes from Yunnan, at a considerable altitude, and was introduced to cultivation by Messrs. James Veitch and Sons, through their collector Mr. E. H. Wilson. Magnolia Delavayi is a shrub or small tree, and bears ovate leaves seven to thirteen inches long, and four to seven inches broad. The big creamy-white flowers are composed of three sepals, and about seven petals, the former reflexing, and the latter incurving. All are from one and a-quarter to two inches broad, and from three to four and a-half inches long. It will thus be seen that the flower is large and attractive. "Bot. Mag.," t. 8,282.

PIERIS FORMOSA.

Hailing from the Eastern Himalayas, this fine flowering shrub has been in cultivation for about half a century. It will withstand all but the severest of winters, but is seen at its best in the south-western counties, where it becomes a small tree. The spreading, branching, and drooping panicles carry a profusion of small, urceolate flowers, white or rose tinted, and these appear in the spring time. "Bot. Mag.," t. 8,283.

COTONEASTER MONPINENSIS FLORIBUNDA.

A handsome and very useful dwarf shrub from Western China. The leaves are dark green, and roughly hairy; the tiny reddish flowers are borne in little corymbs, and followed by brilliant red fruits. The latter are so numerous and effective that the shrub is a great attraction during September. "Bot. Mag.," t. 8,284.

CEPHALOTAXUS DRUPACEA.

Closely allied to the common yew, this shrub is of bolder habit and leafage, and has large fruits. It is evergreen, and is a success in the shadier parts of the garden, thriving also as undergrowth in thin woods. It loves plenty of moisture, and, consequently, is at home in the south-western counties, and in some parts of the Thames Valley. "Bot. Mag.," t. 8,285.

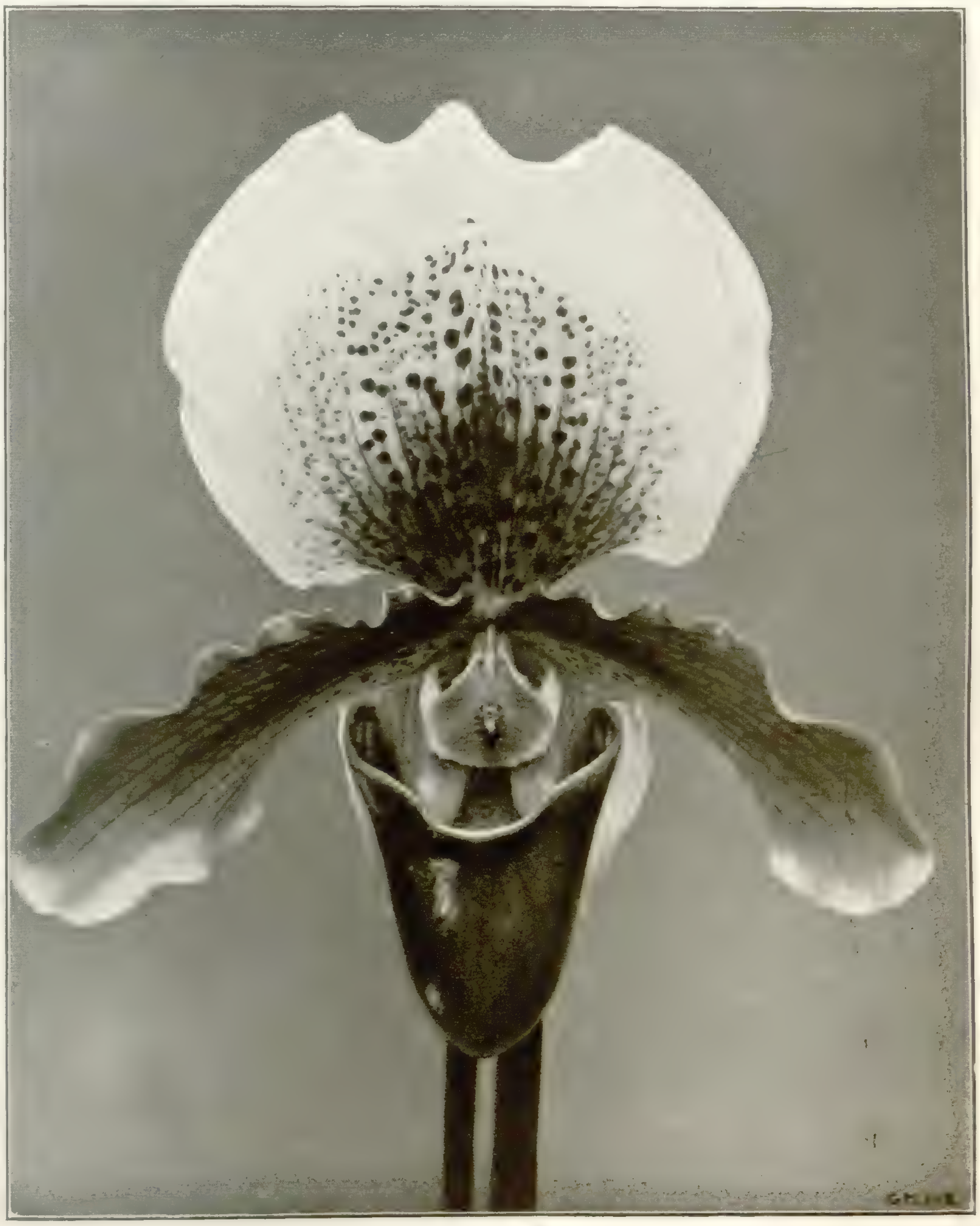
GUTHRIE'S VARIEGATED ROCKFOIL.

There exists in comparatively few gardens a very beautiful saxifrage bearing the name of Saxifraga Guthrieana variegata, about whose original history one would gladly know a little, as its origin seems lost in the distant past. It has been known to, and admired by, the writer for many years, and, so far, it may be suggested that it originated in the North, as it has been principally distributed from nurseries in the East of Scotland. Whatever its history, it is the prettiest of all the variegated rockfoils, and a good plant, with fully developed rosettes, is extremely pretty, with its green and white markings regularly arranged along the leaves. According to the works of reference, S. Guthrieana is referred to S. Andrewsi, but I have never met with a green-leaved plant under the title of S. Guthrieana, and S. Andrewsi is understood to be a garden hybrid between S. geum and S. aizoon. It is thus probable that S. Guthrieana variegata is either a sport or a seedling of S. Andrewsi, and it has all the qualities of that good rockfoil, with the added virtue of a distinct and permanent variegation, as, unlike the variegated varieties of S. umbrosa, it never appears to revert to the green form.

Guthrie's variegated rockfoil forms good rosettes of substantial, rather spathulate, or lingulate leaves, and from these rise, on six-inch stems, pretty little flowers of white, spotted with red. The main beauty of the plant, however, lies in its variegated leaves. It is increased by taking off the offsets, which generally root fairly well while on the parent; but, if increase is wanted, it is well to take them off and to put them singly into small pots, or in lines in the reserve garden, shading them for a little until they take root. By this course of procedure strong examples are obtained for planting in the permanent positions.

In some gardens the birds have a particular liking for pulling up the rosettes of S. G. variegata, and I have sometimes found it necessary to protect them from their feathered enemies. Such a good and distinct rockfoil is worthy, however, of a little care.

S. Arnott.

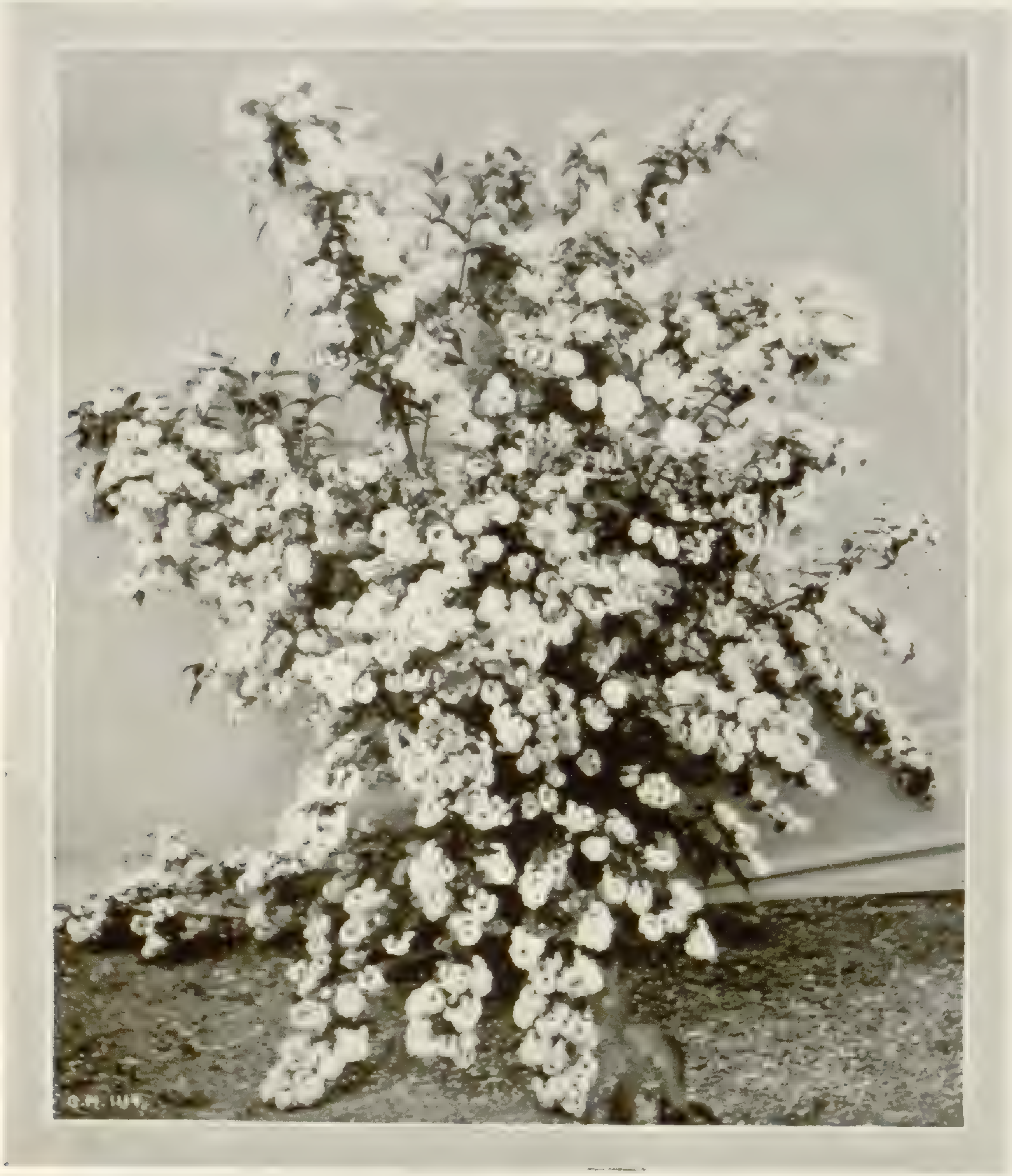


CYPRIPEDIUM LORD WOLMER.

Flower white, green, and purple. A.M., R.H.S., January 25. Mr. H. J. Bromilow, Rann Lea, Rainhill.

AMONG THE NEWER DEUTZIAS.

The beauty and grace of the older deutzias ensured them a place in nearly all gardens where flowering shrubs are appreciated. Perhaps the most popular group for outdoor cultivation is the ever useful D. crenata and its varieties, which rank among the prettiest of flowering shrubs for border and shrubbery plantings. For greenhouse and conservatory adornment the well-known D. gracilis and its varied forms have long held the field, being decidedly light and graceful in contour, very floriferous, and readily amenable to gentle forcing. It would be extremely difficult to compute the number of the gracilis section which are grown for indoor decoration, but it must be exceedingly large.



DEUTZIA CRENATA MAGNIFICA.
A beautiful variety, bearing a profusion of double white flowers; raised by M. V. Lemoine.

The discolor group provides very good decorative subjects, and the newer hybrid varieties are especially noteworthy. As regards outdoor culture the majority of the deutzias will thrive admirably in the southern portions of Great Britain, but in the colder north, only the hardier types should be attempted outside, such typical forms as D. crenata and the strong growing D. scabra doing fairly well with a little shelter.

Where one can plant deutzias, with the knowledge that they will do well, then informal groupings in the grass, or on an open bank in the wild garden should be the aim. Even well-grown single specimens look charming isolated on the lawns, and some of the newer forms will prove of great value. It may be of interest to the reader to know something of the newer hybrids, especially as they are so charmingly adapted for widespread culture, and may maintain the future popularity of the race.

Taking D. crenata first, one notes the delightful D. candidissima flore plena, a fine, graceful, pure white subject. Pride of Rochester, a grand pure double white, extremely well adapted for forcing; Rosea flore plena, a notable form, with rosy markings upon the white blossoms; and Watereri, the fine single white.

Fine progress is being made in the D. discolor group. The fine form, D. discolor major, which was introduced by Messrs. Veitch from Central China, has been followed by a charming series of hybrids from Messrs. Lemoine, of Nancy. D. discolor grandiflora is a fine seedling from D. discolor purpurascens, which was crossed with D. gracilis. It is of dwarf habit, with delightful panicles of blossom which exceed in length and beauty the first-named parent. The fairly open blossoms are remarkable for their large, pointed petals, while the colouring is pure white tinted with rose. The buds and the reverse of the blossoms are rose-coloured. D. discolor purpurascens, crossed with D. scabra, has produced the sterling D. arcuata, which differs from any other deutzia in cultivation in its spreading habit and foliage of a dark shade of green. The innumerable bunches of pure white erect blossoms give it a glorious effect, and the individual flowers are of good size, and their beauty is increased by the crown-like formation of the stamens.

By crossing D. scabra with D. discolor grandiflora some fine novelties have been obtained. D. discolor densiflora is an erect-growing variety, with a floriferous character. The blossoms are white, suffused with rose, and, with the sulphur-coloured anthers, create quite a pretty effect. Another fine variety is D. carnea, a delightful flesh-coloured form, with rosy-pink reverse to the blossoms, which are of medium size. The petals are oval, and the carmine bud-colouring is very pleasing. D. lactea, a dwarf bushy hybrid, with grand panicles of blossom, and a clear milk-white colouring is deserving of notice, while the dainty D. stellata is an exceedingly pretty hybrid, the flowers exhibiting a delightful blend of colouring, shading from palest pink to rosy-carmine.

Some exquisite beauties are now grouped in the D. gracilis section. There is the snow-white D. erecta, a hybrid between D. gracilis and D. Sieboldi, with dark green leafage, and pyramidal spikes of blossom. D. campanulata is a grand milk-white form, wonderfully free and effective in blossom. D. candelabrum, another D. gracilis x D. Sieboldi hybrid, is a delightful subject. The arching branches, clouded with innumerable clusters of creamy blossoms, makes an undeniably charming picture, and is well worth securing. In D. carminea we have another pleasing deutzia with an arching habit, the branches being weighed down with the burden of rosy-hued blossoms. D. eximea and D. rosea furnish two more pink varieties to the gracilis group, while the large-flowered D. venusta, with snowy blossoms like a miniature azalea, concludes a group of sterling forms of this favourite section.

Further, there is the Lemoinei group, of which the forerunner was the handsome white-flowered D. Lemoinei, a hybrid between D. gracilis and D. parviflora. The best of the section are D. Avalanche, a handsome snow-white hybrid with the close panicles of blossom crowding closely for the full length of the stems; D. Boule de Neige, a large-flowered showy white of great merit; D. Boule Rose, with pale rose blossoms, produced in large close clusters; and D. Fleur de Pommier, a notable pale pink form, clad from base to summit with axillary corymbs of blossom. Both in bud and blossom it is delightful.

That other good work in connection with the deutzias is in progresss is apparent in D. kalmiæflora, a fine hybrid, with kalmia-like blossoms of a pale pink colour; and in the fine D. crenata magnifica, a hybrid between D. Vilmorinæ and D. crenata candidissima plena, which has been raised in Messrs. Lemoine's establishment at Nancy. The appended illustration gives a vivid reproduction of what should prove to be one of the most popular flowering shrubs of the future. The pleasing habit, the wealth of double snow-white blossoms, and its delightful appearance, are certainly greatly in its favour. With such a pleasing novelty before us, we may rest assured that there are good things yet to come from the deutzias, and this knowledge should give a fillip to this most deserving race of flowering shrubs.

P. S. Hayward.

Everyone interested in a garden should obtain a copy of the Alphabet of Gardening, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price 1s. 6d. net, by post 1s. 9d.; cloth, 2s.; by post 2s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

CULTIVATION OF THE VINE.

Modern day methods of horticulture have greatly facilitated the culture of the grape vine. The influences and beneficial results of increased knowledge, inexpensive means of heating, and more suitable and adaptable structures are made manifest in the enormously increasing amount of grapes available for market purposes, in their comparative cheapness, and in the vast number of gardens wherein their cultivation is an established factor. There seems no doubt that the present-day methods of preserving grapes of all kinds has contributed in a great measure to this welcome state of affairs, the rich luscious flavour of this fruit being unrivalled by any other edible kind.

The modern gardener who is at all ambitious and eager of success, will realise that a knowledge of vine culture constitutes an essential factor in his store of horticultural learning; there are few gardens of any extent where a large area of glass is not devoted to the cultivation of the grape, and this department calls for his most careful and unremitting attention.

Vineries and Borders.

In the vast majority of gardens, vineries are already established, and it will therefore not be necessary to describe the structure of such buildings. Suffice it to say that among the most common form of houses are lean-to's, three-quarter spans, or hip-roofed vineries, and perhaps the most common of all, and that chiefly favoured by market growers—the span-roofed house. Lean-to's, if facing south, have an ideal aspect, and are to be preferred for the forcing of early grapes, being more accommodating in the matter of warmth and the amount of necessary fixing.

The inside borders and rooting mediums deserve great attention; the former should be excavated to a depth of about 3½ft., and should be at least 10ft. wide. A layer of 4in. of concrete or paving should be placed in the bottom of the border, which should allow of a slight fall to the front and the outlets, the latter being provided at each end, leading into the main drain. A 5in. drain pipe laid along the front must connect with several smaller pipes of a 3in. section, placed obliquely across the border, and the whole should be covered to a depth of 6in. with brick rubble, and that in turn with turves cut from an old pasture, placed grass side downwards.

Soil and Planting.

The soil most suitable for vines is a yellow fibrous loam, which should be chopped up roughly; an ideal compost can be formed by the admixture of one to six parts of lime rubble, a sprinkling of charcoal or wood ashes, and 2 cwt. of 2in. bones. The soil, if of a sandy nature, will necessitate less lime rubble, as the object of this is to increase the porosity. Manuring or top-dressing is best performed during the growing season; dissolved bones or potash are of valuable service in renovating the soil, and will have lasting effects if applied judiciously. The borders should be prepared in advance, and made up piecemeal; they must also be thoroughly consolidated in order to secure that firmness of texture so essential for the development of hard nut brown wood and buds.

The middle of March is the most opportune time for planting with canes of the previous season's growth. If proper attention is given as regards heat and moisture, the vines will make excellent growth during the summer, and in order to allow a sufficient space for the free development of the lateral shoots, the canes should be planted at from 4 to 5ft. apart, though these dimensions are, of course, dependent upon the system of training which is adopted. When taken out of the pots, the young shoots should be immersed in a tub of tepid water in order to disintegrate the soil particles from the roots, and when planted in the border the roots should have a quantity of fine soil worked in amongst them, filling up the border with the approved quality of soil. At this stage a liberal watering must be given with lukewarm water, and a mulching of well-decomposed horse manure applied. Eyes for future planting should be inserted in January, and must be turned out of the pots before the roots become matted. After planting, the border should be filled up to a depth of 2½ft., an extra foot being allowed for Muscats.

DEUTZIA DISCOLOR DENSIFLORA.

A handsome variety, free blooming, and bearing single flowers that are white suffused with rose; raised by M. V. Lemoine.

Temperature.

The great variety of circumstances to be encountered in the cultivation of the vine do not admit of any definite mode of treatment or management in general being outlined, and it therefore is necessary to pay careful attention to the prevailing conditions of climate and temperature, etc. At the commencement, a temperature of 50 deg. should be maintained at night time, which should be allowed to rise 10 to 15 deg. during the day; as the vines pass the various stages towards the period of flowering, the temperature may be gradually raised, until at that stage, it should stand at 65 to 70 deg., these temperatures representing the maximum and minimum during the night, with a corresponding rise during the day. It must, of course, be understood that the prevailing weather conditions enter largely into consideration when determining these temperatures. When the grapes are fully set the temperature may drop to 60 deg. and under all circumstances the cultivator must be careful not to overheat the pipes, as this constitutes a sure forerunner of red spider. The sun's heat should be utilised as extensively as possible, as this is an eminently preferable form of heating to any other sources of an artificial nature.

Ventilation and Moisture.

Fresh air is as necessary an adjunct to vines as it is to human life, and should therefore be supplied in sufficient quantities by judicious ventilation. The night temperature is regulated by artificial heat, but during the day ventilation on approved plans secures an even and suitable temperature. It therefore follows that air should be admitted, not with the object of lowering the temperature, but in order to keep it from rising too high. A sudden inrush of cold air is most disastrous to the tender foliage of young vines. As the grapes commence to colour, air should be admitted freely both by night and by day, and many successful growers are in the habit of admitting fresh air at night time, whenever the state of the weather warrants it, beginning at the commencement of the blooming period.

A moist, genial atmosphere is necessary in order to maintain a healthy growth; the rods should be lightly syringed three or four times a day, the object of the moisture being to induce the growth of buds, and afterwards to supply nourishment to the plant through the leaves. When the vines are well in leaf syringing should be discontinued, and a slight damping of the rods will suffice, while at the advent of the period of blooming a somewhat drier atmosphere should be maintained until the grapes are set. The presence of lime in the water will have an evil effect upon the berries, causing them to become spotted and soiled. Every portion of the house, the border, walls, and floor, etc., must be kept in a humid condition at this period, until the grapes commence to colour, when a drier atmosphere may be maintained, and, when fully ripe, the air should be kept as dry and bracing as possible.

Pruning and Training.

Many cultivators of expert knowledge and experience affirm that spur pruning is to be preferred to any other method of cutting, and, indeed, it may be assumed that this is the most common form of pruning which is practised. At the commencement, young vines when first planted should have been cut back to within three or four eyes from the ground; from this stage onwards their growth should receive every encouragement in order to produce an abundance of foliage, the presence of which denotes a more extensive growth of roots. At the first winter pruning the canes should be shortened to within three feet from their point of origin, and in order to encourage a well-balanced development of buds the canes should be placed in a horizontal position. When the lateral growths are established they may again be placed in the perpendicular, and selection can then be made of the leading shoots, chóosing those of healthy and vigorous action, the distance between each one being about fifteen inches. These shoots will form future fruiting spurs, and all intervening buds should be removed.

After prunings will consist of shortening the lateral growths to a good round plump bud as close as possible to the main stem, the same system of pruning being followed year by year.

As regards training, it must be remembered that the vine is a free-growing plant of climbing propensities, supporting itself when in a free and natural state by means of its tendrils, consequently, when subject to close cultivation, it demands some artificial means of support, and this can be afforded in many ways. In this country a wire trellis is perhaps the commonest means of training vines, the wires being fixed at a distance of not less than twelve inches from the roof, or six inches from walls.

Experience.

(To be continued.)

SELECTIVE FERN BREEDING.

When we have an opportunity of inspecting some of the best collections of British fern varieties we cannot fail to be impressed with their wonderful capacity of improvement by selective cultivation through their spores. Nature, indeed, has been lavish in the provision of beautiful types as spontaneous wild sports, and it is entirely upon these types that we are dependent for a start in selective culture. It would be simply ridiculous to attempt to originate varieties by sowing wild normal forms, for although there would, of course, be the same chance of a deviation cropping up as there is in the wild state, the numerical proportion is many thousands to one, and the chance of success the same as regards any sport at all, while it is immensely decreased as regards a really fine type, since many inferior ones are found for one fine acquisition.

Even in collections embracing a large number of forms sufficiently good and distinct to be worthy of a place, the abundance of material is such that attention should be concentrated only on the best forms, whose symmetry and constancy and beauty are such as to eclipse most of their fellows. By utilising these we obviously start to the best advantage, and from such material every now and again the most startling results may be obtained, altogether surpassing the most sanguine expectations.

In the history of British fern selection we have three marked examples of this, viz., the beautiful moss-like plumose section of Polystichum angulare raised by Colonel Innes and Dr. Fox, the unique superbum section of Athyrium filix fœmina raised by the writer, and the gracillimum section of P. aculeatum raised jointly by Mr. C. B. Green and the writer quite recently. The first-named section arose from a sowing of spores from a decomposite wild find by Mr. Moly, of a sufficiently promising character in the way of extra cutting to induce the experiment. The result, a batch of densely plumose forms rivalling Todea superba in beauty, was so unexpected that neither Colonel Innes nor Dr. Fox could credit the parentage until a second trial confirmed it by similar produce. Those ferns have ever since constituted the cream of the species, and although rivalled in their own line by subsequent production of varieties known as Esplan and Grimmondiæ, the origin of both these is by no means clear, and it is quite possible that their source is identical with that of the others. P. angulosum plumosum Pearson, a worthy rival too, arose from another decomposite form, which, curiously enough, yields from its spores the parent form true, a curious grandidens type, and last, but not least, the Pearson plumosum aforesaid.

The superbum Lady Ferns present a still more striking example, and in the extent of variation in one batch is certainly unique. The original wild find was discovered at Axminster, a fine plumose form. Its spores yielded an improved variety called A. f. f. plumosum elegans Parsons, more finely cut. Owing to bulbils being discovered on the frond backs, a piece of a frond was sent the writer for inspection, and, as there were spores, a sowing was made. Up to this time there had been no trace of cresting in Parson's form or its wild parent, but this sowing yielded over 90 per cent. of crested forms, all similar, but mostly depauperate here and there. Only two Parson's elegans appeared, and only two perfect crested forms, one of which was very fine, and was named superbum. The next thing, of course, was to sow superbum, and now a most wonderful batch of plants was obtained, two distinct sections, crested and uncrested, arising. No two were exactly alike, and about a score of distinct and new plumose varieties were obtained. Among the non-crested forms one stood head and shoulders above the rest, plumosum Drueryi, extremely robust, and finely cut, and in the best of the crested forms, superbum percristatum, even the pinnulets are tasselled, so that no other crested form approaches it. In this case, therefore, two distinct sections were arrived at in the second generation from the elegans variety, and the third from the original sport.

The progeny of the third example, P. aculeatum pulcherrimum, is remarkable on somewhat different lines. The parent may be described as a refined sport of P. aculeatum, with slenderer pinnules, and an unique incurving and lengthening of the terminal pinnæ, which overlap to form a peculiarly graceful terminal. For some forty years the plant was reputedly barren, or, at any rate, no sowing had yielded results, but, a few years back, spores were definitely seen and sown, with the wonderful result that at least twenty plants appeared among about a hundred, in which the parental half-inch pinnules were narrowed and lengthened, in some cases to two to three inches, transforming the fronds entirely, and giving us what we may term a gracillimum section, though no two were exact replicas, and one of Mr. Green's has yielded a fair rival in aculeatum to the Jones and Fox plumose angulares. Fortunately, despite their delicacy of cutting, all these appear to be of robust constitution, and it still remains to be seen what several of the batch will do when fully grown.

We have here then three cases where selection has given the fortunate breeder a range of new plants, far and away surpassing any which Nature has provided in the form of wild sports. There is, however, no reason at all to doubt that a similar capacity exists in other wild finds. In the Lady Ferns, for instance, we have rivals to the Axminster plumosum in the Horsfall, divaricatum, and Willsi plumosums. The beautiful silken hair-like Kalothrix was raised from a merely plumose form. In the polystichums we have Wollaston's and Moly's plumosums well worthy of attention, and, in short, whenever a thoroughbred symmetrical and constant wild sport is found sowing should never be neglected, with a view to improved results.

The beautiful section of fringed crispum Hartstongues of Stansfield came from a wild find of undulatum, and in the writer's hands, a merely sagittate lobate find of the same species yielded a number of heavy trilobed grandiceps from the spores of the plant when found, i.e., wild spores. A word of warning may be given in this connection, and that is to exclude as far as possible stray spores from special sowings, and when young plants appear to eliminate the obvious strays, and, later on, isolate by pricking out the most promising forms, so as to save them, as far as practicable, from competition with inferior, and probably more robust growing companions of alien kinds. We once sowed a rare variety, and it was only after eradicating three crops of stray Lady Ferns by cutting out with scissors, that a crop of the desired species could assert itself. 300 plants then rĕsulting. The frond sown from must have been thickly peppered with stray spores.

Chas. T. Druery, V.M.H., F.L.S.

YELLOW ARUMS.

A peculiar charm invests the yellow arum, to which the average gardener readily succumbs. The chaste white Richardia africana has been familiar to generations of gardeners, and it cannot be displaced even by the charming newcomers. The cultural requirements of the white and yellow kinds is entirely at variance, inasmuch as the period of greatest activity with Richardia africana agrees with the dormant or resting season of the yellow kinds.

The common arum comes from the moister regions of South Africa, and is therefore semi-aquatic by origin, whereas the yellow kinds come from warm inland districts, where the "hot season" is of periodic occurrence, and synchronises with the resting period of the plants. In this country their cultivation can only be successfully carried out under glass, and, in general practice, it is found of greatest convenience to rest them during the winter months, crowding their vegetative period into our spring and summer.

All the yellow arums are best potted up in spring, in a rich light compost similar to that used for the common arum; an intermediate house will meet their requirements till June, when they succeed under ordinary greenhouse conditions until such time as they pass out of flower, and the plants are induced to go to "rest" by gradually withdrawing the supply of water, eventually withholding it entirely.

Seeds of the yellow arums are sometimes obtainable, and flowering plants may be raised from them in three or four years. Dormant tubers are always offered by the trade at this season, and for a small sum flowering tubers can be had to begin with, and where an early display is required the latter are generally to be recommended.

The best yellow arums for garden purposes are as under: Richardia Elliottiana, a species originally raised from seed imported from South Africa. The spathes are of a golden-yellow colour, and the leaves are marked by irregular white blotches. The plant is vigorous in growth, and flowers freely during June and July from tubers started in February and March. R. Pentlandi is a stronger and finer species than the foregoing, and the leaves are deep green, while the stalks are more or less marked with purple blotches. The spathes are rich golden-yellow, with a maroon blotch at the base; it is a free and vigorous grower, requiring at least ten degrees more heat than the common arum to bring it to perfection. R. Mrs. Roosevelt is a hybrid between R. Elliottiana and R. albo-maculata: from the latter parent it derives a hardy constitution, and, therefore, succeeds under cooler conditions than the others. The flowers are pale sulphur-yellow, with a maroon blotch at the base of the spathe. R. Taylori is a hybrid between R. Elliottiana and R. aurata, in which the flowers are almost identical with those of R. Mrs. Roosevelt, if anything, rather deeper in tint.

R. albo-maculata is the hardiest, but scarcely merits notice as a decorative subject; the spathes, as a rule, have more green than yellow. Being fairly hardy, it is sometimes used to secure foliage contrast in the summer season.

Thomas Smith

Walmsgate Gardens.

BULBS.—A practical treatise on the cultivation of hardy, hothouse and greenhouse bulbous and tuberous rooted plants is "Bulbs and their Cultivation," by T. W. Sanders, price 2s. 6d. net, or by post 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

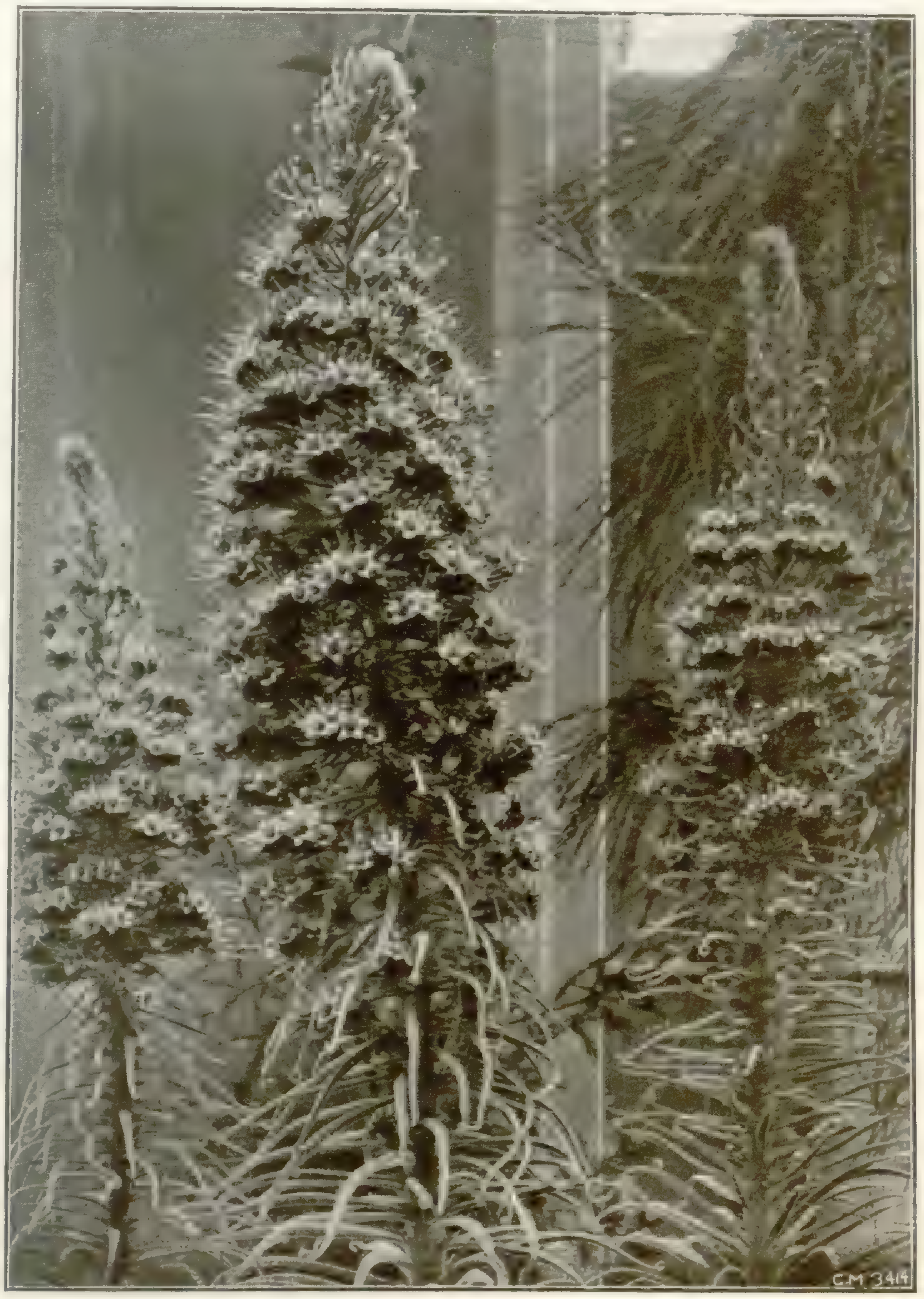
ECHIUM WILDPRETI.

The large number of species of echium known to science include several species of great beauty, and chief among them is the remarkably distinct and handsome Echium Wildpreti, of which an illustration is given herewith. In charm of colouring this species reminds one of the Viper's Bugloss (Echium vulgare), one of the finest of our native plants when grown under the conditions most favourable to the full development of both growth and inflorescence. In this, however, and indeed, in all other respects, the two plants are quite distinct. Wildpret's Bugloss is much larger in all its parts, and the flower spikes, as will be so readily seen, attain to a much greater height, and have a diameter exceeding those of other of the known species, native or otherwise. The flowers are relatively of large size, and the colour is an intense lustrous blue, and when so freely produced as in the case of the specimen herewith illustrated, are so effective as to at once attract attention.

This species is a native of the Canaries, and requires for its successful cultivation the shelter of glass and the temperature of the greenhouse, a light airy pit being the best place for the plants during the greater part of the period in which they are making their growth. As the species is a biennial, a stock is most readily raised by means of seeds, and to ensure plants of sufficient strength to produce finely-developed spikes, the seed should be sown rather early in the spring. As in the case of other biennials grown for flowering under glass, the seedlings should be pricked off into pans when large enough to admit of such operation being performed with safety, and put about an inch apart. When they have made sufficient growth for the leaves to touch they will require potting off singly, small sixties being the most suitable size to use. Subsequently, they must be shifted on as growth progresses until they reach six or seven-inch pots, in which they should remain until they have flowered. The pots must at all stages be efficiently drained, and a compost, consisting of mellow fibrous loam, to which liberal proportions of leaf-mould and coarse grit have been added will fully answer requirements. There is no occasion to be very exact, but to give the reader the fullest information it may be stated that one part each of leaf-mould and sand to four parts of loam are excellent proportions.

Echium Wildpreti blooms during the summer months, and the specimen herewith illustrated was flowering in the Temperate House at Kew at the time the photograph was taken.

B.



ECHIUM WILDPRETI.

A handsome species from the Canaries, bearing large spikes of intense lustrous blue flowers.

PRACTICAL FORESTRY.

Mr. John Michie, M.V.O., his Majesty's Factor on the Balmoral Castle Estates, delivered a lecture on Friday, 21st ult., on "Practical Forestry," before the members of the Aberdeen University Agricultural Discussion Society. There was a splendid attendance, and Mr. William Dawson, lecturer on forestry at the Aberdeen University, occupied the chair, and in a few felicitous sentences introduced the lecturer.

Mr. Michie, whose lecture was illustrated by a series of interesting slides, explained at the outset that his intention was to deal with that part of forestry generally known as sylviculture, or the growth of trees for the production of timber, as distinct from the arboricultural side -growth for the beauty of specimens or landscape effect. That certain other nations had been, and are, far ahead of us in the science and practice of sylviculture, he said, was now pretty well recognised in this country. Many years ago that fact was recognised by the Royal Scottish Arboricultural Society, but it was only in recent years that its members seemed to realise the value of the treatment of our timber trees on the lines carried to such excellent results in France and Germany. Of the more recently introduced kinds of timber, it was a question whether there were many suitable to the higher-lying Scottish glens and hillsides. Having tried pretty well all the introductions of the last hundred years, his conclusion was that the Douglas fir was the one worthy of most consideration, and, with respect to this tree, he was persuaded it would give a good account of itself when planted thickly on the ground, say, three to four feet apart, and afterwards treated carefully and sparingly in thinning.

Mr. Michie said he wished to take a retrospective view of his experience, and give his beliefs as to future management in the light acquired by successes and failures of the past. Proceeding to deal with the few species of trees which had hitherto composed the staple timber produce of our northern woodlands, Mr. Michie said they would all agree that he selected the right kinds in naming the European or Tyrolese larch, the Scotch pine, and the Norway spruce. Taking the last-mentioned first, the lecturer put on the screen a number of interesting views of sections of the great spruce forest in Thuringia, near Gotha, illustrating the outstanding characteristics of these trees, and the ideal form of their cultivation. Having described the methods adopted in planting spruce in the German forests, Mr. Michie pointed out that Norwegian spruce timber had been obtained in this country of as good quality as ever was produced in Germany or elsewhere, but more perhaps by chance than any pretence to good management, as most British foresters were wont to treat the spruce with neglect. Spruce had been planted indiscriminately as regards kind of soil, and even situation, which had given the tree a bad character in many ways. Almost any quality or kind of soil would give good results, provided retentive subsoils were avoided. The best sites were to be found on ground of a free, open nature, over sandstone or conglomerate rock.

Mr. Michie then proceeded to deal with the Scots pine. It was commonly termed Scots fir, but that was wrong. It was not a fir at all, and he would like to see it always given its proper name of Scots pine. Having remarked on the historical fact that large tracts of our Highlands, as well as many stretches of the low country, were in former times covered by the King of Scottish woods, Mr. Michie said there existed in more recent times at least three famed forests in Scotland, namely, Rothiemurchus, on Speyside; the Black Wood of Rannoch, in Perthshire; and Mar Forest, on Deeside. The best situations to plant, generally speaking, were those on which neither larch nor spruce would do well, in glens and on hillsides, where there was but little surface soil, with open gravel below, no matter how poor from an agricultural point of view. The chief mistakes made in its cultivation were too little care in planting, over thinning, growing as a mixed wood with other species (except where required for nursing other trees), failure in protection (mostly from rabbits in the younger stages, and from the destructive squirrel later on), and too early cutting, i.e., exploiting immature woods. Where natural reproduction was possible that should always be carried out, if even of a partial kind. He believed in encouraging a crop of birch, as after birch Scots pine invariably did well, more especially when both were natural to the ground.

Mr. Michie next dealt with the larch (Larix europea), particularly the variety indigenous to the Tyrolese Mountains, from which, it was believed, the seed came that produced the fine old Atholl and other woods of eighteenth century origin. Having dealt at some length with the susceptibility of the larch to disease, and the theories advanced in explanation of this fact, Mr. Michie pointed out that, unlike either spruce or pine, it should be grown fairly openly on the ground, but in homogeneous masses, or along with trees that grew much slower than itself, so that half its height might project above the general covering of the forest floor. Some of the best larches he had ever seen were associated with beech. Almost any soil would produce useful larchwood, except the two extremes of poor gravel, on which the Scots pine luxuriates, and stiff clay. Mr. Michie concluded by giving some useful hints on the best methods of planting. No doubt, he said, pitting was the best, but the expense entailed for regular forest planting had hitherto been considered prohibitive in this country. The next best method was to lift a spadeful of soil clean out, pulverise the bottom, insert the plant with the roots spread all round in as natural a way as possible, and pack in the soil round it.

Some of the slides illustrating the lecture were remarkably good, including views of characteristic trees and groups of trees in the forests of Ballochbuie, Birkhall, and Atholl. The lecture was greatly enjoyed, and at the close Mr. Michie, who was head forester at Balmoral previous to his present appointment, was accorded a vote of thanks.

MULCHING FRUIT TREES.

I believe in the mulching of fruit trees both in winter, spring, and summer time, but I think this matter is not studied as carefully as it should be by those inexperienced in the cultivation of fruit generally. A few persons put on a thick mulch in the autumn, and then allow the trees to fare as best they may, irrespective of what the seasons may be. I like to put on a warm mulch—one of littery manure—in the autumn, and then, as the warm weather comes in spring, to lessen the coating of manure considerably to allow the sun's heat to warm the soil. But as the heat becomes more powerful with summer's approach, I put on more mulching material judiciously, so as to prevent undue dryness of soil at and around the roots.

I am now referring mainly to the newly-planted trees, whose roots are near the surface and few in number. They must be kept warm, or at least safe from frost in the winter, and the soil should be kept cool and moist during the summer time; so treated I have found that the trees soon become established. Older trees, well established, with their roots permeating the soil some distance—not too far—from the surface, do not require any summer mulching, and are given winter dressings chiefly composed of chopped fibrous loam and rotted manure mixed. Where trees are planted near walls on sloping borders the summer mulching arrests the rain water and allows it to soak into the soil around the roots, especially when the surface crust is very lightly eased up with the garden fork.

Geo. Garner.

GARDEN FLOWERS AT ALL SEASONS.

(Concluded from page 84.)

April is pre-eminently the primrose month, and the use of the native kind as a companion for blue and rose, mauve or crimson hyacinths cannot be too strongly recommended. Wood anemones and bluebells, also their florists' varieties for the garden, are beautiful indeed; columbines are plentiful, the old-fashioned sorts being earliest, and polyanthuses offer many rich hues. Alpine phloxes and dianthuses always give pleasure because of their rose and red shades, blue and red pulmonarias are flowers well worthy of culture. Pansies should be at their best, the early blooms proving generally finest. All gardens should possess at least one tree of the maroon leaved, white blossoming Prunus Pissardi, and a selection of lilacs and laburnums.

May has a number of flowering shrubs, such as the American currant, Guelder rose, spiræas, gorse, weigelas, broom, and deutzias. It is the month also of the pæonies, trollius, pinks, Oriental poppies, lupins, German iris, Darwin and parrot tulips; late narcissi, dicentras, and pyrethrums.

The lilies and roses of June are sufficient alone to supply beauty, out of doors and within, but the Spanish and English irises, achilleas, ranunculuses, violas, and forms of Chrysanthemum maximum in all its varieties add to the splendour, which reaches a climax when the delphinium offers its innumerable shades of blue.

July is the month when galegas and summer phloxes, gaillardias, lychnises, and Coreopsis grandiflora and lanceolata are splendid. Carnations give fragrance as well as loveliness; day lilies, mimuluses, and foxgloves adorn shady places.

August brings in the golden harvest of the sunflower, aided by heleniums and heliopsis: the centaurea family is grand, too campanulas of many varieties, dwarf, medium-tall, and giants, erigerons, snapdragons, and torch lilies (kniphofias) may be seen growing rampantly together. Hollyhocks will also be highly attractive.

September owes a great deal to the golden rods, that make such an effective contrast with the lavender-blue of the Michaelmas daisy. Everlasting peas seem never out of blossom during this month; escallonias and tree fuchsias, with hydrangeas and cistuses, honeysuckles and clematises are larger beauties of the season.

October may surely be called the month of the pompon chrysanthemum; no garden can be dreary in which this hardy plant is well represented: gypsophilas and statices are excellent among them, with eryngiums, perennial asters, late phloxes, and pentstemons.

As for November, if a sufficient quantity of Schizostylis coccinea is grown it will be a noted time for garden brilliance; of course, there will be a great variety of Michaelmas daisies still in flower, also Japanese anemones, sunflowers, and the stately white Pyrethrum uliginosum.

December may possess plenty of chrysanthemums if the locality is a genial one, and plants of late-blooming varieties are grown against a south wall, trained to sticks, so that every flowering shoot is well spread out from its neighbour, and sheltered by a linen awning overhead. This awning is easy to arrange, for it can be merely nailed along the wall at the back of the long strip, and the front edge can be tied, at two-yard intervals, to bamboo poles ranged along the border. During sunny days the ties should be undone, and the awning should be allowed to hang down, flush with the wall, behind the chrysanthemums. With a contrivance of this kind it is possible to flower most of the December-blooming varieties out of doors, and the October and November sorts are to be had also in blossom by cultivating them in similar style on a west border. William Holmes, crimson; Julia Lagravère, velvet-red; Lizzie Adcock, gold, are excellent sorts. In front of the south wall chrysanthemums may be a carpet of Iris Vartani, a lovely little six-inch plant with sky-blue flowers.

M. H.

CUCUMBERS FOR EXHIBITION.

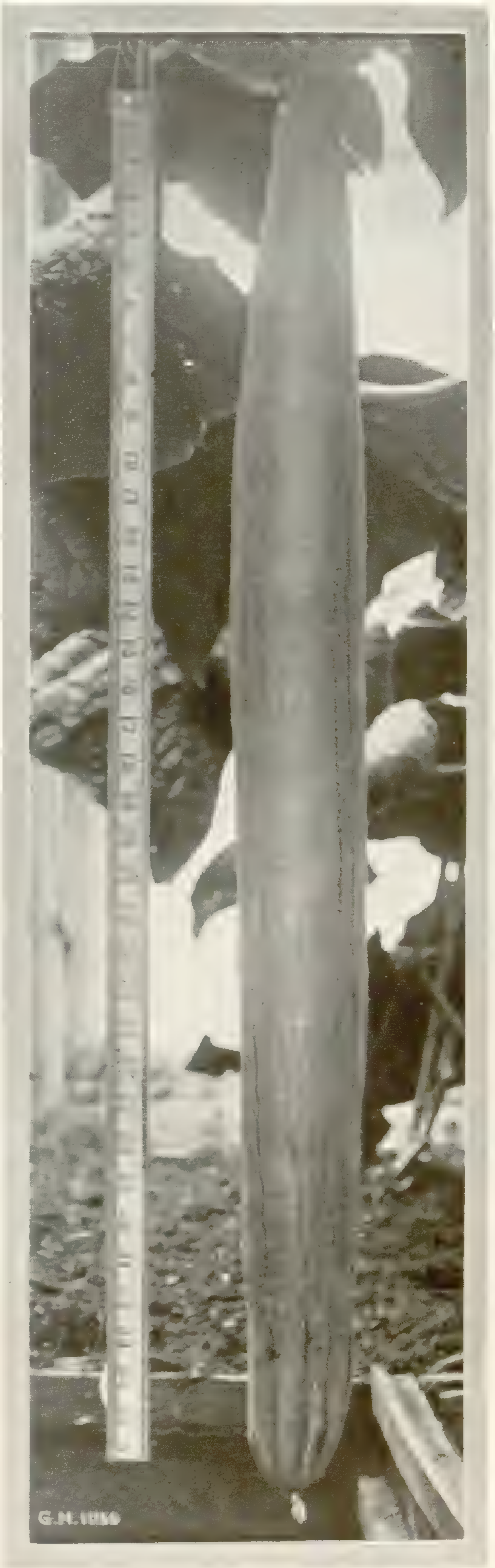
To grow and obtain extra fine cucumbers we must proceed on somewhat different lines to those followed in the production of supplies for ordinary purposes. Select some good sterling variety, which experience has proved you can rely upon. Sow the seeds singly in large 60-sized pots, using fairly moist light soil. Plunge the pots in a brisk hotbed, a bottom heat of 75 degrees being the most suitable. Do not give the soil water until the seeds have germinated, and the plants are commencing their growth.

The soil should have been prepared some little time previously. The following I have found to be an ideal compost. The quantity to be prepared according to the size of the beds, but the proportions should be: Turfy loam six parts, cut up into lumps the size of an egg, the small to be thrown aside; fresh horse manure, two parts; old plaster rubble, wood ashes, and bonemeal, rather coarse, one part each. To this should be added one quarter of a part of soot, and a six-inch potful of Clay's Fertiliser, and the whole thoroughly mixed. Make up the mounds, and when the soil has become thoroughly warmed through, which may take some ten days, and the plants are well rooted, but by no means potbound, select the strongest plants, and place them three feet from each other, planting on mounds, slightly raised, the depth of soil not to be more than six or seven inches. As they root through, which they will do every week, they will require a topdressing to encourage surface roots.

The best topdressing to use is the old material from a mushroom bed, from which the very fine has been removed by a sieve with half-inch mesh. Add a six-inch potful of fertiliser to a bushel and a-half of the mushroom manure. The plants must not be allowed to fruit until they have made from five to six feet of growth. The side shoots should be stopped at the third joint, and the male blooms removed until you decide which fruit you will select to swell off.

When the flower of the fruit selected is fully open, about midday pollinate the flower. Select the male flower from a plant other than one on which the fruit is growing. As a guide to the dates for sowing, to obtain fruits for the exhibitions at which it is intended to compete, it may be mentioned that the time from the sowing until fully developed fruits may be expected to be fit will be from eleven to thirteen weeks. For competition good specimens, when finished, should be of medium size, fresh, young, straight, even throughout, well matched in size, short in handle, good in colour, covered with bloom, with the flower retained at the tip, which adds much to their appearance.

I may add that the specimen herewith illustrated was grown for size, and not for competition, and under the conditions here briefly explained. The variety was Daniels' Duke of Edinburgh. The seed was sown April 5, the plants put out May 1, the flower pollinated June 9, the first fruit cut on June 29, exhibited at Richmond, June 30, and awarded a Certificate of Merit. The length was three feet, the weight 9lb. 8oz., the girth 11½ inches, and it was perfect in shape and colour.



[Photo: W. Jukes, Wilton.

A WELL-GROWN FRUIT OF CUCUMBER DUKE OF EDINBURGH.

Length, 36 inches; girth, 11½ inches; weight, 9lb. 8oz.

On another plant, a week later, I cut the second fruit, which was 35 inches long, weighed 9lb. 10 oz., and had a girth of 11¾ inches. Other kinds I can speak well of for exhibition are Sutton's Peerless, Veitch's Sensation, Carter's Model, and Kelway's Conqueror.

John C. Scammell.
Gardener to G. R. Kendle, Esq.
Wilton, near Salisbury.

WORK FOR THE WEEK.

◆

THE ORCHID HOUSES.

CATTLEYAS.—Many of the species and hybrids of Cattleya and allied genera that have been flowering during the closing months of the last year will be in an active rooting state, and any plants that require repotting or top-dressing may now be attended to. In cases where root action has not yet commenced the plants should be examined, and where there is a number of back pseudo-bulbs the rhizome should be severed two or three bulbs behind the leading growth. There is little advantage in keeping plants in large pots, unless there are sufficient leading growths to make a corresponding display of bloom; and as the majority of this class of orchids go on for a number of years without giving more than one leading growth annually, there is every advantage to be derived from severing the rhizome, and thus forcing the plants to break from the dormant eyes.

BACK BULBS.—There can be no question but that the back bulbs, especially the leafless ones, in practically all orchids are a detriment rather than assistance to the plant. Their roots have in most cases perished, and they are without foliage, so their only means of life is to draw from the active portions of the plants, and it will be frequently observed that where the latter are relieved of the strain of back bulbs by the severance of the rhizome, that a very apparent advance is made the following seasons.

CATTLEYA WARNERI, and some others of the summer flowering kinds, will now be producing their new growths. The plants in this condition should be placed in a warm portion of the house, and in a position where they may obtain the maximum amount of bright light. Water carefully in the early stages of growth, and avoid extreme fluctuations of temperature. C. Trianiæ and other spring-flowering kinds are now advancing their flowers through the sheathes. These must be carefully watched, as excess of moisture in the atmosphere, with rapidly falling temperatures, causes an accumulation of moisture inside the sheath, which, if allowed to remain, causes the flower buds to rot. If a small portion of the point of the flower sheath is cut away and opened with the point of a knife, it allows the moisture to evaporate and saves the flowers. Some varieties of C. Mossiæ annually lose the chlorophyll in the sheathes, and these turn yellow about this time of the year. It is desirable that the points of the sheathes be cut, but on no account should they be torn out, as they protect the advancing flower buds in the early stages of development. All plants that have their flower buds in an advanced state should be placed in a position where they may obtain full advantage from the available light. This will considerably assist the colour pigment, and add to the substance of the flowers after they expand. A gentle spray overhead will benefit the cattleyas whenever the outside conditions permit of its being done.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

SCHIZANTHUSES.—Plants in small pots will need a shift into 6in. or 7in. pots, using loamy soil with leaf-mould and sharp sand added. Keep them in a cool house on a shelf, and give plenty of air. The more advanced batch will benefit from artificial manure given once a week. When in flower early schizanthuses give a pleasing appearance to the greenhouse, and are very useful for cutting and for decorating. Make another sowing for succession.

SWEET PEAS intended for flowering early should be attended to at once, using small birch twigs to keep them upright. Do not leave too many plants in one pot, from six to seven in a 9in. pot will be quite sufficient.

Those in 5in. pots should have a shift into 9in. pots, using good drainage, some rough material over the crocks, and then a layer of decayed manure. Care should be taken not to disturb the ball of roots, as this checks growth. When the pots are well filled with roots feeds them with some good artificial manure once a week at first, and twice a week afterwards, giving air freely as the weather improves.

CYCLAMEN.—The earliest cyclamen that are past flowering should not be thrown away, but kept in a resting condition in a cold frame. If large plants are desired the most successful method of cultivation is to plant these out in a cold frame at the end of March or beginning of April. The frame should be filled up with a compost of good loam, leaf soil, manure from an old mushroom bed, wood ashes, and sand, mixing these well together. The old soil should be carefully removed from the roots before planting, and care should be taken to work the fresh soil in about the roots, and make it fairly firm round each plant. Keep the crowns above the surface of the soil. Give one thorough soaking of water, and this will suffice till growth commences. The plants should be syringed about two o'clock in the afternoon, shutting up the frame at the same time. Shade from early morning until damping down in the afternoon.

GLOXINIAS.—As soon as the tubers show signs of growth they should be shaken clean out of the old soil, and be repotted in a mixture of loam, leaf soil, peat, and sand. Provide good drainage, otherwise there is a risk of the soil becoming sour, as gloxinias require much water while in active growth. Syringe overhead until leaf and root growth becomes active.

BEGONIAS.—These should be examined, and a batch of tubers be brought in for an early start. In a greenhouse they should be grown in batches of one colour: from fifteen to twenty plants for one group.

SHOW PELARGONIUMS.—Those cut back last autumn will now be ready for repotting. The compost for potting should be good loam, leaf-soil, sand, and a little old lime rubble, with a 6in. potful of artificial manure to the barrow-load of soil. Pot rather firmly, and keep near the glass in a cool house. Cuttings that were put in last autumn will now be ready for potting off singly, using the same potting material, but of a finer grade.

CHRYSANTHEMUMS.—A batch of cuttings should be put in as soon as possible, and handlights may be used for them. The light may be lifted off in the forenoon, and moisture removed from the glass with a sponge, replacing the light again soon, for the cuttings must be kept close for four or five weeks; 2½in. pots are suitable for the cuttings, three in a pot, as when rooted, especially if they are the bush varieties, they can be potted on without disturbing the roots into 5in. pots, which saves time and labour.

VIOLETS IN POTS.—Those that have been standing in a cool house should be put into a warmer structure, giving them a place where they will get the full benefit of the sun. A sprinkling of artificial manure over the surface of the soil, and well watered in, will help the plants. But on no account force the plants.—W. Staward, Belford Hall Gardens.

THE FLOWER GARDEN.

HERBACEOUS PLANTS may now be planted should the weather be mild, or old borders may be remodelled, reducing in size the stools or crowns of the more luxuriant varieties. The plants should be so disposed as to produce the most pleasing effect when in flower, and an uninterrupted succession of bloom throughout the season. On light soils, and during mild weather, border carnations might be planted, also the various kinds of garden pinks that may have been raised from cuttings or seeds. On heavy, cold soils it is safer to delay these operations for a time, and especially so where the borders are saturated with excessive moisture occasioned by the heavy downfall of the present season.

PROPAGATION.—Such half-hardy annuals as require to be sown under glass to forward them for the open borders, may now be sown, and as soon as the seeds have germinated, air should be freely admitted upon all favourable occasions, while during warm days the lights (if raised in frames) might be removed altogether. Thin out or transplant as required, and afford the seedlings every facility for producing a sturdy growth. The propagation of all kinds of bedding plants may now be put forward with all possible speed, for with the lengthening days and increasing sun-heat, the stock plants should now be making growths suitable for cuttings.

SHRUBS.—The planting of deciduous shrubs and trees in light soils should be completed forthwith, and the pruning of these be finished as soon as possible. In very old or exhausted shubberies it may be necessary, after forking up the surface of the ground, to afford a dressing of thoroughly decayed manure or leaf-soil, as either of these will help to encourage new growth, especially where the shrubs have become stunted by repeated pruning, and a freer growth is considered desirable. The borders adjoining the shrubberies should now be cleared of all weeds or leaves, and the ground dug or trenched as may be required for the welfare of the occupants during the forthcoming season.

HERBACEOUS PHLOXES deservedly rank high among our most desirable and effective subjects for affording a brilliant display of colour, and a succession of flowers for cutting during the late summer and autumn months. When making new borders for these, deep trenching, and a liberal supply of manure is absolutely necessary, especially in porous or hungry soils; and in most instances a liberal top-dressing of a similar nature is an additional help to these somewhat gross feeders. To plant these subjects in a starved-out border means certain failure, as may sometimes be seen where plants have been allowed to remain undisturbed or unfed for a number of years. On the other hand, no subject of the flower garden will more readily respond to liberal treatment if given in the manner indicated. Both the early and late-flowering varieties are easily increased by division of the roots, or by cuttings inserted in sandy soil during spring or summer. By the latter method very fine spikes of bloom may be produced during the following season.—W. Hedley Warren, Aston-Clinton Gardens.

HARDY FRUITS.

PREPARATION FOR GRAFTING.—In many gardens certain varieties of apples and pears that have been planted for some years do not succeed, which no doubt is owing to the locality, and, in many cases, the unsuitable soil for those particular varieties. In a week or two trees of this description should be headed back with a saw, and the cut parts smoothly knifed or chiselled off; the branches of the trees should be cut so as to form a skeleton, ready to be grafted with a suitable variety at a later date. Pay particular attention to the stocks, and see they are free from canker, as it is absolutely useless to graft trees badly infested with this disease. Scions that were cut off some time previously should be examined, with a view to keeping the buds as dormant as possible.

HARDY VINES.—The pruning of hardy vines, either those grown on walls or in the open quarters, should be finished at once. The lateral growth of vines growing on walls should be cut back to within two buds of the stem, and any leading growths that are required for extension should be shortened back to about two or three feet. The same method is adopted when pruning vines in the open quarters, such as we have in the vineyards here—which consist of about 40,000 fruiting vines— only, in this case, no extension is necessary, and all the canes are cut down to within two buds of the base; after pruning is finished the vines should be painted with a mixture of flowers of sulphur, lime, and soot in equal quantities. We find this one of the best preventives against mildew and red spider, together with dusting the vines over two or three times with flowers of sulphur during the growing season. If any cuttings are required for propagation select well-ripened canes. These should be cut into lengths,leaving four buds; remove the two lower ones with a sharp knife, and the cuttings should be planted at once, in rows six inches apart, and three inches apart in the rows. Choose a piece of well-trenched ground, where no manure has been added, and plant the cuttings firmly, keeping the two buds on the upper portion well above the level of the surface soil; here they should be allowed to remain in the nursery bed for twelve months before being transplanted.

STRAWBERRIES. — Where strawberry plantations have not been cleaned, and the ground between the plants has not been forked over, this work should be done at once · in the absence of frost, and a good dressing of long stable litter should be given around the plants. Where new plantations were not made early last autumn—which is undoubtedly the best time—everything should be done to push forward the preparation of the ground to facilitate planting a few weeks hence. Young plants that have been held over for this purpose, if in pots, should have all dead foliage removed, and not allowed to become dry at the roots at any time.—Henry R. Farmer, Cardiff Castle Gardens.

HEMEROCALLIS FLAVA.

The day lilies, or hemerocallises, are excellent border flowers, and hybridisers, such as Mr. George Yeld and others, have been doing good work in increasing the varieties we have at our command for the garden. Some of these are acquisitions, but it is hardly likely that they will entirely oust H. flava, the golden day lily, from our gardens. It is a beautiful species, of most charming character, and its ease of culture will render it a favourite with many who like flowers of beauty which are easy to grow. It will grow about three feet high in good soil, but it is one of the good points of this day lily that it will thrive even in places where the earth is of a poor character, although somewhat dwarfed under such circumstances.

There are many positions in the garden where H. flava will be appreciated, either in the border or in the wild garden. Grouped with other flowers, its clear yellow flowers in summer are enjoyed, and the foliage is in itself by no means one of the least attractive features of this good old plant. It is handsome and pretty in hue. The flowers, which individually have but a short life, are so numerous that a long succession is produced, the fugaciousness of the blooms giving rise to the name of hemerocallis, which means beautiful for a day. In dull weather I have known the flowers last longer, but the succession of bloom retrieves the loss caused by the brief duration of each flower.

Hemerocallis flava is thoroughly hardy, and can be multiplied by division of the roots in spring or autumn, the proper period depending largely upon the soil and the climate. In cold districts spring division is perhaps the better method, but if the process is performed in early autumn little chance of failure will follow. Each crown with a root attached will grow, and thus a good stock of plants for forming a large group can soon be secured.

S. Arnott.

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EXHIBITIONS AND MEETINGS.

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French Horticultural Society of London.

There was a very large muster of members and friends on Saturday evening last at the Café Royal, Regent Street, to celebrate the twenty-first anniversary of the inauguration of the Société Francais d'Horticulture de Londres. M. Philippe de Vilmorin, who was to have presided, was prevented from coming to England for that purpose by the further rising of the floods in Paris, this having necessitated the sudden removal of his wife and family to a safe distance from the flooded area.

In the absence of M. Vilmorin, the chair was taken by the French Consul-General, M. Laurent Lalande, who made a capital president. The toasts of "The President of the French Republic" and of "His Majesty the King" were cordially honoured immediately following the excellent dinner. Among those present on this occasion we noticed Sir Albert Rollit, Messrs. H. J. Veitch, A. W. Sutton, G. Schneider, H. B. May, F. May, P. Veitch, jun., C. Harman Payne, T. Bevan, D. Ingamells, W. Nutting, Murison, Beale, E. F. Hawes, Eihle, Aquatias, Guilloud, J. Clarke, Curtis, Dymock, G. Day, etc., etc.

Sir Albert Rollit referred very sympathetically to the great disaster that had befallen France in the floods that were devastating so great a part of the beautiful city of Paris, and regretted that this disaster was the cause of the absence of M. Vilmorin that evening. Sir Albert dwelt at some length upon the present kindly feelings existing between France and England, and expressed the hope that these would continue and be strengthened. He was glad to be with them again, and, with others present, show his appreciation of the services rendered to international horticulture by the Société Francaise d'Horticulture de Londres, and especially by their friend M. Schneider, the founder of the society. Sir Albert suggested that, as horticulture had played so prominent a part in bringing the two nations together, it would be a gracious act if some amount could be collected at the meeting and forwarded for the sufferers from the floods in Paris.

The Chairman, in proposing the toast of the evening, spoke very feelingly of the absence of M. Vilmorin, and of the trouble caused by the floods in Paris; he dwelt upon the great power of horticulture in binding people and nations together, of the refining influence of flowers, and the great business now conducted in the culture of flowers, fruits, vegetables, and seeds. He spoke of the great value of the society to young men who came to England from the Continent, and the kindly way in which these were received by the English horticulturists. Mr. Schneider responded, pointing out that the society commenced in a small way at Chelsea, and had now grown to full estate, and was doing excellent work. It had been proposed that to celebrate their coming of age the society should contribute £30 to the Gardeners' Royal Benevolent Institution, and £20 to the Royal Gardeners' Orphan Fund, but in view of the great distress in Paris, and after consulting Mr. Harry J. Veitch and Mr H. B. May, who represented these useful British horticultural charities, it was unanimously agreed that for the moment the distress in Paris provided the most pressing need, and so the £50 would be sent to the Lord Mayor to forward to the proper authorities.

To the toast of "British Horticulture" Mr. Harry J. Veitch very ably responded. Mr. H. B. May proposed "Le Bureau de la Société Francaise," and eulogised the work of Mr. Schneider. M. Guilloud suitably responded, and also proposed "Past Chairmen," referring to those who in the past had lent their help and prestige to the society. Mr. C. Harman Payne responded in a humorous speech, in capital French, and then, in English, he proposed "The Horticultural Press," stating at the same time how freely the pages of the Press had been opened to any efforts made to extend the usefulness of the society and make it better known. Mr. Charles H. Curtis, of the Gardeners' Magazine, in responding, referred to his association with many members of the society, who now occupied high positions in the world of horticulture, and who did so largely because of the help afforded them by the society. Mr. Thos. Bevan gave "The Chairman," which was heartily accorded, and gracefully responded to.

During the evening letters and telegrams were received from M. Philippe de Vilmorin, M. Gentil, and others, regretting their inability to be present, and sending good wishes. The total sum raised for the sufferers in Paris was £100 1s. 6d.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, January 25.

Present: Mr. E. A. Bowles, M.A., F.E.S., F.L.S. (in the chair); Dr. A. B. Rendle, Messrs. A. D. Michael, H. J. Chapman, J. W. Odell, J. T. Bennett-Poë, J. Douglas, W. Hales, A. Worsley, W. E. Ledger, A. W. Sutton, and F. J. Chittenden (hon. secretary).

ISOLOMA ERIANTHUM—Mr. J. W. Odell showed a specimen of an isoloma, probably I. erianthum, figured in "Bot. Mag." 7,907, but the flowers were of a deeper red than in the figure.

CYCLAMEN PERSICUM.—Messrs. Barr, of King Street, Covent Garden, showed plants of Cyclamen persicum grown from corms collected near Smyrna, in Asia Minor. The amount and distribution of the white markings on the foliage showed a considerable degree of variation, and there was also some amount of variation in the extent of the pink suffusion on the white ground of the flowers, which were much smaller than those of the cultivated plant, and were possessed of a very sweet scent, too often lacking in those at present cultivated. Mr. Sutton remarked that the plant was exceedingly common in Palestine, but the corms were usually too large to remove.

DYING BULBS.—Some narcissus bulbs were received without roots and in various stages of decay. It was thought that there was something wrong in the system of cultivation, particularly as the soil was very wet.

Birmingham Gardeners' Association.

The spring session of this society was inaugurated on January 24, under the chairmanship of Mr. T. Humphreys, when a capital attendance of the members were entertained by a lecture illustrated by lantern-slide sketches, entitled "Competition for a living in the plant world," given by Mr. T. H. Russell, F.L.S. The sketches or drawings were executed by the lecturer himself, in a most artistic manner; whilst the verbal descriptions of tall-growing trees, climbing and other plants, with their various modes of attachment were of special interest. Mr. Russell also described the leaf arrangements and the positions and contrivances of flowers brought about for the purpose of protecting their fertilising organisms, etc. In adverting to the more salient points of the lecture, the Chairman recommended the attention especially of the younger gardeners to the advantage of a study of the subjects that had been dealt with that evening. A brief but animated discussion followed, and, in acknowledging a hearty vote of thanks, Mr. Russell expressed the great pleasure it afforded him to appear before such an attentive audience of the profession, likewise having himself learnt interesting information from those taking part in the discussions. Two or three new members were added to the association.

Liverpool Horticultural Association.

The annual meeting of this society was held on the 29th ult. at Hackin's Hey. Mr. T. Foster presiding. The report gave evidence of a good year's work having been accomplished, the initial rose and sweet pea show proving most satisfactory, although the date selected for roses was unfavourable to a fine display. The residents in and around the city showed their interest by coming in large numbers. The autumn show upheld the high traditions of Liverpool, the chrysanthemums being of high merit. For the summer show the Corn Exchange was considered so suitable that the committee have decided to hold the three shows — spring, summer, and autumn—in the same building. The statement of accounts show a gain on the year's working of £50, leaving a credit balance at the end of the year of £220 8s. 6d. Sir W. H. Tate, Bart., the winner of the silver challenge vase for forty-eight chrysanthemums, has presented the society with a handsome trophy, to replace that which he has been successful in winning. A cordial vote of thanks was tendered to Mr. Foster for his valuable services for many years as chairman, regret being expressed on his retirement from that important position. Mr. Harold Sadler, 31, North John Street, Liverpool; and Mr. G. Blackmore, Stevenson Street, Wavertree, were re-elected respectively as secretary and sub-treasurer. Messrs. Harmood, Banner, and Son, and R. G. Waterman were again elected as auditors. The spring show is fixed for April 6 and 7.

Bristol Gardeners' Association.

A meeting of this society was held on January 27 at St. John's Parish Rooms, presided over by Mr. S. Shaddick. Mr. Milburn, representative of the Bath Gardeners' Association, gave a comprehensive paper upon "Hardy Trees and Shrubs," the lecturer confined his remarks to those kinds that grow perfectly well in the neighbourhood, and gave a description of their chief characteristics, also stating the most suitable position and best kind of soil for their successful culture. The following shrubs Mr. Millburn mentioned as doing well in this locality: berberis, buddleias, ceanothuses, choisyas, carpenterias, cistuses, daphnes, escallonias, genistas, olearias, veronicas, abelias, clethras, diervillas, cerasus, lilacs, laburnums, magnolias, spiræas, and viburnums, naming several varieties of each.

For the prizes for two table plants there was a strong competition, the prizes going to Mr. Bastin, 1st; Mr. Shelton, 2nd. Mr. Gostling staged a good collection of cypripediums as cut blooms, including Mons. de Curte, Maudiæ, Charlesworthianum, Nitens St. Alban var., Swinburnei, Mastersianum, and seedlings raised at Horfield Lodge, these were awarded three points.

Reading Gardeners' Association.

The first fortnightly meeting proper of the New Year took place in the Abbey Hall on Monday, January 24, when the recently elected chairman for 1910, Mr. T. Judd, presided over a good attendance of members.

Mr. T. Neve, of the Gardens, Sindlesham House, was the lecturer for the evening, and his subject "The Best Course to Adopt with an Old Neglected Orchard." Mr. Neve is one of the fathers of the association, and the benefit of his wide experience is always at the disposal of the members. On the present occasion he was very much at home with his subject, and after informing his audience that some of the trees under his care must be getting on for a hundred years old, produced some rods he had that day cut from one of these ancient trees, that would have done credit to a youngster of a few years standing. Mr. Neve gave the fullest information with regard to the methods he adopts in the rejuvenation of his trees, heading back, pruning, spurring, root pruning, etc., being all dealt with in a thorough manner.

At the conclusion of Mr. Neve's remarks a lengthy and most instructive debate took place, and the lecturer readily answered the many inquiries addressed to him.

A hearty vote of thanks to Mr. Neve concluded the evening.

The annual tea and entertainment for members and their friends has been fixed for Wednesday, February 16.

Aberdeen Chrysanthemum Society.

There was a splendid attendance at the annual meeting of the members of this society, which was held in the Y.M.C.A.'s Buildings, Aberdeen, on Saturday evening, 22nd inst. Mr. Andrew Davidson, C.A., chairman of directors, occupied the chair. In moving the adoption of the annual report and accounts, the Chairman said it was owing to no fault of the executive that they had this year to record a deficit in the society's income. The cause of the shortage was the falling off in the takings at the society's show held in November last. He trusted larger crowds might turn out at their next show, and their financial stability be thereby strengthened.

Lord Provost Wilson, of Aberdeen, was elected hon. president of the society, and the hon. vice-presidents were all re-elected, with the addition of Mr. Crombie, of Balgownie Lodge, and Mr. Andrew Davidson, C.A. On the motion of the Chairman, Mr. W. J. Middleton, J.P., Aberdeen, was unanimously elected chairman of the society for the ensuing year, and Mr. A. M. Cocker (Messrs. James Cocker and Sons, rose growers, Aberdeen), vice-chairman. A large and very representative committee was then appointed, and, on the motion of the new chairman, Mr. M. H. Sinclair, F.R.H.S., was unanimously and most cordially re-elected secretary and treasurer of the society. After deliberation it was decided that the annual show of the society be held in the Music Hall Buildings, Aberdeen, on November 25 and 26, 1910. This was all the business, and the usual votes of thanks terminated a very pleasant meeting.

OBITUARY.

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PROFESSOR W. HILLHOUSE, M.A.

We regret to record the death of Professor W. Hillhouse, which occurred at his residence at Malvern on the 27th ult., in his fifty-fifth year. Professor Hillhouse, who was a native of Bedford, and a schoolmaster for some time in that town, devoted, at a comparatively early period of his life, much attention to the study of natural history. He was the founder of the Bedfordshire Natural History Society, and took an active part in the preparation of "The Flora of Bedfordshire," for which he was elected a Fellow of the Linnean Society. In 1877 he resigned his appointment at Bedford, and went to Trinity College, Cambridge, where he specially distinguished himself. He was appointed assistant curator of the University Herbarium, and subsequently he was appointed lecturer on botany at Trinity, Newnham, and Girton. In 1882 he was appointed the first Professor of Botany at the Birmingham University, a position he held until about three months since, when he retired in consequence of his indifferent health. During his residence at Birmingham Professor Hillhouse took an active part in social and educational movements, and was a great worker for the Botanical Gardens at Edgbaston.

FERTILISATION OF WAVED SWEET PEAS.

At the Sweet Pea Conference held at the Hotel Windsor, Victoria Street, Westminster, in December last, following the annual meeting of the National Sweet Pea Society, Mr. Wm. Cuthbertson read a paper, entitled "The Imperfect Seeding of Waved Sweet Peas," a résumé of which has appeared in our columns. In the course of his remarks, Mr. Cuthbertson said: "Some people argue that sweet peas are pollinated by wind-borne or insect-borne pollen, and that accounts for the variations we get in so many stocks of Spencer sweet peas. I have never been able to subscribe to this theory, because I think I have had as large an experience as most, and have not observed it happen in practice. The plan we adopt at Mark's Tey is to grow the different varieties in lines 100 feet long. There may be four lines of The Marquis, followed closely by four lines of Countess Spencer, then four lines of Helen Lewis, and so on. If the wind or insect theory of cross-fertilisation held good we should not get pure seed, but as a matter of fact we do. Then again, it is suggested that in America there must be insects, unknown in this country, at work there to give us the fine variations we so frequently get! I should like to have Mr. Burpee's or Mr. Morse's opinion on this point."

An answer has been given both by Mr. W. Atlee Burpee, of Philadelphia, and Mr. Lester L. Morse, of San Francisco, and their comments we cull as follows, from the pages of our excellent American contemporary, "The Florist's Review":

Mr. W. Atlee Burpee wrote: "Replying to Mr. Cuthbertson's inquiry, would say that, in common with most growers and observers of Spencer sweet peas, I hold firmly to the opinion that the great majority of new varieties of this type are entirely what might be called accidental sports. No special climatic conditions or 'insect theory' seems to apply to California more than to England. It is noteworthy that sports of similar character and in several cases identically the same have been found in both countries.

"While most of the varieties so far introduced have been accidental sports, it is only fair to say that now there are quite a number of new seedlings, the result of cross-fertilisation, both in California and England.

"Most of the work on the Spencer sweet peas from now on, however, by the growers should be in the way of producing true stocks, which can never be done at anything approaching the cost of growing the grandiflora type."

Mr. Lester Morse wrote: "I was much interested in the synopsis of Mr. Cuthbertson's paper on 'The Seeding of Waved Sweet Peas,' as published in the 'Review' of December 30.

"I agree with Mr. Cuthbertson in his opinion that sweet peas rarely, if ever, cross accidentally. In making artificial crosses it is necessary to take the bud at an early stage of its growth almost as soon as it shows its colour. You will find almost without exception that an advanced bud has already fertilised itself.

"I have never seen honey bees working on sweet peas, but have seen bumble bees doing so more or less, and these always operate on a fully expanded flower, standing with a foot on each wing, so as to drink from the base of the pistil. While they may carry away some pollen on their legs, I do not believe it possible to cross with another full blown blossom.

"Just what is causing the phenomenal 'breaking' in Spencers I do not know, and I am not yet ready to venture a theory.

"Occasionally, in the past, we have had selections of grandifloras which we never could 'fix,' even after five years of constant work. We had a selection of our own, similar to Eckford's Mrs. Knight-Smith, which was one of these. As soon as we saw Eckford's variety we anticipated the result as we all found it, and we all had to discard Mrs. Knight-Smith.

"I believe we shall be able to fix most of the Spencers by simple but continuous selection. Countess Spencer itself now comes true, and so do several others. The tendency is to revert to the hooded or grandiflora type, rather than to other colours, after the fixing is accomplished.

"The failure of the blossoms to set seed is still a great mystery. The blossoms seem always to come to perfection and then drop off, just as they should fade and droop to make way for the pod. I have not been able, so far, to find the cause for this, and am inclined to think it is the nature of the type. This characteristic certainly means a long blooming period and for the planter it means the very thing he wants."

NEW BOOKS.

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SWEET PEAS AND THEIR CULTIVATION.

By Charles H. Curtis, F.R.H.S. (W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.) Third Edition. Price 1s. net, by post 1s. 2d.; cloth 1s. 6d., by post 1s. 8d.

Just now every lover of sweet peas is busy preparing for the season just opening. If he has purchased his seeds he will soon be sowing them, and if he has not purchased he will be considering what varieties to obtain. To help all those interested in the culture of the fragrant and beautiful sweet pea there comes most opportunely the third edition of this handy, interesting and eminently practical work from the pen of the hon. secretary of the National Sweet Pea Society. A new edition each year, and one or two reprints of each edition are ample evidence of the need for such a book, and the great value of the advice given. This third edition retells the story of the introduction of the sweet pea into England, and its improvement at the hands of Eckford and other florists, the "evolution" being brought right up-to-date. The work of raising new varieties is ably dealt with, and the practical advice given in respect of cultivation from seeds or cuttings is such that excellent results cannot fail to follow if it is practised. The exhibitor will gather much useful information from this book, while the novice will profit by the revised selections of varieties given, and the capital lists of too-much-alike varieties. Soil preparation, manuring, feeding, staking, and tying are all dealt with in a capable manner. Almost all the illustrations in this edition are new ones, and, as they add to its interest and appearance we feel sure the continued popularity of the book is assured.

FORTHCOMING ENGAGEMENTS.

SATURDAY, February 5.—French Horticultural Society of London.

MONDAY, February 7.—National Chrysanthemum Society, Annual Meeting Carr's Restaurant, Strand, London, 6.30 p.m.

TUESDAY, February 8.—Royal Horticultural Society; Committees meet at 12 o'clock; Annual Meeting at 3 o'clock; Scientific Committee at 4 o'clock.

FRIDAY, February 11.—Royal Gardeners' Orphan Fund. Annual Meeting and Election at Simpson's, 101, Strand, at 3 o'clock.

SATURDAY, February 12.—Chester Paxton Society, Lecture on "Sweet Peas," 8 p.m.

TUESDAY, February 22.—Royal Horticultural Society; Fruit, Floral, and Orchid Committees, 12 o'clock; General Meeting and Lecture, 3 p.m.; Scientific Committee, 4 p.m.

SATURDAY, February 26.—Chester Paxton Society, Lecture, "Insects as Carriers of Disease," 8 p.m.

Index to the "Gardeners' Magazine," 1909.—Those readers who have preserved the 52 numbers of the Gardeners' Magazine for 1909 with a view to having them bound for future reference, can obtain Handsome Cloth Binding Cases from the publishers, 148 and 149, Aldersgate Street, London, price 2s., post free. The index, with title page, is now ready—price 2d., or by post 2½d. The volume bound complete will also be ready in a few days, price 12s. 6d., by post 13s. 4d.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

SOIL DISINFECTANT.—A. F., Hayes: We have no knowledge whatever of the material sent us; indeed, have not previously heard of it. We are having the sample dealt with, and will report later on.

SWEET PEA HISTORY.—F. S., Brighton: You will find a very complete story of the history and evolution of the sweet pea in "Sweet Peas and Their Cultivation," by C. H. Curtis, issued at 1s. 2d. to 1s. 8d., post free, from the GARDENERS' MAGAZINE office, 148, 149, Aldersgate Street, E.C.

WINTER SPRAYING.—F. E. F., Kildare: All things considered, February is the best month for spraying fruit trees with a caustic winter dressing. A caustic paraffin emulsion will cleanse the trees of lichen, moss, scale, aphis, and many other pests. A dressing of this kind will not be necessary every year, every second or third year being sufficient.

GREENHOUSE PRIMULAS. — H. R., Leatherhead: You will find a great deal of pleasure and satisfaction in growing such primulas as P. floribunda, P. verticillata, P. Kewensis, P. obconica, P. Forbesi, P. cashmeriensis, the new P. malacoides, and also P. frondosa, P. Sieboldi, P. nivalis, and P. denticulata in your greenhouse. Several of the latter are hardy, but they are charming for frame and greenhouse culture.

PROPAGATION FROM BUDS.—Student, Chesterfield: There are two distinct methods of increasing plants by means of buds, and both are of sufficient importance to justify the details being mastered. The first is the insertion of buds in various stocks during the season, as in the case of the budding of roses. The second is the cutting up of shoots during the season of rest, and rooting them in soil, as in the propagation of grape vines from buds or "eyes." All kinds of fruit and ornamental trees, and the majority of hardy shrubs, may be increased by what is technically known as budding. In the raising of dwarf roses, the briar, manetti, or other rose stocks are planted six or eight inches apart in rows with two-feet spaces between them. The stocks previous to planting, which should be done early in November, are shortened sufficiently for the tops to be four or five inches above the surface. In July of the year following the budding of the stocks may be proceeded with, provided they are moderately vigorous. The buds are inserted on the main stem, and, as it is necessary they should be as low down as possible, the soil is drawn away from one side to allow of the insertion of the buds below the surface. Lilacs and other shrubs should be dealt with in practically the same manner. In the case of briar stocks for standard roses, the buds are inserted on the upper side and near the base of the shoots of the same season's growth. But when stocks of rugosa and other roses are used, and in the case of fruit and ornamental trees, the buds should be inserted on the main stem, and not on the new growths. It is essential to success that the budding be in all cases done when the bark parts readily from the stem, and the stocks should be examined from time to time from the end of June onwards. The stock is prepared for the buds by making T-shaped cuts, an inch or so in length, and then raising the bark on either side with the handle of the budding knife. The buds are, of course, taken from shoots of the current year's growth. The buds which are in the axils of the leaves, are taken off with a small slice of wood, about one and a-half inches in length, the wood is removed, and the shield-like piece of bark is slipped into the cut, and the upper portion of the bark above the cross cut is cut level with it. The bud is secured in position with bass, raffia tape, or other suitable tying material.

GOOSEBERRY RED SPIDER.—L. G., Hythe: This pest is capable of doing a great deal of harm to gooseberries, consequently where it has gained a footing strong measures should be taken to dislodge it. The best method of attacking it is to spray the bushes with a caustic winter dressing or a paraffin emulsion, quite early in March. The eggs laid last June hatch out in February and early in March, and while still young they succumb to the spraying, and if the work is carefully carried out there should be very few left to lay their eggs in the coming summer. Keep a sharp look out for the pest, and first spray with a caustic solution, and then, in a week or so, if the first spraying has not been wholly successful, spray with a weak paraffin emulsion.

TESTING GUANO.—B. H. J., Littleport: The test you refer to is the M'Connel test. It is as follows: The colour of the guano

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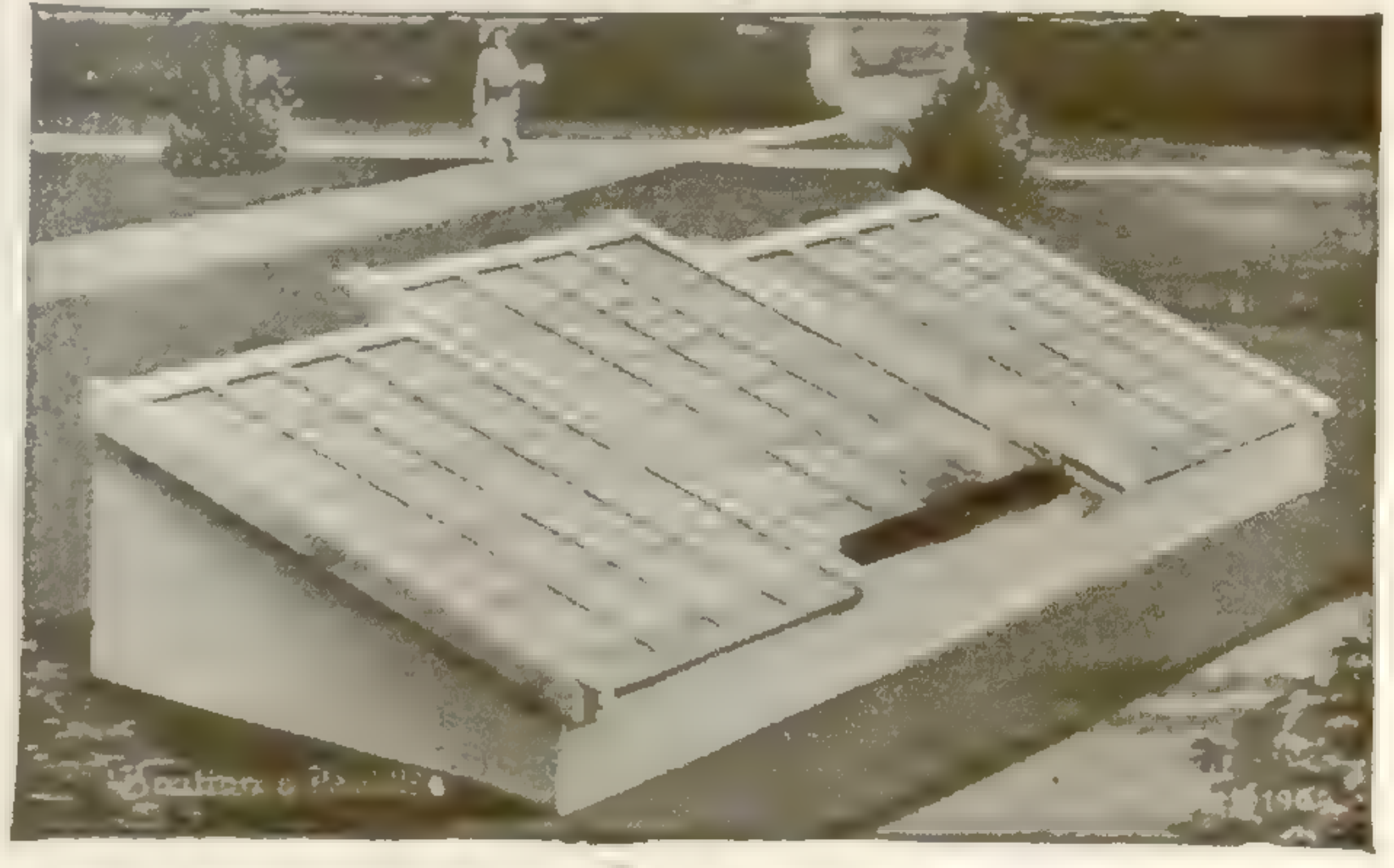

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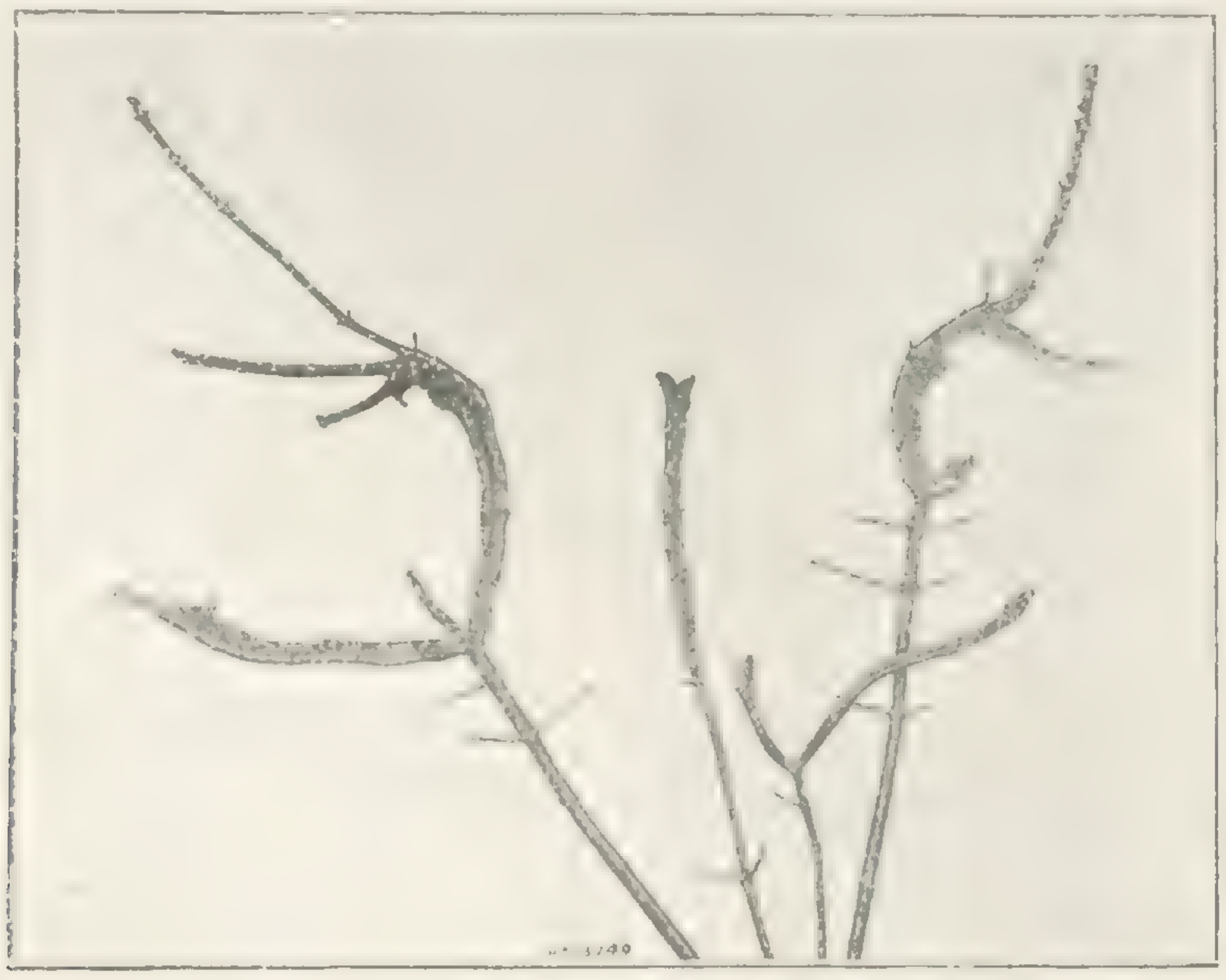
should be that of coffee and milk. If too grey it is earthy: if too brown it has an excess of water. It should be strong, salt, piquant, and caustic to the taste. It should smell strongly. To the touch the guano should be oily; it should be in small grains, these sometimes adhering in large pieces. If rich in urates it will appear shining and crystallised when broken. If placed in contact with a flame good guano should blaze up quickly and leave a residue of charcoal ash. Guanos poor in organic matter give less charcoal residue. Mixed with quicklime, a good guano will give a strong evolution of ammonia. In the matter of weight guano should be from 60 to 70lb. per bushel.

FASCIATION IN HARD WOODS.—D. R. M., Malpas: Fasciation is of fairly common occurrence among quick-growing soft-stemmed plants, and is quite frequently observed in tomatoes, cucumbers, and liliums. It is occasionally found in hard-wooded trees, and would probably be more often found if woodlands were as carefully examined and kept under as close observation as a garden. The little illustration herewith shows a sycamore growth with a number of fasciated shoots. In this case the buds fused, and the growths become joined or attached as they grew, making a flattened and curved growth, for, though joined, one shoot often takes the lead, but is curved because of the strong pull of its slower-growing mate.



FASCIATED SYCAMORE STEMS.

NAMES OF FRUITS.

When sending fruits for naming, will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, Gardeners' Magazine, as advised in the notice at the head of "Answers to Correspondents."

E. H. C., Tunbridge Wells.—Not recognised.

H. B., Southminster. — No. 2 is Beurre d'Aremberg; the other we do not recognise from the specimen sent.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

C. A., Gloucester.—Send the berberis when in flower; 2 is probably a Vriesia, send when in flower.

M. E. J., Wrexham.—1, Pteris Wimsetti; 2, P. semi-pinnata; 3, Polypodium aureum; 4, Cyrtomium falcatum.

A. W., Newport.—1, Veltheimia viridifolia; 2, Coronilla glauca.

J. S., Leyton.—A species of sedum; later on, if you will send a well-developed shoot and leaves, preferably with a flower spike, we may be able to identify it for you.

TRADE NOTES.

From time well-nigh immemorial the blue apron has been the outward sign of the gardening craft, and probably at no period in the history of gardening in this country has this necessary article of dress enjoyed so high a degree of popularity as at the present time. It is not unreasonable to assume that Messrs. Shaw and Montgomery, of 628, Argyle Street, Glasgow, have by the introduction of their manufactures helped materially to bring about this salutary change. Whether it be the case or not, the fact remains that the firm has placed at the disposal of gardeners aprons of high quality, and so inexpensive as to be within the reach of all who have positions in gardens. We call attention to the matter now because this is the season of the year when such matters as the renewal of aprons receive attention, and we do so with pleasure, because we are in a position to speak of the aprons from practical acquaintance with them. It is now twelve months since we obtained from Messrs. Shaw and Montgomery one of their serge aprons, and although we have had it in constant use, it is not as yet any the worse for wear. The cheaper twill apron is equally good, in its way, and is by some of our friends preferred for wearing in glass structures maintained at high temperatures, and for use in the summer months.

With the very laudable desire to keep their numerous and excellent specialities in insecticides, fungicides, manures, and sundries before the gardening public, Messrs. Joseph Bentley, Lim., Barrow-on-Humber, Hull, have issued a diary and blotter that is very handy for the garden office. There is a fortnight on each page, room for notes, and a sheet of blotting paper to keep all clean and neat, and also remind one of the best time for using certain specialities.

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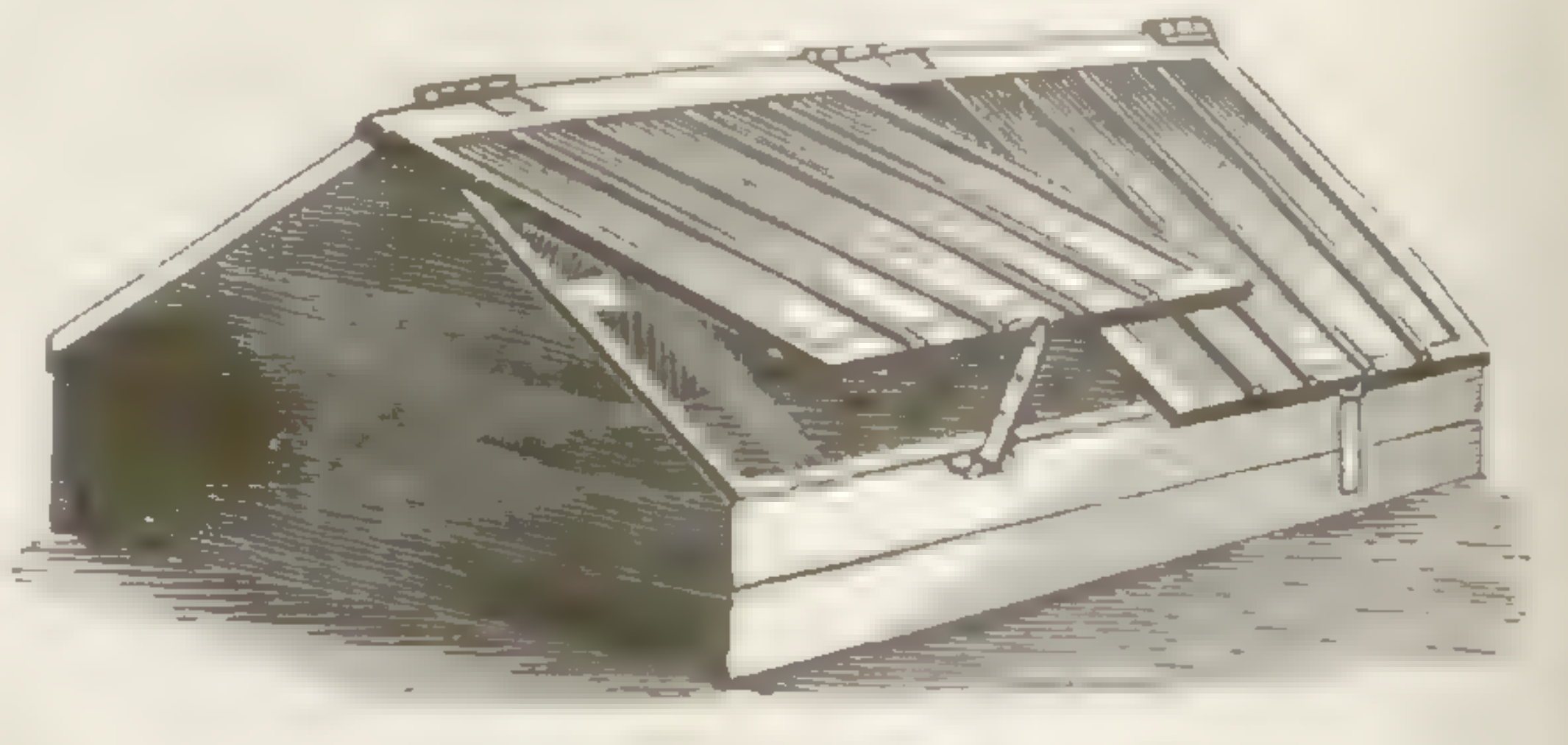

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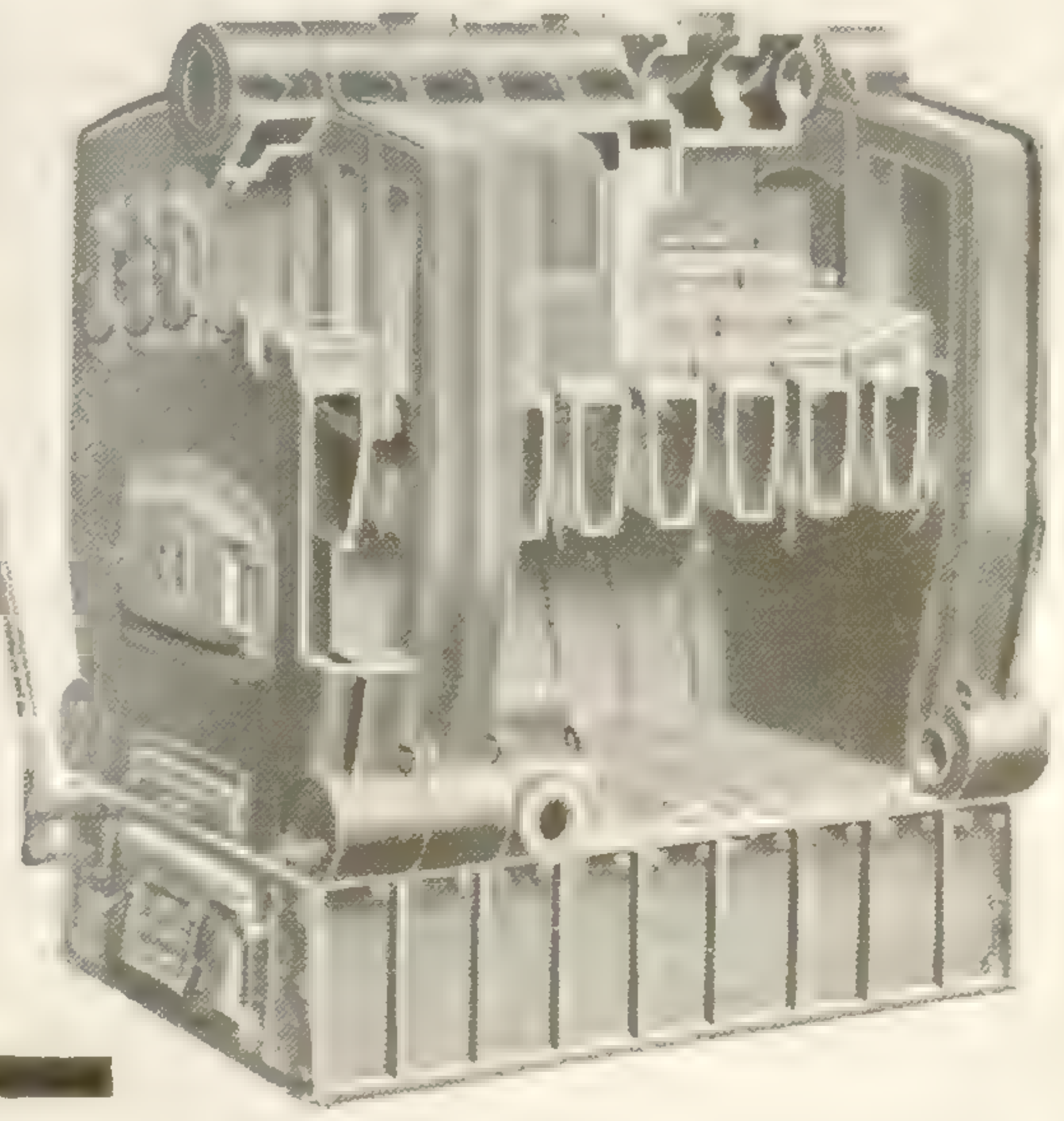

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CATALOGUES RECEIVED.

WATKINS AND SIMPSON, 12, TAVISTOCK STREET, COVENT GARDEN.—This is a very comprehensive seed catalogue, including the firm's specialities, and all the leading varieties of flowers and vegetables. It is admirably illustrated from photographs taken in their trial grounds. It is wholly and solely a wholesale catalogue, and, therefore, only for traders.

G. MASSEY AND SONS, SPALDING.—A useful catalogue of selected varieties of flowers and vegetables, including a list of seed potatoes.

FIDLER AND SONS, READING.—Although flower seeds are not omitted, the chief place in this catalogue is given to vegetable selections. Peas and potatoes are very prominent.

W. DRUMMOND AND SONS, DAWSON STREET, DUBLIN.—A large and freely illustrated catalogue of vegetable and flower seeds, plants, lilies, tools, and sundries.

THOS. S. WARE, LIM., FELTHAM.—A concise list of garden seeds, and also a very interesting and handy catalogue of tuberous begonias that includes nine new double varieties offered for the first time.

WM. PAUL AND SONS, WALTHAM CROSS.—The finer types of vegetables and garden flowers are well illustrated in this firm's seed catalogue. Rigid selection of kinds and varieties has been practised.

M. F. E. HALLAM, MOSELEY, BIRMINGHAM.—Sweet peas occupy a prominent place in this handy catalogue of seeds, tubers, herbaceous plants, and sundries. Sweet peas are illustrated in colours on the cover.

GEO. COOLING AND SONS, BATH.—This firm is offering a quite considerable number of novelties in flower and vegetable seeds, and their catalogue is an interesting one.

WM. FELLS AND SON, HITCHIN.—A little pocket catalogue of sweet peas—"The Queen of Annuals." The descriptions are good.

JOSEPH BENTLEY, LIM., BARROW-ON-HUMBER, HULL.—A catalogue for the bookshelf. It contains all this firm's specialities in weed-killers, nicotine compounds, and other insecticides, spraying mixtures, fungicides, shading materials, patent manures, paints, and tools of various kinds.

DANIELS BROTHERS, NORWICH.—Capitally and freely illustrated this catalogue from East Anglia contains a wealth of information, descriptive and cultural, and merits its title of "Illustrated Guide for Amateur Gardeners."

WM. WOOD AND SON, LIM., WOOD GREEN, LONDON, N.—A very handy catalogue, devoted entirely to fencing in various materials and patterns, and suitable for a variety of purposes, useful and ornamental. We have also received a small catalogue of this firm's special manures.

W. W. JOHNSON AND SON, LIM., BOSTON.—This firm's retail seed list includes such floral novelties as Yankee sweet pea, Diadem sweet william, and Blush Queen aster, besides several new vegetable selections.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1910. JANUARY 23 TO JANUARY 29.	SUNSHINE.	TEMPERATURE OF THE AIR.			
		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Jan. 23—Sunday	0 6	35	34	43	23
,, 24—Monday......	1 0	40	39	41	35
,, 25—Tuesday	4 6	34	32	36	33
,, 26—Wednesday .	6 30	23	23	33	22
,, 27—Thursday ...	5 12	21	20	45	19
,, 28 Friday..	3 48	42	41	44	21
,, 29—Saturday ...	3 42	34	32	40	3
Means	(total) 24 24	33	32	40	27

DATE. 1910. JANUARY 23 TO JANUARY 29.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Jan. 23—Sunday	0.26	35	40	43	22
,, 24—Monday...	0.13	36	39	43	34
,, 25—Tuesday......	—	37	40	42	31
,, 26—Wednesday.	—	36	39	42	16
,, 27—Thursday ...	0.67	35	39	42	14
,, 28—Friday.......	0.11	34	38	42	29
,, 29—Saturday ...	—	34	38	41	28
Means ...	(total) 1.17	35	39	42	25

GRAPES AND HOW TO GROW THEM.—An illustrated guide to propagation, culture, and management in vineries, greenhouses, and in the open air By J. Landell, F.R.H.S. Price 1s. net, by post 1s. 2d.; cloth, 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Trade shows a slight improvement; carnations, forced daffodils, and violets sell well.

		s.	d.		s.	d.
Acacia	per bunch	0	9	to	1	0
Adiantum cuneatum	per doz. bun.	6	0		9	0
Arums	per doz.	3	0		6	0
Asparagus	per bun.	1	0		1	6
Azalea, Ghent	per bunch	0	9		1	0
Camellias	per doz.	1	6		2	6
Carnations	per doz. blms.	1	6		4	0
,,	per doz. bun.	12	0		18	0
,, Malmaisons	per doz.	6	0		9	0
Caitleyas	per doz.	12	0		14	0
Croton leaves	per bun.	1	0		2	6
Cypripediums	per doz. blms.	2	0		3	6
Daffodils	per bun.	0	9		1	6
Eucharis	per doz.	3	0		4	0
French fern	per doz. bun.	0	6		0	9
Gardenias	per doz.	2	6		3	6
Lapagerias	per doz.	2	0		3	0
Lilac, French	per bun.	4	0		5	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		3	0
,, longiflorum	per bun.	4	0		8	0
Lily of the Valley	per doz.	8	0		10	0

Vegetables.

Trade is fairly brisk and supplies are steady.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	6
Asparagus	per bun.	3	0		7	6
Beet	per bush.	1	6		2	6
Beans (Channel Islands)	per lb.	0	10		1	0
Brussels sprouts	per bush.	2	0		3	0
Cabbage	per tally	3	0		5	0
Carrots	per doz. bun.	2	0		3	0
Cauliflowers	per tally	4	0		7	0
Celery	per doz. rolls	5	0		10	0
Celeriac	per doz.	1	6		2	0
Chicory	per 12lb.	3	0		3	6
Coleworts	per tally	2	0		4	0
Cucumbers	per doz.	5	0		8	0
Endive	per doz.	1	3		1	9
Horseradish	per doz. bun.	10	0		12	6
Leeks	per doz. bun.	1	6		2	0
Lettuce	per doz.	1	0		1	6
Mushrooms	per doz. lb.	6	0		12	0
Mustard and Cress	per doz. pun	1	3		1	6
Onions	per cwt.	4	6		6	0
Parsley	per doz. bun.	2	0		3	0
Parsnips	per bag	2	6		3	0

Fruits.

A good demand continues for all kinds of fruits, grapes especially.

		s.	d.		s.	d.
Apples, English	per bush.	3	6	to	9	0
,, Californian	per case	8	0		10	0
,, Cox's Orange	per ½-sieve	9	0		12	6
,, American	per barrel	12	0		24	0
,, Canadian	per barrel	12	0		20	0
,, Nova Scotian	per barrel	12	6		15	0
Apricots, Cape	per box	4	0		6	0
Bananas	per bun.	4	0		10	0
Brazil Nuts	per cwt.	33	0		40	0
Cobnuts	per 12lb.	4	6		6	0
Chestnuts	per bag	7	0		10	6
Grapes, English	per lb.	0	6		6	0
,, Guernsey	per lb.	0	6		1	0
,, Almeria	per barrel	12	0		22	0
Lemons	per case	8	0		23	0
Melons, Valencia	per case	4	6		6	0

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Situations Wanted—*continued.*

CHRYSANTHEMUM GROWER.—W. SIBLEY, age 31, married, for 19 years with Messrs. Lowe and Shawyer, is in want of a SITUATION as above; Messrs. Lowe and Shawyer would reply to any enquiries. 16, St. John's Road, Uxbridge Moor, Middlesex.

GROOM-GARDENER, married, age 23, requires SITUATION to look after Pony and fill up time in Garden. Apply W. BURT, 1, The Villas, Grayshott, Hants.

GARDEN LABOURER, single, requires SITUATION as above; aged 25 years; used to garden; can milk if required, and willing to make himself generally useful; used to pony. THOMAS JOHNSON, Walk Wood, Crabbs Cross, Near Redditch.

ADVERTISER (22) requires SITUATION in the Floral Decorating and Furnishing work; good London experience; excellent testimonials. Apply G., 19, Hamilton Road, Golders Green, London.

C. HINES wishes to recommend H. ELLIS, age 19, to help Inside and Out; four years good references. Trowse House, Norwich.

COWMAN; fill up time in Garden; age 35; married, one child; good references. E. CLEMENTS, Maypole Cottage, Soberton, Hants.

LEAD on Pleasure Ground, Herbaceous, Roses, and Carnations; age 25; life experience in good establishments; good references and well recommended. H. TYRRELL, Rolls Park, Chigwell, Essex.

YOUNG MAN, age 25, as GARDENER (Under), where another is kept; or kitchen garden and pleasure grounds; good refs. A. KNAPP, Upper Gatton Park, Merstham, Surrey.

YOUNG MAN, age 20, requires SITUATION in Gardens; wishes to improve. Bothy preferred; good references. Apply to F. C., 6, Andersons Road, Oatlands Park, Weybridge, Surrey.

YOUNG MAN (21) seeks SITUATION, Inside and Out, or Outside; Vegetables preferred; two years at large country establishment; 1½ years at outskirts of London; good references; abstainer. ROWE, 54, St. John's Wood Terrace, London.

YOUNG MAN, age 19, strong and willing, seeks SITUATION (Inside or Inside and Out); 5½ years' experience; bothy; near London preferred. E. ROOTES, 14, Rawdon Road, Maidstone.

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Situations Wanted.

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GARDENER (Head).—The Countess De MORELLA will be pleased to recommend A. WHITE as above; life experience in all branches; age 31; disengaged. A. WHITE, c.o. Mr. G. Wright, Higher Midway, Burton-on-Trent.

GARDENER (Head).—Advertiser seeks RE-ENGAGEMENT in first-class establishment, where several are employed; life experience, and thoroughly practical in all branches; five years as head in last situation; can be strongly recommended. Apply DUNKLEY, The Gardens, Mill House, Bourne End, Bucks.

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GARDENER (Head of three or more), age 40; married; life experience; 16 years last situation head of three; good reference; life abstainer. W., 24, Uffington Road, West Norwood.

GARDENER (Head, where two are kept, or good Single-handed); thoroughly experienced in all branches, Inside and Out; understand cows; good references; age 38, married, two children. GARDENER, 91, Sherrard Road, Forest Gate, Essex.

GARDENER (Head or Second); 14 years' experience in good establishments; well up in Early and Late Forcing, Fruit and Vegetables, Chrysanthemums, Carnations, etc.; excellent references; married; age 32; one child. GOAD, Blendworth, Horndean, Hants.

ORCHID GROWER, or as Head; 14 years' experience in first-class places, thoroughly competent; good references; abstainer; married, no encumbrance. FIELD, Nursery Road, Southgate, London, N.

GARDENER (Head Working); age 33; married. H. MARKHAM, gardener to Viscount Enfield, Wrotham Park, Barnet, strongly recommends a gardener of good practical experience in choice fruits, plants, and the general requirements of a good place; strong and energetic.

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GARDENER (Head Working); life experience in Early and Late Forcing of Fruit, Flowers, and Vegetables; Certificate from R.H.S. Examination in Horticulture; age 40; nearly six years' excellent reference; 10 years' previous. H. CRAWLEY, 3 Fair View, Seaford Road, Wokingham, Berks.

GARDENER (Head Working, where two or three are kept); age 28; abstainer; life experience Inside and Out, in good places, with Fruit, Plants, House Decoration, etc.; married when suited; three years' good reference from previous place. R. W. MIDDLETON, Exbury House, Exbury, Southampton.

GARDENER (Head Working); life experience in all branches; 10 years last place, 6 as head; highly recommended; age 30; married when suited. H. J. KING, 1, Pretoria Cottages, West Lane, South Hayling, Hants.

GENTLEMAN highly recommends Head WORKING GARDENER, one or two under him; nine years' character, personal, if desired, middle aged; leaving because of home being given up. Write W. H. G., c/o Willings, Advertisement Offices, 73, Knightsbridge, London, S.W.

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GARDENER (Head Working); married; age 39; abstainer; 22 years' practical experience Inside and Out in General. J. HOGGER, 30, Norfolk Terrace, Hampton Hill.

GARDENER (Head Working).—Thorough practical experience in all branches of the profession, Inside and Outside; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

R. WIGGLESWORTH, Esq., can highly recommend his GARDENER (Head Working of three); thoroughly experienced in all branches; nine years' reference; age 33; married. E. FAIRBROTHER, Ashtead Lodge, Ashtead, Surrey.

GARDENER (Head, or good Single-handed); 10 years' practical experience in all branches; age 26; disengaged. S. WHITMORE, 4, Ruskin Terrace, Waltham Abbey, Essex.

GARDENER (Single-handed, or where others are kept); married; knowledge of all Garden work; excellent testimonials. Apply G. STORER, Rifle Range Road, Ashby-de-la-Zouch.

GARDENER (Single-handed) seeks SITUATION; nine years' experience in Private Garden and Nursery, age 24, good references. A. SMITH, Nightingale Road, Farncombe, Godalming, Surrey.

GARDENER (Single-handed); experienced in all branches of Flower and Kitchen Garden; married; age 42. GULL, High Street, Ingatestone.

GARDENER (good Single-handed or with help), age 38; married, no family; 24 years' experience in all branches; good references. E. SMITH, 20, Belton Road, Willesden Green, N.W.

GARDENER seeks SITUATION as Single-handed, or good Second, where three or upwards are kept; good experience Inside and Out; excellent references; Single; age 33 years. G. RAINBIRD, Reepham, Norfolk.

GARDENER (good Single-handed, with help), good all-round Man, in all branches, Inside and Out; would take moderate wage for a comfortable place; middle-aged; or would take a good jobbing situation; excellent testimonials from last and previous employers. F. OSBORNE, 48, Bradshaw Road, Watford.

GARDENER, married, seeks SITUATION by March 10; Single-handed or Kitchen Garden preferred; age 26; 7 years' experience; Surrey preferred. BUTLER, Kirstead Rectory, Brooke, near Norwich.

GARDENER (Second, Inside and Out); life experience; 2 years here; age 25; Head Gardener highly recommends J. TAYLOR, Stansted Park Gardens, Emsworth, Sussex.

GARDENER wishes to recommend YOUNG MAN as Second or Third Hand, with 5 years' experience; present place 3 years; good reference; age 22; abstainer. A. FY, Eardemont Lodge, Crayford.

H. W. TAYLOR, Esq., highly recommends A. WINTER as GARDENER (Second); well up in his duties Inside and Out; five years' reference; age 22; near London preferred. Apply Chapel Street, Melbourn, Cambs.

GARDENER (Second, Inside and Out); nearly three years last place as same; age 24; well recommended by Head Gardener. HARDING, 20, Burr Road, Southfields, Wandsworth.

GARDENER (Second of three or four) seeks SITUATION; age 25; leaving to better; good references. W. ORCHARD, Buckshaw Gardens, Holwell, Sherborne.

GARDENER (Second, Inside and Out, where five or six kept); 10 years' experience; excellent characters; well recommended; age 26; Single. R. STEADMAN, 32, Brassey Road, Winchester.

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JOURNEYMAN (Inside and Out), age 21; three years' experience; well recommended. WM. C. FINNEY, 34, Derby Street, Prescot, Lancs.

JOURNEYMAN (Inside or Inside and Out); age 22; good experience in all branches; references; abstainer. Apply G. H. BLACKMAN, 207, Battle Road, Hollington, St. Leonards-on-Sea, Sussex.

JOURNEYMAN (Inside or Inside and Out). Mr. H. NAYLOR, gardener to Lady Battersea, Pleasaunce, Overstrand, Cromer, highly recommends G. PLUME, age 21, who has been here three years; five years' previous at Earl Romney's, Gayton Hall. (No circulars.)

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MR. A. GOODING, Eartham House Gardens, Chichester, wishes to highly recommend P. SARLING as JOURNEYMAN (Inside and Out); very energetic and well conducted. Apply as above. (No circulars.)

GARDENER (30); Inside or Kitchen Garden; life experience Inside and Out in good establishments; good references; Single. WOOD, The Gardens, Rolls Park, Chigwell, Essex.

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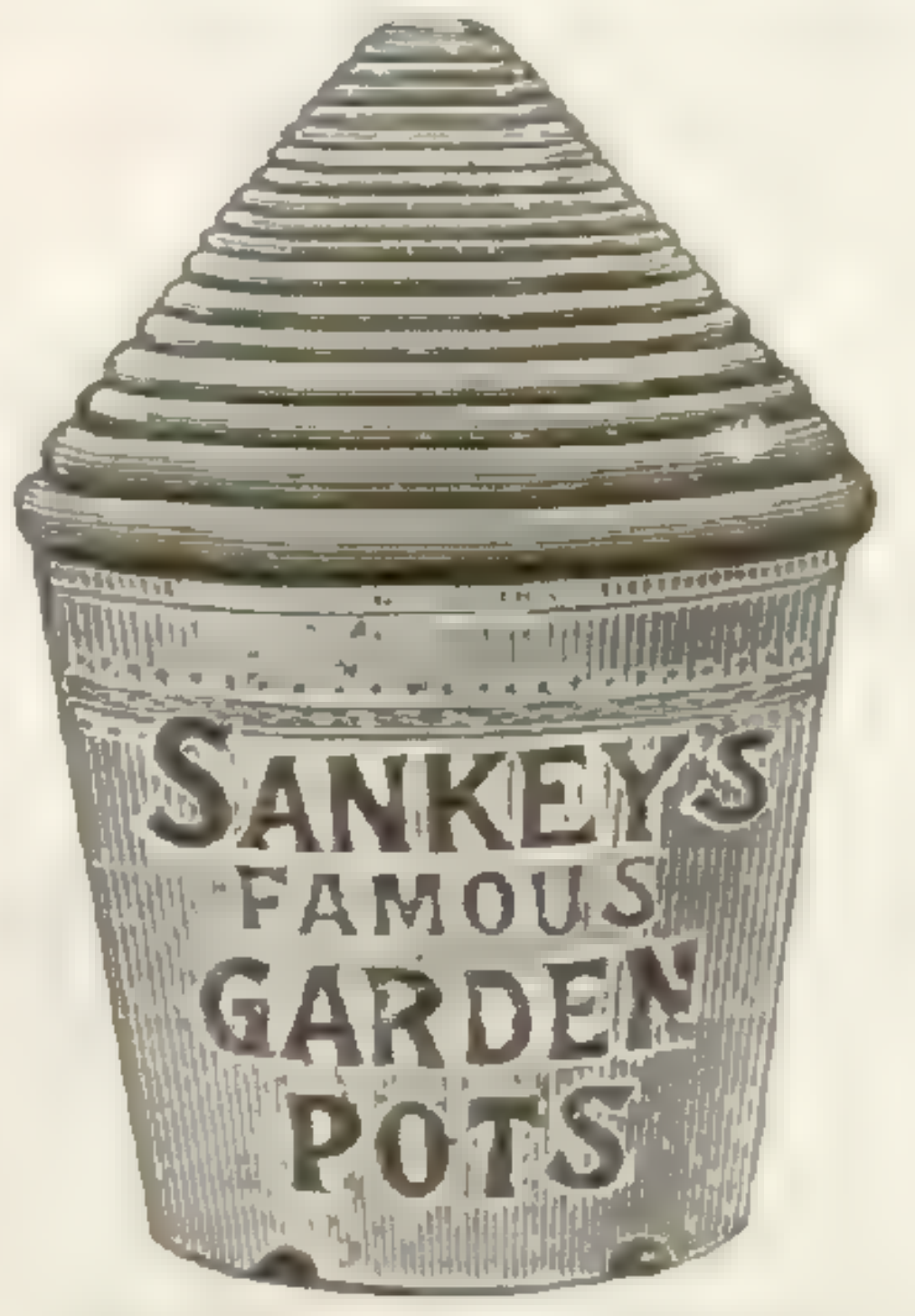

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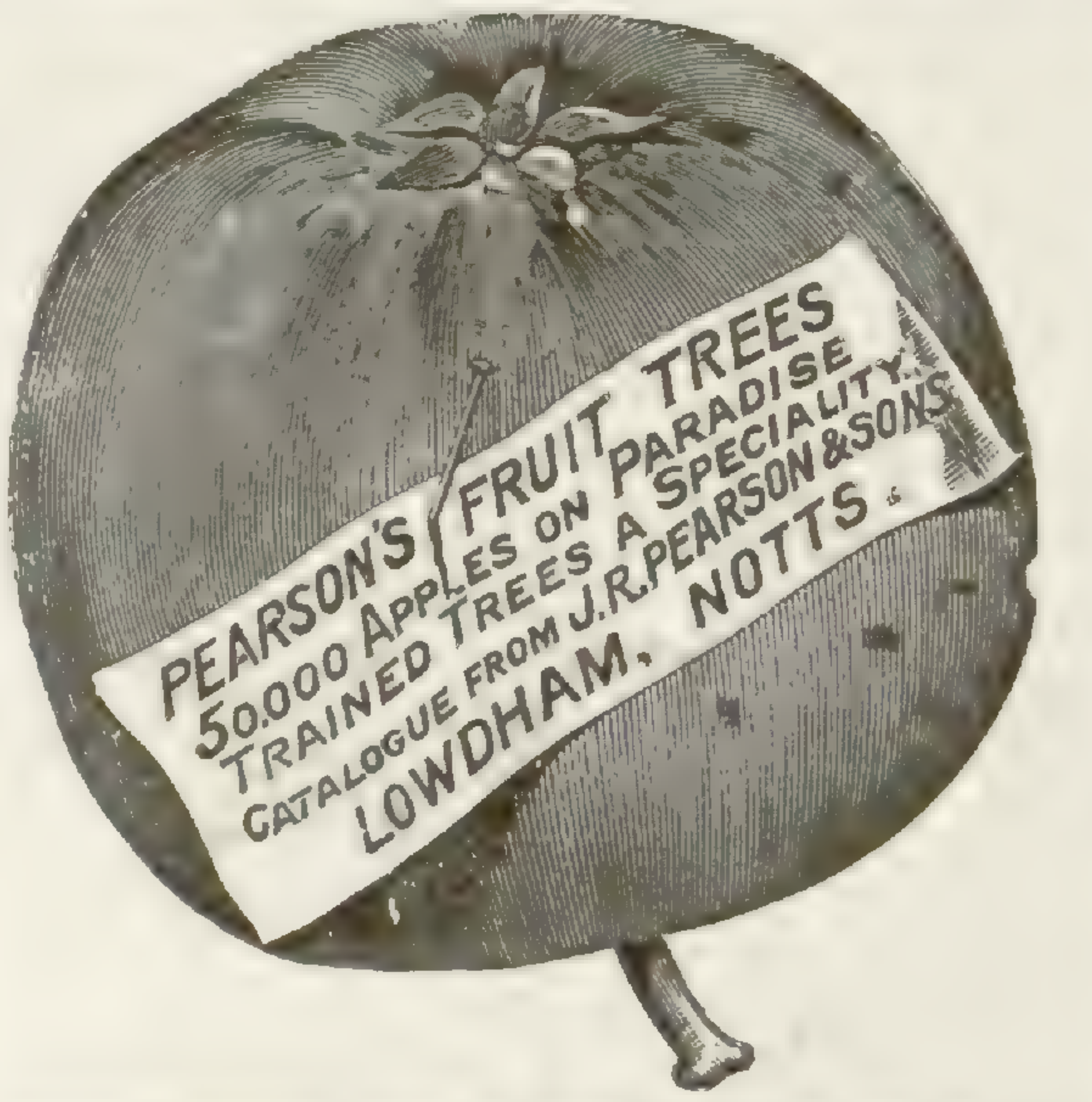
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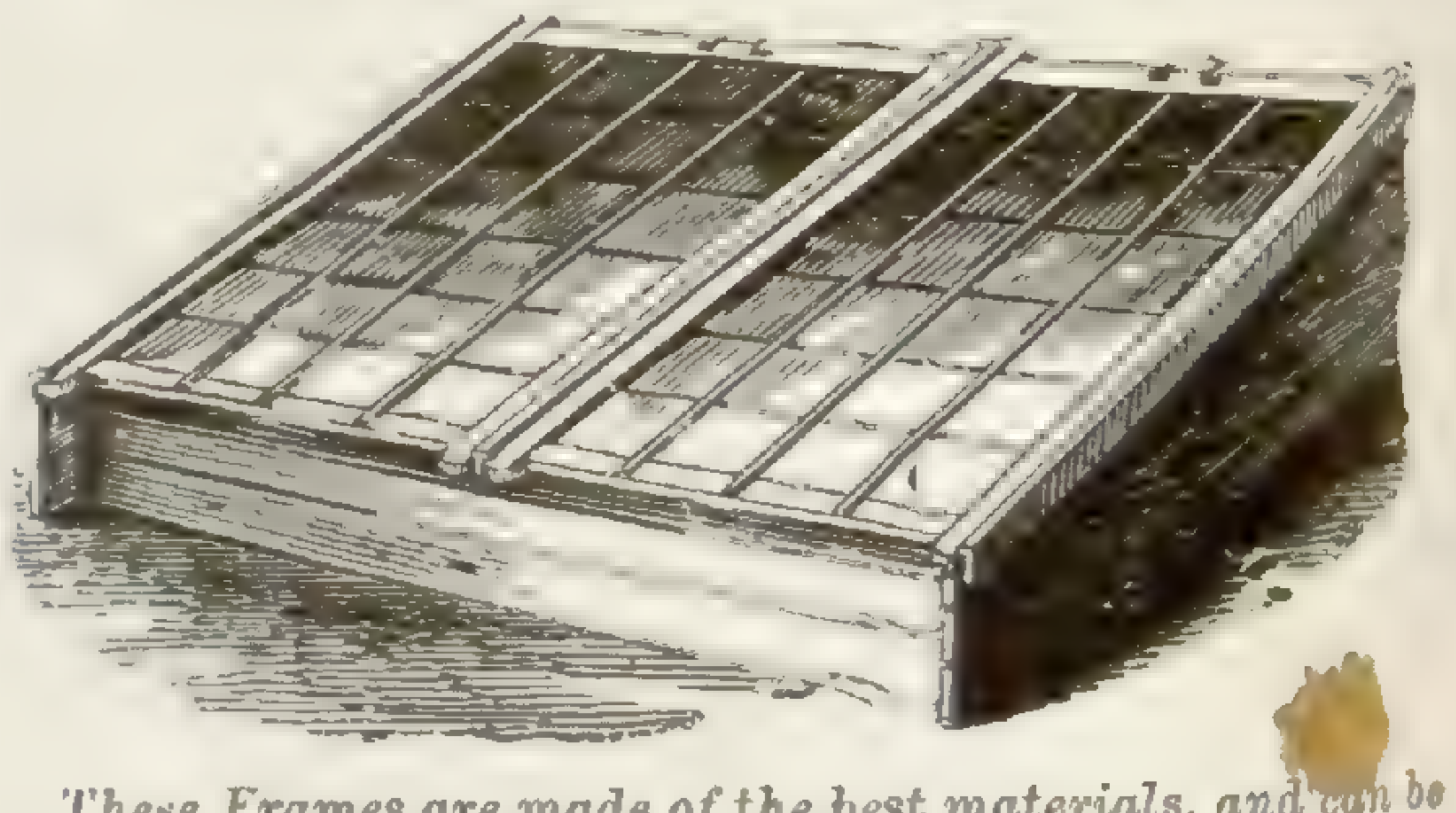

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MIDDLETON, MANCHESTER.

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The best Manure for all Lawns

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Per cwt., **20/-**; ½-cwt., **12/6**; 28lb., **7/6**; 14lb., **4/6**; 7lb., **2/6**; sample tins, **1/-**.
Prepaid Orders for 28lbs. and upwards, carriage paid.
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SALE PRICE! SALE PRICE!—Are you a Bulb Grower? If so, my marvellous clearance offer of bulbs will interest you. The reductions in prices are very great and the bulbs are in excellent condition. ELLISON, 57, West Bromwich.

TREE CARNATIONS.—Best varieties, rooted cuttings, 25, 4s. 6d.; 100, 15s. Plants in pots, 25, 6s.; 100, 22s., carriage paid.—G. S. EVANS, F.R.H.S., Bexley Heath.

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MONDAY and FRIDAY NEXT, February 14th and 18th, at Twelve o'clock.—New and rare Perennials, Border Plants and Bulbs, Liliums, Gladiolus, Tuberoses, etc.

At Half-past One o'clock.—1,000 Roses, dwarf, climbing, Tea, etc. Azaleas, Rhododendrons, etc.

WEDNESDAY NEXT, February 16th, at Twelve o'clock.—Choice Herbaceous and Border Plants, Perennials, Flowering Shrubs, Liliums, Begonias, Gladiolus, Lily of Valley, Tuberoses, etc.

At Half-past One o'clock.—3,500 Roses, standard, dwarf, climbing, etc.; also Fruit Trees in variety.

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MESSRS. PROTHEROE and MORRIS will SELL the above BY AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C. On view morning of Sale and Catalogues had.

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Every MONDAY and WEDNESDAY, AT 12.30,

STEVENS' AUCTION ROOMS (Est. 150 Years).

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25 STRONG CHRYSANTHEMUM CUTTINGS, Exhibition, Decorative, Single or Early, 1s. 6d.; 50, 3s.; 100, 5s. 6d.; by return. List. RICHMOND'S CHRYSANT. NURSERIES, Ossett, Yorks.

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WANTED.—BROWN SULTAN CALCEOLARIA TOPPINGS, also LOCKWOOD VIOLA CUTTINGS and CECILIA VIOLA, CUTTINGS.

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EPPS & Co., Ringwood, HANTS.

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PARKS AND GARDENS SUPERINTENDENT.

The Council invite applications for the position of PARKS and GARDENS SUPERINTENDENT. Salary and emoluments £150 per annum, rising by annual increments of £10 to a maximum of £200 per annum. In the event of residence, coal, and gas, or any or either of them being provided such emoluments shall be considered as part of the salary at an amount to be fixed from time to time by the Council. The duties are to be responsible under the Borough Engineer for all the Public Parks, Gardens, and Roadside Trees, including laying out, bedding, planting, etc., and to superintend men, horses, and vehicles used in connection with this work.

Applications, which are to be made on forms to be obtained from the undersigned (if by post by forwarding a stamped addressed envelope), must be delivered at the TOWN HALL not later than NOON on TUESDAY, March 1st, 1910.

Personally canvassing members of the Council will disqualify. Appointments will be subject to medical examination, and to the provisions of the Camberwell Superannuation Act, 1908.

C. WILLIAM TAGG, Town Clerk.

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JAMES CARTER & Co
237-8 HIGH HOLBORN, LONDON.
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BEAT SCOTCH.

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Superb Quality. Illustrated Pamphlets Free.

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SEED POTATOES, SEED POTATOES direct from best growers. For prices, EDWARD ENGLAND (Cdff., Ltd.), Bath Street, Bristol. Also Cardiff and Swansea.

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Shipping, Insurance & Forwarding Agents

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MOSS SPHAGNUM, SPHAGNUM, four bushel bag on rails, 4s. 6d.

THOS. EVANS,
Penny Street, Trawsfynydd, N. Wales.

RUSTIC FENCING IN ENGLISH LARCH.
DAHLIA RODS. GARDEN STAKES.
LISTS FREE.
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15 oz. and 21 oz. Glass,
IN ALL THE USUAL SIZES.

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UNDER GLASS.

WEBBS' LITTLE MARVEL PEA.
2/6 per quart.

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NEW PEERLESS MELON.
2/6 per packet.

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LEEK. 1/6 per packet.

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EARLY FRAME CAULIFLOWER.
1/6 per packet.

WEBBS'
WONDERFUL CARROT
(Early). 1/3 per ounce.

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HARBINGER DWARF BEAN
(Early). 2/6 per quart.

WEBBS' SELECTED AILSA CRAIG ONION: The Finest Strain in existence.
1/- and 2/6 per packet; 3/6 per ounce.

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VOL. LIII.—No. 2,937. SATURDAY, FEBRUARY 12, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Temperature.

Temperature is such an important factor in plant life, and successful culture is so dependent upon some knowledge of the conditions which determine it in its relation to exotics, that a little consideration of the subject cannot be out of place. In the first place, in a general way, we may say that the temperature of the air is highest at the Equator and lowest at the Poles. This is due, of course, to the fact that at the Equator the sun rises due east and sets due west, its daily course being a semicircle traced perpendicularly to the horizon, so that at noon the sun is directly overhead. His rays, consequently, strike then directly downward on to the surface, and throughout the day do so more directly than elsewhere. At the Poles the sun appears to move in a circle perfectly parallel to the horizon, and hence during the winter months it remains constantly beneath it, and during the summer circles regularly above it. In the temperate zone the sun's course is intermediate, varying with the longitude and with the seasons, rising diagonally at an angle with the horizon, and pursuing a longer or shorter course, as the case may be. At the Equator, therefore, the days and nights are equal all the year round, and there are practically no seasons, as in the temperate zone; there reigns, indeed, a perpetual summer, instead of a gradual alternation of summer and winter, with the intermediate stages of autumn and spring under which our native plants have been evolved, and are thus capable of withstanding the frosty conditions incidental to the cold and comparatively sunless period. Temperature, however, is by no means entirely dependent upon geographical situation; there is another set of conditions to be considered, viz., those appertaining to elevation above the sea level. All over the world it is only necessary to rise into the air sufficiently far to find intense cold prevailing, merging into the infinite cold of space itself, and, as a result, even in the Tropics, where lofty mountains exist, we find if they are high enough that their summits are capped with perpetual snows, and their upper valleys filled with mighty glaciers, the only difference between such accumulations and those of higher latitudes being a greater elevation above the sea level. It is a curious fact that though in these lofty regions the solar rays strike naturally as directly as on the plains far below, they have no warming effect more than at and above the snow level elsewhere, the sun's heat only making itself felt by warming the surface and adjacent air layer where its power accumulates in direct ratio with the density of the air its rays traverse, and their direct or indirect impact as above explained. In brief, a balloonist or aeronaut at the Equator would freeze to death at noon in the full solar blaze, if he rose to a sufficient height in the air. Since, then, it is precisely the mountains which afford the most varied conditions, and have thus aided in evolving plant life on very diverse lines to fit the varied habitats and environments, it is clear that it by no means follows that plants from tropical regions are less hardy than those of temperate, or even Arctic ones. All depends upon the heights at which they grow, and thus all over the world we may find hardy alpine plants near the snow line, half-hardy ones lower down, and at the sea level, the tenderest ones, according to the part of the world in which they grow. In some of the magnificent valleys of the Himalayas travellers tell us that in a single downward view embracing their flanks from snow line to foothills, plants fitted for all temperatures may be seen. The primula tribe and other alpines close at hand, while the rhododendrons are flooding the slopes with vast masses of bloom, and other hardy plants prevail; lower down these give place to tenderer ones suitable for greenhouse culture only; while, when the plains are approached, palms and other tropical vegetation clothe the landscape instead, and the hardier tenants of the higher regions have entirely disappeared. As it is frost which kills tender plants by destruction of their tissues, and there appears no reason why warmth, unless of a scorching nature, should be destructive, it seems curious that most hardy plants resent warm culture, and perish if it be persisted in. This, however, is a matter of constitution. Hardy plants have been evolved to fit cool conditions; their periods of active growth and rest are determined accordingly; and thus, to transfer a plant of temperate climes to tropical ones upsets its life cycle, enfeebles it, and eventually proves fatal.

MR. D. INGAMELLS.

Mr. David Ingamells, of Covent Garden and Maidenhead, is one of the best known and best liked men among the horticulturists who do business in our great metropolis. With a jovial countenance, a kindly heart, a generous hand, and unfailing good humour, he has natural gifts that endear him to all who are fortunate enough to enjoy his personal acquaintance. Born in Lincolnshire, Mr. Ingamells began his gardening career at Woodhall Spa, where he served for seven years, and laid the foundation of that practical knowledge that has stood him in good stead in later years. From Woodhall Spa Mr. Ingamells came to Maidenhead, where he entered service with the late Mr. Robert Owen, of chrysanthemum fame; this was in 1886, and he remained with Mr. Owen until 1894, when he set out to make his own way and fortune, by commencing business as a flower salesman in Covent Garden. Confining his attention almost wholly to cut flowers, Mr. Ingamells has built up an excellent connection, and, living still at Maidenhead, he has there developed a nursery for the benefit of many of his customers, for whom he caters on wholesale lines. Mr. Ingamells, like most other busy men, finds time for other things than his business of life, and he has devoted a great deal of his spare time to the work of the National Chrysanthemum Society, in the councils of which he is a prominent member of the younger and progressive party. He was the great mover in the Market Chrysanthemum shows that were held at Covent Garden for several years, and he is a prominent, energetic, and very useful member of the N.C.S. Floral Committee. As a judge of florist's flowers his services are in great request, indeed, oftener than he can give them. Lastly, but not least, Mr. Ingamells readily acknowledges the sacred claims of charity, and freely gives money, time, and influence to advance the interest and benefits of the Royal Gardeners' Orphan Fund, as a member of its committee.

Gardeners' Magazine Spring Number.—Our annual issue specially associated with the spring season will be published on the 26th inst., and the arrangements we have made justify the suggestion that it will be one of the most attractive and useful of the many spring numbers we have published. Special attention will be devoted to rock gardening, and in the several articles dealing with this fascinating subject the owners of both large and small gardens, and those who are concerned in their management will find much to interest and instruct them. There will be numerous articles on the cultivation of vegetables and ornamental plants, and these will chiefly deal with matters requiring attention during the spring season. The number, we would add, will be profusely illustrated.

Appointment of Chief Officer of the London Parks.—At the meeting held on Tuesday last the London County Council appointed Major C. H. Enthoven, R.E., chief officer of its Parks Department, and the appointment of a military man to a post in which a special knowledge of the higher branches of horticulture is desirable has given rise to considerable criticism among horticulturists. The General Purposes Committee reported that, in reply to the advertisement for a chief officer of the Parks Department, at a salary of £600 a year, 95 applications had been received. Nine names were referred by the Parks Committee to the General Purposes Committee, which selected three names to be submitted to the Council, and recommended the appointment of Major C. H. Enthoven, R.E. The other two names submitted were, we would mention, those of Mr. A. J. Allsop and Mr. W. W. Pettigrew, both of whom are well known for their remarkable ability. On the report being submitted, Mr. J. D. Gilbert moved that it be referred back to the committee. He stated he had nothing to say against Major Enthoven, but the advertisement stipulated that "a knowledge of surveying, landscape gardening, forestry, and horticulture is desirable." As Major Enthoven was only qualified in surveying, he thought an explanation was called for. The Rev. F. Hastings seconded the motion. Mr. Swinton said they did not want a gardener, but a man qualified to administer a large department with a staff of 950 men, of whom 320 were park keepers. Sir John Benn protested against the recommendation of the General Purposes Committee, and explained that his objection was not to the fact that the candidate was a military man, but that, whereas the Council advertised for a man with certain qualifications, the candidate selected by the General Purposes Committee over the heads of the Parks Committee did not possess them. In the result the amendment was rejected by 55 votes to 39, and, as already stated, Major Enthoven was appointed.

Extension of Wimbledon Common.—The manifold charms of Wimbledon Common are well known and fully appreciated by those who are acquainted with the south-west suburbs of London. With an area of 1,000 acres, it has a richly diversified surface, and affords the visitor an opportunity of enjoying natural scenery of great beauty. Not only is the common itself extremely beautiful, but the views obtained from the higher points extend over a wide expanse of country, and are for the most part of a delightful character. Appreciating the importance of maintaining as large an area of the land around the common as possible in its present condition, an endeavour is being made to raise the funds necessary for the purchase of 172 acres adjoining Wimbledon Common and Putney Heath. This addition to the magnificent open space prevents any serious impairment of the beauty of the general prospect or interference with any of the various features. A council of upwards of 200 members has been formed for raising the necessary funds, and the vice-presidents include Lord Eversley, Lord Meath, and Mrs. Barnett. Upwards of £50,000 will be required for the purchase of the land, and a sum of £1,500 has been privately subscribed locally. The hon. secretary is Mr. Richardson Evans, The Keir, Wimbledon Common.

Royal Agricultural Society.—At the monthly council meeting of this society the Duke of Devonshire read a letter from Sir Dighton Probyn to Mr. Fellowes, informing the council that the King had been pleased to accept the presidency of the society for the year 1911, when the show will be held at Norwich, in the county in which, the Duke reminded the council, the King's home had been for so many years. The society, he added, owed a deep debt of gratitude to the King for the very great interest he had always shown in the welfare of the society and the important industry which it represented.

Phytochemical Investigations at Kew.—In August last the late Dr. Greshoff, director of the Colonial Museum, Haarlem, who had for some years devoted special attention to phytochemistry, examined phytochemically in the Jodrell Laboratory at Kew a number of plants grown in the Royal Gardens. The results of his investigations are given in the most recent of the issues (No. 10, 1909) of the "Kew Bulletin," and to those who are in any way concerned with the constituents of plants the report will be most valuable. It has also a melancholy interest, for Dr. Greshoff died suddenly early in December last. The late Dr. Greshoff states in the introduction to his report that chemistry should be able to render considerable aid in botanical investigations, but can only give complete assistance to systematic botany, when it is used, not incidentally as a botanical aid, but when opportunity is offered in botanical surroundings for the independent chemical study of the general and special constituents of the plant. To show the practical importance of such study he directed attention to the fact that there is no other way of ascertaining whether new plants of economic value, including medicinal plants, which are introduced from foreign countries, deserve general attention than by subjecting them to analysis by performing their chemical evaluation. It therefore appeared clear to him that chemistry and botany should co-operate in the study of the plant world. A very large number of plants were investigated by the late Dr. Greshoff during the three weeks he was working at Kew, and the particulars of their constituents are of much interest and considerable practical importance.

Extensions at Wye College.—The governors of the South-Eastern Agricultural College, Wye, have resolved to considerably extend the college buildings this year, so as to afford increased accommodation for teaching and investigation, and provide more room for the increasing number of in-college students. It is hoped that the new buildings will be ready for use in October.

Pruning Fruit Trees was the subject of an interesting and instructive lecture given by Mr. T. B. Field, president of the East Anglian Horticultural Society, at the monthly meeting of the Ipswich Gardeners' Association. Both winter and summer pruning of the various kinds of fruit trees grown in gardens was fully dealt with, and much useful advice given.

Cardiff and County Horticultural Society.—This flourishing society came of age last year, and held a splendid show in the Sophia Gardens. This year another fine schedule has been arranged, and a great show is expected on July 20 and 21. Amateurs are liberally catered for, especially in the divisions for roses, carnations, sweet peas, and plants; the fruit and vegetable classes are chiefly open, and substantial prizes are offered by the society and the leading seedsmen. The secretary is Mr. A. Maurice Bailey, 24, Duke Street, Cardiff.

Longevity of Fern-spores.—An illustration of the longevity of fern-spores has occurred at Kew in the case of Cheilanthes mysurensis, Wall., specimens of which were collected in South China on October 28, 1899, and preserved as herbarium specimens. Spores taken from these and sown at Kew in March, 1908, have, it is recorded in the "Kew Bulletin," produced healthy plants, which now bear fully-developed fronds about 9in. long. The species grows in dry, rocky places at low elevations, and is distributed from Japan, Formosa, and Central China to Tonkin, Southern India, and Ceylon. When the fronds are dried without much pressure their margins incurve greatly, and serve as an additional protection to the spores.

Fruit Tree Management.—A leaflet issued by the Board of Agriculture gives some useful information on the manuring, pruning, regrafting, and replanting, operations which require attention during the earlier months of the year. In reference to the planting of young trees in the place of old, stress is laid upon the desirability of removing as completely as possible old roots, in order that no decaying wood may be left in the soil. A circular hole at least 6ft. in diameter, and from 1½ft. to 2½ft. deep should be dug and left open to atmospheric influences as long as possible before the tree is planted. The soil should also be sweetened and freed as far as possible from insect and fungoid pests by a dressing of quicklime, and if soil can be obtained to substitute for that dug out so much the better. It is also advised that in the case of orchards on grass land the soil round the roots of each tree should be dug regularly.

ROYAL HORTICULTURAL SOCIETY.

There is always a good show on the occasion of this society's annual meeting, but on Tuesday last there was scarcely so good a display as is usual on the anniversary day. Orchids, early hardy flowers, cyclamens, primulas, forced shrubs, carnations, apples, and vegetables were all well shown, and there was an interesting exhibition, but it was not quite up to first class.

FLORAL COMMITTEE.

A charming display of beautiful perpetual carnations was arranged by Mr. H. Burnett, Guernsey, who had delightful flowers of the new Mrs. Tatton, Marmion, Mrs. H. Burnett, Aristocrat, Winsor, White Perfection, Enchantress, Snow Queen, and a beautiful new yellow seedling flaked with light red—a startling and brilliant variety. A miniature rock garden display from Messrs. J. Cheal and Sons, Crawley, contained an assortment of saxifragas, sedums, hardy flowering heaths, Iris reticulata, primroses, hellebores, Rhododendron præcox, cydonias, and tulips.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, contributed a charming lot of carnation blooms, and batches of azaleas, heaths, daphnes, chorezemas, and fine cyclamens. Alpines were prettily shown among small rocks by Messrs. T. S. Ware, Lim., Feltham, who also brought up a good strain of Primula obconica, hellebores in variety, and saxifragas. The deep crimson carnation Carola was conspicuous and beautiful in the display of fine flowers submitted by Mr. C. Engelmann, of Saffron Walden; it is a fine variety. Mr. G. Reuthe, Keston, set up crocuses, irises, anemones, and handsome foliaged Himalayan rhododendrons.

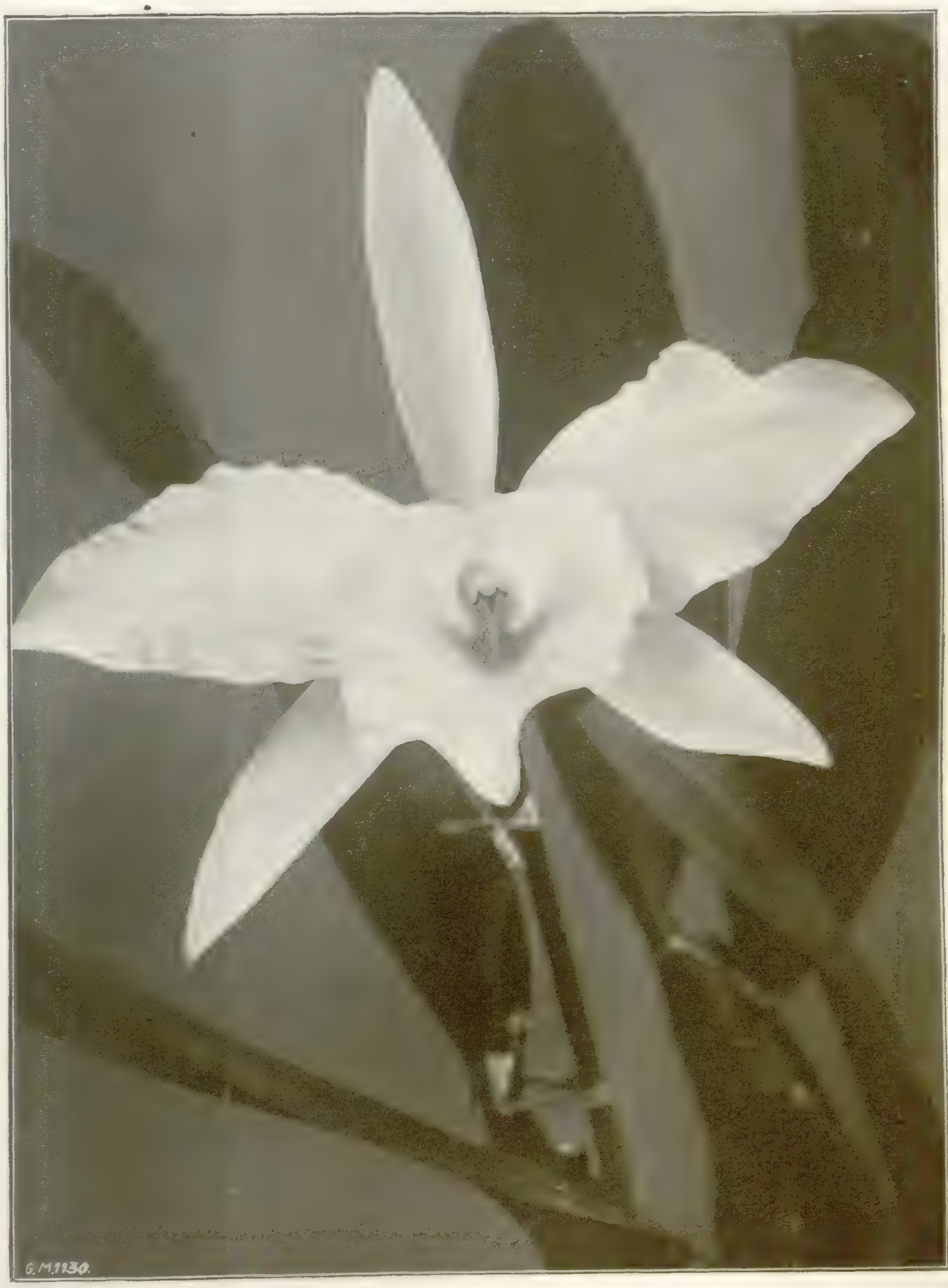
A beautiful display of flowering trees and shrubs was made across the end of the hall by Messrs. Jas. Veitch and Sons: beautifully flowered Indian azaleas, both standards and dwarfs, filled one end of the group; the centre was filled with forsythias, pyruses, rhododendrons, lilacs, cydonias, wistarias, and other lovely things. The same firm filled a table with grandly flowered dwarf azaleas, lily of the valley, Calceolaria Burbidgei, daphnes, and a grand strain of Primula obconica. Early spring flowers were prettily displayed by Messrs. Barr and Sons, Covent Garden, the most conspicuous being Iris reticulata, I. r. Krelagei, lachenalias, yellow freesias, choice crocuses, daphnes, snowdrops, narcissi, and hyacinths. Cyclamens in many shades of colour, plain, fringed, and papilio forms, were well shown by Messrs. Sutton and Sons, Reading.

A beautiful group of forced flowering shrubs was prettily arranged by Messrs. R. and G. Cuthbert, Southgate: it consisted chiefly of magnolias, forsythias, Pyrus atrosanguinea, Azalea mollis in variety, Prunus triloba, the fragrant Lilac Marie Lemoine, and Staphylea colchica; these were associated with palms and ferns, and made a fine feature of the show. Alpine plants and shrubs in variety came from Messrs. J. Peed and Son, West Norwood. Mr. Herbert Chapman, Rye, brought up new seedling freesias and hardy cyclamens. Messrs. Wm. Paul and Son, Waltham Cross, put up a very bright and interesting collection of camellias, both single and double varieties, new and old.

Mr W. Palmer, Andover, showed a double primula named Joe Chamberlain, the plants not yet at their best. Messrs. H. Cannell and Sons, Swanley, showed elegant and freely-flowered plants of their Star of Lady primulas, named Chameleon, White Lady, Mrs. H. Cannell, Scarlet Gem, Gloriosa, Blue Lady, and the deep red W. Raphael. The irises shown by Messrs. Wm. Cutbush and Son, Highgate, were greatly admired, the rich blue of I. reticulata and I. r. Krelagei appealing to everyone. The Highgate firm's exhibit of art carnations was admirably set up, and contained fine blooms of Winsor, Mrs. Burnett, Marmion, O. P. Bassett, Mrs. E. Gilman, and Aristocrat. Messrs. H. B. May and Sons, Edmonton, put up a very interesting collection of ferns, showing large examples of various davallias, acrostichums, polypodiums, platyceriums, and other epiphytal ferns; most of these were growing on blocks, pieces of tree fern, etc. At one end of the group was a batch of the lovely Nephrolepis Marshalli.

ORCHID COMMITTEE.

Mr. Alexander, orchid grower to Lient.-Colonel Holford, Westonbirt, Gloucester, brought up Cattleya Percivaliana Westonbirt var. (A.M.), very fine; the glorious, orange-coloured Lælio-cattleya Ariel superba, carrying a spike of seven lovely flowers; and Sophro-lælio-cattleya Danæ Holford's var. The pretty white Brasso-cattleya Wellesleyæ, derived from Cattleya Mossiæ Wagneri and Brassovola glauca, gained an A.M. for Mr. Francis Wellesley, Westfield, Woking. Mr. J. Collier, gardener to Sir J. Colman, Bart., Gatton Park, Reigate, showed a fine plant of Cymbidium grandiflorum (Cultural Commendation), Spathoglottis Colmaniæ, and several calanthes, Dendrobium Duchess of Albany (A.M.), and masdevallias. Mr. Bromilow, Rann Lea, Rainhill, submitted Cypripedium Leeanum Excelsior (A.M.), with very broad dorsal sepal. Messrs. J. and A. McBean, Cooksbridge, showed the beautiful Cymbidium Sanderæ, one spike carrying twenty flowers. Mr. Mertens, Ghent, again showed hybrid odontoglossums.



BRASSO-CATTLEYA WELLESLEYÆ.

A beautiful bigeneric hybrid with white flowers. A.M., R.H.S., February 8, Mr. F. Wellesley.

Messrs. James Veitch and Sons, Chelsea, displayed orchids finely, showing odontoglossums, cattleyas, and cypripediums, the latter being especially good, and including C. Little Gem, C. Euryades, C. Golden Glory, C. Elatior, C. insigne Veitch's var., C. Actæus, C. Lathamianum, C. Leeanum, etc. Odontoglossums, dendrobiums, and calanthes were well shown by Messrs. Stuart Low and Co., Bush Hill Park, Enfield; Oncidium cheerophorum, Lælio-cattleya Ophir, Dendrochilum glumaceum, Ærides vandarum, and white forms of Cattleya Percivaliana were also conspicuous in this exhibit. Mr. E. Rogerson, West Didsbury, brought up a few cypripediums, dendrobiums, and well-marked varieties of Odontoglossum crispum.

Messrs. J. Cypher and Sons, Cheltenham, again had a small and select set of cypripediums, some delightful calanthes, notably C. Bryan and the lovely Brasso-cattleya Digbyano Mossiæ. A large and bright display of orchids made by Messrs. Sander and Sons, St. Albans, contained lovely sprays of Phalænopsis Schilleriana, and odontoglossums, dendrobiums, calanthes, and cypripediums, and several lælio-cattleyas. An attractive group of orchids from Messrs. Charlesworth and Co., Haywards Heath, contained a beautful lot of odontoglossums, including the new O. Sylvia, Odontioda Keighleyensis with deep blood-red flowers; Miltonia Bleuana nobilior, Dendrobium Deari, and the lovely little Sophronitis grandiflora.

Mr. E. V. Low, Vale Bridge, Haywards Heath, showed some very beautiful cypripediums, notably light-coloured forms of C. Actæus and C. aureum, as well as the beautiful Cymbidium Wiganianum and some lælio-cattleyas.

FRUIT AND VEGETABLE COMMITTEE.

Messrs. Dobbie and Co., Rothesay, contributed a large and very striking exhibit of finely-selected potatoes, each variety being shown in a basket of considerable size. There were about forty varieties, all in splendid condition, and including such fine things as The Provost, King Edward VII., The Factor, Midlothian Early, White City, Purple Eyes, Eightyfold, Dobbies' Favourite, Talisman, Adirondack, etc. The display was well arranged, very interesting, and greatly admired.

A bright group of well-preserved apples from Messrs. George Bunyard and Co., Maidstone, attracted a great deal of attention. All the varieties were staged in dishes of ordinary size, from six to twelve fruits of each. A few of the leading sorts were Hambledon deux Ans, May Queen, Beauty of Kent, Ontario, King Edward VII., Emperor Alexander, Winter Ribston, King of Tompkins County, Newton Wonder, Lane's Prince Albert, Cox's Pomona, Tyler's Kernel, Foster's Seedling, and Baumann's Red Winter Reinette.

Mr. Gentle, gardener to Mrs. Denison, Little Gaddesdon, brought up over fifty dishes of handsome potatoes, every tuber in excellent condition, and the varieties Duke of York, First Crop, Advancer, Schoolmaster, Goldfinder, Snowball, Monarch, Satisfaction, and King Edward VII., were especially good. Mr. Gentle also showed splendid onions, globe and long beet, turnips, carrots, and parsnips. Mr. R. Staward, gardener to Lady Cowper, Panshanger, showed whole plants of several varieties of Brussels sprouts, and the best in cropping and appearance were Liberton Selected, Sutton's Matchless, and Solidity.

A very interesting group of oranges in tubs and pots from Messrs. T. Rivers and Son, Sawbridgeworth, attracted a great deal of attention, the handsome golden fruits nestling amid rich green foliage providing a fine display. Tangerine, Malta Egg, Sustain, Navel, and the new dwarf Japanese Satsuma varieties were very prominent, two plants of the first-named carrying sixty fruits each. The citrons were also very fine. A splendid exhibit of leeks and onions was made by Messrs. Sutton and Sons, Reading; the onions were fine bulbs, solid, and well kept, Ailsa Craig and Improved Reading figuring prominently; Prizetaker and Royal Favourite leeks were in fine form.

AWARDS OF MERIT.

To Crinum purpurascens, from Sir Trevor Lawrence, Bart. (gardener, Mr. Bain), Burford Lodge, Dorking; to Cattleya Percivaliana Westonbirt var., from Lieut.-Col. Holford, Westonbirt, Gloucester; to Dendrobium Duchess of Albany, from Sir Jeremiah Colman, Bart. (gardener, Mr. Collier), Gatton Park, Reigate; and to Brasso-catleya Wellesleyæ, from F. Wellesley, Esq. (gardener, Mr. W. Hopkins), Westfield, Woking.

MEDALS.

Silver Gilt Flora.—To Messrs. J. Veitch and Sons, Chelsea, for shrubs and plants; and one for orchids; to Messrs. H. B. May and Sons, Edmonton, for ferns; to Messrs. Charlesworth and Co., Haywards Heath, for orchids.

Silver Gilt Knightian.—To Mr. A. Gentle, gardener to Mrs. Denison, Little Gaddesdon, for vegetables; to Messrs. G. Bunyard and Co., Maidstone, for apples.

Silver Gilt Banksian.—To Messrs. Dobbie and Co., Rothesay, for potatoes; to Messrs. R. and G. Cuthbert, Southgate, for forced flowering shrubs.

Silver Flora.—Mr. H Burnett, Guernsey, for carnations; to Messrs. Stuart Low and Co., Enfield, for cyclamens and carnations; and one for orchids; Messrs. Sander and Sons, St. Albans, for orchids; Messrs. Cypher and Sons, for orchids; Messrs. W. Paul and Son, Waltham Cross, for camellias.

Silver Knightian.—To Messrs. T. Rivers and Son, Sawbridgeworth, for oranges.

Silver Banksian.—To Messrs. Sutton and Sons, Reading, for onions and leeks; to Messrs. J. Cheal and Sons, for alpines, etc.; to Messrs. W. Cutbush and Son, Highgate, for carnations, etc.; to Mr. C. Engelmann, Saffron Walden, for carnations; to Mr. E. Reuthe, Keston, for shrubs and flowers; to Mr. Rogerson, Didsbury, for orchids; to Mr. E. V. Low, Vale Bridge, Haywards Heath, for orchids.

Bronze Flora. — To Mr. L. R. Russell, Richmond, for shrubs.

ANNUAL MEETING.

There was an excellent attendance at the annual meeting, held at three o'clock in the Lecture Hall, under the chairmanship of the President, Sir Trevor Lawrence, Bart., who was supported by most of the members of council.

The usual formalities were observed, and 65 new Fellows were elected, and then the President rose to move the adoption of the report and balance-sheet as already circulated and published in our columns last week. Sir Trevor congratulated the Fellows on the continued prosperity of the society, and briefly referred to the work at Wisley, the new portraits of Baron Schroder and Mr. Harry J. Veitch in the Council Room, the effort to bring Pritzel's Icones Botanicarum up to date, the new arrangements for the conduct of the Lindley Library, the Holland House show of 1910, and the proposed summer show at Olympia in 1911, the proposed International Show of 1912, and other items of interest. Mr. J. Gurney Fowler, the treasurer, seconded the motion, and very lucidly compared income and expenditure with that of previous years. He said there were several trust funds in connection with the society, and he hoped to show the accounts of each separately another year. He pointed out that all possible expenditure on upkeep and improvements of the hall were placed to current and not to capital account, and that £150 was being set aside for three years to meet the expense of repainting the buildings in 1912. Since January 1, 1910, he had invested £10,000, bringing investments to £50,000.

Mr. A. W. Sutton, V.M.H., congratulated the Council on its able management of affairs. Mr. Elwes did the same, and expressed his pleasure at finding over £200 had been spent on books for the library, but he wanted to know exactly what the new arrangements pending between the Lindley Trustees and the Charity Commissioners would mean, and said he understood Pritzel's Icones Botanicarum had been brought up to date, and that typed copies of new matter since the publication of the book were at Kew and in the hands of Mr. Godman and Miss Willmott, and this being so, he thought the supplement might be printed at a far less cost than £3,000—the sum regarded as necessary for republication. The Rev. J. Jacob expressed his appreciation of the additions to the library, and suggested that one or more persons should be appointed to look out for and purchase rare horticultural works as these came into the market.

Sir Trevor replied to the several points raised, and said that the council proposed to hold very cordial relations with the authorities at the Japanese Exhibition at Shepherd's Bush this year, where Japanese horticulture would be largely represented. He also said the R.B.S. had not made proposals the R.H.S. could discuss. The Rev. W. Wilks pointed out that the revision, correction, and republication of Pritzel's Icones was not abandoned, but only in abeyance, because at present the American Universities had not come forward with the financial help expected. Col. Prain had said that £3,000 was necessary for a thorough revision and correction of the work, and towards that sum the Council were prepared to give £250 per year for three years. The typed supplements referred to by Mr. Elwes were neither correct nor complete. Mr. J. Gurney Fowler said that if the arrangements now in progress were carried through, the Lindley Trustees as such would disappear, and the library would be vested in the R.H.S. in perpetuity, but in such a way that the books could not be used in any way as a realisable asset. The Charity Commissioners would keep a fatherly eye on the Lindley Trust funds. The motion was then put and carried.

The Veitch Memorial Medal was then presented to Mr. W. White, orchid grower to Sir Trevor Lawrence, Bart.; but Mr. W. Botting Hemsley, F.R.S., late of Kew, and Mr. H. J. Chapman, of Oakfield, Wylam-on-Tyne, gardener to Mrs. Norman Cookson, were not able to be present to receive their medals. The Victoria Medal of Honour in Horticulture was then presented to Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston; and to Mr. A. Mackellar, the King's head gardener at Windsor; but Mr. J. McIndoe was ill, and could not be present to receive this coveted honour.

The proceedings closed with a vote of thanks to the President.

THE MOST POPULAR SWEET PEAS.

We publish the following from the "Sweet Pea Annual" by the courtesy of the Committee of the National Sweet Pea Society:—

Since the inception of the National Sweet Pea Society the committee has invariably held steadfastly to the view that the general bulk of the members should yearly contribute something of real value to the pages of the society's annual. For several successive seasons papers were issued upon which the recipients were invited to reply to questions on practical cultural subjects, and there can be no doubt that the reliable information thus gathered together has been of the utmost value to thousands of growers abroad, as well as in our own country.

In the early summer of 1909 it was decided, after much discussion, to invite members to participate in a great election with a view to ascertaining which were the most popular varieties in general cultivation. No fewer than 156 papers were most carefully filled in by members of the society and returned to the hon. secretary. Hereunder are the tabulated returns showing the precise position of each variety that received three or more votes. It is clearly demonstrated that certain varieties thrive admirably under practically all conditions, or there would not be such an overwhelming consensus of opinion in their favour, and those who are inexperienced might do far worse than make their selections from the list, choosing, of course, those which meet their individual tastes in respect of colour.

Votes.	Variety.
105	Helen Lewis
101	Etta Dyke
99	Countess Spencer
97	Mrs. Hardcastle Sykes
84	John Ingman
78	Evelyn Hemus
69	The King
67	Constance Oliver
67	Mrs. Henry Bell
64	Frank Dolby
60	Mrs. A. Ireland
53	Clara Curtis
50	Elsie Herbert
41	King Edward VII.
35	Nora Unwin
34	Queen Alexandra
34	The Marquis
32	Paradise Ivory
31	George Herbert
31	Helen Pierce
29	St. George
27	Mrs. C. W. Breadmore
26	Lord Nelson
26	Black Knight
26	Asta Ohn
23	Dorothy Eckford
22	Prince of Asturias
21	Audrey Crier
20	Menie Christie
20	Henry Eckford
16	James Grieve
15	Lady Grizel Hamilton
15	Mrs. Collier
14	Prince Olaf
12	Marjorie Willis
12	Rosie Adams
12	A. J. Cook
11	Gladys Unwin
11	Anna Lumley
11	Mid Blue
9	Mrs. Walter Wright
8	Syeira Lee
7	Chrissie Unwin
7	Mrs. Charles Foster
7	Lavender George Herbert
7	Zephyr
7	Paradise Red Flake
6	Sybil Eckford
6	Phenomenal
6	Romolo Piazzani
6	Olive Ruffell
6	Mrs. Malcolm
5	Mrs. William King
5	Miss Willmott
5	Duke of Westminster
5	Queen Victoria Spencer
4	Horace Wright
4	Dora Breadmore
4	Mrs. Masters
4	Tennant Spencer
3	David R. Williamson
3	E. J. Castle
3	Lady Althorp
3	Anglian Blue
3	Silas Cole
3	Queen of Spain

FLOWERING CURRANTS.

There is possibly no more familiar shrub found in old-fashioned gardens than the ordinary form of Ribes sanguineum, which is popularly called the "flowering currant," and were a census of the best-flowering shrubs taken, it is quite probable that it would take a high place in the list, for notwithstanding the fact that a large number of very choice and beautiful shrubs have been introduced since this plant came on the scene, there are few which prove more floriferous and showy, or are of easier cultivation.

Though many species of Ribes belonging to the currant group of the genus are known to science, the best, from a floral standpoint, are included in the two species, R. sanguineum and R. aureum. The garden currants, which are grown for their fruit, make no pretence of beauty where the flowers are concerned. Hybrids have been raised between these and the ornamental-flowered kinds, but so far the efforts to combine showy flowers and palatable fruit have been failures.

RIBES SANGUINEUM ALBIDUM. [Photo: C. P. Raffil.

A free-blooming and attractive variety with white flowers.

The flowering currants possess one great advantage over many of our choicer shrubs in that they may be grown practically all over the country, and by anybody, for they are as hardy as a sloe and as easy to grow as a blackberry. Any ordinary garden soil suits them, and they may be grown for many years with practically no attention. When they become overgrown they may be thinned out well, cut back, or thrown away, for nobody minds getting rid of a plant that can be so easily replaced as a flowering currant. Cuttings of ripened shoots a foot long, taken in October or November, and inserted in a shady border in a similar manner to ordinary gooseberry or currant cuttings, may be expected to root during the following spring, and in the course of the summer form plants large enough to put out in permanent places if it is so wished. A second year in nursery quarters however results in a thorough good foundation being laid for the future plant. Though the majority of the different varieties of the two species previously alluded to are of good constitution, the subject of the accompanying illustration exhibits a share of the weakness which is apparent in many albinos, as it has a peculiar habit of suddenly going wrong when, to all intents and purposes, in full vigour, and there is little or nothing to show the cause, therefore it is advisable to root a few cuttings each year to keep a stock in hand.

In addition to the flowering currants being valuable assets for the shrubbery, they may also be used for forcing, though they do not appear to be grown very largely for that purpose. Forced in a moderate amount of heat, however, they open well, and give a very good account of themselves.

Ribes sanguineum is found in California and other parts of Western North America, and is said to have been introduced to British gardens about 1826. It is well known as a large bush, four to six feet high, which blossoms profusely from March to May, according to the earliness or lateness of the district in which it is grown. Its drooping racemes of red flowers are too well known to require description, whilst its bluish-black fruits are equally familiar objects. Like many other widely-grown plants, a number of distinct forms have originated, which have been given varietal names. These differ chiefly in the colour of the flowers, some having richer blossoms than those of the type, whilst others have paler. Some of the best of these varieties are as follows: R. s. albidum, with pale, almost white blooms (see illustration); atrorubens, with very rich, deep red flowers; atrosanguineum, darker than the type; carneum, paler than the type; flore pleno, with double flowers; and malvaceum, with rather larger and more hairy leaves, and shorter and denser inflorescences than R. sanguineum.

R. aureum is variously known as the golden currant, buffalo currant, and Missouri currant. It is also a native of Western North America, and forms a bush four to eight feet high. It differs from the former in its shiny, hairless leaves and rich golden flowers, which are very fragrant. The fruits are usually golden in colour, but sometimes black, or almost so. Like the former plant, it possesses a number of varieties, some of which are more ornamental than the type. The best is R. a. aurantiacum. It is dwarfer and more compact than the type, and an extremely free flowerer. R. a. præcox blossoms earlier than the other forms, and flowers sometimes open early in March, the ordinary flowering time being April and May.

R. Gordonianum is a hybrid between the two above-mentioned species. It is a strong-growing bush, and the flowers combine the red and yellow in a curious manner. It cannot be said to be an improvement on either parent, however. R. bracteosum, also a Western North American shrub, is worth growing for the sake of its long pendulous racemes of small, yellowish-brown flowers, which open in May. It forms a good-sized shrub, and is wonderfully distinct from any other species.

Kew. W. Dallimore.

TEN WEEK STOCKS AS BEDDING PLANTS.

These delightfully fragrant plants have come to the front in recent years, and are now extensively employed for bedding purposes. The change that has taken place in the system of bedding out is responsible for their extended use. Under liberal culture and management ten-week stocks afford a splendid display over many weeks, and, on the other hand, if grown in light, porous soil, and they receive but scant attention in the shape of watering in times of drought, their life is a short one.

Over many years I have raised upwards of eight thousand plants annually for garden decoration, and I purpose offering a few remarks as to the method pursued. It is quite true that fairly good results can be had by sowing the seeds direct in the open garden, but, as far as my experience goes, the plants are not to be compared with those that are raised in frames at an earlier date.

The middle of March is soon enough to make sowings, and the best plan is to employ shallow boxes filled with light sandy soil, and, when placed in a gentle hotbed, rapid germination and subsequent growth result. A very important point is to ensure continuous growth, otherwise premature flowering will occur, and, in view of the fact that stocks are impatient of root disturbance, steps should be taken to prevent any serious check when they are placed in permanent quarters. The labour involved in placing the whole stock of plants into small pots will be well repaid, but I would advise that they be first grown into large sturdy plants in the boxes before being potted.

If pricked off at four inches apart when a couple of true leaves have been formed, and the plants are sprayed overhead in the early afternoon on closing the frames, good sturdy specimens will result in the course of a month, when they should be potted, and kept close for a few days. It only remains to admit air gradually, and at the end of a week or so to transfer to cold frames for the final hardening off process.

With respect to soil, the best results are obtained in fairly tenacious loam, to which a fair quantity of lime or builder's rubble has been incorporated, and if a good mulch of short manure is applied after a considerable amount of growth has been made, their season of beauty will be appreciably lengthened thereby. It will occur to the cultivator to thoroughly saturate the soil from time to time if drought prevails, and much good will be done if the plants are watered overhead, either through a rosed can or hose every evening for two or three weeks after being planted out. Further, in addition to the ground being liberally manured and mulched, an occasional dressing of some fertiliser may be given with advantage.

A word may be said as to the importance of procuring the seeds from a reliable source, and a firm who have a reputation to maintain. Specially saved seeds usually produce about 90 per cent. of double-flowered plants, while cheap imported seeds are scarcely worth attention. Several named kinds are very fine, amongst which Monarch is a great beauty. It throws up a single spike, which attains to eighteen inches, and sometimes two feet high, enormous white flowers being formed over the whole length. It is admirably adapted for large beds, also for bold groups or colonies in the borders. Mont Blanc and Princess Alice are also good white varieties of great purity, and the last-named has the merit of being a continuous bloomer. Triumph and Vulcan are altogether first rate in crimson, and a bluish shade respectively. The Dwarf Large-flowered can be relied upon to produce a great wealth of inflorescence and charming display, and the same applies to the Giant Branching section, which is certainly more effectively beautiful than any other section.

Walter H. Aggett.

THE INFLUENCE OF THE GARDEN.

The influence of gardens upon individuals and upon nations is incalculable, and probably the garden will never be appraised at its full value in the highest sense. Gardens have exercised an untold power in the civilising of nations, and it would be folly even at the present day to underrate the influence of the garden as a means of uplifting the moral tone of a community.

The love of flowers and trees, the appreciation of natural beauty in its many phases, will have nothing but a good effect upon the individual, and he who delves deepest into the beauties of Nature, and whose eyes are trained to define its charms, is the man who is going to obtain untold good, and abundant pleasure out of life. It has been aptly said that "Art is the expression of the soul," and, this being so, the garden makers' art is lifted to a very high plane indeed, and fully justifies the assertion that the successful maker of gardens is an artist indeed.

From the first bursting buds of spring to the glorious hues of the autumn the garden is an endless panorama of changing glories, and may be regarded as an important factor, to interest and to inspire the human race.

A really satisfactory garden is the one that combines natural beauty with harmony of arrangement. It must give pleasure to the beholder, and must ever be a restful retreat, wherein there is an absence of jarring incongruities, and one can find rest and repose. In a word, the true garden will be restful to the eye, and at the same time of great interest and perfect beauty. Small gardens may ofttimes possess these attributes, and sometimes large expensive ones will be found entirely lacking in that respect. Gardens which look as if they were constructed piecemeal, each portion, seemingly the product of a different scheme, and entirely lacking in harmony with one another, are inartistic and badly arranged.

When one bears in mind the fact that the flower gardens or pleasure grounds are places set apart for the display of floral beauty, to provide a calm and restful retreat where one can forget for a time the storm and stress of everyday life, and to furnish a pleasing setting for the dwelling-house, it will be realised that in addition to cultural proficiency, one also needs something of the artist's skill in the arrangement of the garden scheme.

A garden which fails to be to its owner of perennial interest must generally be regarded as lacking in attraction, though this need not infer that the garden in question is a neglected one. On the contrary, it may be exceedingly well kept, and stocked with beautiful plants, shrubs, etc., which possibly provide a blaze of colour at all seasons when flowers are possible. The fault may be simple, it may be an artificial note is struck, which puts harmony of arrangement out of the question; it may be that in striving after glowing effects, the whole picture becomes crude, gaudy, and overdone, but, whatever the fault may be, the garden is robbed of the exquisite charm it ought to possess, and deprived of half of its interest.

But the garden to which one can turn in the hour of gloom or weariness and find in its serenity and harmonious beauty just the inspiration, and the interest which leads one to forget self and the jarring notes of a worrying world, is the garden which has realised its mission. Here, with the mind and soul at rest, and the vision delighting in the beauties of the blossoms, and the hearing gladdened by the song of birds, and the hum of busy insect life, where one can find new interests and restful calm at every visit, one can enjoy to the full the pleasures of the garden. Usually the most charming gardens are those where employer and gardener are one in their desires to enhance its interest and beauty, and if the owner fails to find any interest in his own garden, there is no wonder that his employees often slacken in their endeavours.

In conclusion, let me advocate a note of originality in garden decoration. The artist must, if he desire great success, be original in his art. He must renounce the idea of being a mere copyist, and use his own eyes and brains to see the beautiful in Nature, and to mould his visions and ideas in a concrete original form. His picture, whether it be upon canvas or in the garden, should embody the results of his own study, observation, and love of beauty, and not be a copy of another's work in a different place. In following this idea one can understand why Japanese gardens are so uniformly pleasing. The Japanese garden maker is an artist in every case, an artist born, if you like, but improved by training himself to look upon his work with an artist's eye. Every detail is carefully studied with a view to after effect, every rock, every tree, every plant must be in keeping with the idea in his mind. The garden may not be a flower garden, as we know it, but it is beautiful in its finish, it is of great interest for it presents new features at every turn. Full use is made of every bit of ground in the endeavour to add to the charm of the scene, and to give a maximum impression as to its extent, and, when finished, it would be no easy task to find even the smallest detail out of place.

Art awakens art, and the influence of garden artistry is an immense power for good, that is why garden cities and well-arranged public parks can be reckoned as immensely beneficial to the town worker and town dweller.

P. S. Hayward.

Rose William Allen Richardson under Glass.—I think this is one of the most satisfactory roses we can grow in the cool greenhouse. Like Maréchal Niel, it enjoys a little protection, although a much hardier rose on the whole. Under glass we avoid the pinched and badly-formed buds found early in the season when growing upon walls, while there is no variety more certain in flowering than this. It also lasts well both on and off the plant, and is very decorative in all its stages of opening. By thinning out some of the wood that has flowered, especially the longer growths, and making room for more of the long new growths a good succession is obtained. But I would not prune quite so severely as with the Maréchal Niel. As a coat flower it is hard to beat, and we usually obtain a deeper shade of orange-yellow when growing it under cover. For the average greenhouse I think it is generally more successful than Maréchal Niel; but no yellow can surpass the latter when it does well.—A. P.

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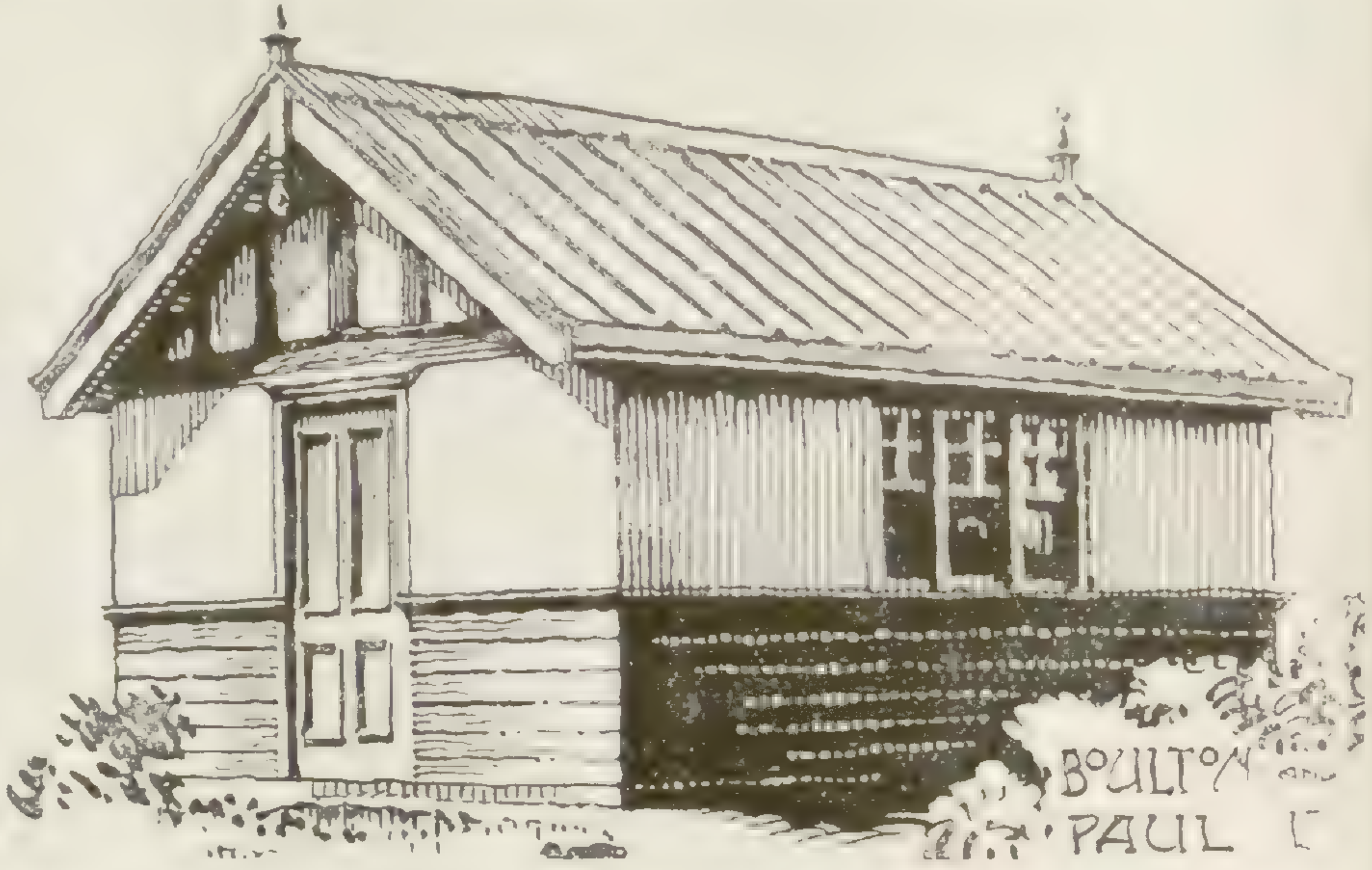

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APPLES FOR ORCHARDS.

The article on this subject by "H." (p. 65), is interesting, practical, and useful to intending planters. Standard-grown trees are affected less by neglect in management (pruning, for example) than any other form of training. For instance, a tree of Bramley's Seedling, owing to its natural tendency to spread outwards in a semi-weeping manner, will be less injured by a dozen years of neglected pruning than any other variety. I am certain if planters would keep the grass away from the stem of the tree for even a yard around much greater progress would be made during the first five years.

No one can give a universal list of suitable varieties; some sorts succeed in one county that are complete failures in another, not only in production, but as selling varieties. The only correct method of selection is by observation or experience.

"H." takes exception to Lane's Prince Albert as a standard on account of its poor growth; well, within fifteen miles of where I write I know of hundreds of half-standard trees of this variety that grow amazingly, and produce prodigious crops of very fine fruit. I presume there is no difference in standard or half-standard trees of the same variety in regard to the bearing propensity? In the case in point half-standards were planted owing to the situation being windswept. Vigorous growth is obtained by repeated manurings.

Now, with regard to the selection of varieties generally by "H.," Ecklinville Seedling is, in my neighbourhood, the worst variety we have. Some years ago, on the advice of an expert, I planted 250 trees, standards and bushes; all have been failures, not only in growth, but in cropping, plenty of small, ill-shapen, cracked fruit, as a rule, and even in a favourable season, when we did have a full crop of large fruit, this was the worst of all early apples to dispose of. Fruiterers say the skin is too soft, and the fruits will not bear handling, and thus the price is low. I have been told Ecklinville succeeds well in some districts. I find it makes an excellent stock for regrafting, both bush and the standard, as any variety grows well upon it. I have regrafted every tree of this variety, and those put on are growing capitally. Grenadier and Lord Grosvenor are the best September apples in this part: Gascoigne's Scarlet is too shy in bearing to recommend largely; Warner's King appears to be exhausted, not only here, but in Kent, where it formerly was such a success; Bismarck does not sell readily, and there is something about its flavour that is objectionable; Annie Elizabeth, Newton Wonder, and, above all, Bramley's Seedling, are fine favourites. The latter I regard as the finest of all varieties as an orchard standard. Norfolk Beauty must be added as an October apple, as it has all the merits of a desirable variety, and will largely take the place of Warner's King. Too many varieties are a mistake. It is much better to plant a dozen trees of a variety that does succeed, as it is quantity of suitable fruit, not a huge number of sorts, that pays. Trade purchasers like a quantity of that which sells well.

Amongst dessert apples Devonshire Quarrenden is still a favourite, coming in early and selling well; as a standard it grows satisfactorily, with occasional assistance from manure when young. Beauty of Bath is quite desirable, and very free in growth, and by allowing it to grow away freely it soon comes into bearing. The fruit sells easily at best prices. If Worcester Pearmain does not grow vigorously it grows sufficiently to warrant its inclusion as a standard. I look upon it as quite the best market variety we have in this neighbourhood. Allington Pippin has no market value here. Where Cox's Orange Pippin does succeed it would be advisable to plant none other, as nothing can touch it for freedom of crop, as well as quality; it is the favourite with all classes, but where the soil is heavy and retentive of moisture, and consequently cold, it is useless to plant this variety. Blenheim Pippin should be planted, and in numbers too; I used to think it was slow in coming into bearing, but that is not so. Make it grow freely at the start, thin the branches only, and allow it to grow at will in other respects, and good crops will be obtainable in a few years; keep cutting it back, and no crop is the result.

E. Molyneux.

Celery.—During the middle of the present month the first sowing should be made. Sow the seeds very thinly in six-inch pots, using finely-sifted light sandy soil. When sown, place the pots in a structure with a temperature of 55 deg., covering the seed pots with a sheet of glass till germination takes place. The chief point to bear in mind, and practice is to avoid a check to the growth, especially in the seed pots. Therefore, dryness at the root and overcrowding must be guarded against, or the majority will eventually run to seed. Superb White, Superb Pink, and Standard Bearer are three most reliable varieties, whether for home use or exhibition purposes.—G. E.

GESNERA ROYAL ORANGE.

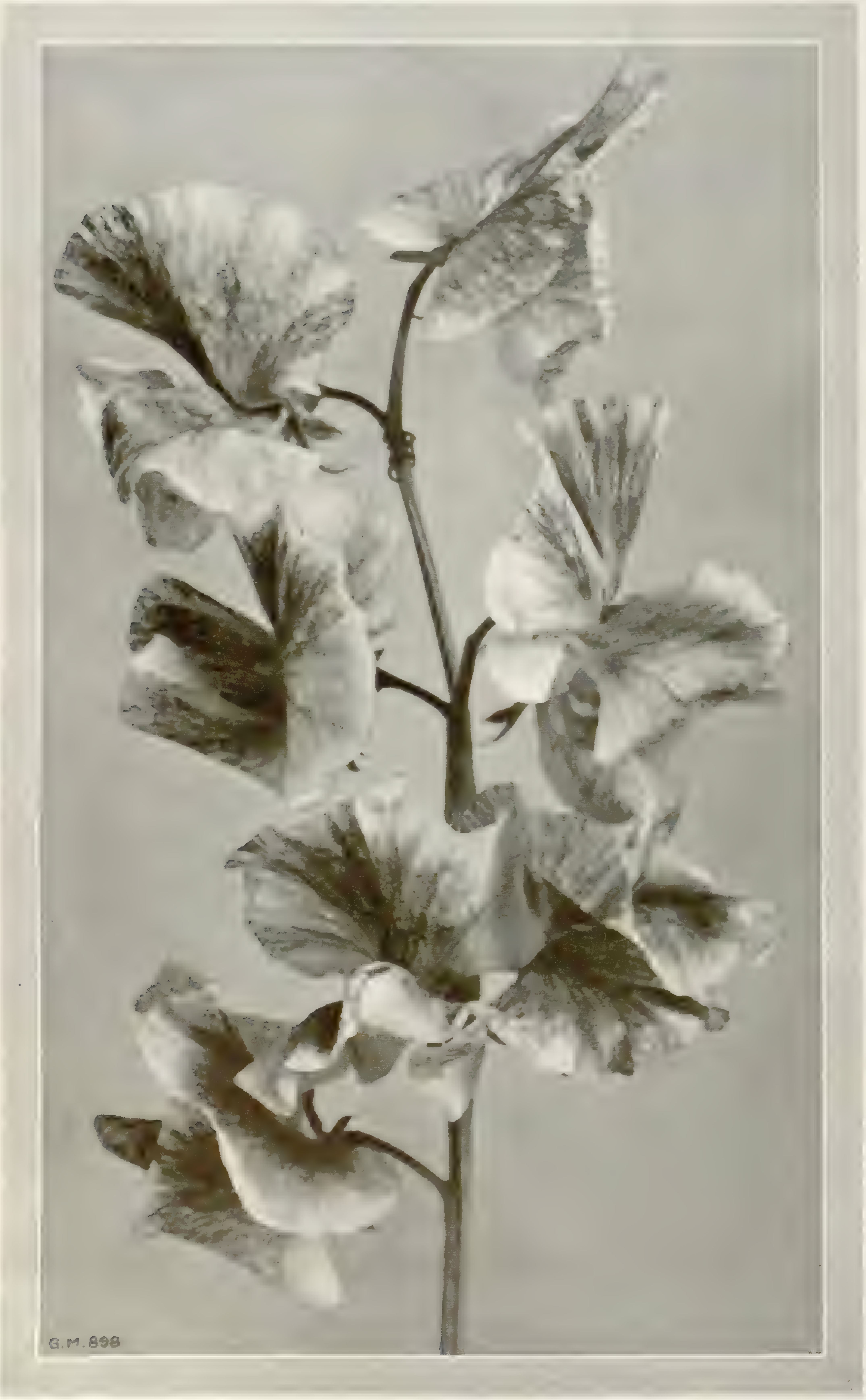
At one of the meetings of the Royal Horticultural Society, held a little while before last Christmas, a group of gesneras carrying very brilliant flowers was exhibited by Mr. J. Dickson, gardener to Adeline, Duchess of Bedford, Woodside, Chenies, Rickmansworth. The plants were so well grown and the flowers so brilliant that they attracted a great deal of attention, and there was considerable speculation as to the origin of the variety. It appears that the plants resulted from crossing Gesnera exoniensis with G. cinnabarina, and the name of Royal Orange has been given.

GESNERA ROYAL ORANGE.
An effective variety, with brilliant orange-coloured flowers.

Mr. Dickson points out that Royal Orange is better than either of its parents, and gives a new colour. In the culture of gesneras he starts the tubers in gentle heat about the end of May, placing them in boxes near the glass. As soon as growth commences they are potted singly into small pots, and presently given a shift into five-inch pots. During the summer a cold frame provides the necessary protection, and shelter from hot sunshine is afforded. The plants exhibited, one of which is herewith illustrated, were kept in a cold frame until September, and then put in a house with a temperature of from 50 to 55 degrees. Under stove treatment Gesnera Royal Orange becomes leggy, and the flowers do not produce the brilliant orange colouring that characterises them under the cooler conditions.

THE BUTCHER'S BROOMS.

At one time those members of the genus Ruscus cultivated in gardens were considered to be five in number, but two of them are now taken therefrom and assigned to other genera. By far the best known is the common Butcher's Broom (Ruscus aculeatus), which forms a dense mass of much-branched stems, reaching a height of a couple of feet or a little more. To the uninitiated it is somewhat of a puzzle, as the little greenish flowers, borne in spring, appear to be produced from the centre of the leaves, but in reality these last are what are botanically termed cladodes, that is, flattened branches rather than leaves proper. A parallel example occurs in some of the Australian acacias.



SWEET PEA YANKEE (OR MRS. WILCOX).
Flowers waved, whitish ground, shaded and striped with bright crimson.

The berries of the butcher's broom are about the size of large peas, and bright red when ripe. When laden with fruit it is decidedly ornamental, but it is mostly seen in a fruitless condition. This often arises from the fact that the male and female flowers are borne on different individuals, and that it is necessary to bring the two in close contact in order to have berries. A valuable feature of the butcher's broom is that it will grow under the shade of trees better than most shrubs, and, on this account, it is often employed for clothing spots where little else will thrive. For this purpose the deep descending nature of its roots stands it in good stead.

Another species is Ruscus hypophyllum, which is of much dwarfer stature than the preceding. The cladodes, too, are larger, and, as in the case of the common kind, the flowers are borne on the undersides. This species is a native of the South of Europe, and is said to have been introduced in 1683.

Ruscus hypoglossum, much like the preceding, is remarkable from the fact that the flowers are borne on the upper surface of the cladodes, and are accompanied by a small cladode springing from the centre of the larger one.

The Alexandrian Laurel (Danæ laurus) was formerly included with the butcher's brooms under the name of Ruscus racemosus, and as such it is still generally known in gardens. It forms altogether a more elegant shrub than the preceding, and in general appearance very much suggests some of the dwarfer bamboos, with which it is well worthy of association. The stems, which reach a height of a yard or even more, are clothed with narrow, pointed, glossy leaves or cladodes, which are fresh and bright at all seasons. These stems, clothed with their pleasing greenery, are very useful in a cut state for association with cut flowers in large vases, and for similar purposes, as they retain their freshness for a considerable time.

Semele androgyna is the name of the plant formerly known as Ruscus androgynus. It is a native of Madeira and the Canary Islands, and needs greenhouse protection in most parts of the country. It is an exceedingly vigorous grower, so that a very large structure is necessary, such, for instance, as the Temperate House at Kew and the Crystal Palace, in both of which places it is grown. The stout shoots will mount up thirty feet or so in a season, and the arrangement of the branches and cladodes give them the appearance of being clothed with long pinnate deep green leaves of a leathery texture.

W. T.

SWEET PEA YANKEE.

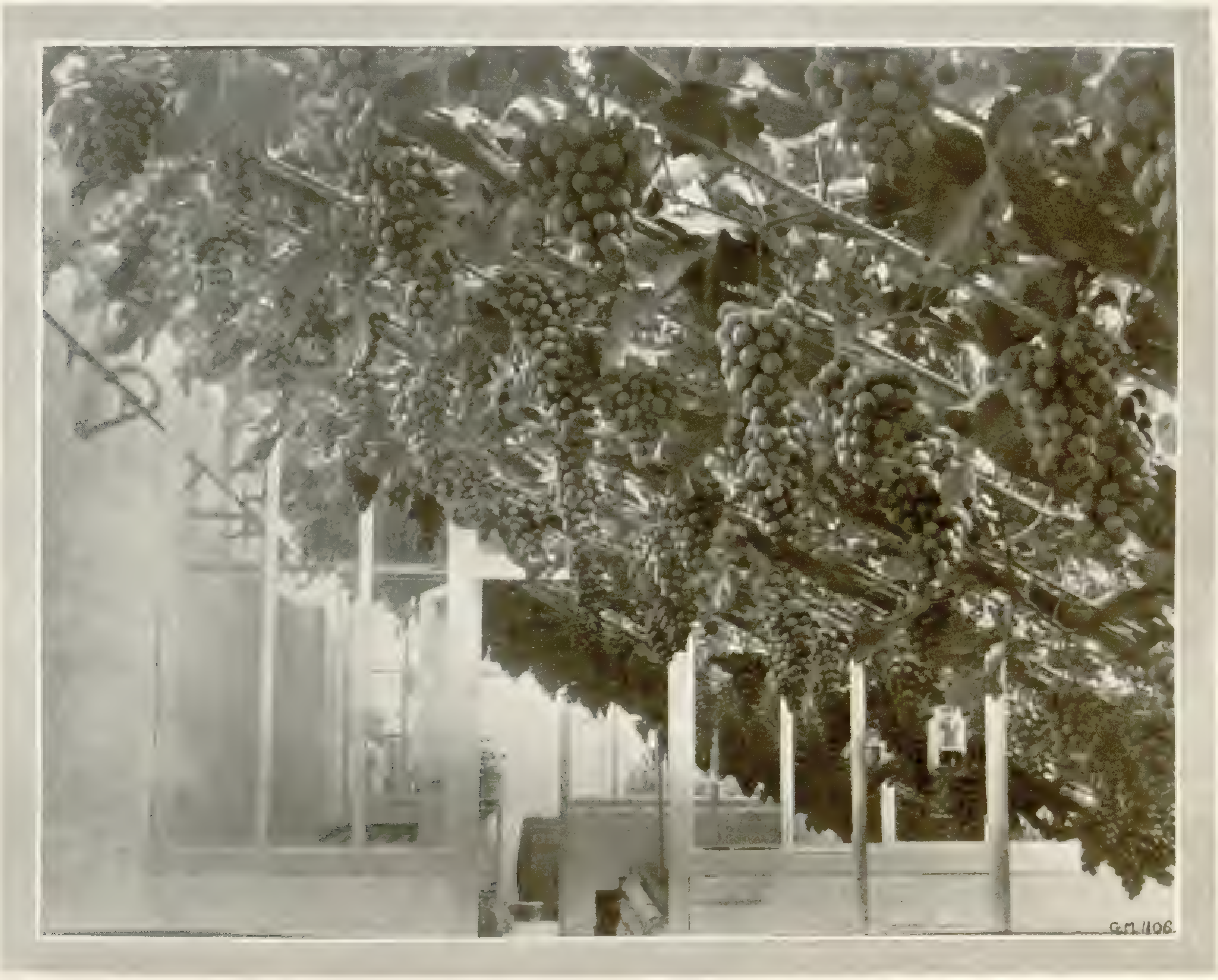
Perhaps it was because the American public are so fond of striped and flaked flowers of all kinds that Messrs. Isaac House and Son, of Bristol, named a fine sweet pea Yankee. This variety is interesting because it opens up a question of priority of naming. In the newly-issued "Catalogue of Sweet Pea Names" both Yankee and Mrs. Wilcox are described, but most specialists regard them as identical. The former is described as "crimson pencillings on pale grey ground; waved," while Mrs. Wilcox is described as "white, striped bright red." Yankee is credited to Messrs. Isaac House and Son for 1910, whereas Mrs. Wilcox is credited to Messrs. Gilbert and Son, Dyke, for 1909. No doubt the identity will be thoroughly established, or otherwise, at the sweet pea trials at Guildford this year, and if they are alike then it would appear that Mrs. Wilcox must be the name to retain. Mrs. Wilcox was exhibited in the competitive classes at the great London sweet pea show of 1909, but Yankee did not appear as such. Again, Yankee is recommended as a good waved sweet pea of the red-flaked section by the Floral Committee of the National Sweet Pea Society, but Yankee and Mrs. Wilcox are not bracketed in the list of too-much-alike varieties.

However, the variety is a very fine one, provided one has a taste for these striped and flaked sweet peas; it grows strongly, and carries large blooms, that are well waved, and very effective, the rich red or crimson markings being very bright.

A SUCCESSFUL EXAMPLE OF GRAPE CULTURE.

The cultivation of grapes has attained to so high a degree of perfection in this country that in visiting gardens one has opportunities for seeing many successful examples of grape production. However numerous they may be, the horticulturist never tires of seeing really fine crops of grapes, and those who are not specially interested in gardening seldom fail to give ready expression to their admiration for houses of grapes in which an abundance of large, finely finished clusters bespeak cultural skill of a high order. We have illustrated a considerable number of such houses within the past quarter of a century, and, as we know that they have been useful to readers as examples which the less experienced cultivators should endeavour to emulate, we have much pleasure in giving an illustration of two vineries in the gardens of The Grove, Carisbrooke, Isle of Wight, the residence of A. C. Marvin, Esq.

The two structures have an aggregate length of 70 feet, and the first of the two is wholly devoted to the Black Hamburgh, which is seldom seen in such excellent condition. As so well shown, the bunches are remarkable for their large size and uniformity, and the colour, we would add, was of the deepest. The second of the two houses is occupied by Muscat of Alexandria, Black Muscat, and Black Hamburgh, and the two Muscats were equally remarkable for weight of crop and high finish, it being quite exceptional to see the Black Muscat so finely coloured as in this instance. The grapes have always, Mr. Marvin states, been highly meritorious in these houses, which, it should be added, have no occupants other than the vines from the time the laterals are tied down until the whole of the grapes have been used. It may be mentioned as evidence of the interest Mr. Marvin takes in his garden that in 1909 the grapes were grown by himself. The thinning of the bunches (some 500), and tying the laterals, were done by Mr. Marvin, and, indeed, ventilating and every detail was seen to by him. We may assume that he is well satisfied with the success he has achieved, and we should imagine that the constant attention required by the vines must have been rather trying at times. However that may be, the crops were such as to justify Mr. Marvin being proud of his achievement, and to give an ample return for the time, thought, and skill devoted to the vines.



A FINE CROP OF GRAPES
In the gardens of The Grove, Carisbrooke, Isle of Wight.

Clerodendron fallax.—This useful stove flowering plant may be had in bloom from early autumn to mid-winter, and is most easy to grow, either from cuttings or from seed. I prefer the latter, as seedlings grow more freely. From seeds sown now and the seedlings kept growing steadily plants may be had to bloom in October. Sow in light peaty soil, in pans, placing the seeds one inch apart; potting off the seedlings as soon as large enough to handle. For cuttings, cut back the old plants fairly hard, and place in a stove or melon house; if kept syringed, they will soon break, when the cuttings may be put in singly in 60's as soon as long enough, and if placed in a propagating pit with a brisk bottom heat, they will readily strike. These will flower a month or two before those raised from seed.—T. S.

CULTIVATION OF THE VINE.

(Concluded from page 110.)

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Disbudding and Stopping.

Disbudding is an operation involving much skill and experience on the part of the operator, and has an important bearing upon the future growth of the vine. As soon as it may be perceived that the young shoots of about an inch in length are developing from each spur, it becomes necessary to select one of promising appearance, from as near the main stem as possible, all others being removed. This operation must be performed at the earliest possible date, as if the young buds are removed while in a somewhat advanced stage of growth, the vitality and energy of the plant are wasted.

Stopping is requisite in order to keep superfluous growths of shoots within bounds. The length of these shoots should be regulated in this manner to within about two joints beyond the bunch, and the operation itself is performed by pinching the end of the shoot between the finger and thumb as soon as two or three leaves can be distinguished beyond the bunch. This will give rise to the appearance of laterals, or as they are more correctly termed, summer lateral shoots, and the latter should receive similar treatment to the original shoots, the operation being repeated throughout the season, as necessity arises.

Tying Down.

Vines, when growing strongly, are of very tender structure, the shoots being easily broken or snapped out of their sockets by any undue strain. The grower must, therefore, not be too eager to secure them to the trelliswork, the first object of tying down merely consisting of securing their points from contact with the glass by means of thin strips of raffia, the final securance being more safely effected when the wood is hardened.

Setting or Fertilisation.

Sunshine is the principal factor in aid of fertilisation, and it is impossible to admit too much of this desirable agent in conjunction with a fine, mild, bracing atmosphere. By this means, the pollen is freely dispensed. There are diverse opinions as to the most suitable temperature to be maintained during the setting of the grapes, and while some recommend a temperature as high as 65 deg. by day, or 70 deg. by night, in late houses and on open walls vines set their fruit quite freely at a temperature as low as 45 deg. There are some varieties of grapes, notably "Muscats," which require artificial fertilisation, and this can be effected in a variety of ways; one plan consists of sharply tapping the rods, and so causing the pollen to fly out in clouds, while among varieties known as "bad or shy setters," recourse is sometimes had to the application of foreign pollen to the stigma by means of a hare's tail tied to a stick, the smallest quantity of pollen sufficing to fertilise the flowers. Another plan consists of drawing a dry hand or a silk handkerchief gently down the bunch about mid-day, the period most favourable for this operation. For greater security and safety, many cultivators fertilise all varieties by one of the above methods, whether Muscats or full setting Alicante.

Thinning.

The vine is perhaps the most fruitful of plants, being indeed liable to suffer through over fertility if the operation of thinning is not practised. The extent to which this should be done depends in a great measure upon the constitutional character of the plant, and a great consideration which helps us to determine this is the extent of foliage to be observed on the vine. It must be remembered that all life-giving properties are introduced into the body of the plant through the medium of the leaves, and with this fact in view, it is easy to see that a vine with poor sickly looking foliage can never be expected to crop well. It may be accepted as a general rule that a pound of grapes should be borne to one foot length of rod.

Thinning the berries, a delicate and somewhat tedious operation, requires great skill, and this can only be arrived at by considerable experience and practice. Any existing shoulders of an ungainly appearance should be removed, the others being supported symmetrically by thin strips of raffia. The bunch should be steadied by a small stick held in the left hand, and, using the scissors with the other hand, small stoneless berries can be first removed, and subsequently, the inside ones, thinning out the remainder sufficiently to allow each berry a full chance of developing full size. When thoroughly ripe the bunch will then present a solid compact appearance when placed on a dish. A well-known expert has suggested a praiseworthy plan of leaving the berries thick on the shoulders; this will cause them to swell upwards, and not only result in a larger bunch, but also add greatly to its beauty of form when cut. Disfigurement at this stage is of lasting effect; consequently, great care must be exercised in preventing contact with the hand or hair.

Experience.

ROOTING PERPETUAL-FLOWERING CARNATION CUTTINGS.

In no operation connected with horticulture is there more division of opinion than on the rooting of perpetual-flowering carnation cuttings. We differ in the matter of the best compost to use, the correct temperature, whether the open greenhouse or a close propagating case is best, whether in pots or beds, and so on. It is not my intention to condemn any method which I myself do not practice, nor do I maintain that the following is the only method of rooting these cuttings; other ways may give equally good results. I simply state that the following system has been built up from years of experience in some of the best carnation nurseries, and is a combination of English and American methods.

I am a strong believer in sharp clean sand in which to root cuttings, free from any decaying matter, and of a medium texture. A good grade Bedfordshire silver sand would be difficult to improve upon. Some may think that pure sand would have a weakening effect upon the cutting, but in practice this is not so; on the contrary, the cutting keeps much fresher in it, hence rooting with less effort, and a minimum amount of check.

An ordinary propagating case, sufficiently deep to allow the glass to be six inches clear of the cutting at the lowest point, with a bottom of soft bricks, which will absorb the surplus moisture, should be selected. This gives a free drainage, which is very important. Four inches of sand should be spread over the bottom of the case, directly on the bricks. This should be damped and beaten down firm, otherwise the cuttings will not stand upright after being watered in.

The warm end of an ordinary carnation house is ideal for propagating, and if a curtain is hung round the sides of the stage, so as to direct the heat from the pipes straight on to the bricks at the bottom of the case, the required warmth is easily obtained.

In this country, with its weak winter light causing a soft growth, I maintain that the cuttings should be protected from the air during the day by covering the case with glass, this being removed at night, and put on later each day until, after fifteen days or so, it is not used at all. If you have air upon the greenhouse, as you naturally would if it was a house full of growing plants, then treat the propagating case as a miniature greenhouse, not removing the glass entirely at night, but putting air on, increasing it each few days until the cuttings commence to root, when the glass should be dispensed with.

A carnation cutting should not be allowed to become dry. If once this takes place the cuttings are spoiled, if they are kept too wet, only a few weak roots are produced, which can never support a strong plant. This is a point in favour of pure sand as a rooting medium. Place the cuttings in rows, giving a space of two inches between the rows, and half an inch between each cutting.

Some will think that the above is rather a wholesale way of handling cuttings, which, of course, it is. The advantages are (1) that you have a large body of rooting medium, which is more easily maintained at a regular degree of moisture, being upon soft porous bricks, which themselves absorb or give moisture, according to the condition of the sand; (2) the bricks greatly minimise the fluctuation of the bottom heat. If the cuttings receive a thorough watering in the first place, little or no additional watering will be required until they are nearly rooted. This also is a great advantage.

I am a strong believer in carnation cuttings being rooted under cool airy conditions, this prevents them making any weak top growth during the operation, and has a great influence upon the constitution of the plant. I believe a bottom temperature of 55 degrees, and a top temperature of from 45 degrees to 50 degrees is best. Under such conditions cuttings will take a month to root. I quite realise that in a higher temperature cuttings could be rooted in less time and at less expense, but nothing can compensate for quality.

The aim should be not to wet the foliage of the cuttings more than is necessary. Perpetual overhead spraying, coupled with high temperatures, practised by some, does more to create disease and break down the constitution of varieties than any other practice I know.

Montagu C. Allwood.

FEBRUARY IN THE ROSE GARDEN.

Much of the work among roses during this month will necessarily depend upon the weather experienced, and to what extent the plants have escaped injury from frost. Still, there is March to contend with, and more than once I have known this the most trying month of the year. Keen, drying, and sometimes frost-laden winds are a great trial to all plant life, and very difficult to guard against. The ordinary winter covering being removed, and with the sap on the rise, the rose wood is still in jeopardy. This is especially the case with plants upon walls, standards, and the long growths upon pillars and pergolas. And this is the most valuable wood for early summer display. Although too early for general pruning, there is no reason why the thinning out of dead or superfluous shoots should not be carried on, and thus lighten the great pressure of work that inevitably comes upon us from March onwards.

Examine the beds and fill up gaps before too late. Keep all plants and cuttings trodden in firmly. Cuttings are often drawn a few inches upwards by frost, and, unless pressed back again, remain "hung," and the base of the cutting has not a good chance of rooting. Standards do not draw up so much, but none the less it is well to tread round them again as soon as the ground will permit; but on no account should the soil be trodden while it is wet.

If the plants have been mulched during the winter, and the weather is favourable, light digging between them may be done to advantage at any time, turning in the mulch two inches or so deep. Avoid putting the spade or spud too far into the soil, or the fibrous roots near the surface will become broken, and there cannot possibly be any benefit from digging deep enough to cause this. The tool should be set in about three inches, and then pushed along almost on the level, when the soil can be turned over easily. It need not be broken down much; this can be done later on, when using the hoe, and the free admission of air for a time is beneficial. All through the spring and summer hoeing will be facilitated by shallow digging now or in March.

A. Piper.

There is no better guide to the kitchen garden than Vegetables and their Cultivation, by T. W. Sanders. It is a complete treatise on the general management of the garden, and the successful culture of vegetables, saladings, and herbs for home use. Price 5s. net, by post, in box 5s. 6d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

ESPALIER FRUIT TREES.

The espalier system of training fruit trees has much to recommend it, and there are not many gardens in which a few espalier trained trees might not with advantage find a place. In these days, when fruit trees are subjected to attacks from innumerable enemies, such as insect and fungoid pests, it is a good practice, wherever possible, when planting fresh fruit trees, to plant dwarf trained as espaliers, cordons, etc. Espaliers can be most conveniently planted in borders by the side of walks; in this position they take up very little of the garden space, and are most conveniently situated for receiving the necessary attention of winter pruning, training, thinning the fruit, summer pinching, spraying, etc. Another point which is worthy of consideration is that the fruits on espalier trained trees can be more easily and economically protected from the attack of birds than trees grown as bushes, pyramids, or standards.

In preparation for planting, the border should be trenched two spades deep, and unless on good loamy soil of good depth, the bottom layer should not be brought to the surface, but be well broken up, and left in the same position. On heavy soils especially it is most essential that ample drainage is provided, as no fruit tree will continue in a satisfactory condition for any length of time when planted in a cold, wet, and undrained soil. On stiff land a good dressing of road scrapings taken from a heap that has been laid up for some months, will be found very serviceable for incorporating with the upper layer of soil. A little wood ashes, and a light dressing of soot may also be applied with advantage.

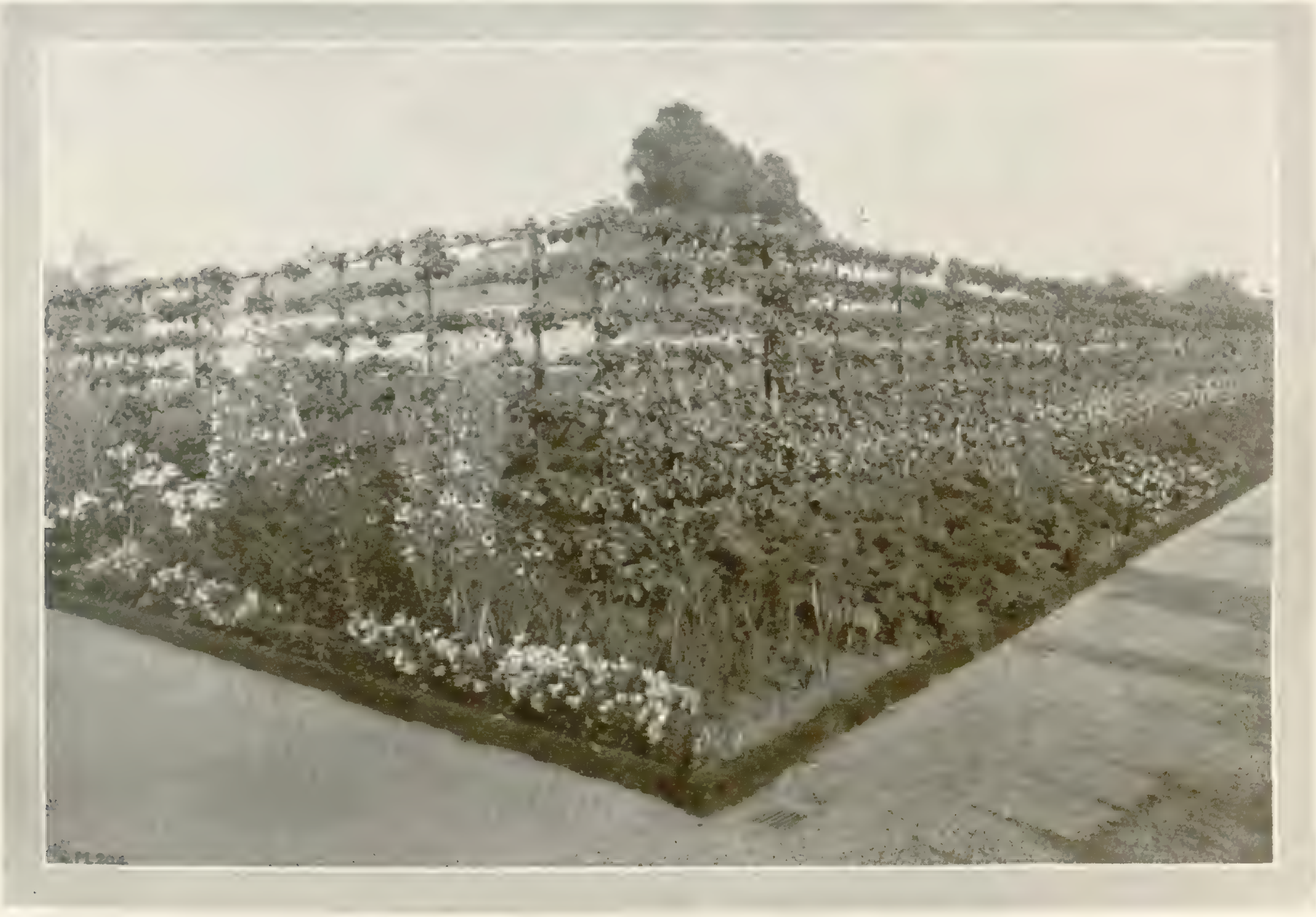
Strong manures should never be placed in contact with the roots of freshly planted fruit trees, but the fact must not be lost sight of that most fruit nurseries are established on good loamy land, and the condition of the soil is kept in good heart by the application of manure, with the result that the young trees when received from a nursery are found in a strong, healthy state, and to plant these on poor land is to give the trees such a check as will take them years to recover, hence the necessity of having the soil in good condition by incorporating with it when necessary a little well-decomposed manure. This will encourage the young roots to take possession of their new position, and be ready to furnish strength to the tree to enable it to push forth all its dormant buds in due season.

The supports to which the trees are trained may be either iron hurdles, iron standards and wire, or wood posts with wood laths; they are usually erected with five horizontal bars or wires, the bottom one should be one foot from the ground, and the same distance should be allowed between the others, but whichever kind of support is used, it should be fixed in its proper position previous to planting the trees, so that there is no disturbance of the young trees.

Trees with three tiers of horizontal branches having an upright leader to produce the next tier are the most suitable for planting. These should be purchased from a reliable firm where fruit trees are well grown, and as soon as they are received they should be unpacked, and if the roots are found at all dry they should be immersed in a tank of water long enough to thoroughly soak the roots. If the weather is favourable for planting no time should be lost in placing the trees in their permanent positions, but before doing so, examine the roots and cut away with a sharp knife any damaged portions, also any coarse roots which have a direct downward tendency. Plant so that the horizontal branches are slightly above the level of the supports, as this will allow for the natural subsidence of freshly broken soil; loop the branches lightly to the supports, and wait until the ground has well settled before fastening them in the usual way.

Young trees of this age when received from the nursery are often plentifully set with fruit buds, but on no account must they be allowed to carry fruit the season after being transplanted. Some varieties of apples, such as Lord Hindlip, Mr. Gladstone, and others, will sometimes form fruit buds at the end of the leading shoots, which, if allowed to produce fruit, will materially check the extension of the branches. Trees which show this peculiarity, and have not yet covered the full space allotted to them, should have their main branches cut back to a prominent wood bud, that the proper extension of the tree may continue.

The amount of pruning required depends greatly upon the variety. The chief point to be considered, until the topmost tier of branches is formed, is the main upright growth. Select two healthy wood buds which are pointing in the direction required, and are situated just below the position the new branches are to take, then prune the leader back to the bud immediately above these. This topmost bud will provide the new upright leader, and the other two buds will push forth and form a new tier of branches. This process should continue until all the branches are formed. Some varieties make but medium growth, while others make shoots three feet in length. The former will invariably push out all the dormant buds of the preceding season's growth without any shortening back of the leading branch, but the latter must be pruned back about one-third of their length to make sure of the branch being furnished with plenty of spurs. Always prune to a prominent wood bud pointing towards the direction required; when the trees have



ESPALIER FRUIT TREES AT BARROW COURT.
The residence of H. M. Gibbs, Esq. (gardener, Mr. Mincher), at Flaxbourton, Bristol.

covered their full area, the end of the main shoots are then treated as laterals.

In some instances one finds the branches of espalier trained trees covered so thickly with clusters of spurs that it is impossible for them to produce much fruit, and that of such a quality as to be practically useless. As the energies of the trees is not devoted to the perfecting of a full crop of fruit, it expends itself in the production of innumerable wood growths, which are cut back during the winter pruning, with the result that the branches are worse crowded with useless wood growth the following season, while trees which have been kept in a healthy and fruitful condition from the first, by having the older fruiting spurs shortened, or cut out as required, so as to admit plenty of light and air to all parts of the branches for the formation and perfecting of numerous fruit buds, invariably produce annually large quantities of choice fruits. Trees in this condition make but little wood, the whole energy apparently being concentrated in bringing the crop of fruit to maturity, and in developing the fruit buds.

There is another point which should not be lost sight of, i.e., that for all closely-pruned trees as espaliers, cordons, etc., summer pruning is absolutely essential; given this treatment, with a judicious shortening of the laterals, and a slight thinning out of the older fruiting spurs during the winter, trees may be kept in a healthy and fruitful condition for many years, bearing in mind that intelligent summer pruning conduces to the formation of fruit buds, while winter pruning encourages wood growths.

Geo. Woodgate.

Rolleston Hall Gardens.

SMALL BORDERS FOR PEACHES.

I read, very recently, of some peach trees that were planted in good borders not bearing fruit until a period of seven years had passed. Much root pruning and labour had, in the meantime, been necessary on account of the very strong shoots which were annually made and did not mature satisfactorily. Of course, there are right and wrong ways of constructing the borders, and I am in favour of medium-sized ones. But I do not think it is the right way to excavate a lot of the original soil and then dump in many cartloads of chopped turves, and finally plant the peach trees in them.

I am a firm believer in rather shallow borders on sound drainage, and the area decidedly restricted. New turves may be utilised, nothing is better as a rooting medium. But the turves must be moderately dry, and be made quite firm as they are put in. A fair quantity of old mortar rubble should be mixed with the turves. This has been my plan of making peach and nectarine borders, no manure being put in, as all feeding has been done afterwards. Where it has not been possible to form an ordinary border I have built brick pits for the soil and roots, with the greatest success. In firm borders judiciously restricted, peach trees will commence to bear fruits from the time of planting, and if the crops be wisely regulated there will not be much necessity for lifting and root pruning.

Experienced cultivators know exactly the right treatment their trees require under the different circumstances, but beginners (and especially when they have not much space for borders) may take heart, and not be afraid to plant trees in restricted rooting areas.

Geo. Garner.

ACTION AND MOVEMENTS OF WATER IN SOIL.

In an important contribution to the Ontario Farmers' Institute, Professor W. P. Gamble, of the Ontario Agricultural College, gives the results of investigations made concerning the action and movements of water in the soil. We have already dealt with these results in a leading article (page 61), but we have had several requests for further information, and the paper is of such general interest that we reproduce it in a slightly abridged form:

Action of Water.

Of all the factors influencing the growth of plants, water is beyond doubt one of the most important. By virtue of its solvent power, it is the medium through which the solid substances in the soil are taken into the plant, conveyed to the appropriate organs to be digested, and then carried to the different parts of the plant to be used in the construction of tissue, or to be stored up for future use.

The water with its dissolved plant food (salts) is absorbed from the soil by the roots of the plants; and is then carried by the upward flow of the sap to the leaves. When it reaches the leaves, some of the water and all of the salts are retained for food manufacture. However, much more water enters the leaves than is needed for food, this excess having been used for carrying plant food from the soil. When the food has reached its destination the excess of water is evaporated from the leaf surface. This process of evaporation, called transpiration, is regulated according to the needs of the plant. If there is an abundance of water, transpiration is rapid; if the water supply is small in amount, transpiration is checked.

Under ordinary conditions plants lose very large quantities of water by transpiration; hence, before we can thoroughly understand and appreciate the importance of the moisture which reaches the soil by natural atmospheric agencies, we need to know clearly what relation this amount holds to that amount which is actually required for the production of good crops of different kinds.

Because of this need, investigations have been carried on at the different experimental stations to learn how much water is required to produce a pound of dry matter in some of the leading crops. In the course of the several trials the crops experimented with were able to utilise an average of 2.28 times the water which fell as rain during the growing season, and that in having it to use yields averaging 2.34 times that of the field crops were obtained. It does not, however, follow from these experiments that well tilled fields, if plentifully supplied with water, will in every instance produce such crops as are recorded; neither does it necessarily follow that these large crops owe their excess over normal crops simply to the extra supply of water. Climatic conditions, the available plant food in the soil, and manuring may also influence the yield. But we may safely say that, were the water supply under better control, and larger at times, the field yields would be much increased.

Water-holding Capacity of Soils.

Our first series of experiments were started with a view to discover the relative amount of water which soils of different kinds were capable of holding, and also to learn what effect the fineness of the particles had upon the absorptive power of soils. For this purpose zinc cylinders 2 centimeters in diameter and 18.2 centimeters long were filled with different kinds of soil, and the cylinders were then placed in a pan of water. The soils were prevented from passing out of the cylinders by means of wire gauze covered with pieces of linen fitted into the lower end of each cylinder. Before placing the cylinders in the water they were carefully weighed, so that the difference in weight before and after saturation represents the weight of water absorbed. The results of these experiments go to show that all soils are capable of absorbing and retaining moisture, but the extent to which this is done varies greatly.

A brief examination of the results shows clearly that the water holding capacity of a soil increases with the fineness of its particles. This data also emphasises the necessity of cultivating clay soils in the autumn. For when clay land is broken up in autumn or early winter the upturned surface is exposed to the action of the atmospheric agencies and the disintegrating action of frost. The soil is thus brought into a fine state of division, which greatly increases its water holding capacity, and when it is observed that heavy lands, after a dry season, seldom become fully saturated with water during the winter and spring, the importance of autumn cultivation can be appreciated.

It is a matter of common observation that seed sown on clay land, which has been cultivated in the spring, will take a long time to germinate. This is true in all cases except when a shower of rain falls shortly after the seed has been sown. This fact can be explained only in the following manner. When a clay soil is broken up in the spring of the year, large clods form which prevent the rapid development of the root system, thus much of the food stored up within the seed is used up before the plant can derive any nutriment from the soil. Besides this, there is a deficiency of moisture within reach of the roots, which will tend to retard the growth of the crop, and if a dry season should follow, the crop will suffer severely from drought. If, however, a clay soil is cultivated before the winter, the action of the frost on the water within the soil will force the particles apart, and thus the soil is left in the best possible condition to produce rapid germination of the seed, as the roots of the plants are its feeders, and all the water ordinarily used by it passes in through these channels, we can see at once the importance of having the soil in such a state of division that the roots may readily make their way through it. The roots and rootlets of the plant, in burrowing through the soil, come into intimate relation with the soil particles, which hold a film of water in firm contact. The roots are thus surrounded by the soil water, a portion of which they are able to absorb. The water passes up through the plant, carrying with it soluble plant food, which is conveyed to the elaborating organs.

As already stated, the plant's roots can absorb food only in the soluble form, and a large supply of mineral elements is required by growth. Therefore, not only is a large quantity of moisture demanded for the direct use of the plant, but its presence in the soil is necessary in order that the plant food may be rendered soluble, and it is perfectly evident that clay soil, if the particles are in a fine state of division, has the greatest power, other things being equal, to meet these demands for water. The difference between medium clay and loam is very slight, but the difference is in favour of the clay. Sand is generally supposed to have the lowest water holding capacity of any of our cultivated soils, but the experiment goes to show that its absorbent capacity is very little less than coarse clay.

At first it appears rather strange that the amounts of water held by the medium clay and loamy soils are so nearly alike, but the analysis of the loamy soil showed high percentage of vegetable matter, as well as a considerable amount of pure clay. The most striking fact brought out is that the water-holding power of the coarse clay is much less than that of the finer grades. An important practical lesson can be drawn from this connection with the practice of cultivating heavy clay soils in the spring. It is well known that when wet clays are broken up in the spring, large solid lumps are apt to form, which are very troublesome, because they prevent the formation of a good seed bed. These large lumps of clay also constitute a clay soil of extreme coarseness which has very little capacity for holding moisture.

(To be continued.)

A GREAT SWEET PEA CARNIVAL.

One of the articles in the new "Sweet Pea Annual" is from the pen of Mr. S. B. Dicks, and it tells of a wonderful Sweet Pea Carnival held in the Western United States. It is of such unusual interest that we reprint it, with due acknowledgments to the National Sweet Pea Society, together with a couple of the illustrations:

BOZEMAN SWEET PEA CARNIVAL: PROCESSION OF CARS.

The name flower of our flourishing society has been honoured in many ways, in many different parts of the world, but the climax has certainly been reached in America, where a city of about 10,000 inhabitants has successfully organised a two-day carnival in its honour.

The city in question is Bozeman, the county town of Gallatin County, Montana. This state adjoins the Canadian frontier, being due south of the provinces of Alberta and Assiniboia, and is in that part of the United States which is usually described as the "wild and woolly West."

During my recent visit to the States I observed in a railway folder a notice of some cheap excursion rates to the Bozeman Sweet Pea Carnival, on September 15 and 16, 1909, but as I did not see the notice until the 26th of that month a visit was out of the question. However, I at once wrote to the secretary for an account of the festival, and herewith append his reply. The illustrations here given are reproduced from post cards, which is a sufficient excuse for any imperfections they may have:

"Bozeman, Montana,
"October 5, 1909.

"Dear Sir,—Your inquiry of September 26, from Boston, as to Sweet Pea Carnival here, to hand, and in reply—

"Some years ago it had been demonstrated that this valley raised the largest and handsomest sweet peas in the world, this being emphasised very largely by seedsmen and those who had visited and seen the sweet peas here.

"Our altitude is 4,750 feet, and so too high for roses and many other flowers, but as the progressive spirit here had always made for advertising our town and valley they decided to take the flower which excelled here and make it Our Flower, and to make an annual celebration, a carnival time which should grant fame to both the sweet pea and to Bozeman.

"In 1906 we had a carnival, a Sweet Pea Carnival, something which carried away all who saw it. Bozeman always does things right, and that carnival was all right, followed by the second Sweet Pea Carnival in 1907, by the third in 1908, and it was a whopper. There were 98 rigs in line in that parade and seven bands, many features which made for beauty and for the true carnival spirit. And then this year came the fourth annual Sweet Pea Carnival, and it also was one the city was not made ashamed by.

"This year there were 76 rigs and floats in line, and even the weather laughed and was glad with us.

"We have noted that a Sweet Pea Society has been started in New York City, 'the first in this country,' and although we are in 'this country,' and had been holding the sweet pea aloft and praising its beauty and sweetness for four years, we shall not attempt any North Pole tactics over who was first.

"They call Bozeman 'The Sweet Pea City' now, and the whole State turns out to our carnival and applauds.

"A postal card picture does not do credit to anything, and surely not to beautiful rigs, flower trimmed, and bespeaking money and time from every inch of them. But they are all we have to show, in proof, that we had a Sweet Pea Carnival, and that it was good, and so we send you some of these cards by this mail. Maybe they will interest you as well as 'proving.'

"Sincerely yours,
"Secy. Carnival Committee.

"Mr. S. B. Dicks.
"New York."

BOZEMAN SWEET PEA CARNIVAL: A DECORATED CAR.

Red Cabbage.—If a small quantity of seed is now sown in a box, and placed in a gentle warmth, it will soon require pricking off, and finally hardened previous to planting out in April. Treated in this way, many of the disappointments and failures are avoided that are experienced when the plants are raised from autumn-sown seed.—G. Elwood.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

CLEANING THE GLASS.—It frequently happens after a fall of snow that considerable deposits of soot, etc., have been left on the glass and woodwork of the houses, thus causing an obstruction to light. In smoky manufacturing districts, and in localities where fogs are frequent, the deposit is very considerable, and as, at this season, it is desirable the plants should have the benefit of all the available light, these deposits must be removed by washing down the roofs as often as may be required. We find the brushes usually used for cleaning the outsides of railway carriages very suitable for the purpose. These should have handles fitted to them sufficiently long to reach to the top of the roofs. In rinsing down it is well to have the hose on the ridge and wash downwards, and thus avoid forcing the dirty water through the laps of the glass. It is well to have all down-spouts stopped before washing the roofs to prevent the accumulated filth being conveyed to the rain-water tanks. The gutters should be well washed out also before the down-spouts are unstopped.

SHADING. — Where sun blinds are required for shading the roofs of the houses they should now be procured, as some of the divisions of the orchid houses will need covering in the course of a few weeks; in fact, where houses have a southern aspect, some covering is necessary at the present time during bright sunshine at the middle of the day. It is all very well to talk about having foliage of a bronzy hue among odontoglossums, and some other orchids, but these hardened and over-ripened growths and pseudo-bulbs will in a few weeks show their disadvantages by a loss of foliage. Experience has shown me that it is very much safer to give plenty of light at the closing of the year than when the sun is gaining strength after the middle of February. It is a good plan to have two sets of blinds for the odontoglossum houses, using the larger mesh No. 3 shading from February to the end of March, on houses running north and south with roof elevation east and west. Then using No. 5, "ordinary shading" until the end of September. There is a tendency for plants under the lath roller blinds to become drawn, but otherwise this method of shading has its advantages for cool house orchids, as the blinds can be used during the winter on cold nights, thus saving a considerable amount of fire heat, which more than compensates for the disadvantages apparent in respect to drawn and weakly growths.

WATERING. — With the varying conditions outside it is by no means an easy matter to decide whether to withhold or give root moisture. It is better to err on the side of safety and permit the plants to remain in a dry state at the roots when low temperatures and unfavourable outside conditions prevail. It is not safe to water any plants unless the normal conditions of temperature has been reached. After snow storms or heavy rains, the rain-water in the tanks will naturally be reduced in temperature. Sufficient hot water should be added to raise the temperature of the water at least 2 deg. above the normal temperature of the house before it is used for watering or spraying purposes. — H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

POTTING.—Providing plenty of potting material has been prepared and warmed through, and the pots of various sizes washed and well crocked, no time should now be lost in potting all occupants of the stove that require it, and even those that do not require potting should be turned out, the drainage examined, and a little top-dressing given, so that when the plants are rearranged they all present a tidy appearance. Most stove plants require a fairly light and open compost, consisting of loam, leaf-soil, peat, sand, charcoal, and broken crocks, and, if this is used dracænas, aralias, pandanus, eulalias dieffenbachias, and phyllanthuses may all be potted pretty firmly, particularly plants that are attaining some size.

CROTONS require rather heavier soil than the before-mentioned subjects, but the same mixture will suit them well, with one-third more loam added, as well as a little bonemeal. Specimens or half-specimens of these should be very firmly potted, after which the growths should be staked or tied into position, so that the plant as it grows will be shapely. Should the house in which these are grown be anything other than a span-roofed one, the plants will require to be turned round frequently to preserve their colour and shape; it is surprising how quickly the shady side of a specimen will lose colour. Young plants that were rooted in the autumn should also now be fit for potting into 48's, and if they are given a good position on a shelf, where they can have plenty of syringing, they will soon make good useful decorative stuff, and will grow somewhat sturdier, and be of better colour than those rooted in the spring.

EULALIA VARIEGATA AND CAREX JAPONICA VARIEGATA are not generally classed as stove plants, but when grown in the stove they make such graceful plants for decorative purposes that I cannot pass them over. They are of little use in anything over a 48-sized pot, but if small divisions are potted up now into 60's they will make really useful plants in a short time, and those that did duty in 60's last season may be potted into 48's, and, after doing duty in the house, they may be thrown away, and others brought forward to take their place.

WATERING.—After this general potting and overhauling care must be exercised with the watering, making sure that the larger plants do not get dry, or the loss of leaves will be serious, and as for some time to come a good deal of fire heat will be required, constant damping will be necessary to keep a humid atmosphere. Overhead syringings may be increased as the sun gains in power, but do not overdo this until the plants begin to grow and root freely.

POINSETTIAS AND EUPHORBIAS will in most instances have passed out of flower, and if they have been gradually dried off they may be turned on their sides under the stages of a moderately cool house, where they may be left until they are required in April for cuttings.—Thomas Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

EARLY MUSCAT VINES.—Every precaution should be taken to prevent vines of this kind receiving a check while in blossom, and consequently at the approach of this stage the laterals should have necessary stopping attended to, and be drawn down sufficiently to prevent contact with the glass, while the borders should be examined, and be given, if advisable, a watering with tepid water. When the blossoms open particular care must be taken to maintain the atmosphere of the house in a buoyant condition, by maintaining, in agreement with the weather, a night temperature of 65 to 70 deg., with, on dull days, an increase of from 5 to 10 deg., and about 10 deg. more from sun-heat, accompanied by careful ventilation. While the pollen remains in a fit state distribute it at midday by the assistance of a dry rabbit's tail, and by an occasional gentle shaking of the vines. Should the air become parched lightly spray the border surface early in the morning of fine days.

PRINCIPAL HOUSES OF MUSCAT VINES.—As Muscat grapes require a long season of growth, the chief houses, after due preparation, should be closed before the end of the month. In mild weather maintain a night temperature of 50 deg., allowing a slight fall in cold weather, and the usual rises by day, accompanied by a moist atmosphere, and syringing of the vines with tepid water several times during the day.

POTTING PINEAPPLES. — About this date plants of Queen pineapples, grown from suckers potted early last autumn, should be ready for a shift into their fruiting pots. For this purpose use efficiently-drained pots of twelve inches' diameter, and a compost of fairly dry light turfy loam, torn into moderately small pieces, and freed of its fine particles; add to each barrow-load a 7in. potful of bonemeal, or of an artificial vine manure, and a good sprinkling of soot. Before turning the plants from their pots, see that the soil is moist throughout, and pull away their bottom short leaves. In potting place the plants deeply enough in the pots to admit of the surface soil being well covered with fresh compost; allow sufficient space for watering, and firmly ram the compost; as the work proceeds plunge the pots two feet apart in a bed with a temperature of about 85 deg. Afford a night temperature of 60 to 65 deg., and corresponding day rises. Lightly spray the plants daily overhead, but water them sparingly until free root action takes place.

SUCKERS OF PINE APPLES. — Suckers upon winter fruiting plants of Charlotte Rothschild, and Smooth Cayenne should be potted in 7in. pots as they become fit. For affording from one house a lengthened supply of fruits of these varieties, it is necessary to pot several batches of suckers at suitable intervals.

ORCHARD HOUSE TREES.—Fruit trees in pots should be placed under glass at an earlier or later date, according to the time their fruit is required. When this is attended to, those that were not repotted, or top-dressed in the autumn, should have the surface soil removed, and be given good loam moderately mixed with crushed mortar rubble and a suitable artificial manure. During the early stages of the growth of the trees the temperature should not (from artificial means) exceed 45 deg., more or less ventilation being given when the weather is favourable. Do not over-water the trees. Fumigate the house immediately before the blossoms expand, and during the flowering period avoid a damp atmosphere by giving a little artificial warmth, accompanied by fairly free ventilation.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

TRENCHING AND DIGGING.—The time has arrived when these operations should be pushed forward with the utmost expedition, whenever the weather permits, to enable the bottom soil to receive the full benefits derived from exposure to winds and frosts that will certainly be experienced before seed-sowing and planting become general.

PEAS that were sown during the autumn in pots to produce a supply under glass should be encouraged in every way, but do not use fire heat, except during very severe weather. Top-dress them with equal parts of spent mushroom-bed and loam, and give them their final staking; give abundance of air during favourable weather, syringe and close the house early in the afternoon to husband the sun-heat as much as possible. A sowing can now be made out of doors, choosing a south sheltered border. Sow in trenches, which should be made with a nine-inch draw hoe. When completed, the soil should be three inches below the general level, thus providing shelter from cutting winds. Should it be very wet after sowing, boards wide enough to cover the trench are of great benefit, as they will prevent the soil becoming too wet during germination. Early Giant and Early Morn are of fine quality for this sowing. Make further sowings in boxes, and place under glass, just excluding frost.

ONIONS.—Those sown as previously advised will now require pricking off into boxes or pots. If put in boxes a distance of three inches from plant to plant will be the most suitable. I might say we find just as good results from boxes as when small pots are used, and they have the advantage of being economical. A good compost is formed by well mixing three parts loam, one part leaf-soil, one part spent mushroom-bed manure, and enough sand to keep the whole quite porous. Make the soil quite firm in the boxes, and when the young plants are pricked off give a good watering with tepid water, and place in a temperature of 50 deg., exposing them to full sunlight. Regular sprayings will now be beneficial to them.

PARSNIPS.—Providing the ground is in a suitable condition, a sowing of seed should be made about the 21st of the present month Quarters that were occupied by early celery last autumn will form an ideal site for this crop, particularly if it was well roughed up as the celery was dug. The same should by this date be well pulverised, and only need a slight levelling and forking over, adding, as this work proceeds, a good dressing of soot and burnt garden refuse. Sow the seed in drills that are eighteen inches apart. If exhibition specimens are required the best results are obtained by boring holes three or more feet deep, at eighteen inches apart, allowing two feet between the rows, filling the holes with finely-sifted compost, consisting of loam, leaf-soil, and sand.

POTATOES.—To succeed those growing in pots and boxes, pits should be prepared for succession. Prepare a heap of chopped loam, and incorporate therewith flaky leaf-soil, well decayed manure, and a good dash of burnt garden refuse. This should be kept under cover until used, when it should be formed into beds in the pits or frames not less than ten inches deep. When the compost has settled, and become of the same temperature as that of the pit, plant prepared sprouted tubers three inches deep in rows sixteen inches apart, and fourteen inches from set to set. Sutton's Ringleader and Webbs' Express are excellent varieties for frame culture.

CAULIFLOWERS.—Those sown early in the year will now need picking off into other boxes before they become drawn. This batch will be found of great service if grown on steadily for frame cultivation, planting them at one foot apart when this takes place. A sowing of Early Giant, Autumn Giant, and Walcheren should now be made in boxes. Place the boxes in quite a cold house, just to exclude frost, aiming at a very sturdy growth with this batch, which will prove very valuable for July and August supplies.

CHIVES, MINT, AND TARRAGON should be introduced into a warm pit as required. If the tarragon crop is short, it can readily be increased by taking cuttings from the stools when two inches long, inserting them thickly in small 60's that have been filled with light, gritty compost. — G. Elwood, Swanmore Park Gardens.

BEST PLANTS FOR GREENHOUSE.—Nearly 300 pages are devoted to the description, propagation, and culture of the best flowers and plants for the greenhouse in The Amateur's Greenhouse, by T. W. Sanders, price 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

FALMOUTH SPRING FLOWER SHOW.

This Show will be held on April 21st and 22nd, and not 26th and 27th as previously advertised. A large sum is offered in Cash Prizes, as well as Gold Medals, Silver Bowls, Cups, and Plate. Schedules from R. E. GILL, Hon. Secretary, Falmouth.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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National Chrysanthemum Society.

The annual general meeting of this long-established floricultural society was held at 6.30 p.m., at Carr's Restaurant, Strand, W.C., under the presidency of Sir Albert Rollit. There was not a very large attendance of members, but those who take a leading part in the society's affairs were present. There were probably fifty members present.

There were no controversial questions up for consideration, and the society is in better circumstances than for a long time past, and probably this was the reason that the proceedings were unusually brief, and only lasted an hour.

After the observance of due formalities the report and balance-sheet having been circulated, were taken as read; they are as follows:

REPORT OF THE COMMITTEE FOR 1909.

The Executive Committee have pleasure in submitting to the members their annual report for the year 1909.

At the last annual general meeting, Sir Albert Rollit, LL.D., D.C.L., was unanimously re-elected president of the society, a fact which gave your committee particular pleasure and satisfaction, as they were thus assured of Sir Albert Rollit's valuable advice and counsel on the many difficult matters which had to be considered at the beginning of the year.

Owing to the legal proceedings in connection with the Crystal Palace Company your committee were only able to arrange for one large show in 1909, which was held on November 3, 4, and 5. Your committee greatly regretted that it was not possible to hold the early and late shows as heretofore, as they consider these smaller shows to be an important and essential part of the National Society's work. The October and December shows of this society have been almost unique in this country, and have afforded an opportunity of studying the early and late varieties, which has been much appreciated by chrysanthemum growers in general and members of the society in particular. Your committee consider the holding of these extra shows as part of the settled policy of the society, and subject to being able to make the necessary financial arrangements they will again be included in the society's programme in the future.

The grand autumn show held at the Crystal Palace in November must be proclaimed an emphatic success, in spite of one or two circumstances which might have been expected to militate against it. The chrysanthemum season was perhaps not at its utmost height until about a week after the show, and the extremely wet weather experienced during the whole summer and autumn, and especially during the week or two prior to the show caused a diminution in the number of entries from amateurs. This, however, was counterbalanced by the entries in the open classes and the trade exhibits. Both the naves at the Crystal Palace as well as part of the central transept were again thrown open to the society's exhibits. Competition in the classes for large Japanese blooms was very keen, but for incurved blooms the date was early, and the entries suffered also by reason of several withdrawals at the last hour. The trade exhibits were again a dominating feature of the show, and the thanks of the society are due to all those members of the trade who so consistently rally to the support of the society.

Sir Albert Rollit presided at the judges' luncheon, which was held at the Crystal Palace on the first day of the show. In proposing the toast of "The Judges," the President acknowledged with gratitude the great services rendered by these gentlemen in an honorary capacity, and pointed out that the strict impartiality with which the judges made their awards at all the society's shows had helped in a large measure to place the society in the high and honourable position which it held in the horticultural world.

A highly successful conference was held at Essex Hall on Wednesday, October 6, 1909. Mr. T. Bevan occupied the chair at both the afternoon and evening sessions, and the following papers were read:

"Chrysanthemums as Annuals," by Mr. Charles H. Curtis.

"Early Single Chrysanthemums," by Mr. W. Wells.

"Late Market Chrysanthemums," by Mr. J. B. Riding.

"The Best Chrysanthemums for Cut Flowers": (a) From a commercial point of view, by Mr. P. A. Cragg; (b) From an æsthetic point of view, by Mr. D. B. Crane.

It is worth placing on record that 83 members were present at the afternoon session and 115 at the evening session, but in reckoning the value of these gatherings regard must be had to the very much larger audience to which the speakers were in reality addressing their remarks through the medium of the Press.

Several members of the trade exhibited groups of cut flowers and plants at the hall, and a unique exhibit was that of a bag of five gallons of chrysanthemum seed by Messrs. W. Wells and Co., Lim. This was probably the first time in history that such an exhibit was to be seen, and gave additional interest to the opening paper on "Chrysanthemums as Annuals." Hearty votes of thanks were tendered to the readers of the respective papers.

Arrangements have already been made for the holding of another conference in December next, full particulars of which will be issued to members in due course.

Eight meetings of the Floral Committee were held during the season, when 188 new varieties were submitted for consideration, of these 26 were awarded First Class Certificates, whilst 12 were commended. Votes of thanks were also passed to Mr. J. H. Witty and Messrs. W. Wells and Co., Lim., for collections of early varieties at the September meeting. In several cases the committee expressed a desire to see certain varieties again, and in this connection it is interesting to note that in more than one case where a similar desire was expressed in 1908 blooms were again brought forward in 1909, and were found to be well worthy of award.

The sections to which the certificates were awarded are shown in the following table:

	First Class Certificates.
Early-flowering Japanese	2
Japanese	6
Early-flowering Singles	2
Singles	4
Japanese Single	1
Incurved	3
Decorative and Market	8

In the list of certificated and commended varieties which will appear in the schedule a description of each variety will be given, and this, it is believed, will make the list still more useful to members.

Award for Colour.—The question of granting a special award for colour was very fully considered both by the Floral Committee and the Executive Committee, and it was unanimously decided to institute a new award, to be known as an "Award for Colour." It sometimes happens that a variety is submitted to the Floral Committee which has a particularly pleasing shade of colour, but which may not reach the necessary standard of quality on all points to receive the First Class Certificate. From a decorative point of view, however, such flowers are especially worthy of notice, and it will now be in the discretion of the committee to grant an Award for Colour in these cases.

The general body of members do not yet take that interest in meetings of the Floral Committee which might reasonably be expected. There was certainly an improvement in this direction during the past season, but your committee feel certain that if the value of these meetings were more fully understood there would be a much larger attendance of members on each occasion. To the real enthusiast who desires to keep his knowledge of the chrysanthemum up to date they offer opportunities which are not to be obtained in any other way.

The close of the financial year finds the society in a much more satisfactory position than was anticipated earlier in the year. For the first time for some years the balance-sheet discloses the fact that the whole of the ordinary liabilities of the society were paid before the accounts were ruled off. The position is therefore summarised as—Assets, £104 1s. 8d.; liabilities, nil.

The delay of the Crystal Palace Company in paying the consideration money due to this society under the 1908 contract was referred to in the last report. Unfortunately, your committee were compelled to place the matter in the hands of the society's solicitors, and judgment was obtained against the company. Before execution could be levied, however, a receiver was appointed by the High Court on behalf of the debenture-holders and the board of directors ceased to have any control. The receiver, Mr. E. I. Husey, is still in possession, and an order has been made for the winding-up of the Crystal Palace Company.

In the circumstances in which they were placed your committee were regretfully compelled to bring into operation Rule XI. By drawing upon the whole of the society's reserve fund the committee were able to pay 50 per cent. of the prize money, and this was paid to the prizewinners, with an undertaking that the balance should be paid as and when the remainder of the money due from the Crystal Palace Company might be received. The affairs of the company are not yet settled, and it will probably be some time before the liquidation is completed.

The contract for the holding of the 1909 show was made with the receiver, Mr. E. I. Husey, and the consideration money was paid in full on the first day of the show. The prizes were all issued to the winners immediately thereafter.

The accounts for the year 1909, duly audited, are appended to this report.

The committee have decided to hold shows during 1910 at the end of September or beginning of October, November 8, 9, and 10, and December, the latter being in conjunction with the conference to be held at Essex Hall. Negotiations are now proceeding with regard to same.

Special prizes were given during the past year by the following donors, viz., Sir Albert Rollit, D.C.L., LL.D., president; C. E. Shea, Esq., vice-president; the Ichthemic Guano Company, Mr. R. Sydenham, and Mr. J. Williams, Messrs. Clay and Son, Messrs. W. Wells and Co., Lim., Mr. R. F. Felton, and Messrs. Webb and Sons. To all of these the committee tender their grateful thanks, at the same time expressing the hope that all these names will be found in next year's list of special prize donors, together with many more which have never yet figured in that list.

The membership of the society has not progressed as much as the committee would have liked, and they again ask the present members to use their best endeavours to increase the membership roll during the coming year.

In connection with the International Exhibition to be held at Brussels during 1910, the president of this society, Sir Albert

Rollit, is acting as chairman of the English section of horticulture, and Mr. Thomas Bevan and Mr. C. Harman Payne are serving on the committee. It is hoped that the society will be able to send a representative exhibit to the chrysanthemum show during the last week in October on similar lines to that which was sent to Paris in 1900.

On behalf of the Executive Committee,
Thos. Bevan, Chairman.
E. F. Hawes, Vice-chairman.
Richard A. Witty, Secretary.
January 17, 1910.

STATEMENT OF RECEIPTS AND PAYMENTS.

RECEIPTS.

Dr.	£	s.	d.
To Balance at Bank brought forward	111	4	8
Petty Cash brought forward	2	10	1
Annual Subscriptions, 1908	4	18	6
Annual Subscriptions, 1909	128	16	2
Annual Subscriptions, 1910	2	17	6
Donations and Special Prizes, 1908 (Balance)	5	0	0
Donations and Special Prizes, 1909	42	3	6
Crystal Palace Company, on account of 1908	20	11	4
Receiver of the Crystal Palace, 1909	200	0	0
Entry Fees, 1909	9	0	0
Affiliation Fees, 1908 (Balance)	3	3	0
Affiliation Fees, 1909	42	0	0
Medals, etc., Affiliated Societies, 1908 (Balance)	7	13	6
Medals, etc., Affiliated Societies, 1909	32	13	9
Advertisements in Schedule, 1908 (Balance)	1	11	6
Advertisements in Schedule, 1909	16	6	0
Space, 1908 (Balance)	1	11	6
Space, 1909	11	16	0
Sale of Dinner Tickets	28	0	0
Balance of Outing Account	6	8	2
Transfer from Reserve Fund Account	57	4	6
Sale of Catalogues and Conference Tickets	0	17	2
	£736	6	10

PAYMENTS.

Cr.	£	s.	d.
By Prize Money, on account of 1908	148	1	9
Prize Money, 1909	199	1	6
Printing and Stationery, 1908 (Balance)	11	11	1
Printing and Stationery, 1909	54	7	5
Medals and Engraving, 1908 (Balance)	1	16	6
Medals and Engraving, 1909	44	13	0
Dinner Artistes	5	5	0
Holborn Restaurant	25	13	1
Fruit and Flowers	7	4	6
Secretary's Expenses	1	4	8
Hire of Piano (1908 and 1909)	1	10	0
Hire of Rooms, 1908 (Balance)	7	5	0
Hire of Rooms, 1909	13	16	0
Premium on Secretary's Guarantee Bond	1	10	0
Advertising	2	0	0
Secretary's Salary	100	0	0
Postage, Telegrams, and Carriage	27	5	1
Sundries	3	17	0
Bank Charges and Cheque Books	1	7	10
Insurance of Trophies	0	19	6
Crystal Palace Co. (Proportion of Space Charges, 1909)	2	19	0
Honorarium to Editors of Year Book, 1907	10	10	0
Balance of Petty Cash	0	7	9
Balance at Bank	70	1	2
	£736	6	10

Sir Albert Rollit moved the adoption of the report and accounts, and in doing so said the report was one of "work well done and honour well won." The year ended was not a really good one for the chrysanthemum, but the society's big show was an excellent one, and the trade displays were magnificent. There had been a conference, of great educational value, and the work of the Floral Committee was also of immense value to all lovers of the flower. He was glad to find a new Award for Colour was to be instituted for 1910. The membership called for little remark beyond a strong request that every member should endeavour to bring in some new members this season. The finances of the society were in splendid order, and the balance to the good was an excellent one, and liabilities were nil. Mr. T. Bevan formally seconded the resolution, and it was carried.

On the motion of Mr. J. Green and Mr. Moorman, the auditors, Messrs. Lake and Dean, were heartily thanked for their services. The President, Sir Albert Rollit, on the motion of Mr. Simpson and Mr. G. Dean, was unanimously re-elected president. Mr. J. Green was elected treasurer on the motion of Messrs. Witty and Bevan. Mr. Thomas Bevan was re-elected chairman of committee, and said this was his twenty-sixth year of committee work. Mr. E. F. Hawes, was re-elected vice-chairman.

The President moved the re-election of Mr. Harman Payne as foreign corresponding secretary, and eulogised his services; the re-election was unanimous. Mr. Payne responded, and referred to the origin of the "Repertoire de Couleurs," which had been referred to. Mr. R. H. Witty was unanimously re-elected secretary, on the motion of Messrs. Moorman and Curtis.

The election to fill the twelve vacancies on the committee was then proceeded with, but as only the requisite number were nominated there was no need for a ballot; those elected were: Messrs. W. Hiehle, W. Howe, H. J. Kybert, J. B. Linford, J. W. Moorman, J. T. Simpson, E. F. Such, J. H. Witty, F. Ladds, H. J. Jones, H. Farmer, and W. Rogers.

Mr. C. Harman Payne proposed that Mr. C. H. Totty (America), Mr. T. W. Pockett (Australia), and Mr. René Momméje (Paris) be elected corresponding members of the society, as a slight recognition of their services in connection with work among chrysanthemums. A strong recommendation was also put forward for the election of Mr. J. H. Witty as an honorary member, and it was regretted that, according to rule (absence of notice), the recommendation could not be put into force.

On the motion of Mr. D. B. Crane and Mr. J. H. Witty, a hearty vote of thanks was accorded the president for his services during the year, and that evening, and, in reply, Sir Albert Rollit gave a few humorous stories of his recent election experiences.

Bournemouth Gardeners' Association.

ANNUAL MEETING.

On February 1 the annual meeting of the members was held, and a good deal of business was transacted under the able chairmanship of Councillor T. K. Ingram, of the Parkstone Nurseries.

The annual report, a very favourable one, was read and adopted, also the statement of accounts, which showed a balance on the right side. The programme of lectures and papers to be read during the coming session was submitted, and received with much approval, as all the subjects to be dealt with are of a very useful and interesting character. All the officers were re-elected with the exception of a few members of the committee, where some changes were made. J. H. Ralph Smythe, Esq., J.P., was re-elected president with much heartiness. This gentleman takes a great deal of interest in all matters appertaining to horticulture, and supports the society in a genial manner. All the vice-presidents were re-elected en bloc.

Mr. J. B. Stevenson, F.R.H.S., must feel very proud of the fact that the annual meeting, now being referred to, is the twenty-first —the coming-of-age of the association, with which he has been so intimately connected as honorary secretary ever since its birth.

A full meed of praise is due to Mr. W. Shave, Mr. W. Reeves, and Mr. G. Barge, the assistant secretary, hon. treasurer, and librarian respectively, for the able manner in which they have carried out their duties during the past year. The members of this association are fortunate in having living amongst them Mr. Clarke, a gentleman who is an enthusiast, especially as regards roses. He intends to hold an exhibition of roses in his own beautiful gardens on July 1, and to provide the prize money. The members of the Bournemouth Gardeners' Association are to compete, by the kind request of Mr. Clarke. This event is being looked forward to with much pleasure. It is a new innovation, one of the right kind, and is sure to give an impetus to matters horticultural in this district during the coming year.

Southampton Royal Horticultural Society.

The annual general meeting was held at the Municipal Buildings, on Friday, January 28, the Mayor presiding over a larger attendance than usual.

The annual report presented must, under all the circumstances, be considered satisfactory. The very unseasonable weather on the occasion of the rose and carnation shows seriously reduced the society's receipts. Fortunately a garden fête held in the president's grounds at South Stoneham was a great success, and enabled the council to issue a statement of accounts with an improved credit balance.

The receipts for 1909 were:

	£	s.	d.
1908 Items	£23	8	10
Garden Fête	75	16	8
Rose Show	279	6	3
Carnation Show	115	5	3
Autumn Show	167	2	6
General Account	95	15	7
Total	£756	15	1

EXPENDITURE.

	£	s.	d.
1908 Items	£14	3	8
Garden Fête	39	5	0
Rose Show	274	17	1
Carnation Show	131	0	4
Autumn Show	183	5	10
General Account	96	7	7
New Material	1	14	6
	740	14	0
Credit Balance	16	1	1
Total	£756	15	1

ASSETS.

	£	s.	d.
Cash	30	4	1
Material, Cups, etc.	74	9	2
	£104	13	3

The President, Lord Swaythling, and all the vice-presidents were re-elected. For the chairmanship of the council there were two nominations — the retiring chairman, Mr. Blakeway, and Mr. E. Kemp Toogood, the latter being elected by a very large majority. The other officers were all re-elected, including the secretary, Mr. C. S. Fuidge; this will be his thirty-eighth year of office, and, although over seventy years of age, he is still active, and hopes to arrange for the jubilee shows in 1912.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1910. January 30 to February 5.	Sunshine.	Temperature of the Air.			
		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Jan. 30—Sunday	7 42	31	30	41	29
„ 31—Monday	3 12	39	37	44	31
Feb. 1—Tuesday	3 6	39	38	43	39
„ 2—Wednesday	—	39	38	41	38
„ 3—Thursday	3 24	38	38	43	36
„ 4—Friday	2 48	31	30	43	39
„ 5—Saturday	—	39	37	51	.9
Means	(total) 20 12	36	35	44	33

Date. 1910. January 30 to February 5.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Jan. 30—Sunday	—	35	37	41	23
„ 31—Monday	trace	34	37	41	:5
Feb. 1—Tuesday	0.02	35	37	41	33
„ 2—Wednesday	0.06	37	38	41	34
„ 3—Thursday	—	37	39	41	29
„ 4—Friday	—	36	39	41	25
„ 5—Saturday	0.02	36	39	41	21
Means	(total) 0.10	36	38	41	27

FORTHCOMING ENGAGEMENTS.

SATURDAY, February 12.—Chester Paxton Society, Lecture on "Sweet Peas," 8 p.m.

TUESDAY, February 22.—Royal Horticultural Society; Fruit, Floral, and Orchid Committees, 12 o'clock; General Meeting and Lecture, 3 p.m.; Scientific Committee, 4 p.m.

SATURDAY, February 26.—Chester Paxton Society, Lecture, "Insects as Carriers of Disease," 8 p.m.

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ZONAL GERANIUMS IN WINTER.

The value of single-flowered zonal geraniums in winter is yearly becoming more appreciated in private gardens. This fact is emphasised by the number of exhibitors at those autumn shows where prizes are offered for trusses of bloom. For use in a cut state, or when growing on the plants, pelargoniums have much to recommend them now that the varieties are so improved. The colours are decisive, the habit of growth excellent, and freedom of blossom is assured.

In the Royal gardens, Frogmore, winter pelargoniums are largely grown, and apparently appreciated. In flower during November and the two following months they make a pleasing change from chrysanthemums.

The cultural details are but few. Strike the cuttings in January or February at the latest, grow the plants steadily and sturdily, so that they are well matured by September. Keep the points well pinched out to induce a bushy growth.

The following is a brief selection of desirable varieties: Arabic, bright scarlet; Brussels, blush pink; Paris, white and shrimp pink; Sir Thomas Hanbury, crimson; Sir Ernest Cassel, scarlet; Mrs. G. Cadbury, salmon; Lusitania, deep magenta; Mauretania, white and salmon; Lady Warwick, white with a pink picotee edge; Kingswood, bright scarlet with a white eye; Frogmore, magenta and crimson; Duchess of Roxburghe, salmon self; Cymric, purple self; Caronia, bright rosy-pink; Germania, soft salmon rose; Hopedene, crimson lake, white centre; Cevic, delicate flesh; Caledonia, blush pink; Naples, scarlet, white eye. S. H.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

RUST IN BEGONIAS.—G. W. B., Warwick: The leaves give ample evidence of an infestation of the begonia mite. This mite is a species of tarsonymus, and was first noted in the West of England as causing a great deal of mischief among begonias and other plants. It was first determined by Mr. Michael, as for a long time the origin of the trouble was not properly understood. Dusting the infested plants freely with tobacco powder will hold the pest in check, but where the conditions under which the plants grow are drier than usual, then there is a great difficulty in combating the mite. Sulphur is useful also as a remedy if prepared with soft soap and water; a good plan is to take a handful of soft soap and knead into it a considerable quantity of flowers of sulphur (do not be afraid of the sulphur), and then dissolve the whole in a gallon and a-half of warm soft water; in this mixture dip the plants, and repeat the operation at intervals of a week, until the pest is got rid of. This mixture is deadly to the mites, but does not appear to destroy their eggs, hence the need of at least a second dipping. Either a nicotine or a quassia solution, with a little soft soap added to make it slightly adhesive, have been given as useful remedies, but we believe the sulphur mixture is the best as a cure for the mite, while dusting with tobacco powder is useful to stop an attack if the pest is noticed before it has time to spread far.

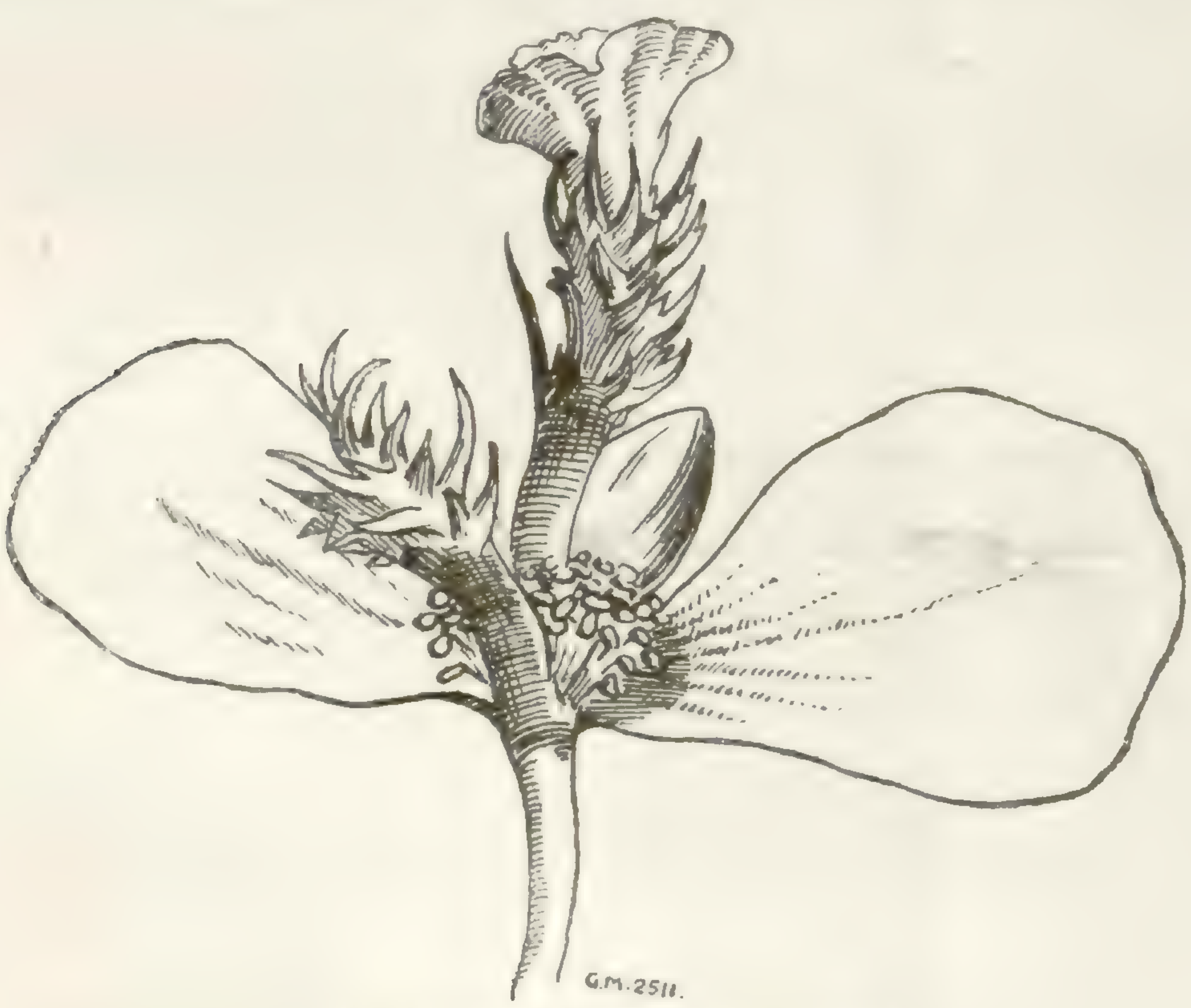
CHRYSANTHEMUM SOCIETIES.—B. L., Bedford: You will find by far the most complete list of chrysanthemum societies in the "Gardening Year Book," to be obtained post free for 1s. 2d. from the GARDENERS' MAGAZINE office, 148, 149, Aldersgate Street, E.C.

MOWRA MEAL.—A. F., Hayes: We have submitted the sample of mowra meal to one of the leading authorities on these matters, and he writes as follows: The mowra is an Indian bean which is grown for its oil. The oil having been extracted, the residue is ground, and forms the mowra meal sold as a fertiliser. We have analysed the sample sent, and find it to contain 2.38 per cent. of nitrogen, which shows it to be of small value as a manure. It is not readily soluble in water, and is entirely useless as a soil disinfectant. When employed as a fertiliser about 8oz. or 10oz. per square yard can be applied to the surface of the soil, when it should be lightly raked or dug in.

EARLY CHRYSANTHEMUMS.—Delta, Cambridge: In common with the majority of other hardy herbaceous plants, the early chrysanthemums require a moderately rich soil that has been dug to a depth of not less than twelve inches, or trenched to a depth of two feet or so. Manure from an old hotbed and well-decayed manure from the stable or farmyard are the best to use in soil preparations, but should they not be available, use superphosphate, bonemeal, or some other approved fertiliser, at the rate of about 3ozs. to the square yard. Two feet apart will be a good distance at which to plant them when growing them in beds. The best place in which to grow them in the majority of private gardens is the mixed border, where they should be arranged in groups, three or four plants being put in each. The most simple method of increasing the stock is to lift the plants in April, when the new growths are between two and three inches high, shake the soil from about the roots, and divide them into portions with about three growths attached. Then replant, preferably in fresh positions. When it is not desired to increase the stock the plants should be lifted and one portion taken off for planting, and the other part be conveyed to the rubbish heap. The best way is to renew the stock annually from cuttings, which should be taken in February or early in March, and rooted in an unheated frame. The best time to plant these will be early in May.

CUCUMBER DUKE OF EDINBURGH.—J. C. S., Wilton: The measurements of the cucumber illustrated in our issue of February 5 are those given by yourself.

MONSTROUS BEGONIAS.—H. R. A., Skipton: Something unusual or monstrous in a begonia flower does not necessarily imply beauty or a tendency toward some improvement. Curious developments should be watched, and if they suggest some new variation from the modern florists' type, the flowers should be fertilised with pollen from the same plant, and the seedlings selected that show the strongest tendency in the direction you wish to emphasise. The crested begonias and also the frilled ones have been evolved by in-breeding and selection until what was at first irregular and unbeautiful has developed into a beautiful variation. The accompanying illustration shows a very curious monstrosity in which some of the outer and attractive parts have been suppressed, and an effort has been made to combine the sexes in one flower; there are stamens and anthers, and two processes that combine some of the characters of stigma and petals.



AN ABNORMAL BEGONIA BLOOM.

TOP-DRESSING RASPBERRIES.—W. T. B., Stafford: Now that the canes have been tied into position and the plot thoroughly cleaned, a good top-dressing may be given with advantage, but heavy, wet manure should not be used. Old manure, mixed with an equal quantity of loam or old soil from the chrysanthemum pots will make a fine dressing for raspberries.

CALCEOLARIA AMPLEXICAULIS.—F. R. G., Poole: If the cuttings are thoroughly well rooted lift them carefully, and replant or pot them in light rich soil that contains old mushroom bed manure and leaf-mould. If there is ample room in a cold frame make up a bed of soil therein, and plant the cuttings firmly six inches apart each way. Failing this accommodation, pot the rooted cuttings singly in 48-sized pots, and give them a further shift into 32's later on. Keep the plants cool and sturdy, but in no sense starve them.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

H. G., Stone.—Pilea muscosa.

J. J., Wycomb.—Coleus thyrsoideus.

L. S., Godalming.—1, Primula Kewensis; 2, Grevillea robusta; 3, Cypripedium Calypso.

C. J. W., Leeds.—1, Dendrobium Falconeri; 2, Phrynium variegatum; 3, Primula floribunda; 4, Pelargonium Clorinda.

T. S. E., Streatham.—1, Callicarpa purpurea; 2, a florist's amaryllis, excellent in form, and of good colour; 3, Leea amabilis.

P. D. J., Retford.—1, Garrya elliptica; 2, Jasminum nudiflorum; 3, Arbutus unedo; 4, Diplopappus chrysophyllus; 5, Cupressus Lawsonianus.

The Sparrow in America.—This destructive bird does not appear to behave any better in the United States than in this country. It is the subject of a bulletin issued by the U.S. Department of Agriculture, and Mr. N. Dearborn, by whom it has been written, states that the English sparrow was introduced into America about sixty years ago, and is now distributed generally over the Eastern States, Southern Canada, and locally westward to the Pacific Coast. Mr. Dearborn argues that little can be said for it. It destroys small fruits and buds, and flowers of cultivated trees, shrubs, and vines. In the garden it eats ripening seeds and nips off tender young vegetables. It damages wheat and other grains, and reduces the number of America's most useful native species by destroying the eggs and usurping the nesting places. The sparrow is not protected by law, and may be killed in any manner and number, and Mr. Dearborn suggests that the birds may be got rid of by destroying their nests, baiting and trapping or shooting, and by poison.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Business is steady, with better prospects.

		s. d.		s. d.
Acacia	per bunch	0 9	to	1 [illegible]
Adiantum cuneatum	per doz. bun.	6 0		9 0
Arums	per doz.	3 0		6 0
Asparagus	per bun.	1 0		1 6
Azalea, Ghent	per bunch	0 9		1 6
Camellias	per doz.	1 6		2 6
Carnations	per doz. blms.	1 6		4 0
..	per doz. bun.	12 0		18 0
.. Malmaisons	per doz.	6 0		9 0
Cattleyas	per doz.	12 0		14 0
Croton leaves	per bun.	1 0		2 6
Cypripediums	per doz. blms.	2 0		3 6
Daffodils	per doz. bun.	4 0		8 0
Eucharis	per doz.	3 0		4 0
Freesias	per doz. bun.	1 6		2 0
French fern	per doz. bun.	0 6		0 9
Gardenias	per doz.	2 6		3 6
Lapagerias	per doz.	2 0		3 0
Lilac, French	per bun.	4 0		5 0
Lilium auratum	per bun.	2 0		3 0
.. speciosum	per bun.	1 6		3 6
,, longiflorum	per bun.	4 0		8 0
Lily of the Valley	per doz.	6 0		12 0
Marguerites, white	per doz. bun.	3 0		4 0
Mignonette	per doz. bun.	2 6		4 0
Narcissus	per doz. bun.	2 0		3 6
Odontoglossums	per doz. blms.	2 0		2 6
Pelargoniums	per doz. bun.	4 0		8 0
Roman Hyacinths	per doz. bun.	5 6		10 0
Roses	per doz.	2 6		8 0
Smilax	per doz. trails	5 0		8 0
Tuberoses	per doz. blooms	0 4		0 5
Violets	per doz. bun.	2 0		4 0

Fruits.

Trade is fairly good, and there is an active demand for Cape fruits.

		s. d.		s. d.
Apples, English	per bush.	3 6	to	9 0
,, Californian	per case	7 0		10 0
.. Cox's Orange	per ½-sieve	9 0		12 6
.. American	per barrel	12 0		24 0
,, Canadian	per barrel	12 0		20 0
.. Nova Scotian	per barrel	12 6		15 0
Apricots, Cape	per box	3 6		5 0
Bananas	per bun.	4 0		10 0
Brazil Nuts	per cwt.	33 0		40 0
Chestnuts	per bag	7 0		10 0
Cranberries	per case	6 0		8 [illegible]
Grapes, English	per lb.	0 8		6 0
,, Guernsey	per lb.	0 6		1 [illegible]
,, Almeria	per barrel	12 0		22 0
Lemons	per case	8 0		23 0
Oranges, Jamaica	per case	9 0		12 0
,, Jaffa	per case	7 0		10 0
,, Navels	per case	10 0		12 6
,, Denia	per case	10 0		16 [illegible]
,, Tangerines	per box	0 7		1 [illegible]
Peaches, Cape	per box	4 0		7 6
Pears, Cape	per box	5 0		7 0
,, Californian	per case	10 0		15 0
Pineapples	each	1 6		4 6
Plums, Cape	per box	2 0		9 0
Walnuts	per 12lbs.	2 0		3 0

Vegetables.

Supplies are good and business is fairly brisk.

		s. d.		s. d.
Artichokes, Glob.	per doz.	2 6	to	3 6
Asparagus	per bun.	3 0		7 6
Beet	per bush.	1 6		2 6
Beans (Channel Islands)	per lb.	0 10		1 0
Brussels Sprouts	per bush.	2 0		3 6
Cabbage	per tally	3 0		5 0
Carrots	per doz. bun.	2 0		3 0
Cauliflowers	per doz.	2 0		3 0
Celery	per doz. rolls	5 0		10 0
Celeriac	per doz.	1 6		2 6
Chicory	per 12lb.	3 0		4 [illegible]
Coleworts	per tally	2 0		8 0
Cucumbers	per doz.	5 0		3 [illegible]
Endive	per doz.	2 0		12 6
Horseradish	per doz. bun.	10 0		2 [illegible]
Leeks	per doz. bun.	1 0		1 6
Lettuce	per doz.	1 0		12 [illegible]
Mushrooms	per doz. lb.	6 0		1 6
Mustard and Cress	per doz. pun.	1 3		6 [illegible]
Onions	per cwt.	4 6		3 [illegible]
Parsley	per doz. bun.	1 6		3 0
Parsnips	per bag	2 6		1 6
Radishes, French	per doz. bun.	1 3		4 [illegible]
Savoys	per tally	3 0		1[illegible]
Seakale	per doz. pun.	12 0		3 [illegible]
Spinach	per ½-sieve	2 6		6 [illegible]
Tomatoes, English	per doz. lb.	4 6		1[illegible]
,, Canary	per case	9 0		4 0
,, Guernsey	per doz. lb.	2 6		3 [illegible]
Turnips	per doz. bun.	2 0		6 6
Watercress	per flat	4 0		

LONDON POTATO MARKETS.

There has been an improvement in the demand and prices are firmer.

		s. d.		s. d.
Bedfords	per ton	60 0	to	65 0
Blacklands	per ton	50 0		60 0
Dunbars	per ton	85 0		95 0
Evergood	per ton	55 0		60 0
Express	per ton	60 0		70 0
Kents	per ton	60 0		65 0
Lincolns	per ton	55 0		[illegible]
Presidents	per ton	60 0		65 0
Up-to-Date	per ton	70 0		80 0

IN THE HIGH COURTS OF JUSTICE

Edinburgh, an Action brought by CHAS. P. KINNELL & CO., Ltd., against A. Ballantine & Sons, Boness, N.B., resulted in a judgment in favour of Plaintiffs, interdicting and prohibiting the Defendants from using the words "HORSE SHOE" as descriptive of, or in connection with boilers NOT BEING OF THE PLAINTIFFS' MANUFACTURE, sold or offered for sale by the Defendants without clearly distinguishing such boilers from the boilers of the Plaintiffs.

WE WARN BUYERS AND THE TRADE THAT PROCEEDINGS WILL AT ONCE BE TAKEN AGAINST ANYONE INFRINGING OUR RIGHT.

NO BOILERS ARE

"HORSE SHOE" BOILERS

UNLESS THEY HAVE THE NAME CHAS. P. KINNELL & CO., LTD., CAST UPON THE FRONT, and buyers will protect themselves and our rights by at once intimating to us if any attempt is made to pass off as a "HORSE SHOE" boiler, any boiler not being of our manufacture.

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Postage 3d. extra.
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628, Argyle St., Glasgow, W.

THE SPRING NUMBER

. . OF . .

THE GARDENERS' MAGAZINE.

Will be Published on February 26. Price TWOPENCE, by post 2½d.

THE CONTENTS WILL INCLUDE:—

- The Making of a Large Rock Garden.
- Rockeries for Small Gardens.
- Alpine Pinks.
- Preparation of Vegetables for Exhibition.
- Summer Salads.
- Vegetable Marrows.
- Summer Crops of Tomatoes.
- Runner Beans.
- Annual Flowers for the Conservatory.
- Evergreen Dendrobiums.
- Zonal Pelargoniums.
- Seed Growing on Clay Soils.
- Borders of Annuals.
- Columbines.

. . AND . .

MANY FINE ILLUSTRATIONS.

TO ADVERTISERS:—Our Spring Number is invariably the largest and most interesting and important issue of the whole year. It offers the best possible opportunity to advertisers, and as the best positions are always in great demand, it is important that space should be secured without delay.

Offices: 148 and 149, ALDERSGATE STREET, LONDON, E.C.

CATALOGUES RECEIVED.

JOHN FORBES, LIM., HAWICK.—A catalogue devoted chiefly to hardy flowers, and especially to florists' varieties of hardy flowers; a useful reference book.

W. BAYLOR HARTLAND AND SONS, CORK.—Vegetable and flower seeds are included in this list and there are some novelties, including the new Claddagh potato.

R. GILL AND SONS, TREMOUGH, PENRYN, CORNWALL.—An interesting and beautifully illustrated catalogue of rhododendrons, chiefly Himalayan species and their hybrids, and choice trees and shrubs. Some of the illustrations previously appeared in our columns; others show rhododendrons at Tremough and in the Himalayas.

J. W. CROSS, OLD GRAMMAR SCHOOL, WISBECH.—A striking catalogue printed in blue with red cross headings. Seed potatoes are given great prominence.

FRANK DICKS AND CO., DEANSGATE, MANCHESTER.—A comprehensive catalogue of vegetable and flower seeds, together with bulbs and roots for spring planting.

JONES AND SON, LIM., SHOPLATCH, SHREWSBURY.—A freely illustrated list devoted wholly to sweet peas.

JOHN R. BOX, DERBY ROAD, CROYDON.—A general catalogue in which special attention is given to sweet peas, begonias, and sundries.

W. WELLS AND CO., LIM., MERSTHAM, SURREY.—A handy descriptive catalogue of chrysanthemums, phloxes, Michaelmas daisies, pentstemons. A separate and illustrated list is devoted to chrysanthemum novelties.

H. J. GASSON, RYE, SUSSEX.—A catalogue of garden netting, tents, waterproofing, boots, leggings, rugs, tarpaulin, rick covers, etc., etc.

J. F. WILLIAMSON, MALLOW, Co. CORK.—A list of Irish-grown seed potatoes, including some novelties.

ANT. ROOZEN AND SON, OVERVEEN, HAARLEM, HOLLAND.—Catalogue of choice bulbs for spring planting, and of vegetable and flower seeds.

THE RELIABLE SEED AND BULB CO., WEST BROMWICH.—A well arranged and freely illustrated catalogue of vegetable and flower seeds, in which is also given a selection of bulbs that can be successfully planted early in the year.

Index to the "Gardeners' Magazine," 1909.—Those readers who have preserved the 52 numbers of the GARDENERS' MAGAZINE for 1909 with a view to having them bound for future reference, can obtain Handsome Cloth Binding Cases from the publishers, 148 and 149, Aldersgate Street, London, price 2s., post free. The index, with title page, is now ready—price 2d., or by post 2½d. The volume bound complete will also be ready in a few days, price 12s. 6d., by post 13s. 4d.

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THE GARDENERS' MAGAZINE

Employment Register.

The charge for an Advertisement includes a Free Entry on the Register. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149 Aldersgate Street, London, E.C.

Situations Wanted.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

MAJOR WILLIAMS, Parcian, Llaneugrad, Menai Bridge, recommends his GARDENER (Head); life experience in all branches; excellent references; age 33; married. Apply to J. HUGHES, above address.

HEAD GARDENER wishes to highly recommend ELLIS JONES (17) as IMPROVER (Inside); 2½ years Inside and Out; Bothy preferred. The Garden, Maesmoor Hall, Maerdy, Corwen.

GARDENER (Head).—The Countess De MORELLA will be pleased to recommend A. WHITE as above; life experience in all branches; age 31; disengaged. A. WHITE, c.o. Mr. G. Wright, Higher Midway, Burton-on-Trent.

GARDENER (Head).—Advertiser seeks RE-ENGAGEMENT in first-class establishment, where several are employed; life experience, and thoroughly practical in all branches; five years as head in last situation; can be strongly recommended. Apply DUNKLEY, The Gardens, Mill House, Bourne End, Bucks.

GARDENER (Head).—Mr. MACGREGOR, Gardener to Lord Rosebery, can highly recommend his Foreman, who has been with him eight years; experienced in all branches Inside and Out. W. STEWART, Mentmore Gardens, Leighton Buzzard, Bucks.

GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

G. HARDY, for 3 years Head Gardener, seeks similar situation; age 32; married, 1 child; 18 years' undeniable reference and experience in all branches of gardening. 17, Hawthorn Road, Altrincham, Cheshire.

GARDENER (Head or Second); 14 years' experience in good establishments; well up in Early and Late Forcing, Fruit and Vegetables, Chrysanthemums, Carnations, etc.; excellent references; married; age 32; one child. GOAD, Blendworth, Horndean, Hants.

GARDENER (Head Working of three or more); life experience in all branches, both Inside and Out; good Manager of Men; well recommended from past and present places; age 28; married when suited. J. HEXTALL, Fairmile Court, Cobham, Surrey.

GARDENER (Head Working).—Thorough practical experience in all branches of the profession, Inside and Outside; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working, where one or two are kept), last six years Second of six; experienced; Inside and Out; abstainer; married; age 27; can be well recommended. Please apply G. RUSHEN, Pinner Hill Gardens, Pinner, Mdlx.

GARDENER (Head Working or Single-handed); life's practical experience; could superintend the management of land and stock if required; good character; age 32; married, two children. GARDENER, 66, Sandholme Road, Brislington, Bristol.

GARDENER (Head Working); age 33; married. H. MARKHAM, gardener to Viscount Enfield, Wrotham Park, Barnet, strongly recommends a gardener of good practical experience in choice fruits, plants, and the general requirements of a good place; strong and energetic.

GARDENER (Head Working, where two or three are kept); age 28; abstainer; life experience Inside and Out, in good places, with Fruit, Plants, House Decoration, etc.; married when suited; three years' good reference from previous place. R. W. MIDDLETON, Exbury House, Exbury, Southampton.

GARDENER (Head Working); age 30; practical man all branches, seeks Situation as above; highest references as to character and abilities. J. HEARN, Grendon Underwood, Aylesbury, Bucks.

GARDENER (Single-handed) seeks SITUATION; nine years' experience in Private Garden and Nursery; age 24; good references. A. SMITH, Nightingale Road, Farncombe, Godalming, Surrey.

GARDENER (Single-handed or Second); 10 years' good experience Inside and Out; age 24; single; leaving through death. G. ANDERSON, 50, Stanley Road, Tunbridge Wells.

GARDENER (Single-handed); experienced in all branches of Flower and Kitchen Garden; married; age 42. GULL, High Street, Ingatestone.

GARDENER (good Single-handed or with help), age 38; married, no family; 24 years' experience in all branches; good references. E. SMITH, 20, Belton Road, Willesden Green, N.W.

GARDENER seeks SITUATION as Single-handed, or good Second, where three or upwards are kept; good experience Inside and Out; excellent references; Single; age 33 years. G. RAINBIRD, Reepham, Norfolk.

GARDENER (good Single-handed, with help), good all-round Man, in all branches, Inside and Out; would take moderate wage for a comfortable place; middle-aged; or would take a good jobbing situation; excellent testimonials from last and previous employers. F. OSBORNE, 48, Bradshaw Road, Watford.

GARDENER (Single-handed), age 26; life experience in Private Garden and Greenhouse; married when suited; 7½ years with present employer. H. WILLIAMSON, Chappel, Essex.

GARDENER (Single-handed or otherwise); married; age 35; life experience in all garden work; 4½ years in last place and 6 years in the previous one. Apply G. STORER, Rifle Range Road, Ashby.

GARDENER (Single-handed or with help); aged 29; single; 12 years' good references; disengaged. W. WEBB, 24, Fairfield Road, Burnham, Bucks.

GARDENER (Second or Under); nine years' experience; Inside and Out; good references; age 24; married. Particulars, R. M., 50, Chelsham Road, South Croydon, Surrey.

SITUATION COUPON

To the Advertisement Manager of "THE GARDENERS' MAGAZINE,
148 & 149, Aldersgate Street, London, E.C.

For FEBRUARY 19, 1910.

Please Repeat my Advertisement.

Name..

Address..

Date..............................

....

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

GARDENER (Second), age 23; 10 years' experience; six years in last place; good reference. Apply JOHN TYLER, Bitteswell, Lutterworth.

GARDENER (Second, Inside), age 24; 9½ years' experience; good references, and can be well recommended; married when suited. NORTH, The Gardens, Franks Hall, near Dartford, Kent.

GARDENER (Second, Inside), age 22, seeks SITUATION; 10 years' experience in Vines, Peaches, Pot Plants, Bedding Stuff; good references; near London preferred. H. SOUTHAM, Honeybourne, S.O., Worcestershire.

GARDENER (Second, Inside and Out, where five or six kept); 10 years' experience; excellent characters; well recommended; age 26; single. R. STEADMAN, 32, Brassey Road, Winchester.

GARDENER wishes to recommend YOUNG MAN as Second or Third Hand, with 5 years experience; present place 3 years; good reference; age 22; abstainer. A. FRY, Eardemont Lodge, Crayford.

FOREMAN (Inside); age 25; 8½ years' experience; good references; 2½ years' present place. F. HISCOCK, Hatchford Park Gardens, Cobham, Surrey.

JOURNEYMAN (Inside and Out), age 21; three years' experience; well recommended. WM. C. FINNEY, 34, Derby Street, Prescot, Lancs.

JOURNEYMAN (Inside or Inside and Out), under a good Foreman; age 19; four years' good experience; anxious to learn. H. WRIGHT, Mount Pleasant, Saffron Walden, Essex.

JOURNEYMAN (Inside or Inside and Out); age 22; good experience in all branches; references; abstainer. Apply G. H. BLACKMAN, 207, Battle Road, Hollington, St. Leonards-on-Sea, Sussex.

JOURNEYMAN (Inside or Inside and Out); age 21; six years' experience in the various departments; past four years here; will be highly recommended. ARTHUR PECK, Tempsford Hall Gardens, Sandy, Beds.

JOURNEYMAN (Inside or Inside and Out). Mr. H. NAYLOR, gardener to Lady Battersea, Pleasaunce, Overstrand, Cromer, highly recommends G. PLUME, age 21, who has been here three years; five years' previous at Earl Romney's, Gayton Hall. (No circulars.)

JOURNEYMAN (Inside or Inside and Out), age 20; 5 years' experience; tall and strong; good references; Bothy preferred. Apply J. COUPLAND, 12, Urban Street, Bracebridge, Lincoln.

JOURNEYMAN (Inside), under Foreman.—Mr. A. H. ABRAHAMS, Palace House Gardens, Beaulieu, Hants., recommends F. DRAKE, aged 19; four years here; leaving to better himself.

YOUNG MAN, 19 years of age, seeks SITUATION as SECOND JOURNEYMAN, or as help under foreman, Inside; 4½ years' experience; good references. BRAND, 17, Hawthorn Road. Altrincham, Cheshire.

GARDENER (Under); Young Man seeks SITUATION Inside and Out; age 20; life experience; good reference. A. G., care of Mrs. Rapley, Greengrocer, Sunninghill, near Ascot.

GARDENER (Under, Inside or Inside and Out), age 19; five years' experience; good reference; willing and obliging. W. BROOKES, The Gardens, Soughton Park, Northop, Flintshire.

GARDENER, Good all-round; well up in garden work, Inside and Out; married; 6 years' good character. F. COSSINS, Placewood Cottage, Sutton Valence, Maidstone.

GARDENER.—Situation Wanted, thorough experience; land and stock; age 42. FOAN, Lytchett Matravers, Poole, Dorset.

IMPROVER, age 16, seeks SITUATION in good establishment; three years' good character; can be well recommended. Apply F. TULL. Wootton Bassett Road, Purton, Wilts.

CHRYSANTHEMUM GROWER.—W. SIBLEY, age 31, married, for 19 years with Messrs. Lowe and Shawyer, is in want of a SITUATION as above; Messrs. Lowe and Shawyer would reply to any enquiries. 16, St. John's Road, Uxbridge Moor, Middlesex.

ADVERTISER (22) requires SITUATION in the Floral Decorating and Furnishing work; good London experience; excellent testimonials. Apply G., 19, Hamilton Road, Golders Green, London.

WANTED, SITUATION as GARDEN LABOURER, age 40; married, no family; good character and good experience; scythe and machine and spade work, etc; willing to be useful; disengaged. W. L., Grove Yard, Daybrook, Nottingham.

GROOM-GARDENER, married, age 23, requires SITUATION to look after Pony and fill up time in Garden. Apply W. BURT, 1, The Villas, Grayshott, Hants.

H. BURNELL, Kingsmead Gardens, Matfield, Kent, highly recommends H. STANDING, age 18, as IMPROVER (Inside and Out); three years' experience; strong, willing; good worker; Bothy preferred.

TWO YOUTHS require a SITUATION as IMPROVERS in nursery or gentleman's private gardens; aged 18 and 19; strong; abstainers; both three years' experience, Inside and Out; good references; Bothy preferred. Apply E. LEWIS, 46, Victoria Road, Bradmore, Wolverhampton.

YOUNG MAN (25) seeks SITUATION as Under or Single-handed; three years' last place; disengaged at present. Apply F. ELLIFF, 42, White Horse Lane, South Norwood, Surrey.

YOUNG MAN, age 20, requires SITUATION in Gardens; wishes to improve; Bothy preferred; good references. Apply to F. C., 6, Andersons Road, Oatlands Park, Weybridge, Surrey.

YOUNG MAN, age 19, strong and willing, seeks SITUATION (Inside or Inside and Out); 5½ years' experience; bothy; near London preferred. E. ROOTES, 14, Rawdon Road, Maidstone.

YOUNG MAN (22) seeks SITUATION in Nursery; experienced Retail Florist, Nurseries, Soft-wooded Stuff, Cut Flowers, and general Pot Plants. C. POTTS, Magdeline Gate, Hedon, Hull.

YOUNG MAN seeks SITUATION Inside; age 23; good all-round experience; excellent references. Apply FRANK ASHBY, Grendon Hall, Aylesbury, Bucks.

YOUNG MAN, Inside or Inside and Out; 2½ years' excellent character at present situation; Bothy preferred. R. SUMMERS, Carlton Scroop, Grantham.

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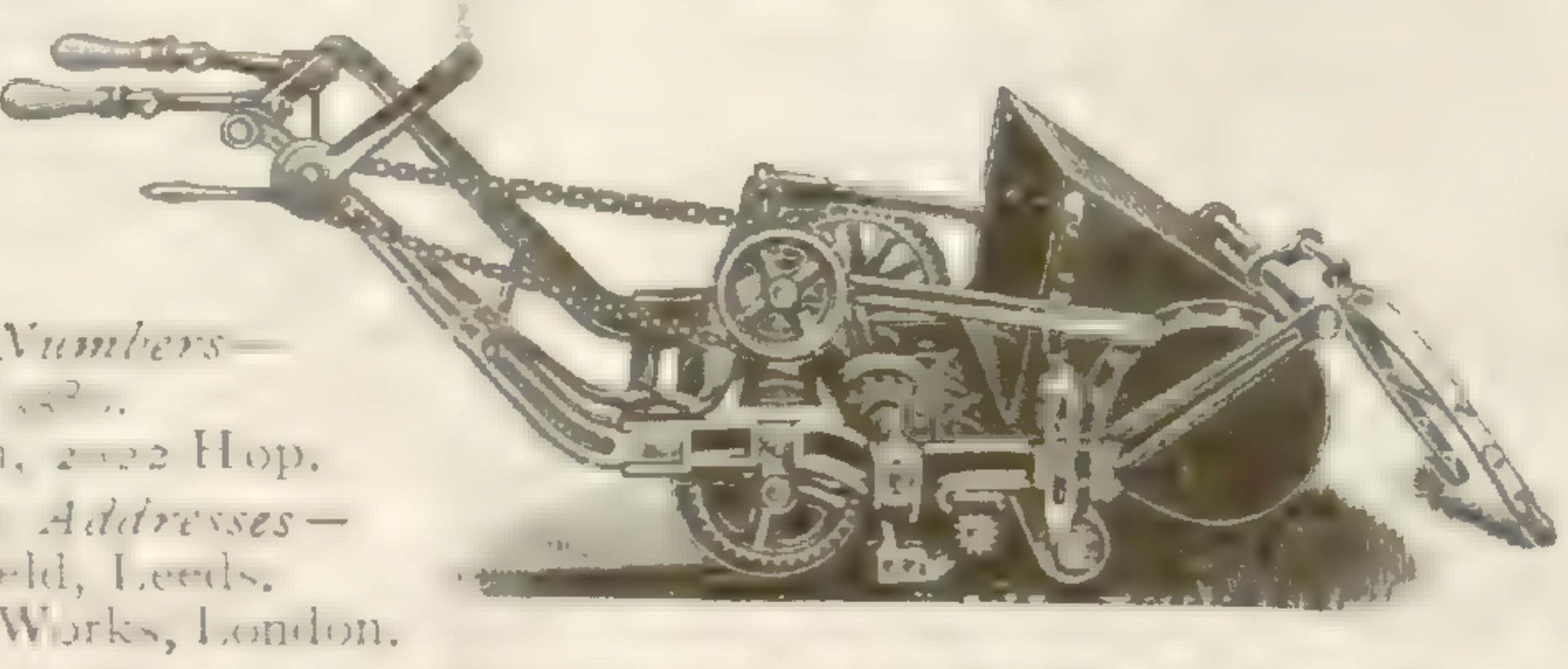

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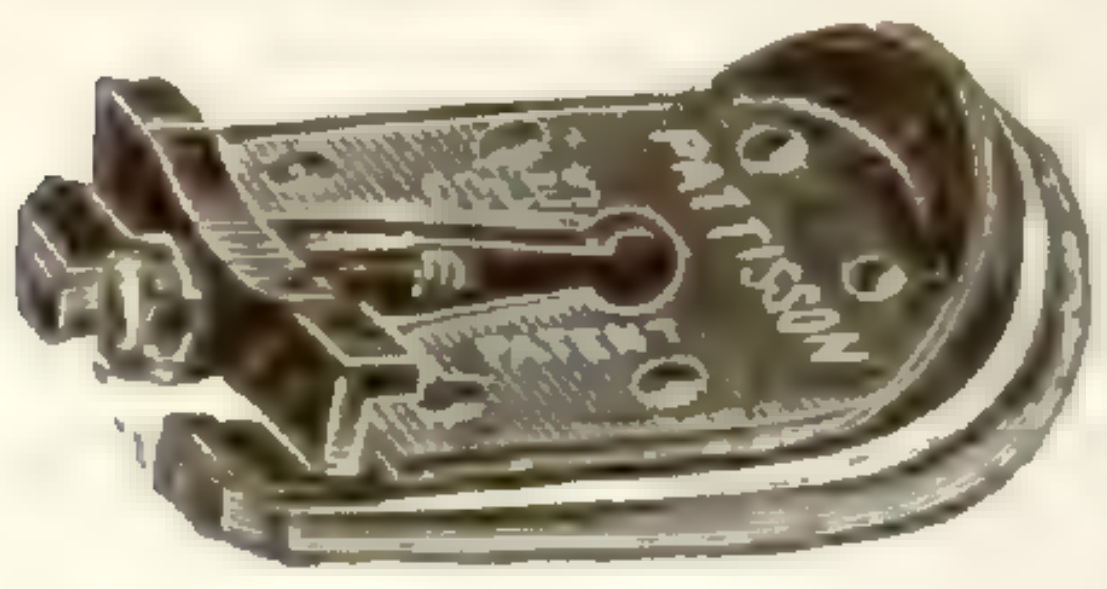

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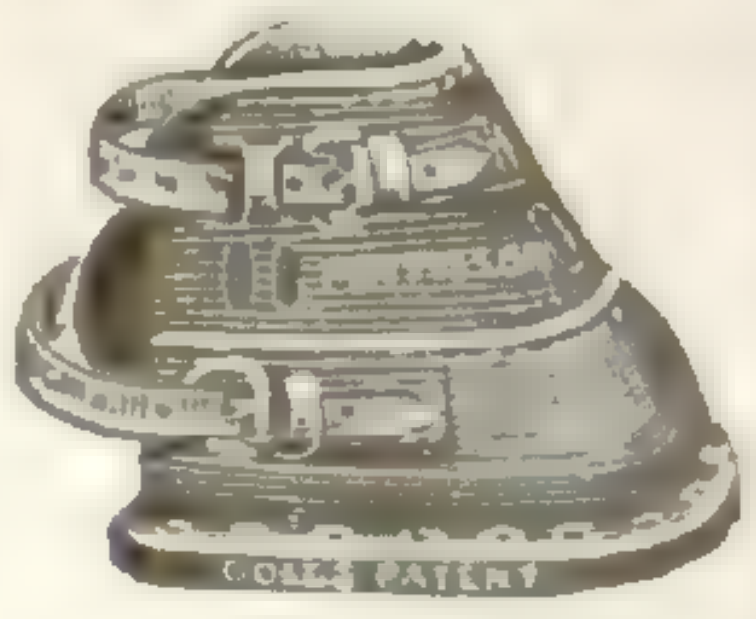

FIG. 2.

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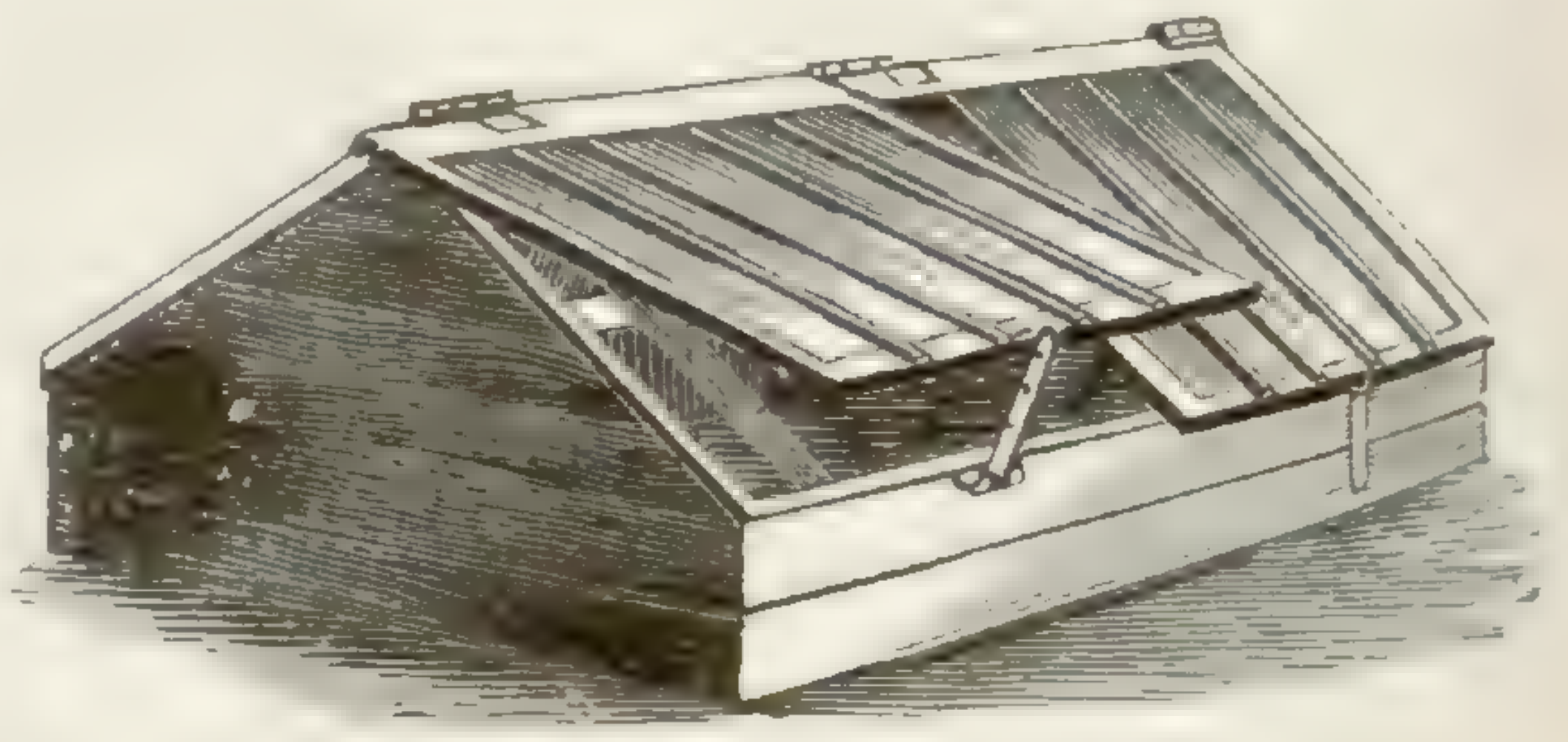

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MONDAY and FRIDAY NEXT, Feb. 21st and 25th at Twelve o'clock.—New and rare perennials, Border Plants and Bulbs, Liliums, Gladiolus, Tuberoses, etc.

At Half-past One o'clock.—1,000 Roses, Dwarf, Climbing, Tea, etc., Azalea Mollis, Rhododendrons, etc.

WEDNESDAY NEXT, Feb. 23rd, at Twelve o'clock.—Choice Herbaceous and Border Plants, Perennials, Flowering Shrubs, Liliums, Begonias, Gladiolus, Lily of Valley, Tuberoses, etc.

At Twelve o'clock.—Trade sale of Miscellaneous Plants and Bulbs.

At Half-past One o'clock. 4,000 Roses, Standard, Dwarf, Climbing, etc. Also Fruit Trees in variety.

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FRIDAY NEXT, Feb. 25th, at Quarter to One o'clock. Choice imported and established Orchids in variety. Orchids in flower and bud.

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Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

GARDENER (Head).—Advertiser seeks RE-ENGAGEMENT in first-class establishment, where several are employed; life experience, and thoroughly practical in all branches; five years as head in last situation; can be strongly recommended. Apply DUNKLEY, The Gardens, Mill House, Bourne End, Bucks.

GARDENER (Head).—Mr. MACGREGOR, Gardener to Lord Rosebery, can highly recommend his Foreman, who has been with him eight years; experienced in all branches Inside and Out. W. STEWART, Mentmore Gardens, Leighton Buzzard, Bucks.

G. HARDY, for 3 years Head Gardener, seeks similar situation; age 32; married 1 child; 18 years' undeniable reference and experience in all branches of gardening. 17, Hawthorn Road, Altrincham, Cheshire.

W. SCRIMGEOUR, Esq., wishes to highly recommend his HEAD WORKING GARDENER, age 38; life experience in all branches of gardening; 11 years as Head; married; life abstainer. MARTIN, 39, West Hill, Highgate, N.

D. LAKER, Head Gardener, can recommend W. POYNER as FOREMAN, with 10 years' experience in Plants and Fruit Houses, Flowers, and Kitchen Garden; 19 months' experience with me; age 24; single. W. POYNER, Mill Lane, Tettenhall Wood, Wolverhampton.

GARDENER (Head Working of three or more; life experience in good establishment Inside and Out; good Manager; highest references; capable and trustworthy; well experienced in Plants, Fruit, Flowers under Glass; age 28; married when suited. J. HEXTALL, Stoke D'Abernon, Cobham, Surrey.

GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

GARDENER (Head Working), age 50; single; thoroughly understands the cultivation of first-class fruits, flowers, and vegetables, and the general routine of a well-kept garden. SMITH, Somerleyton Green, Lowestoft.

GARDENER (Head Working); age 33; married. H. MARKHAM, gardener to Viscount Enfield, Wrotham Park, Barnet, strongly recommends a gardener of good practical experience in choice fruits, plants, and the general requirements of a good place; strong and energetic.

GARDENER (Head Working); age 50; practical man all branches, seeks Situation as above; highest references as to character and abilities. J. HEARN, Grendon Underwood, Aylesbury, Bucks.

GARDENER (Single-handed) or Kitchen Garden; single; age 27; 2½ years' good character from last place; disengaged. W. PRIOR, Lower Wield, Alresford, Hants.

GARDENER (Single-handed or with help); single; age 30; life experience in Flowers, Fruit, Vegetables, and Pleasure Grounds; good references. HERRIDGE, Eastbury House Gardens, Watford.

GARDENER (good Single-handed, with help); good all-round Man, in all branches, Inside and Out; would take moderate wage for a comfortable place; middle-aged; or would take a good jobbing situation; excellent testimonials from last and previous employers. F. OSBORNE, 48, Bradshaw Road, Watford.

GARDENER (good Single-handed or with help); life experience in all branches; highest references; leaving through no fault (married, age 39). J. A., Holmleigh, Weston Road, Guildford.

GARDENER (good Single-handed) seeks ENGAGEMENT; wife and daughter (19) could entirely manage private residence, shooting-box, caretakers, or similar work; excellent personal references; 9 years in last place. COOK, Post Office, Little Bedwyn, Hungerford.

GARDENER (Single-handed); experienced in all branches of Flower and Kitchen Garden; married; age 42. GULL, High Street, Ingatestone.

GARDENER (good Single-handed or with help), age 38; married, no family; 24 years' experience in all branches; good references. E. SMITH, 20, Belton Road, Willesden Green, N.W.

GARDENER (Single-handed), age 26; life experience in Private Garden and Greenhouse; married when suited; 7½ years with present employer. H. WILLIAMSON, Chappel, Essex.

MANAGER or FOREMAN; Carnations (successful Hybridiser and Raiser), Roses, general Cut Flowers; Grapes, Cucumbers, Tomatoes, etc.; life experience in first-class places; excellent references. G. BESTER, Letchmore Green Road, Stevenage.

MR. W. THEOBALD, Hatchford Park Gardens, Cobham, Surrey, wishes to recommend F. HISCOCK as FOREMAN; Inside; age 25; life experience.

FOREMAN (Inside), or good Second; age 28; life experience in Fruit and Plant Houses; good references; Bothy preferred. J. REEVE, 50, Palmerston Road, Northampton.

GARDENER (Second, Inside and Out); 10 years' experience; excellent characters; well recommended; age 26; single. R. STEADMAN, 32, Brassey Road, Winchester.

GARDENER (Second or Under); nine years' experience; Inside and Out; good references; age 24; married. Particulars, R. M., 50, Chelsham Road, South Croydon, Surrey.

GARDENER (Second, Inside), age 24; 9½ years' experience; good references, and can be well recommended; married when suited. NORTH, The Gardens, Franks Hall, near Dartford, Kent.

JOURNEYMAN (Second, Inside and Out); 6 years' experience; 12 months present place; good references; age 21. J. SPONG, Laurel Dene, Hare Hill, Chertsey, Surrey.

JOURNEYMAN (Inside or Inside and Out); age 20; two years present situation; good references.—F. PRIOR, Eastbury House Gardens, near Watford.

JOURNEYMAN (Inside and Out), age 21; three years' experience; well recommended. WM. C. FINNEY, 34, Derby Street, Prescot, Lancs.

JOURNEYMAN (Inside or Inside and Out); age 22; good experience in all branches; references; abstainer. Apply G. H. BLACKMAN, 207, Battle Road, Hollington, St. Leonards-on-Sea, Sussex.

JOURNEYMAN (Inside or Inside and Out); age 21; six years' experience in the various departments; past four years here; will be highly recommended. ARTHUR PECK, Tempsford Hall Gardens, Sandy, Beds.

JOURNEYMAN (Inside or Inside and Out), age 20; 5 years' experience; tall and strong; good references; Bothy preferred. Apply J. COUPLAND, 12, Urban Street, Bracebridge, Lincoln.

JOURNEYMAN (Inside or Inside and Out), age 20; six years' experience in Plant and Fruit Houses; Bothy preferred; good references. Apply W. MERRETT, Ramslade, Bracknell, Berks.

G. GILBERT, The Gardens, Caverswall Castle, Stoke-on-Trent, wishes to highly recommend W. PERRY as JOURNEYMAN (Inside and Out); age 20; five years' experience.

LEADING HAND, Kitchen Garden and Pleasure Grounds; good experience; will take duty; age 24; disengaged. J. ATKINSON, Far Sawrey, near Windermere.

YOUNG MAN, 19 years of age, seeks SITUATION as SECOND JOURNEYMAN, or as help under foreman, Inside; 4½ years' experience; good references. BRAND, 17, Hawthorn Road, Altrincham, Cheshire.

GARDENER, Good all-round; well up in garden work, Inside and Out; married; 6 years' good character. F. COSSINS, Placewood Cottage, Sutton Valence, Maidstone.

GARDENER.—Situation Wanted, thorough experience; land and stock; age 42. FOAN, Lytchett Matravers, Poole, Dorset.

GARDENER (Inside or Inside and Out), age 24; 10 years' experience; 3 years' present situation; 3 years' previous; good references. Bothy preferred. Apply G. BROWN, Bell House Gardens, Dulwich, S.E. No circulars.

GARDENER (Under, where two or more are kept); age 19; 4½ years' reference; strongly recommended by Gardener and Gentleman. MECKLENBURGH, Lime Kiln House, Stoke-by-Clare, Suffolk.

GARDENER (Under) seeks good responsible SITUATION, Inside; age 21; good all-round experience of 5½ years; good references. In Surrey preferred. L. BIGWOOD, Kingsbury Green, N.W.

IMPROVER, age 16, seeks SITUATION in good establishment; three years' good character; can be well recommended. Apply F. TULL, Wootton Bassett Road, Purton, Wilts.

IMPROVER (Inside and Out), age 20; five years' good character; Bothy preferred. W. DAVEY, 8, Downs View Cottages, West Ewell, Surrey.

HEAD GARDENER wishes to highly recommend ELLIS JONES (17) as IMPROVER (Inside); 2½ years Inside and Out; Bothy preferred. The Garden, Maesmoor Hall, Maerdy, Corwen.

SITUATION COUPON

To the Advertisement Manager of "The Gardeners' Magazine,
148 & 149, Aldersgate Street, London, E.C.

For FEBRUARY 26, 1910.

Please Repeat my Advertisement.

Name ....
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....

Date ....

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Situations Wanted—*continued.*

SITUATION required in Floral Decorating Trade; good London experience; also thoroughly experienced in General Nursery work; excellent testimoniale. Apply A., 19, Hamilton Road, Golders Green, London.

WANTED, SITUATION as GARDEN LABOURER, age 40; married, no family; good character and good experience; scythe and machine and spade work, etc; willing to be useful; disengaged. W. L., Grove Yard, Daybrook, Nottingham.

GROOM-GARDENER, married, age 23, requires SITUATION to look after Pony and fill up time in Garden. Apply W. BURT, 1, The Villas, Grayshott. Hants.

HANDY MAN, willing to be useful Inside or Out; Poultry, Cows; help in Garden; married; good character. F. N., 19. Abbotts Road, Southall, Middlesex.

TWO YOUTHS require a SITUATION as IMPROVERS in nursery or gentleman's private gardens; aged 18 and 19; strong; abstainers; both three years' experience, Inside and Out; good references; Bothy preferred. Apply E. LEWIS. 46. Victoria Road, Bradmore, Wolverhampton.

YOUNG MAN, age 22, wants SITUATION; Kitchen Garden and Pleasure Grounds; 5½ years' experience; well recommended; disengaged. G. BUNCE, 26, Southwood Lane, Highgate, N.

YOUNG MAN (25) seeks SITUATION as Under or Single-handed; three years' last place; disengaged at present. Apply F. ELLIFF, 42, White Horse Lane, South Norwood, Surrey.

YOUNG MAN, age 19, strong and willing, seeks SITUATION (Inside or Inside and Out); 5½ years' experience; bothy; near London preferred. E. ROOTES, 14, Rawdon Road, Maidstone.

YOUNG MAN seeks SITUATION Inside; age 23; good all-round experience; excellent references. Apply FRANK ASHBY, Grendon Hall, Aylesbury, Bucks.

YOUNG MAN (20) seeks SITUATION as Under, Outside; formerly in Nursery; willing to learn; good character; Bothy preferred. A. RILEY, Burton Constable Hall, Coniston, Hull.

YOUNG MAN (19) seeks SITUATION as IMPROVER (Inside); 3½ years' experience in Gardening; good references; used to Fires. C. GOOD, Charing, Kent.

YOUTH (17½), two years' apprenticeship, seeks to enter gentleman's garden (chiefly Glass preferred) as IMPROVER where two or more kept; best references. PENNINGTON. 49. Victoria Grove, London, N.

Situations Vacant.

WANTED FIRST and SECOND UNDER-GARDENERS, both married, one preferred with boy of about 14 for garden odd jobs; good cottages provided with gardens; knowledge of glass-houses, herbaceous plants, alpines, and kitchen garden necessary; wages respectively, 18s., 16s.; boy, 6s.; duty one in 3; extra for same. Apply by letter only to H. EDWARDS, Norton Priory Gardens, Selsey-on-Sea, Sussex.

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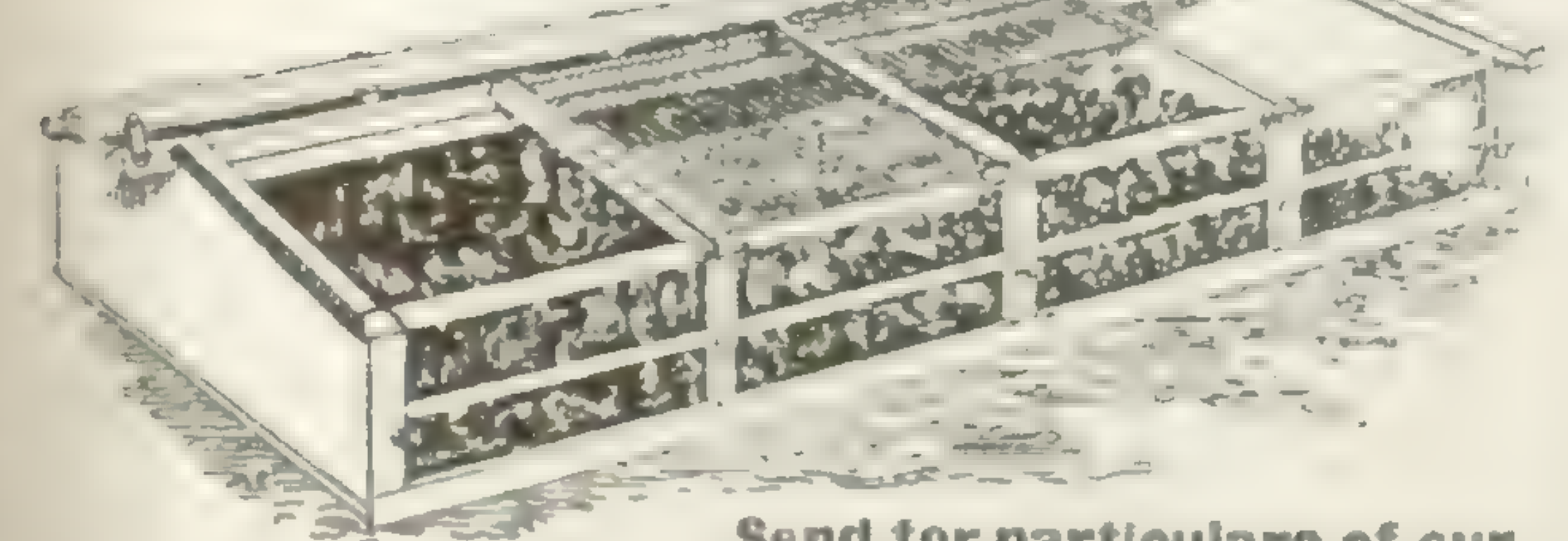

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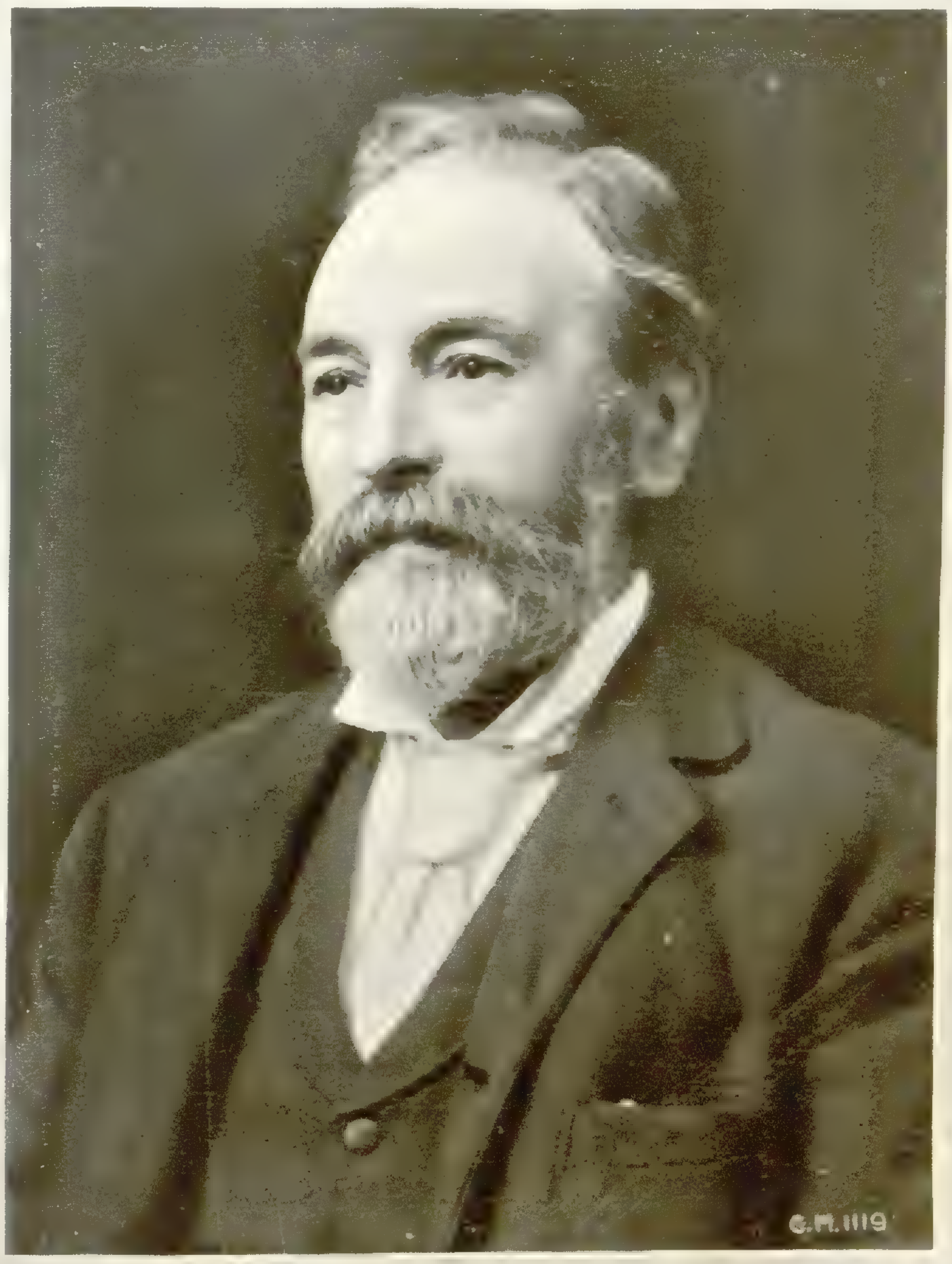
VOL. LIII.—No. 2,938. SATURDAY, FEBRUARY 19, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

The Superintendence of London Parks.



MR. C. DIXON.

To the majority of our readers it will appear as passing strange that there should be any difference of opinion with regard to the qualifications that should be possessed by those who are entrusted with the charge of the parks and gardens of great cities or towns of the first magnitude. They will, and not without good reason, assume that the officer should have a practical knowledge of the work that has to be accomplished in the conversion of a tract of land, agricultural or otherwise, into a place of recreation for the public, either as a beautiful garden or a playing field. They will also recognise the necessity of a knowledge of the art of design in relation to open spaces, and of a thorough knowledge of the various classes of trees and shrubs, and of tender and hardy plants, that can be the most successfully utilised in the creation of garden scenery, and especially in districts in which the conditions are so unfavourable to plant life that only a small proportion of the trees and shrubs available will thrive. In other words, they will consider that the qualifications should be such as those only can possess who have had a thorough training in the several branches of scientific and practical horticulture. With those who hold such views we are, it is hardly necessary to say, in full agreement. The necessity of placing the Parks Department of a city or town under the charge of an experienced horticulturist, who, at the same time, is a gentleman and a man of business, is so obvious, that it is well nigh inconceivable a public body such as the London County Council should have elected by a substantial majority as the Chief Officer of its Parks Department a military man, who, it would appear from the discussion at the Council meeting when the appointment was made, did not claim to be fully versed in the art of gardening. That he had shown remarkable ability in the discharge of his military duties, and achieved much success in his vocation there can be no doubt, but that does not affect the question at issue. The London County Council had in their advertisement inviting applications for the post stated that, "The person appointed will be responsible for the laying out and proper management of the conservatories and the horticultural and other buildings therein, and for the management and discipline of the staff employed in the parks service." Here we have evidence that at the outset the Council had in view the advisability of the successful candidate having an acquaintance with horticultural matters. We have a further proof of this in the paragraph in the advertisement, which stated that, "A knowledge of surveying, landscape gardening, forestry, and horticulture is desirable." Yet, having stated that the officer appointed would be responsible for the management of the horticultural buildings, and that it was desirable he should have a knowledge of landscape gardening, forestry, and horticulture, the Council passed over the claims of the candidates who had obtained eminence in horticulture. It was stated in the course of the discussion that the Council did not want a gardener, but an officer who could supervise the large staff engaged in the Parks Department; but, it should be hardly necessary to point out that a thorough acquaintance with the science and practice of horticulture does not preclude the possession of administrative ability of a high order. So far from this being the case, the most highly trained and successful gardeners have invariably the most efficient control over their staff. If we require proof of this, in relation to public parks, we have only to point to the extensive parks and gardens at Cardiff, Edinburgh, Glasgow, Leeds, and Liverpool, all of which are in charge of gardeners. There are others, but the mention of these will suffice for our present purpose, especially as they are well known for the efficiency that is evident on all sides. It should be remembered that all the more important of the magnificent open spaces which are under the authority of the London County Council were designed and planted by gardeners, and only those who know something, by repute or otherwise, of the original sites can fully appreciate the magnitude of the task or the success achieved in its accomplishment. When Victoria Park, Battersea Park, and some other of the great open spaces were about to be formed, the authorities did not engage officers in the army or navy to design and plant the areas. They engaged gardeners of known ability, with the result that we have parks so beautiful that the citizens of London have good cause to be proud of their possessions. If it was advisable to entrust the formation of these parks to gardeners, it is certainly not less desirable they should be under the control of a gardener who, by his accomplishments, has shown his fitness for the post. It is not sufficient that the superintendents of the respective parks are gardeners, the chief officer should be one also, so that he may be in a position to advise, when advice is needed, on difficult points; to see that such improvements as may be necessary are carried out on proper lines, and, what is certainly not less necessary, be in a position to appreciate the difficulties under which gardening is carried on amid unfavourable surroundings. The London County Council has shown such a singular want of appreciation of its responsibilities in this matter as to have given rise to much criticism; and the council of the British Gardeners' Association has passed a resolution expressing its disapproval of the appointment of a military officer as chief of the Parks Department, instead of a properly qualified gardener, and with this protest we cordially agree.

Mr. Charles Dixon, head gardener to Mary Countess of Ilchester, has charge of the famous Holland House Gardens, Kensington, gardens that have become very well known in recent years because of the Holland House exhibitions, held in an adjoining meadow, the gardens being opened to the visitors on payment of a small sum. The amount thus received has always been given to a deserving charity, and the Royal Gardeners' Orphan Fund and the Gardeners' Royal Benevolent Institution have benefited materially from this source owing to the kindness of the Countess and her late husband. Mr. Dixon was apprenticed at Rossie Priory, Perth, and following his apprenticeship he gained experience at various gardens in Scotland, and presently became foreman at Belton House, Lincolnshire, where he remained five years. The following two years he spent with Messrs. Lee at their Hammersmith Nursery, and acted as pot-vine grower; and while there he was the first to discover the Phylloxera on the vine leaves. In 1864 he entered the service of the late Lady Holland, at Holland House, and at her death was engaged by the late Earl of Ilchester at the same gardens; and he is now serving Mary Countess of Ilchester, and has been continuously in the service of the family at Holland House for forty-five years—a splendid record. Mr Dixon's abilities as a gardener are well known, and they are exerted under the none too favourable conditions obtaining in busy West London. Mr. Dixon is modest to a fault, a quiet man, ready to discuss any horticultural matter, but not his own doings. Mr. Dixon is one of the veterans, and very few people would imagine him to be well over three-score years and ten. He is a member of the Royal Horticultural Society's Floral Committee, and of the committee of the Royal Gardeners' Orphan Fund, and in both bodies his ripe experience is highly valued.

Retirement of Mr. John Wright.—After eighteen years of strenuous work on behalf of the Surrey County Council in the extension of horticultural science and practice, Mr. John Wright, V.M.H., has retired from the position of Chief Instructor in Horticulture for the county. So many of the masters and teachers in the Surrey schools have been associated with Mr. Wright in his work that it was fitting they should give him some expression of their regard, and this they did recently, presenting the veteran horticulturist with a handsome illuminated address, in which, among other things, they state: "We rejoice that you should have been appointed the first Horticultural Superintendent in Surrey, the pioneer county in school horticulture. We fully recognise the fact that it was due to your expert knowledge and great personal influence that the establishment and systematisation of school gardens were so successfully carried out in the county, that Surrey has always been recognised as holding the premier position in school gardening. We also desire to offer you our hearty good wishes, and hope that there may be many years of health and happiness for you in your retirement."

Our Spring Number.—Our next issue, dated February 26, will be the Gardeners' Magazine Spring Number, and it promises to exceed all previous issues of a similar character both in usefulness and interest. The number will be enlarged, and freely illustrated throughout. Chief among the many subjects to which special attention will be directed are the "Making of a Large Rock Garden," "Rockeries for Small Gardens," "Alpine Pinks," "Columbines," "Borders of Annuals," "Seed Sowing on Clay Soils," "Summer Crops of Tomatoes," "Preparation of Vegetables for Exhibition," "Summer Salads," "Vegetable Marrows," "Runner Beans," "Evergreen Dendrobiums," "Zonal Pelargoniums," and "Annuals for the Conservatory." These are sufficient to show the varied character and wide interest of the contents, but we would add further that the contributors to the special issue include Messrs. Charles Foster, G. Gordon, V.M.H., E. Beckett, V.M.H., T. B. Field, H. J. Chapman, T. Slade, Walter Irving, Thomas Coomber, P. S. Hayward, J. C. Newsham, S. Arnott, Thomas Stevenson, and W. Hedley Warren, all of whom are well known to our readers. As we anticipate a big demand for this issue, those requiring extra copies should communicate with the publisher as early as possible to prevent disappointment.

Shrewsbury Floral Fete is to be held on August 17 and 18 next. This will be the thirty-sixth show, and if the great attractions of the new schedule count for anything the display will be as fine as ever. Besides cups and medals, the sum of £1,100 is offered in cash as prizes, in a total of 200 classes. We notice that the leading seed firms are again offering substantial prizes for collections of vegetables grown by their customers. Fruits, cut flowers, and plants are splendidly catered for, and great interest will centre in the dessert table and leading grape classes. A special new class is for a display of indoor and hardy flowering plants and flowers, cut and growing, the whole to occupy a space of 250 square feet. All cut flowers must be in water, and the exhibitor is expected to produce a novel and artistic exhibit. This takes the place of the old class for a group of foliage plants, and the prizes are, in order: Large gold medal and £20; small gold medal and £15; silver-gilt medal and £12 10s.; and £10. The judges will be instructed to consider quality, general attractiveness to visitors, and novelty in arrangement, and it is hoped the class will be the means of bringing forward some really attractive groups of novel interest.

Visitors to Kew in 1909. — From the official publications of the Royal Gardens, we learn that 3,360,221 visitors to the Royal Botanic Gardens were recorded during the past year. These figures show an increase of 397,507 over those for the year 1907, which up to the present were the largest numbers on record. During the last ten years (1899-1908), 17,861,093 persons visited the gardens, giving an average of 1,786,109. The total number of visitors on Sundays during 1909 was 1,384,369, and on week-days 1,975,852. Sunday visitors have increased by 62,985; in this connection it is of interest to notice that until the year 1907 visitors to the gardens on Sundays had only on three occasions exceeded 700,000. The number of visitors on week-days shows an increase of 281,639 over the previously-recorded maximum in 1907. The greatest attendance on any one day was 103,895 on Whit Monday, May 31. The smallest number on any one day was 191, on November 29. The largest and smallest Sunday attendances were 71,584 and 492 respectively, and in the former figures a slight increase has occurred.

The B.G.A. and the London Parks Appointment.—The following letter of protest has been sent to the clerk of the London County Council by Mr. J. Weathers in connection with the recent appointment of a soldier to the post of chief officer of the parks department: "Sir,—I am directed by the Executive Council of the British Gardeners' Association to forward the following resolution, and to ask that you will kindly call the attention of your Council to it at their next meeting: Resolved, 'That this meeting of the British Gardeners' Association in Executive Council assembled, desire to express their strong disapproval of the appointment of a military officer to the post of chief officer of the parks department, instead of a properly qualified gardener, possessing the requisite technical knowledge and powers of organisation and control.'"

Forestry Exhibition at Liverpool.—At the recent meeting of the Royal Agricultural Society proposals were submitted for a plantations competition, on somewhat similar lines to that held in connection with the Gloucester Show of last year. It was decided that, if sufficient financial support were forthcoming, a competition, confined to the districts of Lancashire, Cheshire, and North Wales, should be carried out for plantations under varying conditions—namely (1) growing on a rich or growing on a poor quality of soil, (2) mixed or unmixed, (3) conifers or hardwoods, (4) from five to thirty years from date of planting. The forestry exhibition to be held in connection with the Royal Show at Liverpool will be on the same general lines as that at Gloucester last June.

Botany at the British Association.—At the meeting of the British Association, to be held at Sheffield, on August 1 and following days, Professor T. G. Bonney, F.R.S., will preside. The president of the Botany Section is Professor J W. H. Trail, F.R.S., while Professor A. P. Coleman has charge of the Geology Section, and Dr. Herbertson of the Geography Section.

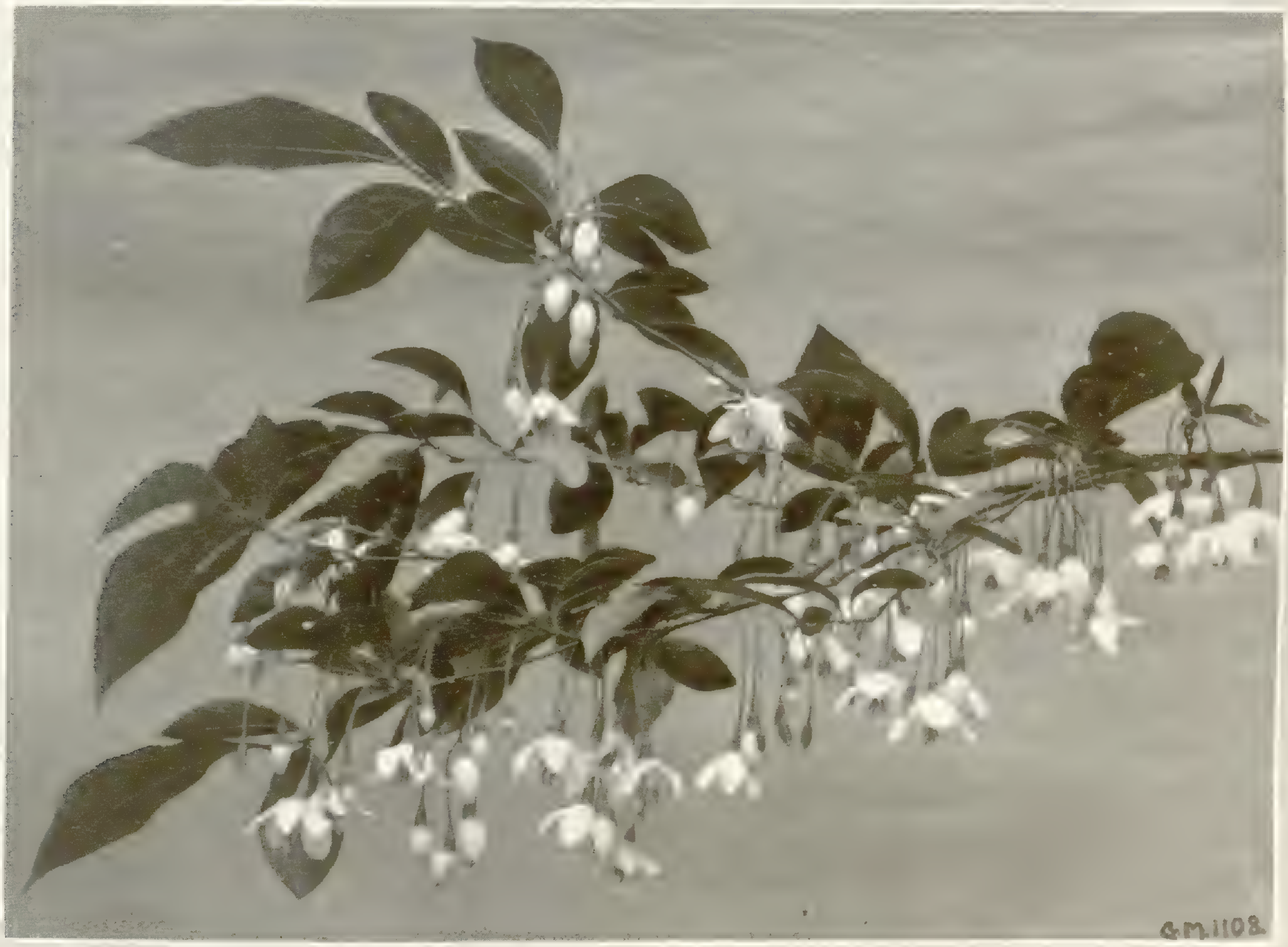
British Gardeners' Association.—The following "open letter" is being circulated to candidates for the London County Council by the Executive Council of the British Gardeners' Association: "Dear Sir,—I am directed by the Executive Council of the British Gardeners' Association to ask if, in the event of your election to the London County Council, you will be good enough to use your influence to secure the following recommendations of the British Gardeners' Association, viz., (a) To secure a minimum wage of 30s. per week for those gardeners employed by the London County Council who can produce the credentials of the British Gardeners' Association as to their being duly qualified gardeners. (b) To secure an alteration of the system which allows the appointment of a military officer to the post of chief officer of the parks department—an appointment which, in the opinion of the Executive Council of the British Gardeners' Association, should be held by a properly qualified gardener possessing the requisite knowledge and powers of organisation and control.—Yours faithfully, John Weathers, General Secretary.

THE JAPANESE STORAX.

The genus Styrax is a comparatively large one, but of the sixty or more species known to science very few are in cultivation in this country, and of these the most meritorious are unquestionably Styrax japonicum and S. Obassia, both of which are natives of Japan.

The first-named, of which an illustration is given herewith, is usually a free-growing shrub, ranging from nine to twelve feet in height, but under exceptionally favourable conditions it assumes the form of a small-growing tree, and rises to a height of twenty or more feet. It has an elegant habit, with medium-sized deep green leaves, and produces early in the season of summer a profusion of pure white campanulate pendent flowers, which are delightfully fragrant. Some idea of the beauty of a well-developed specimen during its season of blossoming will be obtained from the illustration of a spray that accompanies this note. S. Obassia is a small-growing tree, remarkable alike for its handsome rich green leafage and its elegant racemes of pure white flowers. The racemes are terminal, and range from six to eight inches in length, and bear twenty or more of the elegant campanulate blossoms, which, as in the case of those of the first-named species, are fragrant.

Both species fully merit a place in gardens in which trees and shrubs remarkable for the beauty of their flowers receive attention, for they are distinct and elegant, remarkably attractive, require but little space, and can be successfully grown without any great difficulty. A well-drained and moderately light soil is the one best adapted to their requirements, and where the soil is close in texture it can be readily improved by the addition of turfy loam, leaf-mould, and coarse grit. They may be planted singly or in groups in the shrubbery border, or in small groups on the lawn. The latter are preferable as the plants enjoy to the full both light and air, and are free from the risk of being injuriously crowded by stronger-growing neighbours. When planted in the shrubbery border care must be taken to select positions where the soil is not filled with the roots of strong-growing trees, and where they will have the space necessary for their full development. G. G.



[Photo: C. P. Raffil.

THE JAPANESE STORAX (STYRAX JAPONICUM).

A handsome shrub or small tree bearing a profusion of fragrant white flowers.

PERPETUAL CARNATIONS.

One cannot help noting the remarkable advance among perpetual carnations since the "seventies." Those old varieties, with their casual blossoms, which found favour in several good establishments, such as Jean Bart, Boule de Feu, and Valiant, scarlets; Oscar and Prince of Orange, yellows; Mont Blanc, Avalanche, and White Nun, whites; Maiden's Blush, blush; Diana, bright rose; and those fancy varieties, Ascot Giant, Beauty, and Brilliant, are now replaced by a fine reliable race of healthy perpetual-flowering varieties, which are of immense service for rendering a supply of beautiful blossoms at all seasons, but more especially during the winter and early spring months.

Some varieties, having once achieved wide popularity, retain their position in spite of the many changes around them. Of such are Mrs. T. W. Lawson, Enchantress, and a few others which follow those two favourite types. A word in reference to these two types may be of service. Mrs. Lawson, with all its sports, should be given a winter temperature of 55 degrees by night and 58 degrees to 60 degrees by day, or as near as possible to these figures, while the Enchantress group will be found to do best if allowed about five degrees less.

Some varieties seem to do better in certain districts than others, and it may be early yet to say which of the latter-day varieties will hold high rank. Winsor, of course, has an assured future, and I certainly consider Afterglow will occupy a strong position for a good long time to come. Aristocrat I am not so sure of, but it is certainly fine when well grown. My Maryland seems to be gaining ground among the whites, and Georgia is also deserving of note. Improved White Lawson, White Enchantress, Lady Bountiful, and White Perfection still have a good following, and probably one may regard the idea that the premier white is yet to come. Sarah Hill is also very fine, and should be included in a list of representative whites.

Scarlets are even now a very undecided quantity, and it is early to predict the coming premier. Beacon is bright and free, but it is not quite so popular as I expected it would become. Victory is good for size and colour, but hardly free enough for private establishments. Andrew Carnegie does not seem as yet fully known, and though it is regarded as the Scarlet Harlowarden, it does not seem as though it would equal the popularity of that first-rate crimson, while Britannia is hardly so good as its leap into popularity indicated. The front rank among crimsons is still held largely by Crimson Glow, The President, Harlowarden, and the newer Carola, of Engelmann.

I do not know if Nelson Fisher is in much demand now, probably not, though its dwarf, sturdy habit makes it a good pot plant; it is bright rose in colour, and is now supplemented by the new American sport, Red Nelson Fisher, a bright, telling form evolved from the type. President

Taft is regarded by some American growers as a coming red, but this remains to be proved.

A statement regarding some of the newest American varieties may perhaps be of service. Messrs. F. Dorner and Sons, introducers of many good carnations, are putting forward Scarlet Glow as the premier novelty for 1910; this was first shown in quantity at Indianapolis about a year ago, but the firm in question have subjected the variety to a good testing since it was raised in 1905. It is a good bright scarlet, very free, and early to blossom, of good healthy constitution, and the flowers keep well. A new scarlet recently registered is Red Prince, a continuous flowering variety, which maintains its form and good colour even during hot weather; its size is good, averaging from three to three and a-half inches, and the calyx firm and non-bursting.

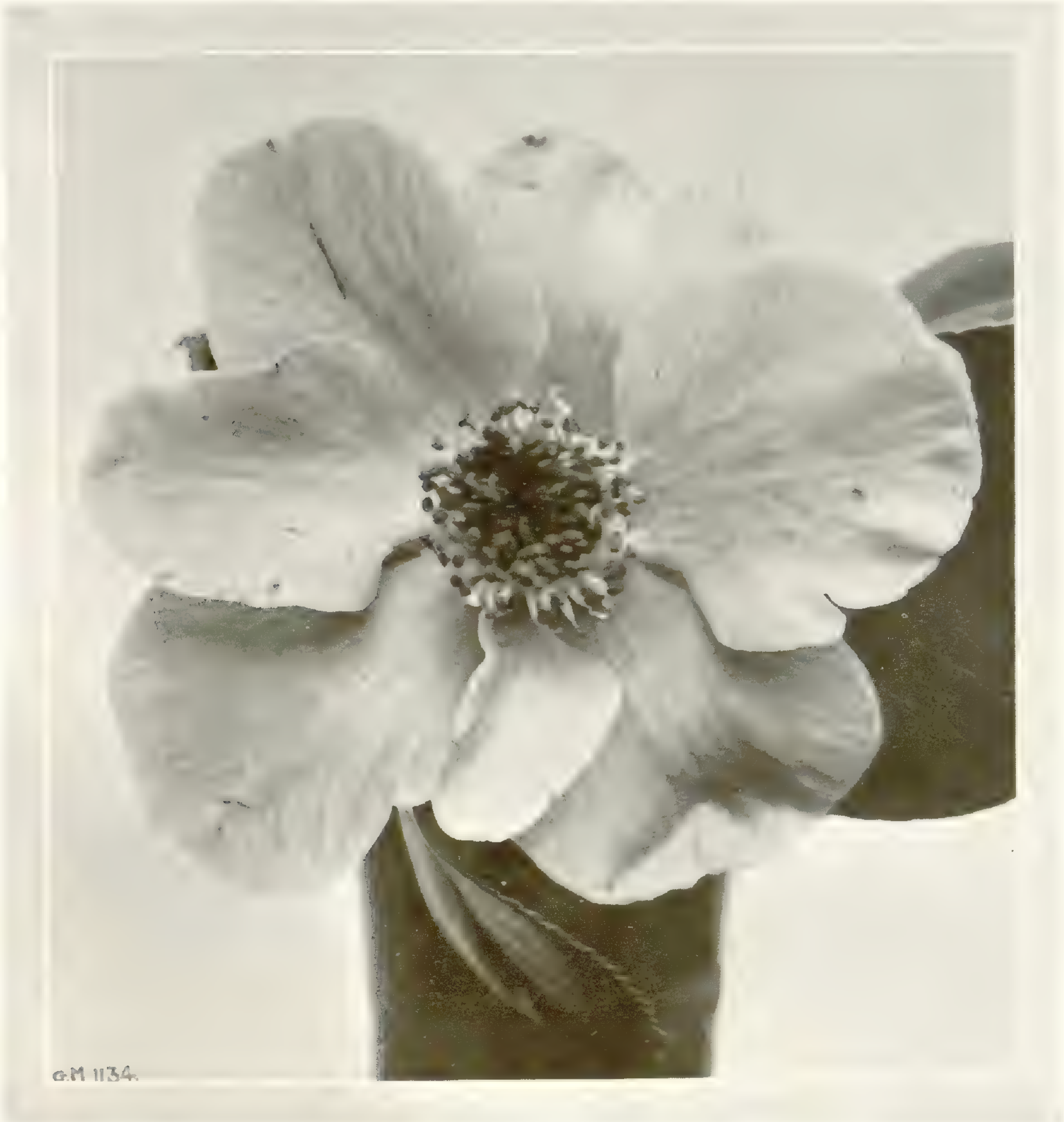
Mary Tolman, winner of the first prize at Milwaukee, is reputedly a fine acquisition, which is stated to produce more fine blooms in a season than the far-famed Enchantress. In addition it is regarded as non-fading in the strongest light, clean, upright, and healthy in growth. Conquest, a new fancy, embodying deep rosy suffusion upon a light pink ground, is undoubtedly a fine variety. The flowers are large, and the plants are of the true Lawson habit, while the stems are as long as in Enchantress. Growers should note Sangamo, even if they miss the foregoing. It comes fresh with triumphs from Chicago, St. Louis, Milwaukee, etc., and is of a bright glistening pink colour. With a quick-growing character, long stems, perfect blossoms, and a colouring exceeding Winsor, Rose-pink Enchantress, etc., the newcomer should make a name for itself upon this side of the water.

One notes with pleasure the fact that at last we are likely to see those two sterling carnations Mrs. C. W. Ward and Alma Ward disseminated among our growers. The former is a perfect long-stemmed variety, midway in colour between Mrs. Lawson and Winsor. It is very early, and free, and its winnings include silver medal at Boston, 1906, the Craig Cup at Philadelphia, 1906, the Lawson bronze medal in 1908, and the New York prizes in 1909 for the best one hundred blooms and the best new variety. Alma Ward, which I have noted on a previous occasion, is probably the largest perpetual carnation in cultivation, and is as sweetly fragrant as any. The massive blossoms are pure white, save when atmospheric changes bring out the rosy-pink markings. Its recognition to fame is shown by its receiving the Lawson silver medal in 1907, the Lawson gold medal in 1908, and the silver medal of the American Florists' Society in the same year.

Other new carnations are The Constant, a long-stemmed, large-flowered carnation, a little paler in hue than Rose-pink Enchantress; Miami Queen, which embodies good form, a good cerise colouring, and a strong constitution. So far it has proved a free, continuous variety, very good throughout the season, with strong stems and large blossoms. Shasta, the fine white carnation which has been shown several times before the American Carnation Society, has invariably been well received, and its fair size, good form, and freedom seem to betoken a good future for it; certainly it should prove useful for the market, while Washington, the new Lawson-coloured sport of Enchantress, is very well spoken of.

Other varieties are referred to in the States, but time will brand them according to their merits, but the best of the denoted varieties should be given a fair trial in our English establishments in the near future.

P. S. Hayward.



SINGLE CAMELLIA MINERVA.

Bright salmon red; raised and exhibited by Messrs. Wm. Paul and Son, Waltham Cross.

OUR ILLUSTRATIONS.

In addition to the illustrations that accompany special articles in the present issue, we give two reproductions from photographs taken at the meeting of the Royal Horticultural Society, held on Tuesday, February 8. One of these represents a fine orange tree, in a tub, exhibited by Messrs. T. Rivers and Son, Sawbridgeworth. It is the Egg orange, a variety that gives roundly-oval fruits of beautiful colour and most delicious flavour. The tree bore a fine crop, and suggests that those who grow orange trees for pleasure might with advantage obtain really fine edible varieties, give them a little extra care, and so produce fruits useful as well as beautiful. We may also point out that orange culture under glass is steadily extending, and will extend, as the exquisite flavour of the fruits so grown becomes better known and appreciated.

The second illustration shows one of Messrs. William Paul and Son's beautiful new single camellias, named Minerva. For a long number of years the Waltham Cross firm has maintained a good stock of all the varieties of camellias, and from time to time has staged goodly groups of flowering plants at the leading exhibitions. Camellias fell into disfavour as cut flowers with the advent of the longer stemmed blooms produced by forcing and retarding bulbs and shrubs, but as flowering shrubs for the cool conservatory they still fill a very important position. The double varieties have many merits, and many admirers, but the fine single and semi-double varieties now to be obtained are as free flowering, and, in some respects, more elegant, than the formal old double camellias. Minerva is bright salmon-red in colour, and has golden anthers.

Collinsia bicolor.—A patch of this pretty little annual is very pleasing when well grown, both the shape of the flowers and the combination of lilac and white being very attractive. There is also a white variety, C. b. candidissima, both growing about a foot and a-half in height. Unfortunately, like many of our annuals, it is of short duration, and should either be grown on a nursery bed in the reserve or kitchen garden, where it may be removed in time for the beds to be used for some other purpose, or, if used in the hardy flower border, it should be with a plan beforehand for filling up the space when the plants are cleared off at the end of June or middle of July. Like most annuals, it likes a deep, well-cultivated soil, not too dry and yet in full sunshine. The best way to grow it is to sow in August where it is flower, and let it stand the winter, when comes into flower in May, and produces better effect than spring-sown plants, and lasts longer in flower, besides which it can cleared off in pretty good time for succeeding occupants. But it will not always stand the winter in the open, especially in cold and damp situations, and in such circumstances it should be sown early in March or as as the conditions of weather permit. The seed should always be sown thinly, and the seedlings not be allowed to suffer from overcrowding. If it is grown in weedy fashion, so that it falls down in the first heavy rain, it is not worth the space it occupies.—Alger Petts.

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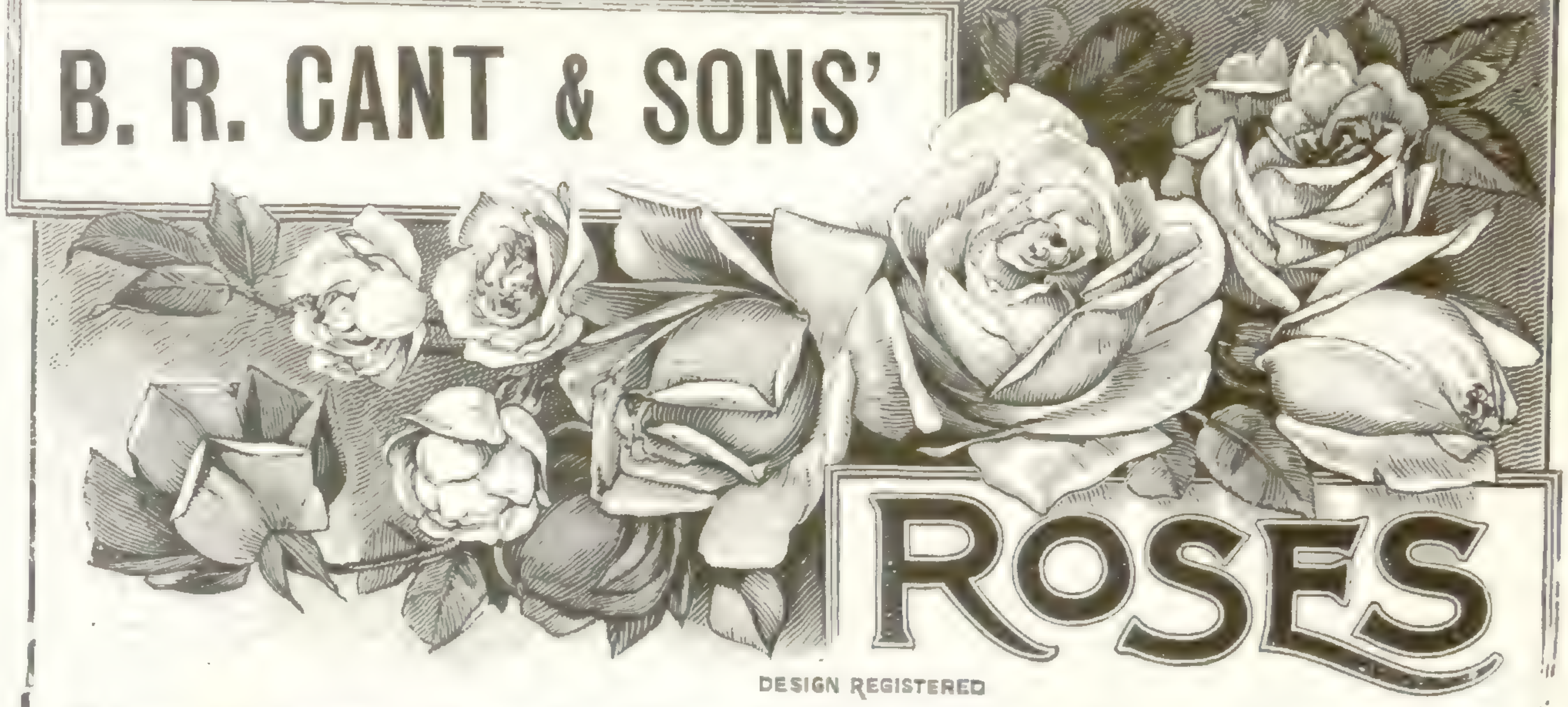

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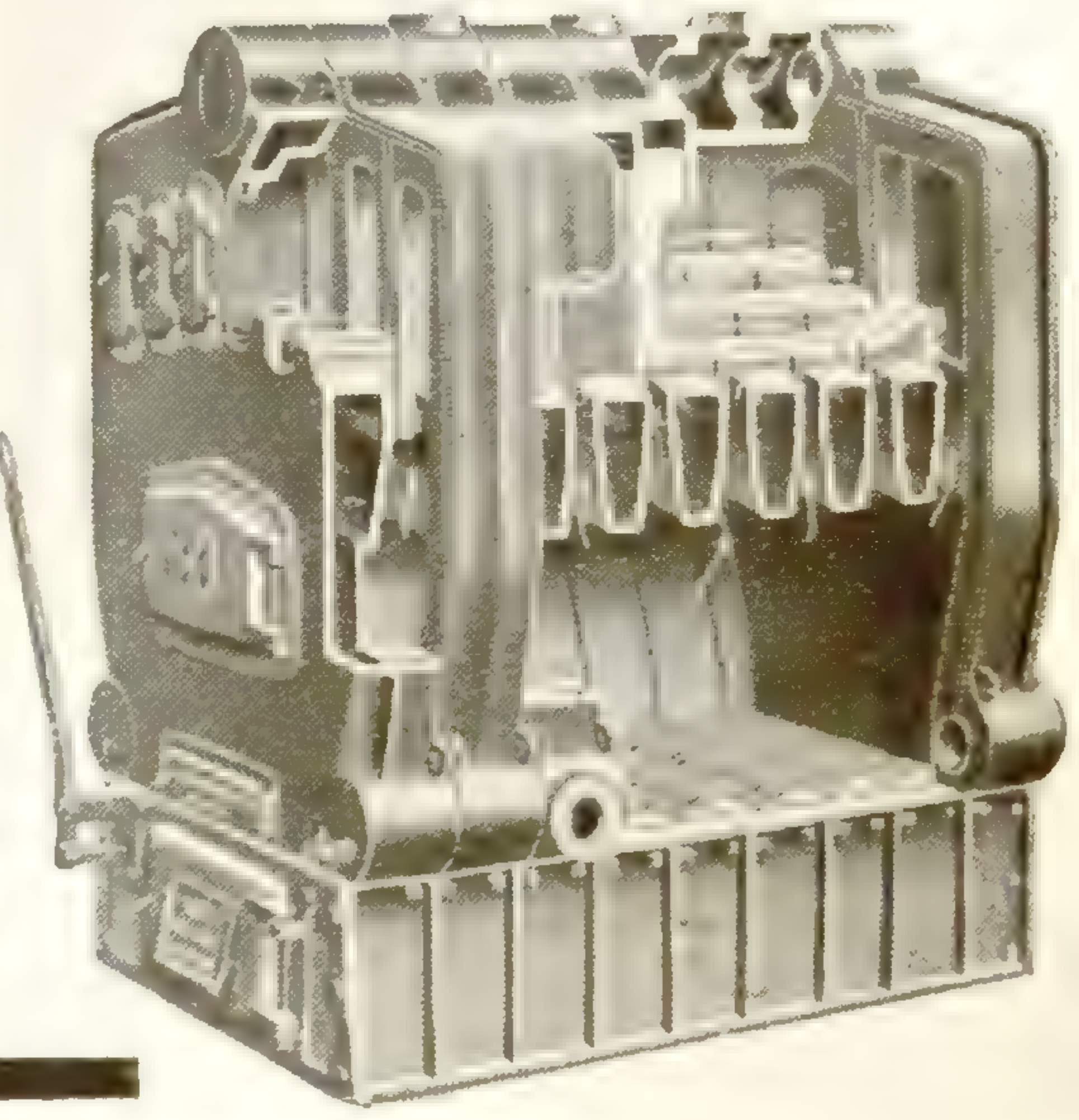
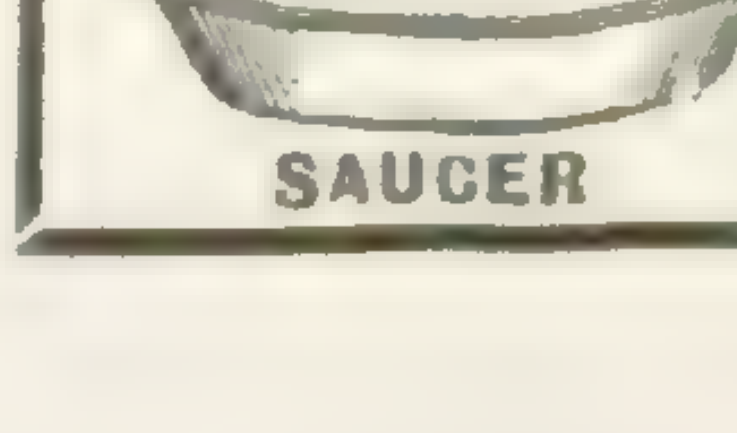


FLOWER POT.

SAUCER



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EVAPORATING PANS.

No doubt most people of an observant nature have noticed how very fast vegetation advances in the late spring and early summer time, when the atmosphere is moist and warm, after gentle refreshing rain. To obtain this desirable condition of the air in forcing houses, orchid houses, etc., various devices are resorted to, such as syringing, and damping down interior surfaces, but great aids are the evaporating pans or troughs fitted on the hot-water pipes.

Before hot-water pipes were so popular as now, and the houses were heated with brick flues, it was a common practice to cover the flue with shallow lead troughs, which were filled with water, or, in some cases, the top covering tiles of the flue itself were made concave, so as to hold about an inch or an inch and a-half of water; when these were all filled, and in action, and the flue gently syringed, there was perhaps a more genial atmosphere than we can ever obtain with hot-water pipes, and troughs on them. It is a fact that all artificial heat, whether from a brick flue or hot-water pipes, is arid unless it is modified in some way with moisture.

After considering the question of evaporating troughs for many years, and having several kinds in use, I think the very best are those that are cast with the pipe, that is, the pipe has a pan or trough cast with it: these are made in various widths up to twelve inches wide on four-inch pipes, but we have found that any size larger than six inches wide is liable to suddenly break when in use owing probably to the unequal expansion and contraction in so large a mass of metal. We have some that have been in use over thirty years, and are still good. The next best plan is portable zinc troughs made to fit the pipes; it is very important these should fit tightly on the pipes, as if too large they only rest in one place along the centre, and if too small only the extreme bottom points of the semicircle touch the pipe, and, consequently, very little evaporation takes place.

Cast-iron pans are now commonly used, and these, if they fit well, give good results. One of my friends very interested in orchid culture paid great attention to the evaporating trough systems, and he was not quite satisfied with any of the plans I have mentioned, so he experimented with a shallow brick tank lined with cement, and placed in it several rows of four-inch hot-water pipes, but he did not think there was much improvement on the pan or trough system. In some of our orchid houses, under the stages, where the hot-water pipes are laid side by side instead of over each other, we have adopted galvanised sheet iron tanks of varying sizes, and about four inches deep. With plenty of pipes underneath these cause a good supply of moisture to rise, and so maintains a humid atmosphere.

We have also found that a little piece of cloth laid in the end of the pan and carried over on to the pipe gradually conducts a portion of the water out on to the warm pipe, and thereby causes extra humidity, but this is only practicable when pipes are over each other, so that the water that runs off one can be caught on another. A little attention to the size of the piece of cloth will soon show the exact amount of water required when the pipes are fairly warm. W. M.

Cheshire.

THE AUSTRIAN PINE.

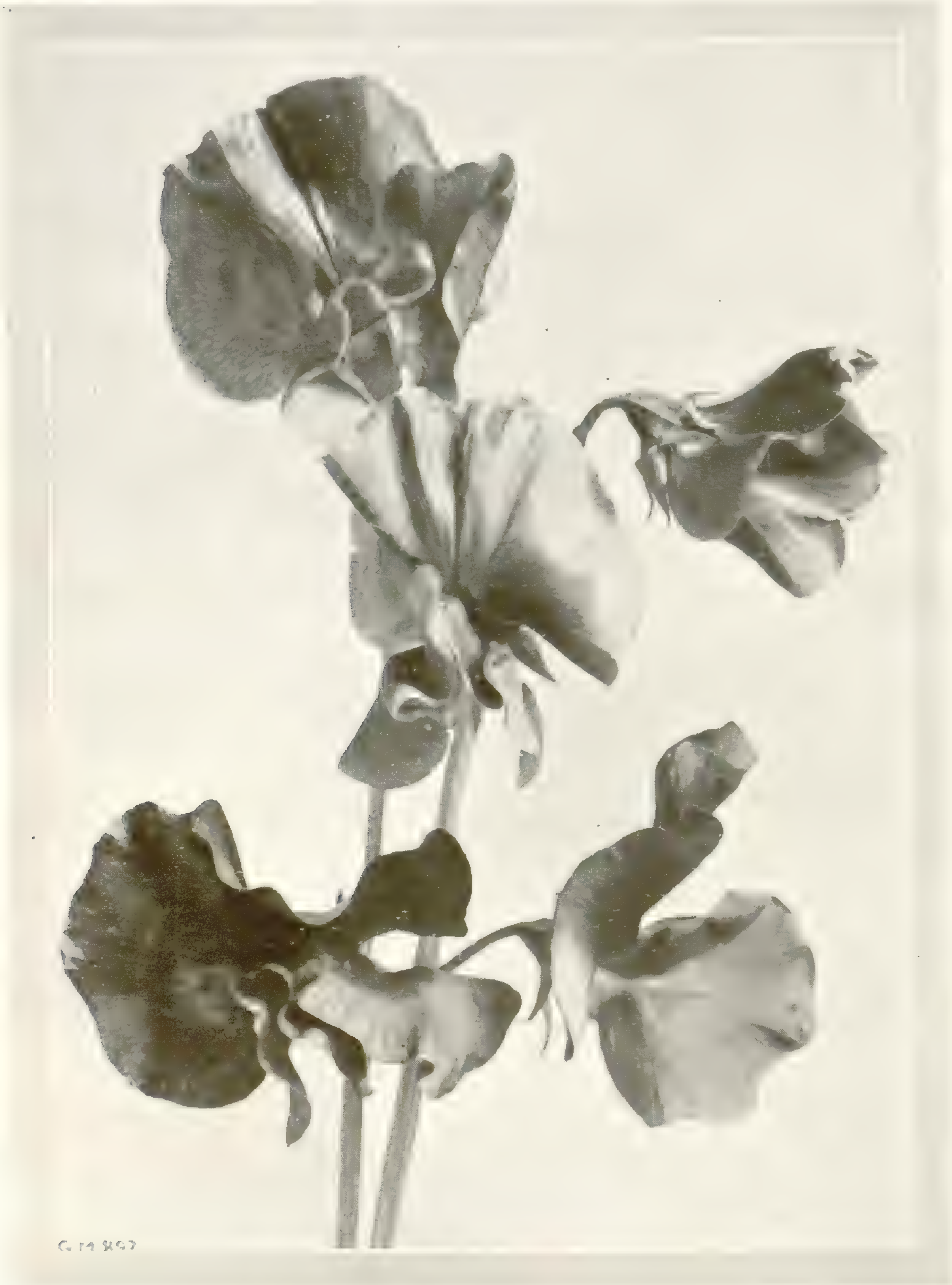
The Austrian Pine, Pinus laricio var. nigricans, is one of the best-known trees for forming a shelter, break, or a screen in exposed situations, for it thrives well in a variety of soils, and in very poor ground grows quite as well as the Scots pine. It possesses an advantage over the Scots pine from the fact of its being of much denser habit, and, in this respect, it is also ahead of the Corsican pine, P. laricio. Its timber, however, is less valuable than that of several other conifers, consequently it is planted to form a wind break for more profitable trees. In exposed situations on the East Coast it and other pines have been planted largely in some places, and usually the Austrian pine has made the best use of its time about the outskirts of plantations; from this its value as a nurse is apparent. Where a screen is required to block out some unsightly object a double row of this pine is usually sufficient, and when not crowded, the lower branches are usually retained until the trees have attained large proportions. The sombre colour of the needles are objected to by some people, and a wood composed entirely of the variety has a decidedly black appearance: this, however, can be overcome by planting a mixture of this pine and a lighter foliaged one, or larch.

A mistake which is frequently made with regard to both this and other pines is in planting too large specimens. Nursery-grown trees four to five feet high certainly look very nice, and give one the impression that they will quickly form large specimens from the appearance of the last season's growth. As a rule, however, the root system is not in proportion to the branches, and a large percentage of the trees either die outright or have a decidedly bad time. Trees one and a-half to two feet high are plenty large enough for permanent plantings, and usually such trees start away quickly, and overtake larger ones which have been planted at the same time. It is not advisable to transplant Austrian pines in the dead of winter, in fact, if the work can be delayed until April it is much the better, for every condition at that period is conducive to growth and the formation of new roots. W. D.

A FINE SPECIMEN OF THE EGG ORANGE
Exhibited by Messrs. T. Rivers and Son, Sawbridgeworth. (See page 144.)

GROUPING ROSES.

Before one begins the work of grouping roses due consideration must be given to the space available, and whether it is intended to have as many plants as possible upon it, or simply a few groups for distant effect with more or less wide spaces of lawn between. Another most important point is to be sure of the habit of growth each variety affects under normal conditions. This is necessary both in large and small groups, and more than ever so when a group of mixed varieties is contemplated.



NEW MAROON SWEET PEA, MAY GERHOLD.
Raised by Mr. H. A. Gerhold, of Penarth.

A considerable amount of care and judgment is needed to secure any lasting success with a mixed group. The height and time of flowering must be also borne in mind.

Not many of us have the advantage of almost unlimited space, and in this case it is more necessary for care in grouping. Where we may have a bed of one variety the matter is comparatively simple, and it only remains to select the desired growth and colour. I feel sure we often use too many varieties in our gardens, and better effects might be obtained by more plants of one variety. However carefully we may select, it is difficult to plant a mixed bed so as to provide a grand effect at any one time; but, confined to a single variety, the plants are generally in a uniform condition of growth and bloom. Besides, we do not want so many different roses, unless the object is a representative collection. There is ample choice of those that will continued to flower all the season—except for a very short interval while making growth for a succeeding display. And we can have almost any colour without losing these advantages. What can be more persistent in flowering, or more showy in their colours, than a bed of Lady Battersea, Lady Roberts, Killarney, Madame Ravary, Marquis of Salisbury, and Madame Pol. Varin-Bernier, to name only half a dozen? Dozens more might be added of almost any desired colour.

Small groups of the dwarf polyanthas and such Chinas as Eugène Resel, Laurette Messimy, and Comtesse du Cayla, would be difficult to improve upon. Here, again, we can have great choice of colour. Where space is available strong growers like Gruss an Teplitz, Caroline Testout, Frau Karl Druschki, Captain Hayward, Ben Cant, Climbing Mrs. W. J. Grant, and Madame Alfred Carriere, can be used to advantage in the distance, with the extra-strong Blush Rambler, Hiawatha, and similar varieties on the outskirts. By taking advantage of undulations a better artistic effect, to my fancy, is often gained with a smaller number of roses than many would use.

Where a group of more than one variety is wanted I would confine myself to as small a number as possible. For example, if Caroline Testout or Viscountess Folkestone were in the centre I would edge the bed with the dwarfest of the polyanthas, several of which are so similar in growth that three or four varieties might be planted alternately. A group of three or four plants of almost any Wichuraiana rose is very showy, but never more so than when kept to one variety in the clump, more especially if care be taken to plant these alternately with early and later bloomers, thus avoiding the blanks and empty patches so often seen. The difference in time of blooming among these is very, very great, and I will endeavour to give a few in order of blooming. The flowering time of rambling roses, so far as I have noticed, is about the following dates. Even if a season is later or earlier the approximate time is the same.

Second week in June: Electra, Flora, Amadis, Carmine Pillar, Polyantha simplex, Aglaia, Euphrosyne, Leuchtstern, Tea Rambler, Thalia, Perpetual Thalia (and throughout the season), Waltham Bride, Alberic Barbier, and Ruby Queen.

Third and fourth week in June: Gardenia, Elisa Robichon, Pink Roamer, Noisettiana, Lady Curzon, Una, Psyche, Polyantha grandiflora, Moschata alba, Blush Rambler, Rene Andre, Madame Plantier, Trier (continuous), Marco, Joseph Billiard, Francois Foucard, Jersey Beauty, Alexandre Trimouillet, Claire Jacquier, Ruga, Gracilis, and Conrad F. Meyer.

Early in July: Ne Plus Ultra, Queen Alexandra, Stella, Mrs. W. Flight, Mrs. O. G. Orpen, Aimée Vibert (and late), Ard's Rover, R. Brunnois, Debutante, Philadelphia Rambler, The Wallflower, Bennett's Seedling, Madame Viviand Morel, Rosa Plena, Félicité Perpetué, Rivers' Musk, and The Garland.

Mid July: Princesse de Nassau, Dundee Rambler, Crimson Rambler, Adelaide Moulle, Delight (and until frost comes), Dorothy Perkins, Lady Gay, Hiawatha, Edmond Proust, the Wichuraiana type, and Rubra, Farquhar, and Evangeline.

A. Piper.

SWEET PEA MAY GERHOLD.

This fine sweet pea may be well described as a waved or Spencer form of the old favourite Black Knight, possessing all the lustre of the latter deep maroon variety, with the addition of extra size and waviness. It was raised by Mr. H. A. Gerhold, of Windsor Road, Penarth, a chemist, who has for many years made a hobby of sweet pea culture, and has raised numerous varieties. Others have raised a variety that is very closely akin to May Gerhold, and it is probable that Black Knight Spencer, from America, is identical, but time will prove this. The National Sweet Pea Society's Floral Committee consider that Anna Lumley, Black Knight Spencer, Douglas Unwin, Maroon Paradise, May Gerhold, Nubian, and Othello are so very much alike, indeed too much alike to be shown together, or any two of them together, in the same stand at an exhibition of the society. All this shows how keen the raisers are, and it also shows the need of such an authority as the N.S.P.S. to prove the alikeness of varieties.

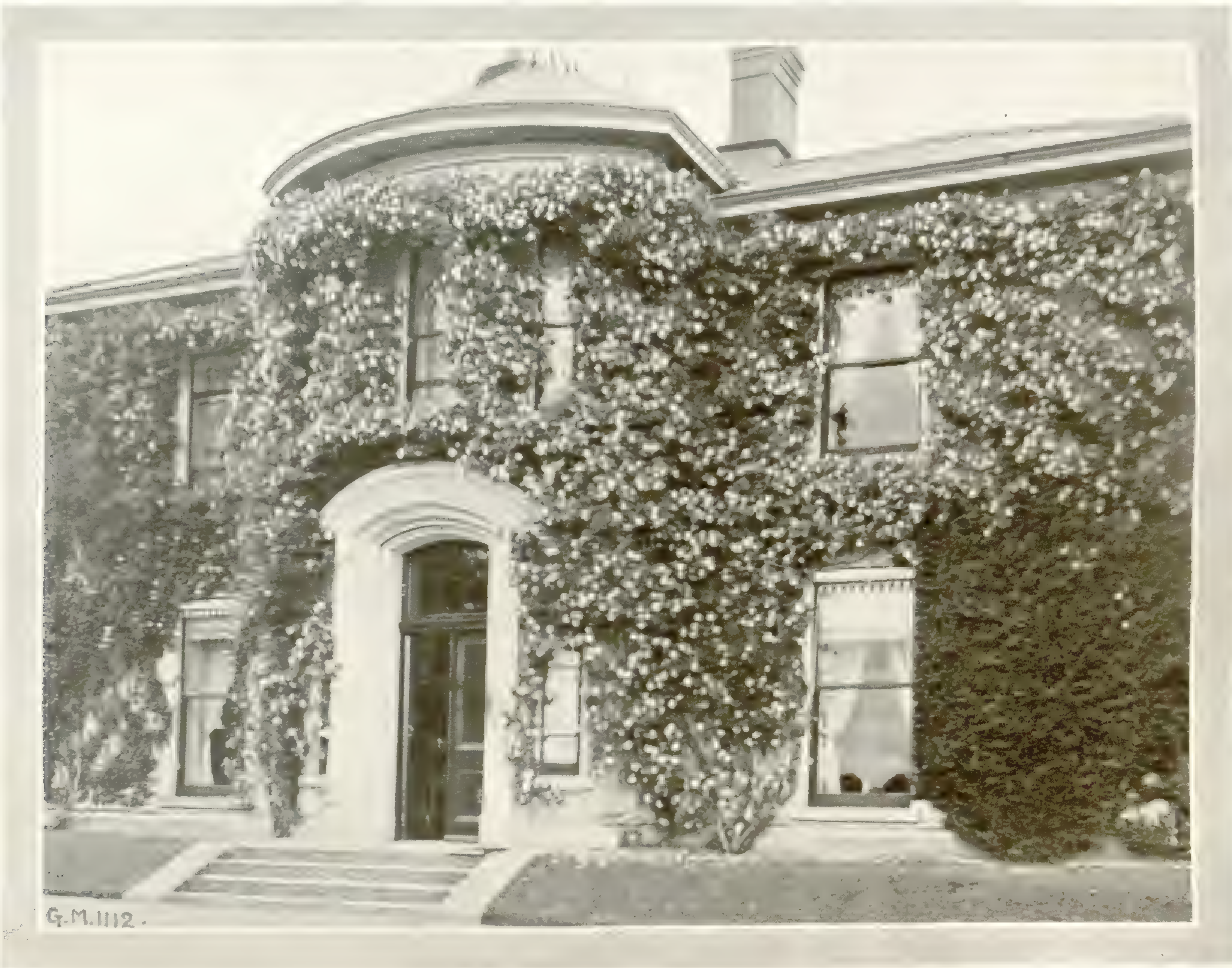
WILLIAMS' EVERGREEN ROSE.

While it is desirable the rose grower should take sufficient interest in new roses to be in a position to add to his collection such novelties as appear to be well suited to his requirements, it is of some importance that the old varieties possessing merit should not be allowed to pass out of mind until they have been superseded by others of a similar character. It would certainly have been well for gardens had the finest of the rambling roses that were introduced about the middle of the last century been kept constantly in view, for had this been done they would have been more freely utilised in clothing the walls of dwelling houses and divisional screens, arches, and other suitable supports than has been the case. Probably no class of roses has been so greatly neglected as the ramblers belonging to the period mentioned, for until the brilliantly coloured Crimson Rambler brought the ramblers into prominence, it was a rare occurrence to meet with a good specimen of any one of them. A few must have been planted annually, or, it may be assumed, they would have disappeared from trade collections. Williams' Evergreen has suffered as much as any of the older rambling roses from a want of appreciation on the part of rosarians, and as well-developed specimens are decidedly rare, the one of which an illustration is given herewith is of special interest.

This beautiful old rose was introduced in 1850, or it may be a few years later, it not being possible to exactly determine the year of distribution. One thing is certain, and that is the appearance of the variety did not create much interest, for a close and somewhat lengthy search failed to find a mention of it in the periodic literature published during the fifties. This is a point of some interest as showing that the failure to appreciate the charms of the older ramblers was not less marked in bygone days than at the present time, when growers have at their command so many beautiful varieties of quite recent introduction. As so clearly indicated in the illustration, Williams' Evergreen is vigorous in growth and free in blooming, and, therefore, admirably adapted for covering large wall spaces, its value for the purpose being enhanced by the persistency of its rich green leafage. It will also be seen that it is very attractive during its season of flowering, and it may be mentioned that the flowers are white, suffused with rose, and are produced in clusters.

In illustrating the remarkably fine specimen that clothes the walls of Dunshane, Co. Kildare, the residence of E. F. Moore, Esq., we have no wish to unduly exalt the merits of the variety, or to divert attention from the many beautiful ramblers of recent introduction that are now at the command of cultivators. Our object is simply to give our readers an opportunity of seeing one of the finest specimens of the variety in the United Kingdom, and to direct attention to its value for beautifying large wall spaces.

Roses may be grown to perfection by following the instructions given in ROSES AND THEIR CULTIVATION, by T. W. Sanders. A selection is given, with description of all the best varieties, and full details for culture outdoor and under glass. Price 2s. 6d. net, by post, in box, 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.



A FINELY-FLOWERED SPECIMEN OF WILLIAMS' EVERGREEN ROSE
At Dunshane, co. Kildare.

DESSERT APPLES FROM DECEMBER TO JUNE.

Fortunately the list of apples suitable for late supplies steadily increases, and this enables growers to make a wider selection of varieties for their particular locality. Readers will readily understand that the varieties I refer to do not all possess the high flavour of Cox's Orange Pippin, but, all things considered—ease of culture, cropping, and quality—the following are a very useful set.

December and January.

At this season the best fruits I have grown are Adams' Pearmain, a handsome conical fruit, with excellent flavour, and a variety that does remarkably well as a bush, cordon, or pyramid. It is, I think, still one of the best, as it gives but a small percentage of poor fruits, and keeps well into March if necessary. Readers may say, "Why, we can have Cox's Orange Pippin good at this season, with cool storage," and certainly we can, but it is none too plentiful after Christmas, and here I would remark that, with all late dessert apples, very much depends upon storage, and how the fruits were gathered. These are important points, and gathering, in most cases, should be deferred as late as possible for keeping purposes. The late Mr. Anthony Waterer used to show me splendid Cox's Orange Pippins in May, but I have never succeeded in keeping good fruits in the South after December.

A very delicious apple at this season is King of Tompkins County, but this is not a success everywhere. In the North it was fine as a cordon, on well-drained soil, but even on soils where the crop is not heavy its splendid quality makes up for any other deficiency. Barnack Beauty is a splendid fruit, as it rarely fails, makes a neat growth, is a heavy cropper, and very handsome. This is one of the newer introductions, and worth room in all gardens. It is not so sweet as some varieties, but has a brisk flavour that many like. Winter Ribston is another lesser known midwinter dessert apple well worth a place. A Continental variety, flat, russety, of the Blenheim habit, and of excellent quality when root pruned and grown on the paradise stock; this apple should not be gathered early, as it shrivels badly.

Christmas Pearmain, one of the newer fruits, was a great favourite grown as a cordon. It is a great cropper in a young state grown on the paradise stock, and is a handsome fruit for the dessert. Cornish Aromatic, a variety less grown in the Midlands than it deserves, is, as its name implies, of good flavour; indeed, it is also a handsome fruit when well grown, and a free bearer. In the West it makes a fine standard, and fruits much better than the larger Cornish Gillyflower; it also makes a good bush or pyramid.

February to March.

Claygate Pearmain is one of the very best of apples at the season named, and though the tree is not a vigorous grower, it is hardy, and does well in most soils and situations; it makes a good bush or pyramid, and fruits freely as a cordon or espalier, but its charm is in its superb quality. It is not a showy fruit, but of medium size, much russeted in some soils, and it has a good deal of the Ribston flavour. Duke of Devonshire is a variety that, given cool storage, will keep well into April, though it is certainly at its best from January to March; this is not a large fruit, but of fine flavour, and a good bearer, and, like the Blenheim, it should be left as long as possible on the trees before storing. Lord Burleigh is not a large fruit, but round, and not unlike a Nonpareil. Yet it is one of the best dessert apples we have as regards quality, being sweet, with a pine flavour. It is a good cropper on the paradise as a bush or pyramid, and is at its best at this period of the year.

Sanspareil is quite distinct from any of those noted above, and, given cool storage, it may be kept well into the spring; but it is a most useful fruit in March, very handsome, a great cropper, and keeps as sound and crisp as a Cox's Orange in October. Having good flavour, it is a valuable addition to the best keepers at this season. Lord Hindlip is a good bearer, not strong, but of good flavour. Mrs. Phillimore is one of the newer fruits, of excellent quality, very sweet, and a compact grower; this does well as a cordon or bush, and is a very fine bearer.

April, May, and June.

D'Arcy Spice is an old Essex apple of excellent quality, and a fruit that varies greatly in certain soils. In some places it is much russeted, in others of a deep bronzy colour, not always a heavy cropper, but of excellent quality, and in season from April to May. It is also known as the Spring Ribston. Another of the russets, Brownlee's, is an excellent spring variety, and of fine flavour, doing well as a bush or standard. It is a moderate bearer, and much superior to the Boston Russet as regards crop and quality. Allen's Everlasting is one of the latest apples on this list, and there is no difficulty in keeping it till May; it is of good flavour, and a compact grower. Fruits should be left on the trees as late as possible. Though a small fruit, it is of great value for its lateness, and it does well in most parts of the country. I have in the North kept this variety until June.

From my list it is difficult to omit Sturmer Pippin on account of its late keeping. This old variety keeps well into June; it is not large, and should be left as late as possible on the tree. Prolific on the paradise, it is worth a wall in a cold district, but in the South I have seen good crops from standards. There are a few other varieties worth adding, but the above, from my own experience, are the best.

Brentford. G. Wythes.

PLUMOSE FERNS.

Although the great majority of fern species present in their fronds some resemblance to a feather, owing to the midrib bearing on each side divisions of more or less delicate cutting, arranged on feather-like lines, it is in the abnormal "sports" to which the term "plumose" has been applied that this character is most exemplified. It appears to be correlated with what is termed free venation, that is, the possession of a vein system in which the veins, or most of them, terminate at the edges of the segments, as distinct from a reticulated or netted system, in which they are connected together in such a way as to form completely enclosed areas of the fern tissue, frequently forming pretty patterns. A little study of the character of plumation clearly discloses the reason.

In ferns whose veins are free, terminating normally at a smooth even edge, such as we see in the blechnum or Polypodium vulgare, variation often takes the simple form of serration, or the formation of saw-like teeth, owing simply to extra lengthening of the veins, which then carry the frond tissue with them. This extension may be carried so far as to transform a once divided or pinnate fern into a bipinnate, tri-pinnate, or even quadri-pinnate one, the lengthened veins becoming midribs, and repeating on a smaller and smaller scale the specific form of sub-division. The most remarkable examples of this are seen in the marvellously decomposite or plumose forms of the normally pinnate or once-divided Nephrolepis exaltata, which have appeared within the last few years. It is clear that a netted venation would stand in the way of continuous sub-division on these lines.

In scolopendriums the veins, a short distance from the midrib, fork into pairs, and normally each pair is continued to the smooth edge of the frond without further division, thus contributing to form a flat strap-like lamina. In the plumose type of this species, known as "crispum," the vein pairs fork again and again as they approach the edge, with the result that the edge, while still remaining smooth, will, if measured, be found to be twice or thrice as long as the midrib, and hence a more or less deeply folded frill is formed. In the true "crispums" this extra development of tissue is accompanied by an entire absence of spores, but forms of crispum have been found which bear spores somewhat sparsely, always, however, at the expense of the frill, which becomes defective, because those vein pairs which bear spores either do not fork again, or, if they do, they extend for a shorter distance, and thus lead to an irregular edge instead of a smooth one. The free venation of the Hartstongue permits it to vary also on the lines previously described, viz., by extension of the edge into projections, which in some varieties even go as far as to closely approach the pinnate type of other species. Here, however, it would appear that a bipinnate form is an improbability, the simply forked vein system precluding repeated lateral segmentation. This fern, however, is so protean in character, having undoubtedly sported into more varieties than any other species in existence, that it would be rash to say anything is impossible. The true "crispums" are, as we have said, perfectly barren, and this absolute sterility is correlated with all fern sports that should properly be termed plumose, and are very few in number.

In our native ferns we have the several forms of Polypodium vulgare var. cambricum, Asplenium trichomanes incisum, Scolopendrium vulgare, crispum, and Lastrea montana plumosa, all of which have been repeatedly found as wild sports in widely different localities, and have never, so far as we know, been found to bear spores, though it is clear that they must have originated from fertile progenitors. The exotics are also few in number, those we can recall being Adiantum Farleyense, Phlebodium Mayi, Polypodium Knightæ, and Nephrolepis rufescens tripinnatifida. In addition, however, to these barren plumosums, which may be termed the true ones, there is a great number of ferns so named, and justifiably so as regards their beautiful dissection, but which are all more or less fertile, while most of them are secondary sports due to selection. The exceptions, i.e., the wild finds, are Polystichum angulare plumosum Pateri, Wollastoni, Molyi, Athyrium filix fœmina plumosum Axminster, divaricatum, and Willsi, Lastrea filix mas Bollandæ, Adiantum capillus veneris cornubiense, a counterpart of A. Farleyense, and Asplenium marinum plumosum. The plumose forms obtained by selective culture as secondary sports, though the spores of wild finds, have, however, attained a degree of feathery development far transcending any wild variety yet found.

In the polystichums there is what is known as the Jones and Fox plumosums, raised by Colonel Jones and Dr. Fox, from a merely decomposite find of P. angulare. This section, which embraces several variants, has fronds so repeatedly and so delicately divided, and their segments so densely overlapping, that even that marvellous fern Todea superba is surpassed, and it is only the new developments of Nephrolepis exaltata above alluded to that can rival them. More recently the near relative of P. angulare, viz., P. aculeatum, has yielded, through P. a. pulcherrimum, a wonderful strain of plumose forms characterised by extreme tenuity of the divisions, and their great length, a normal half-inch pinnule being lengthened to nearly three inches in some cases (P. a. gracillimum Druery). The latest development of this section, P. a. pulch. plumosum (Green), rivals the Jones and Fox angulares in its fine dissection and density.

Finally must be mentioned the writer's "superbum" section of Lady Ferns, derived from the wild find A. ff. plumosum Axminster, through one of its somewhat improved offspring, A. ff. plumosum elegans Parsoni. This case is unique, since a non-crested fern produced over 90 per cent. of finely crested offspring, the best of which, A. ff. superbum Druery, yielded a batch of crested and uncrested forms, some of the crested being tasselled to the fourth degree, i.e., with crested pinnulets, while the finest uncrested one A. ff. plumosum Druery, has no rival at all in size and dissection, and many of its sister plants well justify the name of "superbum" applied to this section generally.

Chas. T. Druery, V.M.H., F.L.S.

THE READING PRIMULAS.

When a gardener, amateur or professional, is making arrangements for a forthcoming season there are a few things to which he gives very special attention, because so much depends upon their success or failure. When the new seed catalogues arrive, and after the vegetables have been duly considered, and the quantities of seeds necessary have been marked on the order sheet, the floral section comes up for discussion, and in this division there will be two classes of plants turned to first of all. For flowering out of doors the sweet peas will have first call, but for flowering under glass primulas will come first on the list.

A CONSERVATORY GROUP OF THE DUCHESS PRIMULA.

The Chinese primulas occupy a very important place in the yearly round of horticultural activities, chiefly because they bloom at a season when other flowering plants are comparatively rare. In these days we have many more kinds of flowers available during late winter than was formerly the case, but we must remember also that the demand for flowers and plants to brighten our homes and glasshouses, our hotels and restaurants, and our various social functions, has also greatly increased. We want diversity of form and colour, and, therefore, instead of there being less need for Chinese primulas there is the greater need for them. A batch of well-grown primulas, single or double, white or coloured, plain or frilled, palm-leaved or fern-leaved, is no mean test of a gardener's skill. Every plant, with its well-developed tiered spikes of beautiful blooms, surrounded by neat green leafage, is a perfect picture, either for the room or the conservatory, and in passing it may be pointed out that primulas, especially the star varieties, are greatly valued as single specimens for the decoration of the drawing-room, the boudoir, or the dining-room.

It follows that however skilful the grower may be, his skill is very heavily discounted if it has been expended upon an inferior strain. The seeds look all alike, whether they cost sixpence or half-a-crown a packet, and they may all germinate, and grow with equal readiness and vigour; indeed, the cheaper seeds may appear to give the finer plants. But the testing time is in January and February, perhaps even earlier if early batches are brought forward. There is then a world of difference to be found in the size and solidity of the flowers, the habit of the plant, and the colouring of the blooms, and this difference is out of all proportion to the initial difference of the price paid for the seeds.

To appreciate the extreme care taken to maintain and to improve the Reading primulas one must pay a visit to Messrs. Sutton and Sons' trial grounds at this season of the year. The display is a marvellously beautiful one, house after house being filled with superbly grown plants carrying trusses of delightful flowers in many shades of colour. All are being grown for seed, all are absolutely true to colour and form, and each batch of each variety has its own pollen brush all to itself. Of several of the varieties catalogued there are numerous batches of plants, some resulting from selections made for the purpose of improving the variety in a certain direction. If the selection proves successful then in due course it supplants the variety, and growers have the benefit of this patient care and experiment.

So extensive have been the crosses made at Reading that it is difficult to conceive one that has not yet been effected, and the stud book very soon shows what the combination of any two varieties will produce. For instance, it has been proved beyond a doubt at Reading that the delightful primula named Duchess can be produced by crossing Crimson King with a dark-stemmed white-flowering primula. Systematic records, such as these, are intensely interesting, and they save time and trouble. It is not given to every visitor at Reading to see this stud book of primulas, neither is everyone admitted to the little set of small houses far away from the general range of glass, and wherein the firm tests its own seeds each year. The seed stock in the large houses are specially selected and saved, but in these smaller houses are plants from the ordinary packets as distributed to customers last spring. No special treatment is given, and only ten plants of each variety are grown on from the seedling stage, and flowered in quite small pots, and every plant is true to form and colour; ten plants only are allowed, and rogueing is impossible.

Turning to varieties, there seems still to be an idea prevailing in some quarters that the race of giant primulas, for which Messrs. Sutton and Sons are deservedly famous, is the result of special culture. It is nothing of the kind, but is the result of cross-breeding and selection over many years. The giant race have stout flower stems, fine spikes, and very large flowers of wonderful substance, as compared with the usual type, and, moreover, they are shy seeders. Six varieties of giants are offered; three are white, one of these having unusually finely fringed flowers—alba magnifica, while the others are Giant Pink, Giant Crimson, and Giant Salmon. A Giant Blue is in the making. Among the not less beautiful varieties of the ordinary type a few of the Reading specialities are The Duchess, still a superb, attractive, and distinct primula; The Czar, a fine blue; Lord Roberts, rich salmon; Pearl, one of the oldest and best of white varieties; Royal White, of wonderful form and substance; Crimson King and Brilliant King, both of splendid colour, the latter rather more fringed than the former, and Coral Pink, a delightful and delicate creamy-pink shade.

The star primulas occupy a higher position now than ever they did, their elegance and freedom more than atoning for any lack of form in the individual flowers. The original White Star has been improved upon, and now White Queen is the foremost white of its class. Then there are stars of all sorts of colours, quite a constellation; there are Pink Star, Ruby Star, Carmine Star, Pearl Star, Dark Blue Star, Light Blue Star, and Lord Roberts, the latter a deep salmon-pink colour. A slight doubling is being developed in this section, and already a double form of Ruby Star is on the market. This slight doubling adds still further to the longevity of the flowers. The double Chinese primulas must not be overlooked, because of their immense value for cutting as well as for use as plants. The Double Duchess is one of the newest developments, but there are also double pink, scarlet, blue, salmon, white, and flaked varieties, all of the greatest beauty.

The cyclamens are also very fine just now at Reading, and the large triple-spanned house filled with their elegant and often sweet-scented flowers, provides a choice picture of floral beauty. Here, too, there is a giant race, with fringed and papilio varieties, and exquisite colourings in the normal type. From purest white to deep and brilliant crimson the colour range passes through pink and salmon, mauve and purple, cherry and rich red. For brilliance of colour Vulcan is not yet surpassed, and there is nothing finer in pure white than White Butterfly. In their way cyclamens are quite as valuable as primulas, and they appeal even more strongly to some people, because the long-stemmed blooms are more generally useful for cutting than are the primulas, always excepting the star section of the latter.

WINDOW GARDENING IN SPRING.

The term window gardening includes all methods of growing flowers outside the windows, from the humble row of pots or narrow box of earth filled with plants, to the long wide balconies where pots of flowers are arranged tier upon tier. The pleasure to the possessors is probably not less in the former case than in the latter, and, however large our gardens may be, it scarcely lessens the enjoyment to be obtained indoors from flowers growing so close to us. In these days, when we have our windows more widely open than our forefathers used to have them, the opportunities for enjoying this window gardening are greatly increased, while to wake on a bright May morning and hear the bees busy at our open windows, and occasionally sailing in and out of the room, is as nearly Arcadian in its simple pleasure as most of us have the opportunity to experience.

VIEW IN THE LARGE CYCLAMEN HOUSE AT MESSRS. SUTTON AND SONS' TRIAL GROUNDS, READING.

To make window gardens a source of continued delight for six or eight months of the year, and of some amount of interest for the remainder, involves a good deal of labour, compared with the same amount of display in the open ground, and this is more especially so in the spring. After a display of hyacinths some appear to be quite satisfied if there is nothing to succeed them until the time of pelargoniums, but this is not good enough, for the growth of bulbs after flowering is rarely beautiful, and if we remove them altogether it leaves a blank to which we do not get accustomed for some time. If we grow bulbs we should be prepared with something to succeed them, as the utmost time they last is three weeks, and the planting of other spring flowers in the same boxes as the bulbs is not in general to be recommended, for not only is there insufficient room for the roots of both when dry weather comes, but the foliage of the bulbs after flowering spoils the effect of the plants which bloom afterwards, there being no room to produce the effect of bulbs in beds with surfacing plants, while seeing the arrangement at such close quarters as we do we are more exacting in our demands, or it takes more to satisfy us.

After many years of experience of window gardening I am of opinion that the only plants which give satisfaction throughout the spring, from the middle or end of March to the middle or end of May, according to the season, are wallflowers, supposing the plants to be well grown, that is, eight to twelve inches high, before flowering, and as much through, branching out right from the base. Such plants are as good as small shrubs from October to March, and for two months they are beautiful, reckoning from the opening of the first blossoms. The raising of the plants, and subsequent potting or boxing up, and even sticking, involve a good deal of work, and need some little experience if the plants are to give satisfaction afterwards, but the work is certainly repaying. In a north aspect, or anywhere between north-east and north-west, not only a sharp winter, but even a week's frosty wind in March, when the soil cannot thaw in the daytime to enable the roots to make good the loss of moisture by the parching east wind, may cause the loss of some of them, but it is the exception, though a few reserve plants should always be kept potted up in a frame.

Another good subject for our purpose is the primrose in its various forms, large vigorous plants, such as are obtained from seedlings raised early in the previous spring providing handsome foliage all through the winter, and lasting a long while in flower in the spring. Liquid manure occasionally will add to the darkness and robustness of the leaves, which are among the most beautiful of our spring plants. Where wallflowers and primroses are arranged in boxes of a good size some low-growing bulbs, like squills, chionodoxas, and grape hyacinths may be planted amongst them, as their foliage will be pretty well concealed by the free growth of the plants afterwards. Snowdrops, Anemone appenina, and other small-growing things will occur to the reader as supplementary flowers in this kind of window gardening.

Where, however, more temporary things are used for the main display the window garden will not be a success in the spring unless a second set of pot plants or duplicate boxes are kept in reserve for succession. The gap is not early in the spring, as the bulbous plants look well, or, at least, interesting, for two or three weeks before they flower, but it is during the month of May that something more is necessary. I have seen a blaze of yellow produced by small plants of Alyssum saxatile compactum, but it is unfortunate it is of such short duration—seldom much more than a fortnight in full beauty—though it just bridges the gap between the earlier spring bulbs and the summer flowers. Being a cruciferous plant it is not a very good one for transplanting, and it is best potted up in October, using either seedlings or cuttings of the same year. Daisies are not to be despised when well massed together, but better than either of the foregoing are May-flowering tulips in a setting of Myosotis sylvatica, a good display being made during the whole month. Aubrietia, too, makes a beautiful colour patch if nice shapely plants can be massed together, so as to give the appearance of growing over the sides of a bark-covered box, but it is more easily said than done. The more compact varieties of the viola are second to nothing for May window gardening if properly provided for, though, being gross feeders and lovers of moisture, a hot May sometimes makes them deteriorate very quickly, but we do not often have more than a few days of heat at that season. In any case, the violas must have a deep and wide box, and should be filled with good tufts; then, with a cool or damp May, a very good result may be expected right into June.

Most spring flowers are lovers of coolness and moisture, even the gorgeous tulip, and the secret of success with window gardening at this season is not to let them suffer from want of water, and if some liquid manure can be used occasionally it will be all the better. Pots should always be set in saucers, as there is little fear of their standing in water long at this season, when they are so full of active roots, while even boxes should, and often may have, some arrangement for preventing undue inconvenience from water dropping underneath. Tin trays to fit the boxes are not expensive, and are a great contribution to the solution of the watering problem in dry spring weather. It is not necessary to fill the trays with water, though it will do no harm during a warm dry spell, but by retaining the water that is given to the boxes they will reduce the labour of watering by half, and the risk of the plants suffering from drought to a minimum. **Alger Petts.**

EARLY CELERY.

The first batch of celery plants is generally raised in strong heat, and very rich compost. It is quite possible to overgrow these plants in such circumstances. Inexperienced cultivators should not be over anxious and simply rush the growth of the plants during their early stages, or the hearts will be pithy instead of solid. While engaged in reporting a large provincial show, a few years since, I heard two well-known judges commenting on some remarkably large sticks of celery. One gentleman remarked to the other, "Yes, they are very fine to look at, but they are overgrown." On close examination the centres were found to be pithy, and so the first prize was awarded to smaller, but firmer sticks.

When I was a youth at home I had my special garden, greenhouse, and frame. I tried hard to excel at celery culture. Having raised a stock of young plants early, I grew them in deep boxes filled with a rich loose compost, and plunged the boxes in a strong bottom heat. A gentleman, paying a visit, who saw them said, "What a grand lot of celery plants." I thought so, too, and was pleased at the remarks made, but later in the season I was much disappointed, as nearly all my plants were practically worthless on account of their defective centres. I was taught a lesson early which has never been forgotten.

I am not against the practice of giving young celery plants some bottom heat, but the latter must be very moderate, and the plants must not, at any stage, be unduly forced. Avoid all causes of checks. The hardening process must be gradual, and for a fairly long period prior to the final planting out the plants should be grown on a cool base. If the plants are so treated they will prove satisfactory throughout the whole season. **G. B.**

GREENHOUSE MANAGEMENT.—The Amateur's Greenhouse, the popular book by the Editor of "Amateur Gardening," not only treats of the selection and cultivation of greenhouse plants and flowers, but gives full instructions how to build a greenhouse and how to heat it, as well as every detail as to the management of the plants and flowers grown in it. The price of this book of 416 pages is 5s. net, or by post 5s. 6d. from The Gardeners' Magazine Office, 148, Aldersgate Street, London.

SWEET WALLFLOWERS.

Single wallflowers are said to increase in popularity year after year, while the double wallflower goes as rapidly out of fashion; there are few blossoms probably that are more deserving of the culturist's skill and patience, since it is easy to decide what novel forms would achieve fame and earn gratitude. We want a miniature type, not of compact bush shape, but growing with three or four stems, with the graceful habit of the old plant that is found waving its scented sprays from many a ruined wall, and this elegant dwarf should show all the rare shades that now delight us in the larger kind, lemon, apricot flushed with rosy-red, orange, ivory, and purple. Next we need a double wallflower, not a stiff spike producer, as arrogant and unbending in appearance as the mullein or hollyhock, such as the present double, but a variety such as Fire King, Harbinger, or the ordinary Blood Red, only with each blossom made up of three or more rows of petals. Some authorities declare that a cruciform flower is more difficult to "double" than one of more preliminary petals; difficulties, however, but provoke enterprise.

Far longer than one can trace the wallflower has been loved as a poetic as well as a homely beauty; in the Middle Ages it was worn by wandering minstrels and troubadours, sprays being treasured during their travels, and shown again, on their return, to the great lady patronesses who had bestowed them, no doubt accompanied by some more substantial guerdon. The poet tells us,

> "An emblem true thou art
> Of love's enduring lustre, given
> To cheer a lonely heart";

and this has been interpreted as an allusion to the sheen that is found on the petals long after they have become dried and devoid of real colour. Symbolical of fidelity in misfortune, it is found filling up rents and chasms of deserted buildings, giving warm colour to scenes that would otherwise be too coldly grey.

There is, of course, a good dwarf single strain of wallflowers that proves of value in beds, but the height is variable, ranging from six to nine inches; the habit is stiff in the extreme, although the colours are often gloriously diversified. Vulcan is a nine-inch crimson, and Golden Tom Thumb is generally employed; Dwarf Ruby Gem supplies a want, too, yet none of these are graceful; after severe spells of spring east winds the lowest leaves often wither and fall, leaving the plant shaped like a miniature cabbage, showing bare understem and a far too compact head. One gardener known to me makes a point of growing his wallflowers for bedding in rows under a south wall all winter, with lines of bricks in between, upon which lights can be laid in frosty weather; a line of wood, like a low fence, shuts off the wind from the east, and these plants are only put into the beds in March when about to bloom. Lifting is done after a thorough soaking of the soil, each plant being so moved that it is slipped into its new quarters with ball of earth intact. The enormous work involved would deter most flower cultivators from adopting this method; still, the perfection of foliage as well as blossom that results commends it highly to all who desire an extra good display.

The wallflower is a native of Switzerland, as also of the colder parts of France and Spain, as well as of England; by means of seed scattering on the hilly bare bits of ground of some large estates, against banks between fields, on the margins of old gravel pits and stony gorges, very beautiful effects could easily be gained, and the harvest would be self-repeated year after year, provided the blossoms could, some of them, be preserved from trespassing pickers. The tall sorts would be most suitable, especially,

> "The yellow wallflower, stained with iron-
> brown";

while some seed of Cheiranthus kewensis, the winter bloomer, should be included; this would ensure late autumn blossoms in the landscape, possibly also December flowers unfolding in the sheltered nooks.

The connection between the families of wallflowers and stocks is interestingly made visible in the foliage of the wallflowered-leaved ten week strain of the latter. The annual wallflowers have come to supply a real want of those floriculturists who wish to keep one kind of blossom with them all the year, sharing the opinion in this case of the poet Moir:

> "Sweet wallflower! Sweet wallflowers!
> Thou conjurest up to me
> Full many a soft and sunny hour
> Of boyhood's thoughtless glee;
> When joy from out the daisies grew
> In woodland pastures green,
> And summer skies were far more blue
> Than since they ere have been.
> Rich is the pink, the lily gay;
> The rose is summer's guest;
> Bland are thy charms when these decay,
> As flowers first, last, and best.
> There may be grander in the bower,
> And statelier on the tree;
> But wallflower, loved wallflower,
> Thou art the flower for me!"

White Dame is a variety that should be more grown; used with a vivid red variety it gives a new spring combination in beds, recalling the stronger scarlet and purer white combination that summer always offers in one part of the garden or another, but which no early flowers create, excepting those that Anemone fulgens, tulips, and hyacinths produce among the bulbous plants. White Dame is also charming with the salmon-red Eastern Queen, or buff-salmon Aurora, with Cloth of Gold or Ruby Gem; a newer sort is White Gem.

Cheiranthus alpinus seems to call for attention as a wallflower that should accompany the other types in the beds, edging them or forming a rather high carpet; this, although some scientists class it among the erysimums, Cheiranthus Marshalli is such a grand orange that it merits far more patronage as a bedding plant, but it grows often to a height of eighteen inches.

The practice of not sowing wallflowers until June is one to be severely condemned; March is the month, the seedlings having a more compact habit if twice or thrice transplanted. Whether the true elegance of the plant is not interfered with by all so-called improvement in this respect may be seriously questioned however, and, now that even bedding arrangements are expected to be artistic, and show the natural beauty of the subjects used, it seems that bushy, rather than graceful, wallflowers, are out of date. Probably the loose branching form, reaching high, tapering its bud sprays, waving in the least breeze, is the one that will soon be demanded. Cheiranthus mutabilis, the three-feet herbaceous plant, offering great stems adorned by yellowish flowers, flushed with rose, mottled with cream, passing into brown, or sometimes half ochre-yellow, half chestnut, stands alone at present as a fragrant wallflower of absolutely perfect grace. Seed scattered in March of all varieties in mixture, will result in a field of glorious colour, and no work be needed but judicious thinning. This is a grand way to beautify either a border or large bed. **M. H.**

WORK FOR THE WEEK.

THE ORCHID HOUSES.

DECIDUOUS DENDROBIUMS. — The bulk of the plants of the deciduous section of dendrobiums will now be producing their flower buds from the nodes of the pseudo-bulbs. Care must be observed in the early stages of development not to treat the plants too liberally. It is best where only sufficient encouragement is given to keep the pseudo-bulbs plump until the flower buds are distinctly observed. In bright weather the plants may be lightly sprayed overhead, and this will, to some extent, counteract drought at the roots. It is advisable to keep the atmosphere reasonably dry, especially so at night. Keep all plants that are producing their flowers in a light position; no shading is necessary until the flowers have become expanded, and the plants should then be removed to a cooler and drier atmosphere, as this will considerably increase the duration of the flowers, and if the plants are required for decorative purposes in the house they are not so liable to injury as would be the case if taken direct from their warm quarters.

POTTING.—As they pass out of flower any repotting necessary may be attended to. I certainly think the repotting of this section of dendrobes should not be delayed after the new roots make their appearance from the base of the young growth. The plants should not be disturbed more frequently than is absolutely necessary, and where good lasting material is used as a potting compost some of the kinds will often do well for years practically undisturbed. The whole stock should be overhauled at the proper potting season, as drainage must be kept in order, or there is a danger of stagnation at the season when the plants require well-nigh saturated conditions both at the roots and in the atmosphere. Use equal proportions of osmunda fibre, fibrous peat, and chopped sphagnum, with sufficient sand or finely broken crocks intermixed to render the compost porous. Avoid having the receptacle too large, and care must be observed not to have too great a bulk of potting material about the roots. Plants that are not repotted will require to have the surface moss removed and living sphagnum added. Water with soft water at all times and place the plants under growing conditions as soon as potting is completed.

PROPAGATION.—To increase the stock any of the back pseudo-bulbs may be cut off, and if these are placed on a bed of sphagnum moss, or in a propagating case, growth buds will generally push out. As soon as these have begun to root cut away a portion of the pseudo-bulb on each side of the growth, and put them into small pots in a compost of chopped sphagnum moss and sand. Another method is to cut the pseudo-bulbs into lengths of about three nodes each, and insert them as cuttings in a compost of moss and sand. Place these in a hot, humid atmosphere, and they quickly produce young growths.—H. J. Chapman, Oakwood Gardens

THE FLOWER GARDEN.

THE ROSE GARDEN justly claims our attention at all times, for it would be difficult, if not impossible, to overestimate the value or overpraise the beauty of the "Queen of Flowers." Even during the dull days of winter there is work to be done "among the roses," and this, if sometimes arduous, is lightened by the anticipation of the glory and fragrance of summer. To possess a garden without a rose would scarcely be tolerated nowadays even by the humblest cottager. It is not our intention to deal exhaustively with the planting of roses in the present calendar, that operation usually being done during the months of October and November, on heavy soils the former month being preferable, the plants thereby having a better chance of becoming semi-established before the advent of cold rains or wintry weather. On lighter soils November is undoubtedly the best month of the year during which this important operation should be carried out. In exposed places protection for the more tender varieties of teas is undoubtedly necessary. The base of the plants should receive special care in this respect, or many losses will occur during a spell of sharp weather such as we have recently experienced. Standard roses, especially the drooping kinds, with large, heavy heads, must be staked and made secure against any havoc that might otherwise be caused by a sudden gale or a continuation of stormy weather.

CLIMBING ROSES are to-day receiving more attention than formerly, their value as a natural tree covering becoming more and more appreciated. Many an otherwise unsightly stump or bare trunk might be made an object of beauty by the judicious use of roses of this type. These, when planted in such positions, should be allowed to ramble at will, little, if any, pruning being required beyond the cutting away of old or decaying growths. By the side of woodland walks, or other parts of the wild garden, such varieties as Longworth Rambler, Carmine Pillar, or Dundee Rambler will add a touch of colour and beauty in these out of the way places not otherwise obtainable, and by so doing we aid nature in making our woodland surroundings more beautiful than before.

PEGGING DOWN of roses is a form of culture adopted by some, and this method certainly has its advantages when judiciously carried out, as the plants cover the surface of the beds much sooner than when the usual system of close pruning is resorted to, and at the same time a larger number of blooms are produced, although this may be at the expense of size; but the latter is not always a desirable quality in a rose bloom required for decorative purposes only, and not for exhibition. Such varieties as Clio, Frau Karl Druschki, Madame Gabriel Luizet, Margaret Dickson, Mrs. John Laing, Captain Hayward, La France, Marie Van Houtte, Madame Lambard, William Allen Richardson, and Madame Caroline Kuster, in fact, any vigorous growing variety of either H.P.'s, teas, or noisettes, lend themselves admirably to this method of cultivation, which might be carried out forthwith should the weather be favourable. On no account attempt the bending over and pegging down of the growths during frosty weather, or breakages will occur, and the plants become permanently disfigured. Cover the surface of the ground as evenly as possible, gradually bending the growths into the required positions.—W. Hedley Warren, Aston Clinton Gardens.

CONSERVATORY AND GREENHOUSE.

BOUVARDIAS. — Those that have been resting for a time in a cool house may now be cut back, cleaned, and placed in a moderately warm atmosphere, where they will soon make plenty of young growths to provide cuttings. If preferred, the larger pieces of root may be taken off, cut up into small pieces, and placed in pans in the propagating frame, and when they have commenced to grow these may be potted up and grown on with the rest of the young stock in a light sandy soil with plenty of leaf-soil for the first potting, after which a rather stronger compost will be best.

FERNS.—These will now be pushing up young fronds, and need attention. Nephrolepis are among the earliest, and are very useful ferns for many purposes, some making good basket plants, and proving very useful also for planting in cork pockets on walls. The old Nephrolepis exaltata thrives almost anywhere. Some of the newer varieties are beautiful, notably, N. todeaoides, N. Whitmanni, N. Piersoni, and N. elegantissima. Many of the nephrolepis are strong growers, and require feeding when the pots are filled with roots. Ferns cannot be maintained in a healthy condition if kept in a dry atmosphere. A good many ferns treated as stove plants would, after growth is made, be much healthier if kept in a cooler house. After ferns are potted maintain a moist atmosphere, with a temperature of 60 deg, damping underneath the staging morning and evening and admitting a little air on sunny days as the temperature rises.

PALMS.—Work in connection with re-potting and top-dressing of palms used in the warm greenhouse and conservatory may now be taken in hand. It is fairly well known that palms will thrive better and keep in a much healthier state in small pots than in very large ones, if the plants are healthy, and there is room to supply plenty of water for the roots. There is no need to pot them, always providing they are fed regularly with some good artificial manure, and the roots never lack water. These remarks apply principally to the stronger growing phœnix, coryphas, kentias, etc., most of which are used for decorative purposes. When potting ram the soil firmly with a beater, as this keeps the plants from rising out of the pots. Should the leaves be in any way dirty with scale or dust some soft soap dissolved in warm water is useful for cleaning them.—W. Staward, Belford Hall Gardens.

HARDY FRUITS.

PLANTING.—Owing to the heavy storms of rain and hail, as well as frost, it has been impossible to undertake any of this work for the past week or two. However, we hope for more congenial weather before many days are past. I have planted large quantities of fruit trees in the gardens here late into March, but this would not be found successful in every locality. It is advisable that as soon as the soil is in a good condition for planting, trees should be placed in their permanent quarters without delay. In the meantime, see that all materials necessary are in readiness, so that planting may be carried out expeditiously; pay particular attention after planting the trees to staking, tying, and mulching with stable litter around the trees as far as the roots extend.

PRUNING.—This should be finished as soon as possible. The work of pruning large fruit plantations is a tedious operation, and one that requires perseverance so that the work may be finished in good time. Any apples, pears, or plums which are planted at this season of the year should be pruned in the ordinary way; shorten the leading growths according to the ripeness of the wood, and spur-prune the side shoots back to two or three buds. Some growers do not advocate this method of pruning trees when they are planted late in the season, but we have adopted it here for some years past, and it has proved satisfactory. At the same time, what has been proved to be a success in one locality has turned out an absolute failure in another. Cherries that have been newly planted should not have their leading shoots shortened; the method to adopt is to cut to two or three buds any superfluous wood that is not required to build up the foundation of a good tree. These remarks are also applicable to newly planted peach and nectarine trees.

ORCHARDS.—It is not usual to annually prune the orchard planted trees, but in many instances the trees are greatly benefited by the judicious use of the pruning saw and knife, to thin out the cross branches and open out the trees to allow the sun and air to penetrate. This is very essential when the branches have become densely crowded, as the young wood becomes much better ripened, produces more fruit buds, and consequently yields heavier crops and better fruits. No grass should be allowed to grow close to the stems of young trees; when planted in the grass we leave a clear distance of two feet around the stems for three or four years, until the trees have become well established. All trees should be well protected from cattle and sheep. If not already done, tree-guards, or whatever protection is used, should be examined and made secure. Hedges around orchards should be cut, and banks made good, so as to give a neat appearance to the place.—H. Farmer, Cardiff Castle Gardens.

R.H.S. EXAMINATION OF EMPLOYEES IN PUBLIC PARKS.

The Royal Horticultural Society's fourth examination of employees in public parks was held on January 10, 1910.

As previously, the examination was partly viva voce and partly written, occupying three hours and twenty minutes. It was held at the Society's Hall in Vincent Square, Westminster.

Ninety-one candidates entered, and of these thirty-one secured places in the first class, twenty-six in the second, and twenty-five in the third, leaving only nine candidates who have failed altogether to satisfy the examiners. The number of entrants was smaller than for some years past, but this was anticipated, for the majority of the London parks gardeners had already secured positions in the pass lists. It is hoped that more candidates will in future years be sent from the public parks and gardens of the many cities and towns of the provinces.

Speaking generally, the results of this year's examination are above the average, and in a few cases very high marks have been obtained. There was less tendency in the answers to give information not asked for in the questions, but there is still a noticeable lack of understanding of many simple garden terms, such as "indigenous," "alluvial," etc. Although instructed in prominent black letters at the head of the questions, some candidates did not attempt the compulsory question xvi., asking for a description of the public park or garden in which they work, and they have only themselves to thank for the number of marks thereby necessarily lost.

Greater knowledge was shown in the choice of ornamental deciduous trees suitable for planting round the margins of lakes, etc., the selections being both good and varied; the botanical names also were for the most part correctly quoted—an indication that winter evening hours had not been neglected. The selection of plants for a well-coloured autumn border was in most cases excellent, but the sketch plans for the arrangement of the plants showed a great want of knowledge and observation of the precise value and habit of different varieties, and also of colour harmony. There was also much indecision of mind as to evergreen and deciduous shrubs, instead of a clear, well-defined knowledge as to the exact qualities which constitute the line dividing the two. Very rarely was a good selection of "effective evergreen flowering shrubs" given. Similar confusion existed as to which are our own reputedly native British trees, introductions from all parts of the world being included in the answers. The original source of trees and plants should be made a subject of study, as such knowledge is in many cases quite indispensable in understanding their varying requirements and the treatment. The chemistry of the soil also deserves greater study, some candidates giving oxygen, nitrogen, mildew, and moss as examples of the constituents of plant ash found in soils.

It is hoped that all candidates low in the list will not be disheartened, but encouraged, by the greater success of their fellows, to work on to higher places next year. With so encouraging a report as only nine actual failures there is every hope for those who have only won a third class to work up to the second, and the second up to the first class. And with patient endeavour and careful observation, coupled with intelligent inquiry into the reasons and causes for what is done and observed during the coming season, much progress should be made and useful knowledge stored up in readiness not only for the next examination, in January, 1911, but to be put into practice during the whole of life's work.

It should perhaps be put on record that there is absolutely no difference of merit whatever in being placed in Division A or in Division B. A first class in one is as good as a first class in the other. The two divisions are only kept up for the convenience of certain public authorities.

C. R. FIELDER,
OWEN THOMAS,
JOHN W. ODELL,
W. CRUMP,
EDWARD WHITE,
GEORGE GORDON,
E. BECKETT,
W. WILKS,
Examiners.

The following are the candidates who were successful in taking a first class in the two divisions.

DIVISION A.

1. Alfred J. West, 23a, Oaksford Avenue, Sydenham.
2. E. Drage, 48, Emmett Street, Mile End.
3. W. A. Hodge, White Lodge, Victoria Park, N.E.

DIVISION B.

1. Percy G. Butcher, 2, Luxford Street, Rotherhithe.
2. H. W. Hotten, 22, Christie Road, South Hackney.
3. T. J. Middlemiss, 51, Clement's Road, Bermondsey.
4. G. Illman, 27, North Road, Highgate.
5. S. Ashmore, 154, Bury Street, Lower Edmonton.
6. C. Oldham, 69, Gloucester Road, Kew; P. E. Holder, 49, Durham Road, West Green.
8. A. Chipperfield, 502, Southwark Park Road, Rotherhithe.
9. H. Ellott, 202, Crystal Palace Road, East Dulwich.
10. J. D. Snowden, 21, Alexandra Road, Richmond; James Parker, 29, Northcote Road, Longlands, Sidcup.
12. W. J. White, 56, Branksome Road, Brixton; W. Bland, 119, Salop Road, Walthamstow.
14. G. Ottaway, 128, Dartmouth Park Hill, N.
15. W. R. Lee, 97, Abbott Road, Poplar; H. W. Webb, 49, Vespan Road, Shepherd's Bush; J. E. Ringe, 7, Freeland Street, Battersea.
18. C. H. Walkden, 95, Herne Hill Road, S.E.
19. F. W. G. Sirett, 13f Block, Peabody's Buildings, Herne Hill.
20. H. G. White, 8, Albion Gardens, Hammersmith.
21 W. J. Musk, 11, Layer's Road, Stoke Newington; H. R. Medlock, 134, Green Street, Forest Gate.
23. J. C. White, 29, Bowdale Road, Lordship Lane.
24. J. Hyde, 62, Langdon Road, Upper Holloway.
25. E. Featherstone, 62, Strahan Road, Bow.
26. Robert Smith, 86, Hawksley Road, Stoke Newington; D. Coffey, 6, Halon's Road, Eltham.
23. T. J. Jenner, 13, Gretton Houses, Bethnal Green.

Bequest to New York Botanic Garden.—The late Mr. D. Ogden Mills bequeathed £10,000 to the New York Botanical Garden, and £20,000 to the American Museum of Natural History.

Wild Flowers in the Garden.—The newly-formed Elstree and Boreham Wood Horticultural Society has arranged a series of lectures on various topics as part of its programme, and was fortunate in having as its lecturer on Tuesday evening last Mr. J. W. Odell, of Stanmore, who gave a most interesting discourse on "British Wild Flowers in the Garden," illustrated by a capital series of lantern slides, many of them taken in the immediate neighbourhood, thus affording additional interest to the lecture, and pleasure to the large and appreciative audience present. Mr. J. W. Odell is widely known as a pastmaster on this particular subject, and his excellent, interesting, and instructive lecture was heartily applauded.

SHROPSHIRE HORTICULTURAL SOCIETY.
The Schedules for 1910 SPRING and SUMMER SHOWS are now ready, and copies will be forwarded on application to the undersigned.
H. W. ADNITT, } Hon. Secs.
W. W. NAUNTON,
Shrewsbury,
Feb., 1910.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

◆

Royal Gardeners' Orphan Fund.

In the unavoidable absence, through illness, of Mr. H. B. May, the annual meeting of this charity, held at Simpson's, 101, Strand, at three o'clock on Friday, February 11, was presided over by Mr. Wm. Poupart.

There was a very small attendance, those present being Messrs. W. Poupart, Alderson, Wynne, Bates, G. Gordon, J. McLeod, W. Moorman, R. H. Pearson, W. Howe, J. Lyne, T. W. Sanders, J. Pearce, G. Caselton, and G. Reynolds, all of whom took some brief part in the proceedings.

After the notice convening the meeting, and the minutes had been read, the Chairman read a letter from Mr. H. B. May, explaining the latter's absence through indisposition. A letter of sympathy, with best wishes was sent to Mr. May from the meeting.

The report and balance-sheet were taken as read, and are as follows:—

Report of the Committee for 1909.

The executive committee in this their twenty-first annual report have to state, with great regret, that they are unable to congratulate the supporters of the fund on the maintenance of the year's receipts at the high level attained in 1908, although if certain generous gifts made in that year to mark the coming of age of the fund be eliminated, a comparison of the accounts presented show that the regular income has been maintained—indeed, slightly increased. This the committee consider most satisfactory and hopeful for the future, having regard to the fact that they, in common with the management of all charitable institutions, have had to experience an exceedingly anxious time. The net revenue of the year has, however, for the first time in the history of the fund, been insufficient to meet the sum voted for allowances to the children. It will be in the recollection of the subscribers that at the last annual meeting a special wish was expressed that the success of the coming of age festival should be celebrated by the election of all the candidates, twenty-five in number, and this was done, the committee believing at the time that a larger measure of support would be forthcoming to justify the increased expenditure. Their anticipation has hardly been realised by the results, and hence it is that while the committee would have been glad if the whole of the nineteen candidates could have been placed on the fund to-day, prudence compels them to limit the number to fifteen, in the hope that by another year they will have been provided with the means to increase the number of beneficiaries.

At the commencement of the year 104 children were receiving the full benefits of the fund, and to 27 candidates awaiting election compassionate allowances were being made, so great was their need of assistance. At the annual meeting twenty-five were added to the full pay roll, bringing the number on the books to 131. The total sum disbursed among the children during the year was £1,716 2s. 6d., or an increase on the previous year's allowances of £94 15s. The number of children elected to receive the benefits of the fund since its foundation is 278, and the total expenditure in weekly allowances and special grants made during the same period is £21,222.

The annual festival, held at the Hotel Cecil on May 6, under the presidency of His Grace the Duke of Rutland, again proved both socially and financially a gratifying success, and greatly benefited the charity. To the noble chairman, who so ably pleaded the cause of the fund and its need of the generous support of all lovers of gardens and gardening, the committee gratefully tender their heartiest thanks, and ask the subscribers this day to still further mark their appreciation of his kindness by electing him a vice-president. The committee also gladly and cordially tender their best thanks to the stewards, who by their collections so materially increased the total amount of the chairman's list, and to all who so kindly, by gifts of flowers and loans of plants on that occasion, rendered the Victoria Hall so beautiful and so pleasing to the visitors.

With regard to the next festival the committee have the pleasure to announce that arrangements have been made for that annual function to take place at the Hotel Cecil on Thursday, May 19, and it affords them the greatest gratification, also, to know that they will have in the chair on that occasion such an enthusiastic lover and patron of horticulture as Sir Jeremiah Colman, Bart., D.L., J.P., of Gatton Park, Surrey. In the interest of the fund and for the credit of horticulture, the committee sincerely hope that they will have the support of all well-wishers of the fund on that occasion.

The committee once more very gratefully acknowledge their large indebtedness for generous benefactions to Mr. N. N. Sherwood and his sons, Sir Frank Crisp, Mr. Leonard Sutton, Messrs. N. M. Rothschild and Sons, Mr. Leopold de Rothschild, Baron Schröder, Mr. Harry J. Veitch, Mr. Anthony Waterer, and other constant supporters.

The committee also gratefully acknowledge the receipt of a legacy of £5 left by Mrs. Anne Clayton, wife of Mr. Henry J. Clayton, Wharfe Bank House, Ulleskelf, and formerly gardener at Grimston Park, Tadcaster, "in remembrance of her husband's early connection with the fund."

To the members of the Chesterfield Chrysanthemum Society, the Leeds Paxton Society, the Bradford Chrysanthemum Society, the Reading Gardeners' Mutual Improvement Society, the Reigate Chrysanthemum Society, the Tonbridge Gardeners' Society, the Scottish Horticultural Association, the Wargrave Gardeners' Society, and the Chislehurst Gardeners' Society, very hearty thanks are due for much valuable assistance received.

New local secretaries have been appointed during the year at Leeds and Worcester. At Worcester Mr. Topham initiated a whist drive, with the most gratifying results; while Mr. Carver, assisted by several fellow gardeners in the Leeds district, organised a spring flower show which brought a welcome contribution to the fund, and very materially helped to make the claims of the charity more widely known in that part of Yorkshire. To these and all the other local secretaries the cordial thanks of the committee are heartily accorded.

With sincere regret the committee have to deplore the loss sustained by the fund by the death of such good workers on its behalf as Mr. William Roupell, Mr. Peter Barr, and Mr. Peter E. Kay, all of whom had served on the committee. Mr. Roupell and Mr. Barr were elected to serve on the original committee, and Mr. Roupell retained his seat until his death, ever a courteous, kind, and enthusiastic colleague. On the death of Mr. Roupell the committee unanimously appointed Mr. Edmund Rochford, a generous supporter of the fund, to the vacant seat. By the greatly lamented death of Mr. J. H. Vallance, the hon. local secretary for Bristol and district, the fund has also sustained a heavy loss.

The members of the committee who retire by rotation are Mr. William H. Cutbush, Mr. George Gordon, Mr. D. Ingamells, Mr. J. F. McLeod, Mr. R. Hooper Pearson, and Mr. E. Rochford, and who, being eligible, offer themselves for re-election. To fill the seats vacated by the resignations of Mr. William Bull and Mr. Parsons, the committee recommend the election of Mr. Archibald R. Allan, gardener to Lord Hillingdon, Hillingdon Place, Uxbridge, and Mr. H. L. Wright, of the firm of Messrs. Parsons and Co., fruit salesmen, Covent Garden.

The committee again desire to place on record their high appreciation of the valuable services rendered by the auditors, Mr. P. Rudolph Barr, and Mr. M. Rowan. Mr. Rowan is the retiring auditor, and having examined the accounts for some years and being thoroughly conversant with the working details of the fund, his re-election is cordially recommended.

CASH STATEMENT FOR 1909.

RECEIPTS.

	£	s.	d.
To Subscriptions	£383	1	6
Donations	158	12	1
Subscription List at Annual Dinner, after deducting expenses (£158 17s. 6d.)	701	18	9
Legacy: Mrs. Anne Clayton	5	0	0
Advertisements in List of Subscribers	27	11	0
Dividends on Stock and Interest on Deposit	370	13	6
Income Tax returned	5	8	8
	1,652	5	6
Balance last Account	968	17	4
	£2,621	2	10

EXPENDITURE.

	£	s.	d.
By allowances to Orphans	£1,571	0	0
Grants in Aid	119	2	6
"Emma Sherwood Memorial"	13	0	0
"Maybud Campbell Grant"	13	0	0
Secretary's Salary	200	0	0
Printing and Posting List of Subscribers	43	12	2
Rent, Insurance, Firing, Lighting, etc.	35	12	2
Printing and Stationery	41	17	1
Advertising	3	12	0
Annual General and Committee Meetings	26	4	2
New Furniture and Cost of Removal	23	14	4
Postages	19	2	0
Bank Charges	2	12	3
Petty Cash: Sundries	3	11	7
Balances: Cash at Bank	352	10	4
Cash on Deposit	150	0	0
Cash in hand	2	12	3
	£2,621	2	10

INVESTMENTS.

	£	s.	d.
3 per cent. London and County Consolidated Stock	£7,240	15	10
3 per cent. Canada Stock	2,000	0	0
L. and N.W. Railway 4 per cent. Preference Stock	340	0	0
Great India Peninsula Ry. Guaranteed 3 per cent. Stock	514	0	0
2½ per cent. Consols	1,000	0	0
"Thomson Memorial Trust"— East Indian Railway B. Annuity of £14, cost	430	11	0
"Emma Sherwood Memorial"— Metropolitan Water (B) 3 per cent. Stock	516	15	11
"Maybud Campbell Grant"— Metropolitan Railway 3½ per cent. Preference Stock	391	0	0

Having inspected the Securities and examined the Books and Vouchers supplied to us, we hereby certify the above Account to be correct.

P. RUDOLPH BARR, } Auditors.
M. ROWAN,

January 17th, 1910.

Mr. W. Poupart, in a very few words, moved the adoption of the report and balance-sheet, and Mr. G. Gordon seconded the motion, expressing his regret that country subscribers and friends were conspicuous by their absence. Carried unanimously.

Hearty thanks were accorded to the Duke of Rutland for presiding at the annual festival dinner, and he was elected a vice-president. Mr. Edward Sherwood was thanked for past services and re-elected treasurer for the ensuing year. Mr. Rowan was also thanked and re-elected as auditor. The retiring members of committee, Messrs. W. Cutbush, G. Gordon, D. Ingamells, J. F. McLeod, R. H. Pearson, and E. Rochford were re-elected and thanked for past services. Two new members of committee, Messrs. A. Allan and Mr. H. L. Wright, were elected in place of Messrs. Bull and Parsons, resigned. Mr. Brian Wynne, on the motion of the Chairman and Mr. Bates, was re-elected secretary at the usual salary.

Messrs. Bates, Lyne, Ingamells, Poupart, Alderson, and Moorman were appointed scrutineers of the ballot, and the meeting was then adjourned until half-past four for the declaration of the poll.

The poll was declared at the time stated, and the scrutineers read the list of successful candidates, as follows: Ivy Lilian Foster (409 votes), Violet Powell Williams (319), James A. C. Walker (280), Elsie Mary Sage (280), Dorothy Sage (268), Jack Spratt (268), F. Atkinson (257), Annie B. Glide (229), Fred G. Evans (225), Mary I. Dickson (220), Grace J. Gillies (213), David Dickson (200), Harry Johnson (180), Ernest Stead (175), and John W. Gough (172). These were declared duly elected, and votes of thanks to scrutineers and chairman brought the proceedings to a close.

In the evening about thirty friends and members of committee dined together, under the genial presidency of Mr. N. N. Sherwood, V.M.H.

British Gardeners' Association (London Branch).

The monthly meeting took place at Carr's Restaurant on Thursday, February 10, when Mr. T. W. Winter presided. In spite of inclement weather, there was an attendance of over fifty members.

The principal event of the evening was a lantern lecture delivered by Mr. E. F. Hawes, entitled, "The Value of Botany to Gardeners." Mr. Hawes first demonstrated the root system of plants by showing upon the screen seedling plants of wheat and cress. The lecturer explained how the roots ramify the soil in search of food materials, found these in solution, and absorbed them by means of root hairs situated close behind the growing point, and how the food was conducted through the tissues of the plants by osmosis. Mr. Hawes, contended that the advantage of a knowledge of the structure of roots to gardeners was that it enabled them to realise more fully than they might otherwise do, the necessity of providing plants with a suitable rooting medium, and of keeping this regularly supplied with moisture, as once plants are allowed to become dry, the delicate root hairs, which are alone capable of absorbing water and food material, would die back, and the plant thus receive a check.

The stems of plants were next dealt with, examples of the vascular system of both di- and mono-cotyledons were shown, and the uses of the different parts explained. Transverse sections of leaves to illustrate the uses of the foliar organs showed the chlorophyll granules, which give to leaves and stems their characteristic green appearance, and which carry on the important work, through the agency of the sun's light and heat, of converting the inorganic materials supplied by the roots into the highly complex compounds required for the nourishment and growth of the whole plant. The little pores or stomates on the lower sides of the leaves carry out the function of transpiration and respiration and also assist in the work of assimilation by taking in the carbon dioxide from the atmosphere. The lecturer emphasised the value of good healthy foliage to plants by pointing out the vital processes leaves perform, and which can only be properly carried out when the plants are provided with the necessary amount of light and air. The life histories of plants were well illustrated by examples of cryptogams, gymnosperms, and angiosperms. Adaptation to environment was explained by reference to such examples as gorse and blackthorn, which lose their spiny nature when cultivated under glass, and produce spines again when placed under natural conditions. Slides showing the habit of climbing plants proved very interesting and instructive, as also did the pictures showing the methods of such parasitic plants as dodder in attaching themselves to the host plant by means of their haustoria. In conclusion, Mr. Hawes said he thought that a knowledge of botany could not fail to be of service to gardeners, as it would enable them to understand their plants better and know their natural requirements; a knowledge of botany would also stimulate a gardener's interest, convince him more of the dignity of his profession, and help him to understand the whys and wherefores of many things usually done by rule of thumb.

Mr. Winter, in proposing a vote of thanks to Mr. Hawes for his lecture, expressed his personal appreciation, and said he felt sure that everyone present shared his opinion that Mr. Hawes had dealt with his subject in a thoroughly practical manner.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, February 8.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Messrs. A. W. Hill, A. D. Michael, L. Crawshay, J. Douglas, G. Massee, W. Cuthbertson, W. Hales, G. Gordon, A. Worsley, J. W. Odell, R. H. Pearson, C. T. Druery, J. Fraser, and F. J. Chittenden (hon. secretary).

SEEDLING CYCLAMENS.—Mr. Herbert Chapman, Rye, showed a large number of seedlings raised from seed of Cyclamen ibericum roseum, which had been pollinated (without previous castration) with pollen of C. latifolium. The seedlings flowered earlier than seedlings raised from C. ibericum roseum pollinated with its own pollen, and the flowers were larger than those of the seed parent, but otherwise they showed no sign of hybrid origin. Mr. Chapman is carrying on further work with these plants.

VARIATION IN CYCLAMEN LATIFOLIUM (PERSICUM).—Several plants of the greenhouse cyclamen were exhibited by Mr. A. W. Sutton to illustrate new strains of this very variable plant. A plant of the common type was shown to compare with them. The flowers included a large-flowered almost magenta one with broad fringed petals; a white flower with fringed petals, red at the throat and tipped with pink; a pink flower with very slightly frilled petals undulate at the edges, red at the throat, and tipped with deep pink; and others varying from white to deep rose and fringed to a greater or less extent.

VARIATION IN CROCUS CHRYSANTHUS.—Mr. Bowles showed a long series of flowers of seedlings raised from Crocus chrysanthus, illustrating the enormous range of colours in the flowers of this species. He said the range was so great as to render it practically impossible to separate C. chrysanthus from C. biflorus.

FUNGUS ON PHLOX.—Mr. A. Kingsmill, of Harrow Weald, sent a plant of Phlox Nelsoni infested in its lower parts with a fungus which Mr. Massee identified as Soppittiella sebacea.

MALFORMATION IN PRIMULA SINENSIS.—From Mr. Etherington, of West Bank Gardens, Lewisham, came some specimens of Primula sinensis (stellata) with numerous dwarf flowers at the base of the umbel. Mr. Crawshay took the plants for further investigation.

FASCIATION IN RUSSELIA JUNCEA.—Mr. W. H. Patterson, of St. Vincent, W. Indies, sent an interesting case of fasciation in Russelia juncea. As Mr. Patterson remarked, fasciation, though a very common phenomenon, is rare in xerophytic plants. In the present case the plant had, however, not been growing under normal xerophytic conditions, but had been in garden soil and received more water and earth salts than usual.

BULBS FAILING. — A number of hyacinths were sent, in which the roots were either entirely wanting or were much decayed. Although both eelworms and bulb mites were present, their numbers were so small and the appearance of the bulbs so much unlike the damage done by these pests that the committee thought the failure of the roots must have been due to some such cause as too great a supply of moisture in the soil when the roots were first formed, which led to their suffocation and decay.

Beckenham Horticultural Society.

At the monthly meeting, Councillor Sutton presiding, Mr. John Gregory, of Croydon, with the aid of the limelight and nearly 100 slides (prepared by himself from his own photographs), conducted the large audience to many notable gardens. In some cases only a flying visit was made; at others a prolonged stay was made. Gunnersbury House, Munstead House, Falkland Park, Lamport Hall, Althorp, etc., etc., were laid under contribution. In addition to the landscape views, herbaceous borders, roseries, rockeries, etc., some pictures of rare orchids were put on the screen, and others not so rare, but bearing the impress of skilful cultivation. Among the latter were Dendrobium Pierardi, finely grown by Mr. Gregory; and a fine example of Cypripedium insigne carrying 91 flowers in a 9-inch pot, grown by a member of the society. Mr. Gregory was accorded a hearty vote of thanks at the close of the lecture.

East Anglian Horticultural Society.

This society opened its 1910 session on Wednesday at Norwich, when Mr. E. G. Creek, of the Ipswich Gardeners' Association, read a paper upon "Violets." In his remarks, Mr. Creek proved himself a master of the subject, and clearly explained how best to prepare the plants for a fine winter display of bloom. The methods of propagation and subsequent treatment up to placing the plants in the frame were ably dealt with, as were also soils and position. Discussion was invited, this being opened by Mr. H. Read, Drayton, a very large trade grower of this flower. He contended that the blooms opened better, and lasted much longer when grown upon light soils. He stated also that a lot of dampness and mildew was brought about by not thoroughly watering the plants in at first. Mr. L. Smith, Shotesham Park Gardens, gave some appropriate remarks, especially dealing with outdoor culture. Messrs. C. Matthews, C. H. Fox, J. Powley, and the president, Mr. T. B. Field, also gave their views of the subject.

The display of exhibits was most creditable in all sections. Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., Cringleford, brought up a grand cypripedium and a display of calanthe blooms; Mr. F. Williams, gardener to Louis Tillett, Esq., Catton, evidenced his capabilities of bulb culture in pots by some extra good hyacinths, tulips, and narcissi. Mr. W. Rush, The Fernery, Thorpe, also had a fine display of these, and staged the best fern. In a class for cut flowers, Mr. W. Laws, gardener to G. E. White, Esq., Eaton, staged exceptionally fine blooms of winter-flowering carnations. Apples and pears constituted the fruit department, and there were some good examples of Brussels sprouts, onions, and potatoes in the vegetable section.

Birmingham Gardeners' Association.

The usual fortnightly meeting was held on the 7th inst., when Mr. Alexander D. Christie delivered an interesting address on "Afforestation of Waste Land; the Work of the State," accompanied by lantern slides showing a series of forest scenes and ancient trees. There was a good attendance, and at the commencement of the proceedings the Chairman (Mr. T. Humphreys) alluded to the death of the late Professor Wm. Hillhouse, of the Birmingham University, who was for many years president of the association, and almost invariably opened the spring and autumn sessions with some interesting subject pertaining to horticulture. The secretary was instructed to send a letter of condolence to Mrs. Hillhouse.

Mr. Christie's early life experience of forestry in Scotland and Russia qualified him to deal with the subject in an instructive manner, both from a cultural and utilitarian point of view. The subject was rendered additionally instructive by the organising secretary of the Midland Afforesting Association. Mr. P. E. Martineau gave a short talk upon the so far satisfactory progress that had been made in districts of the "Black Country," despite the peculiar atmospheric conditions contended with, and, with increased financial aid, he entertained an optimistic view of further success.

The Chairman in a few appropriate remarks invited a discussion, but the time available only permitted of Messrs. G. H. Thompson, of Walsall, W. Gardiner, and A. R. Brown speaking. Votes of thanks concluded the proceedings.

Reading Gardeners' Association,

The regular fortnightly meeting of this association was held in the Abbey Hall on Monday, February 7, when the President, Mr. Alderman Parfitt, J.P., occupied the

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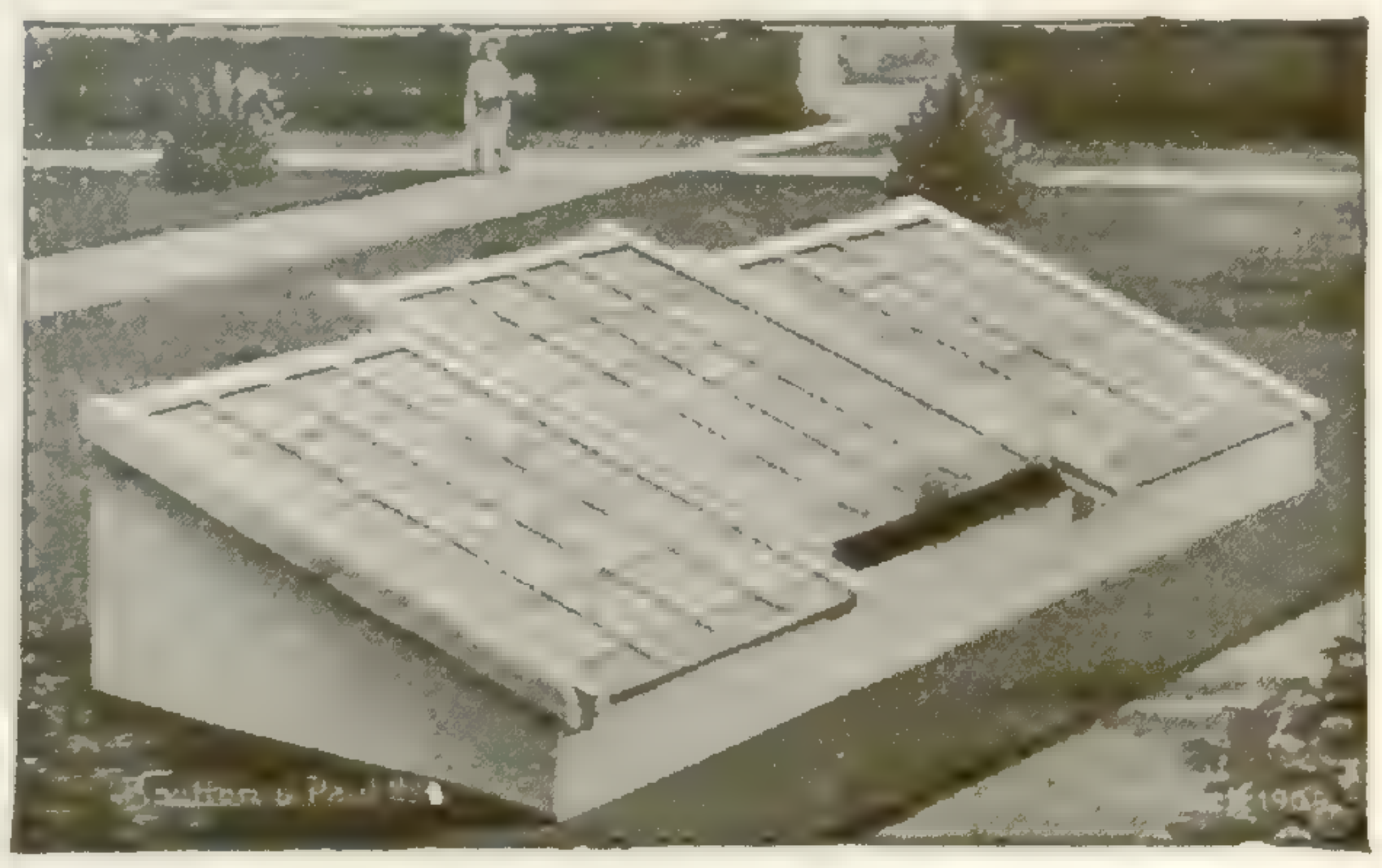

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chair, there being again a large attendance. The minutes of the last meeting having been read by the hon. secretary, and confirmed, four new members were added to the society.

The lecturer for the evening was Mr. Seaman, The Gardens, Margery Hall, Reigate, representative from the Redhill and Reigate Gardeners' Mutual Improvement Association, on "Mushrooms and How to Grow Them." Mr. Seaman engaged the full attention of his audience from the commencement of his lecture, it being quickly apparent that he was a thorough master of his subject, and able, too, to impart his knowledge to his hearers.

Manure, the foundation of all mushroom beds, he remarked, was becoming every day more and more scarce, and, though gardeners in the neighbourhood of large towns were in a more fortunate position than their brethren in the country, yet they, too, found considerable difficulty in securing manure of suitable quality. Long wheat-straw from hard fed and hard worked horses was the material the lecturer liked best to secure. The longer straw being later available as a protection to the crop.

To obtain good reliable spawn was a most important thing, buying cheap spawn being only the forerunner of failure, and Mr. Seaman therefore advised the hearers to always purchase from a house with a reputation, English spawn being preferable to French.

Full details having been given as to the preparation and spawning of the beds, gathering the crops, etc., the lecturer gave some interesting particulars respecting the culture of mushrooms by a French firm in the galleries from which stone had been quarried, at Godstone.

Mr. F. Townsend, head gardener to the vice-president, staged a pretty group of freesias, which was much admired. A hearty vote of thanks to the lecturer concluded the evening.

Chester Paxton Society.

The first meeting for the winter session took place on the 5th inst., at the Grosvenor Museum, when a goodly number of members mustered to hear Mr. J. D. Siddall's lecture on "Round the Coast of Cardigan Bay." The lecturer very ably and pleasantly described the beautiful and romantic surroundings of the district of Cwm Bychan, Pwllheli, Barmouth, Dolgelly, Criccieth, Harlech, etc., his remarks being based on personal reminiscences of excursions made to these well known places. Additional interest was given to the lecture by a series of capital lantern pictures, which graphically portrayed the many places described. These were prepared from Mr. Siddall's own photographs. Mr. A. W. Armstrong officiated as chairman of the meeting.

The second meeting of the winter session took place on Saturday last at the Grosvenor Museum, under the chairmanship of Mr. E. Stubbs. Mr. Ernest Jones, of the Gladwyn Gardens, Gresford, read a carefully-prepared paper on "The Cultivation of Sweet Peas." This explained in detail the methods of culture adopted by the author, who is himself one of the most successful growers and exhibitors of this favourite flower in the district. His hints on preparing the soil, sowing the seed, planting out, and varieties to cultivate, were carefully noted by a large number of other enthusiastic growers who were present.

An interesting discussion followed the reading of the paper, in which several members took part, and, on the proposition of the Hon. Secretary (Mr. G. P. Miln), Mr. Jones was thanked for his instructive paper.

Bristol Gardeners' Association.

A well-attended meeting was held on February 10 at St. John's Parish Rooms, presided over by Dr. Shingleton Smith. A practical and highly educational paper upon "Indoor Ferns," was given by Mr. Halliburton, representative of Bath Debating Society. The lecturer proved to have a thorough knowledge of his subject, the experience obtained when in charge of the indoor ferns at Kew placing him in a position to be able to describe many kinds seldom seen in private collections, but all of which the lecturer recommended as useful subjects for the greenhouse. Mr. Halliburton said strong sunlight was detrimental, except for gymnogrammas. Abundance of water, with liquid manure, and soot water at intervals, suited most ferns, and spring was the best time for general potting. A very pretty effect might be produced, he said, by covering the brickwork of greenhouses with ferns and Rex begonias.

Dr. Smith opened the discussion, and mentioned the fact that in the coal measures there have been found over 900 kinds of tree ferns, only one of which now exists.

For two pots of freesias, Mr. Jennings was first, and Mr. Shelton second.

Professional Gardeners' Lodge.

The Professional Gardeners' Lodge of the Grand United Order of Oddfellows held its annual dinner at the Green Dragon Hotel, Leeds, on February 7, when Mr W. Green, J.P., presided over a good attendance. Among honorary members present were: The Lord Mayor of Leeds, Penrose-Green, Esq., Rowland Barron, Esq., M.P., the Rev. E. Swan, and the Grand Master of the Order, Mr. Winter, of Newcastle. The latter complimented the society upon its sound financial position.

During the evening the usual toasts were duly honoured, and interspersed with a good musical programme. A vote of thanks to the chairman, who is one of the society's oldest members, of 45 years' standing, terminated a most enjoyable evening.

This Lodge, formerly the Professional Gardeners' Friendly Benefit Society, has had during the year 1909 income amounting to £247 7s. 11½d., and expended £96 1s. 9d. in sick pay; £27 in funeral allowances; £27 7s. 6d. in management expenses, and various other items, leaving £67 10s. 9d. on deposit, and a cash balance of £21 13s. 10½d. The total assets of the society are invested funds amounting (with the cash balance) to the sum of £1,672 9s. 5½d.

Croydon Gardeners' Society.

"The Dressing of a Chrysanthemum Bloom for Exhibition" was the title of a lecture delivered before the members of this society on the 1st inst. by Mr. M. E. Mills, Coombe House Gardens. In the new syllabus of lectures for the present session, Mr. W. Collins', Croydon, name appears for a paper on "Chrysanthemums for Grouping," but owing to illness he was unable to keep his appointment, and to save disappointment, Mr. Mills generously filled the blank with an exceedingly interesting lecture and demonstration as above.

In the lecturer's opinion, there is just as much enthusiasm over the big blooms as ever, owing to the fascination of producing abnormal flowers and competing with other growers at the autumn shows. Accepting this opinion to be correct, it is for growers to learn all they can regarding their culture and treatment for the exhibition table; and it is here that the proper care is required, for many a good bloom can be doubly improved with a little judicious handling.

Treatment commences just before housing the plants by the careful removal of the bracts on the upper portion of the stem and below the bud. The wings of the leaves just below the bracts must be removed with a sharp knife, doing it thoroughly at first to prevent galling and a second operation. As the bud expands so the bracts appear, and close attention must be given to remove them, so that at last the colour of the flower is almost discernible. This removal forms a double purpose by throwing more vigour into the flower and depriving the black aphis of a resting home; also it greatly prevents the deformities in the flower, as it allows the petals to develop wthout hindrance or compression.

To get those huge blooms of either the Japanese or incurved varieties attention must be paid to the top of the flower, and the grower must call into requisition the tweezers and soft brush.

Mr. Mills detailed this operation, and with the aid of a big artficial flower he illustrated his remarks by operating on his specimen. Light and air form big items in the development of the big bloom, and oftentimes short petals must be removed to allow full expansion of others. In the centre of the bloom will be found small yellow florets, which are really the flowers of the plant, and these must be removed cleanly, afterwards enticing the long florets to grow in a symmetrical fashion, and this can be done with the aid of the tweezers, taking care not to bruise the petals in the operation. Varieties in the Japanese section differ so that no hard and fast rule can be laid down for their manipulation, but the grower must study the character of the bloom and use his own discretion.

Several questions were asked by the members at the conclusion of the lecture, and Mr. Mills very generously replied to them.

On the proposition of Mr. Oxtoby, seconded by Mr. A. May, a hearty vote of thanks was given to the lecturer, who had at such short notice come forward and filled what would otherwise have been a gap in the programme.

Mr. F. Oxtoby staged half-a-dozen well-flowered plants of primula The Pearl.

NEW PLANTS, ETC.

BRASSO-CATTLEYA WELLESLEYÆ.

This very beautiful bigeneric hybrid is derived from Brassavola glauca and Cattleya Mossiæ Wagneri. It is a good grower, and, as shown, carried two fine blooms (see Fig. on p. 123). The flower is wholly white, except for a pale lemon area on the lip. All the segments are of good size and wonderful substance, and the flowers are fragrant. A.M., R.H.S., February 8. Francis Wellesley, Esq. (gardener, Mr. W. Hopkins), Westfield, Woking.

DENDROBIUM DUCHESS OF ALBANY.

A charming dendrobium obtained by crossing D. Wiganianum, with D. Wiganæ xanthochilum. It is a free grower, and flowers well, producing clusters of fair-sized flowers that are white, except for a few purple marks on the side lobes of the lip, and a very faint yellow shading towards the apex of the lip. A very pretty hybrid. A.M., R.H.S., February 8. Sir Jeremiah Colman, Bart. (gardener, Mr. Collier), Gatton Park, Reigate.

CYPRIPEDIUM LEEANUM EXCELSIOR.

A good form of this popular hybrid, and one with a broad flattened dorsal sepal; the green and purple colourings are deeper than usual. A.M., R.H.S., February 8. H J Bromilow, Esq., Rann Lea, Rainhill.

CATTLEYA PERCIVALIANA WESTONBIRT VAR.

In size and beauty of form this is the finest variety of the old, but now somewhat rare, Cattleya Percivaliana. In colour, too, it is especially fine, the purplish rose shade being very bright. The lip is deep red-purple, margined with pale blush, and veined with gold. A.M., R.H.S., February 8. Lieut.-Colonel Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

CRINUM PURPURASCENS.

An old species introduced from Old Calabar in 1826. It is of dwarf habit, and produces an umbel of from five to nine flowers—seven in the plant shown—and the flowers have elongated narrow segments, heavily shaded with deep purplish red. A.M., R.H.S., Sir Trevor Lawrence, Bart. (gardener, Mr. Bain), Burford Lodge Dorking.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

ALPINE PINKS.—N. V. J., Rochester: We propose dealing with this subject rather fully in our next issue.

WILD ORCHIDS AT DOVER.—P. B., Belfast: We have no personal acquaintance with the flora of the "White Cliffs of Dover," but we know quite well that in many of the chalk downs of Southern Kent several of the wild orchids abound, so that it would not in any sense be an extraordinary thing to find species growing on the Dover Cliffs.

SPECIAL EXHIBITIONS AT WESTMINSTER.—P. P., Chard: The special floricultural societies holding exhibitions at the Royal Horticultural Hall, Westminster, during the present year are as follows:—National Auricula and Primula Society, May 3; Perpetual Flowering Carnation Society and the National Tulip Society, both on May 19; National Sweet Pea Society, July 12 and 13; National Carnation and Picotee Society, July 26; and National Rose Society (Autumn Show), September 15. The National Vegetable Society holds its show on September 28.

CEROPEGIA WOODI.—J. M., Uttoxeter: This is a by no means rare plant, but it is one that is only cultivated in a few gardens. It needs stove treatment, and when grown in comparatively small pots suspended from the roof, or placed on a shelf where the growths can depend, it makes an interesting and pretty plant. It roots freely from the stems and also produces aerial tubers, so that propagation is an easy matter. Good drainage, a compost of equal parts peat, leaf-soil, sand, and loam will suit it, and when growing freely it needs plenty of moisture, but must be watered sparingly when not making new growth. It is sometimes used, just as selaginella and panicum are, for draping the edges of the stages in plant stoves.

WHITE SPECKS ON GRAPE VINES.—E. B., Manor Park: Possibly you have scale on the vines; send us a sample of the specks that are troubling you, and we will advise you what to do. You can obtain full information respecting the National Amateur Gardeners' Association from the hon. secretary, Mr. Fred. A. Poulton, Rosemount, Park Road, New Barnet.

TUBEROUS BEGONIAS FROM SEEDS.—W. C. G., Woking: Sow the seeds at once in a warm, moist house, such as a stove, propagating house, or pit, or, if only a warm greenhouse is available, place the seed pan in a handlight and cover with glass, selecting the warmest part of the house for it. Use very fine sandy soil, the sand itself being very fine; make the surface of the soil in pot or pan quite level and firm, and then gently lower the pot or pan into a bucket of tepid water, so that the water soaks up through the soil and moistens the surface. After the surplus water has been allowed to drain away sow the seeds carefully and thinly, cover with glass and cover the glass with a sheet of paper. In a moist atmosphere watering should not be needed until germination ensues, but if the surface seems dry dip the pot or pan, but do not water overhead or the seeds will be floated away or to the sides of the pot. Shade the seedlings from sun and very bright light, and prick them off into pans of light sandy soil quite early. Pricking off is a tedious but very necessary business at an early stage, because few things damp off more quickly than crowded begonia seedlings. It is a good plan to raise the soil in the pans just above the level of the rim for the seedlings removed from the seed pan. A tiny piece of wood smoothed to a chisel-like point, and with a V-shaped notch cut in this edge, makes a capital little tool for lifting the tiny seedlings from the seed pan. As the seedlings grow in their new quarters give them more light, and keep them near the glass. They will soon need more room and a richer compost. Shield them from bright sun until they have become established in 60-sized pots or in beds in frames.

AMARYLLIS.—S.W.P., Hinckley: As soon as the flowers have faded cut down the spikes and repot or top-dress the plant according to the condition of its roots and the soil they are in. Then place in a stove and afford plenty of atmospheric moisture. Amaryllis are robust feeders, consequently a rich soil is essential; firm potting should also be practised. We prefer to repot the bulbs before they commence to throw up their spikes, and they soon commence to root, and there is no need of disturbance after the spike is cut down. Cooler conditions and less moisture must be provided when the leaves have reached full size, and full sunshine to ripen up foliage and bulbs. Write us again later.

INSECT-INFESTED MYRTLE TREES.—M. E., Derby: Cut the trees back a little, so as to encourage new growth from the older wood, and thus provide better furnished specimens. Burn all the prunings at once. Lay each tree on its side, the pot being raised on a stool or box, so that the tree hangs over a tub, and while in this position thoroughly syringe the tree with hot soapy water; indeed you can scarcely do better, if you have a tank or tub big enough, than dip the whole of each tree (roots and soil excepted) in a bath of hot water, at a temperature of 150 deg., Fahr. Failing accommodation for such a dipping process, use hot soapy water, taking care to syringe every part of the stem and foliage. A skilful use of finger and thumb while the leaves are wet and soapy will remove or dislodge a great deal of the filth and insects, and another syringing should follow. If you have sufficient patience to do so, sponge every leaf with a hot soapy mixture after the preliminary syringing to soften the dirt and dislodge and kill insects. If you value the trees this work will be well repaid, and if it is taken in hand at once many syringings with insecticide will be saved, and the new growth will be allowed to grow clean and healthy. See that the trees do not suffer from lack of moisture at the roots, and place them in a warm greenhouse (not a hot stove) and syringe them once or twice a day during fine weather to induce new growth to start.

NAMES OF PLANTS.

J. M., Uttoxeter.—Ceropegia Woodi.

S. S., Hale.—1, Galanthus Elwesi; 2, Eranthis hyemalis.

L. E. E., Hull.—1, Dendrobium splendidissimum; 2, D. heterocarpum.

W. H. K., Tewkesbury.—Crotons and dracænas and caladiums stand pretty much in the same position among foliage plants as roses, sweet peas, and chrysanthemums do among florists' flowers, and it is practically impossible to identify them unless there is a collection at hand for purposes of comparison; 1 is C. Oerstedti; 2, probably C. interruptum; 3 and 4, not recognised; 5, closely resembles the old C. aucubifolium; and 6 is probably C. variegatum.

Messrs. Bayliss, Jones, and Bayliss, of Wolverhampton, recently experienced the loss of their large electric power station, the building and its valuable plant being completely destroyed. We are glad to learn, however, that the firm was able to arrange for a large and immediate supply of electric energy, so that there was practically no delay in the execution of orders, a matter upon which both the firm and its customers are to be congratulated.

THE SPRING NUMBER

. . OF . .

THE GARDENERS' MAGAZINE.

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- The Making of a Large Rock Garden.
- Rockeries for Small Gardens.
- Alpine Pinks.
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- Summer Salads.
- Vegetable Marrows.
- Summer Crops of Tomatoes.
- Runner Beans.
- Annual Flowers for the Conservatory.
- Evergreen Dendrobiums.
- Zonal Pelargoniums.
- Seed Sowing on Clay Soils.
- Borders of Annuals.
- Columbines.

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MARKETS.

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		s. d.		s. d.
Acacia	per bunch	0 9	to	1 0
Adiantum cuneatum	per doz. bun.	6 0		9 0
Arums	per doz.	3 0		6 0
Asparagus	per bun.	1 0		1 6
Azalea, Ghent	per bunch	0 9		1 0
Camellias	per doz.	1 6		2 6
Carnations	per doz. blms.	1 6		6 0
..	per doz. bun.	12 0		18 0
.. Malmaisons	per doz.	6 0		9 0
Cattleyas	per doz.	12 0		14 0
Croton leaves	per bun.	1 0		2 6
Cypripediums	per doz. blms.	2 0		3 6
Daffodils	per doz. bun.	4 0		8 0
Eucharis	per doz.	3 0		4 0
Freesias	per doz. bun.	1 6		2 0
French fern	per doz. bun.	0 6		0 9
Gardenias	per doz.	2 6		3 6
Lapagerias	per doz.	2 0		3 0
Lilac, French	per bun.	3 0		4 0
Lilium auratum	per bun.	2 0		3 0
.. speciosum	per bun.	1 6		3 6
.. longiflorum	per bun.	4 0		6 0
Lily of the Valley	per doz.	6 0		14 0
Marguerites	per doz. bun.	3 0		4 0
Mignonette	per doz. bun.	2 6		4 0
Narcissus	per doz. bun.	2 0		5 0
Odontoglossums	per doz. blms.	2 0		2 6
Pelargoniums	per doz. bun.	4 0		8 0
Roman Hyacinths	per doz. bun.	5 6		9 0
Roses	per doz.	2 6		12 0
Smilax	per doz. trails	5 0		8 0
Tuberoses	per doz. blooms	0 4		0 5
Violets	per doz. bun.	2 6		4 0

Fruits.

Trade is steadily improving, supplies are good and prices firm.

		s. d.		s. d.
Apples, English	per bush.	3 6	to	9 0
.. Californian	per case	7 0		13 0
.. American	per barrel	12 0		26 6
.. Canadian	per barrel	12 0		20 0
.. Nova Scotian	per barrel	12 6		15 0
Apricots, Cape	per box	3 6		5 0
Bananas	per bun.	4 0		10 0
Brazil Nuts	per cwt.	33 0		40 0
Chestnuts	per bag	7 0		10 6
Cranberries	per case	6 0		8 0
Grapes, English	per lb.	0 10		6 0
.. Guernsey	per lb.	0 8		1 3
.. Almeria	per barrel	12 0		22 0
Lemons	per case	7 6		23 0
Oranges, Jamaica	per case	9 0		12 0
.. Valencia	per case	7 0		12 6
.. Navels	per case	10 0		12 6
.. Denia	per case	10 0		16 6
,, Tangerines	per box	0 4		1 0
Peaches, Cape	per box	4 0		7 6
Pears, Cape	per box	6 0		8 6
.. Californian	per case	10 0		15 0
Pineapples	each	1 6		4 6
Plums, Cape	per box	3 0		12 0
Walnuts	per 12lbs.	2 0		3 0

Vegetables.

Business continues good at moderate rates.

		s. d.		s. d.
Artichokes, Globe	per doz.	1 6	to	2 6
Asparagus	per bun.	3 0		5 6
Beet	per bush.	1 6		2 0
Beans (Madeira)	per basket	2 6		4 0
Brussels Sprouts	per bush.	1 6		3 0
Cabbage	per tally	3 0		5 0
Carrots	per doz. bun.	2 0		3 0
Cauliflowers	per crate	2 0		3 0
Celery	per doz. rolls	5 0		10 0
Celeriac	per doz.	1 6		2 0
Chicory	per 12lb.	2 6		3 6
Coleworts	per tally	2 0		4 0
Cucumbers	per doz.	5 0		9 0
Endive	per doz.	2 0		2 6
Horseradish	per doz. bun.	10 0		17 6
Leeks	per doz. bun.	1 0		2 0
Lettuce	per doz.	1 6		1 9
Mushrooms	per doz. lb.	6 0		12 0
Mustard and Cress	per doz. pun.	1 0		1 2
Onions	per case	6 0		7 0
Parsley	per doz. bun.	1 6		3 0
Parsnips	per bag	1 6		3 0
Radishes, French	per doz. bun.	1 3		1 6
Rhubarb	per doz. bundles	0 8		1 0
Savoys	per tally	3 0		5 0
Seakale	per doz. pun.	12 0		15 0
Spinach	per ½-sieve	1 3		2 0
Tomatoes, English	per doz. lb.	4 6		6 0
,, Canary	per case	9 6		14 0
,, Guernsey	per doz. lb.	2 6		4 0

LONDON POTATO MARKETS.

There has been an improvement in the demand and prices are firmer.

		s. d.		s. d.
Bedfords	per ton	60 0	to	65 0
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Express	per ton	60 0		70 0
Kents	per ton	65 0		70 0
Lincolns	per ton	55 0		65 0
Presidents	per ton	60 0		65 0
Up-to-Date	per ton	75 0		80 0
Teneriffe	per cwt.	13 0		14 0
Jerseys, new forced	per lb	0 4		0 6

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1910. February 6 to February 12.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Feb. 6—Sunday	—	51	50	52	39
,, 7—Monday	0 12	52	50	53	49
,, 8—Tuesday	0 42	40	39	45	39
,, 9—Wednesday	7 12	30	30	42	28
,, 10—Thursday	0 36	39	37	45	29
,, 11—Friday	3 30	42	41	48	38
,, 12—Saturday	6 0	36	34	46	·1
Means	(total) 18 22	41	40	47	36

Date. 1910. February 6 to February 12.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Feb. 6—Sunday	0.20	40	39	41	46
,, 7—Monday	0.08	43	41	41	45
,, 8—Tuesday	0.02	43	42	41	34
,, 9—Wednesday	—	38	42	42	21
,, 10—Thursday	0.04	37	40	42	21
,, 11—Friday	0.07	38	40	43	32
,, 12—Saturday	0.02	37	40	42	23
Means	(total) 0.43	39	41	42	32

CATALOGUES RECEIVED.

JAMES MURRAY AND SONS, DEPTFORD.—A well-arranged, and finely illustrated and most interesting seed catalogue, with many references to the old florists' flowers of Parkinson's time. Seeds inoculated with nitrogen-fixing bacteria are a speciality.

R. WALLACE AND CO., COLCHESTER.—New and rare hardy plants are a feature of this useful catalogue; lilies occupy a large space and hardy florists' flowers are extensively listed. Every plant catalogued is described.

STORRIE AND STORRIE, GLENCARSE, PERTHSHIRE.—This is a catalogue of "Seeds and tiny seedlings," a great feature being the offer of seedlings of the firm's fine strains of various hardy flowers, notably auriculas and polyanthuses.

J. CHEAL AND SONS, CRAWLEY.—This catalogue of dahlias of all sections, chrysanthemums, carnations and bedding plants reminds us that "spring is coming."

SUTTON AND SONS, READING.—Under the title of "Farmers' Year Book" the Reading firm has issued a freely illustrated catalogue of farm seeds. Specialities in mangolds, swedes, kale, cabbage, and other food crops for cattle figure largely.

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FORTHCOMING ENGAGEMENTS.

TUESDAY, February 22.—Royal Horticultural Society; Fruit, Floral, and Orchid Committees, 12 o'clock; the third Masters' Memorial Lecture on "The Adaptation of the Plant to the Soil," by Mr. A. D. Hall, M.A., F.R.S., at 3 p.m.; Scientific Committee, 4 p.m.

SATURDAY, February 26.—Chester Paxton Society, Lecture, "Insects as Carriers of Disease," 8 p.m.

TUESDAY, March 1.—Scottish Horticultural Association.

WEDNESDAY, March 2.—Royal Society of Arts

THURSDAY, March 3.—Linnean Society Meeting.

SATURDAY, March 5.—French Horticultural Society of London.

TUESDAY, March 8.—Royal Horticultural Society's Spring Bulb Show (two days); Committees meet at 12 o'clock; lecture at 3 p.m. on "Plant Hygiene," by Mr. F. J. Baker.

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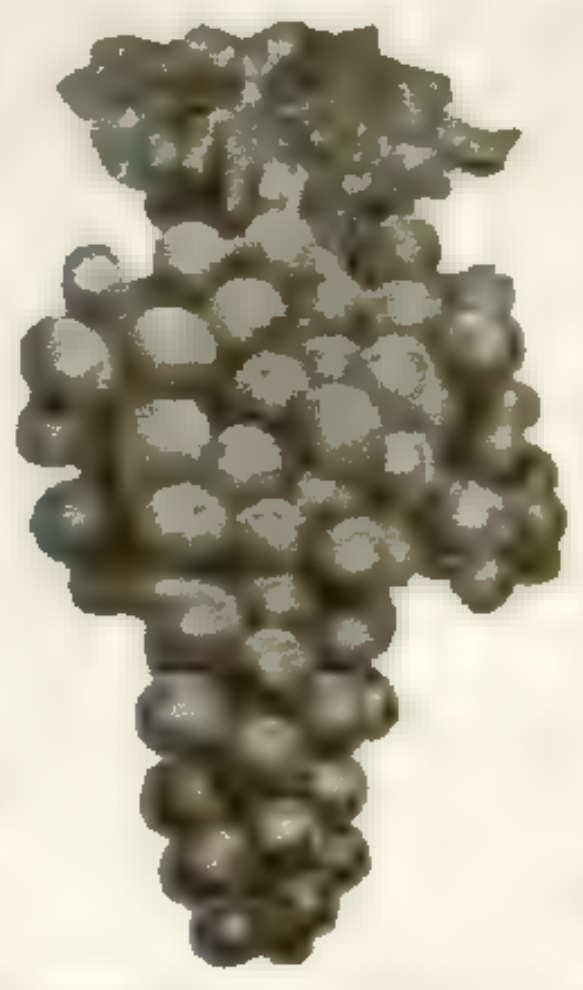

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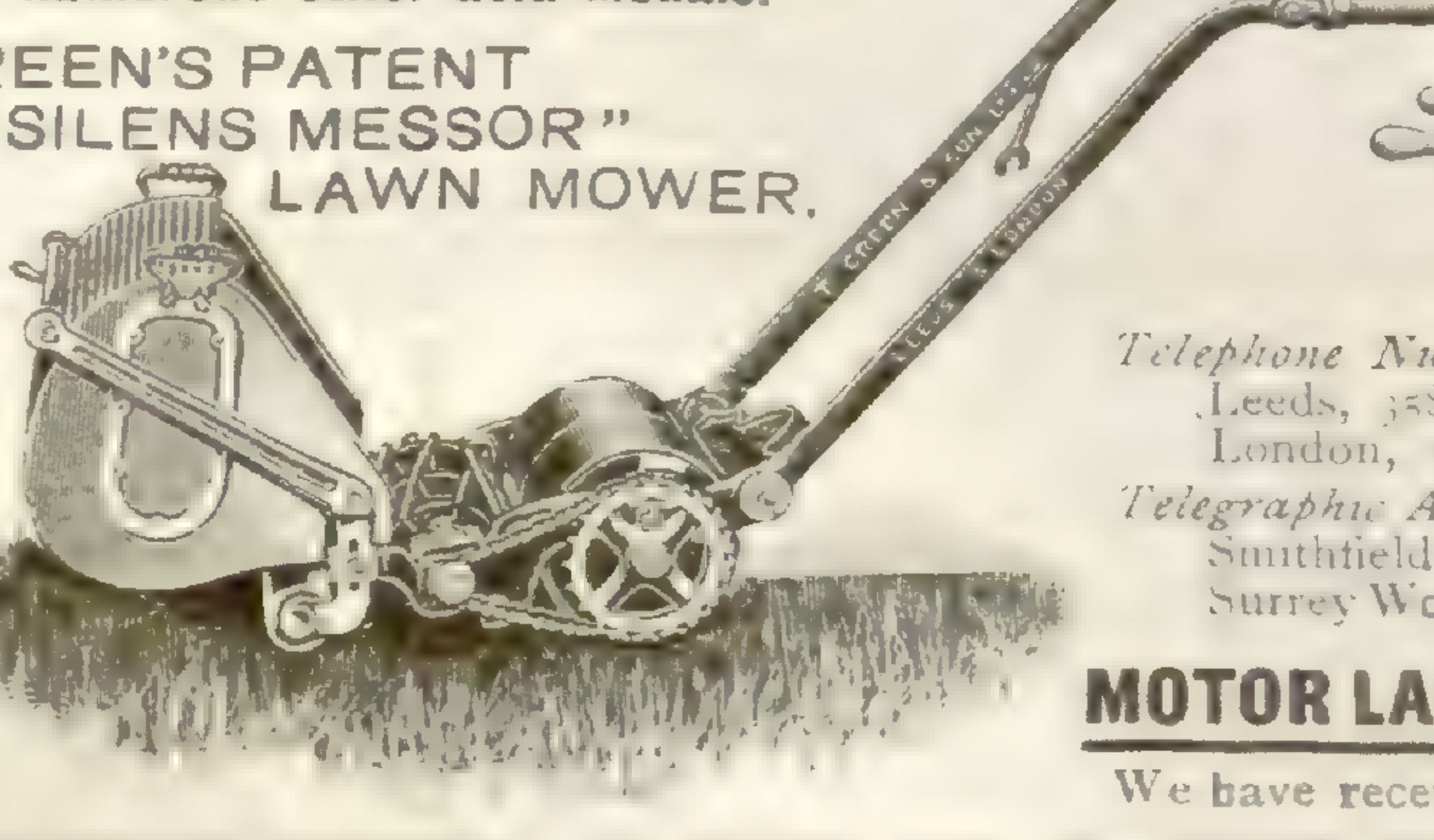

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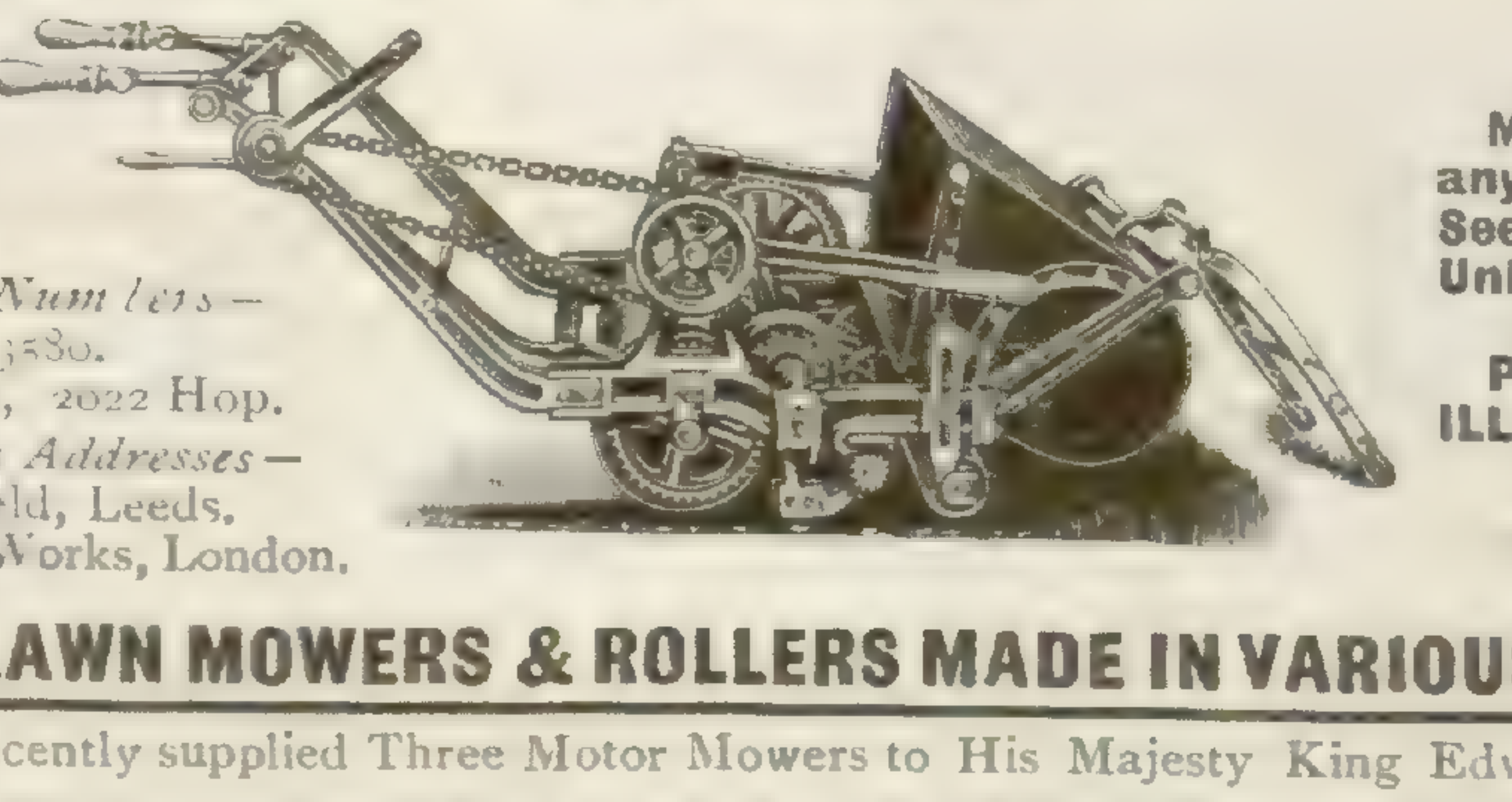

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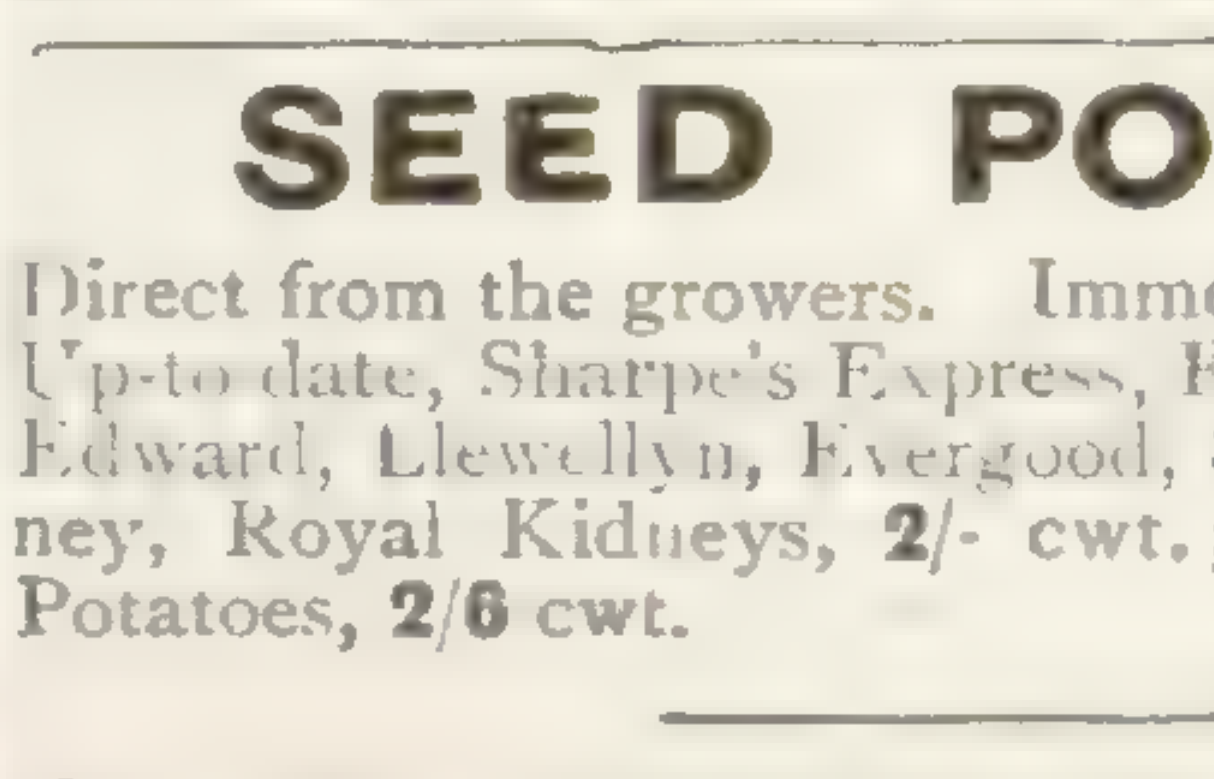

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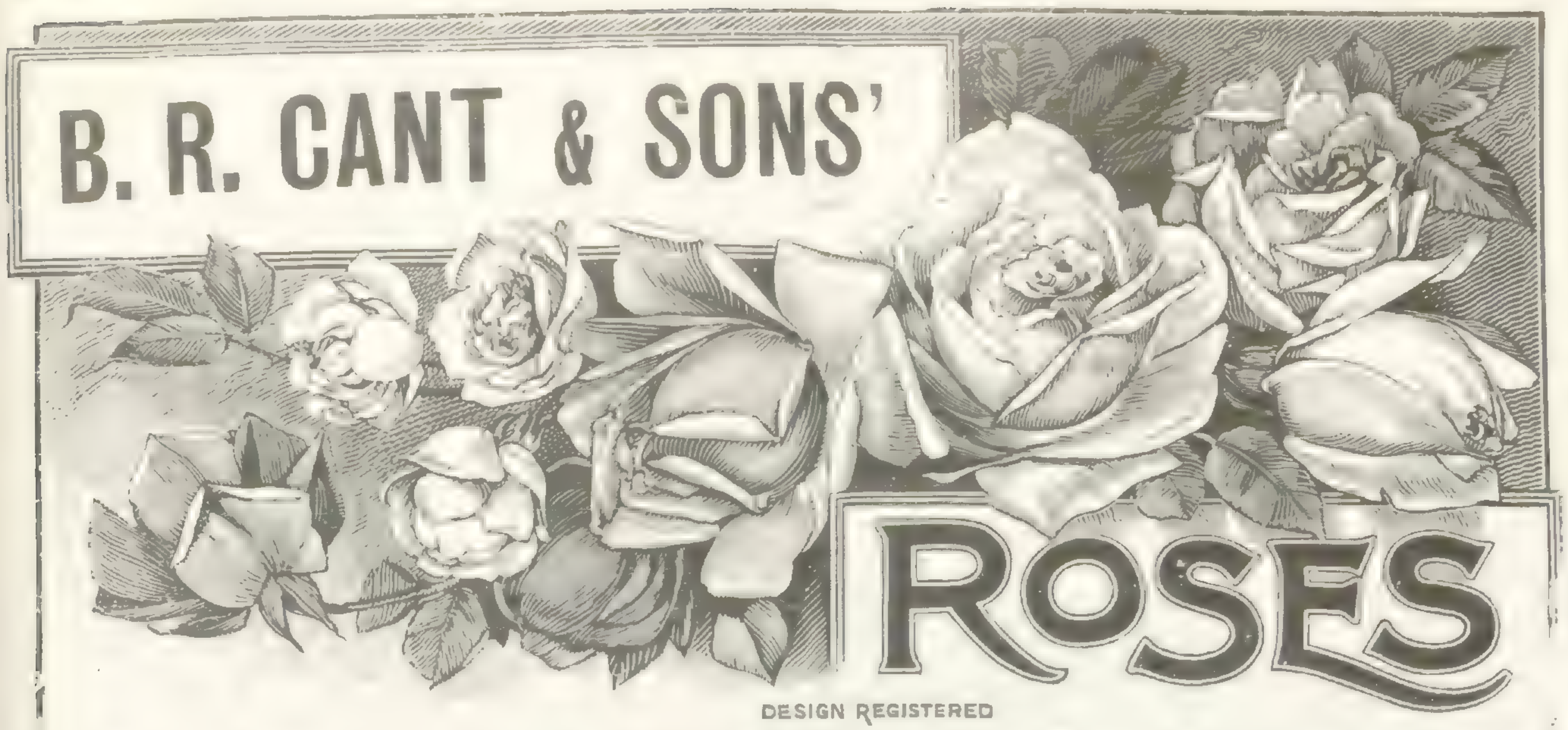

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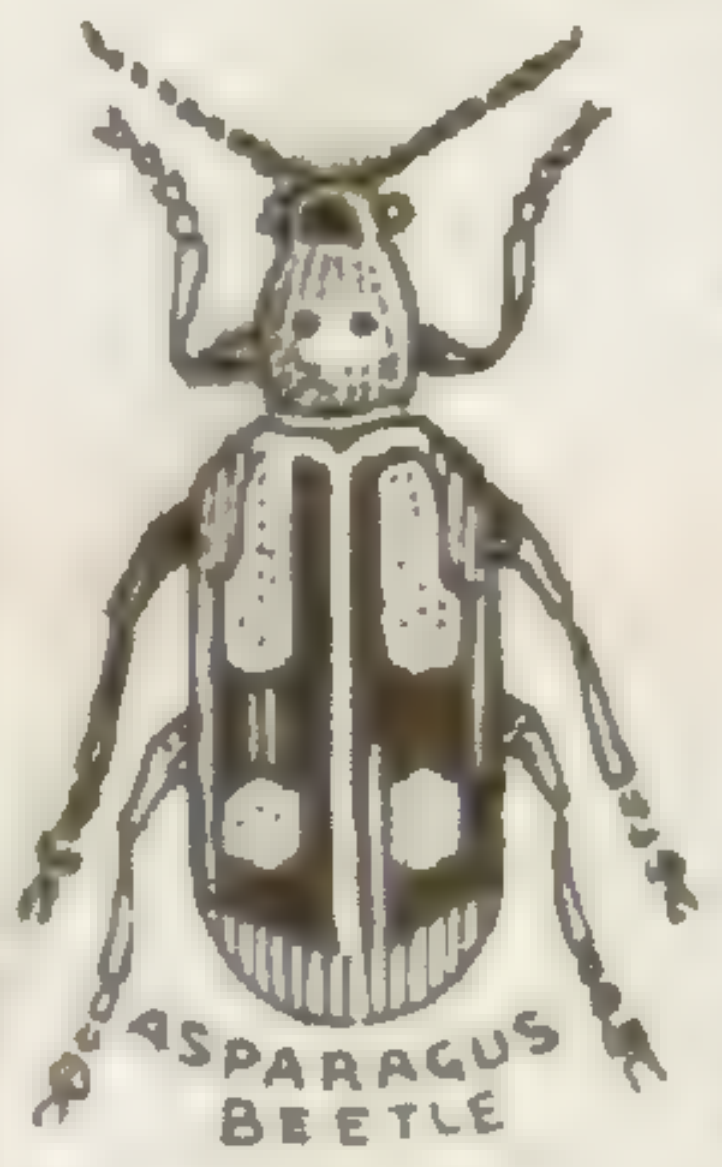

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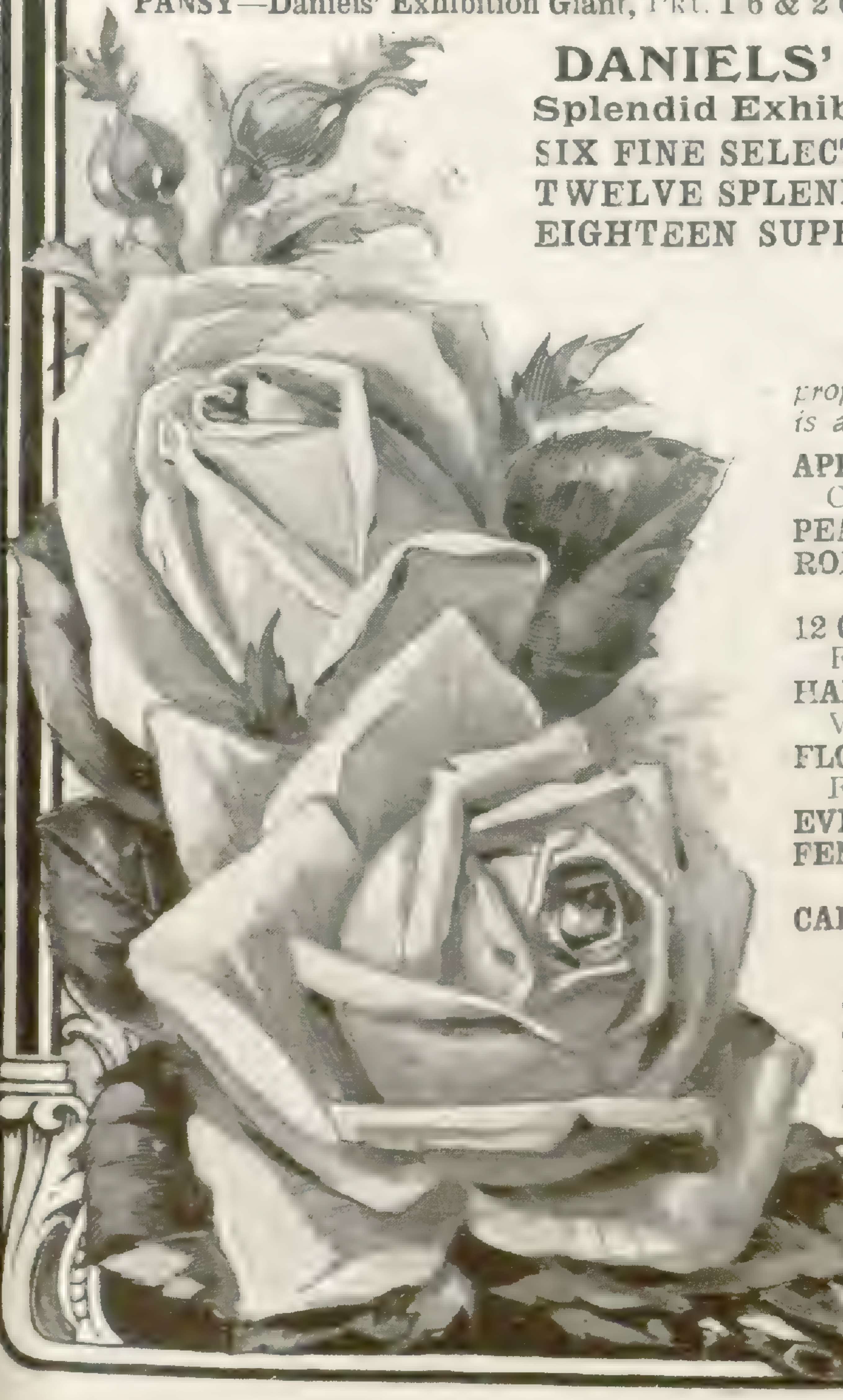

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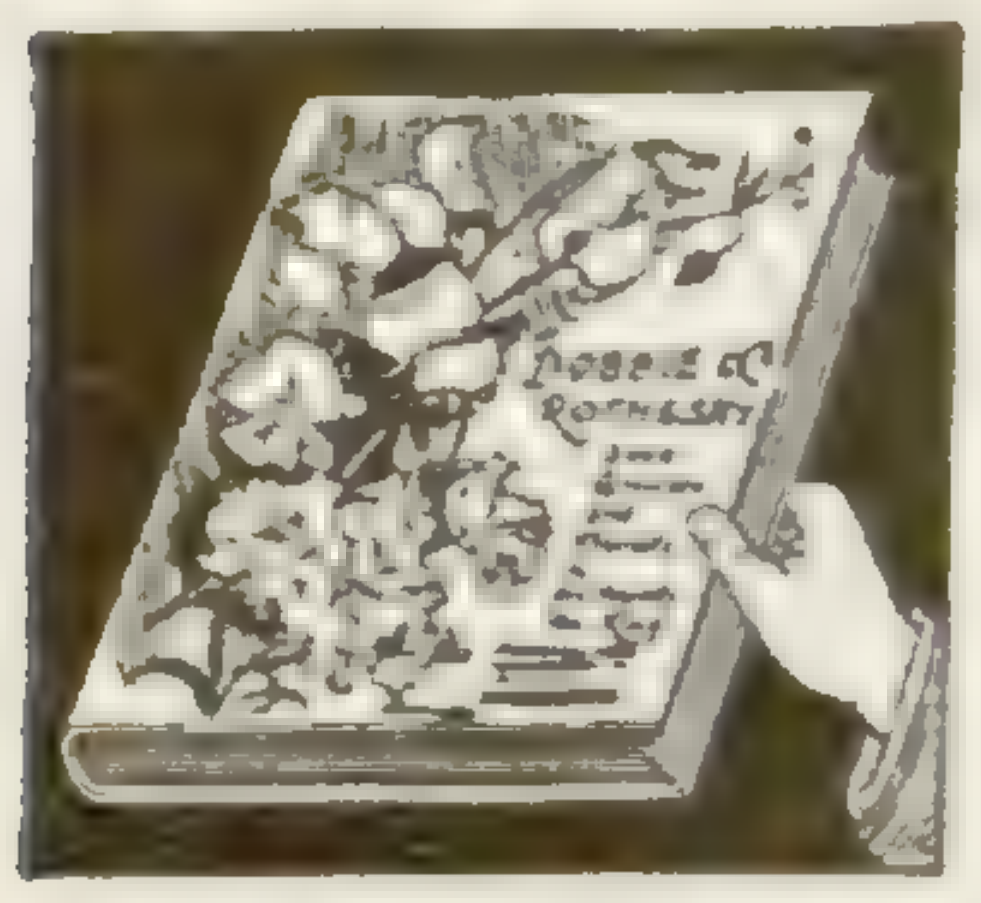

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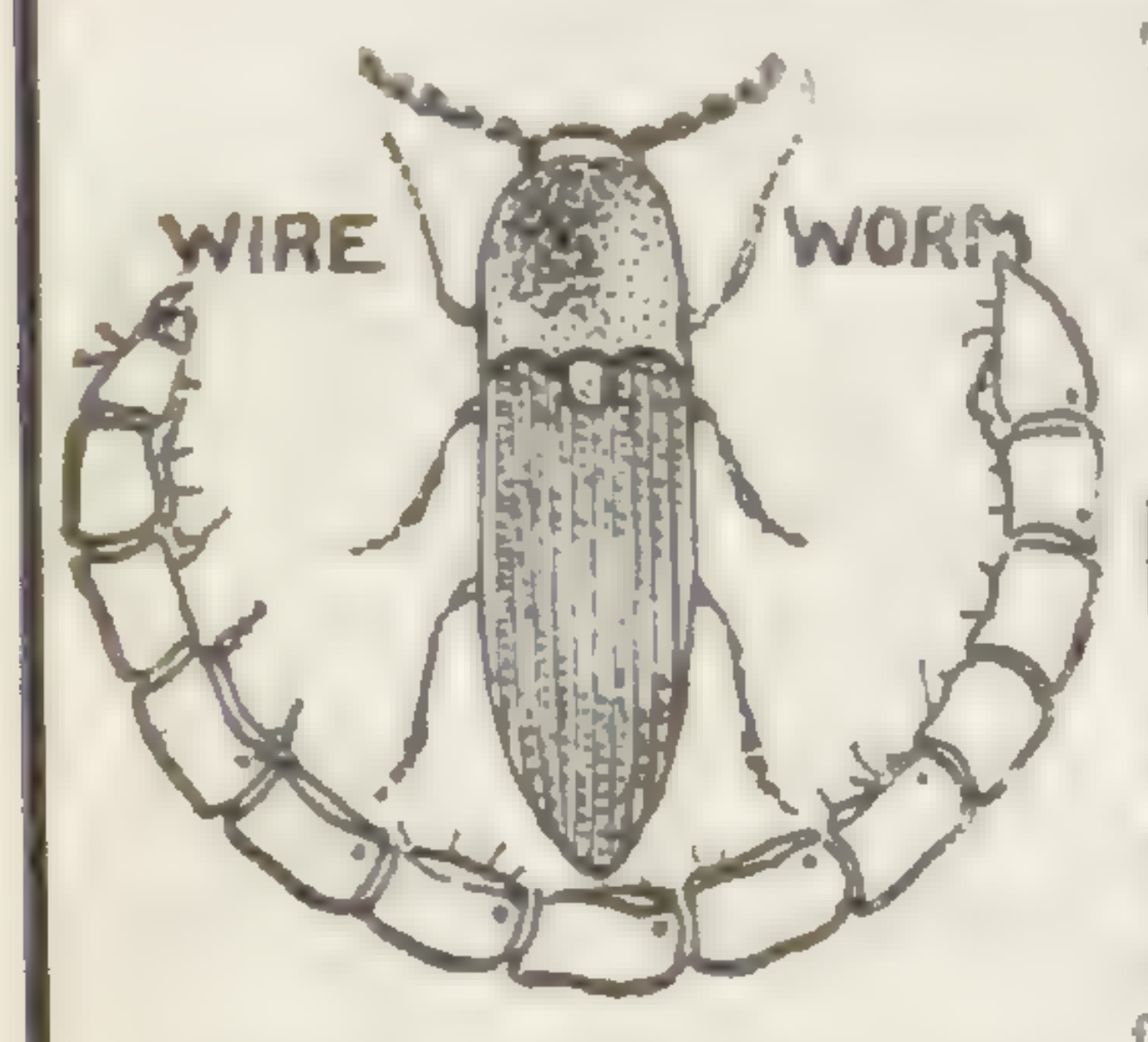

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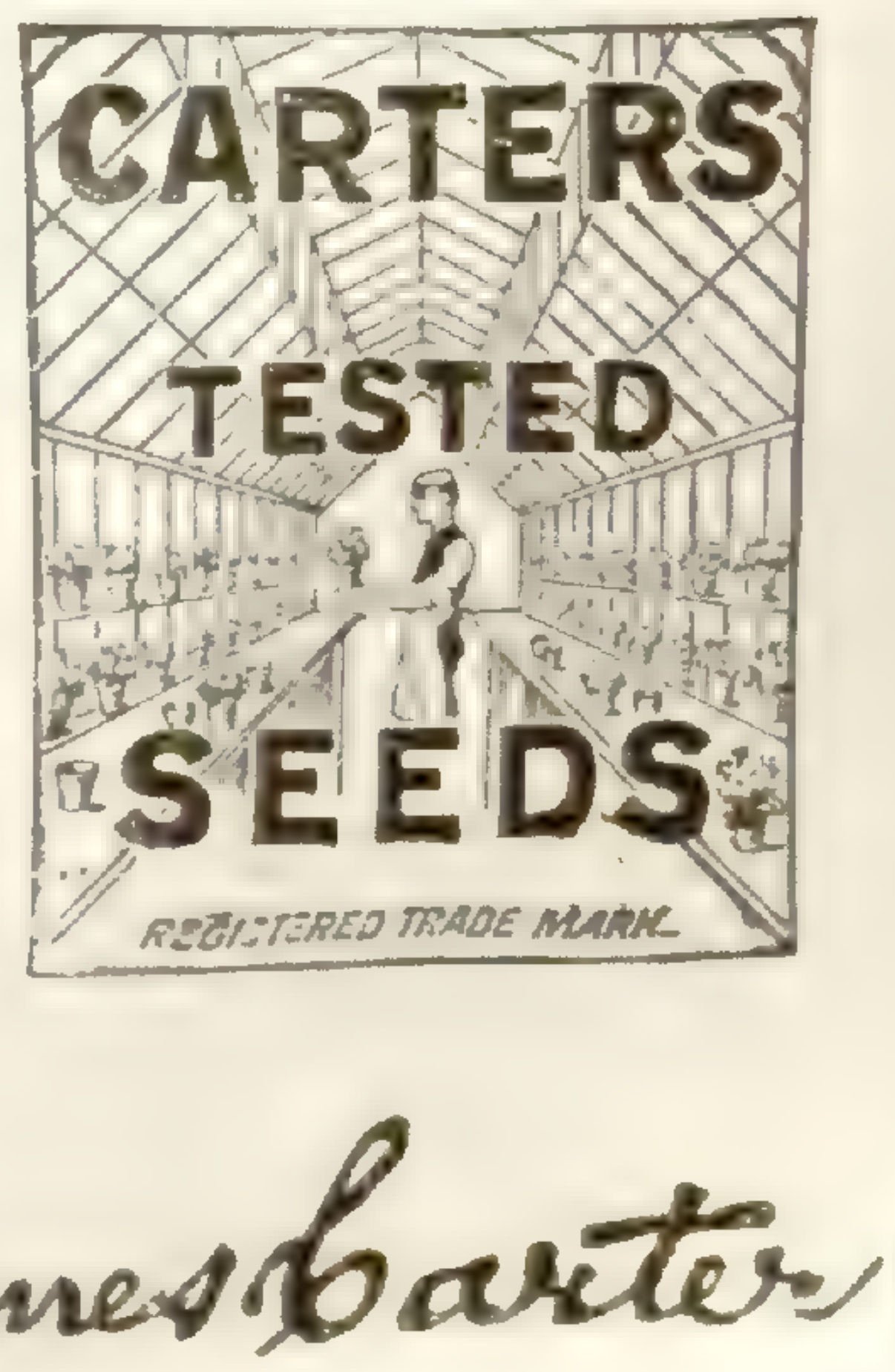

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3 Sage Trees, 3 Thyme, 10 Parsley Plants, 1 Lavender, 1 Rosemary, 1 Bay Tree, 6 Mint. The 25 plants, named, free on rail, **1s. 3d.**

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I have a grand lot of Standard Roses, **1s.** each, or 6 for **5s. 6d.** Also lovely Standard Tea and H.P. Roses, such as M. Niel, Gloire, La France, Frau Karl Druschki, Baby Rambler, Bessie Brown, Dean Hole, Teck, Ben Cant, Tom Wood, Paul, C. Forestier, and thousands of others, all grand heads, **1s. 3d.** each, or 6 for 7s.

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These are extra selected and fine large plants; could not sell them at this price, but I have an enormous stock. 6 for **5s.** Marechal Niel, Niphetos, W. A. Richardson, Gloire de Dijon, Crimson Rambler, Yellow Rambler, White Rambler, Pink Rambler, Dorothy Perkins, Lady Gay, and Baby Rambler. The above are a very special lot, being extra large and strong, 12 for **10s.**, free.

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Such as Marechal Niel, W. A. Richardson, Niphetos, Gloire de Dijon, Pink Rambler, L'Ideal, Carmine Pillar, new Red Gloire, and others; in all 12 splendid Climbing Roses, from 3 to 6 feet high, all named, carefully packed, carriage paid, **6s.** Half quantity, carriage paid, **3s. 6d.** (My selection.) Just one special line in Gloire de Dijon Roses, 6 to 7 feet high, enormous trees. Grand for walls or greenhouse, **2s.** each; worth 5s. Only a few.

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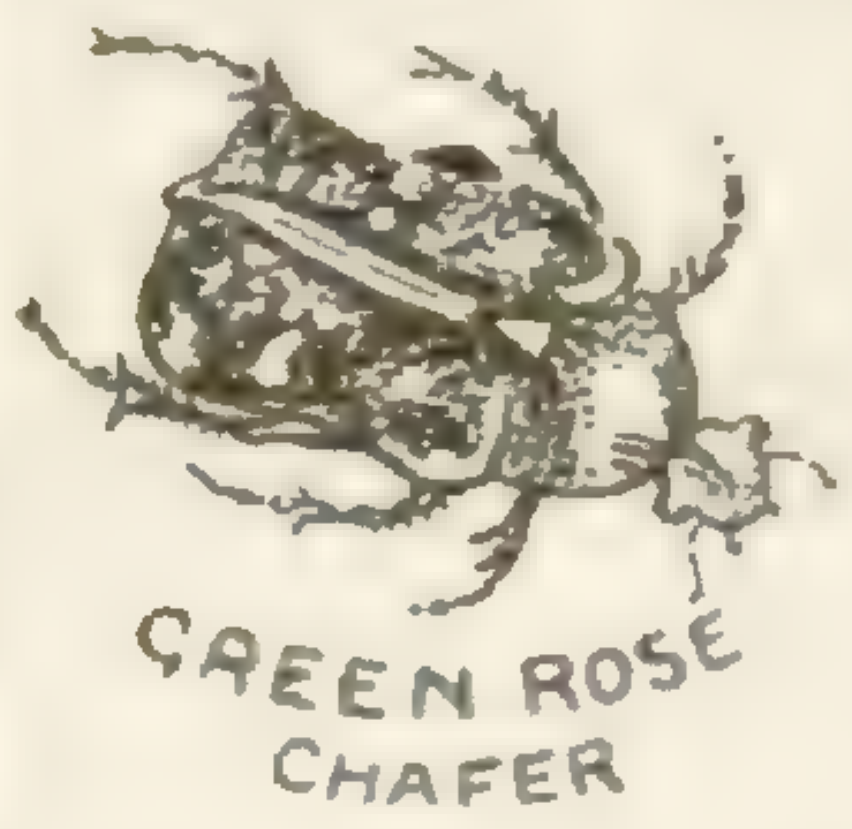

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VOL. LIII.—No. 2,939. SATURDAY, FEBRUARY 26, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Soils and Plant Growth.

The rapid germination of seeds, as well as the development of plants to maturity, is essentially dependent upon the maintenance of the appropriate temperature of the soil. The temperature most favourable to germination or growth, as well as the degree of tolerance of high and low temperatures, varies greatly with different plants, governing mainly what is known as their climatic adaptation. A knowledge of these points with reference to the various plants is therefore of no mean importance to the gardener, for, to a certain extent, he can control the temperature in the soil itself, and he can mostly choose for sowing and planting the time when the soil shall have the proper temperature for rapid germination or maturity. As a rule, it is not desirable to have either seeds or seedling plants in the ground for any length of time when the temperature is too low for active vegetation; for while they rest, other lower organisms (fungi and bacteria) adapted to low temperatures, may continue in full activity at the expense of the vitality of the crop plant. It is not surprising, then, that the occurrence of cold or warm rains, or the use of cold or warm syringings at critical periods, may largely determine the success or failure of the crop. It is well known that the occurrence of a cold rain after vegetation has started actively in early spring may not only destroy the season's fruit crop by preventing the setting, or thereafter causing the dropping of the fruit, but may even, if the suppression of vegetative action be continued for some length of time, result in serious injury to the trees. Among those conditions that influence soil temperature colour may be mentioned. While it is true that, broadly speaking, dark-coloured soils absorb more of the sun's heat than light-coloured ones, other things being equal, it must still be understood that the nature of the colour-giving substance exerts a very material influence upon the amount of heat absorbed. Thus charcoal is among all known substances the one absorbing and radiating the sun's heat rays most powerfully. But other substances, which to the eye appear equally black, have by no means the same absorbing power. The heat absorption by black humus matter is high, though not equal to that of charcoal, and many grey soils, though appearing to the eye of rather light tint, really absorb more heat than others which, to our perception, have the darker tint, but are coloured by other substances. Gardeners, and especially vine growers, in the colder portions of Europe, often take advantage of the powerful absorbing power of carbon by spreading charcoal or black slate powder over the surface of the soil where early maturity is specially desired; and slate powder is similarly used by the peasants at Chamounix to hasten the melting of the snow. While it is true that plants cannot form their substance or develop healthy growth in the absence or scarcity of the chemical ingredients, it is also true that they cannot use these unless the physical conditions of normal growth are first fulfilled. Both sets of conditions are equally important and exacting as to their fulfilment, and the gardener's task is to bring about this concurrence to the utmost extent possible. The chemical ingredients of plant food can, however, be artificially supplied in the form of fertilisers, should they be deficient in the soil. But, however important is the natural richness of the soil in plant food, the first care should always be given to the proper physical conditions in the soil, subsoil, and substrata. Without these, oftentimes, no amount of cultivation or manuring is effective in assuring profitable cultural results. But even the abundant presence of the plant food ingredients, as shown by analysis, will not avail unless at least an adequate portion of the same exists in a form accessible to plants. Finally, there is practically in all soils a certain proportion of the soil minerals in their original form as they existed in the rock materials from which the soil was formed. These materials being usually in a more or less finely divided or pulverulent condition, they are attacked much more rapidly by the chemically acting and weathering agencies, viz., water, oxygen, carbonic and humus acids, than when in solid masses, and thus transformation of the inert rock powder into the other two classes of mineral soil ingredients progresses in naturally fertile soils with sufficient rapidity to produce, in a single season, sensible and practically important results known as the effects of fallowing.

MR. R. G. THWAITES.

Mr. R. G. Thwaites, whose portrait we have the pleasure of giving in this issue, has for some years devoted a considerable share of his leisure to orchids, and has raised so large a number of beautiful hybrids as to have obtained a foremost position among amateurs who give attention to this fascinating family of plants. Mr. Thwaites commenced growing orchids in 1892, and his collection has extended so rapidly that in his gardens at Streatham he has nine houses devoted to them. This rapid growth of the collection would be interesting under ordinary circumstances, but it becomes especially so when it is remembered that many thousands of them are home-raised. Originally the collection was general, but Mr. Thwaites soon became interested in dendrobiums and albinos of all kinds. The first of the seedlings raised in the gardens of Chessington, Mr. Thwaites' residence, were D. Wiganianum and D. Thwaitesæ. Among the many others that have subsequently been raised are D. nobile virginale (true from seed), D. Blackmanii, D. Austinii, D. Chessingtonense (considered to be one of the finest dendrobiums yet raised), D. atro-Brymerianum, and D. fimbriatum occulatum x D. Thwaitesæ (not yet flowered). Mr. Thwaites is now chiefly interested in albinos of all kinds and species and hybrids amongst odontoglossums, cattleyas, sophronites, and odontiodas. Of the very large numbers of these raised at Chessington it may be mentioned that they include many blotched Odontoglossum crispum, raised true, and one in record time; O. Thwaitesæ, O. Ernestii, O. tigrinum, and many O. Edwardii. In cattleyas great efforts have been made to obtain albinos, and the successes include C. Dusseldorfii, C. Maggie Raphael alba, C. Mossiæ Wagenerii. Amongst a large number of coloured hybrids, C. Iris, C. Adula, C. Roupelleana, and all the important "Digbyana" crosses. With the sophro-cattleyas the successes have been great, and the more noteworthy hybrids are: S. c. Thwaitesii, S. c. Blackii, S. c. Warnhamensis, S.c. Ortonii, S. c. Saxa, and S. c. Wellesleyii. The odontiodas that have been raised include O. Thwaitesii, O. Cooksoniæ, O. Charlesworthii, and O. St. Fuscien. Mrs. Thwaites and Mr. Black (the grower) are equally interested with Mr. Thwaites in colour predominance and albinism, and the bulk of the experiments at Chessington have this end in view.

Plant Breeding at Cambridge.—We learn that a sum of £50 has been granted from the Gordon Wigan Funds to Mr. A. G. Tansley, to enable the Cambridge Botanic Garden Syndicate to continue to afford facilities for experiments in plant breeding.

New Chinese Trees and Shrubs.—Of hardy trees and shrubs the most important contributions to the Royal Gardens during 1909 have, according to the "Kew Bulletin," been made by Professor Sargent, of the Arnold Aboretum. In continuation of the consignments of Chinese seeds collected by Mr. Wilson, so liberally sent in 1908, some 400 further packets were received in 1909, most of them unnamed and under number only. Amongst them were 60 packets of rhododendron seeds, all of which, with the exception of four or five packets, have germinated well. Professor Sargent also sent numerous living plants, especially twenty-five lots of new Chinese oaks. Among other things of more than usual interest are Pterocarya Rehderi (a new hybrid), Betula Kenaica, Æsculus Bushi, and Æ. chinensis. This is perhaps the first introduction to Great Britain of this fine Chinese horse chestnut, for, although many plants under the name have been grown in Europe during the last thirty years, none have been true.

Flower Pictures at Westminster.—Prominent among the many objects of interest at the exhibition in the Horticultural Hall on Tuesday was a collection of nearly fifty water-colour drawings of flowers and garden scenes, by Miss Josephine Gundry. These drawings were of special interest from the fact that this clever artist possesses in a marked degree the faculty of combining fidelity to Nature with artistic expression. "Barkfield House, Billingsworth," was remarkable for the successful treatment of the mansion, the great masses of flowers that filled the beds and borders, and the wide-spreading lawns, the grass being especially noteworthy for truth of colouring. The two or three other drawings made in the gardens of Barkfield House, are not less noteworthy for their excellence. The six drawings of the gardens and woodlands at Eilanreach, Glenelg, are remarkably beautiful, and show that Miss Gundry is equally at home in the treatment of garden and natural scenery. Especially interesting also are the drawings depicting scenes in Mr. C. E. Shea's gardens, at Foot's Cray, for they show how varied is the taste of Mr. and Mrs. Shea, and the judgment evinced in the creation of the several features, and also the skill of the artist.

Plant Adaptation to Soils.—The first of the two Masters' lectures by Mr. A. D. Hall, M.A., was given at the afternoon meeting of the Royal Horticultural Society on Tuesday before a large audience. The subject of these lectures is the "Adaptation of Plants to Soils," and the general aspect of the questions involved was discussed by Mr. Hall with the lucidity and force which have brought him fame as an exponent of scientific matters; but the conclusions at which he arrived with regard to the cause of plants thriving on some soils while failing in others are so far at variance with the generally accepted views as to require careful consideration.

The Royal Caledonian Horticultural Society will hold two exhibitions during the current year, and the first of these will be held on April 13 and 14, and the second on September 7 and 8. In the schedule of the April show there are 142 classes, in which provision is made for practically all the kinds of plants, flowers, fruits, and vegetables that can be successfully exhibited during the spring season. The September schedule contains 234 classes, and in subjecting them to an examination it occurs to us that the number might with advantage be reduced by the elimination of some of the smaller ones. The most important of the competitions for fruit at the September exhibitions will be those for a table of dessert fruit, decorated with plants, cut flowers, or foliage; collections of twelve dishes of fruit; and eight bunches of grapes, the premier award for the latter being a fifty guinea challenge trophy presented by Mr. W. H. Massie, and £6 in cash.

Pleasure Ground for Harwich.—The Cliff House Spa and grounds, Harwich, have been secured on lease by the Harwich Town Council for the purpose of a public recreation ground. The site is a delightful one, at considerable height, and overlooking the bay. The toll hitherto taken for passing through the Spa grounds will be now abolished. We understand the lease is for thirty years, at £100 per year.

"**Kew Bulletin.**"—The first issue of this publication for the current year is of much interest. The principal contents include a paper on the more recent of the exotic species of fungi that have been received at Kew; notes on the woodlands at Rotherham, Raby Castle, Haydon Bridge, Alnwick Castle, Chatsworth and Wortley Hall; and a report on the growth of Ulva latissima in water polluted by sewage.

Epping Forest.—In its annual report to the Corporation the Epping Forest Committee states that the necessary thinning of portions of the forest was continued, but the work was lighter than in the previous year. A further enlargement of the lake on the north-east portion of Wanstead Flats, and of the Hollow Pond has been carried out, and the new Heronry Pond has been cleaned out. These various works had given employment to between 500 and 600 men weekly. The committee attempted without success to procure the exemption of the forest from the road and afforestation clauses of the Development and Road Improvement Funds Bill, fearing that the preservation of the forest from road making was insufficiently safeguarded. But any order for the acquisition of any common, open space, or allotment cannot under the Act have effect until it is confirmed by Parliament. During the year 58 cricket pitches, 131 football grounds, and six hockey grounds had been in use, in addition to those at Wanstead Flats and Chingford. There were, also, three golf courses, and various arrangements for lawn tennis, quoits, bowls, and hurling. In all, about 5,000 players were thus provided for. The total expenditure by the Corporation on the forest was £6,514, and the income £3,217, the balance (£3,296) being met from the City's cash.

Whitton Park, which has for a long period enjoyed considerable fame for its fine cedars and other trees, came into the market some time ago, and it was hoped the park would be secured as an open space for the people of Twickenham, Heston, and Isleworth. This hope has, we regret to learn, failed in its realisation. A provisional agreement had been entered into between the District Councils and the vendors, by which the land would pass into the possession of the former for the sum of £3,000. A difficulty appears to have arisen with regard to the amount that should be allowed as compensation for rights of way over the estate, and, as a consequence of the failure to surmount it, the owners have informed the Councils that they are now considering a better offer.

Gardening Apprenticeships.—The subject of apprenticeship as the first step in the education of a gardener is one that has been discussed many times. Everything depends upon the person to whom a lad is apprenticed. In the old days, and in some gardens, apprentices were a distinct source of profit to the head gardener, and if he were unscrupulous he took as many premiums as possible, and left the apprentices to take care of themselves. In other cases it was far different. The subject is again brought forward in the current issue of the "Journal" of the British Gardeners' Association, wherein Mr. Alex. Dean, V.M.H., invites opinions as to the best means of starting lads in the horticultural profession. He writes: "Few subjects could have for the future gardeners and gardening greater interest. But whilst there may be the strongest possible objection to the recurrence to what was at the best a bad method of training gardeners, there is the fact to be faced that we have to find outlets in gardening as another vocation for our boys, and the point which merits attention is, under what conditions should that necessity be met."

The Malcolm Dunn Memorial.—The trustees of the Malcolm Dunn Memorial in Horticulture, which was founded in 1902, annually offer a medal and prize for specified products through one of the Scottish horticultural societies. This year the medal and prize will be offered through the Royal Horticultural Society of Aberdeen for a collection of ten kinds of vegetables.

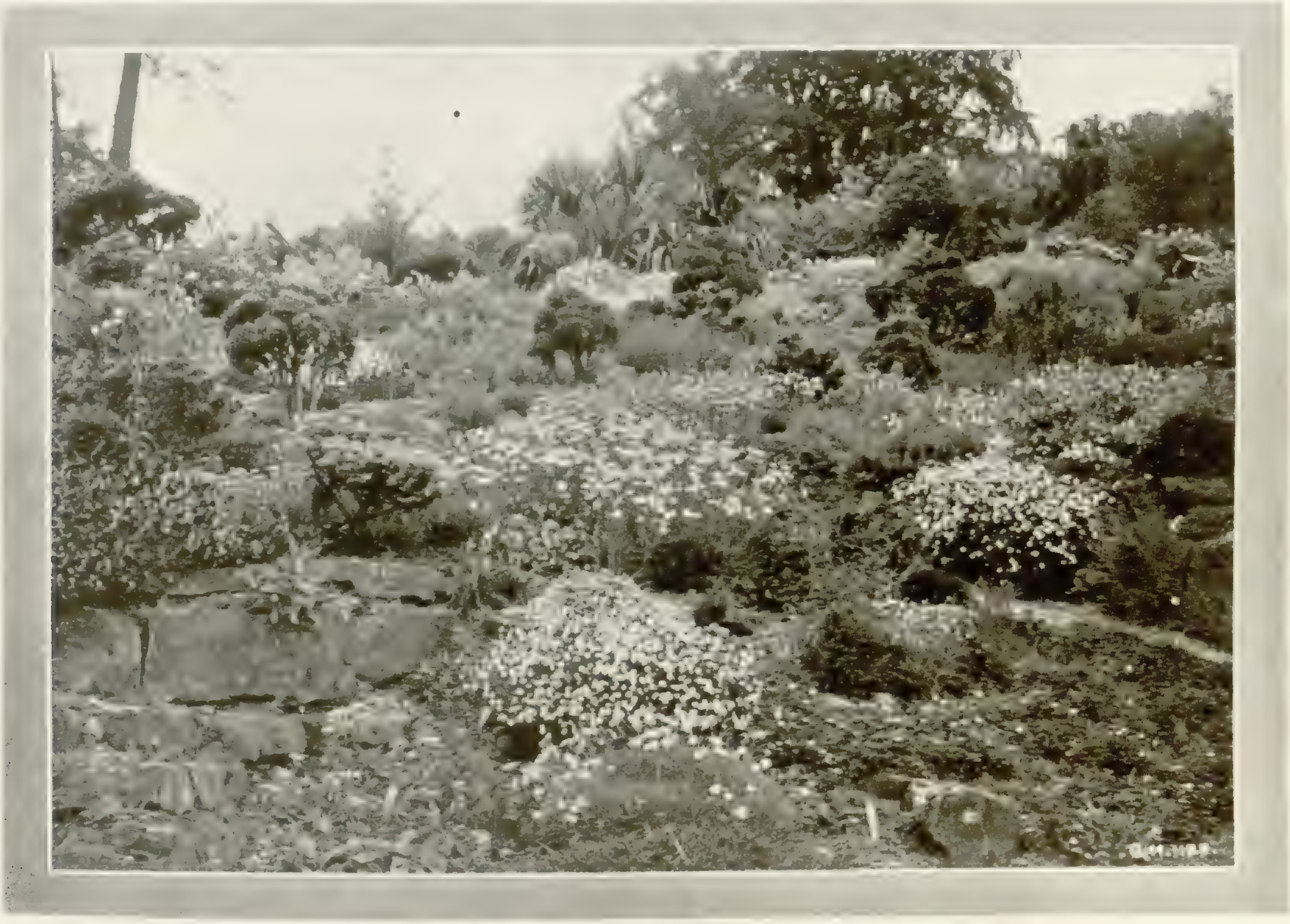
Kew Herbarium.—During 1909 about 22,000 specimens were added to the Herbarium of the Royal Gardens. Of these nearly 14,000 specimens were received as donations or exchanges, while over 8,000 were purchased. The most important of the collections received during the past year was the herbarium of the late Dr. Savatier, which was purchased from his daughter Mme. L. Raoulx.

Ground Nuts in the West Indies.—An effort to introduce new kinds of ground nuts from the United States into the West Indies has so far proved a failure, owing to a virulent attack on various parts of the plants by different species of [illegible]. The latter seemed to find something very much to their liking in the new nuts, and at present the advantage is with them, as ordinary means of prevention and cure have proved unavailing.

ALPINE PINKS.

The species of Dianthus that are found growing naturally in alpine regions, or that thrive on the rocky slopes at lower altitudes, form so large a group that those cultivators who may be disposed to take the steps necessary to have them represented in their rock gardens will have a considerable range for selection. A large collection is by no means essential to the full enjoyment of the distinctive charms of this section of the family of pinks, and the cultivator will be well advised in limiting his selection to a comparatively small number that are distinct and beautiful, and can be successfully cultivated without any special difficulties having to be contended with. It might be said, and with some truth, that the cultivator who shirks difficulties will not attain to the highest eminence; but there is a great difference between contending with difficulties that are unavoidable and selecting plants that can only be satisfactorily grown with special care and unremitting attention, when others of the same kind, and equally beautiful, can be grown to a high degree of perfection with ordinary care. The cultivator who is anxious to have everything in his garden in as good a condition as possible will not need to have any considerable number of subjects that require exceptional attention to ensure his time being fully occupied. In selecting a few of the most beautiful from the large number of species available this point will be kept in mind.

In adding a selection of pinks to the rock garden full consideration should, as a matter of course, be given to the space available for them. For a rockery of small or medium size a few clumps will suffice; but in rock gardens of considerable area a slope having a suitable aspect might, with advantage, be wholly or in great part devoted to them. This has been done with much success in the rock garden which forms so important and delightful a feature of the extensive gardens at Leonardslee, Sir Edmund Loder's fine Sussex seat. The accompanying reproduction of a photograph of the slope, that was taken when the pinks were in full bloom, will convey an excellent idea of the great charm of the large masses of flowers. The illustration is of interest also as showing the arrangement of rock and soil by which the greater proportion of the many beautiful species can be the most successfully cultivated. We know that the wild form of the carnation will grow freely on old walls, and that in their native habitats specimens of considerable size may be seen hanging over ledges, where it appears difficult for the roots to effect a lodgment. We sometimes have evidence of an endeavour to establish the alpine species on old walls, but we cannot call to mind one that could be regarded as really satisfactory. The proper course to take in establishing these pinks is to plant them where the ledges are of sufficient breadth for the roots to have a rather liberal quantity of soil about them, and where, also, they are not likely to unduly suffer from drought. Turfy loam, to which liberal proportions of coarse sand and calcareous matter have been added, forms the most suitable medium for the roots of alpine pinks, with the exception of the Glacier Pink (Dianthus glacialis) and one or two others that have their homes on granite rocks, and for these granite chips should be used. Lime rubble from an old building is the best form of calcareous matter for incorporating with the soil in which these pinks are to be grown.



ALPINE PINKS IN THE ROCK GARDEN, LEONARDSLEE.

Dianthus alpinus is, perhaps, the best known of the species in cultivation in this country, and certainly one of the best. It grows to a height of six or nine inches, has a good constitution, is compact in growth, and produces a profusion of flowers, which are bright rose marked with crimson in the centre. The white variety of the alpine pink is also most desirable.

D. callizonus is a species quite distinct in character, and of great beauty. The growth is dense, and attains a height of five or six inches, and the comparatively large flowers are rose-pink with a purple zone. This species attains to the highest state of development when occupying a position where it will receive some shade from jutting rock or neighbouring plant.

D. cæsius, commonly known as the Cheddar Pink, is one of the most desirable of the species suitable for culture on the rockery. It is so neat in growth as to form dense cushions of glaucous green leaves, and it has the advantage of being one of the easiest to establish and cultivate. The flowers are rich rose-pink, and pleasantly fragrant. Arvernensis and Le Bouboule are two excellent varieties that are rather later in flowering than the type.

D. deltoidea, popularly known as the Maiden Pink, is a native of this country, and one of the most beautiful of our wildings. Less compact than the majority of the species, it is free in blooming, and the bright pink flowers are highly attractive. It has green leaves, is most vigorous in growth, and will thrive under widely divergent conditions. Pulchellus is a charming variety that should receive attention.

D. Freyni is one of the most recent of the pinks suitable for the rock garden that has been introduced to this country. The growth is dwarf and compact, and the flowers are freely produced, and of a rose-purple hue.

D. glacialis is a distinct and decidedly pretty species, which has its home on granite formations, and must be grown where it will not come within the influence of lime. In preparing the stations peat should be substituted for loam, and granite chippings for lime rubble.

D. Knappi has the defect of a loose

habit, but it is free in blooming, and the flowers are bright cinnabar-red, passing to yellow. Under favourable conditions the growth attains a height of twelve inches, and the flowers have a pleasing effect when depending gracefully over the ledges.

D. monspessulanus is so distinct and attractive as to have strong claims for inclusion in a small selection. The average height is nine inches, the growth is compact, and the bright pink flowers are of large size, elegantly fringed, and highly fragrant. The white variety, albus, is also most desirable.

D. neglectus is one of the most beautiful of all the alpine pinks, and should be included in the smallest selection. The growth reaches a height of about six inches, the flowers are produced with great freedom, and are of a bright rose colour.

D. plumarius merits attention, for, with a vigorous and compact habit is combined abundant flower production. The flowers are comparatively large, elegantly fringed, pleasantly scented, and pink in colour, and large masses produce a pleasing effect. It will thrive in any position on the rockery, provided it enjoys full exposure to the sun's rays. G. G.

RUNNER BEANS.

Runner beans unquestionably rank among our most popular and useful of summer vegetables, and are cultivated equally well, and as easily, by the cottager and amateur as by the professional gardener. These were introduced about the year 1603, and have long been grown in all parts of the country, but it is during the last generation that the great improvements in varieties has been made, and though the initial cost of procuring the best sorts is a little high, the extra outlay results in superior appearance and quality.

Runner beans are most tender subjects, the least frost injuring them, especially when in a young state, consequently by far the best plan is to raise plants under glass either by placing them singly in small pots or sowing them in suitable boxes and thoroughly hardening them off before planting. This should be done at the end of April or the beginning of May. Endeavour to promote a stout, sturdy growth by keeping them close to the glass, and admitting abundance of air whenever the weather is favourable. Though this may appear to give additional work, it is really not so, as not only are the plants rendered safe from frost, but secure against the ravages of slugs, which frequently do irreparable damage, while the slight check caused by transplanting makes them commence to bear at a much earlier date than when sown in the open ground.

Preparation of the Ground.

This is of the utmost importance, and any pains taken to render the soil suitable will be repaid. A small quantity well managed will yield far more produce than two or three times the quantity treated in a slipshod manner. Unquestionably the best plan is to prepare trenches much in the same way as one would for celery, bearing in mind that this is a deep-rooting subject, and the roots will penetrate to a great depth if something tempting is placed below for them. This work should be carried out during the winter or early spring months, so that the frost and winds may have a purifying and beneficial effect on the soil.

The trenches should be taken out two feet wide and at least two feet in depth, and the bottom, whatever it may be, should be thoroughly broken up with a fork. Well-decayed farmyard manure should be placed therein, to the depth of about eighteen inches, and left in this condition until about a week before the planting is carried out. This should then be made thoroughly firm, and the best soil available should be placed on the top, about four to five inches in depth. Ample room should be allowed between the trenches, from ten to fifteen feet being none too much.

Planting.

Two lines of plants should be put in each trench, and from a foot to fifteen inches apart. Plant very firmly, give a thorough watering in, and place some finely sifted cinder ashes round each plant as a preventive against the attacks of slugs. A later sowing, if necessary, may be made between May 20 and 30 in the same way, except that the seeds should be sown more thickly, and the seedlings thinned out to the proper distance when the young plants are fairly established.

Staking.

A common mistake, too frequently made, is that of not providing runner beans with a sufficient length of support. Long brush sticks, the same as generally used for supporting peas, are often used, the result generally being that the tops double over, which means that sun and light is excluded, and the bearing is much impaired. Allow a height of from ten to fifteen feet, if possible; the stakes should be well inserted into the ground, and stout poles at regular intervals be driven in to help steady them against winds and gales. Stout tar cord should also be stretched along from pole to pole. The plants should be damped over each afternoon till they become well established, should the weather be dry.

Mulching.

Immediately the beans commence to crop a good surface dressing of thoroughly decayed manure, and a small quantity of bonemeal mixed with the same should be placed between the plants, while between the rows a good dressing of long stable litter should be given. Immediately the beans reach the top of the sticks they should be stopped to induce lateral growths.

Watering.

Abundance of water should be given during the cropping season in dry weather, both clear and in a liquid manure form. The drainings from a farmyard, with soot added, and properly diluted, will be found to suit them admirably, and during wet seasons apply patent vegetable manures in the quantities recommended by the vendors.

One frequently hears complaints of the flowers dropping off and failing to set. This is especially noticeable during hot dry weather. To overcome this trouble the rows should be thoroughly syringed or damped over in some way with tepid water during the early evening. Except when required for seeding purposes the pods should be regularly gathered immediately they are ready, and here let me state that when any particular plant shows an improvement over the rest this should most certainly be marked and saved for seeding purposes, as there is no doubt by careful selection the best results are obtained.

Varieties.

As before mentioned, there are now many varieties far superior in every way to the older kinds, yet, strange to say, one frequently sees nothing but the old Scarlet variety cultivated. Among the scarlet-flowered varieties by far the best both for exhibition and general use is Scarlet Emperor, raised by the late Mr. Richard Lye, of Newbury, who, perhaps, was more successful in exhibiting this vegetable that anyone else. Prizewinner is a distinct and refined variety, possessing much merit, and so also is Hackwood Success, raised by that famous vegetable cultivator, Mr. J. Bowerman, of Hackwood Park.

There are also several splendid white-flowered varieties, and when grown side by side with the scarlet sorts they produce a very pleasing effect. Jubilee produces very long pods of good quality, but perhaps is a little shy, compared with many others. I have been fortunate enough to raise a new variety, which I have named White Emperor, which, in my opinion, will become a standard variety. In the big trials carried out by the R.H.S. at Wisley during the past year this was, I believe, the only variety which obtained the high distinction of an Award of Merit. This will probably be sent out next season.

There are several excellent climbing French beans, now highly esteemed by many: one of the very best that has come under my notice is Princess of Wales. Some of the ornamental flowering and coloured podded varieties are worthy of cultivation from an ornamental point of view, Sutton's Ornamental Flowering Runner being a particularly attractive variety, the vines being purple, the flowers purple and white, and the pods a deep purple. Sutton's Ornamental Podded Runner is also extremely attractive, the pods being a creamy colour with scarlet splashings.

E. Beckett.

Aldenham House Gardens.

THE ROSE-BUD CHERRY.

Prunus pendula is an exceedingly pretty tree when well flowered during early spring, for the branches are pendulous and the blossoms appear in profusion. It is a Japanese tree, and, though kept up as a species, it is extremely close to P. sub-hirtella from the same country, the principal difference being in habit, the flowers and leaves of the two trees bearing a great similarity. It, however, comes true from seeds; but whether this will hold good in every case it is not possible to say. But, species or variety, it is a useful subject, and worthy of extended cultivation.

Maximowicz describes it as being found wild in mountain forests of Central Nippon and as being cultivated in gardens and near temples. A figure of it was published as long ago as 1759 in a Japanese publication, and it is there called "Ito Sakura," which is said to allude to its long slender branches, Ito meaning thread and Sakura a cherry tree. It was introduced into Europe in 1863 by Siebold, under the name of Cerasus pendula rosea, and it is sometimes still met with under that name.

The flowers are most ornamental when in bud and partly expanded, the colour at that time being a deeper rose than when the blossoms are fully open. Though seedlings asume the pendulous habit of the type, it is more frequently increased by grafting on to ordinary cherry stocks, the branches in this case being more regular than in the case of free-growing seedlings. It should be given a place sheltered from cold winds as the petals are delicate in texture and growth commences rather early. W. D.

Brussels Sprouts.—It is now a general rule to make a sowing under glass to provide early "buttons" in the autumn. Sow in boxes and raise the plants in a temperature of 50 degrees. Sutton's Dwarf Gem is excellent for this sowing. Michaelmas White Broccoli should be treated in the same way.—G. E.

BORDERS OF ANNUALS.

By a liberal use of annuals, or plants which yield readily to treatment as such, we may have beautiful showy beds or borders at an absurdly small cost, because the plants can be raised from seed, the hardy annuals out of doors in April, the others under glass in February or March, and planted out in May after being hardened.

There are many summer and autumn-blooming plants which, in beauty and duration, are as valuable as many perennials; take, for instance, stocks. The intermediate varieties—white, purple, and scarlet, 1 to 1½ft. high. Some of these are most gorgeous plants for borders, beds, and lines, and being so easily managed, they cannot be too strongly recommended. All that is necessary is to sow in fine, rich soil under hand-glasses or frames on a south border about the end of March; sow thinly, and allow them to remain till large enough to plant out permanently. About the middle of May they should be about 2 or 3 inches high, and transplant well. Throughout August, September, and October they flower magnificently, and are often fine in November. If required to flower earlier, sow in February in heat, and transplant into boxes or frames, and plant out about the end of April.

Phlox Drummondi grandiflora, a foot high, and Phlox Drummondi compacta, 6 inches high, are most useful border annuals and not grown so much as they should be. For small beds, the front row in borders, and edgings, the compacta varieties are delightful, while for the centre of beds, in groups in borders and in many other positions, the tall varieties are preferable. When they are desired for cutting (and the flowers are very charming for this purpose) the tall varieties should be grown. The seeds should be sown the first week in March, in pans or boxes, in light, rich soil, in a temperature of 65 degrees, and kept regularly moist. As soon as the young plants can be conveniently handled, prick them off two inches apart each way in boxes, keep them in a temperature of 65 degrees till they have begun to grow freely, then harden them off, and stop them when the growth is about three inches high. This stopping causes them to make lateral growth. Do not plant cut till the end of May, let them have good, rich soil, and they will keep up a long succession of bloom. Give them a place where they are well exposed to the sun.

There are now several varieties of mignonette, and, although there are none sweeter than the common Reseda odorata, there are some which are brighter in colour. For instance, there is the red variety, Machet, and there is the yellow, Golden Queen. The latter is a charming sort, very bright and sweet, and when sown in patches on banks of rather poor limestone soil the perfume from it is delicious. Mignonette cares but very little for rich soil, but is fond of chalk. On stiff soils mortar rubbish is much better than manure, and results in finer spikes of bloom and richer perfume.

I know of nothing else in the garden which gives us quite the form and colour of the exquisitely marked salpiglossis. The flowers are of a widely expanded funnel shape, and from two to three inches across. The salpiglossis is a very graceful plant, its flower stems curving over lightly and loosely, whole the flowers are brilliantly coloured. It makes a charming plant for beds planted with a low, rather stiff groundwork, such as dwarf asters or begonias, it is also very useful as a cut flower if arranged lightly in a suitable vase. The seeds should be sown in spring with the asters and stocks, and the plants will then flower through July and August.

I know of no annuals more useful than the sweet scabious for every purpose for which annuals are used. They are quite hardy, and succeed on every soil and under the most unfavourable conditions. The flowers are very beautiful and the colour wonderfully bright and distinct. They are very useful for cutting as they last a long time in water. A peculiar characteristic of the flower is that the pistils are thrown just above the corolla, and have the appearance of pin-heads, and this gives the characteristic name of the Pin-cushion flower

The best mode of culture is to grow these plants as hardy annuals, sowing them in the open ground in March or April. They are frequently raised under glass and treated like asters, and by this method they are in bloom early. They are of the most easy culture, and require only the simplest treatment and ordinary soil.

Annuals for hot banks are not easily selected. The majority of plants like sunshine, but they find it too much for them unless they can send their roots well down into cool soil. The best plant I know of for this purpose is the little portulaca, which thrives best in roasting sunshine,

ATTRACTIVE BORDERS OF ANNUALS AT UNIVERSITY COLLEGE GARDENS, READING.

and will even tolerate thin soil. I find it necessary in the first place to give it a little special attention, in the way of preparing fine soil, keeping it moist, and thinning in the early stages of growth, but afterwards the plants will look after themselves. The portulaca, though lowly, is not a commonplace plant. It is very beautiful, and the colours are varied, brilliant, and sparkling. It covers the ground with a carpet of exquisite little flowers, which glisten cheerfully in the sun. There are both single and double kinds, which should be sown out of doors about the middle of April.

SCHIZANTHUS WISETONENSIS.
A specimen grown in the Royal Horticultural Society's Gardens, Wisley.

In addition to those already mentioned there are many summer and autumn blooming plants, which, in beauty and duration, are as valuable as many perennials. The newer nicotianas, such as N. sylvestris and N. Sanderæ, give very useful material; they luxuriate in a heavy soil. The older white N. affinis, is also very useful. The clarkias, particularly the double variety of elegans, only need thin culture to shine brilliantly for several weeks. The annual asters, such as the Ostrich Plume, are both light and graceful. The annual chrysanthemums include some very bright forms: Morning Star, Evening Star, and Northern Star are very attractive, and the flowers last a long time when cut. A patch of the scarlet flax, Linum grandiflorum rubrum, gives a bright colour amongst other flowers.

Ten week stocks must not be forgotten; singles are worthless, but good doubles make beautiful clumps. One cannot, of course, rely on getting a majority of doubles, but in practice one does, as a rule, get 70 per cent., or even more, from good seedsmen.

The great danger with plants raised from seeds sown out of doors is that they are grown too thickly, and this means weakly growth, and a very brief period of flowering. If the various kinds are sown thickly they are likely to grow into each other, and then, even for the short time that they remain in bloom, they do not produce the effect sought. Transplanted annuals raised under glass are generally relatively better than the hardy class, because they are planted out separately.

T. B. Field.

Ashwellthorpe Gardens.

Everyone interested in a garden should obtain a copy of the Alphabet of Gardening, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price 1s. 6d. net, by post 1s. 9d.; cloth, 2s.; by post 2s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

ANNUALS FOR THE CONSERVATORY.

Any list of "annuals for the conservatory" would be quite incomplete if it excluded some of the more tender or greenhouse varieties; these greatly enhance our list of useful kinds, and the following comprise some of the best known, and all of them are easily cultivated. In a succeeding issue I hope to deal with the more numerous and equally useful, but hardier kinds of annuals suitable for conservatory decoration.

Balsams are among the most easily grown of showy annuals for conservatory decoration. The mistake is only too frequently made of growing them in too high a temperature, and sowing the seed too early in the season. Any time during April or May is quite early enough for sowing, and at all periods of growth plenty of light and air should be given. These are gross feeders, and will take almost any quantity of manure with good results.

Browallia elata grandiflora and B. elata alba are both very pretty annuals, and exceedingly useful as pot plants during the latter part of the summer and early autumn months. They are best raised by sowing the seeds in gentle heat during the spring, and gradually hardening the seedlings. They are quite worth some extra trouble because of the abundance of flowers produced. The plants usually grow to a height of fifteen or eighteen inches, according to the treatment given, but they will bear stopping and break freely.

Diascia Barberæ is a very free flowering annual of rapid growth, and its flowers are produced in great profusion; when nicely grown the plants are most desirable subjects for conservatory decoration. The seeds should be sown during the spring, in a temperature of about 60 degrees; gradually harden off the plants.

Gomphrenas, or globe amaranths, are showy, tender annuals, requiring to be raised in moderate heat: sow the seeds in the pots in which the plants are intended to flower; six or even eight seedlings might be allowed for furnishing a 48-sized pot. Water should be given very sparingly as to over-water is absolutely fatal. The soil used should be light, porous, and not too rich, and the pots well drained; as the plants increase in size and strength gradually inure to cooler treatment.

Schizanthus hybrida and its kindred varieties are most valuable as decorative plants, or for use as cut bloom. Seeds sown during the autumn and treated in the same way as that recommended for nemesias, will produce these plants to perfection, and with little trouble.

W. Hedley Warren.

Aston Clinton Gardens.

Cissus Discolor is another very pretty climber, and one that is very useful, its velvety foliage always being admired. When trained up a pillar or on wires along the centre of the roof, from whence it should be allowed to hang down, its full beauty is displayed. It should be planted out, the foliage being much larger and more velvety then than when grown in a pot. Cuttings may be easily rooted if the young shoots are taken off with a little heel when about six inches long, and by the autumn would make really nice plants. All these stove climbers must be regularly syringed to keep them free from insect pests, so when possible they should be trained over the paths in the houses, as in this position the drip following the heavy syringing will not do damage to the plants. If subject to attacks of spider, mealy bug, or thrips an occasional syringing with paraffin emulsion is useful.—T. Stevenson, Woburn Place Gardens.

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SUMMER CROPS OF TOMATOES.

The cultivation of tomatoes has now reached such a pitch that the fruits form one of the principal crops of the year, and whatever garden one may wander in, even to the cottager's, in them will be found tomato plants. The rising popularity of the tomato has been very marked during the last few years, not only for private use, but commercially, and although there may be low prices realised towards the end of summer, even then there is a margin of profit, and as seasons are seldom favourable for outdoor culture, it is not often the margin of profit is poor.

The grower who wishes to obtain the best prices for his fruits will aim at having them ripe through April, May, and June. He can, of course, have them ripe in the earlier months of the year, but there is not the demand then, and the expenses are proportionately greater. In well-managed private gardens of any extent tomatoes are generally required the whole year through, as they are used in a great variety of ways in the kitchen. The general public appear to appreciate them more when the weather becomes warmer and through the hottest period of the year. The imported tomatoes one sees for sale are useable for culinary purposes; they have no comparison with the English-grown fruits. The Channel Islands tomatoes are imported, of course, but I am now referring to importations from further overseas. English-grown tomatoes, like most home-grown fruits, cannot be equalled when quality and flavour are taken into consideration.

A GOOD CROP OF CARTER'S SUNRISE TOMATO.

Although tomatoes are grown through the winter and early spring in private gardens for furnishing a supply of fruits, the principal sowing will be made in February for main supplies. The seeds may be sown in various ways, but I prefer myself sowing in shallow pans or shallow boxes: these are preferable to pots. Tomato plants should be grown as sturdily as possible from the germination of the seed onwards. After sowing the seeds should be lightly covered, and placed in a temperature about 60 degrees. The pans or boxes should be placed on a moist base, the soil being covered with a piece of glass or paper until germination takes place, which, if the seed is new, will be in a few days. As soon as the seeds have germinated the pans should be uncovered and placed on a shelf near the roof glass, but away from cold draughts. Keep the young seedlings growing steadily in not too great a heat or too much moisture, but moist enough conditions to ensure healthy growth without sappiness.

As soon as the young plants are large enough to handle they should be pricked out into three-inch pots, two in a pot, placed one towards each side. Growers have different ways of pricking off these plants, but the use of pots possesses advantages over other ways. The soil for this purpose should be light, fairly dry, and warmed previous to use. Lightly press the soil in the pots, and give little water until fresh roots are formed. The plants should be placed in a temperature of 65 degrees, where air can be admitted on all favourable occasions. As they become rooted they should either be transferred singly into five-inch pots, or, for economy of space, be placed two in a seven-inch pot. For this potting a heavier and fairly rich compost should be used, and the plants can remain in these pots until ready for planting out, which may be done when the first cluster of flowers shows. For various reasons it may be necessary, in private gardens, to grow some plants from this batch in pots, until such time as space permits of planting out. When grown in pots it is best to stop the plant after several clusters of fruits have formed to hasten the swelling and ripening of the fruits; in other respects, whether grown in pots or planted out, cultural conditions are similar. Planting out is far the best way of growing tomatoes, giving heavier crops, and requiring less attention. Providing the drainage is right, a firm base is best for planting on, and, over this, before placing the soil some spent mushroom bed manure may be placed to the advantage of the plants.

To ensure good crops it pays to use good loam, but, failing this, the next best soil procurable should be used: with the exception of spent mushroom bed manure for the bottom layer, organic manures should not be mixed with the soil for planting. Use just sufficient soil to carry on the plants until the first clusters of fruits commence to swell, and at this stage some stimulant should be given. Some growers prefer their own mixtures, but there are now very suitable manures offered which can be used with safety and benefit. Whatever manure is used, it should be used at intervals, either sprinkled on the surface or mixed with soil for top-dressings. The times at which such manure should be given, and the quantities, will be governed by the amount of crop the plants carry.

The cordon system is the best way of growing the plants, removing all side shoots as they appear, as under this system tomatoes may be placed a foot apart. The question of stopping the leader must be determined by the length or height of the roof. Some leaves may be removed at intervals, but not in large quantities at a time. A temperature of 60 to 65 degrees during the day, with a fall at night of 5 degrees, will be a suitable temperature, according to whether fruits are required quickly or not. A moisture-laden atmosphere should be avoided, as a genial airy temperature is best, avoiding draughts when external air is cold. When the outside temperature permits a little air should be left on the house all night. Avoid low night temperature, as the tomato grows best when the air is genial.

White fly is sometimes troublesome; this can be eradicated by fumigation. Sleeping disease is sometimes seen, and if tomatoes have been grown in one house for several seasons it will be advisable to find them fresh quarters if this disease appears. Fresh soil should be provided for every crop. Black spot will sometimes appear, and any fruits showing this should be removed, and burnt at once; a good plan to follow when the fruits are setting is to tap the plants daily, which will cause the dead petals to fall after setting. The appearance of diseases in the plants may often be traced to inattention to cultural details.

Varieties are numerous, and there are many good ones among them; probably no variety has attained such popularity as Sunrise, an ideal tomato for any purpose. Hippur No. 1 is fine; it grows larger than Sunrise, and gives a fine smooth fruit, solid, with small seed space. If I were limited to two varieties for general use I should select these, and that after growing most varieties in cultivation. For exhibition purposes there are Perfection, Duke of York, Queen Alexandra, and Hillside Comet, while as a yellow Golden Jubilee is good.

For dessert and garnishing purposes very pretty and attractive varieties will be found in Yellow Peach, Yellow Pear, Yellow Plum, Yellow Cherry, Red Cherry, and a very fine form of Red Currant, producing extra-long racemes of fruit.

T. H. Slade.

VEGETABLE MARROWS.

The vegetable marrow is counted amongst the choicest of vegetable dishes in nearly every household, and, consequently, it is sought after over as long a period of the year as it possibly can be produced. The plant is somewhat tender, makes little progress during cool weather, and the least frost kills the foliage, and, possibly, the vine also. Therefore it is necessary to afford protection by placing glass over the earliest and latest plants. To carry a supply through the season successfully three sowings should be made, one early in February, one about the middle of March, and another in July for producing the latest supply.

First Sowing.

The seeds should be sown singly in well-drained 60-sized pots, in soil consisting of loam lightened with sand and leaf-mould. Place them in a temperature of about 60 degrees, and as soon as the plants are nicely up and have formed their first rough leaf subject them to a lower temperature. An ideal position is a shelf near the glass in a newly started vinery or peach house, which usually is kept at about 50 degrees. If the seedlings are potted as they proceed in growth good plants will result, and be ready for planting out towards the end of March. Where ample appliances exist, and a pit can be spared, the marrow may be planted out over a mild hotbed, and grown and trained similarly to melons, but in 10 or 15 degrees lower temperature: failing this, they can be grown quite satisfactorily over a mild hotbed in an ordinary garden frame. The soil should consist of good loam lightened with leaf-mould and sand, and made moderately firm when planting.

Air must be admitted on every favourable day, but cold draughts must be avoided: this will serve to build up strength, and check a rampant and unprofitable growth. During bright afternoons the plants may be syringed, and the frames closed early to husband the sun heat. For the night a covering of mats will be necessary to keep the frame snug from cold winds. When female flowers appear they should be pollinated during the middle of the day, while dry. A little later the climatic conditions will bring fertilisation about naturally, because as the season advances more air can be gradually given, and the pollen is distributed. Top-dress with soil as the roots appear to require it, and apply water more liberally as growth and crops increase.

Second Sowing.

This sowing will form the main crop for the summer and early autumn supply. The seeds should be sown singly in 60-sized pots, and in soil similar to the earliest sowing. During the early stages of growth the plants may be grown in a temperature of about 50 degrees, but must be given the lightest position near the roof glass. Sickly, drawn, potbound plants will only give second-rate results, so the building up of strong healthy plants is of the first importance. After they have attained to a good size, with several leaves, gradually subject the marrows to more air, in order to harden them for planting out in their final quarters some time in May, under handlights.

The situation I prefer for this midseason crop is one not fully exposed to the hot sun, but a semi-shaded spot yet not so much so that the sun cannot reach the plants during a considerable part of the day. Under these conditions marrows keep their foliage and retain their vigour well into the autumn. It is generally known that the marrow plant requires a rich, deep soil, and it is the practice often to put them on manure heaps, and let them romp away into growth. This serves to hide unsightly places, but it is not necessary for their culture.

The most successful and simple method that I have found is to dig out holes, in such a position as suggested, about three feet deep and as far across, and fill them with two-thirds turfy loam and one-third of rich manure, mixed together, forming a slight mound. Three plants are placed on each mound, and the protection of handlights retained until the weather is sufficiently warm to encourage a free growth. As soon as root activity is seen a liberal amount of water is necessary at about once a week: this is much more preferable to light and more frequent waterings. After the plants are in bearing doses of liquid manure should be given.

Third Sowing.

If this is made about the beginning of July in pots, the natural heat at this season will cause the plants to make rapid headway, and they will soon be ready for planting out. The chief aim of this sowing is to provide plants of full vigour to come in after the main crop is practically over. A high and warm position should be chosen, and the plants so arranged that frames can be placed over them on the approach of cold weather. If they are lightly cropped, and liberally treated, they may be expected to carry on the supply, in an average season, through the month of November. In the event of early and severe frosts threatening, a covering of mats to the frames may be found necessary to avoid a check.

Moore's Cream I consider to be a good all round variety, while Hibberd's Prolific, Bush, and Improved Long White are also excellent for general culture.

C. Flack.

Cholmondeley Castle Gardens.

ZONAL PELARGONIUMS.

The zonal pelargoniums, though not quite so much thought of just now as the perpetual carnations, are, nevertheless, some of the most useful and most widely-cultivated of greenhouse plants, and when well grown, they make one of the brightest and most pleasing displays, either in the greenhouse or conservatory.

Unlike most other soft-wooded plants that have just one season of blooming, these may, with very little trouble, be had in bloom the whole year through. Sweet pea enthusiasts are apt to rave over the colours of sweet peas, and they indeed are beautiful, but when compared with the purity and richness of colouring of some of the better forms of zonals, I am afraid they would be found wanting. Of course, there is room out of doors for sweet peas and there ought to be room in every establishment for a good batch of zonal pelargoniums, particularly where a large conservatory has to be kept bright the whole year through. Many plants, as beforementioned, have just one season of blooming, but the zonal pelargonium will fill up a gap, and make things bright at any time of the year.

It is not necessary to be propagating all through the year, but two good batches should be grown, one for summer-flowering, and the other for the winter. For the former, a good batch of cuttings should be put in any time after July, and before September, and at this time they will root readily almost anywhere, but I prefer to put them singly in thumb pots, standing them in a frame, where a light may be put over them during the hot days (with a little shade), or during wet weather. As soon as nicely rooted, we pot them up into large 60's., potting firmly, but using a fairly light compost. After potting, they are placed on a shelf in a cool house, and if they show any tendency to run up, we pinch out the tip of each, which induces them to break; here they remain throughout the winter, moderately dry and just warm enough to keep them growing. By the middle or end of February, they are in a fit condition for a further shift, using 32-sized pots, as these are quite large enough for most decorative purposes. For this potting a fairly holding mixture of loam, leaf-soil, and sand is used, not too rich, and by potting firmly a very compact growth is obtained; we keep the plants in an ordinary greenhouse temperature, and when fairly well rooted give plenty of ventilation, stopping the young shoots when necessary, and allowing six or seven weeks from the time of stopping until we want them in bloom. Plants treated in this manner should be in good condition by May, and continue to flower till well on to the autumn.

For autumn or winter flowering we insert cuttings during February or March in an intermediate house, and treat pretty much as for the summer flowering ones, but after they are nicely rooted in the 32's we stand them out in the open air preferably on boards, and in a position where they get all the sun possible; in this case also the stronger growing shoots are stopped to induce a bushy habit of growth, but this is done not later than August, though if the plants are not wanted in bloom till fairly late in autumn or early in winter the flower buds may be removed until they are required.

Early in September we remove the plants to a light airy house, giving them plenty of room to prevent the shoots becoming drawn, and as the winter advances we keep the atmosphere of the house dry, particularly when the plants are in flower, and the temperature between 50 and 60 degrees, according to the outside conditions. From here they are passed on to the conservatory, in which they remain until the flowers drop, when they are returned to recuperate.

During the summer months, should the conservatory be fairly light, pelargoniums will go on flowering for weeks at a time, but in the winter it may be found necessary to frequently change them.

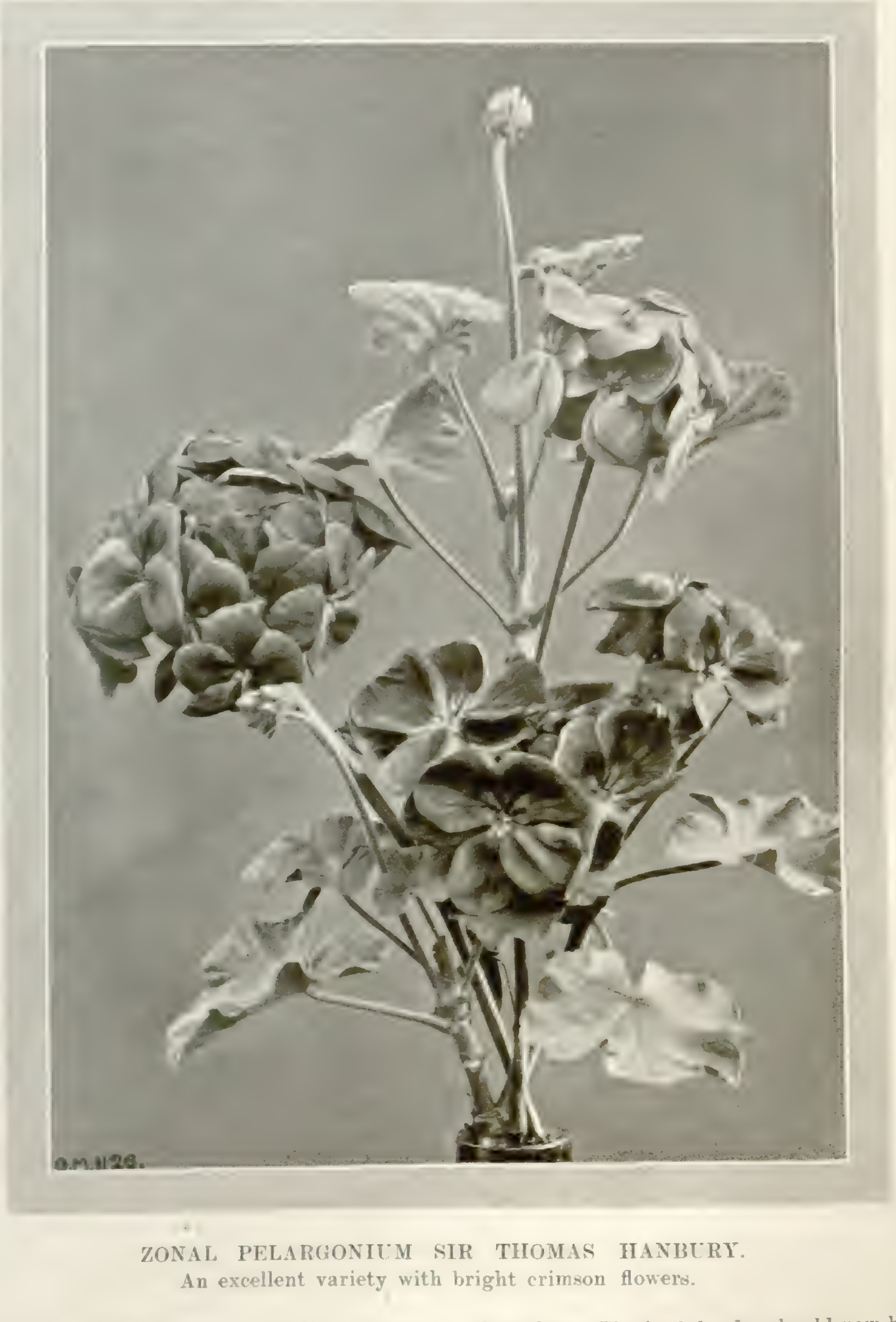
A point to be borne in mind is the watering, and at no season should this be overdone; water sparingly, and do not use liquid manure until the plants are well in bloom, as it is not long sappy growths that produce the most flowers. Specimen plants are sometimes useful, particularly during the summer months, and good-sized examples in nine-inch pots may be produced if some of the spring-struck plants are grown on, and not allowed to flower during the winter, shifting them into larger pots early in the spring; or even after flowering, if some of the best-shaped plants are potted on, and the points of the shoots pinched out, they will soon recover, and make really good specimens by August. These larger plants will take more feeding without growing gross than will the younger ones.

The single varieties are undoubtedly the most showy, and, with the exception of a very few of the semi-doubles, are also the most floriferous; varieties are very numerous, and, as with all other florists' flowers, are increasing rapidly, but a selection from the following will give satisfaction to the most fastidious. A few good crimsons or crimson-scarlets are Saxonia, Aldenham, Charles H. Curtis, Sir Thomas Hanbury, The Sirdar, and His Majesty. These are all very fine varieties, and the last-named is, I should say, the finest crimson zonal pelargonium ever introduced for winter blooming; it was exhibited by Mr. Page in November last at Vincent Square, and received an Award of Merit, and these same plants are still covered with blooms, the individual pips measuring fully three inches across.

Among the cerise or softer toned scarlets are Mentmore, Chaucer, Fred Bean, R. C. Pulling, and Princess of Wales. Purple and magenta shades are Cymric, Lusitania, Madresfield, and Frogmore, while good pink shades are Lady Folkestone, Caledonia, Mrs. Toogood, Hatfield, Mrs. Brown Potter, and Caronia. The best salmon varieties are Countess of Jersey, Mary Carmichael, Carmania, and Campania, and of these I give preference to Mary Carmichael, this being a good bright salmon, and a very free bloomer. Of whites there are many, but Mary Beaton, I think, stands alone, the truss, pip, and colour being all that one desires in a white zonal pelargonium.

A few good doubles and semi-doubles are Beauté Poitevine, salmon; G. Ernick scarlet; Madame du Plantz, apple blossom colour; Ville de Poitiers, scarlet; Fraicheur, white, with pink margin to petals; and Goldfinder, orange-scarlet. It often happens that good batches of double white and scarlet varieties are in demand during the winter months, and whether for pot plants or as cut flower, F. V. Raspail Improved (scarlet), and Hermione (white) are I think, the two best that can be grown for the purpose. T. Stevenson.

Woburn Place Gardens.



ZONAL PELARGONIUM SIR THOMAS HANBURY.
An excellent variety with bright crimson flowers.

VIBURNUM CARLESI.

This Corean species is one of the most beautiful of recently introduced hardy plants. In a few establishments it has been cultivated for five or six years, but it is still one of the rarest of flowering shrubs. At Kew several examples may be seen, the largest one, a plant rather more than 2ft. high and 2½ft. through, being planted in a heath bed near the pagoda. This specimen for several years past has blossomed freely, the flowers being in rounded inflorescences 2 to 3in. across. V. Carlesi is recognised by means of its oval, serrate leaves, which are hairy on both surfaces, and have a greyish tint, and by its rounded heads of rondeletia-like flowers. The flowers have a thick waxy texture, and are white, slightly tinged with pink when fully expanded, the pink being, however, more in evidence in the unopened buds. The expanded blossoms are accompanied by a delightful clove-like fragrance, which may be detected from a distance of several yards.

When first received, doubts were entertained as to its hardiness; but subsequent experience has, however, proved it to be perfectly hardy, so far as ordinary winters are concerned, at any rate. The Kew plants had no protection last winter, and, although the buds were formed in the autumn, none were injured. On a few occasions flowering specimens have been exhibited at the fortnightly shows at the Horticultural Hall, but no well-grown examples have been available, those exhibited being small pot plants. Under ordinary conditions it blossoms in May. It thrives in light soil and is increased by means of cuttings. D.

Herbs.—The herb border should now be dealt with, and increased, or otherwise, as needed. The perennial kinds can be increased by division. Mint can be propagated from sturdy cuttings taken from the boxes that are in the forcing pit should an increase of this be required. The thymes, where they do not naturally seed, can be increased by cuttings and division of the plants. Sage should be propagated yearly to maintain nice sturdy plants, choosing "slips" with a heel attached during April. All herbs are very partial to leaf-soil and grit, and they should have a sunny position.—G. Ellwood.

For pretty gardens and lovely flowers read The Flower Garden, by T. W. Sanders, F.L.S. An up-to-date work on the formation, planting, and management of the garden, with description and cultivation of flowers and plants adapted for outdoor culture. Price 7s. 6d. net, by post, in box, 8s., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London

THE MAKING OF A LARGE ROCK GARDEN.

Where there is abundance of room and a suitable site a large rock garden may be made and so planted as to form a splendid feature of any establishment, public or private. In the pages of the GARDENERS' MAGAZINE there have appeared from time to time charming views of many of the more notable rock gardens in the country, and these have shown that rock gardening may be adapted to almost any size of garden. For the moment large rock gardens are the consideration, and one's mind at once turns to those at Kew, at Edinburgh, at Leonardslee, at Warnham Court, at Friar Park, and that very wonderful one at York, in Messrs. Backhouse and Son's nurseries. This latter was one of the first of prominent rock gardens to be designed and furnished, and infinite trouble and patience were taken to make it notable. It is one of the boldest of these garden features, and in early summer it is worth a long journey to see.

For the present I propose to confine my further remarks to the famous Kew rock garden, believing that an account of its history and design will be interesting, and helpful to those who may propose forming a rock garden of their own on a fairly extensive scale.

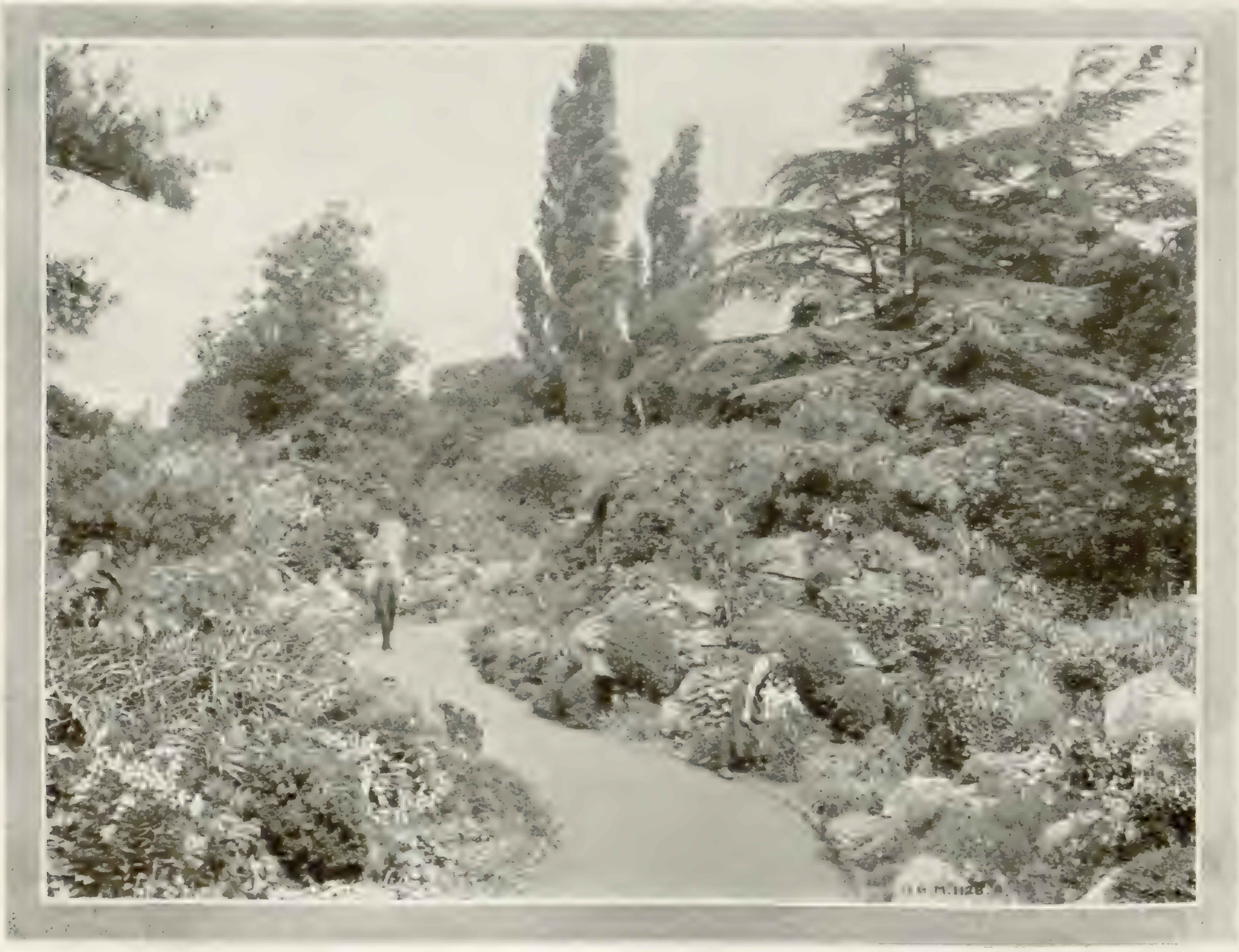
Kew, on account of its level surface generally, does not lend itself to the formation of an imposing rock garden such as many of those indicated above, where the contour of the ground permits, and even aids, in forming an effective structure quite in keeping with the surroundings. **Therefore it had to be constructed in such a manner, and with the means available,** that it harmonised, to a certain extent, **with its own surroundings.**

Before the year 1882 there was no rock **garden worthy of the name at Kew, that** which had done duty for it being the site of the present hardy fernery by the old ice well. In that year a fine collection of herbaceous and alpine plants was bequeathed to Kew by Mr. George Curling Joad, of Oakfield, Wimbledon. It then became necessary to provide a suitable place in which to grow the plants, and a moderate grant of £500 was procured from the Treasury in order to build a rock garden.

The piece of ground chosen was quite level, and the general idea was to copy one of those narrow mountain watercourses common in the Pyrenees. In these places the stream dries up in summer, although in winter it is a raging torrent. The stream brings down and scatters along its course fragments of rock and other debris, which are left stranded. During summer a luxuriant vegetation springs up and clothes the banks, at the top of which we also find vegetation of a shrubby character.

Having decided on the general design, the valley was excavated, and the soil was thrown up so as to get height for the sides. The broad gravel path represents the bed of the stream. In a private garden the **gravel might be replaced by an irregular** broken path of stones with more effect, but as Kew is a public place, the convenience of crowds of visitors has to be provided for. The valley runs, roughly, north and south, and is 180 yards long. It winds about in order to give a series of effects, **and, what is more important, a great variety of aspects suitable for the needs** of various plants. At the different curves **the soil was thrown up into higher mounds,** and covered, like the banks at the top, **with shrubs and trees to shut out the immediate** surroundings. This carries out the idea of the Pyrenean watercourse, and gives a sense of seclusion.

The rocks and stones used are of a very mixed kind, but nothing better could be done at the time with the money available. The materials of an old ruin which existed in the Arboretum, known as the "Stone House" were used, but the evidence of their having once been part of a building could not be hidden. A quantity of finely weathered oolite was obtained from Bath, while the north end was finished off with waterworn mountain limestone from the cliffs at Cheddar.



VIEW IN THE ROCK GARDEN AT KEW. [Photo: E. J. Wallis.

All these sources, however, did not furnish sufficient material for building up the banks, the higher mounds being almost entirely kept up by roots, which were freely used. They were very good makeshifts and enabled the original plan to be carried out, while at the same time the coarse-growing herbaceous plants revelled in the humus formed by the decaying wood. Tree stumps, however, do not last long, and require constant attention as to renewal. Their use in a rock garden is not to be **recommended, as the decaying stumps form a convenient harbour for all kinds of vermin.**

To give variation of outline the sides of the valley were scooped out into bays of various sizes, and filled with suitable soil to accommodate different kinds of plants. Near the south end is a dripping we formed like a cave, having a supply of water running from the top and forming a pool at the bottom. It is then led off in a small stream which feeds the boggy bays on each side of it. In this bog the most effective plants are the rodgersias, notable for their handsome foliage, the Japanese Primula (P. japonica), the Himalayan P. rosea, with the globe flowers (trollius) and marsh marigolds (caltha) along the edge of the stream. Smaller plants, like soldanella and parnassia, also find a home near the edge of the bay. Seaside plants are accommodated in a bay which is made up with sea sand, and which is devoted to plants like the horn poppy, sea holly, sea pea, thrift, marram grass, and other salt-loving plants. Near the south end, in a deep recess, are to be found the ramondias, growing between the joints of the stones, while on the lower level, as well as on the shady top of the bank, the various species of Himalayan and Tibetan poppies (meconopsis) are at home. In the same recess may be found the lady slipper (Cypripedium spectabile), with the Sikkin primrose. Near here also is a colony of the types of ferns found wild in Britain, as well as a fine mass of the Royal Fern (Osmunda regalis). This end of the rock garden is also rendered attractive in summer by a quantity of the willow gentian, which is naturalised on the banks in both blue and white varieties.

A PART OF MESSRS. BACKHOUSE AND SON'S ROCK GARDEN AT YORK.

One of the most popular features to many is the wall built of large, shaped stones from the ruin aforementioned. Over these are draped curtains of candytuft (iberis), Alyssum saxatilis, and aubrietia, and they produce a charming effect when in full flower.

Some of the Atlantic cedars on the taller mounds were removed a year ago. They had reached such a size that, although they added to the picturesque effect, their presence so close was not advantageous to the small alpines for which a rock garden is intended. The further away large trees are kept from the rock garden the better it is for the plants, and some of the trees still standing are considered by many to be too large, and exclude too much light.

Half-way along a path branches off and leads up some steps to the herbaceous grounds, and on each side of it is found a collection of the saxifraga family, the different kinds of which keep up a succession of flower from February to June. The smaller kinds, like S. Burseriana and S. apiculata, are among the earliest, while the flowering period reaches its maximum in May and June with the larger forms of S. Hosti, S. cotyledon, and S. longifolia. A little further on another path leads from the opposite side up to the orchid houses.

From time to time, as the opportunity has occurred, parts of the rock garden that had been built originally with roots, have been remade with weathered oolite from a quarry belonging to Lord Redesdale, as well as with sandstone obtained from other sources.

As the natural soil of Kew is a hungry sand, it is not the best medium for growing plants in, and this, taken in conjunction with the usually hot, dry summer climate of Kew, prove that the conditions are not all in favour of the plants. There is plenty of water available, but overhead watering is often more harmful than otherwise.

Taking into consideration all the surrounding conditions and difficulties, both with regard to situation and soil, the Kew rock garden is eminently successful in design and fitness for the position it occupies.

Kew. W. Irving.

COLUMBINES.

Aquilegias, or, to give the old-world name to old-fashioned flowers, columbines, are certainly charming subjects for many phases of garden adornment. The ease with which columbines can be grown, their graceful leafage, and the delightfully diverse colour range which they embrace, mark them as favourite subjects for the majority of garden lovers.

In the herbaceous borders colour groupings of the aquilegias are certainly beautiful, especially if one takes care to arrange the newer and best shades of the long-spurred hybrids separately, and here and there insert masses of those exquisite art shades which are to be met with among the old English A. vulgaris. Of these latter there are some very charming rose shades, while among the whites, soft lilac blues, and the deeper colourings one meets with some very effective forms.

For naturalising in the wild garden, and by woodland and meadow walks, the columbines are very serviceable. The tall, graceful masses of blossom, waving lightly above a groundwork of grasses and wild plants, produce a pleasing spectacle, and the manner in which they propagate themselves by their profuse scattering of seed, makes their naturalisation a certainty.

Then, again, the rock garden is enriched by the inclusion of some of these charming dwarf mountain forms, which are as interesting as they are beautiful. I would suggest that the rarer columbines be given a trial by those who are the fortunate possessors of a rock garden. One cannot grow everything, but a few of these alpine gems would be a good investment. A. alpina, for instance, large flowered, violet and white, is of great merit, while its variety superba is also very fine. A. cærulea, again, if one can obtain the true Rocky Mountain species, is a delightful study in blue and cream. The blossoms are long-spurred, and both the type and its best varieties, including the golden lutea, are grand in the rock garden. The dwarf form of A. canadensis, known as nana, is very bright in its colouring of yellow and cinnabar red. A. flabellata, the beautiful little waxy white from Japan, is very good, early, and large in blossom. A. formosa another valued rock garden form, is continuous in blossom, and very showy, being a combination of green, gold, and red. In A. glandulosa we have another valued species. In its typical form it is rare, but its dwarf habit and clear blue and white blossoms are very appealing. Its hybrid form, Stuarti, is rather taller, but gives much the same tone of colouring.

Other sterling rockwork forms include A. pyrenaica, probably a miniature Pyrenean form of alpina, which comes early into blossom; A. oxysepala, also early, a dwarf blue and yellow of pleasing appearance, are rare Tyrolean gems. A. thalictrifolia, with its pretty leafage and smallish deep lilac blossoms also possesses much beauty.

For general garden planting the various hybrid groups offer a wondrous diversity of colourings. I would especially advocate the merits of the cærulea hybrids, which give such a dainty expression of beauty, and such exquisite colourings; nothing more pleasing than these can be imagined among aquilegias. Where a rich touch of colour is needed then one could group some of the best of A. californica hybrids, obtaining thereby rich hues of red, orange, and yellow. The hybrid forms of the native A. vulgaris are exceedingly numerous, and should be represented if possible; Atrata, Hænkeana, Witmanniana, and Munstead White are typical of this section, which rank among the glories of the old-fashioned flower gardens.

A. chrysantha and some of its best varieties should be included for their clear yellow colourings, while the bright orange-red and gold of A. Skinneri is favourably regarded in many quarters. In addition to the foregoing there are many distinct columbines which are deserving of note. For instance, the shades of blue which one has in the Asian A. Kitaibeli, and the European A. grata, A. Einseliana, and A. Bertolini, are charming indeed, while A. baicalensis, a fine blue and white, the bright red and gold A. truncata, and the showy Japanese A. Buergeriana, which resembles A. flabellata in form, but varies from white to red-purple in colouring, are both interesting and showy in blossom.

The value of the whole group of aquilegias, either for the borders or for cutting, or in the wider domain of the rock and wild gardens, is certainly considerable. Especially would I commend to the reader a study of the various species, and the culture of the finer strains of hybrid forms, knowing full well that the extended culture of the columbines means an added wealth to the garden. P. S. Hayward.

THE PREPARATION OF VEGETABLES FOR EXHIBITION.

The production of vegetables for purposes of exhibition entails a very high and excellent standard of cultivation, but to secure the best results the exhibitor should remember to attain the greatest degree of excellence and utility for the table.

During recent years the consideration given by judges in determining the relative qualities of staged vegetables has undergone marked changes, and the enormous size and bulk of some vegetables which at one time was the foremost consideration, has now given place, in a great measure, to the quality and general utility of the vegetable shown. As a guide to those who wish to enter the lists of prize winners, the following hints on the production and preparation of different vegetables for exhibition purposes may not prove out of place, and the beginner must remember that under modern conditions quality, cleanliness, beauty, and good and uniform size are the most important points.

Celery.

Celery ranks as one of the finest vegetables for all culinary purposes, and in any exhibition of garden produce it should occupy a premier position. Seeds are sown about the end of February in a gentle heat, and as soon as the young seedlings can bear handling they are pricked off into boxes, about four inches apart. A good rich soil, to which has been added a fair proportion of leaf-mould and a suitable quantity of stable manure, will prove an admirable medium. About the middle of May trenches are prepared, and the young seedlings planted therein, careful attention being given for the first few weeks to watering. It must be remembered that excessive applications of liquid manure will tend to produce a rank and coarse growth, while if the plants are given too little water, especially in their earlier stages of growth, they are extremely liable to bolting, though this is just as likely to happen if watering is carried to excess. The celery stalks, when placed upon the tables for exhibition, will be most successful in gaining prizes if they are thick, crisp, and firm in texture, and well blanched; absolute cleanliness is essential, and no specks of dirt or abrasions should be observed, while, when the stalks are cut, there should be no signs of flowering shoots.

Cucumbers.

These require to be sown about eight or nine weeks prior to the time of exhibiting. When sufficiently large, the plants may be potted in rough leaf-mould and planted out after a fortnight has elapsed, in a suitable house. A warm, humid atmosphere must be maintained, and, as regards soil requirements, a good fibrous loam, mixed with a little soot and lime rubble, will be found most suitable. All superfluous growths must be pinched out, and only the straightest and most evenly formed fruit retained; liquid manure may be given at judicious intervals. When staged, cucumbers should be straight, and even in size, the flesh firm, tender, and fresh, the outer skin being of a deep green colour. A long neck or nose will prove a great drawback, and it is necessary that a flower should be attached to the latter.

Cauliflowers.

Cauliflowers occupy a very high position in all exhibitions of vegetable produce. The first week in March is the most opportune time at which to commence sowings, and if a slight heat can be obtained at this stage so much the better. The next operation will be to prick off the seedlings into cold frames in rich soil, while about the middle of May they may be planted out in ground which has been deeply trenched and heavily manured; great care must be exercised to prevent the plants receiving any check, as this generally results in "blindness." The evil effects of strong winds must be counteracted by earthing up, and immediately the heads begin to show some shade must be provided, as by undue exposure to the sun's rays the delicate white heads will quickly become discoloured. A good medium-sized head, compact, and perfectly spotless, and of a pure unsoiled white colour, will prove most successful.

Cabbages.

The many varieties of cabbages never fail to make their appearance on the tables at exhibitions, and to produce successful plants for this purpose a very rich and well-drained soil is essential, and heavy dressings of stable manure or some approved fertiliser equally so. Seed may be sown at the beginning of August, and the plants pricked out into cold frames at the end of October. In the following spring the plants are carefully lifted and planted in ground which has been deeply trenched and heavily manured, the drills being not less than three feet apart; the application of a good mulching of farmyard or stable manure, or some approved chemical fertiliser will prove beneficial, and after cultivation will consist of drawing the earth up round the stems when the plants have attained a height of from six to nine inches. Firm, medium-sized hearts will prove most successful, and the outer leaves should appear quite fresh, tender, and succulent.

Carrots.

For exhibition purposes carrots are sown at the beginning of April, the drills being fifteen inches apart; a deep sandy loam that has been well manured for a previous crop, and turned over one spit deep in spring, will be most suitable, and the seed bed should possess a very fine tilth. Continual hoeing between the drills when the seedlings are established will conserve the moisture in the soil, and promote a free and sturdy growth, and, when sufficiently large, the seedlings must be thinned out to about six inches or eight inches apart, while, to prevent drought, the ground must be kept constantly stirred with the hoe; the alternative being to give a good mulching of lawn grass or manure. Roots of even and uniform size, perfectly straight, clean, and free from all blemishes or abrasions, are most desirous.

Broad Beans.

A deep loam of a sandy nature which has been deeply trenched during the previous winter will prove most suitable for this vegetable, and should preferably be rich in decaying vegetable or animal matter. Sowings are made in February for early shows, and in April for later shows in September or October, the drills being about thirty inches asunder, and from six to eight inches between each one. When the plants are about nine inches in height the soil should be drawn up round the stem, and during periods of drought the hoe should be in constant service, while when the pods are set liquid manure may be given with very beneficial results. Fair-sized pods of a fresh green appearance, filled with tender succulent seeds, will prove most successful in gaining awards.

J. C. Newsham.

Old Basing, Hants.

(To be continued.)

ROCKERIES FOR SMALL GARDENS.

The owner or occupier of a small garden who takes pleasure in his flowers is generally anxious to make the most that is possible of the limited space, and how to do this is a problem the solution of which affords much room for thought. Much depends upon the tastes of the owner, but it is wonderful how soon a liking for certain plants will develop provided that a beginning is made with them, and admiration for a few is experienced. Thus it is well to consider what systems of gardening can be adopted to utilise the limited space to the best advantage.

Where cut flowers are not required in quantity, few phases of gardening will afford so many opportunities for thorough utilisation of a small space to the greatest advantage as the cultivation of rock plants. How to achieve this is the aim of the notes which follow.

A SIMPLE ROCK GARDEN AT THE HOLT, HARROW WEALD,

The residence of A. Kingsmill, Esq.

By means of rockeries the space of a small garden may be increased, as the elevation of the rockery affords room for trailing plants to hang over the stones, and thus they take up less room than on the level; while many of the alpines are so neat in their growth that a great variety can be embraced in an area which would only afford a very limited space indeed for any other plants. Thus, apart from the fact that these alpines are mainly of exquisite beauty, such flowers are admirably suited for the small garden, and it is a sorry one indeed if some of these alpines cannot be cultivated within its narrow bounds. Given a comparatively free air, sufficient light, and freedom from the drip of trees, a vast number of rock plants can be cultivated successfully, provided that the soil is made suitable and the rockwork properly formed.

No elaborate rockery is required for the small garden, and alpines can be as well, or better grown on a simple structure than on one of expensive construction. Stones of almost any kind—although a porous one is best—may be used, and even slag and old bricks stuck together with cement and washed over with the same material to hide the joinings will serve our purpose. It is more essential that these stones should be properly laid, and no method is so well adapted for the small garden as what is known as the "terrace" or "pocket" system, by which the rockwork is formed of a mound of some soil, or rough material well mixed with soil, and converted into a series of terraces by means of stones, these, again, being subdivided by stones set across so as to form compartments, so to speak, for the accommodation of each plant. Even the latter may be omitted, and a series of terraces alone, flat, or almost so, on the surface, will do admirably. But the stones should be firmly fixed in the soil, so that a foot can be set on them without involving their displacement, and so that the winter's frost will not move them.

The elevation of the rockery is of little importance if it is arranged on the terrace or pocket system, but it should not be too great for the small garden, and a simple mound or series of such some three feet high will afford room for two terraces with a flat portion on the top for the alpines which look best there. Even a simple rock bed, formed of a mound of earth supported by stones of about nine or twelve inches in height round the margin, over which trailing alpines can be grown, and with a few boulders inserted here and there in the bed, will do excellently for many good and choice plants. Where there is space enough a series of low rockeries, with paths between, will be suitable for the small garden, but the breadth of the paths must be proportionate, or they will spoil its appearance.

The soil for the bulk of the mound need not be of special quality, and the writer has cultivated these plants successfully on rockeries, with its greater part composed of small stones well filled between with common soil of a medium nature of lightness, and covered a foot or so with better earth for the purpose, composed roughly of loam and leaf-soil in about equal parts, with the addition of some sharp sand and grit, so as to make it porous and light. A layer of drainage of rough stones at the base of the rockery is useful where the soil is not naturally porous, or where no other drainage is provided. But the earth must be made firm, and all crevices filled up, so that the roots, which frequently penetrate to a considerable depth, may find soil, and not air, when they push further down. As has been said, the terraces should be flat or nearly so, the idea being that the rain or water artificially applied should penetrate to the earth and not run off, as is too frequently the case with rockeries built without due consideration. It is too frequently forgotten that many alpines like plenty of moisture at their roots, but prefer their foliage fairly dry at most seasons.

Regarding the plants suitable for small gardens there is a superabundant choice. The truth is that the difficulties of growing alpine flowers are greatly exaggerated, and there is little mystery attached to the cultivation of quite a multitude of them. They must, however, be planted firmly, and it is a great advantage to many that they should be well jammed in between stones, with other stones laid firmly round their crowns. The stones can be embedded in the terraces, and the plants placed between.

Only a running survey can be made of the leading plants which can thus be successfully cultivated on the small garden rockery. Aubrietias are, of course, indispensable, and are superb in their season when trailing over the stones. They do fail, however, in some parts of our large cities, especially in wet districts, but, as a rule, they are thoroughly satisfactory, and can be preserved in the worst of places by protecting them with a sheet of glass elevated a few inches above them in winter. For the small garden the arabis is not so good, but a plant or two of the double form of Arabis alpina, or the small single one called A. albida nana compacta, with, say, Arabis Sturi, will be worth having. The little spring phloxes of the subulata or setacea class should not be forgotten, and here the sheet of glass will be useful in wet parts of the country. P. Nelsoni, P. subulata Fairy, P. s. The Bride, and others will occur as some of the best among a number which make a selection impossible, as all are beautiful. P. reptans may be added, and one or two of the forms of P. canadensis. Androsaces are not for the beginner, although they can be grown well in the small garden in sunny places, and with plenty of grit. Saxifrages are a host in themselves, and a representative collection of the different sections will give much delight. So, too, will the sedums, or stonecrops, which, with the sempervivums, or houseleeks, are indispensable for hot and dry places. Achilleas supply excellent material, as do the smaller helianthemums; while in all the dwarf campanulas we have an endless variety of beauty.

Acænas, dwarf anemones, coronillas, hardy cyclamens, the many alpine dianthuses, or pinks, alyssums, dwarf hardy geraniums, perennial iberises, potentillas, primulas, thymuses, veronicas (shrubby and herbaceous) violas, waldsteinias, soldanellas, geums, and a manifold variety of other flowers—common and rare—may be cultivated with success on the rockery in the small garden, so that it may become a very Elysium to its owner and his friends.

S. Arnott.

Dumfries.

[Photo: W. J. Mitchison.

A FLOWERY LEDGE ON ROCKERY AT MULLABODEN,
The residence of Col. the Hon. C. F. Crichton.

SEED SOWING ON CLAY SOILS.

The difficulties to be contended with in the management of clay land, compared with those to be met with in the treatment of soils of a free working description, have, I venture to say, to be experienced to be appreciated. These difficulties present themselves in each detail of the soil's management, though in no other in a more pronounced manner than is the case at the time of seed sowing, and it is relative to this subject that I purpose to make some remarks.

Unless land of this character is skilfully treated, there is usually, even in favourable seasons, trouble experienced in securing it in good condition for the reception of small seeds, especially for those sown early in the year. In all practical cases for crops to be sown at that season it is advisable to trench the ground in the autumn, or early in the winter, before it becomes very wet, and in doing this the bottom spit, after being broken up, unless it has been, by years of good cultivation, made equal in quality to the top, should be left in the bottom, and the surface be left in a level, though moderately rough state. Seasonable opportunities invariably occur early in spring in which to crop land that has been left exposed to the elements in this condition during winter. In cases where land remains over winter in an undug state the digging should be attended to as early in the year as weather permits of its being properly done, and no attempt should be made to crop it until its surface has been ameliorated by the weather's action, for it is much better, in order to secure perfect tillage, to be reasonably late in sowing, than to sow under a bad state of cultivation.

The mode of digging known as ridging cannot be recommended for soils of this kind, for though by this process the surface can be exposed to the fullest possible extent to the beneficial influences of frosts and air, these benefits are counterbalanced by the evils that arise from the furrows placed between the ridges becoming wet and consolidated from the effects of rain and snow.

It sometimes happens after the soil has been finely worked and planted with seeds that heavy rain batters its surface and causes it to become crusted, and so hard as to render it impossible, unless some artificial means are adopted to assist them, for the young plants to push through it. In instances of this kind it is good practice to catch a favourable opportunity, before the soil becomes too dry and hard, to carefully break its crust by gently tapping it with the teeth of a suitable garden rake. We have saved crops of carrots for example by this means. Years gone by, however, when our garden soil was more difficult to work than it now is, we used to specially prepare soil with which to cover small seeds. The onion crops, for instance, were sown in this way. A commencement was made by drawing a drill at the side of a plot, in which seeds were distributed, covered with prepared soil, and with a rake made even on the surface, and this process was continued until the work was completed. By

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these means we at no time failed to secure good crops.

Probably one of the most common errors made in sowing early crops upon cold clayey soils is that of sowing too early. Seeds sown when the soil is in a bad state of tillage, or too cold to promote their ready germination, cannot well produce first rate crops. As previously intimated, it is far better to sow later, and secure a favourable seed bed. In suitable cases seeds sown under glass, and the young plants subsequently transplanted out under favourable circumstances, give excellent results.

T. COOMBER.

The Hendre Gardens.

SUMMER SALADS.

In all well-arranged households the salad gives a tone to the daily menu, and a dainty, piquant assortment of leaves, stems, and roots, each having distinct characters, is at our disposal for giving variety to it. Summer salads, in a sense, are required, and should be in evidence, from Easter until frost puts an end to their crispness. Of course, in all gardens good lettuces form the most important of the plants grown, and very frequently the only leafy one; this is a mistake, and to rectify it, and give variety and flavour, the delicately curled endives, when grown, are highly appreciated summer salads. Properly bleached, when fully grown they cannot be compared with the wilted specimens that too often emerge from the mushroom house during the winter months. Good salads are made or marred by the dressing, but as this is outside the provider's curriculum, we must confine ourselves to catering for a regular supply of the various things most desired.

Of course, in private gardens, what the owner requires most of must be most largely provided; at the same time it is well to remember that some of the most appetising and piquant salads are often condemned because cultural methods have been insufficiently attended to. We have lettuce, endive, mustard, cress, tomatoes, cucumbers, radishes, and onions, and during later summer beetroot and celery. There are many other things also that receive attention in Continental countries, where the art of salad making is better understood.

If we desire to commence in April, the lettuces for meeting the demand at this date will have been sown during the previous autumn, and for frame culture the smaller early hearting varieties are to be preferred. There are Tom Thumb, Commodore Nutt, Golden Ball, Golden Queen, Early Paris Market, and Little Gem. Any of those named, sown during October, and once pricked off into other frames, boxes, or pans, grown very cool to keep them healthy and sturdy, and finally transplanted to a very gentle hotbed about the middle of February, will form close tender hearts by April. A very excellent cabbage lettuce for providing salad from the open border at this date is Stanstead Park, and, in the cos variety, that most excellent lettuce for quality, Bath Black-seeded. We have many excellent summer lettuces, both cabbage and cos varieties, and what constitutes a good summer lettuce is crispness and a tendency to remain in good condition over as long a period as possible after the heart is fully formed. March sowing, in many counties, is safe, and an open position is better than one shaded. All the Year Round, Milly Forcing, Heartwell, Victoria, Ideal, Satisfaction, or a good Drumhead type, will suit all requirements for summer cabbage lettuce; cos varieties are Hardy Winter White, Paris White Cos, Prince of Wales or Ideal, Eclipse, Express or Dwarf Perfection, White Heart, Paris Grey, Peerless or Jumbo Cos. All those named are really good lettuces, and two or three of each type, at the most, will meet all requirements. Successional small sowings are of greater utility than larger sowings from which several plantings could be made.

Practically the same cultural details serve in the case of endives, only the moss-curled or finer green-curled varieties are required for summer use. Complete bleaching of the heart when the plants have reached a useable size is the chief point. To accomplish it during the warmer summer months is a very simple matter, but to ensure the full flavour, and retain the natural crispness if the weather is dry, water must be given to the roots, and the blanching done where the plants are grown. Very thin sowing of both lettuce and endive in drills where they are to mature gives the best results in dry districts, merely thinning the plants in the rows according to the varieties grown.

Whether radishes are what it is intended they should be is a point that rests entirely with the cultivator. My favourite types are French Breakfast and Carmine Forcing, both rather small radishes, but of full flavour, with adequate substance when proper cultural methods are followed. There are very many forms of radishes, but even when well grown some of them are watery and flavourless, and, moreover, bring discredit upon the grower. Therefore, for the private table the best selections will do the grower the most credit. Cultural details are so simple that it almost amounts to presumption to lay down rules, but it may briefly be said that continuous sowings at regular intervals in rich light soil, with plenty of water, and some shade during the hottest sun, will give good returns. Carmine Forcing matures under a month from the date of sowing, and French Breakfast takes only a few days more. If there are empty frames during the summer they will provide the best places for growing radishes in; failing these, small beds large enough for a week's supply will suit best. If long varieties are wanted there are nice rose-coloured and brighter scarlet forms of the popular Wood's Frame.

Mustard and cress will grow almost anywhere, but here again detail in method for keeping a regular supply will tell. If the regulation quantity of each for each sowing is soaked for twelve hours or so, both kinds will come along at the same time. Frame, bell glass, or handlight culture is best, fairly thick sowing, a confined atmosphere, and darkness to produce silvery, tender stems, and just sufficient light when growth is made to give colour to the cotyledons, are practically all that is required. The onions most appreciated for giving variety to salads are the Silver-skinned, and the White Lisbon is also a favourite sort. As these are only required in a quite young state several sowings are necessary, and boxes are the most convenient receptacles for them; for salads the tender green tops are more needed than a pronounced basal portion.

Tomatoes are always appreciated as summer salads, either in combination with other things or merely served alone. The ideal tomato is a fleshy one, and a good Comet or Satisfaction type will provide it. Some of our newer tomatoes are beautifully shaped, sell well, and are very free setters, but they contain enormous numbers of seeds, which is against them for private use. A yellow variety I have always grown, and like very much, is Sunbeam. For a cooling July salad in which the cucumber has a part, the Prickly Ridge varieties are too much ignored; the shapely hothouse fruits have their place as superior beings to adorn the table whole, they do not, however, possess that mild, yet full, flavour so much appreciated in young Ridge fruits. As appearance goes a long way, the only claim for the Ridge varieties over others is their more hardy nature. An April sowing for planting in a sheltered nook in May is all that is required.

In late summer celery and beet salads are much in evidence in some establishments; the last-named is also much used for garnishing and including in leafy mixtures. For maturing quickly the Globe varieties are the best, and of late years they have improved in colour. Cheltenham Greentop also reaches a serviceable size early, and is a fine red colour, and very tender fleshed. Being susceptible to frost they may not be sown until the end of March; even then protection may be needed if the weather favours early germination. Some people like celery early, others prefer it at a more natural season. White Plume or White Gem are good early maturing sorts. I have always found it most convenient to grow early celery in beds, the frame ground often forming the site. A rich manure bed above ground to retain moisture is necessary, six inches deep, with two or three inches of soil on the top. For blanching quickly paper is the best material to use. March sowings of the varieties named, with proper culture, are ready for use in July.

A herb much used for soups and salads is tarragon. I have always found it a profitable one to grow near a town. My most satisfactory results were obtained by systematically forming a new bed annually from the young shoots during April, merely detaching them with a few root hairs, and dibbling them an inch apart in good soil. Mint is sometimes sparingly used in summer salads, and for good colour and succulence beds must be annually formed as described for tarragon.

CHARLES FOSTER.

Guildford.

POPULAR SWEET PEAS.

The publication of the result of the Election of sweet Peas (page 124) will serve as a most useful guide to the small grower of these popular flowers. From this list he can select few or many, and can easily obtain the colour description of any variety he may not be cognisant of from any vendor's catalogue. When we find as many as 117 varieties in one list, 100 in another, 98 and 86 in others, it must be difficult indeed for the beginner to make a selection of, say, one or two dozen varieties, which is a good collection for many cultivators, even those not regarded as "small" growers.

If we take the first twenty-four names in the list on page 124 we find a good selection; none of the varieties are really new, but all are quite desirable, and plainly prove that even the newest of varieties do not meet with general favour. From many sources one can hear the great outcry against the length of lists, which becomes more bewildering yearly, and will, I am certain, do harm in the future. Many amateur growers are so disgusted with the disappointments obtained after adding many new sorts as listed in catalogues, that they are afraid now to add to a selection of well-known tried varieties.

E. MOLYNEUX.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

ANGULOAS.—The different members of this genera are now producing their growths, which will also be accompanied by the flower buds. Some are not so free flowering as others, and the shy blooming kinds are those that usually flower latest in the season. I often think the too liberal treatment afforded at the later period accounts, to some extent, for the plants failing to flower. The first to commence growing is Anguloa Clowesi, and it is rarely indeed that we find any difficulty in successfully flowering this species. The plants having rested in the conditions similar to that afforded to the dendrobiums during the winter, where the atmosphere is retained in a reasonably dry state, and with a cool intermediate temperature. Under these conditions they have enjoyed a perfect rest, and the pseudo-bulbs have had the benefit of all available light. Very little root moisture has been afforded, and in due course the flowers appear at the base of the developing growth.

LATE-FLOWERING ANGULOAS.—Now with the later flowering kinds I do not consider circumstances so favourable, unless special precautions are taken to afford them the same conditions as the early-flowering kinds received. Under ordinary conditions the blinds are brought into use by the middle of March, and the increase of moisture provided in the atmosphere has a tendency to encourage rapid growth, which is generally obtained at the expense of flowers. If we give these later-flowering kinds dry airy conditions, with only sufficient root moisture to keep the pseudo-bulbs in a plump state up to the time that the flower buds are seen, and then transfer to warmer conditions, where more liberal treatment is given, they will do better.

REPOTTING.—This is best attended to almost immediately after the plants have passed out of flower, as it is then the new roots are produced, and when potted at this stage the roots soon become re-established in the new compost. It is undesirable that the plants should be annually repotted, and where a good lasting material is used the plants should not be again disturbed unless they require more root space or the compost has decayed. A thin layer of chopped sphagnum moss should be put on the surface of the compost, because the plants require such a prolonged resting season that the moss invariably dies, and where the surface is covered thus it is easily removed, and replaced with living moss annually in the spring. I find that a potting compost of about equal proportions of turfy loam, fibrous peat, and osmunda fibre, with some chopped sphagnum moss, silver sand, and plenty of broken crocks intermixed is suitable. This should be made moderately firm. The pots should be clean, and drained to about one-third their depth. During the growing season the plants may be placed in the stove or warmest house, and every encouragement must be given to encourage rapid growth.—H J. Chapman, Oakwood Gardens.

STOVE PLANTS.

STOVE CLIMBERS.—As most climbers will be now pushing into growth the present will be a very good time to pot those that require it, and those that do not need repotting will be all the better for a general overhauling, taking care that the drainage is in good order, and afterwards giving a top-dressing of whatever material is suitable to their requirements.

BOUGAINVILLEAS AND ALLAMANDAS are of much more rampant growth than the dipladenias, and certainly they do not require as much heat, therefore, if there is choice of two houses in which to grow them put these in the coolest. Pot culture hardly does justice to either of them unless they are just grown as specimen plants, so where space is available they should be planted out in a narrow border, and given a mixture of loam and peat or loam and leaf-soil, with some sand added. They require a considerable amount of water at the roots during the growing season, and when flowering liquid manure should be freely used, and they will continue to bloom over a considerable period. I consider these by far the most useful of our stove climbers.

STEPHANOTIS.—This probably is the most common of stove climbers, and generally admired for its scent, otherwise I think it somewhat overrated, as the flowers certainly are not of much use for decorating, unless there is much making up to be done. If pruned as advised in an earlier calendar it should now be growing away freely; pay careful attention to training, otherwise it will soon get out of hand.

GLORIOSA SUPERBA.—Tubers of this beautiful plant should now be potted up, 12inch pots being a very suitable size in which to grow them. If sufficient bulbs are to hand part of them should be kept dry for a time, so as to form a second batch, as their flowers are so very handy during the late summer and autumn for vases.

TEMPERATURE.—The temperature of the stoves may now be allowed to run up during the day with sun heat, keeping down the fires as much as possible, nothing being so detrimental to the well-being of newly-potted plants as an excess of fire heat. At the same time, care must be taken to prevent a sudden fall, which may happen at this time of the year, owing to a change of wind, or sudden cold showers.—T. Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

LATE VINERIES.—Directions were given in a previous calendar for preparing to close vineries that contain such late grapes as Appley Towers, Lady Hutt, and Lady Downes. In order for these grapes to have favourable weather in which to ripen perfectly, and thus be in the best condition to keep for a lengthened time, the houses should now be closed. Provided the best use is made of the sun's warmth, the vines syringed on fine days in the morning and afternoon, and a moist atmosphere maintained, no artificial warmth will be necessary until the buds begin to burst. The buds upon young rods, especially those of Lady Downes, invariably "break" badly, and with these extra care should be taken by bending down the upper part of each rod in order to regulate the flow of sap and induce the buds to break regularly. As the fruit and wood of the Black Hamburgh attains maturity in a comparatively short space of time, late houses of this grape should not be closed until the buds commence to burst.

EARLY PEACH HOUSE.—The disbudding of shoots should be judiciously followed, until finally there remains only sufficient of the most suitable of them to properly furnish the trees with wood to supply next year's crops of fruit, and assist the development of the present crop. Commence, as soon as they are of sufficient length, to lay in the shoots by securing each with a tie placed near its base, and keep the leaves clean, and free from red spider by thoroughly syringing them with tepid soft water in the morning and early afternoon of fine days. Except upon growths that are thickly set with fruit earnest thinning of the crop should not take place until fruits are about the size of field beans, after which it should be gradually done by removing the smallest and most badly placed fruits, completing the operation when the stones of the fruits begin to harden. One fruit to each square foot, or slightly more in the case of very robust trees, or varieties with small fruits, is enough for a crop. Test the borders at suitable intervals, and when necessary give efficient supplies of tepid water, and afford diluted farmyard liquids, or light top-dressings of suitable artificial compounds when stimulants are needful.

TOMATOES.—The lengthening days are in every way favourable to winter-fruiting plants, and assist the latter part of their crops to ripen, which should be regularly gathered as the fruit becomes fit. Encourage root action by affording light top-dressing of fresh compost, and give weak liquid manures at each alternate watering, but avoid keeping the soil too wet. A night temperature of 60 degrees, with a corresponding rise by day from sun heat, will be suitable. Successional plants should be planted out or placed in their fruiting pots as soon as they set their first trusses. Sound loam, to which fine mortar rubble and wood ashes are liberally added, together with a dash of bonemeal, answers well as compost. When potted place the plants in a light house, and train them on a trellis placed near the glass. Regularly remove lateral growths, pollinate the blooms every day, and should white fly be troublesome vaporise the house at necessary intervals.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

CUCUMBERS.—If the seedlings have made good progress they will be ready for planting out on the prepared hotbed, which should be made four to six days previous to planting, to allow the bed to settle down and the compost to get thoroughly warmed. A suitable compost at this season is three parts turfy loam, one part flaky leaf-soil, and a little mortar rubble to keep the whole sweet and porous. Place the same evenly over the hotbed material, and at a distance of three feet apart arrange mounds, eight inches deep, to receive the plants. Plant, and stake to the bottom wire, at which position the growth should be stopped; train thinly, and do not overcrop. Maintain a moist atmosphere, but water the plants very carefully till well established. A temperature at night of 65 degrees, rising to 85 degrees by day in sunny weather, will suit them well.

AUTUMN-SOWN ONIONS are now ready to receive their final planting, providing the ground is in a working condition. Lightly fork the surface over, and add a good dressing of burnt rubbish during a fine morning, and lose no time in planting during the afternoon, for the season, so far, is very treacherous and trying, on heavy soils particularly. The plot should have been previously trenched and manured, as this crop amply repays the extra time and material spent on it, as the onions come in when kept onions are scarce. Plant in rows drawn at 1ft., observing the same distance from plant to plant. All spare plants should be taken from the seed bed, and planted thickly and firmly on a narrow border for early use, as they will bulb more quickly so treated.

CABBAGE.—The weather, so far, has been very trying for this indispensable vegetable. Every assistance must be afforded it by frequent stirrings of the soil, with a broadcast sowing of soot and wood ashes occasionally. Never allow the soil to rest until a free growth has commenced, when a small sowing of nitrate of soda, with an equal part of soil, will be very beneficial if applied very carefully between the rows.

POTATOES.—Where these are stored in clamps or pits they must now be overhauled, removing those intended for seed into a light airy position, or much vitality will be lost through forced blanched growths. Every encouragement should be given them to form strong and short sprouts preparatory to the April planting. If a change of seed is contemplated lose no time in securing it.

THE FRAME GROUND.—Cauliflower, lettuce, endive, globe artichoke, etc., that are wintering in cold frames should have every attention afforded them, in the way of airing, watering, and removal of decaying matter, thus preparing them for their quarters in the open ground.

MUSHROOM HOUSE.—Place rhubarb, seakale, dandelion, chicory, and endive regularly in the mushroom house, so that no break occurs in the supply.—Geo. Ellwood, Swanmore Park Gardens.

EVERGREEN DENDROBIUMS.

To deal with the subject of evergreen dendrobiums in a short article is by no means an easy task. There are from ten to fifteen species forming the evergreen or semi-deciduous group of dendrobiums, but I have decided to confine my remarks especially to two or three of these.

It is for the information of amateurs that these notes are penned, and I would like in the first instance to point out that the whole of this class of dendrobiums are out of favour or fashion for the time being among prominent orchid specialists, and thus are procurable, in practically all cases, for a very moderate outlay. The plants are best secured in an imported state, and as importations reach this country during the spring, it is quite possible that they may be selling at the time these notes appear in print. The temperature required for practically the whole of this class is as follows: From November to February, night temperature, 55 degrees; day, 60 degrees; from February to April, 60 to 65 degrees by night; day temperature, 70 to 80 degrees, with sun; May to August, night temperature, 65 to 70 degrees; day, 75 to 95 degrees, with sun; September and October, night temperature, 60 to 65 degrees; day, 70 to 80 degrees, with sun.

The taller growing kinds, such as D. chrysanthum, D. fimbriatum, D. pulchellum (Dalhouseanum), D. densiflorum, D. thyrsiflorum, D. chrysotoxum, D. suavissimum are best accommodated by being grown in well-drained pots. The pots should only be sufficiently large to contain the plants comfortably. There is no class of orchids that resent a great bulk of potting compost about their roots so much as do these dendrobiums. Select a good lasting material, such as osmunda fibre, and brown fibrous peat, mixed with chopped sphagnum moss. Sufficient coarse sand and finely broken crocks should be added to render the compost open and porous. This is essential, as the plants require an abundance of water at the roots during the growing season, so that all possibility of stagnation is guarded against. Repotting should be attended to when the plants commence to grow, after flowering in the spring and early summer.

Such kinds as D. Farmeri, D. aggregatum, D. atro-violaceum, D. bigibbum, D. Brymerianum, D. Dearei, D. phalænopsis, D. spectabile, and others of the dwarfer growing kinds, are best suited by being planted in shallow pans or baskets; the potting compost required being practically the same as that mentioned above. As the growing and flowering seasons of several of the kinds enumerated above is at totally different seasons of the year, discretion must be used by the cultivator, and the particular conditions provided according to the growth, flowering, and root developments.

In my opinion, the most suitable kinds for cultivation by amateurs, and where space is limited, are D. densiflorum, D. fimbriatum, D. thyrsiflorum, D. Brymerianum, D. chrysotoxum, and D. suavissimum. During the active season of growth, May to October, these plants require a hot, humid atmosphere, with an abundance of strong light, only sufficient shade being required to prevent the scorching of the foliage. The hot, humid conditions can be secured by a discreet use of the roof ventilators, and the proper consideration of the help derived from the sun's rays during the hot months of the late summer. After growth is completed the plants take a prolonged season of rest from November to March, and only sufficient root moisture is then necessary to prevent the shrivelling of the foliage and pseudo-bulbs. As soon as the flower buds show signs of development in the early spring, an occasional syringing overhead, when the outside conditions are favourable, will greatly assist them. As soon as the flower racemes can be clearly discerned, the plants should be removed from their resting quarters, and placed under growing conditions which will facilitate the development and expansion of the flowers. As soon as the flowers have expanded, the plants may be removed to a cooler and drier atmosphere where they last in perfection much longer than when left in a warmer house.

I find D. thyrsiflorum and D. densiflorum two of our most useful summer flowering orchids for use as flowering plants in the house. There is nothing more effective than a finely flowered specimen of D. thyrsiflorum, and the flowers last in perfection for two or three weeks in a cool drawing-room.

The insect pests most troublesome are thrips—both black and yellow thrips attacking the foliage of the dendrobiums and causing permanent disfigurement. Greenfly is also troublesome, but fumigation at regular intervals, and spraying with some safe insecticide keeps these pests in check.

H. J. Chapman.

PORTULACAS.

The reason why these beautiful little annuals, which for brilliancy and delicacy are scarcely surpassed by any other, are so comparatively little grown is perhaps to be sought in the conditions of our climate, which, even in the South of England, sometimes provide insufficient sunshine for the highest development. They are sometimes known as sun plants, and travellers say that they have seen them extremely fine in gardens in the hottest and driest parts of India and Egypt Those who have hot, dry beds or borders, or banks facing the sun, would do well to try them if they have not already done so. The finest displays I have ever seen have been in a bed on a lawn sloping to the south, and getting the sun practically the whole day, and on a narrow border under the front windows of a house facing south, where they had the added radiation of heat from the wall. Although they will grow on thin dry soils they pay for a little special attention in preparing beforehand some depth of well-cultivated, if not rich, soil, when they will cover the ground with a beautiful floral carpet, the rich colouring of the blooms twinkling in the sun.

Seed can be sown in the open ground on a warm border from the end of April to the middle of May, according to the season, avoiding cold damp weather, if possible, as in that case the seed may rot in the ground. Better results are, however, obtained by sowing the seed very thinly in pans of light soil in a frame early in April, and pricking them out into boxes or other pans as soon as they are large enough to handle, care being taken to give them plenty of air and keep them near the glass. As soon as they are well established and growing freely they should be potted up in small sixties, in light rich soil, and grown on steadily until all danger of frost is over. They are not plants for dotting about on borders, but for planting in bold masses in the sunniest positions in the garden. There are both single and double kinds of all colours, from crimson and white to pure yellow.

Alger Petts.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

There was a splendid show on February 22, consisting largely of orchids, rock and alpine plants, with forced shrubs. So great was the crowd during the afternoon that locomotion was most difficult, and this, too, at the time that the lecture room was equally full.

FLORAL COMMITTEE.

Messrs. Sutton and Sons, Reading, arranged a large display of primulas in five-inch pots. The colours were blocked in masses, the whole making a bright exhibit. Needless to say, the plants were in the pink of condition, each being quite a specimen in its way. The most conspicuous were Crimson King, Giant White, especially good in truss, Giant Crimson, and Salmon Pink, while the variety Coral Pink was most pleasing in colour. The same firm also presented groups of bedding hyacinths, arranged according to their colour scheme, thus we had semi-circular groups of mauve shades, pink, and pale blue, red and cream, and so on, the combinations being most pleasing and effective. Tulip Fairy Queen was arranged between the groups, and acted as a foil to the hyacinths.

From Messrs. Wm. Paul and Son, Waltham Cross, came a fine group of camellias, chiefly as specimens in pots, while the foreground was occupied with cut flowers in boxes. The plants were particularly well flowered, and evidently had not suffered through travelling. Fine plants of Alba plena, Madame A. Verschaffelt, Mercury, Mars, Chandleri, and Tricolour were noted, while in the boxes were seen Mathotiana, Fimbriata, and Minerva as the most prominent varieties. Hardy flowers were well staged by Messrs. Barr and Sons, Covent Garden, the leading features being hellebores in variety, irises, Cyclamen coum, and Polyanthus narcissi, well flowered in bowls, the whole being arranged with appropriate plants and foliage.

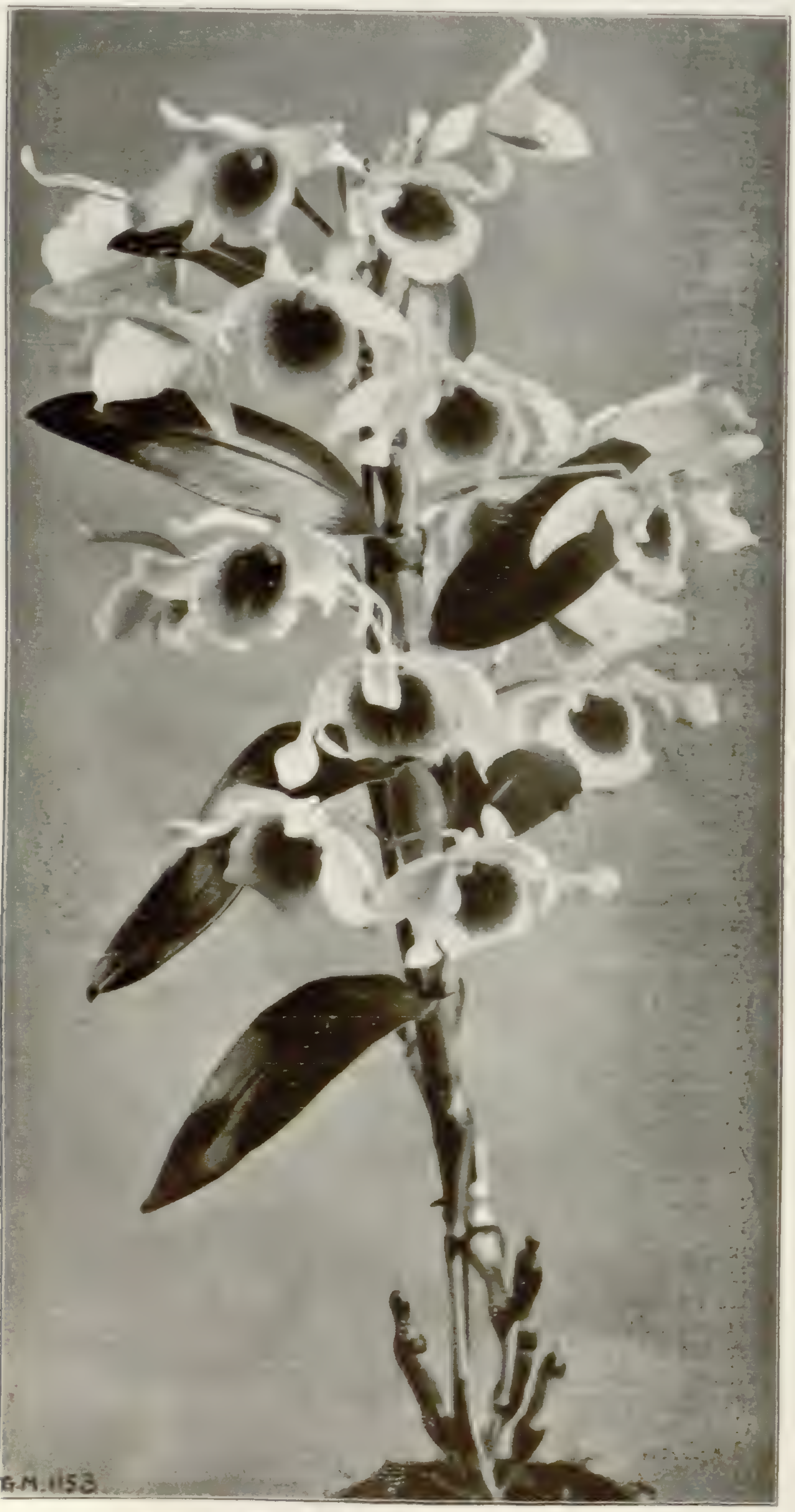
Messrs. H. Cannell and Sons, Swanley, presented a nice table of cut zonal pelargoniums, the colours being simply wonderful for the season, the most conspicuous being London, Dublin, New York, and the Duke of Connaught, but all were excellent.

The Misses Hopkins, Mere Gardens, Shepperton-on-Thames, had a small exhibit of spring flowers, such as hellebores, primroses, and saxifragas, arranged in a natural style.

From Mr. J. Strange (gardener, Mr. W. Dyson), Sulhampstead, came an exhibit of twelve cyclamen in various colours, which were reputed as scented; in any case, the plants were well grown.

A fine exhibit of ferns was that from Messrs. J. Hill and Son, Barrowfield Nurseries, Lower Edmonton. It occupied the top end of the hall, and was noticeable for the fine specimens it contained. Dicksonia antarctica, Nephrolepis todeaoides, Platycerium grande, Nephrolepis exaltata superba, were most conspicuous, while a collection of decorative ferns were used to good effect.

Hardy flowers came from Messrs. G. Jackman and Son, Woking. The natural arrangement being built up with hellebores, Cyclamen coum, primulas, some nice clumps of ericas, and saxifragas.



DENDROBIUM MRS. FENTON HORTON.

A beautiful hybrid, shown by **Sir J. Colman, Bart., at R.H.S. Meeting on Tuesday last, when it received an Award of Merit.**

Groups of forced shrubs and trees occupied one side of the hall, and made a fine feature. Messrs. James Veitch and Sons, Lim., Chelsea, arranged an effective group, in which the wistarias were most telling. Large plants of Forsythia suspensa, lilacs in variety, with a fine clump of Prunus pseudo-cerasus Watereri were very fine; while plants of Choisya ternata were conspicuous, the bamboos employed with the ferns and other foliage plants all added to the effect.

Messrs. R. and G. Cuthbert, Southgate, had a fine group of Azalea mollis, grouped in colours, and numbers of Acer palmata seedlings were employed to produce a bronzy effect, the arrangement throughout being well carried out. Tall dot standard Prunus triloba, lilacs, etc., with the tall cocos used as a background all added to the effect.

A similar group came from Mr. L. R. Russell, Richmond, who had a well-arranged exhibit of Azalea mollis in variety, lilacs in splendid form, Azalea amoena Hexe, and Forsythia suspensa.

Messrs. R. Gill and Sons, Penryn, Cornwall, had a table of rhododendrons, which had been cut in the open air without the aid of any protection. The trusses were well developed, and the best were R. barbatum, R. H. Shilston, R. Harrisi, and a number of R. arboreum seedlings, together with some fine bunches of Cyclamen coum, and Violets Princess of Wales.

Messrs. J. Cheal and Sons, Crawley, were represented with a most artistic rock arrangement, on which were placed Rhododendron praecox, Azalea Lady [illegible], a Japanese variety with semi-double lilac flowers, while tulips, hellebores, irises and saxifragas were judiciously employed.

From the Guildford Hardy Plant Company, Guildford, came a natural display of rock and alpine plants.

Mr. H. Burnett, St. Margaret's, Guernsey, staged a beautiful display of carnations, which were remarkable for size and brilliant colouring. The most striking were W. J. Hunter, The Mikado, Mrs. H. Burnett, R. F. Felton, Britannia, and some very promising seedlings.

A very pleasing exhibit of ferns came from Messrs. H. B. May and Sons, Upper Edmonton, most of which were specimen plants. The most prominent were Dicksonia antarctica, D. squarrosa, Nephrolepis todeaoides, N. superbissima, and Pteris Summersi; while the smaller plants were chiefly of a decorative character, the whole forming a very fine table.

Mr. W. Seward, The Beeches, Hanwell, staged a splendid table of cyclamen in five-inch pots. The plants were remarkably well grown, and the colours embraced all the popular varieties, a most creditable example of cultural skill.

Another fine exhibit of carnations in vases came from Messrs. W. Cutbush and Sons, Highgate. The same firm also had a nice exhibit of hardy plants, arranged in natural style. Here were seen Arabis rosea, Anemone blanda, Tulipa Kauffmani, and some good forced shrubs, made a most attractive background.

Mr. G. Reuthe, Hardy Plant Nursery, Keston, made an interesting exhibit of hardy plants. The rhododendrons, with their handsome foliage, were very fine. Other features were Iris Bakeriana, crocuses in variety, anemones, and good coloured hepaticas

A good table of freesias came from Mr. H. S. Barton, Hewsholt, Liphook, Hants (gardener, Mr. Streeter), who also utilised yellow tulips, and white Italian hyacinths with decorative effect.

Messrs. G. Mount and Sons, Lim., Canterbury, sent a pretty exhibit of cut roses. They were staged in Messrs. Mount's well-known style. The high colour and beautiful foliage being much admired, the chief varieties being Joseph Lowe, Richmond, Mrs. W. J. Grant, and Liberty; also as a centrepiece, a seedling unnamed, rich deep apricot in colour, a long pointed bud, and evidently a good grower, reputed to be a cross between Papa Gontier and Madame Hoste.

Messrs. James Veitch and Sons had a whole table filled with cyclamen, arranged in blocks of separate colours, the most prominent being Salmon, Giant White, Brilliant, Excelsior, and the butterfly forms; while on the opposite table were to be seen Boronias heterophylla and megastigma, Coleus thyrsoideus and Primula Kewensis, with some well-flowered plants of Azalea indica. Quite a new feature was instituted by Messrs. J. Carter and Co., High Holborn, who produced a natural waterfall, with a pool, around which were arranged with much taste primulas, hepaticas, hardy ferns, scillas, and a variety of other plants, the whole forming a most attractive exhibit.

From Messrs. S. Low and Co., Bush Hill Park, N., came a charming exhibit of carnations, arranged in vases and bowls. The most striking were Royal Purple, Mikado, White Perfection, Rival, Marmion, and Britannia. The rest of the exhibit was comprised of azaleas in variety, cyclamen, ericas, and daphnes.

Messrs. Heath and Co., Cheltenham, arranged a rock and alpine exhibit, on which were arranged a number of suitable plants, while from the Craven Nurseries, Clapham, Yorks, came a similar exhibit, in which the saxifragas were the chief features; the variety S. Burseriana Gloria was most conspicuous.

Messrs. T. S. Ware, Lim., Feltham, made a nice display of rock and alpine plants. A clump of Iris fimbriata, with a large number of hellebore hybrids, were quite a feature, as were also the saxifragas and Pulmo-

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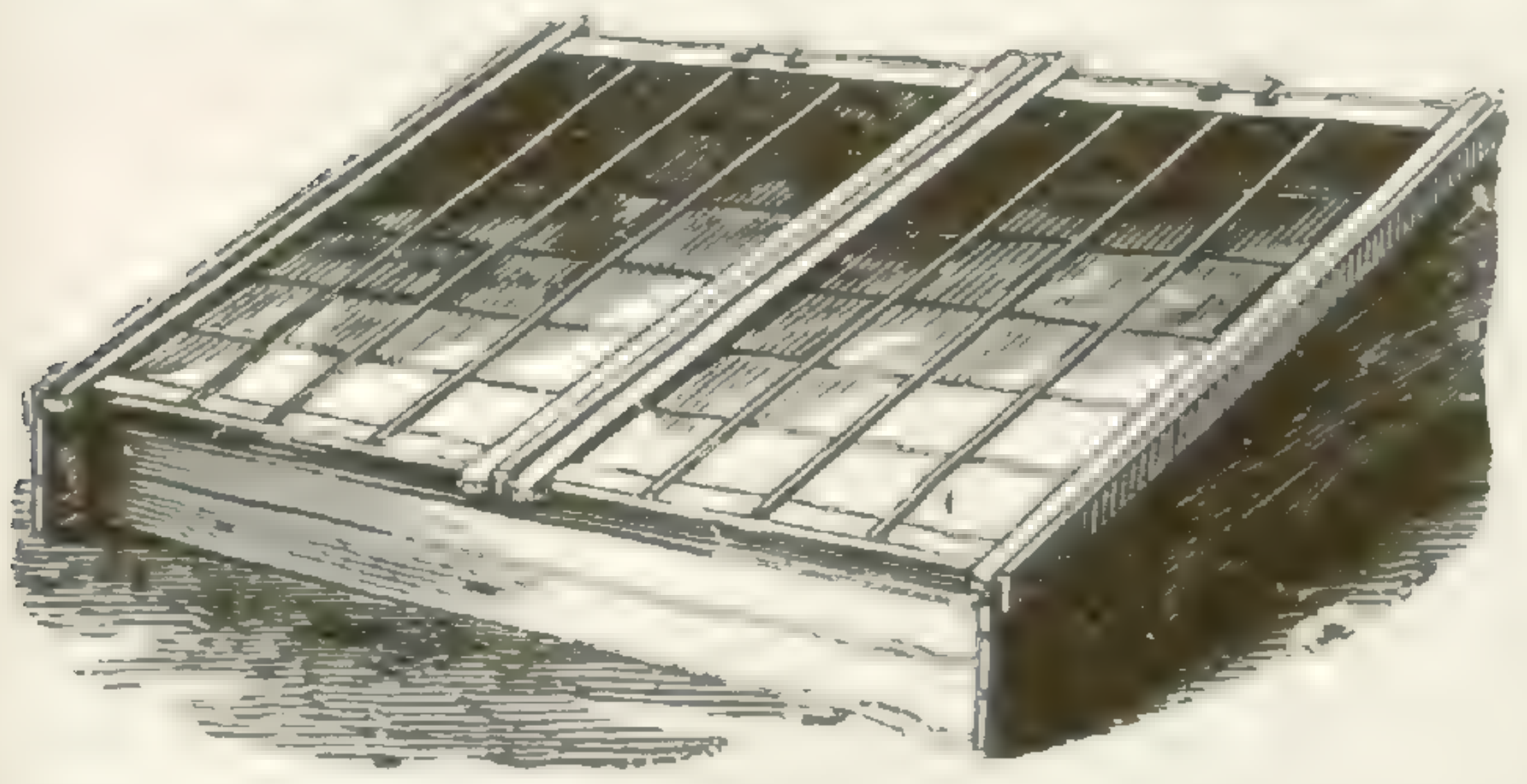

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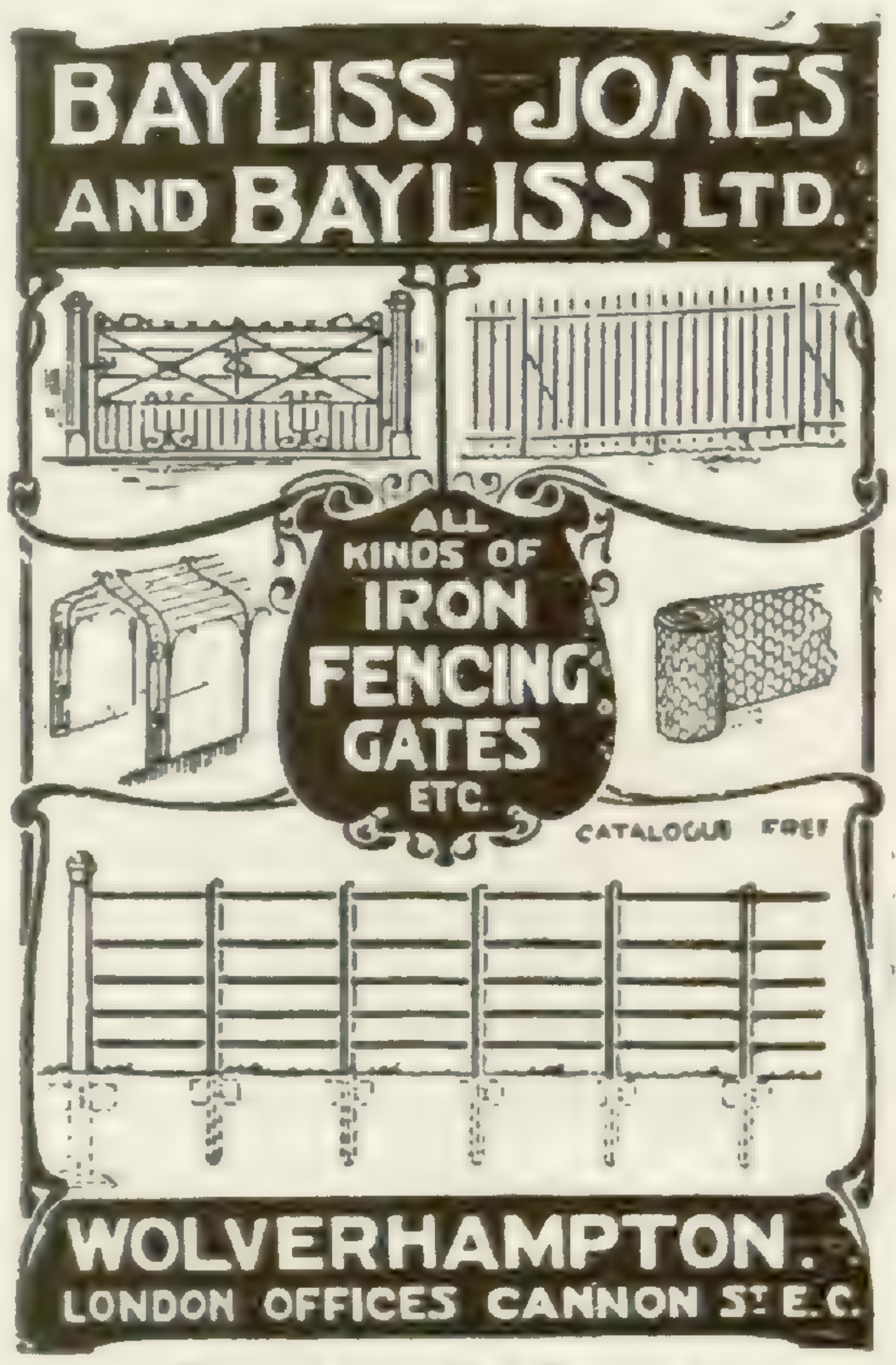

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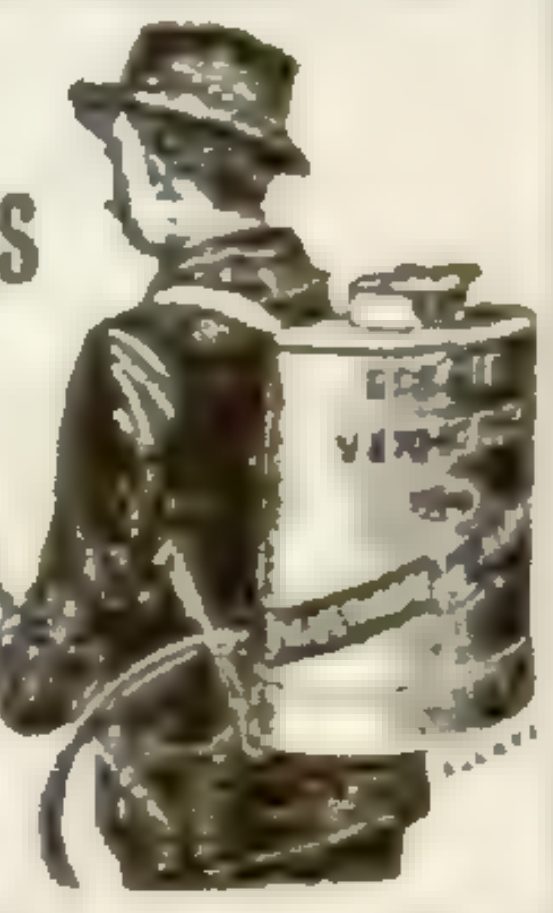

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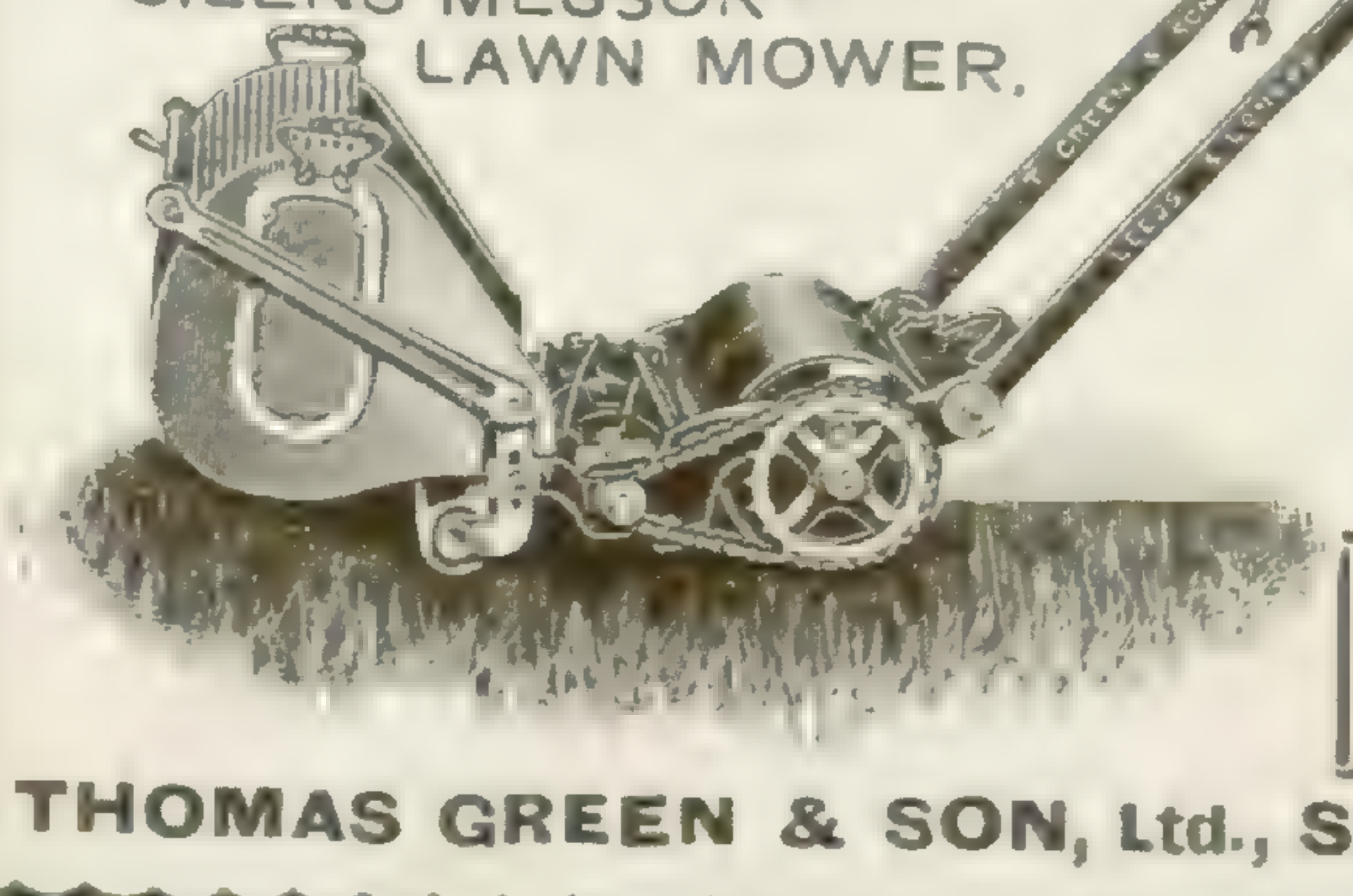

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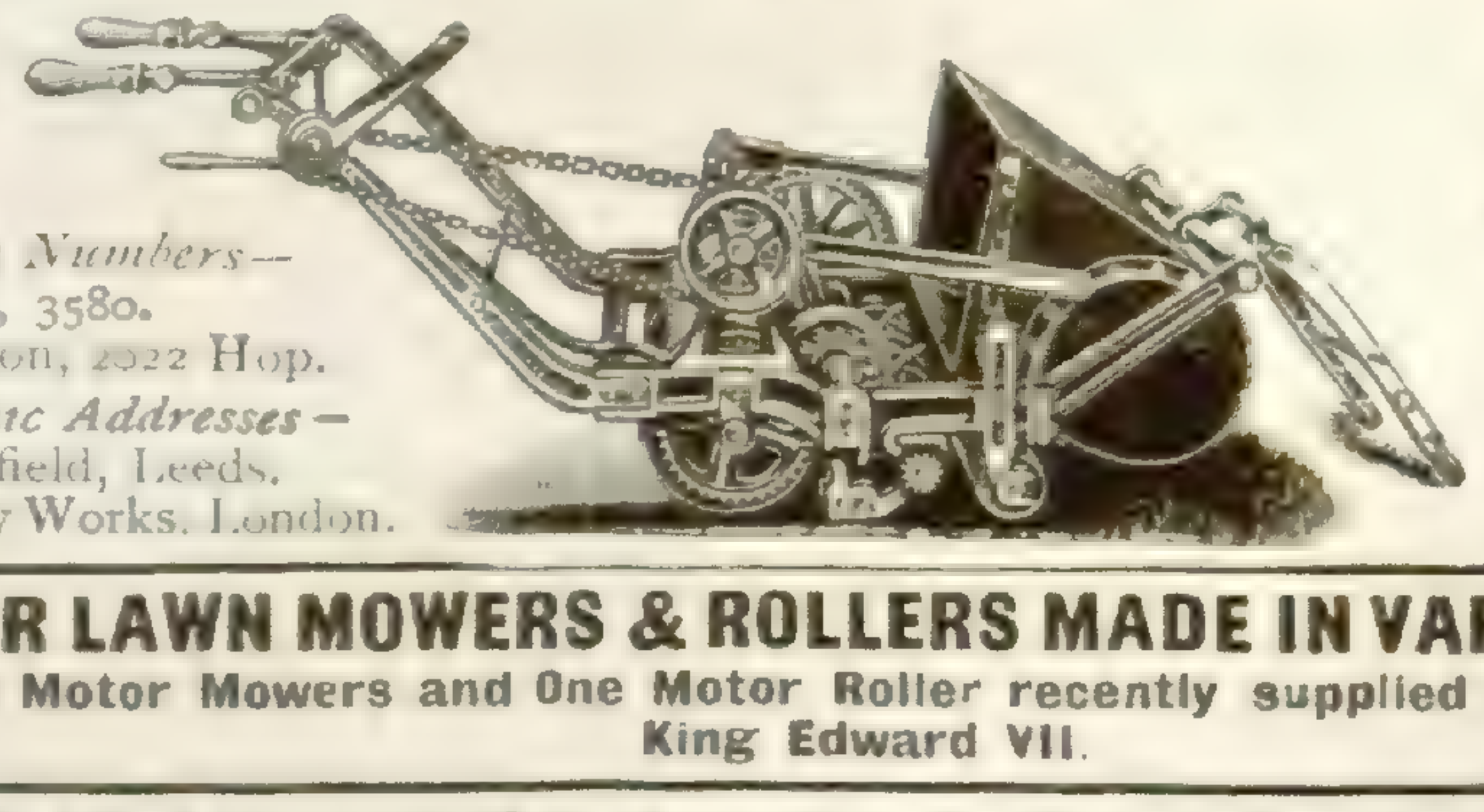

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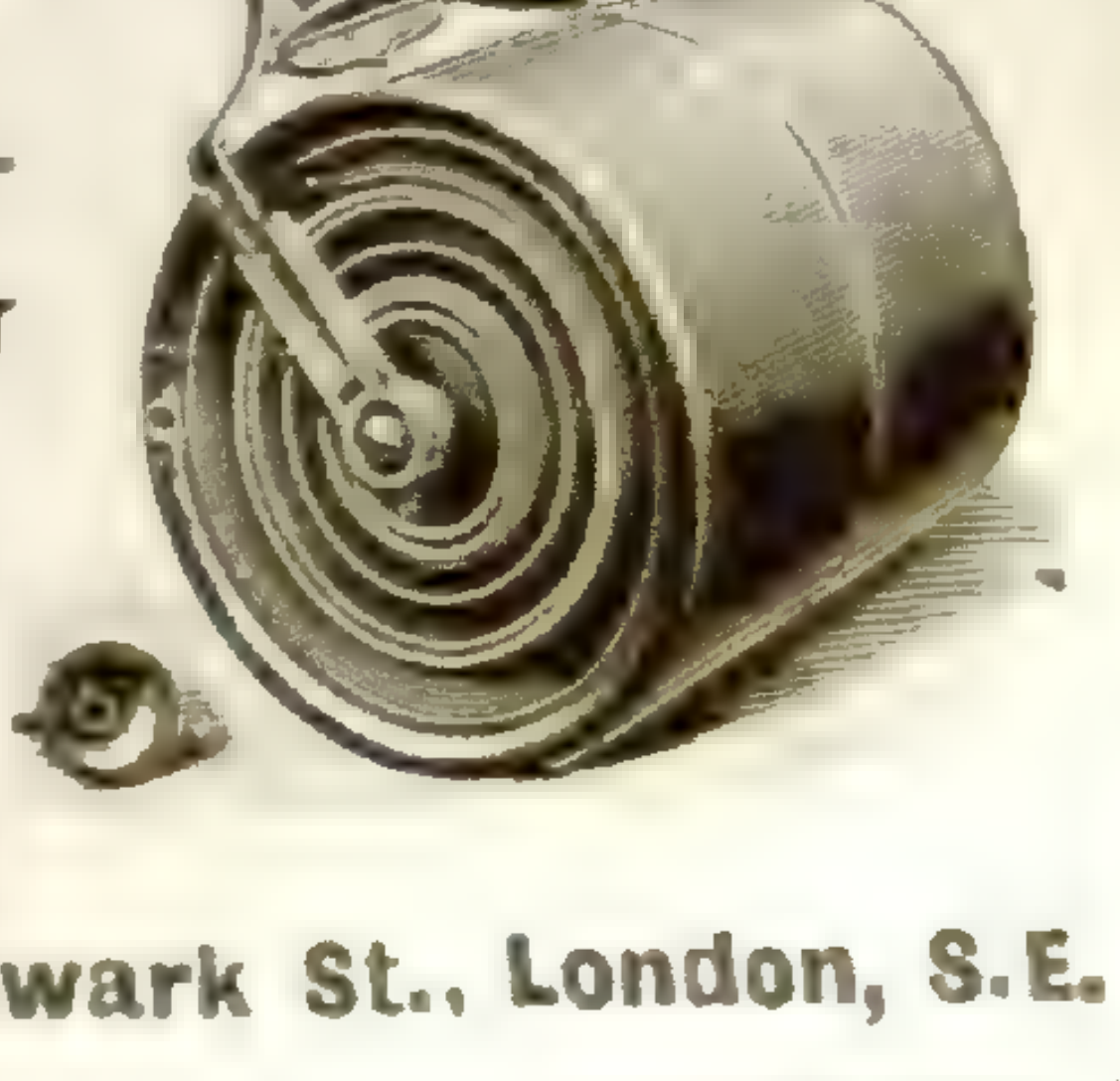

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naria rubra, which was represented by a large clump.

FRUIT AND VEGETABLE COMMITTEE.

This body had very little to do on this occasion. A number of seedling apples were submitted, but there was nothing left for the Press or general public to inspect, as no awards were made, it must be assumed that they were not considered worthy of recognition.

A very interesting exhibit of leeks came from the R.H.S. Gardens at Wisley. The whole collection gave evidence of cultural skill; perhaps the best were Giant Italian Winter Leek, Ayton Castle, Musselburgh, Barr's No. 2, and Barr's Selected Prizetaker.

Mr. W. Poupart, Twickenham, staged a fine exhibit of bottled fruits, which was composed of a large variety of plums, gooseberries, currants, raspberries, loganberries, peaches, and similar subjects. The whole were in perfect condition, and admirably staged.

Messrs. Sutton and Sons, Reading, had a fine exhibit of their broccoli Superb Early White, arranged in baskets. The heads were of medium size, good in colour, and what is of more importance still, had received no protection whatever.

ORCHID COMMITTEE.

The finest feature of the meeting was a superb bank of orchids from Sir J. Colman, Bart., Gatton Park, Surrey (gardener, Mr. J. Collier). Dendrobiums were, perhaps, the chief feature, and they were utilised freely throughout the entire group. From a purely cultural point of view, they were simply wonderful; while with the skill displayed in the grouping the whole formed one of these valuable exhibits seen from time to time at the hall. The huge central portion was formed with long racemes of calanthes in variety, with large plants of Odontoglossum Edwardsi, while the beautiful Spathoglottis Colmani were interspersed freely between them, the whole rising out of a bed of ferns and moss. Of the dendrobiums noted were D. Ainsworthi Hazelton var., D. Wiganianum aureum, D. Melanophelmum, D. nobile alba in quantity, D. Chessingtonensis, and the beautiful D. Lady Colman. Well-flowered pans of Cœlogyne cristata Lemoinei, some beautiful examples of miltonias, Sophro-lælia Marriottiana, with rich flowers; and Cymbidium Gattonense, Odontoglossum Wilckeanum, Odontioda Bradshawiæ were conspicuous. In fact, the whole group was a great source of admiration. From Messrs. Charlesworth and Co., Haywards Heath, came an exhibit of fine quality. Odontioda Keighleyensis was very rich in colour, O. Charlesworthi was in fine condition, O. Bradshawiæ was also noted, as were also fine examples of Miltonia Bleuana var. Lælia cinnabarina, and L. c. Hypatia, very rich in colour; some very good cattleyas were also seen in this group.

Messrs. Sander and Sons, St. Albans, also arranged an exhibit in their best style. The pretty little Dendrobiums velutinum with Odontoglossum Black Prince, and Odontioda cupreum. Dendrobium Phalænopsis Schroderianum formed a pleasing group, exhibiting many shades. Odontoglossums in variety, cattleyas, and the quaint Pleurothallis Roezli were all good.

From Messrs. Stuart Low and Co., Bush Hill Park, came a display of dendrobiums in variety; Cattleya Trianæ Monarch was very fine, as were also examples of L.-c. Lucasiana, Odontoglossum nebulosum, Cattleya Schroderæ, and a variety of cypripediums.

Messrs. Mansell and Hatcher, Lim., Rawdon, Yorks., staged some good dendrobiums and cypripediums in variety, a nice piece of Brasso-cattleya Mendelli Digbyana was pure white, while Cypripedium Leeanum Purity was very distinct.

Mr. E. V. Low, Haywards Heath, exhibited cattleyas in variety, Odontoglossum crispum Raymond Crawshay, with a few cypripediums, in which the var. Surprise was most notable. Mr. H. T. Pitt, Stamford Hill, sent Cymbidium Lowigrinum Rosslyn var., citron yellow, with the lip beautifully marked with purple. From Mons. Mertens, Mont St. Amand, Ghent, came a table of choice and well-grown odontoglossums, superb in colouring; also a few cattleyas.

Messrs. James and A. A. McBean, Cooksbridge, staged Cymbidium insigne, odontoglossums in variety, well grown, also cypripediums and Cattleya Schroderæ.

Mr. James Cypher, Cheltenham, had a group particularly rich in cypripediums, which included C. Thomsoni, C. Actæus, C. chrysotranum, and C. Master-exul, a beautiful variety of Lycaste Skinneri, and some good dendrobiums.

CERTIFICATES AND AWARDS.

First-Class Certificates. — To Odontoglossum splendens, from Messrs. Sander and Sons, St. Albans.

Award of Merit.—To Odontoglossum eximium E. C. Rogerson, from Mr. E. Rogerson; Dendrobium, Mrs. Fenton Horton, from Sir J. Colman, Bart.; Odontoglossum Black Prince, from Messrs. Sander and Sons; Cattleya Schroderæ, The Prince, from Mr. H. S. Goodson, Putney; Lisa lacera multifida, from Messrs. Charlesworth and Co., Haywards Heath; Odontoglossum Ceres, from Messrs. Charlesworth and Co.; Carnation Mrs. Tatton, from Mr. H. Burnett, Guernsey.

MEDALS.

Gold.—Sir J. Colman, Bart., for group of orchids; Messrs. Jas. Veitch and Sons, Lim., Chelsea, for forced trees, etc.

Silver-Gilt Flora.—Messrs. R. and G. Cuthbert, Southgate, for azaleas, etc.; Messrs. J. Hill and Son, Edmonton, for ferns; Mr. W. Seward, Hanwell, for cyclamen; Miss Gundry, Foots Cray, for water colour drawings.

Silver-Gilt Banksian.—Messrs. W. Cutbush and Sons, Highgate, for alpines, etc.; Messrs H. B. May and Sons, Upper Edmonton, for ferns.

Silver Flora.—Messrs. Charlesworth and Co., for orchids; Messrs. Sander and Son, St. Albans, for orchids; Messrs. Stuart Low and Co., Bush Hill Park, for orchids; Mr. H. Burnett, Guernsey, for carnations; Messrs. J. Gill and Son, Falmouth, for rhododendrons; Messrs. Stuart Low and Co., Bush Hill Park, for cyclamen, etc.; Mr. W. Paul, Waltham Cross, for camellias; Mr. L. R. Russell, Richmond, for flowering shrubs; Messrs. Sutton and Sons, Reading, for primulas and hyacinths.

Silver Banksian.—Messrs. Carter and Co., High Holborn, for alpines; Messrs. Barr and Sons, Covent Garden, for bulbous plants; Messrs. J. Cheal and Sons, Crawley, for alpines; Messrs. G. Mount and Sons, Canterbury, for roses; Mr. G. Reuthe, Keston, for alpines; Messrs. Cypher and Sons, for orchids; Mr. E. V. Low, Haywards Heath, for orchids; Messrs. Mansell and Hatcher, Rawdon, for orchids; Messrs. J. and A. A. McBean, Cooksbridge, for orchids; Mr. W. Poupart, Twickenham, for bottled fruits.

Cultural Commendation.—The R.H.S. Gardens, Wisley, for collection of leeks; to Messrs. Sutton and Sons, Reading, for broccoli.

Beckenham Horticultural Society.

On Friday, the 18th inst., Mr. W. Rowson, of Falkland Park Gardens, South Norwood, lectured to a very full room on "Manures, Organic and Mineral," Mr. Murrells presiding. The lecturer first drew attention to farmyard manures, their composition and treatment in making. Where only consisting of horse manure, as is the case in many places, garden refuse, and even garden soil, should be mixed with it, and well compressed to lessen the possibility of its becoming "fire forged." If cow and pig manure form a portion, they being of a cooler, moister nature, would temper the horse manure. Of phosphatic manures, superphosphate of lime was best used for farm purposes, and bonemeal for the garden proper. Sulphate of potash had given good results for onions. Kainit was advised for asparagus beds. Something was said of nitrate of soda, sulphate of ammonia, Peruvian guano, their origin and how obtained. A good discussion followed, and at the close a hearty vote of thanks was accorded Mr. Rowson.

Mr. J. Green, a member of the committee, who is leaving the neighbourhood to take up duties near Salisbury, was presented with a certificate, embodying the best wishes of his co-workers here.

Bournemouth Gardeners' Association.

FEBRUARY 15.

On the above date Mr. Herbert W. Ely, of the Victoria League, gave a very interesting lecture on "Tasmania, and its Fruit Industry." There was a large attendance of members and their friends, as this lecture was open to the public also. Mr. R. V. Sherring, F.L.S., occupied the chair and introduced the lecturer, who gave some very useful and interesting information about a country which, he said, had a climate very similar to that of England, only not quite so variable, and, furthermore, the nights, even in the hottest part of the year, were always cool, never unpleasantly close, as is sometimes the case in this country. Tasmania, a little less in size than Ireland, had a Government that gave every assistance to horticulture, sending experts out to give advice both to persons who are established in their business and to others who are intending settlers. Mr. Ely gave the average temperatures as follows: Spring, 54 degrees; summer, 62 degrees; autumn, 55 degrees; and winter, 45 degrees; with a rainfall for the whole year of from 30 to 35 inches. The population was 187,000, and the annual commerce of the country about £9,000,000 sterling. In many parts of the country the scenery was most charming, and one could quite understand it was so from the many views thrown on the screen.

The lecturer added that nearly every vegetable and cereal grown in England was also to be found cultivated in Tasmania, and even the thrush, blackbird, and nightingale were being introduced there. In the hop-growing districts near the banks of the Derwent, a very fine river, the plants were now mainly trained to wires and strings, instead of poles, and, although the initial cost was greater, the system proved economical in the end. High-class dairying was a great feature of the country, and also mining. The flora of some parts was most beautiful; the fern gullys, as shown on the screen, where groups of tree ferns grew close together, with others as undergrowth, to trees on the hill slopes were beautiful in the extreme. Many of the hard-wooded trees grew to a height of 250 to 300ft., and were used for piles; one of the latter, called the Tasmanian walking stick, 100ft. long, was brought to Dover.

Mr. Ely said there was a good opening for gardeners, mainly for single-handed places, and for groom-gardeners, and these were paid at the rate of 25s. to 30s. per week, with their keep, etc., in addition. Capable gardeners were paid higher wages still, the work being nearly all in the open air. But, said the lecturer, some gardeners failed because they refused to adapt themselves to the local conditions. If a man must succeed, he should lose some of his English notions; for their failures they only had themselves to blame.

Of fruit growing in Tasmania apples predominated, though pears did well, and were extensively grown, as well as the small bush fruits, such as raspberries, gooseberries, currants, and also strawberries. The export trade was about one million half-bushel cases, representing £400,000 annually, a very big industry. Land could be purchased at a cost of 6s. 8d. per acre, with payment extending over a period of fourteen years, or at 5s. per acre if paid for at once. The cost of clearing and making the ground fit for planting varied from £5 to £7; in some instances £10. The richest land was not found to be the best for apple culture

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as too much wood resulted; poor soil with a clayey subsoil was the best.

About one dozen varieties of apples were sufficient to grow for market purposes, and it was curious to note that many varieties were similar to those grown, and thought highly of, in England, such as Ribston Pippin, Alexander, New York Pippin, also Prince Albert, Sturmer Pippin, Stone Pippin, etc. A clear return of 2s. 6d. could be realised per bushel, or about £40 per acre. The lecturer advised anyone who intended to go out with a view to fruit culture to possess a small capital, and to work on a neighbour's fruit farm for a season at least before embarking on his own. The growers did not allow their trees to bear until they were about seven years old, and then they were very profitable, yielding from three hundred bushels in a bad season to over one thousand bushels in a good one, per acre. Small fruits were grown under the apple trees, pruning, and especially summer pruning, being freely done.

After the discussion which followed the lecture, a hearty vote of thanks was accorded Mr. Ely and the Victoria League.

Birmingham Gardeners' Association.

The annual convivial reunion of the members of the association occurred on Wednesday evening, February 16, at the Exchange Restaurant, Stephenson Place, when it was attended by upwards of seventy of the members and lady friends, and it proved to be one of the best events during the annals of the society. After partaking of an excellent tea, and sundry accompaniments, the guests were fully fortified to listen to vocal and musical entertainments, also to other amenities.

Mr. T. Humphreys occupied the chair, and in submitting the Royal toast in appropriate terms, naturally alluded to King Edward VII.'s innate love of and promotion of gardening, and the vast progress that had been made in horticulture during the last half-century. It was also gratifying to observe a material increase in the membership of the Birmingham Gardeners' Mutual Improvement Association, especially amongst the younger members of the horticultural fraternity.

The toast of "The Association" was proposed by Mr. Robert Sydenham, and Mr. Walter Jones responded in appropriate terms. The other speakers included Messrs. C. H. Herbert, Alfred Cryer, and W. L. Deedman.

National Vegetable Society.

A committee meeting of the above society was held at the Horticultural Hall on the 22nd inst., Mr. A. Dean, V.M.H., presiding. Messrs. G. Gordon, O. Thomas, E. Beckett, C. Foster, S. Mortimer, H. Markham, F. Harvey, G. Wythes (treasurer), and E. G. Quick (hon. secretary), being present. The Chairman read several letters, and referred to the schedules which had been sent to each member. The Treasurer presented a financial statement, and reported that there had been a considerable accession of new members since the last meeting, and that there were now over twenty vice-presidents. Several accounts were passed, and the Secretary reported upon various matters of interest. A sub-committee was appointed to view the trials of early cabbages, kindly undertaken by Mr. C. Foster, near Guildford. The Erdington Allotments Association, Birmingham, wished to be affiliated with the society, and the terms for affiliation of cottage gardening and allotment societies was fixed at 10s. yearly, and to ordinary horticultural societies, 20s. An interesting discussion took place regarding trials of vegetables this summer, and Mr. C. Foster kindly undertook a trial of first early potatoes, and dwarf early peas, the latter not to exceed 2ft. in height. New members were nominated and various business details dealt with.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

BLACK MOULD ON ORCHID LEAVES.—M. E., Jersey: The blackish markings are evidence of the presence of Cladosporium orchidearum, a fungus that apparently attacks only the decaying leaves, and is therefore not really harmful. Remove all decaying leaves, and also decaying portions of otherwise good leaves, and burn them. Cleanliness is one of the essentials of good orchid culture.

LEEKS.—J. B. W., Surbiton: For your purpose it will be quite early enough to begin by sowing seeds in shallow boxes in March, and placing the boxes in a temperature of about 60 deg. Gradually harden off the seedlings, and when they are about three inches high, or rather more, prick them out in a bed of rich soil in a sheltered position, placing them four inches apart. Early in June transplant into shallow trenches of deeply-worked and rich soil; plant deeply, using a dibber for the purpose. The usual method of watering, feeding, and blanching should be followed to secure the best results. Remember to sow the seeds thinly in the boxes.

WRITING ON ZINC LABELS.—S. W., Greenwich: Try bichloride of platinum for writing the names of trees upon the zinc labels.

POMPON DAHLIAS FOR GARDEN DECORATION.—S. O. H., Oxford: We have frequently drawn attention to the fact that nearly all the pompon dahlias, if allowed to grow freely, and planted in good but not very rich soil, produce abundance of blooms suitable alike for vases and garden decoration. Among the many varieties we may mention the following as especially useful for garden decoration: Crimson Gem, Dolly Keith, Edith Seale, Firefly, Harbinger, Ideal, Bugler, Norah, Ringdove, Snowflake, Spitfire, and The Duke. As soon as you can obtain your plants, probably at the end of April or early in May, pot them into five-inch pots, and grow them in a cold frame until at the end of May or early in June they may be planted out where they are to flower. This little extra trouble will be amply compensated for by finer plants, earlier flowering, and a longer season of usefulness.

GRAFTING WAX.—G. H. C., Malvern: A good old prescription for grafting wax, and one used in many nurseries is as follows: Melt 2lb. 12oz. of resin and 1lb. 11oz. of Burgundy pitch together in an iron pot; when melted and well mixed, add 9oz. of suet that has been melted separately and stir it in well. Follow this with 8oz. of red ochre, adding it little by little, and stirring well. The whole should be kept hot during the process of mixing, and should be used in a warm state, as it is then easily worked by means of a brush or rag.

FREESIAS.—F. H., Stamford: Remove the old flowering stems, and place the plants in a warm greenhouse on a shelf in a light position. Give liquid manure occasionally, and syringe the growths to keep them clean. When the foliage shows signs of turning yellow reduce the water supply gradually until when the growths die down no water is given at all. At this stage a high shelf in a greenhouse, where the sun can reach the pots and play upon them for most of the day, will suit the freesias admirably, for nothing is so conducive to free flowering as thorough ripening after a season of free growth

BLACK-STEMMED PELARGONIUMS.—S. E. C., Alderley: Some cultural error has weakened the plants, and rendered them open to an attack of the pelargonium stem rot, a fungus named Fusarium Pelargoni. The effect of an attack is, as you suggest, to stop the plants from growing, cause the lower leaves to turn yellow, and then the stems to turn black and go rotten. You may have noticed tiny whitish patches on the decayed portions of the stems; these are the conidia bursting through the skin of the diseased stem. The disease is apt to spread badly, therefore affected plants should be burnt, except in the case of those only slightly affected, which should have the diseased portions removed. Spray the rest of the stock with weak potassium sulphide solution, or weak Bordeaux mixture, to prevent the spread of the disease.

BERICHOANE MIXTURE. — C. L. S., Littlehampton: The Berichoane Mixture is, in effect, very like ammoniacal carbonate of copper. It is made by dissolving 6½lb. of sulphate of copper in four gallons of hot water, in one vessel; and 7½lb. of carbonate of soda in sufficient hot water in another vessel. When both are cold, mix the solutions, and add 1¾ pints of liquid ammonia. This amount is of sufficient strength for use when water is added to make up 44 gallons of mixture. It is a useful fungicide for moulds and mildews.

SCARLET SALVIAS.—A. G. L., Winchcombe: Take cuttings of the young growth during March, inserting them in sandy soil in a warm pit. Grow the young plants in a greenhouse or frame until about the middle of June, when they should be placed out of doors on a bed of ashes, and in an open position, there to remain until the end of August or beginning of September when they must be re-housed. Use a compost similar to that used for pelargoniums, and remember that 6in. pots are quite large enough to flower salvias in.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

C. H. R., Drayton. — 1, Calceolaria Burbidgei; 2, Pelargonium denticulatum.

T. C. C., Redcar.—1, Aglaonema costata; 2, Aralia Chabrieri; 3, Odontoglossum Andersonianum.

T. G., Amersham. — 1, Odontoglossum Wilckeanum; 2, Sophronitis grandiflora; 3, Cissus discolor.

M. P. F., Gomshall.—1, Veronica cupressoides; 2, Cotoneaster Simoni; 3, Sparmannia africana; 4, Acacia armata.

H. S. E., Chichester. — 1, Pelargonium Clorinda; 2, Begonia Haageana; 3, B. maculata; 4, Francisea calycina; 5, Iris stylosa.

TRADE NOTE.

As an evidence of the progress which China is making as regards Western methods, it is interesting to note that the Chinese Minister in London has recently been instructed by his Government to forward a consignment of English seeds to be sown in the Province of Sze'chuan, where until recently opium was grown on a large scale. His Excellency, after several interviews with Messrs. John K. King and Sons, The King's Seedsmen, Coggeshall, gave that firm an order to despatch a quantity of such kinds of seeds as they consider suitable for the climate of China, and eight large cases of the most approved kinds of farm and garden seeds are being dispatched this month to Shanghai for forwarding to Sze'chuan

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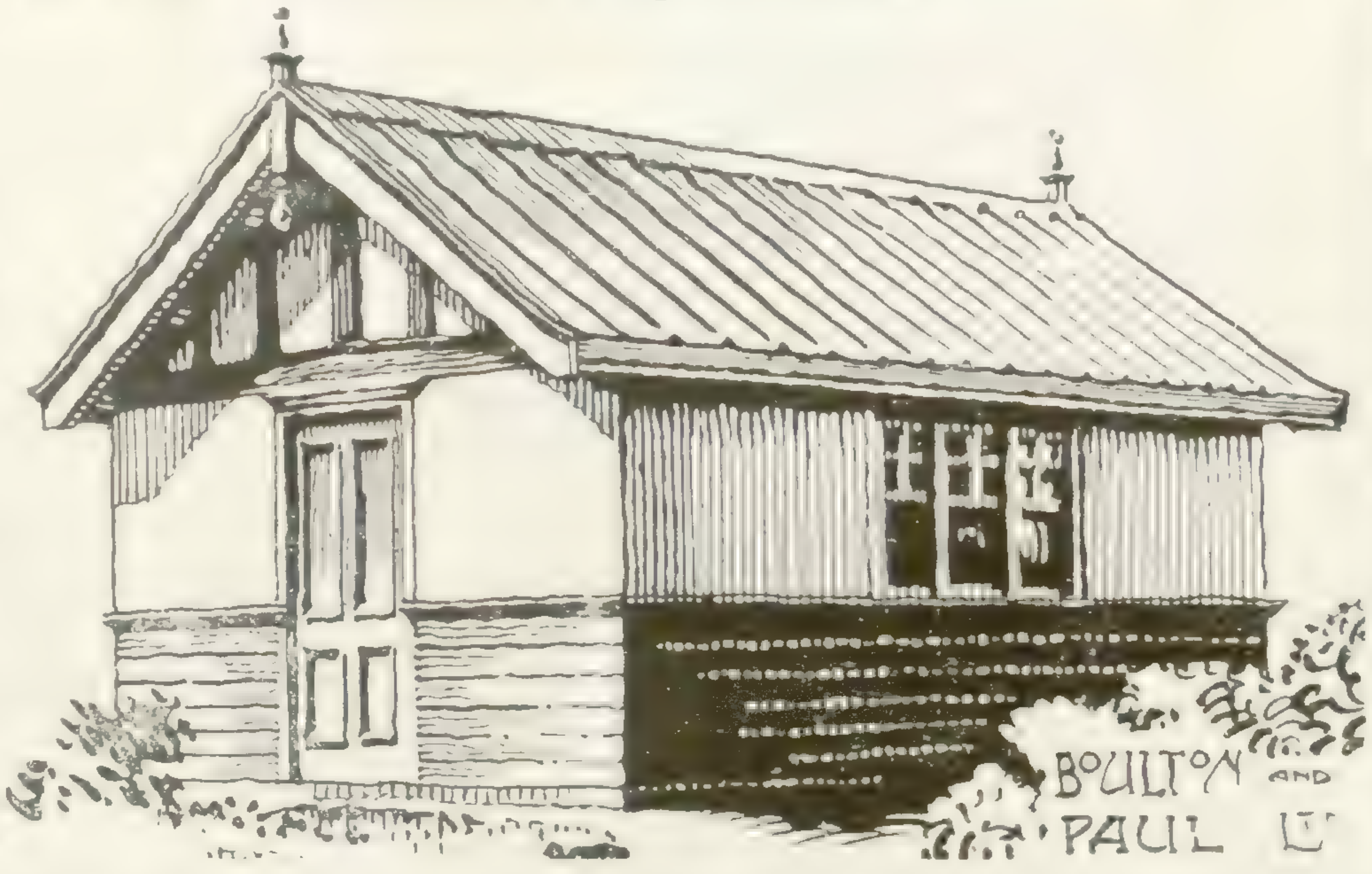

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20 seeds each of the following 12 grand varieties. POST FREE, 2/6.

Nora Unwin (pure white, waved), **St. George** (scarlet orange), **Mrs. Routzahn Spencer** (apricot pink), **Mid Blue** (deep sky blue), **Countess of Northbrook** (pale pink), **Frank Dolby** (lavender), **Audrey Crier** (salmon pink), **Prince of Asturias** (chocolate maroon), **King Edward Spencer** (crimson), **Apple Blossom Spencer** (rose and blush), **Paradise Carmine** (carmine), **Jack Unwin** (rose flaked on white).

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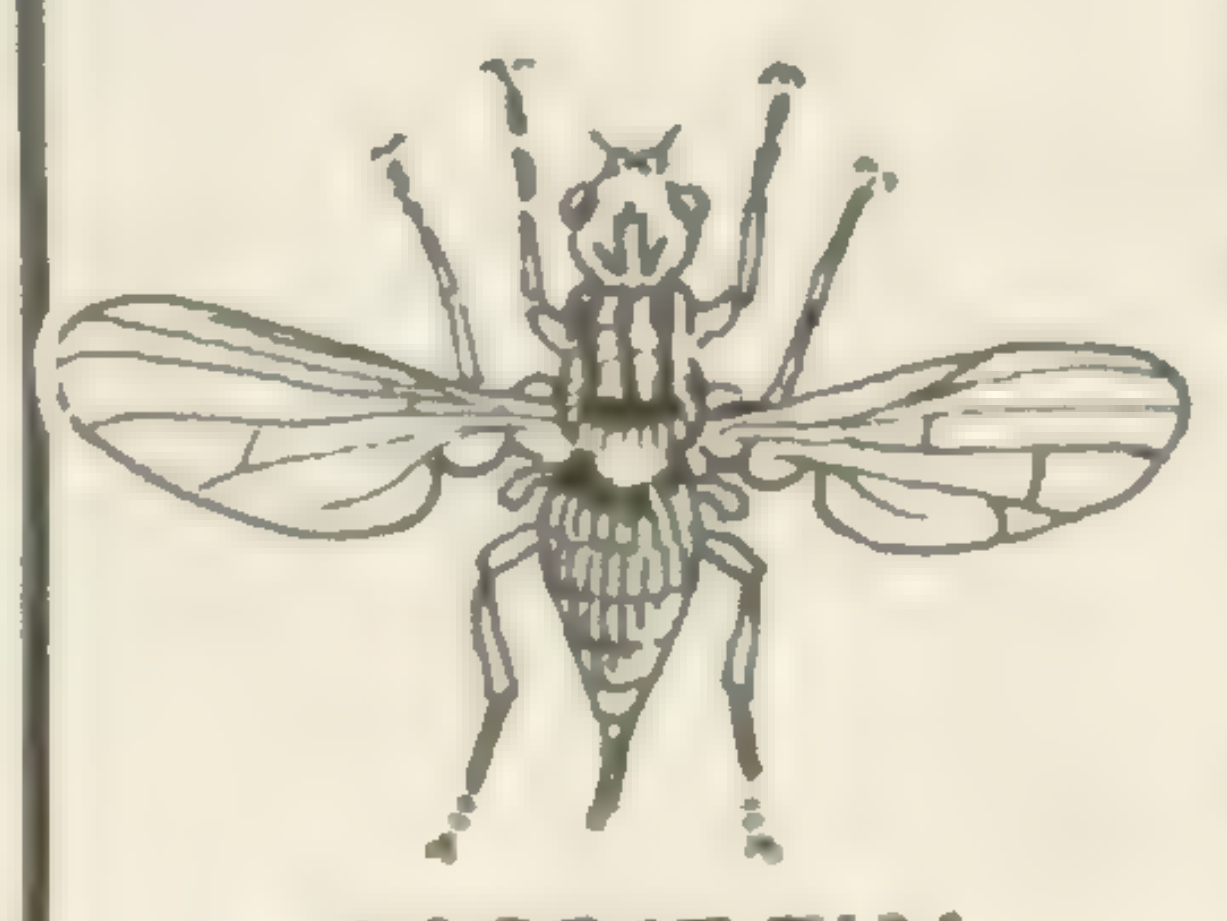

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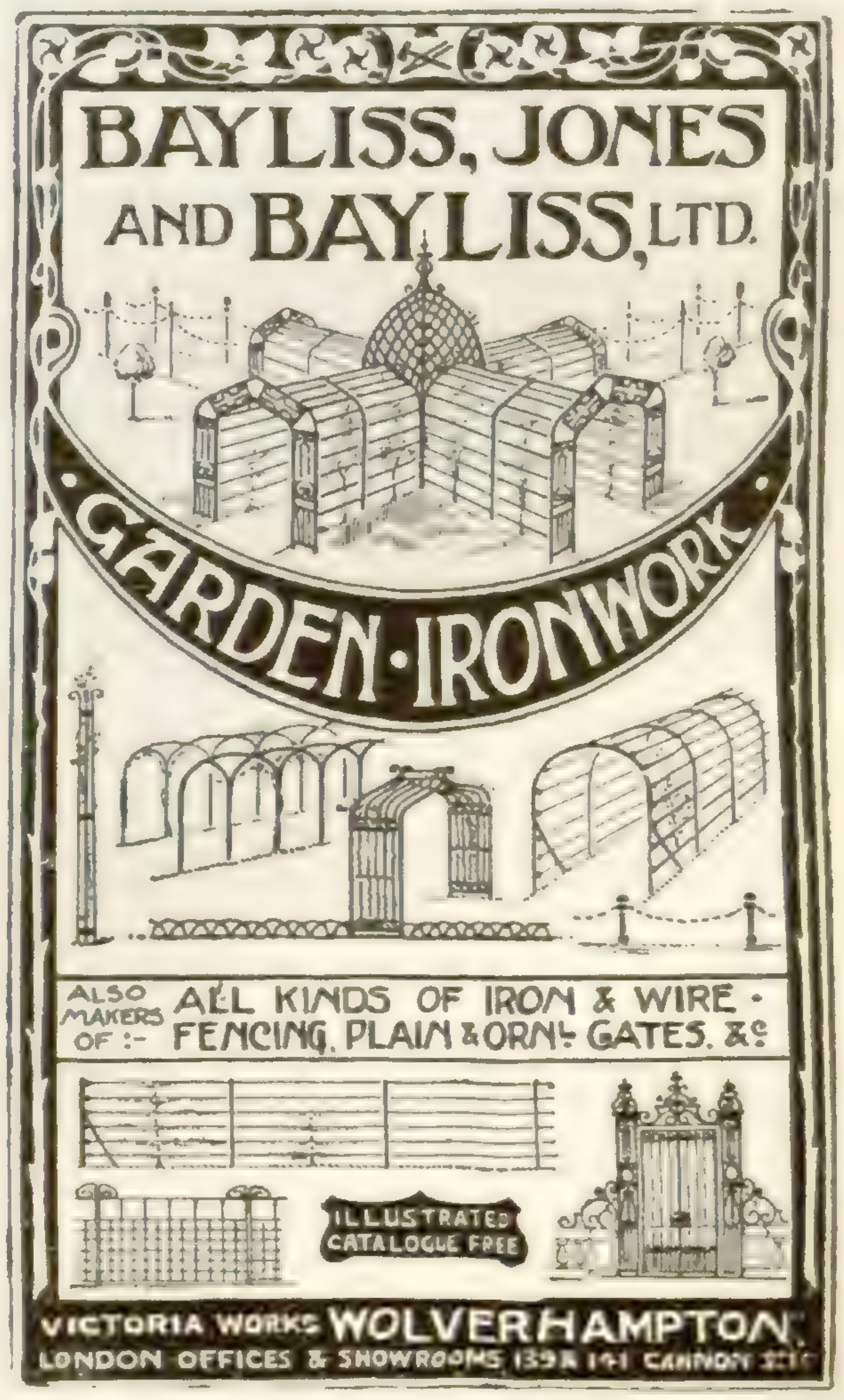
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ACTION AND MOVEMENTS OF WATER IN SOIL.

(Continued from page 132.)

◆

Rise of Water in Different Soils.

To study, the rate at which water will rise in soils of different kinds, four glass tubes three feet six inches long and three-fourths of an inch inside diameter were supported in a vertical position by a stand constructed for the purpose. The lower ends of the tubes rested in a zinc pan, in which water was kept at nearly constant depth. The samples of soil were retained in the tubes by stopping the lower ends with perforated rubber stoppers, over which were placed pieces of linen. The linen prevented the passage of the soil through the perforation in the stopper, while it permitted the free access of water.

All the soils were steam dried and sifted through a sieve containing 400 meshes to the square inch. The progress of the water upward by capillary attraction, as indicated by a change in colour, was noted daily from December 27, the date at which the experiment was started, to February 29.

An examination of the results was sufficient to impress one with the fact that when a soil is allowed to become dry, the rate at which it will lift water is then very slow, and it is because of this fact that surface tillage, which develops a dry layer at the surface of a field is so effective in checking the loss of water by evaporation. It was seen that with dry soil standing directly in water, the time required to raise water through three feet of soil varied from three days, in the case of sand, to over three months, in the case of a heavy clay soil.

In this connection it is important to remember that cultivating breaks the capillary connection between the surface and subsoil, then if a dry season should follow the evaporation from the surface is very rapid, and before capillary connection can be re-established, the surface soil will have lost much of the water it contained. This may mean the failure of crops on clayey land, which has been spring-worked. Too much emphasis cannot therefore be placed upon this point in connection with the cultivation of clay lands. The cultivation of such soils before seeding should be deep, and thorough. All clods should be broken down, and the particles of soil made as fine as possible. The finer the soil is made, the more food there is available, and the more moisture there is retained. The seed beds should be deep, clean, and moist, for the proper germination and growth of plants.

These very important facts may explain in a large measure the apparently paradoxical experience of crops suffering more from drought during dry seasons on undrained, than do those on drained land. When the subsoil is overcharged with moisture, the roots of the plants do not penetrate deeply into it, and the result is a large development of roots, and overcrowding near the surface. So when the plants become large and the demand for water is great, capillary attraction is unable to lift water from below as rapidly as it is used. Thus the soil towards the surface becomes too dry, and the crop suffers greatly from want of water when there is an abundance of it only a short distance below the surface.

On the other hand, a well-drained subsoil permits the roots to penetrate deeply at the outset, and thus overcrowding is avoided. The roots, in this way, come in contact with a large volume of soil, and do not draw the water so rapidly from any one portion. This allows capillary action to hold the soil up to a degree of moisture at which the rate of the movement is rapid, and the crop is thus better supplied by utilising water stored up more deeply in the ground. But this is not all. The surface roots, having been freed from the urgent need of gathering water, leave the surface soil more moist, and this allows the nitrifying process to go forward, which alone can furnish the plants with nitrogen. The keeping of the surface six inches at a proper degree of moisture is thus seen to be of the utmost importance, for it is within this zone that most of the nitrogen is elaborated.

(To be continued.)

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1910. FEBRUARY 13 TO FEBRUARY 19.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Feb. 13—Sunday	1 12	44	44	50	31
,, 14—Monday......	3 34	38	37	45	38
,, 15—Tuesday	7 0	42	41	48	38
,, 16—Wednesday .	5 24	37	34	50	33
,, 17—Thursday ...	2 0	50	48	54	38
,, 18—Friday..	2 18	48	45	51	47
,, 19—Saturday ...	—	50	46	51	43
Means	(total) 21 30	44	42	49	38

DATE. 1910. FEBRUARY 13 TO FEBRUARY 19.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Feb. 13—Sunday	0.13	39	40	42	34
,, 14—Monday....	0.60	41	41	42	37
,, 15—Tuesday......	—	41	41	42	31
,, 16—Wednesday .	0.09	39	41	42	27
,, 17—Thursday ...	0.18	42	41	42	40
,, 18—Friday.......	0.03	44	42	43	42
,, 19—Saturday ...	trace	43	43	42	37
Means ...	(total) 1.03	41	41	42	35

FORTHCOMING ENGAGEMENTS.

TUESDAY, March 1.—Scottish Horticultural Association.

WEDNESDAY, March 2.—Royal Society of Arts.

THURSDAY, March 3.—Linnean Society Meeting.

SATURDAY, March 5.—French Horticultural Society of London.

TUESDAY, March 8.—Royal Horticultural Society's Spring Bulb Show (two days); Committees meet at 12 o'clock; lecture at 3 p.m. on "Plant Hygiene," by Mr. F. J. Baker.

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MARKETS.

◆

COVENT GARDEN.

Flowers.

Flowers have been plentiful but with an increased demand prices have been well maintained.

		s.	d.		s.	d.
Acacia	per bunch	0	9	to	1	0
Adiantum cuneatum ...	per doz. bun.	6	0		9	0
Arums	per doz.	3	0		5	0
Asparagus	per bun	1	0		1	6
Azalea, Ghent	per bunch	0	9		1	0
Camellias	per doz.	1	6		2	6
Carnations	per doz. blms.	2	0		6	0
,, ...	per doz. bun.	12	0		18	0
,, Malmaisons	per doz.	6	0		9	0
Cattleyas	per doz.	12	0		15	0
Croton leaves	per bun.	1	0		2	6
Cypripediums	per doz. blms.	2	0		3	6
Daffodils	per doz. bun.	4	0		8	0
Eucharis	per doz.	3	0		3	6
Freesias	per doz. bun.	1	6		2	0
French fern	per doz. bun.	0	6		0	9
Gardenias	per doz.	2	6		3	6
Lapagerias	per doz.	2	0		3	0
Lilac, French	per bun.	3	0		4	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		3	0
,, longiflorum	per bun.	4	0		6	0
Lily of the Valley	per doz.	6	0		14	0
Marguerites	per doz. bun.	3	0		4	0
Mignonette	per doz. bun.	2	6		4	0
Narcissus	per doz. bun.	2	0		5	0
Odontoglossums	per doz. blms.	2	0		2	6
Pelargoniums	per doz. bun.	4	0		8	0
Roman Hyacinths	per doz. bun.	5	0		7	6
Roses	per doz.	2	6		12	0
Smilax	per doz. trails	5	0		8	0
Tuberoses	per doz. blooms	0	4		0	5
Violets	per doz. bun.	0	6		3	0

Fruits.

Supplies are rather liberal and there is a good demand.

		s.	d.		s.	d.
Apples, English	per bush.	3	6	to	9	0
,, Californian	per case	7	0		14	0
,, American	per barrel	12	0		26	0
,, Canadian	per barrel	12	0		20	0
,, Nova Scotian	per barrel	12	6		15	0
Apricots, Cape	per box	3	0		4	6
Bananas	per bun.	4	0		10	0
Brazil Nuts	per cwt.	33	0		40	0
Chestnuts	per bag	7	0		10	6
Cranberries	per case	6	0		8	0
Grapes, English	per lb.	0	10		6	0
,, Guernsey	per lb.	0	8		1	3
,, Almeria	per barrel	12	0		22	0
Lemons	per case	7	6		23	0
Oranges, Jamaica	per case	9	0		12	0
,, Valencia	per case	7	0		12	6
,, Navels	per case	10	0		12	[illegible]
,, Denia	per case	10	0		16	6
,, Tangerines	per box	0	4		1	0
Peaches, Cape	per box	3	6		7	0
Pears, Cape	per box	6	0		8	0
,, Californian	per case	10	0		15	0
Pineapples	each	1	6		4	6
Plums, Cape	per box	3	0		12	0
Walnuts	per 12lbs.	2	0		3	6

Vegetables.

Most kinds are plentiful and the demand is fairly brisk.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	2	6
Asparagus	per bun.	3	0		5	0
Beet	per bush.	1	6		2	0
Beans (Madeira)	per basket	2	6		4	0
Brussels Sprouts	per bush.	1	6		3	0
Cabbage	per tally	3	0		5	0
Carrots	per doz. bun.	2	0		3	0
Cauliflowers	per crate	2	0		3	9
Celery	per doz. rolls	5	0		10	0
Celeriac	per doz.	1	6		2	0
Chicory	per 12lb.	2	6		3	0
Coleworts	per tally	2	0		4	0
Cucumbers	per doz.	5	0		9	0
Endive	per doz.	2	0		2	6
Horseradish	per doz. bun.	10	0		17	6
Leeks	per doz. bun.	1	0		2	0
Lettuce	per doz.	1	6		1	9
Mushrooms	per doz. lb.	6	0		12	0
Mustard and Cress	per doz. pun.	1	0		1	3
Onions	per case	6	0		7	[illegible]
Parsley	per doz. bun.	1	6		3	0
Parsnips	per bag	1	6		3	0
Radishes, French	per doz. bun.	1	3		1	6
Rhubarb	per doz. bundles	0	8		1	[illegible]
Savoys	per tally	3	0		5	[illegible]
Seakale	per doz. pun.	12	0		17	[illegible]
Spinach	per ½ sieve	1	3		2	[illegible]
Tomatoes, English	per doz. lb.	4	6		6	[illegible]
,, Canary	per case	9	6		14	[illegible]
,, Guernsey	per doz. lb.	2	6		4	[illegible]

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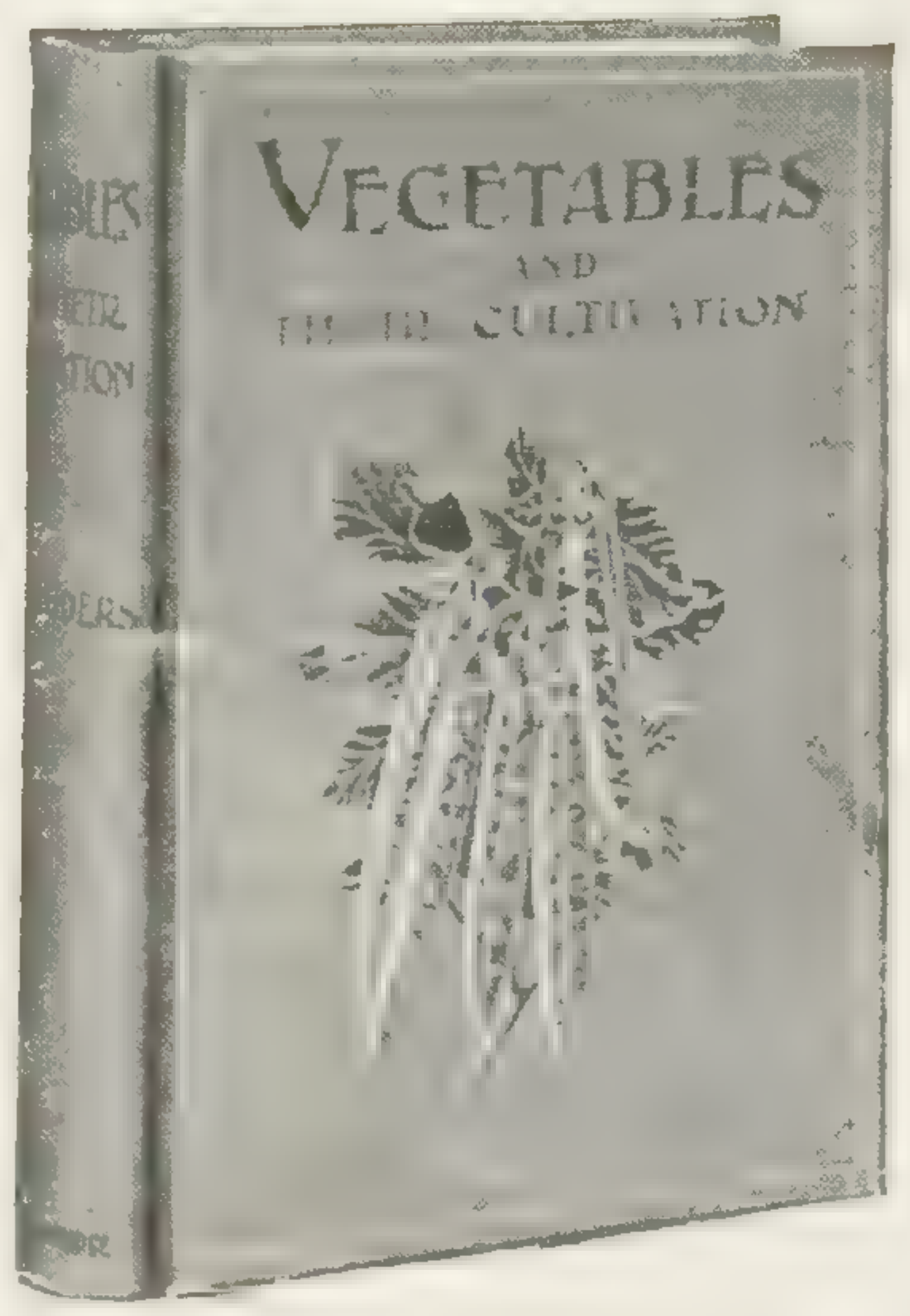

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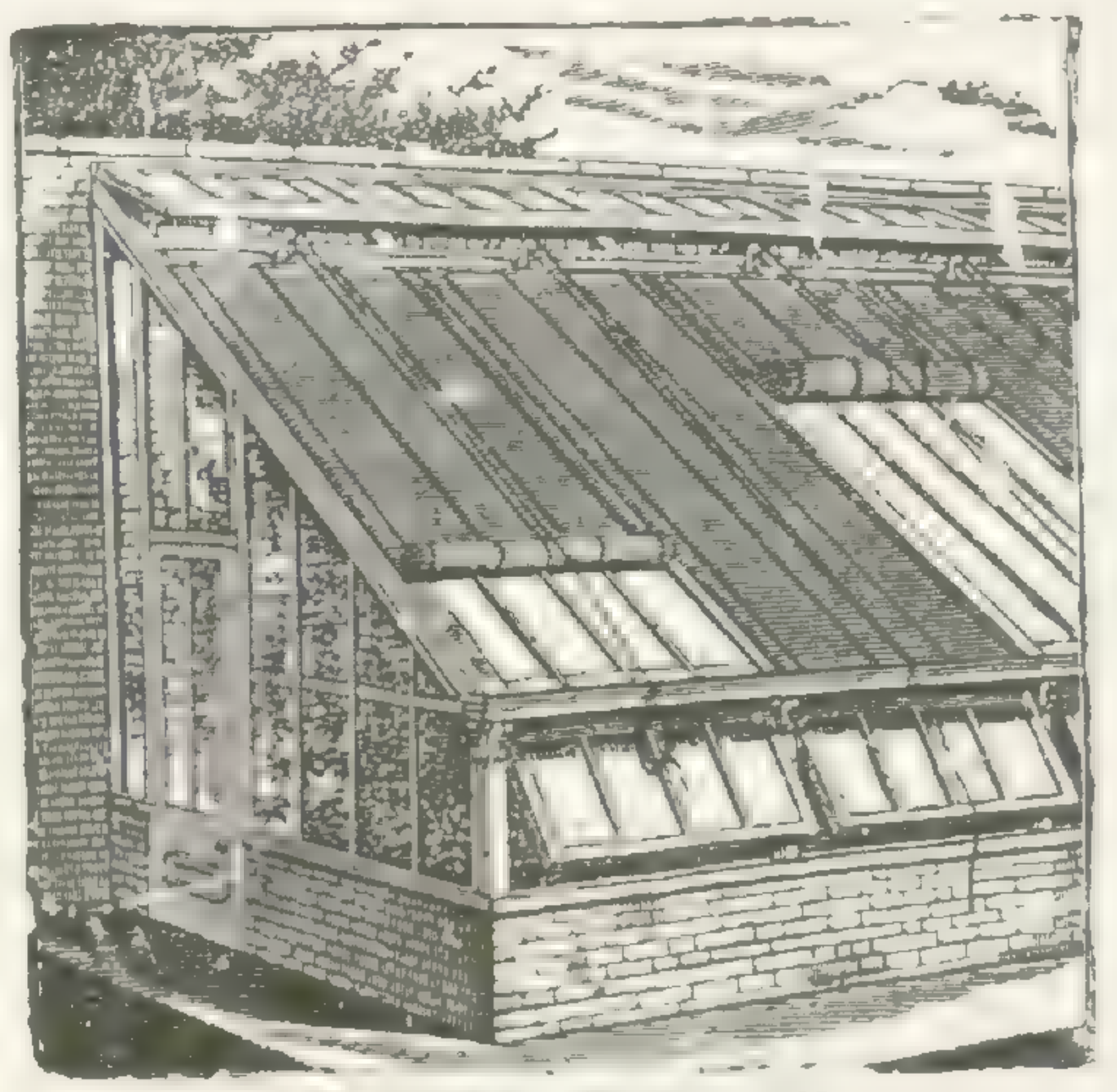

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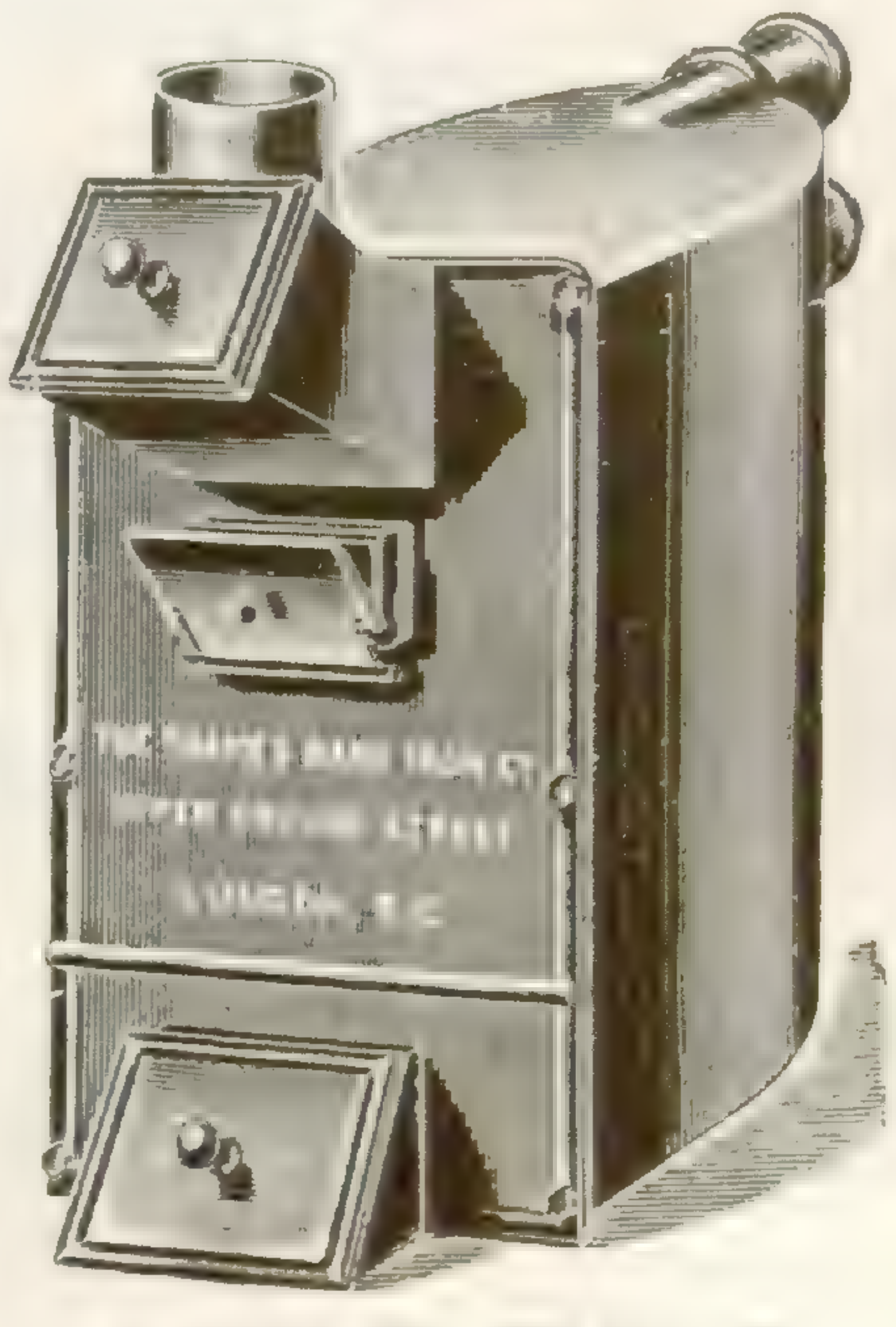

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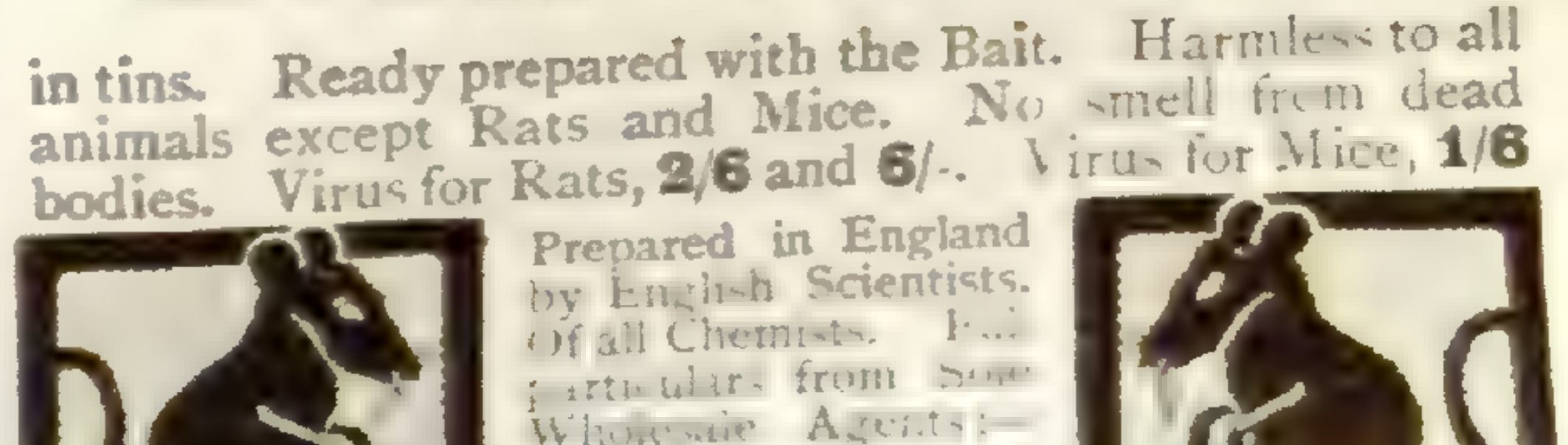

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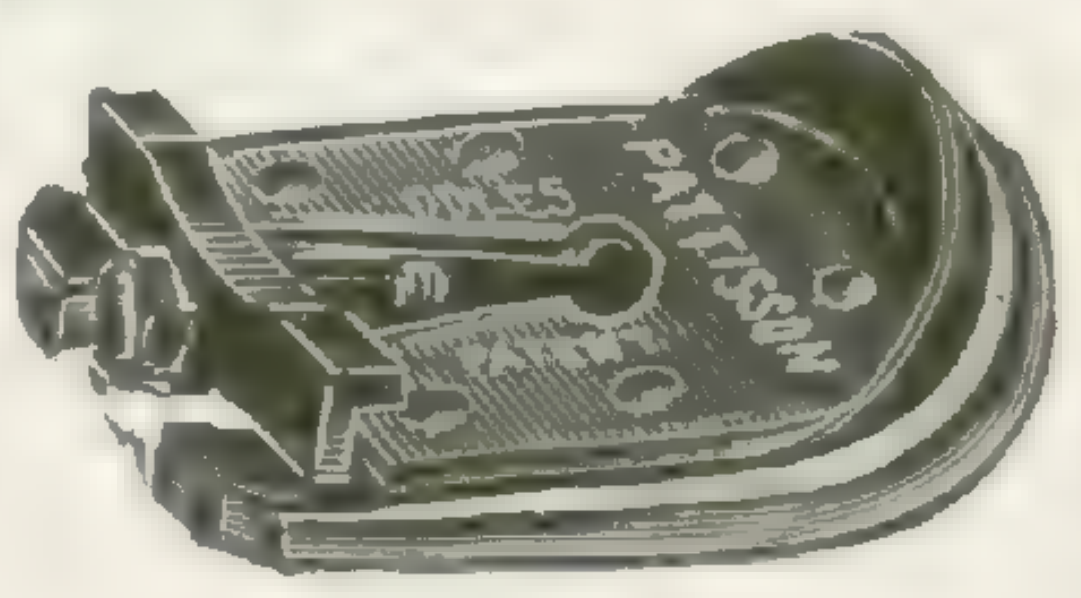

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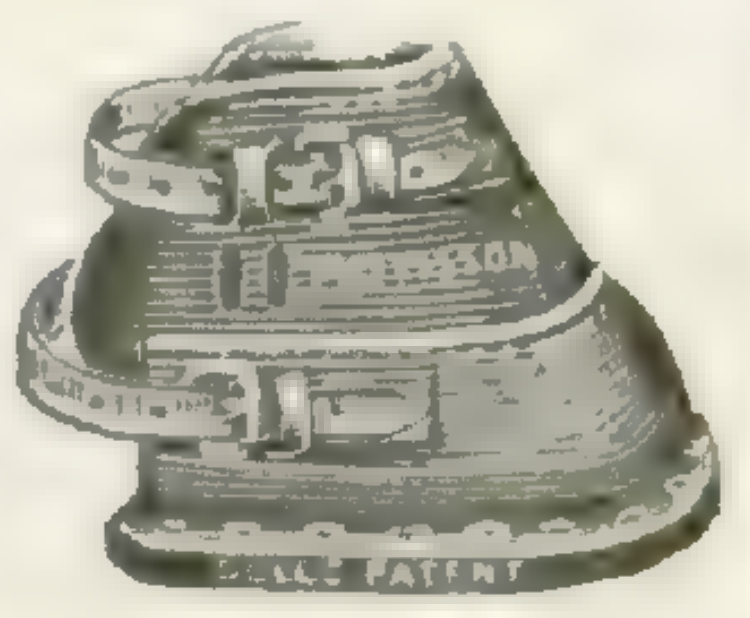
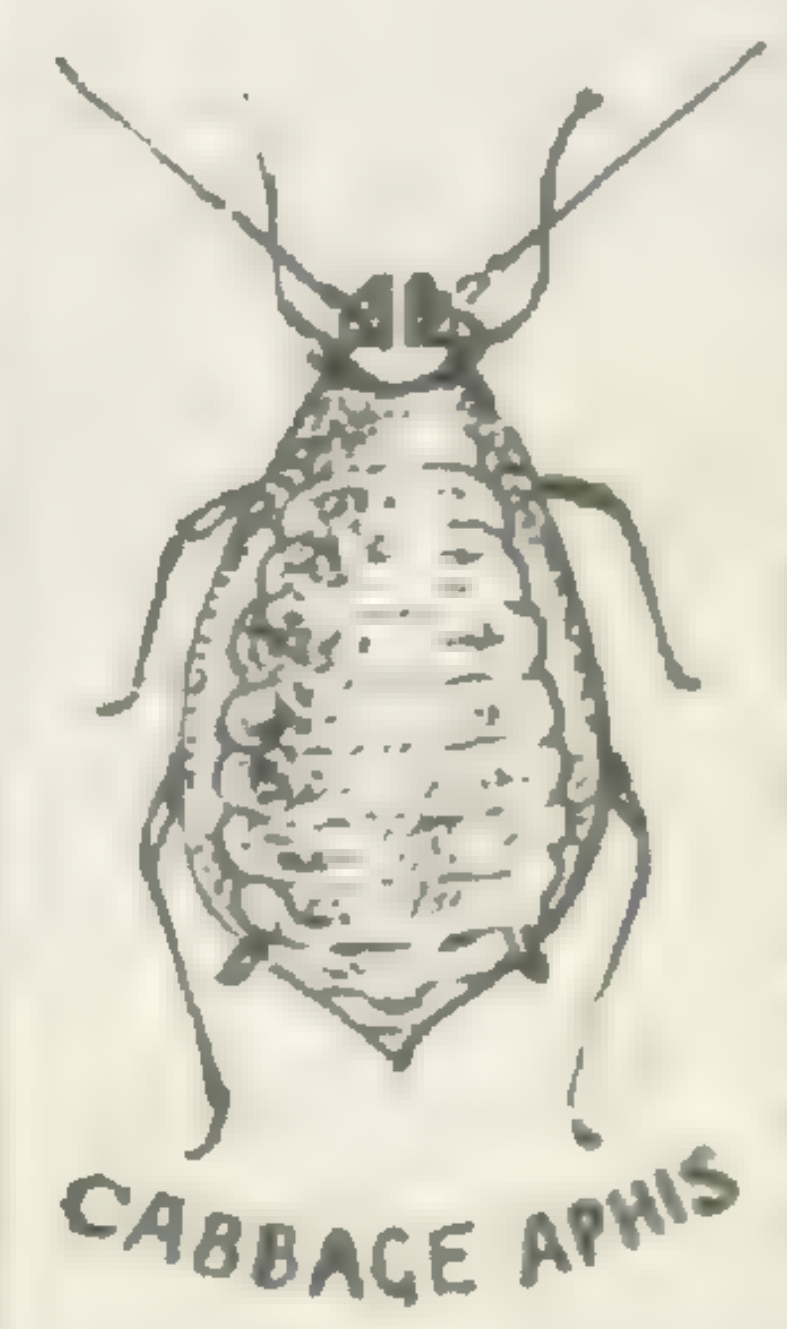


Fig. 2.

H. PATTISSON & CO., 4, GREYHOUND LANE, STREATHAM, S.W.

THE CABBAGE APHIS.

(Aphis Brassicæ).



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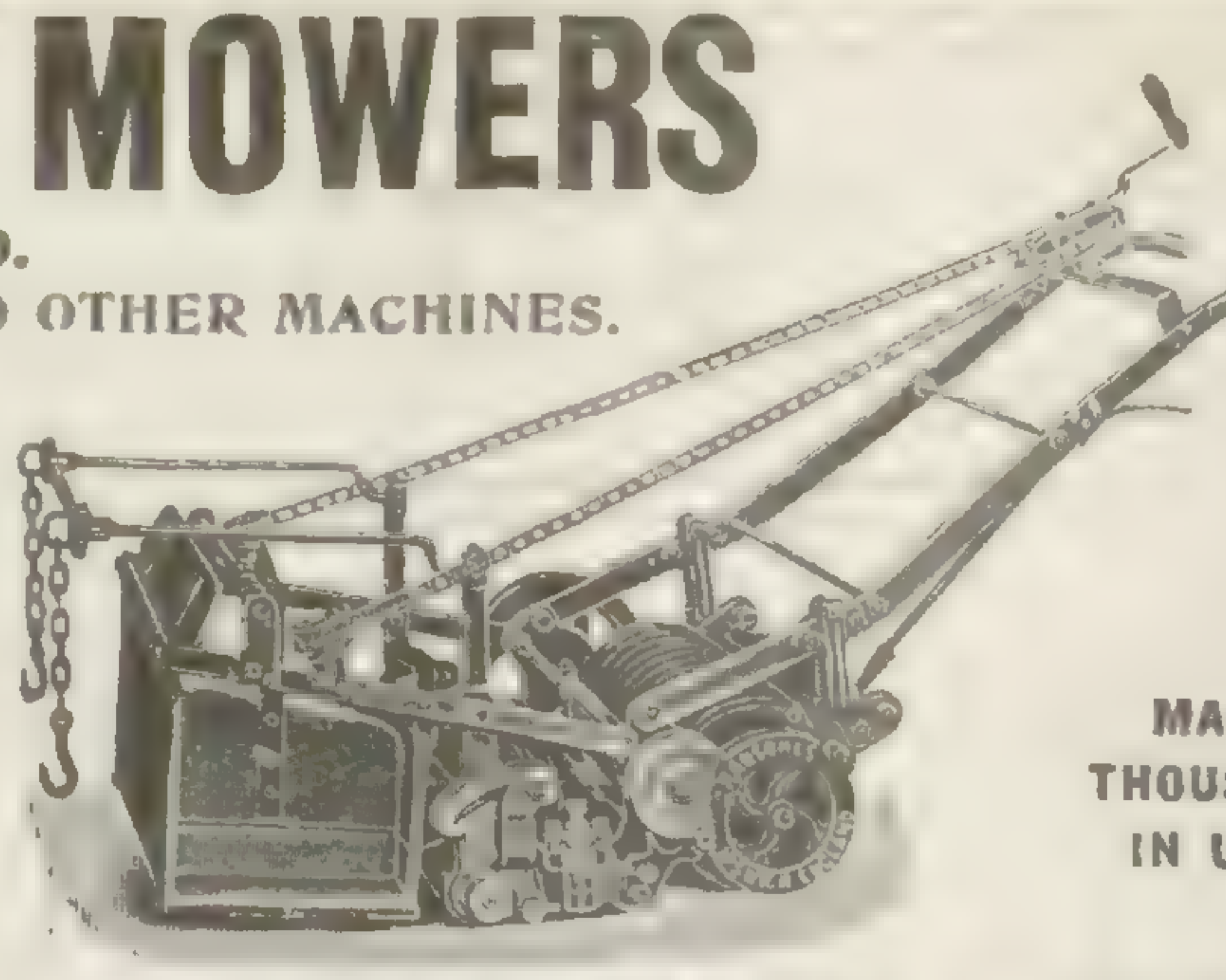

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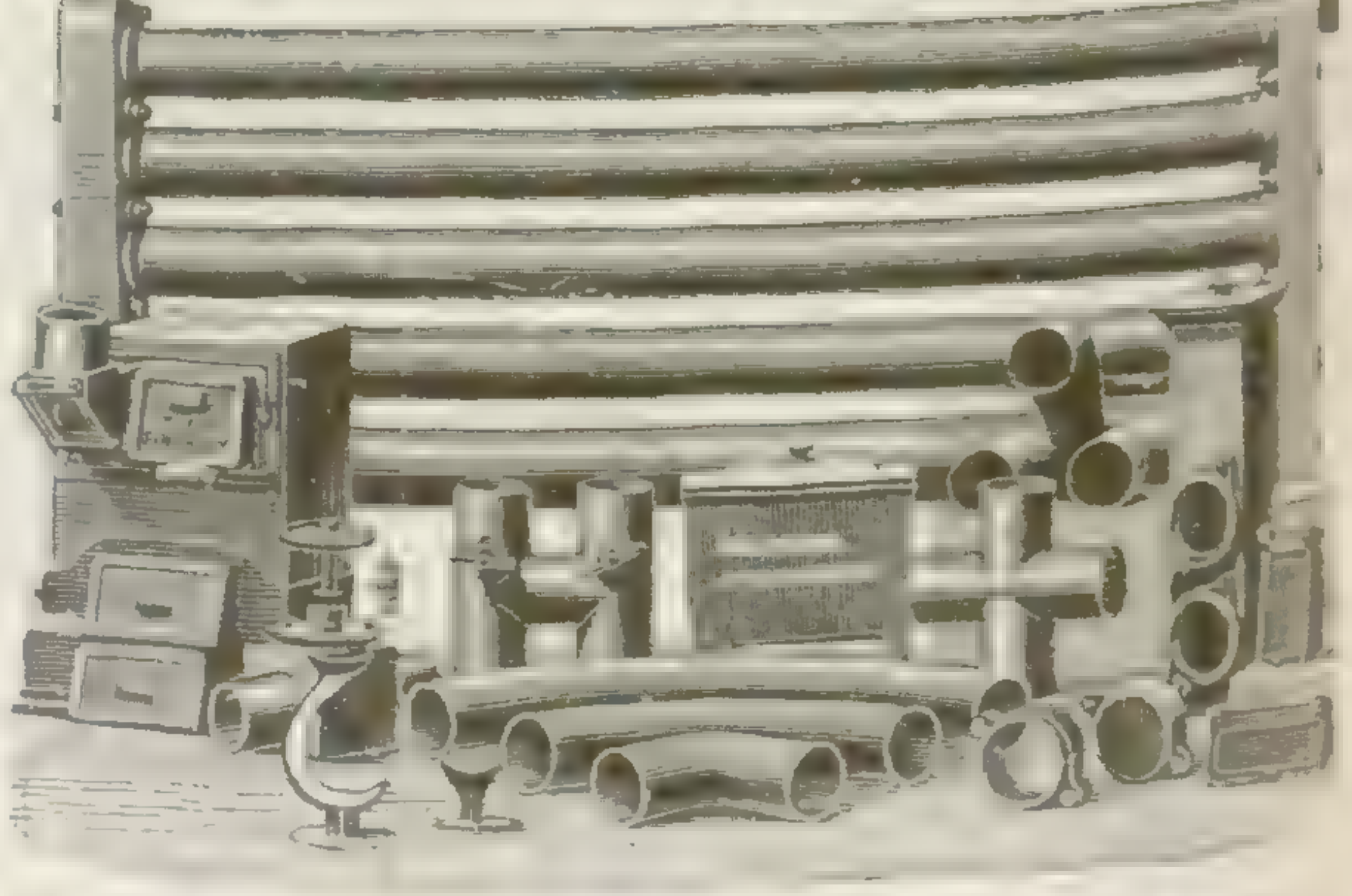

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Fully 600,000 Violas offered this season. List free.

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GUNN & SONS, Specialists,
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New and Standard varieties. Lists Free.

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FRANK CANT & CO.,
Braiswick Rose Gardens, Colchester.
The World-famed Champion Rose Growers.

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Awards last three seasons, 281 Cups, Medals, &c. Illustrated Catalogue, post free.

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237, 238, and 97, High Holborn, London.
Tested Flower and Vegetable Seeds

R. H. BATH, Ltd.,
The Floral Farms, Wisbech.
Select Vegetable and Flower Seeds.

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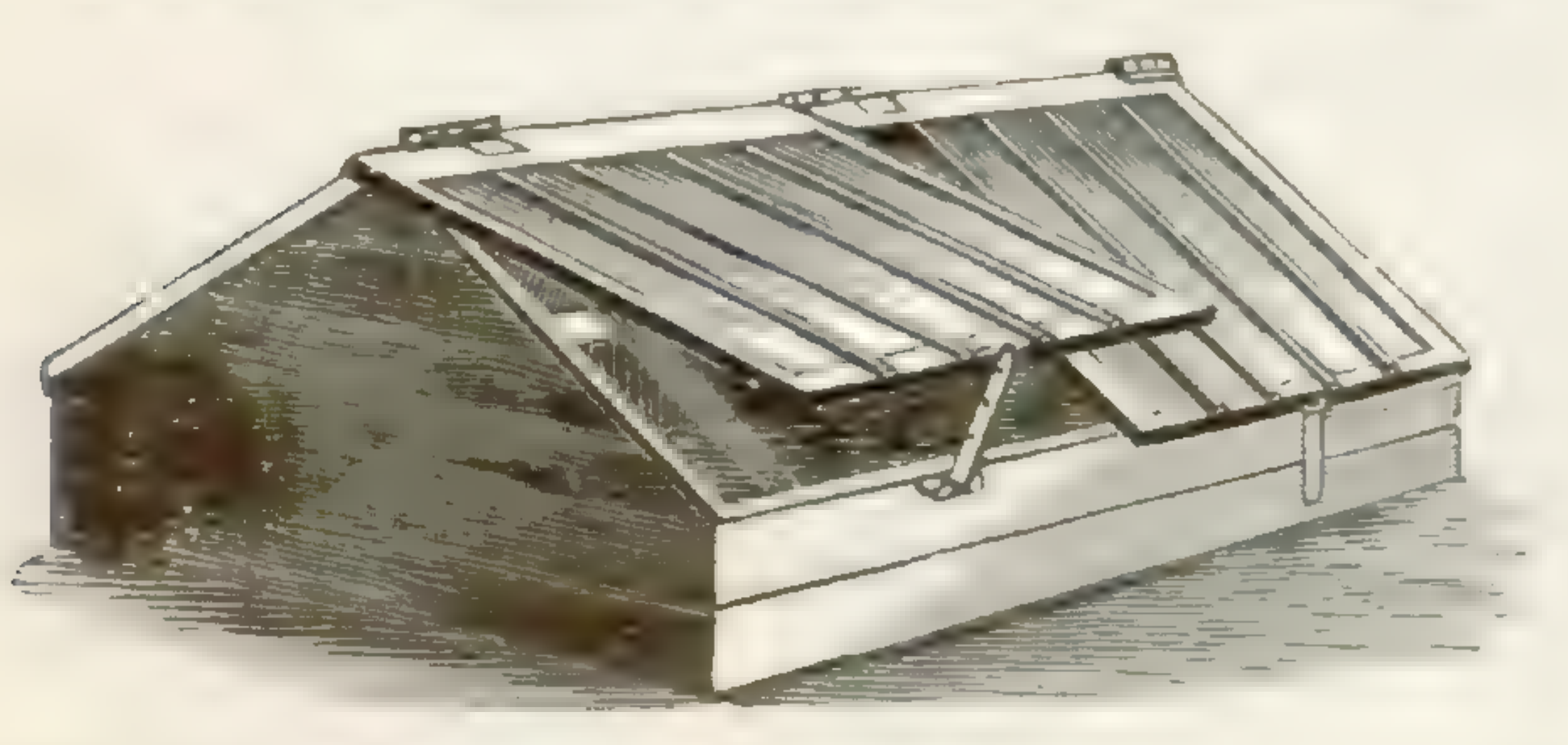

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6ft. long by 3ft. wide	Cash Prices. Carriage Paid.	2	0	0
6ft. ,, 4ft. ,,		2	5	0
6ft. ,, 5ft. ,,		2	15	0
12ft. ,, 4ft. ,,		4	0	0
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Larger sizes at proportionate prices.

R. HALLIDAY & CO.,
ROYAL HORTICULTURAL WORKS,
MIDDLETON, MANCHESTER.

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NICOTICIDE,

FUMIGANT for GREENHOUSES.—Pint, **15/-**; ½ Pint, **7/6**; **4/0, 3/-, 1/8** and **10d.** Cost of fumigating **4½d.** 1,000 cubic feet. **Fumigators, 1/-** each, for 5,000 cubic feet. **NICOTICIDE PLANT SPRAY.**—½ Pint, **1/2**; Pint, **2/-**; Quart, **3/6**; ½ Gal., **5/-**; Gal., **10/-**. Use 1 part to 40 parts of water for Greenfly, etc. All goods carriage paid. Ask your Seedsman, and insist on having same.

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THE GARDENERS' MAGAZINE
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BENTLEY'S INSECTICIDE.

Non-Poisonous. Unequalled for general use under glass. Specially recommended for Orchids.

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Contains a higher percentage of Pure Nicotine than any other Vaporiser manufactured. Will not injure the most delicate foliage or flowers.

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Most powerful and penetrating. No insect pests can withstand its effects. Deadly to Bug.

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A quick-acting and most popular Non-Poisonous Winter Wash for fruit trees and forest trees of every kind. Enormous and rapidly-growing sale.

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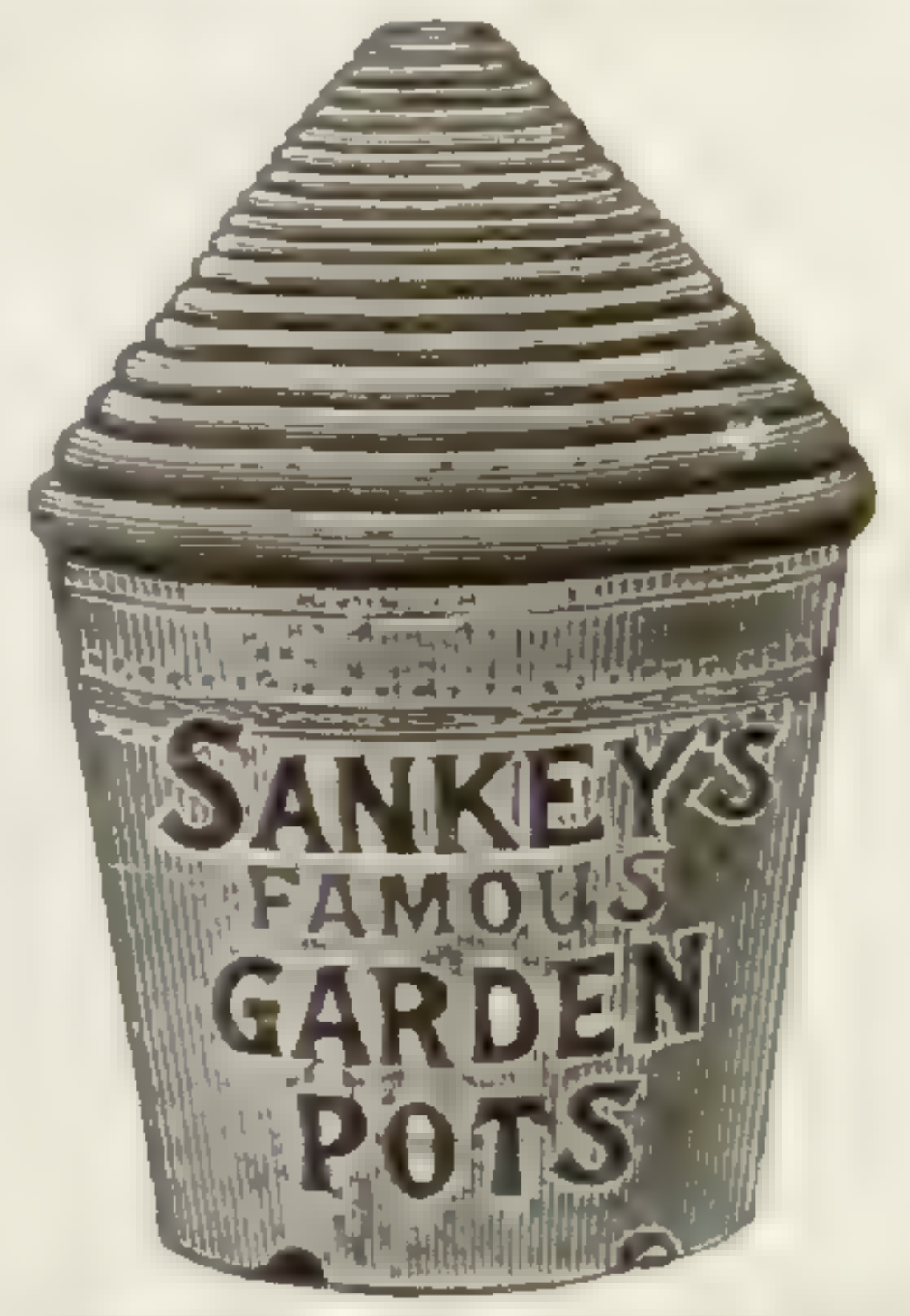
Appointed by Royal Warrant **Makers to His Majesty The King.**

Established over 50 years.



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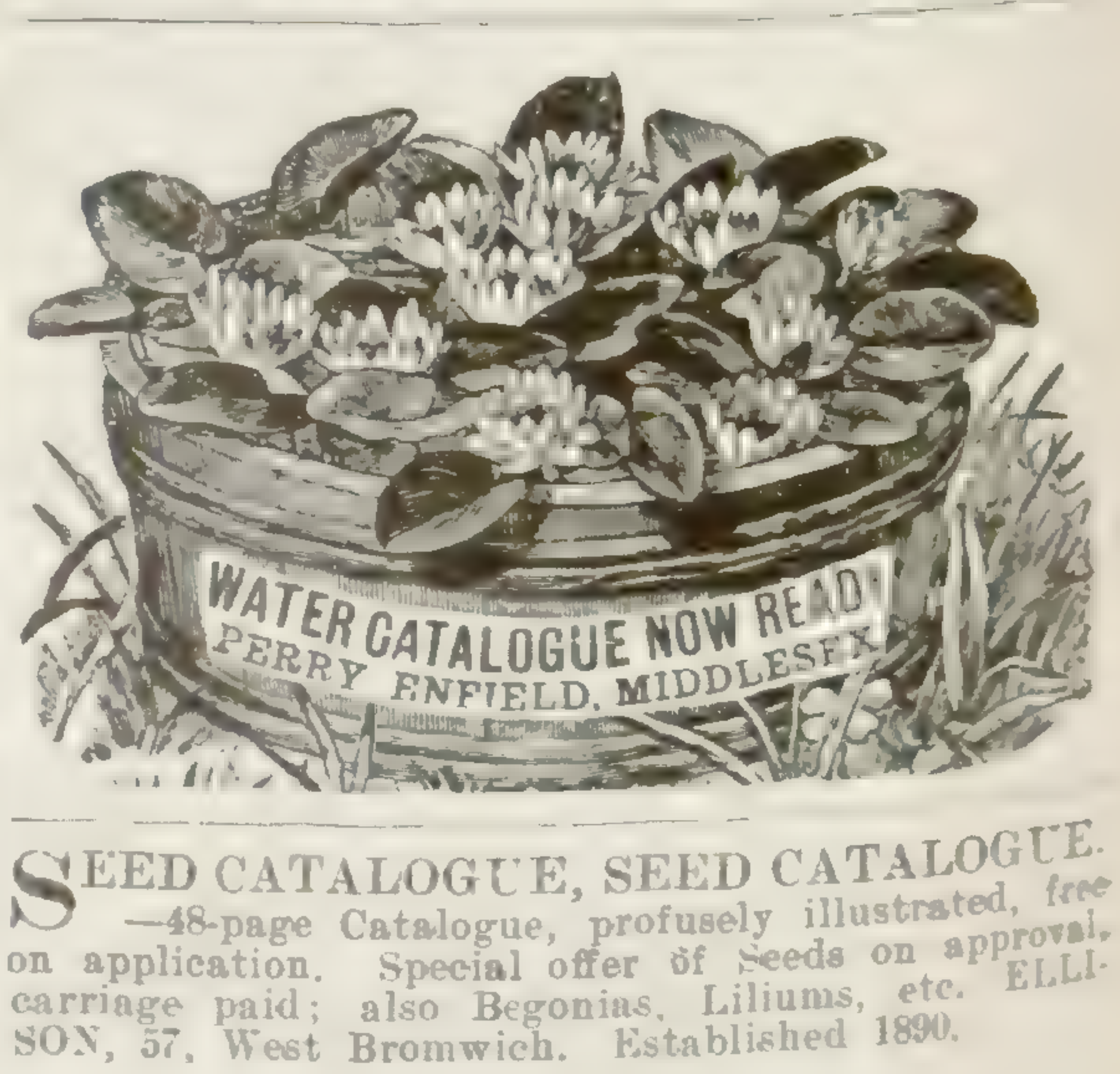

SEED CATALOGUE, SEED CATALOGUE.—48-page Catalogue, profusely illustrated, free on application. Special offer of Seeds on approval, carriage paid; also Begonias, Liliums, etc. ELLISON, 57, West Bromwich. Established 1890.

Sales by Auction.

SALES NEXT WEEK.

MONDAY and FRIDAY NEXT, Mar. 7th and 11th, at Twelve o'clock.—Choice hardy Border Plants and Bulbs, Perennials, Liliums, Gladiolus, Begonias, Tuberoses, etc.

At Half-past One o'clock.—1,000 Roses, Dwarf, Climbing, Tea, etc.; Fruit Trees in variety; Azaleas, Ferns, etc.

WEDNESDAY NEXT, Mar. 9th, at Twelve o'clock.—Herbaceous and Border Plants in variety; Perennials, Japanese Liliums, Gladiolus, Flowering Shrubs, Begonias, Tuberoses, Lily of Valley, Pinks, etc.

At Half-past One o'clock.—4,000 Roses, Standard, Dwarf, Climbing, Tea, etc.; also Fruit Trees, and Bushes.

At Five o'clock.—100 lots of Ornamental Palms and Plants. Azaleas in variety; Rhododendrons, Camellias, Aspidistras, etc.; Greenhouse Plants and Ferns.

FRIDAY NEXT, Mar. 11th, at One o'clock.—Unreserved sale of the whole of the "Hildenley" Collection of Orchids formed by the late Sir Chas. Strickland, Bart.

MESSRS. PROTHEROE and MORRIS will SELL the above BY AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C. On view morning of sale and catalogues had.

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Every MONDAY and WEDNESDAY,
AT 12.30,
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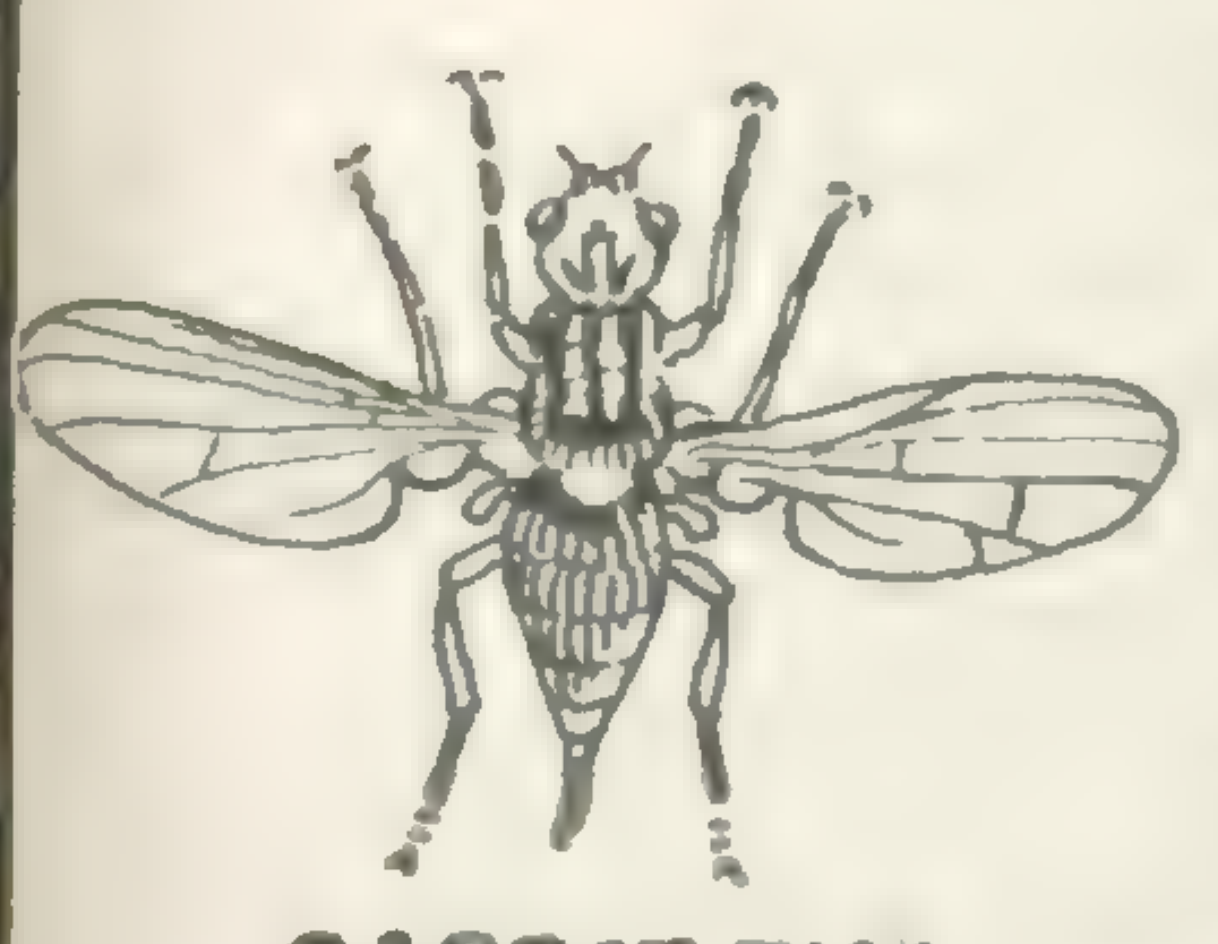
WANTED, Plants, Bulbs, Fruit and other Trees, Shrubs, Roses, Cut Flowers, Fruit, etc.

LANGMAID & CO.,
Horticultural Auctioneers, etc., WORCESTER.
Sales held in principal Worcestershire Market Towns.

THE CARROT FLY.

(Psila Rosæ).



CARROT FLY

The damage done by the maggot of this fly is known as "rust," from the peculiar colour to which the gnawed parts turn.

CLIFTS INSECTICIDE

prevents the ravages of these insects by destroying the maggots. Large sample and instructive booklet for 3d. in stamps.

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100 NURSERIES, MARKET GARDENS, FLORIST AND SEED BUSINESSES TO BE DISPOSED OF.

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CATALOGUE OF NEW AND CHOICEST VARIETIES
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25 STRONG CHRYSANTHEMUM CUTTINGS, Exhibition, Decorative, Single or Early. 1s. 6d.; 50, 3s.; 100, 5s. 6d.; by return. List. RICHMOND'S CHRYSANT. NURSERIES, Ossett, Yorks.

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C. WELLS, Broomsgrove Lodge, Sheffield.

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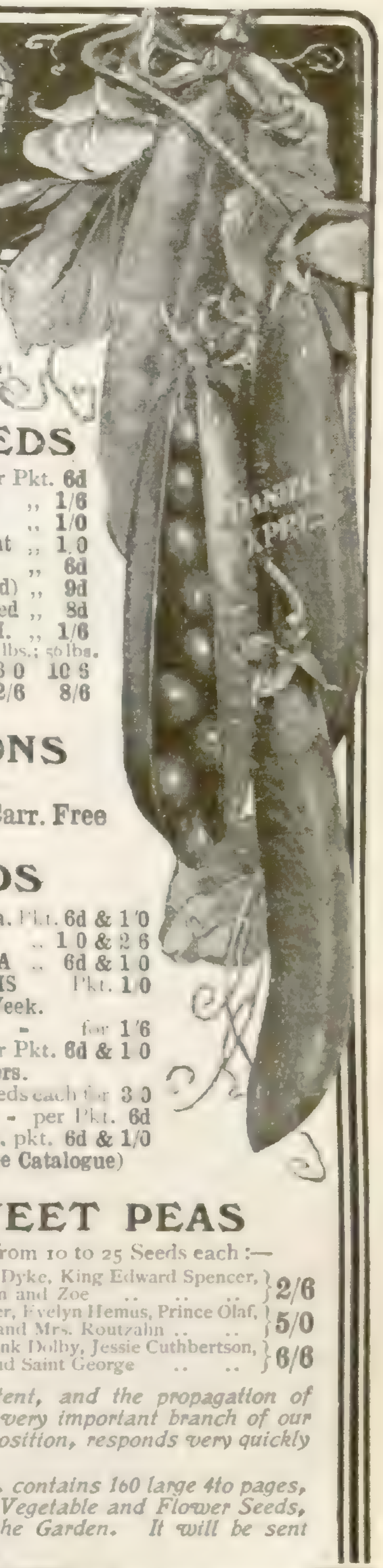
SEED GROWERS BY APPOINTMENT TO H.M. THE KING



ASSURE SUCCESS, whether at the Shows, or in your own Garden, by starting right and buying our Pedigree Strains of Seeds. We spare no trouble or expense in testing and improving our Stocks, and if you buy from us you may rely on obtaining Value for your Money. We give the prices of a few Specialities below, but our complete Catalogue will be sent on receipt of a postcard (see offer at foot of page).

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PEA—Daniels' Express (new) Pkt. 1/0, ½-Pt.	2/0
„ Daniels' Matchless Marrow, per Pint	1/6
„ Daniels' Distinction - - „	1/6
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	Per 14lbs.;	56lbs.
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8 brilliant varieties - - for	3/6
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PANSY—Daniels' Exhibition Giant	1/6 & 2/6
PHLOX Drummondi Grandiflora. Pkt.	6d & 1/0
PETUNIA Hybrida Grandiflora ..	1/0 & 2/6
SALPIGLOSSIS GRANDIFLORA ..	6d & 1/0
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STOCK Daniels' Giant Ten-Week.	
6 brilliant varieties - - for	1/6
Splendid mixed - per Pkt.	6d & 1/0
SWEET PEAS—For Cut Flowers.	
12 splendid varieties, 100 seeds each for	3/0
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Also 1100 other varieties (see Catalogue)

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OUR NURSERIES AND GLASSHOUSES also are of considerable extent, and the propagation of Fruit Trees, Roses, Forest Trees, and all kinds of Shrubs and Plants is a very important branch of our business. Our customers find that Nursery Stock produced in our exposed position, responds very quickly when transplanted into the more congenial surroundings of their gardens.

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STRONG TEA AND H.T. ROSES
For Forcing.
ALL LEADING VARIETIES.
Also **CLIMBERS** in 7 inch pots, **18/-, 24/-** per dozen.

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SAUCERS, SEED PANS, RHUBARB AND SEAKALE POTS, RUSTIC WARE, VASES, PEDESTALS, etc., etc.
Our Pots are Low in Price and Rich in Colour.
Amateurs should try our FAMOUS CRATES OF POTS,
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NO BETTER VALUE OFFERED IN THE COUNTRY.
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For Flowers Vegetables and Fruit
of highest quality & guaranteed analysis

Per cwt., **20/-**; ½ cwt., **12/6**; 28lb., **7/6**; 14lb., **4/6**; 7lb., **2/6**; Sample Tins, **1/-**.

Prepaid orders for 28lbs. and upwards, Carriage Paid. Circular, with full particulars, on application.

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Shipping, Insurance & Forwarding Agents
Give special attention to the forwarding of Plants, Trees, and Shrubs to all Foreign Parts. Phylloxera Certificates secured when necessary.
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15 oz. and 21 oz. Glass,
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Just imagine. The "Gardeners' Chronicle" reports that pips in our exhibit last week measured **3 inches across.**

Special Offer.

6 Best for **9/-; 12** Second Best, **15/-; 24** Good and Useful Varieties, **20/-.**

For further particulars of the Finest Collection and Best Offered send for a Catalogue.

H. CANNELL and SONS, *HOME OF FLOWERS,* **SWANLEY.**

OUR NEW PRIMULA 'MALACOIDES'

Pot Plants, **1/-** showing Bloom.

CATALOGUE FREE.

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WOOD LATH BLINDS.

ADMIT SUFFICIENT SUNLIGHT, SO NECESSARY FOR GROWING PURPOSES.

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10,000 POT ROSES,

TEAS and H.T.'s, CLIMBERS and DWARFS, strong plants, thoroughly established for early flowering, in 150 best leading up-to-date vars. for cut bloom and exhibition. The prices are right, and we pay carriage. Send for Catalogue and see what my Customers say, also opinions of the Press.—**YOUNG'S, WEST DERBY, LIVERPOOL.**

50,000 CARNATIONS,

BORDER and WINTER-FLOWERING, in 150 finest up-to-date vars. to select from, either for cut bloom or exhibition. Clean, perfectly-grown plants, in 3½ inch pots, at the lowest price. Carriage paid. Catalogues free.

YOUNG'S, WEST DERBY, LIVERPOOL.

"Anglian" Boilers

ARE A REVELATION IN

Heating Efficiency. Fire Surface.
Fuel Economy. Ease in Stoking.
And Great Durability.

Immense Stock of every Requisite for Heating the Greenhouse.

A West Wickham Gardener writes:—	"The 'Anglian' Boiler has effected a saving of 5/6 per week over the fuel cost of the old type Saddle Boiler."

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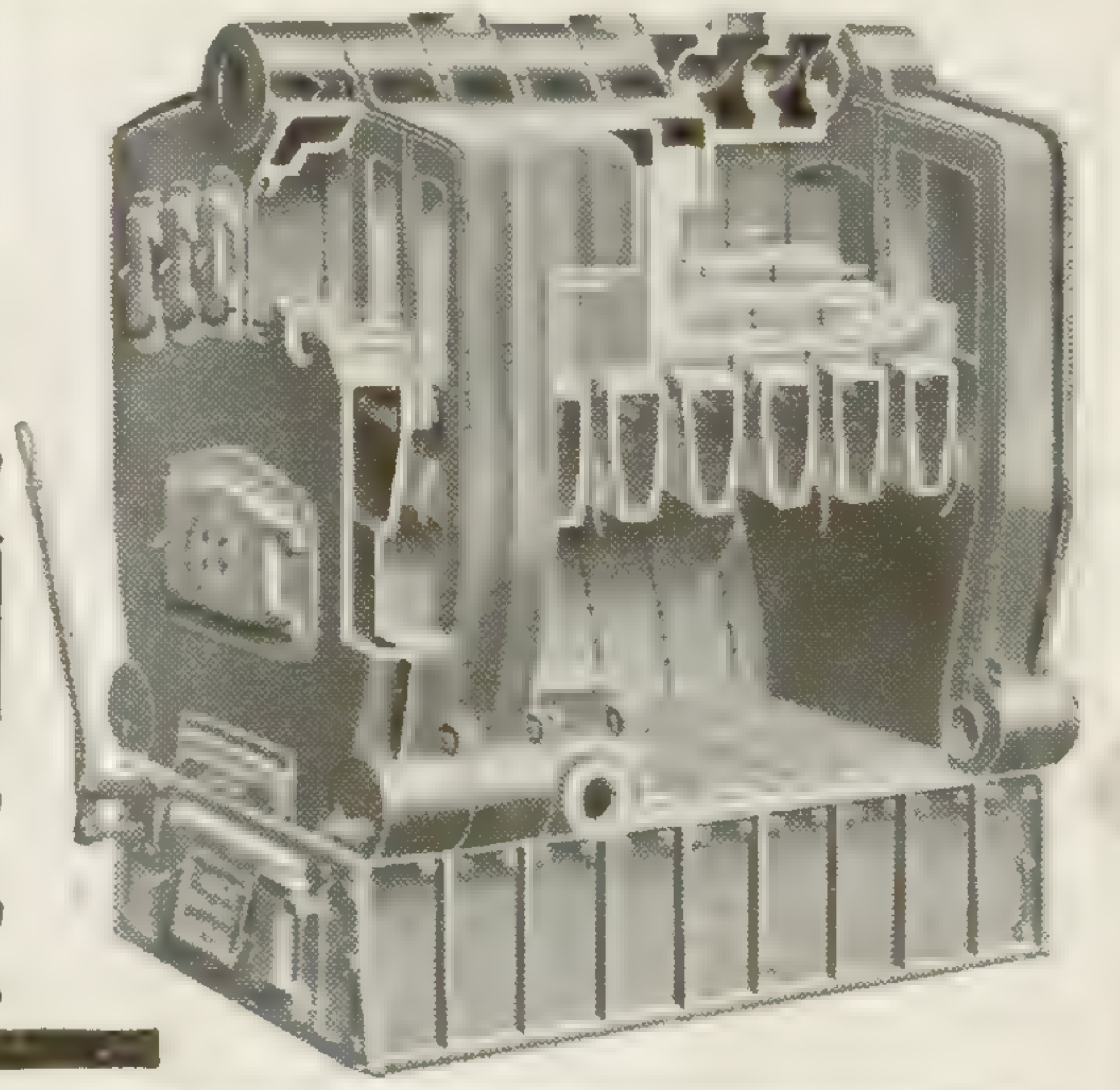
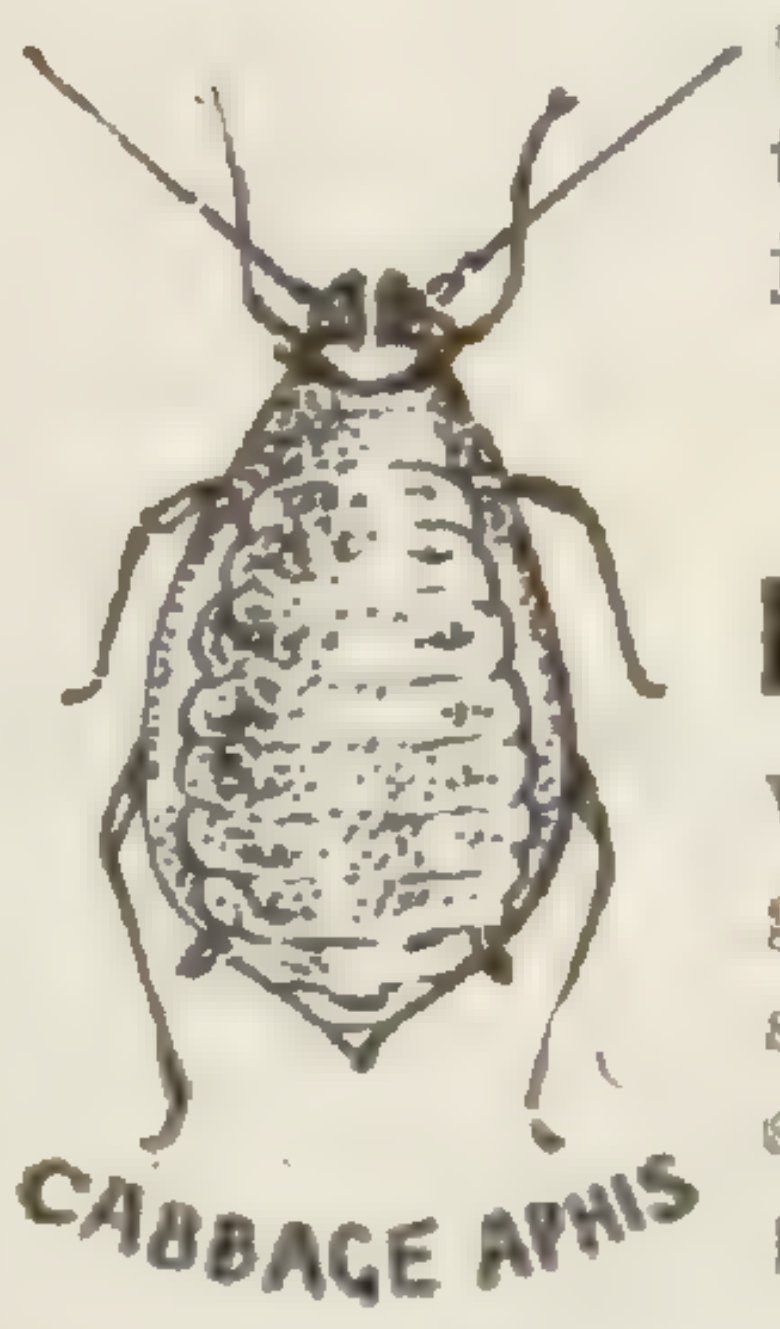


THE CABBAGE APHIS.

(Aphis Brassicæ).



These greenfly do great damage to cabbage by drawing away the juices of the plant.

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By ALEXANDER KIRK, Alloa.
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LOOK AT THE PRICE.

In Dark Blue "Ponicus" Twill,

— **1/9** —

Postage **3d.** extra.

Or in Dark Blue "Ponicus" Serge of Everlasting Wear.

— **3/9** —

Postage **3d.** extra.

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BEST and CHEAPEST MANURE for VEGETABLES, FRUITS and FLOWERS.

Price **£3 10s.** per ton in bags. Lots under 10 cwt. **4s.** per cwt. at works; or **5s.** per cwt., carriage paid to any station in England.

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G. Perry, Westcliffe: "Peas and onions splendid"

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A. W. Brinkham, Hull: "Cucumbers, tomatoes, and chrysanthemums highly satisfactory." G. Accleton, Carlisle: "Finest manure ever used for vines, peaches, roses, carnations, etc." W. Cooper, Shoeburyness: "Most excellent for roses."

Orders to the **NATIVE GUANO CO., LIMITED,** 29, New Bridge Street, London, E.C., where 32nd year's testimonials, etc., may be obtained. Agents Wanted.

ORCHIDS. ORCHIDS.

Clean, healthy, well-grown Plants at reasonable prices.
Many large specimens and rare varieties.

STOVE AND GREENHOUSE PLANTS OF ALL KINDS.

Please Write for List.

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Exotic Nursery, Cheltenham.

WATSON'S LAWN SAND.

(The Only Original.)

Destroys Daisies, Plantains, Dandelions, &c., and at same time Invigorates the Grass.

34/- per cwt.; 56lb. Kegs, **18/-**; 28lb. Tins, **9/6.** Canisters, **5/6, 2/6,** and **1/-.**

Please see that you get the genuine article.

Sold by Seedsmen and Nurserymen.

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ONCE USED. ALWAYS USED. **The 'PATTISSON' LAWN BOOTS**

Fig. 1.

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Soles of Best English Sole Leather (Waterproofed) with Motor Tyre Rubber Studs or **Solid Rubber.** Fig. 1 can be REFITTED repeatedly, equal to New Boots. **Rubber Soles strongly recommended.**

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Silver Medal—
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Hundreds of Testimonials.

The Field says: **"As good as anything that could be devised."**

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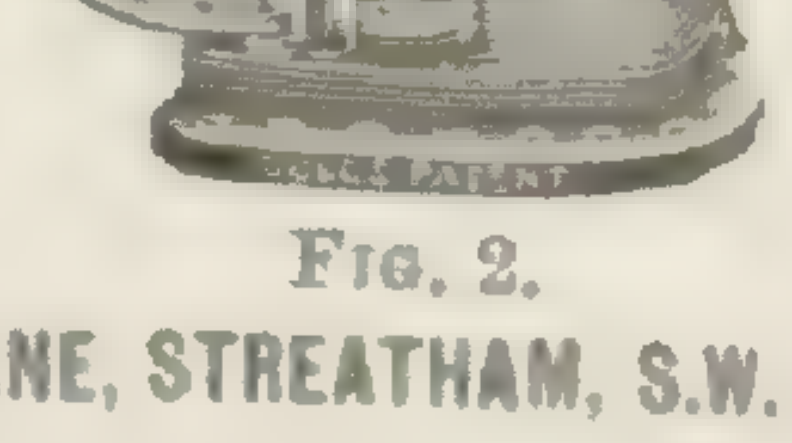

Fig. 2.

H. PATTISSON & CO., 4, GREYHOUND LANE, STREATHAM, S.W.

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10 Tons New Sorts FREE.	"LIGHTON'S" Lincolnshire Seed Potatoes, *Crop well, Cook well.* Bargain Lists, Begonias, Pansies, Roses, Plants. 150 Hardy Plants or 40 Rock Plants 2/6. **Lighton, Kirton, Boston.**

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Well rooted, ready for potting, **3/-** 100, **25/-** 1,000. Post free.

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for Lawns, Fruit Trees, and Vines and for General Garden Purposes. Also Bone Meals, Vitriolised Raw Bones, Superphosphate, Peruvian Guano, Sulphate of Ammonia, Nitrate of Soda, Nitrate of Lime, Potash Salts, etc. Horticultural Price List on application to

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Skeldergate Bridge, YORK.

FERNS, FERNS, FERNS, Ev[illegible] Foliage and Blooming Plants for stove, [illegible] and garden. 100,000 large garden Ferns, 20s. 100. [illegible] sent off yearly. Amateur Catalogue free.—J. E. SMITH, London Fern Nursery, Loughborough Junction, S.W.

GLOXINIAS, GLOXINIAS, GLOXINIAS —Fine mixed, including French Hybrids, Crassifolia Hybrids, Laced, Spotted, etc., 2s. doz.; best named varieties, 1 each, 10 sorts, 2s. 6d. and 3s. 6d. List free. ELLISON, 57, West Bromwich. Estab. 1890

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Slaghills Nursery,

Near MATLOCK,

DERBYSHIRE,

Offers the following in well-rooted and sturdily-grown trees, as grown in one of the highest and exposed nurseries in Derbyshire.

	Doz.	100.
Artheophrasti (Whitebeam Tree), 7 to 8 ft.	3/-	18/-
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Ditto, 1½ to 2 feet	4/6	33/-
Holly, yellow fruited, 1½ to 2 feet	7/-	45/-
Laurel rotundifolia, 2 to 2½ feet	2/6	12/-
Pernettya speciosa, scarlet fruited, 1 to 1½ feet, bushy	4/-	22/-
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Azalea, Sweet Yellow, pontica, 1½ to 2 ft.	4/6	28/-
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Ditto, in 15 vars.	3/-	16/-
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Laurel, common, 1 to 1½ feet	5/-	40/-
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Laurel rotundifolia, 1 to 1½ feet	6/-	40/-
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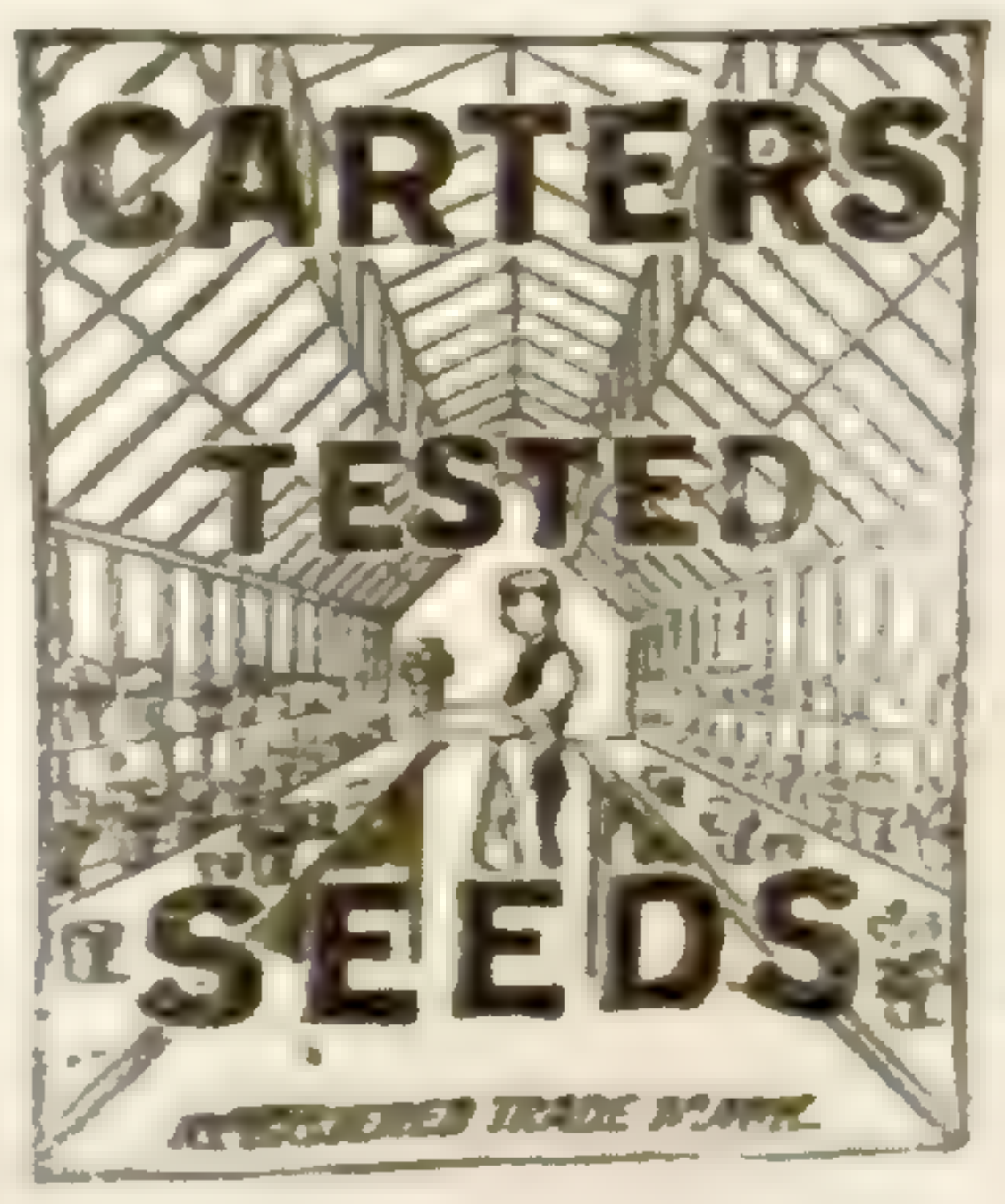

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VOL. LIII.—No. 2,940. SATURDAY, MARCH 5, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Adaptation of the Plant to the Soil.

Few questions are of greater importance to horticulturists than the adaptation of the plant to the soil, and the means by which certain soils can be so ameliorated as to be rendered suitable for plants that in the ordinary course grow the most satisfactorily in soils differing in the nature of the constituents available as plant food. Hence it was not surprising the large lecture room at the Horticultural Hall should have been crowded on the 22nd ult., when Mr. A. D. Hall, F.R.S., gave the first of his two lectures on the subject stated at the head of this note. Nor was it surprising the lecture should have received the closest attention throughout, for Mr. Hall is an accomplished speaker, and has the courage of his convictions. If we were unable to accept without considerable reserve the conclusions at which Mr. Hall had arrived as the result of his study of the subject, we, in common with other members of the audience, fully enjoyed the clearness with which he described the results that have been obtained at Rothamstead during the past sixty years in the experimental manuring of grass land, and his views generally on the subject he was discussing. Mr. Hall had not proceeded far with his lecture before he quickened the interest of his audience by speaking of the fallacies in horticultural literature, and of the misapprehensions which exist among cultivators with regard to the possibilities of adapting soils to the requirements of certain classes of plants by adding to them such food constituents as they appear from the analysis of the plants to be deficient in. The evidence submitted in support of these suggestions was so far from being conclusive as to require careful examination. Mr. Hall, in passing under review the more important of the results of the experiments conducted with a view to ascertain the effects of the different kinds of manures on grass land, first directed attention to the plot which for sixty years has not received any manure whatever. In this plot the growth of the herbage was dwarf and uniform, and grasses predominated, and of the latter Fescue ovina was the most plentiful. In the plots which had received applications of mineral manures only, leguminous plants were the most numerous, and made a relatively much stronger growth than did the grasses which had been able to retain their position in the plots. The superiority of the growth of leguminous plants in these plots was, as Mr. Hall pointed out, due to their being able to obtain the requisite supplies of nitrogen through the agency of the nodule-forming bacteria. As the result of the use of ammonia salts alone, a large proportion of the leguminous plants and the finer grasses disappeared, and such poor grasses as Agrostis vulgaris and Festuca ovina obtained prominence; but by the use of nitrate of soda alone, the percentage of grasses was largely increased. The herbage generally differed in the two plots to which nitrogenous manures had been applied, this difference being due to the fact that while nitrate of soda was quickly washed down into the soil sulphate of ammonia diffused slowly. In consequence thereof the nitrate of soda greatly promoted the growth of deep rooting plants, and the sulphate of ammonia favoured those which are shallow rooting. A combination of nitrogenous and mineral manures had promoted the development of the grasses, especially the finer kinds, and resulted in a much stronger growth of the greater proportion, if not all of the plants forming the herbage. Mr. Hall then proceeded to refer to the fact that the great difference in the vegetation that had been brought about by artificial means, might suggest that it would be comparatively easy to prepare a soil suited to the requirements of a certain plant from analyses of the plant and the soil in which it had been known to thrive. This, however, was not the case. All plants contained the same elementary constituents taken from the soil and in much the same proportions; he had indeed found that there was as much difference in the same kinds grown in different soils as between plants of distinct kinds. Mr. Hall also stated that soils of widely different characteristics were very closely allied in the matter of chemical composition. Therefore, when a plant was found to succeed in one garden and to fail in another not far distant, it was a fallacy to assume as had been frequently done that success could be achieved in the second garden by an amelioration of the soil in accordance with information derived from analyses of the plant and the soil of the garden in which it succeeded. In an endeavour to reconcile these facts with the great difference that had been effected in the character of the herbage of the experimental plots at Rothamstead by the use of manures, Mr. Hall expressed the opinion that it was necessary to take into consideration the in-intense competition between the several species. It may be that so close a relationship has not been established between the analysis of a soil and the plants thriving therein as could be wished. Yet it is sufficiently close to be turned to good account by cultivators who appreciate the importance of taking into consideration all the factors bearing on the point, as, for example, the physical condition of the soil and the aspect of the site. In some cases there is a considerable difference in the chemical composition of soils in neighbouring gardens, but failures such as Mr. Hall referred to are frequently due to the plants not having the little shelter or shade which they need, or sufficient moisture, owing to

MR. H. J. CHAPMAN.

their being in a position where the full amount of rainfall cannot reach them. So far as the composition of soils generally is concerned, there is assuredly a great difference in the constituents of soils overlaying limestone and chalk, and peat; and in light sands and heavy clays. Again, the authoritative analyses of plants show that the difference in the constituents is sufficiently well marked to fully explain why these plants do much better on some soils than in others when the physical condition of the soil and the climatic conditions are practically the same.

Mr. H. J. Chapman.—It gives us great pleasure to publish in the present issue a portrait of our friend and helper, Mr. H. J. Chapman, who is famous as one of the foremost exponents of the art of orchid culture. A Devonshire man, whose life has been devoted to horticulture, Mr. Chapman spent the earlier years of his career in various establishments, seeking and gaining experience in various branches of his chosen profession. He served at such well-known establishments as Perksfield; Downside, Leatherhead; Messrs. J. Veitch and Sons, Chelsea; and Sandringham. During these years his interest in orchids and orchid culture grew steadily, and when the opportunity came, he was well able to take charge of the orchids brought together at Cambridge Lodge, Camberwell, by the late Mr. R. H. Measures. Under Mr. Chapman's care, the collection increased in extent and value, for he became a daring propagator of these aristocratic plants, and a raiser of new hybrids. Subsequently Mr. Chapman became head gardener to the late Mr. Norman C. Cookson at Oakwood, Wylam-on-Tyne, and again a splendid collection of orchids came under his care, and opportunities for raising new and fine orchids were increased, because of the superior varieties and hybrids in the collection. Probably no other collection is so rich in superb varieties of odontoglossums. Mr. Chapman has raised many fine cypripediums, odontoglossums, odontiodas, etc., and is continuing the work at Oakwood, as Mrs. N. C. Cookson has not, happily, broken up the collection formed by her husband, but, with her son, Mr. Clive Cookson, continues to take an active interest in it. We need not detail Mr. Chapman's successes, as so many of them have been illustrated in these pages. Gold and other medals and many certificates and cultural commendations from the Royal Horticultural Society have been won by Mr. Chapman, and a few weeks ago he was presented with the Veitch Memorial Medal in recognition of his work among orchids. For a long number of years Mr. Chapman has been a member of the R.H.S. Orchid Committee, and we may add in conclusion that it was at our suggestion and in these columns that Mr. Chapman commenced to teach orchid culture through the medium of his pen.

Flowers at Kew.—Just now, if you are fortunate to select a bright day, a visit to Kew is most enjoyable. Everywhere there are signs of spring, from the song of the birds and the thickening buds of flowering shrubs to the sound of the mowing machine. Flowers are appearing fast; the snowdrops and the Christmas roses are passing, but the scillas and the chionodoxas are delightful, and each day brings out more and more crocuses. In the Alpine House the irises, saxifragas, crocuses, tulips, and hardy cyclamens provide a feast of beauty, while in the large No. 4 house there is a brilliant display of azaleas, heaths, primulas, begonias, camellias, tulips, Iris reticulata, lachenalias, forced spiræas, cyclamens, and many other good things, either beautiful or fragrant, or both.

Great Flower Show at Haarlem.—The first of the series of bulb exhibitions to be held this year in Haarlem in celebration of the jubilee of the Dutch Bulb Growers' Society will be opened on March 23 by Prince Henry of the Netherlands, and the Dutch Minister of Agriculture will be the orator of the day. Although an additional building has been erected, the exhibition halls are not large enough for the amount of space applied for by exhibitors, so keen does the competition promise to be. The permanent exhibition consists of about a million bulbs planted in beds, groups, etc., and arranged to produce a continuous display from crocus time to the end of the tulip season. Those who are taking part in the proceedings as judges, etc., at the opening exhibition, will be well advised if they proceed to Harwich on Sunday evening, March 20, in time to catch the Great Eastern Railway Company's night boat to the Hook of Holland. By this means they will be able to reach Haarlem in time for breakfast on Monday, take a preliminary view of the permanent and special exhibitions, and be ready for the meeting of judges, officials, press, etc., that evening. Judging will be done on Tuesday, so that everything will be ready for the grand opening ceremony on the Wednesday. Horticulturists who have but little time to spare may by means of the splendid service of the Great Eastern Railway Company between Liverpool Street and Haarlem, viâ the Hook of Holland, visit the exhibition at a relatively small cost, and spend a day therein, without being away from business more than one day, the journey each way being made with comfort during the night.

Torquay Gardens.—In the issues of the Gardeners' Magazine for March 19 and 26, we shall give an illustrated account of the more noteworthy gardens in and around Torquay. These will include, in addition to the public gardens, those of Cockington Court, Eltham, Greenway, Lupton House, Normount, Pilmuir, Roby Hall, Walton Lodge, and Torre Abbey.

Beautiful Chrysanthemums.—On the occasion of the chrysanthemum show held at Hamburg last autumn, the visitors were invited to record their votes for the most beautiful varieties exhibited. The results, which have been recently published, were, as regards the three obtaining the greatest number of votes: Mme. Gustave Rivol, 1,920 votes; Mme. Paolo Radaelli, 1,246 votes; and Miss G. Paget, 1,002 votes.

Japanese Horticulture at Shepherd's Bush.—Among the many interesting horticultural features that are to appear at the forthcoming Japan-British exhibition, will be a miniature garden sent by the City of Tokio. This is designed by the renowned Taikoyen in Shiba Park, and will be no more than twelve feet long by seven feet broad. Here are to be diminutive old trees, houses exactly modelled on the smallest scale, ponds and rocks in closest miniature. Such perfect care and minute attention is bestowed on this work of art that the very trees and shrubs are to be changed with the changing seasons. Thus the pink of the cherry blossom will in due course be followed by the lovely white and purple of the graceful wistaria. Naturally the cost of these models will be very great. In addition to this and other of the horticultural attractions on a small scale, a large section of the exhibition grounds is to be arranged in two large gardens after the style prevalent among the highest class of the Nippon gardeners. The first of the areas to be so treated will extend over some 100,000 sq. ft., while the second is to cover an almost equally large space. Large trees, bridges, and houses, quite complete, and the very rocks to be used for laying out the gardens, are being sent from the Island Empire of the Far East, so as to reproduce a true and typical effect. When visitors regard the final result of all this care, the public will have further evidence of the fact that, if "genius is the art of taking pains," it is amply possessed by Japan.

Royal Horticultural Society's Bulb Show. — The society's annual spring bulb show, which has proved in the past so great a success, is to be held on Tuesday and Wednesday, March 8 and 9 next. The Council decided to continue the exhibition this year for two days because of its evident popularity last year, and the crowded attendance which then resulted from a one-day show. Besides the usual displays, there will be competitive classes for forced hyacinths, bulbs grown in fibre (hyacinths, tulips, narcissi), and amaryllis.

Spring Flowers at Leonardslee.—Writing a few days since, Mr. W. A. Cook observes: Spring flowers are becoming plentiful, and giving a bright display of colouring in some of the more favoured spots. We have had a goodly number of plants in bloom for some time past, and at the middle of February primroses, aconites, hepaticas, Galanthus Elwesi, Crocus Sieberi, and Iris stylosa were plentiful, the last mentioned of the several subjects being particularly good.

Royal Botanic Society.—At the meeting of Fellows held on the 27th ult., thirty-five new Fellows and seven new members were elected, and fifty-four others were nominated for ballot at the next meeting. The number of Fellows elected and proposed exceeded that at any previous meeting of the society.

An Exhibition of Crocuses was held at Plaistow on Saturday, the 27th ult., and was of much interest as evidence of what can be accomplished in the cultivation of bulbs in towns. The exhibition was held in connection with the St. Mary's Guild, Poplar, and consisted of about 2,500 bulbs, these being the best of the 6,000 bulbs that were given to the children of the parish in November last.

A Sunny Winter.—Notwithstanding the fact that there were but few days in February on which rain did not fall at Westminster, the total duration of bright sunshine amounted to 53.9, and exceeded the average by 20 hours. The total was rather higher in February, 1909, but there are only two years in which it was considerably higher than last month. In 1894 there were eight hours, and in 1906 seven hours more. In December and January last the amount of bright sunshine recorded at Westminster was very high. The aggregate for the three months ended February 28 was 118 hours above the average.

The B.G.A. and Horticultural Examinations.—The members of the London Branch of the British Gardeners' Association have again distinguished themselves in the examination for parks employees, held by the Royal Horticultural Society. The examination was held on January 10, when six members secured first-class certificates, and the silver medal was won by Mr. P. G. Butcher. Thirty-two members of this branch have now obtained the first-class certificate in this examination, while three silver and two gold medallists are also included.

GREENHOUSES FOR PERPETUAL CARNATIONS.

The best style of greenhouse for the amateur or private grower of perpetual carnations is a subject on which, naturally, there is some diversity of opinion. Certain local conditions also have to be taken into account. For instance, the site may be level, or it may be on a hillside, the climate may be warm or it may be cold, the house may be open to strong winds or heavy falls of snow. All of these things, and many others, have to be taken into consideration when building a greenhouse.

For this reason it is not possible for anyone to design any particular style of greenhouse and call it a model carnation house. Yet there are certain essentials which we nearly all agree upon, such as winter light, air, heat, etc.

The aspect of the house in this country, where our winters are so dull, is a most important matter. If the greenhouse is built from east to west, you get more light when light is at a premium, and that is the most important point to be considered for any winter-flowering plant. In a house built with the ridge running north to south the sun's rays, when low in the winter, instead of striking the glass at right angles, strike it at such an angle that much of the light, instead of passing through the glass, is deflected, and lost to the plants inside.

Then, too, the woodwork in the roof of such a house will cast more shade than is the case in an east to west house. That is why no one should build, for choice, a house running from north to south for perpetual carnations.

The matter of size of the house is, of course, influenced by requirements, but a lofty house is greatly to be preferred, and if the roof is glazed with the largest-sized glass, it is an advantage. It is better for perpetual carnations to be a good distance from the glass, particularly if the light is very good. The larger the body of air contained in a greenhouse the more easily it is kept at an even temperature in the winter.

The ventilation must be adequate to cope with the hot sun of March, and also the late summer weather we so often have in September. Continuous ventilation on each side of the ridge is best, allowing for a maximum amount of fresh air with a minimum amount of draught. I strongly believe that all specially-built carnation houses should have at least four-feet glass sides made to open as ventilators, also box ventilators made in the brickwork just above the ground level, so as to admit fresh air beneath the stages for use in cold weather. A house so provided with means of ventilation can never be out of control in the matter of temperature, which we know is often a difficult problem in a month like March, when some days we have to contend with a burning sun and a biting wind.

The actual amount of hot-water piping required for any one greenhouse must be decided individually, but this point should be borne most strongly in mind, that we can only imitate Nature when we have an abundance of piping mildly heated, which will give off a gentle warmth. Compare this with a greenhouse which has insufficient piping, and in which, during a cold spell, the fires are rushed. The few pipes give off a great heat, which, in turn, completely dries up the air, and is favourable to several insect pests.

The change of ideas is only in keeping with our times, and there is no doubt that the flow-pipe running along the eave plate or on the roof of a greenhouse is better than putting pipes near the ground, where the dry heat comes into direct contact with the plants.

These are the most important points which one has to study when building a greenhouse for perpetual carnations.

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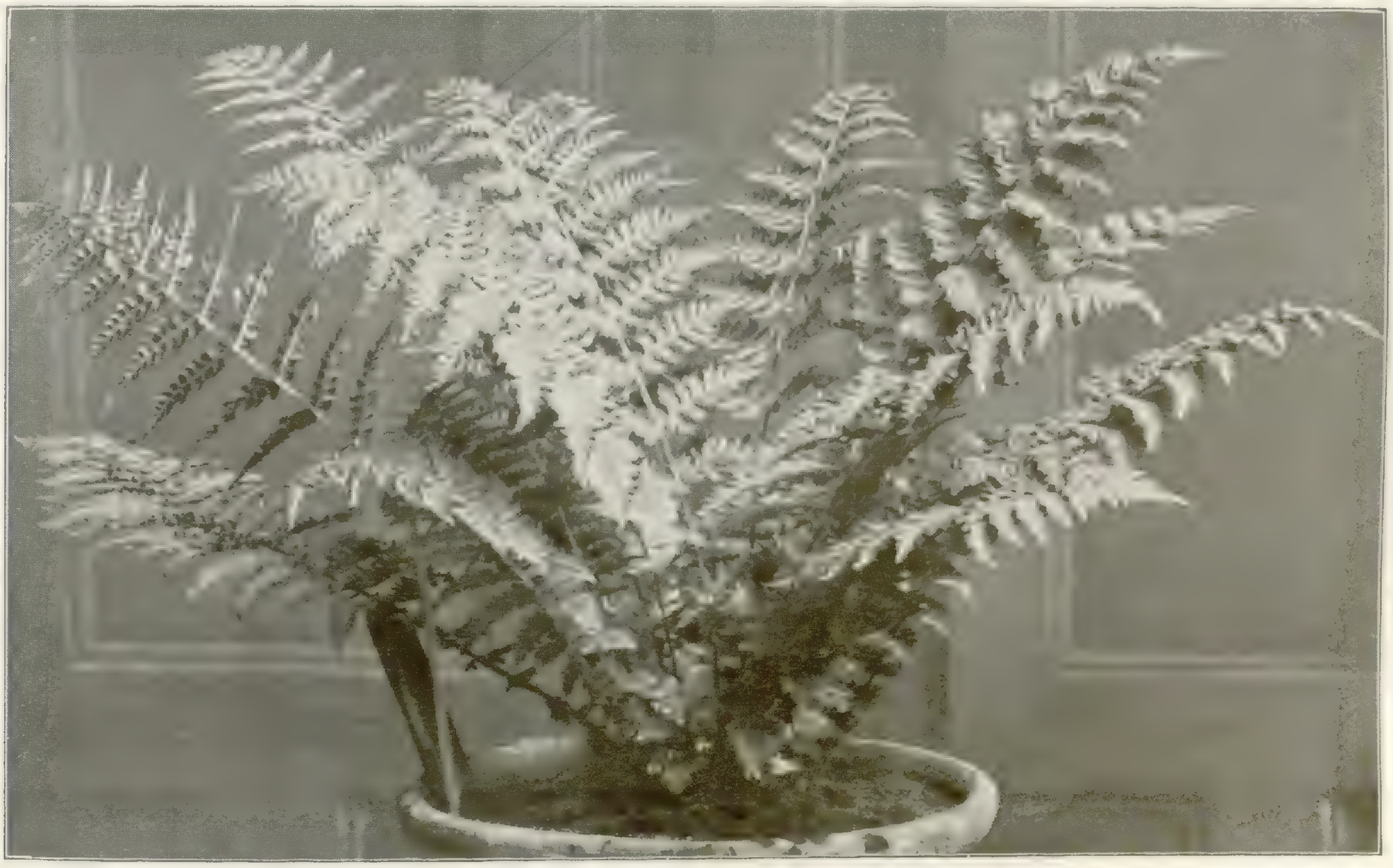
LASTREA MONTANA PLUMOSA STANSFIELD.

This very beautiful fern, an illustration of which is reproduced from the "British Fern Gazette," was found by Dr. F. W. Stansfield, in July of last year, near Nevin, Carnarvonshire, and although a comparatively small specimen, displays the plumose character far more than any previous find, and promises to become an easy first amongst the many beautiful forms of this species. Curiously enough, in the early days of fern hunting L. montana acquired the reputation of being an extremely constant species, little liable to variation, but, later on, Mr. Barnes, of Milnthorpe, in the Lake District, found a beautifully tasselled form, and, encouraged by this, he and others eventually demonstrated its variability to such an extent that something like seventy distinct varieties have been found wild, and added to collections.



LASTREA MONTANA PLUMOSA STANSFIELD.

Of the plumose type, characterised by breadth of pinnæ and incised sub-divisions, adding much to delicacy and beauty, Mr. Barnes, Mr. Whitwell, and the writer have found well-marked examples, and it is a matter of congratulation that Dr. Stansfield should have been fortunate enough, not merely to add a fourth, but presumably to eclipse all the preceding discoveries. Amongst the most remarkable forms so far discovered L. m. Barnesi is the most striking. In this the fronds are very erect and narrow, the side divisions being short; its main peculiarity, however, is that these divisions are not set on in the plane of the frond, but at right angles to it, like the steps of a ladder, and it is recorded that when Mr. Barnes came across it, full size, and alone, on one of the Lakeland hillsides, it quite took his breath away, as apparently it belonged to some new and unknow species, and it was some time before he recovered sufficiently to effect its removal. Dr. Stansfield's feelings were doubtless akin to this on catching sight of his latest acquisition.

C. T. Druery.

HISTORICAL NOTES ON THE LEEK.

The editor of the second edition of "Hortus Kewensis," which was published in 1811, states that the leek (Allium ampeloprasum var Porrum) is a native of Switzerland, and gives the authority of Turner's "Herbal" that it was introduced to cultivation in 1562, and on both points he was unquestionably wrong. That he should have erred in assigning the leek a place in the Swiss flora is not surprising, for with the limited amount of information then available, it must have been extremely difficult to check statements as to the place of origin of many plants, and at the present time no one can authoritatively state whence this useful vegetable had its origin. With regard to the date when it was introduced to cultivation, it is quite certain that it was grown in English gardens long previous to the year mentioned. It may be that Aiton simply gave the year 1562 as that in which the fact of it being in cultivation was first published. We have proof that it was in cultivation long previous to the middle of the sixteenth century, for Gerard states in his "Herball," published in 1597: "It is common everywhere in other countries, as well as in England." We have evidence that he was well acquainted with the leek when his herbal was written, for with regard to its cultivation he suggests that "it requireth a mean earth, fat, well-dunged, and digged."

Tusser, whose "Five Hundred Points of Good Husbandry" was published previous to Gerard's "Herball," suggests in his classic that the vegetable was in general cultivation in his time. Dealing with the work for the month of March, he writes:

> "Now leeks are in season, for pottage full good,
> And spareth the milch cow, and purgeth the blood;
> These having with peason, for pottage in Lent,
> Thou spareth both oatmeal and bread to be spent."

Another fact of interest is that showing that not only were leeks largely grown thus early, but also that they were regarded as very hardy in constitution. In an account of the Great Frost of 1608 the writer observes: "The leek, whose courage hath ever been so undaunted that he hath borne up his lusty head in all storms, and could never be compelled to shrink for hail, snow, frost, or showers, is now by the violence and cruelty of the weather beaten into the earth, being rotted, dead, disgraced, and trod upon."

If we turn to Wales for evidence of the long period that the leek has been known in the United Kingdom we shall be able to trace it back between 1,400 and 1,500 years, assuming no mistake has arisen with regard to the plant selected by the Patron Saint of the Principality. According to a tradition that is now well known, leeks were worn by the Welshmen in a battle between them and the Saxons to distinguish themselves from the enemy. Proving victorious the troops were commanded by St. David to wear a leek upon the anniversary of his death.

There is no difficulty, as will have been seen, in showing that the leek was cultivated in this country long anterior to the middle of the sixteenth century, but it is practically impossible to say where and when it originated. In the monograph by J. Gay (Ann. des Sc. Nat., 3rd series, Vol. VIII.), it is suggested that it is simply a cultivated variety of Allium ampeloprasum, as was supposed to be the case both by Linnæus and De Candolle. According to De Candolle's "Origin of Plants," the "cultivated variety of Porrum has not been found wild. It is only mentioned in doubtful localities, such as vineyards, gardens, etc." From this publication we learn also that the leek is "common in the East and the Mediterranean region, especially in Algeria," and that "in Central Europe it sometimes becomes naturalised in vineyards and round ancient cultivations." The specimens of the original type of the cultivated leek herewith illustrated were grown by Messrs. Sutton and Sons from seed sent them by Miss Jekyll, who had received it from abroad, possibly Southern Europe. The reproductions of this and Sutton's Improved Musselburgh are on nearly the same scale, and the illustrations are of much interest as showing the immense improvement that has been effected by persistent selection.

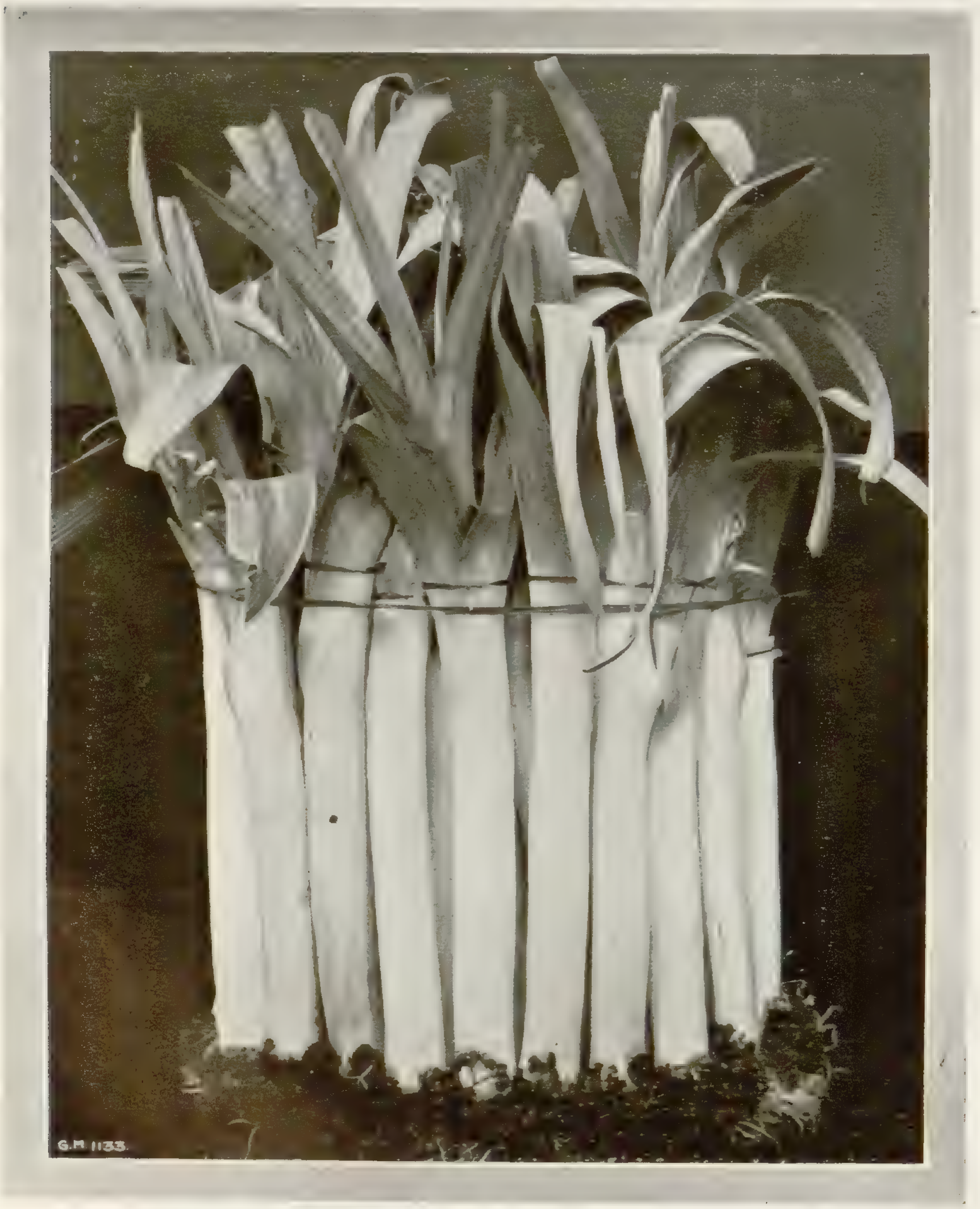
Whatever may have been the length of the time that has elapsed since the leek was grown in gardens in this country, there can be no doubt that its cultivation in the East extends over at least two thousand years. Pliny the younger gives us much information with regard to its history, cultivation, and uses in his "Natural History," which was written nearly two thousand years ago. He states in Book XIX., chapter 6, that the finest leeks were those brought from Egypt, where we may assume they were generally grown; and that next in merit were those which came from Orthe, a town in Asia Minor. In Italy the Riccia district was in Pliny's time famous for leeks, for he writes: "Not long since leeks were brought into great notice and esteem through the Emperor Nero, who used to eat them for several days in every month to clear his voice. He took them with oil only, debarring himself even from bread on these days." With reference to this Delille wrote:

> "Thus Nero lived amidst his motley court,
> His people's terror and his people's sport."

Emperor Nero was not the only individual who has fasted in connection with the leek, if we can accept a statement made by Lord Bacon. In his "Sylva Sylvarum," he writes: "I knew a gentleman that would fast, sometimes three or four, yea, five, days, without meat, bread, or drink, but the same man used to have continually a great wisp of herbs that he smelt on, and amongst these herbs, some succulent herbs of strong scent, onions, garlic, leeks, and the like." With a pot pourri of this kind it is not surprising the gentleman should have fasted.

The old herbals and several other works published in the sixteenth and seventeenth centuries contain lists of the virtues of leeks, but there is little of praise. That bestowed by Gerard is certainly faint, for he says: "Being boiled it is less hurtful by reason that it looseth a great part of its sharpness, and yet, being so used it yieldeth to the body no good juice." In expressing this opinion, our old author differed widely from the views that now obtain; but he had only thin, wiry stems on which to base his opinion instead of fat, well blanched stems, such as are now common.

G. G.



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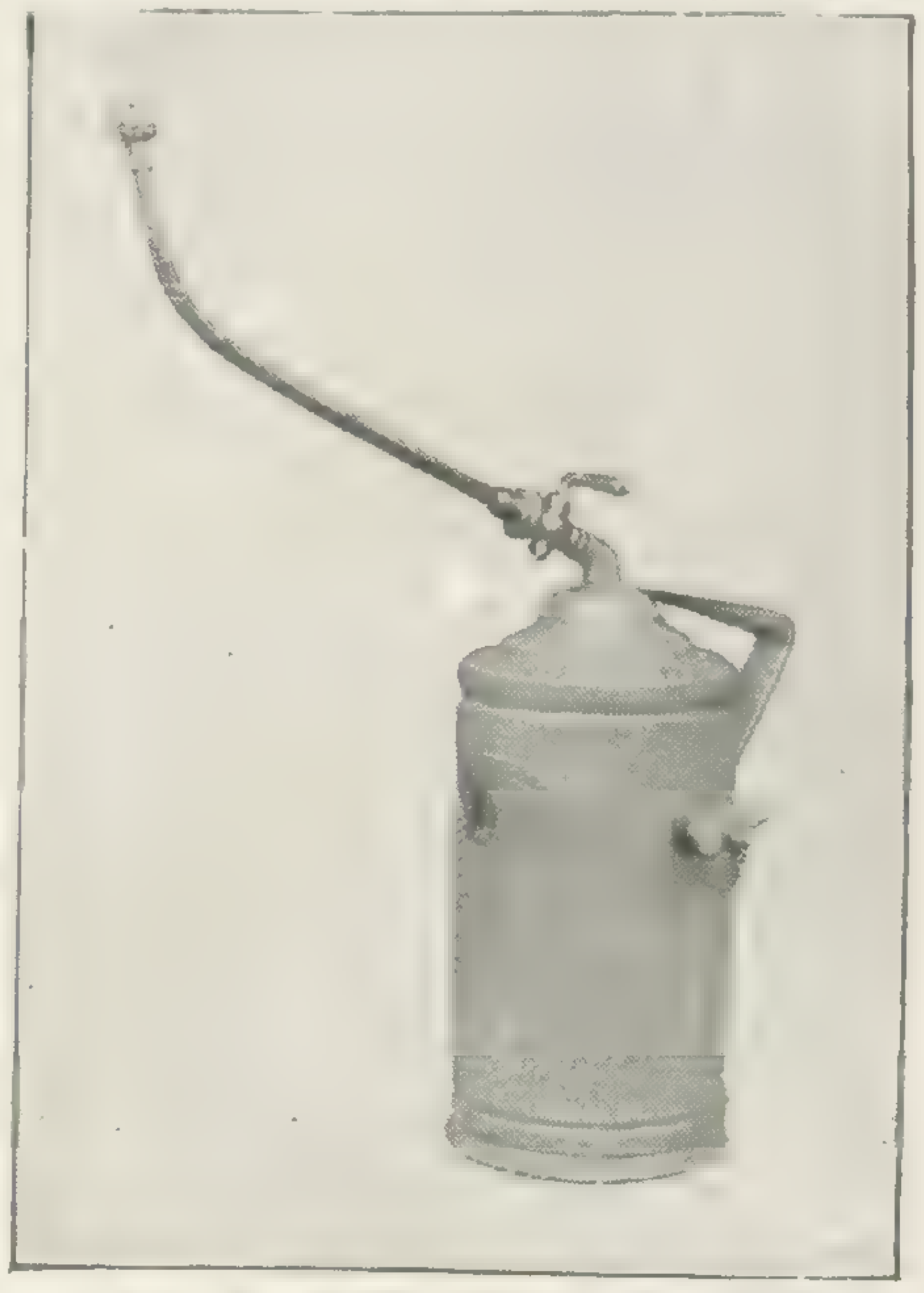

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ROSE NOTES.

On looking over the budded stocks worked last summer I find them more promising than for many seasons, and hope others are equally fortunate. The majority—even those that do not do so well, as a rule—have set to the stock nicely, and appear plump and sound. It is a mistake to cover dormant buds of this description with manure with an idea of protection, and I have known many serious failures caused by this practice. My own experience is the drier they are kept the more effectually is frost resisted; and the moisture-retaining qualities of manure is against this. Now is a very good time to spread a little well-rotted manure between the rows, and bury it just beneath the surface by very shallow digging. Of course, cut off the top of the stocks first so as not to go on the ground again very soon.

I was admiring a few dwarf-growing Polyantha roses in pots some time back, when the extremes in size of flower found among roses was borne in on my mind very forcibly. By the way, we have very few roses more suited for pot culture than these dwarf polyanthas. They keep such good form, and continue in bloom for so long. We can have roses from the size of a sixpenny piece up to seven or more inches over. Many of these miniature roses are perfect in shape, and some produce the prettiest rosette-formed flowers imaginable.

A few of the hybrid perpetuals bearing large flowers known to me include Antoine Mouton, blush pink; Paul Neyron, deep rose; Rev. Alan Cheales, lake and blush; Her Majesty, satin rose; Bén Cant, clear, deep crimson; Frau Karl Druschki, snow white; Captain Hayward, scarlet crimson; Gustave Piganeau, carmine; Magna Charta, bright rose; Ulrich Brunner, cherry-red. Teas and hybrid teas also include a few varieties which sometimes produce a phenomenally large flower, such as the Cleopatra, shown in the Queen's Cup at Windsor in the late Queen Victoria's reign. I cannot put my hand on my notes of that show, but the memory of the flower will not be lost. After I had carefully measured it, I almost feared to record the size in my report. The exhibitor, the Rev. F. Burnside, told me he had the flower there, but only the roots remained at home! Gustave Piganeau, too, is not fit for general culture, being one of the worst growers. Betty, coppery-rose, has only a few petals, but their immense size gives a very large flower. Comtesse de Turenne, satin rose; Madame Segond Weber, salmon-pink; Mildred Grant, flushed white; Yvonne Vacherot, white; Souvenir d'Elise Vardon, creamy-white; The Lyon Rose, coral-red, produces very large and well-formed flowers. There are a few extra large blooms among the singles, Maharajah is often quite five inches across. This is a grand crimson and maroon, and the best dark single we have. Hon. Ina Bingham, pure pink; Una, pale buff, are also large and good.

But I must not make a catalogue of these notes. When we turn to the growth of roses the extremes are more noticeable still. We have a rose called Little Alfred that is comparatively new, and I never saw it exceed nine inches in height. A contrast, indeed, to the strongest from the Wichuraianas and Banksias, with their growths of twenty feet and upwards in one season. From the remarkable hardiness of the Rugosas, to the tenderness of Cloth of Gold and Macartney alba simplex is very noticeable.

Once more we have tried grafting the Pernettiana roses, and have decided they are not suitable for this method of propagation. Soleil d'Or we ceased to try some time ago, but with the advent of the Lyon Rose all efforts were naturally made to increase stock, but it is not satisfactory with us, although the varieties of other classes are doing well, and these had even more careful treatment. Gottfried Keller behaved the same when we tried it as a newer rose, and we experienced just the same difficulty when trying the Austrian briers during a time of shortage. It was the same with Scotch briers when we wished to increase a certain colour. With the exception of the Scotch briers these roses, fortunately, produce a good number of sound, workable buds during summer, and when these are lifted and potted up in the dormant bud there is no waste of time in working up a stock. But I do not like this excessive propagation of all available wood, either as grafting or budding, feeling sure we should benefit by selection of the best growths.

ORIGINAL TYPE OF THE LEEK.

There would seem to be a great future before standard roses in pots. Indeed, it is surprising to me we have not seen them in more general use long ere this, considering how well they have figured at the various shows. They afford such a great decorative effect in the conservatory, standing well above other subjects, and their pots taking up so little room. Providing a good selection of colours, and lasting well, they also have the advantage of much more certain flowering than most roses. Where some were lifted this season, I would warn against any hasty forcing, or much of the wood will be lost. Grow them steadily the first year, and be sure the pots are plunged, as they have very little root run for so strong-growing a section as those most suited for the purpose.

This is about the most critical time for Marechal Niel under glass, as the growths are pushing actively, and get close to the glass sooner than anticipated. I saw what I thought a novel dodge the other day. A small clinker was depended from the lateral growths, being more or less heavy, according to the strength of the rose shoot. Hung on with a piece of raffia, these are easily cut off as soon as the shoot is drawn away from the glass a little. A. Piper.

TOMATO CULTURE.

For a number of years I grew about 15cwt. of tomatoes annually. This is not a great bulk compared to the produce of large growers for market; but it is large when confined to the glass structures of a private garden.

Of course space was valuable, and I soon realised that, where the plants were grown in a rather loose rooting medium they occupied room, shutting out light from other occupants of the houses. These tall plants did not bear a heavier crop than some very dwarf ones which were grown in very hard compost. The plants were well grown while in the small pots, and were then planted out in the firm soil, the latter being rammed down well while it was rather dry; if wet it would be unwise to so ram it. The result was that about three trusses of fruit set well on the lower 18in of each plant. Up to this stage, no feeding was done, and manures were not mixed with the compost good turfy loam. Afterwards feeding was regularly carried out, and, owing to the weight of fruit already set, the plants still made short-jointed growth, and set more fruits with equal freedom. Cultivators who do not possess much glass may follow these hints. G. B.

VINE BORDERS.

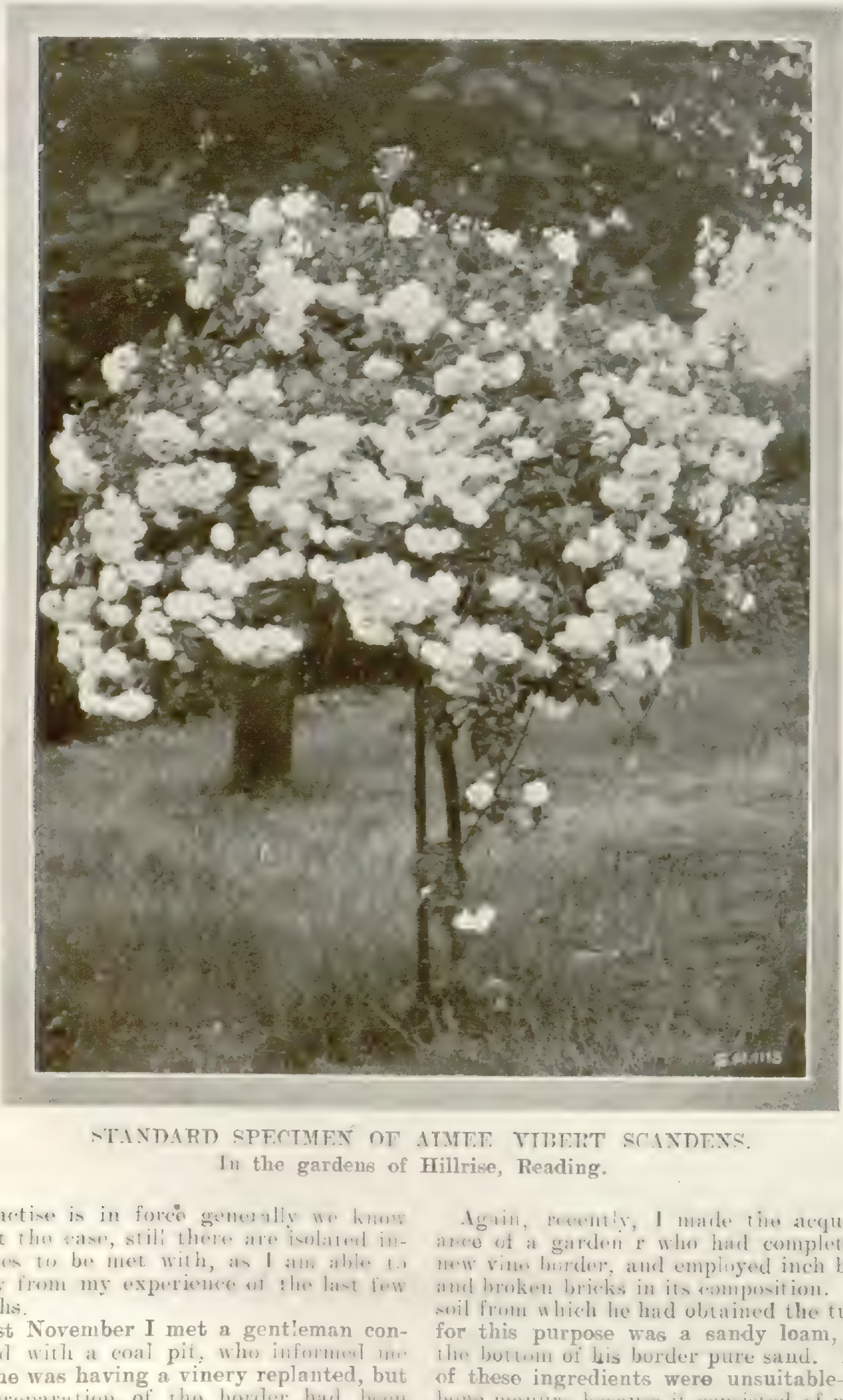
In spite of all the gardening literature of the present day, it is rather surprising to find some of the old and pernicious garden practices still in force. Half a century ago the grand old gardeners fancied they had done a clever thing when they buried the carcase of a horse in the vine border. Time taught them the contrary, and the gardening periodicals have done much to educate those who would read, that nothing more inimical to the welfare of the roots of the vines than this putrid mass could very readily be found. That such a practise is in force generally we know is not the case, still there are isolated instances to be met with, as I am able to verify from my experience of the last few months.

Last November I met a gentleman connected with a coal pit, who informed me that he was having a vinery replanted, but the preparation of the border had been delayed on account of a pig. The pig was sickly, and he waited for some time to see if it would die, as, in the event of it doing so, he intended putting it into the border. As the pig revived a little he made his border without it, but shortly after this abomination of the Jews had a relapse, expired, and, with due pomp and ceremony, was consigned to a grave in the vine border. The owner told me this with the zest which accompanies conviction, and while measuring, in his mind's eye, the penderous bunches and berries of grapes the immediate future had in store for him. When the evil influence of this carcase on the compost of his border was pointed out to him, the gentleman remarked that Mr. ———, gardener to ———, advised him in the matter. So, evidently, in this twentieth century a certain amount of elementary teaching in horticultural matters is desirable, if the wrong impressions of earlier days are to be overcome, and the poisonous character of decomposing carcases in soils made apparent to all.

Again, recently, I made the acquaintance of a gardener who had completed a new vine border, and employed inch bones and broken bricks in its composition. The soil from which he had obtained the turves for this purpose was a sandy loam, and the bottom of his border pure sand. Both of these ingredients were unsuitable—the bone manure because it consisted of pieces that would not dissolve during the lifetime of the vines, and the bricks because they supplied no plant food, and aggravated, rather than ameliorated, the porosity of the soil. Bones and basic slag are phosphate of lime, and the former should be ground to as fine a powder as the latter usually is, before they are utilised for either garden or farm purposes. Nitrates and chlorides are readily washed out of the soil by rains, but phosphates have an affinity for the earthy particles, and remain within the medium till assimilated by the roots of plants. In a fine state of division phosphates are readily available as plant food, and crops derive benefit from their presence. On the other hand, when they are present in large pieces, such, for instance, as inch and two-inch lumps, phosphatic-loving plants may languish in the soil in spite of the abundance of this plant food. Ground bricks are only used in very heavy soils to render them more porous. They are an evil, but when dealing with very tenacious stratums they counteract, to a more or less degree, the imperviousness of the mass.

When old plaster or lime rubble is available either of these will serve the purpose of drainage, and yield a supply of lime, and, in the case of old plaster, potash as well. It will therefore be seen that the primitive practice of incorporating broken or ground bricks with the soil of a vine border is out of harmony with modern enlightenment and methods, and may be regarded as a mark of antiquity only.

Pedestrian.



STANDARD SPECIMEN OF AIMEE VIBERT SCANDENS.
In the gardens of Hillrise, Reading.

ROSE CLIMBING AIMEE VIBERT.

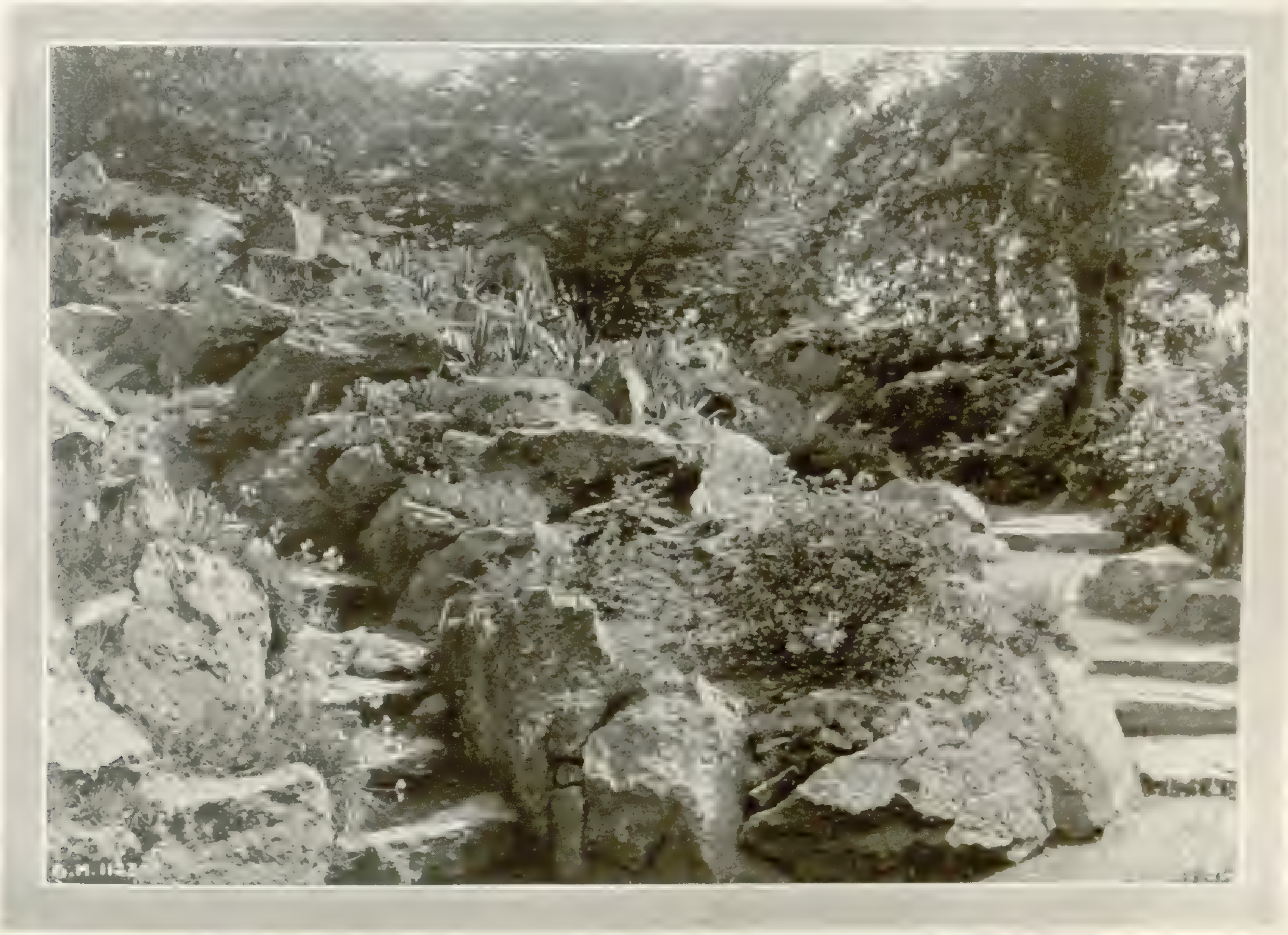
Rosarians have evidently much the same peculiarities with regard to their favourites as other sections of the flower loving community, and one of the most noteworthy of these is perhaps the reluctance with which a departure is made from traditional methods. In the earlier days of rose culture in this country, custom decreed that roses of slender rampant growth should be trained to walls and trellises, or be utilised in the formation of arches, while those of erect growth should be grown as bushes or in the form of standards. The climbing roses were then as now the best of the sections for clothing large spaces with flowers and foliage, but it did not necessarily follow that they could not be successfully grown in other ways. As a matter of fact, some of the best of them make the most effective standards, but we had to wait more than half a century before their suitability for this purpose was recognised. The climbing form of the beautiful pure white noisette Aimée Vibert is a case in point. Upwards of sixty years have elapsed since it was introduced into cultivation, and although possessing in a marked degree the qualities that render it of value for cultivation in standard form, it is only now and then that standard specimens are met with in gardens. In the ballot for the best white climbing rose, flowering in clusters that was conducted two years since by the National Rose Society, it obtained the premier position by an overwhelming majority. There can be no question as to its exceptional value for covering large wall spaces, pergolas, trellises, and arches, and it is certainly not less valuable for training to form weeping standards. The growth is light and elegant, and, being rather stouter, does not hang quite so straight down as does that of some of the Wichuraianas when grown in a similar manner. In freedom of flowering it has no superior in its class, and the bright glossy green leaves are retained throughout the greater part of the year. The specimen herewith illustrated is growing in the charming gardens of Hillrise, Reading, the residence of Leonard Sutton, Esq., and a better proof of the suitability of the variety for growing in standard form could not be desired.

G.

WATER SCENERY.

One of the most interesting features in connection with present-day gardening is the increasing popularity of scenic effects in the garden in which water plays a predominant part. It may be that all gardens are not adapted for the introduction of water effects, but in justification of its inclusion, when practicable, one must say that frequently the beauty of the garden is doubled by the judicious use and treatment of water.

There are so many opportunities in larger gardens for additional improvements along the line indicated, that one should not hesitate to make the fullest use of water scenery whenever the opportunity arises. The various aspects of water gardening present to the gardener decided and praiseworthy means of rendering the grounds under his control much more attractive to his employers and their guests, and of enlarging the sphere of interest in garden studies, to the mutual advantage of employer and employees. Take, for example, the possibilities of lily ponds and pools. In these one can devise such a garden of summer beauty as will dwarf the pretensions of any formal flower garden or a glowing border of perennials.



A VIEW IN THE ROCK GARDEN, BOTANIC GARDENS, EDINBURGH.

It is not my intention in these notes to urge upon the reader particular varieties of chosen plants, but rather to draw attention to the whole race of aquatics and moisture lovers, in the hope that it may further, in a small degree, the interest and love of this most charming phase of garden adornment. With reference to the association of true aquatics with the garden pond or pools, one is not forced to accept any stereotyped design or varieties, but rather to choose, from among the wealth of subjects that are available according to individual taste, both as to the types of plants employed, and their arrangement of colouring.

The nymphæas, or water lilies, which always have had so great a charm for the flower lover, should certainly be included in all schemes, though with the recent acquisitions, which embody so many sterling forms, the group assumes such dimensions that one has an exceptionally fine range to choose from. The effect of well-arranged pools, with the water gently shimmering under a summer sun, and their lovely burden of lustrous foliage and glorious blossoms, is one to be remembered. The colourings, too, run through such a delightful range of shades, including white, primrose, yellow, blush, pink, salmon, rose, crimson, etc., and enlivened by the suffusion of so many intermediate hues, that, given a fine collection, the grower might well be satisfied by the diversity and beauty of his lily pool. One might well be enthusiastic over the nymphæas, and then when the range of beauty included in the other aquatics, such as nuphars, villarsias, alismas, hottonias, aponogetons, hydrocharis, sagittarias, ranunculus, and typhas, is remembered, one at once realises that the possibilities of the water garden are indeed boundless.

Again, when one bears in mind the advantages of embellishing the margins of the ponds and streams, with the host of moisture-loving plants, the possibilities of water becomes better understood. The semi-aquatics, which grow well with their roots submerged in shallow water, include the glorious calthas, the mimulus, myosotis, cyperus, juncus, acorus, and butomus, the wonderful series of moisture-loving plants, which do so splendidly just above the water's edge, as the astilbes, cimicifugas, epilobiums, funkias, irises in variety, lobelias, primulas, trollius, lythrums, lysimachias, rodgersias, and gunneras, and beautiful osmundas and onocleas.

Careful selection and arrangement of some of the above subjects will prettily frame those lily pool pictures, and render the banks of the streams and brooks a veritable haunt of beauty. Certain it is that by the carefully considered use of waterways and water-loving plants, the province of the garden decorator is considerably extended.

P. S. Hayward.

EDINBURGH ROCK GARDEN.

The illustration of a portion of the remarkably fine rock garden in the Botanic Gardens at Edinburgh that we have now the pleasure of giving was intended to accompany the important paper by Mr. W. Irving on the making of large rock gardens, which appeared in our issue of the 26th ult. Owing to the pressure on our space we were compelled to leave it over, but it suffers nothing from the short delay in obtaining publicity, and our readers who are interested in this aspect of gardening will not fail to appreciate the object-lesson it affords in the arrangement of the steps by which access from the path is obtained to the higher levels. The Edinburgh rock garden has been greatly extended within a quite recent period, and the manner in which this has been accomplished has brought much praise to Professor Bayley Balfour, V.M.H., Mr. Harrow, and others concerned. The enlarged rock garden has indeed been so great a success that it has created much interest in Edinburgh, and as one result, the question of forming a new rock garden in one of the public gardens belonging to the city came before the Corporation at a recent meeting. The suggestion was favourably received, and it was referred to Mr. McHattie for consideration and report.

JOTTINGS: CRITICAL AND OTHERWISE.

In a recent article on spraying Mr. Frank Hammond observed that winter washing is not going to cure all the evils that fruit-growers suffer from any more than is grease-banding or any other operation. I quite agree with him, but I contend, nevertheless, that for the prevention of damage by the caterpillar of the winter moth, grease-banding is the best preventive remedy known. Quite recently I visited an orchard consisting of several hundreds of big standard trees. Last season caterpillars did a lot of damage, and with the object of preventing a repetition of the trouble, the occupier of the orchard resorted to grease-banding last autumn. Long before Christmas the bands were simply covered with moths, both male and female, and if one could have counted them the figures would have run into hundreds of thousands. It is quite natural to suppose that the destruction of all these moths must make a difference to the damage that their offspring would otherwise have done; and speaking of grease-banding, the fruit growers in the Evesham Valley are a pretty shrewd lot, who do not spend their money without a prospect of getting value for it. Nevertheless, the Evesham growers are grease-banders almost to a man, and it would be difficult to say what they would suffer through the winter moth pest if they relaxed their combined efforts in preventing its ravages.

A friend of mine, who was about to plant an orchard of standard fruit trees a short time ago, read advice to the effect that it was always advisable to get out the holes some time before planting, with the object of exposing the soil to the action of the weather. My friend followed the advice. Rain began as soon as the holes were dug, and for several weeks they stood full of water, during which period, of course, planting was impossible. Even when matters improved the conditions were most unpleasant, the soil being wet and sticky and difficult to work, with the result that the trees not only went in badly, and it took twice as long to plant them than would have been the case had circumstances been different. Another planter saw the danger of getting out holes for standard trees beforehand in a season when it has rained incessantly, and, after waiting for fine days, got out the holes as he wanted them, and planted the trees straight away. The result was that he completed his planting while his neighbour was waiting for the water to drain out of the holes, and the trees went in splendidly, with about half the cost for labour. Probably the scribe who gave the advice referred to above had planted trees in a dry autumn, not in the midst of a wet winter, but the logic is obvious, if you are not sure of the weather, and it is hardly possible to be, dig your holes as you proceed with planting rather than run the risk of having them stand full of water for several weeks.

I should like to supplement the remarks of "G. B.," on page 48, with reference to the good qualities of Court Pendu Plat as a dessert apple, and I am quite sure that this variety is worthy of extended cultivation. In several places in the West of England Court Pendu Plat is largely grown as standards in grass orchards, and it is one of the best dessert apples for this class of cultivation. One of the characteristics of the variety is that it flowers late, so late in fact that it is often dormant when other apples are in bloom, and it is therefore suitable for planting in low situations where late frosts are liable to do damage. Again, on account of its lateness, Court Pendu Plat is not so liable to suffer through insect pests as some others. I do not say that there are not better flavoured apples than this, but after Christmas, when Court Pendu Plat is at its best, it is quite good enough, and its bright colour and even character make it popular in the market. It is a splendid apple to pack, and when put up in small boxes (which class of trade appears to be gaining in popularity) the fruits present a very pleasing appearance. To give an idea of the keeping properties of Court Pendu Plat, I may add that some fine specimens of it, picked from orchard trees, were exhibited at the Royal Agricultural Show at Gloucester last June.

Quite elaborate in detail was the article from the pen of Mr. J. C. Newsham on the Cultivation of Exhibition Onions, and would-be prize winners would doubtless read it with advantage; but apart from the exhibition aspect, does anybody want big onions? I think not, and I question, therefore, whether it is worth while going to all the trouble and labour necessary to produce even modest bulbs of 2lb. apiece. Let me illustrate two cases. Last year two men set out to grow onions, and one of them was bitten with the big-bulb craze. He went to a lot of trouble in raising early plants, he trenched deeply, manured liberally, and attended to all the details known to big onion growers. As the result, he produced long drawn "ohs" of surprise and perhaps admiration from the people who saw the crop of monstrous bulbs. The other man sowed his onions in a box in February in a frame, pricked them out at the beginning of May six inches apart with fifteen inches between the rows on a well-prepared bed, and the after-cultivation consisted merely of hoeing. He probably didn't grow a single onion weighing a pound, but every bulb was practically the same size, the total weight of crop from the bed was in excess of the other man's return, and the well-harvested specimens of medium size had a commercial value which the two-pounders never possessed. The fact is, of course, that neither cooks nor housewives want two-pound onions, so what is the good of growing them except to win prizes, for the type of onion which stands triumphant on the show-board finds little or no favour either in the kitchen or the greengrocer's shop. All the same, I think the growing of big onions has not been without its benefits, because by a modification of the same system of culture one is able to grow a heavier weight of medium-sized and useful bulbs than is generally possible by sowing the seeds out of doors.

May I be allowed to say that the Sweet Pea number of the Gardeners' Magazine was just what such a number ought to be. Sweet peas predominated from beginning to end, but there was just that nice little variation of matter that is wanted to suit the taste of readers, who, though they may be sweet pea lovers, can think, and talk, and read about others things as well. As I see it, there are two worlds of sweet pea growers, one active and vigorous, the other quiet and unknown. The first section constitutes the authorities in the sweet pea world, the raisers, the exhibitors, writers of sweet pea literature, and, shall I also add, the cranks, for there are a few of these in the sweet pea world. The second division reminds me of the silent voters at election times, they make no shout, but do their bit in the cause they believe in. Our second world of sweet pea growers comprises thousands who never set up a flower at a show, never squabble about who was the raiser of such and such a novelty, but are rather content to grow the variety after it has passed the novelty stage, and can be purchased at a reasonable price. To these individuals the sweet pea is just a beautiful garden flower which they love for its own sake, and they would continue to love it even if the sweet pea craze came to an end, no more new varieties were introduced, and sweet pea shows became a thing of the past.

Speaking further of sweet peas, Mr. C. H. Curtis, the energetic secretary of the National Sweet Pea Society, recently observed: "Under present conditions, the multiplication of names for varieties that present only such differences as exist between Tweedledum and Tweedledee can only lead to one end, and that will be a slump in the named varieties, and an enormous loss to the trade." I quite agree with this outspoken remark, and I do not look at the matter from the point of view of either the trade or an exhibitor, but as one of the hundreds of sweet pea growers, who do not want to buy a variety under a certain name, grow it, and when it comes into flower find that they have already got it, or something so much like it that only an expert can see the difference, under a different title. That the similarity of so many so-called distinct varieties of sweet peas is a source of confusion and annoyance there can be no doubt, and another great mistake is the anxiety of raisers of sweet peas to send out novelties before they are fixed. Last year I had experience of this in three or four cases, and as a result of it I am now going to be content with being less up-to-date in the way of varieties, but I shall have the satisfaction of knowing that those I purchase are what they profess to be.

I wonder if there was ever a winter when some precocious primrose or other plant did not see fit to send up a solitary blossom or two out of their proper season. We, in the country, often see these things, but beyond a casual remark pay little heed to them. Not so the enterprising journalist who caters for the daily press. In the solitary wayside primrose in the winter, which is only a poor apology for a flower, after all, he sees material for copy, and the day after the world is made wiser respecting the doings of a little wild plant in some secluded hedge-row. Matters of greater importance are looked over in favour of this event, perhaps because they are more commonplace, and, in a way, a precocious wild plant blooming out of season is given wider fame, through the medium of the daily press, than the flowering of any choice exotic. It is funny, but even in the rush of election news the primrose which blooms in January has not been crowded out of the columns of the morning press. Its doings appear every winter, and there's always room for notice of the event.

H.

The American Cowslips, of which Dodecatheon media is the best-known species, are pretty dwarf growing plants that succeed in any cool moist loam. The flowers are carried upon slender unbranched stems in the form of drooping umbels, the individual flowers resemble those of the cyclamen in having the segments reflexed, with the anthers and pistil protruding beyond into a fine point. The seedling forms of D. media are taller-growing, the flower stems attaining a height of fifteen inches; the colour range is also greater, varying from white to lilac, purple and rose. Dodecatheons flower during May and June; they are perfectly hardy and perennial in character, the growth is deciduous, so that no evidence of them is left above ground during winter.—Thomas Smith.

THE CATKIN BEARERS.

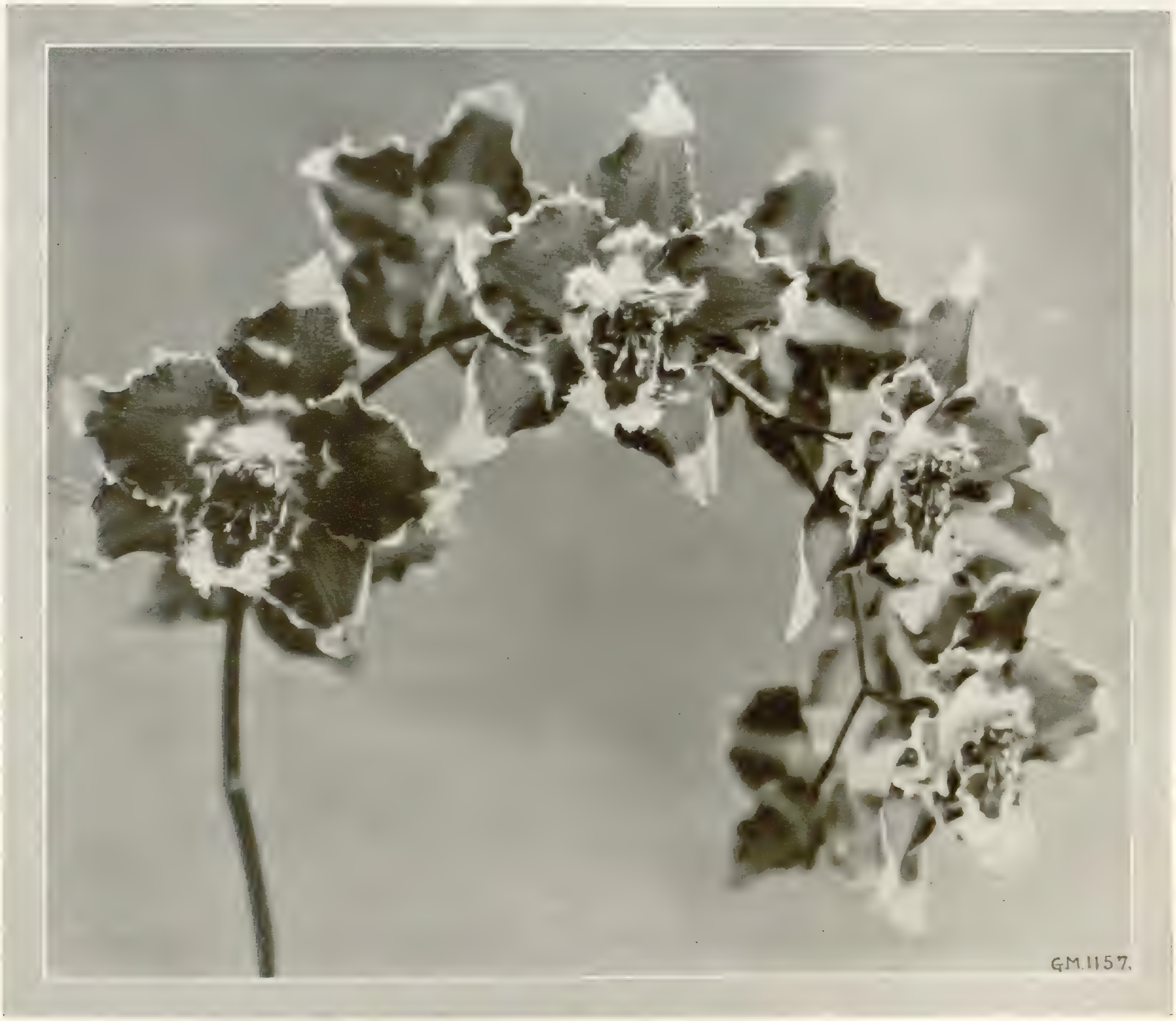
Attention is less frequently drawn to the various trees and shrubs which bear their flowers in catkins than to others which produce individual blooms of a more showy character, yet many of these catkin-bearing trees are decidedly ornamental when in bloom. Those which bear their flowers late in winter and early in spring are doubly valuable, for they serve to brighten up the garden at a naturally dull season. It is, as a rule, to the male-flowered catkins that we are indebted for the best effects, for in most instances the female inflorescences are small, and it is only by close inspection that the tiny styles, which are sometimes red in colour, are distinguishable. As these trees depend largely on the wind for the fertilisation of the flowers, it is only to be expected that pollen will be abundant, and this is the case. It is, in fact, the pollen-laden stamens, in many cases, which are responsible for the showy character of the catkins.

One of the most familiar examples of a catkin-bearing shrub is the common hazel, Corylus avellana, and many a copse and hedgerow is brightened during February and March by the yellow catkins, which may be up to three inches in length. In gardens, the filberts may be made to combine the use of flowering bushes in spring and fruiting plants in autumn, whilst in those places where the Constantinople Hazel, Corylus colurna, is grown, owners have the advantage of a good-sized round-headed tree covered with catkins. The poplars form a large group of catkin-bearing trees, and many of them are decidedly showy. The Balsam poplar, Populus balsamifera, bears catkins four or five inches long, while P. deltoidea, P. canescens, P. nigra, and various others, are showy. Perhaps the most ornamental of all the poplars is, however, the aspen, P. tremula, for in this instance the catkins are about four inches long, and pinkish in colour, with greyish scales. The catkins are likewise thicker than those of most of the other poplars, and they are borne in large numbers. The pendulous branched form is preferable to the type, for the branches hang in long streamers, which when covered with inflorescences are very effective.

Various willows make a brave show when laden with catkins, and some may be found in flower from January to June. The first to commence flowering is Salix cinerea var. Medemi. This has dense catkins two to two and a-half inches long, and one-half to three-quarters of an inch wide, and is at its best late in January and during February. The latest flowerer, on the other hand, is S. pentandra, which opens its blossoms in June, after the leaves have developed. Between these there are many kinds to choose from, good ones being S. aurita, S. babylonica, S. ramulis aureis, S. Caprea, S. daphnoides, S. discolor, S. fragilis, S. lanata, S. phyllicifolia, S. purpurea, and S. viridis. The female flowers on both poplars and willows are borne on different plants from the males, and are in greenish catkins. There is, however, one willow which combines male and female blossoms in the same catkin, this one being S. sesquitertia. The male flowers appear near the base of the catkin, and the female about the apex. Why this curious arrangement should occur is difficult to imagine, without it is that through being a hybrid the crossing of two or more species may have exerted some peculiar influence on the offspring. The shrub is stated to contain sap of three species, S. purpurea x aurita x phylicifolia.

Amongst the alders are several showy trees, the catkins, in most instances, being three inches or more long. Alnus glutinosa, A. cordifolia, A. incana, A. orientalis, A. tenuifolia, and A. viridis are all good. A very ornamental form of A. incana is found in ramulis coccineis. In this case the young bark is red, and contrasts well with the yellow flowers.

The birches, as a whole, are less showy than the poplars, willows, and alders, but the rare Betula Maximowiczi is an exception, for the catkins are three to four inches long, and almost a third of an inch in diameter. The frequently noted Garrya elliptica is well known by reason of its greenish catkins. It is a very ornamental shrub when in bloom, and a good evergreen. The oaks and hornbeams are other catkin-bearing trees, but as the catkins appear with the leaves they are less striking than those of the above-mentioned trees. The sweet chestnut, on the other hand, bears its catkins after the leaves have attained their full size, but they are five to six inches long, strong, and showy.



ODONTOGLOSSUM SPLENDENS.
Flowers brownish-red and purple. F.C.C., R.H.S., February 22. Messrs. Sander and Sons.

They are, however, attended by a disagreeable odour, which detracts somewhat from their value. Fagus sylvatica, the beech, is included in the group, but the same objections may be applied to this as to the oak, for the catkins are not sufficiently showy to make them specially noticeable amongst the young foliage. The walnuts and caryas both bear catkins, and several of them are distinctly interesting. They are, however, more or less green or yellowish-green, and the chief attraction lies in some of them being very long. Perhaps the most striking of all is Juglans cordiformis, which bears pendulous inflorescences nine inches to a foot or more long. By the above list it will be seen that there is a fairly wide selection of catkin-bearing trees and shrubs which may be used for decorative purposes. D.

GESNERA ROYAL ORANGE.

I was very much interested in the illustration and description of the above (page 127), as the habit and colour of the plant closely resemble an old favourite of mine, which I picked up in such an odd way that I think it possible for both to be the same thing. In 1878 I was foreman in the gardens of the late Sir Robert Jardine, Bart., at Castlemilk, Dumfriesshire, Scotland. In the spring of that year we had a consignment of orchids, and among the material attached to some of these the gesnera to which I refer sprang up. Thinking it might be worth cultivating, we carefully removed it with a piece of the bark and other matter in which it was growing, and gave it separate treatment. In November of that year we were well repaid for our care for, besides the ornamental foliage, the plant produced a mass of bloom of an orange-scarlet colour, in a pyramidal form of growth, rendering it a desirable object for either room or conservatory decoration.

It was determined to increase the stock, so after the growth was matured and had died down, all the bulbs were selected, put in a box containing leaf-mould, placed in a temperature of 60 deg. and watered when necessary. When sufficiently large to handle the young plants were potted up singly and grown on. The only thing in their culture to guard against was moisture on the foliage, as it destroyed the velvety gloss of the leaves, and tended to rot them. After leaving Castlemilk I was able to obtain bulbs of this gesnera, and grew it at Duncombe Park and Castle Howard, Yorkshire, for many years. During those years I gave some of my friends in various parts of the country a few bulbs to enable them to raise a stock, and in this way it became distributed. I never met anyone who could name this gesnera. Its usual time for flowering was the month of November. If it should be desired to compare Royal Orange with the variety I refer to I daresay plants could be obtained at Duncombe Park, Helmsley, Yorks, and Castle Howard, Yorks. In any case, Royal Orange would be a suitable name for the plant which turned up with the orchids at Castlemilk, and if this form should happen to be one and the same thing, Mr. Dickson will have done something in getting it enrolled as a variety.

J. Riddell.

Broad Beans.—A good breadth of these should now be sown in an open and well-prepared position; these will be found to give generally better results than the autumn-sown ones, which, too, have to contend with the ravages of slugs on most soils.
—George Ellwood.

SUMMER ONIONS.

Each season confirms the views that I expressed many years since with regard to the method and cultivation of this very important and universal vegetable. It was then the exception, rather than the rule, to sow the seed under glass, and transplant the young plants, in genial weather, during the month of April, but now we find quite the majority of vegetable growers adopting this practice, and certainly all the leading exhibitors. This system, independent of growers for exhibition, has very much to recommend it, and perhaps plants raised in this way are seldom injured, or very slightly, by the larvæ of the onion fly. Another very important factor is that early-raised plants have a much better chance of attaining full maturity, which means that their keeping properties are much better assured. This may either be adopted on a large or small scale, and I am fully persuaded that the extra trouble incurred will be more than repaid. Well-grown large bulbs are in every way superior to those which are imported annually from foreign countries, and if care is taken in harvesting and storing, there is no reason why these should not keep in good condition till the middle of April.

Raising Seedlings.

Opinions differ somewhat as to the time the seed should be sown, but for all general purposes I consider from the 10th to the end of February is the most suitable. If raised too soon a large percentage of the plants will frequently prematurely produce flower spikes, and when this is the case they are useless, except for immediate use. The great point is to prevent, after the seedlings appear, any check to their growth. The compost should consist of two parts good fibrous loam, one of well-decayed leaf-mould, one part old mushroom bed manure, the two latter to be passed through a fine-meshed sieve. Add sufficient coarse road or river bed sand to ensure a free passage for water. This should be thoroughly mixed, and used in a moderately dry condition. Suitable seed boxes should be employed, and these must be well drained, placing sufficient coarse fibre over the drainage to prevent the soil mixing with it. The boxes should be filled to within half an inch of the top, and made very firm. Scatter the seed thinly and evenly over the surface, which should be just covered with the soil, and pressed down firmly. Give a thorough watering, and place where there is a very gentle heat. An early fruit house, which is just about being started, will suit admirably. Immediately the young seedlings appear place them as near the glass as possible, and when of sufficient size they should be pricked out into other boxes. Use a compost similar, but of rougher material than with which the seed boxes were filled, and add a small quantity of bonemeal. Prick out three inches apart each way, again making them very firm. Grow on in a temperature of about 55 degrees, and frequently spray with tepid water. After they have made a good start, they should be removed to a more airy structure, a stout growth being most desirable. Occasional light dustings of soot will be beneficial, as will be the stirring of the soil with a pointed stick. Later on remove to an unheated frame, and give an abundance of air. Remove the lights entirely whenever possible, so that the young onions are thoroughly hardened before planting out.

Preparation of the Ground.

It is absolutely essential that the site upon which onions are grown be heavily manured and very deeply worked, and this should certainly be performed during the winter months. Good farmyard manure is quite the best for incorporating with the soil. The ground should be trenched to the depth of three feet at least, and two layers of manure worked in, and the surface left in as rough a state as possible. Should the land be destitute of lime, give a good surface dressing of this fresh from the kiln immediately after the trenching is performed, and one or two dressings of fresh soot should be applied during the interval of trenching and planting. A good open site ought always to be selected for this crop, and there is no reason whatever why the same plot should not be used for onions for many years.

Planting.

With regard to the exact date when planting should be carried out, much will depend on the weather and the locality in which one resides, but, as a general rule, this should be done some time during the month of April. Providing they have been well hardened, the frosts we are likely to have after this time, or cold winds, will not harm them. Fork over the surface, and afterwards rake it down to a fine tilth. The rows should be marked out, allowing a distance of from twelve to eighteen inches, according to the variety, and the distance between the plants in the rows should be about twelve inches. Lift carefully with a garden trowel, and plant very firmly. Do not allow the plants to droop, and should dry weather prevail damp them overhead two or three times during the day. The surface soil should be kept constantly stirred with the Dutch hoe, and receive light dustings of fresh soot weekly. After a good start has been made light applications of some approved vegetable manure will be beneficial, preferably during showery weather. Providing the land is well drained, as it should be, too much water can hardly be given during the growing season. Once a week liquid manure from the farmyard, properly diluted, should be applied. Endeavour to have the growth completed by the end of August, when the crop should be lifted and the bulbs thoroughly ripened by exposing them to the sun. Too much care can hardly be exercised in carrying out this work, as if only slightly bruised the bulbs will not keep, a fact which can hardly be too much impressed on those who have charge of them. When storing them away the bulbs should be nicely cleaned, and all loose skins removed, as well as the tops and roots. To perfect any that may be required for exhibition purposes they should be placed in boxes filled with wood wool or similar material, and placed near the glass in a cool, airy house.

Diseases and Insect Enemies.

Fortunately the onion is not susceptible to many diseases. The most common and troublesome perhaps is mildew. This must be carefully watched for, and immediately there are any signs of the mildew adopt remedial measures. Plants that are affected should be carefully pulled up and burnt, and the rest thoroughly dusted over with lime and black sulphur. The onion fly frequently does much damage to the crop when sown in the open under the old conditions, sometimes completely ruining the bed. Soot is generally recommended and may be applied with a great amount of success, providing it is used as a preventive, and not as a remedy. After the plants are once attacked nothing will save them. Soot is, moreover, an excellent stimulant, and when used with reasonable care does no damage, so that the [illegible] should be dressed immediately the seed sown or the young plants put out, and repeated weekly.

Varieties.

There are now a very large number of excellent stocks suited for producing large shapely exhibition specimens, the majority of which are of the Ailsa Craig type, which is quite the best. Stocks which have a tendency to be globular should always be preferred to flat types, not only for the sake of appearance, but for their keeping qualities also.

E. BECKETT.

Aldenham House Gardens, Elstree.

NEW PLANTS, ETC.

ODONTOGLOSSUM SPLENDENS.

A distinct and beautiful hybrid obtained from a cross effected between O. eximium and O. Wilckeanum. The flowers are comparatively large, and borne in graceful spikes, of good form, and the sepals and petals are richly coloured brownish red and purple on a cream-white ground. F.C.C., R.H.S., February 22. Messrs. Sander and Sons, St. Albans.

DENDROBIUM MRS. FENTON ARNTON.

An exquisitely beautiful hybrid, of which the parents are D. melanediscus and D. Findleyana. The flowers are of large size and elegant form, and are pale blush with rich purple blotch on the lip. A characteristic illustration appeared in our issue of February 26, but the name was wrongly given as Mrs. Fenton Horton. A.M., R.H.S., February 22. Sir Jeremiah Colman, Bart., Gatton Park, Reigate.

ODONTOGLOSSUM EXIMIUM E. C. ROGERSON.

A handsome hybrid that had its origin in a cross between O. crispum and O. ardentissimum. The flowers are of large size and fine form, and the white sepals and petals are heavily blotched with rose-purple. A.M., R.H.S., February 22. E. Rogerson, Esq., West Didsbury, Manchester.

CATTLEYA SCHRODERÆ THE PRINCE.

A charming variety of this beautiful species, the petals and sepals are of great breadth and pale pink, and the lip light pink with deep purple blotch. A.M., R.H.S., February 22. H. S. Goodson, Esq., Fairlawn, Putney.

ODONTOGLOSSUM CERES.

A distinct hybrid, with O. Rossi and O. Rolfæ as its parents. The flowers are relatively large, the sepals and petals white tinted yellow, the petals marked with small claret-coloured blotches; the lip white, with yellow and purple markings. A.M., R.H.S., February 22. Messrs. Charlesworth and Co., Haywards Heath.

ODONTOGLOSSUM BLACK PRINCE.

An interesting hybrid, remarkable for its deep purple colouring. A.M., R.H.S., February 22. Messrs. Sander and Sons.

DISA LACERA MULTIFIDA.

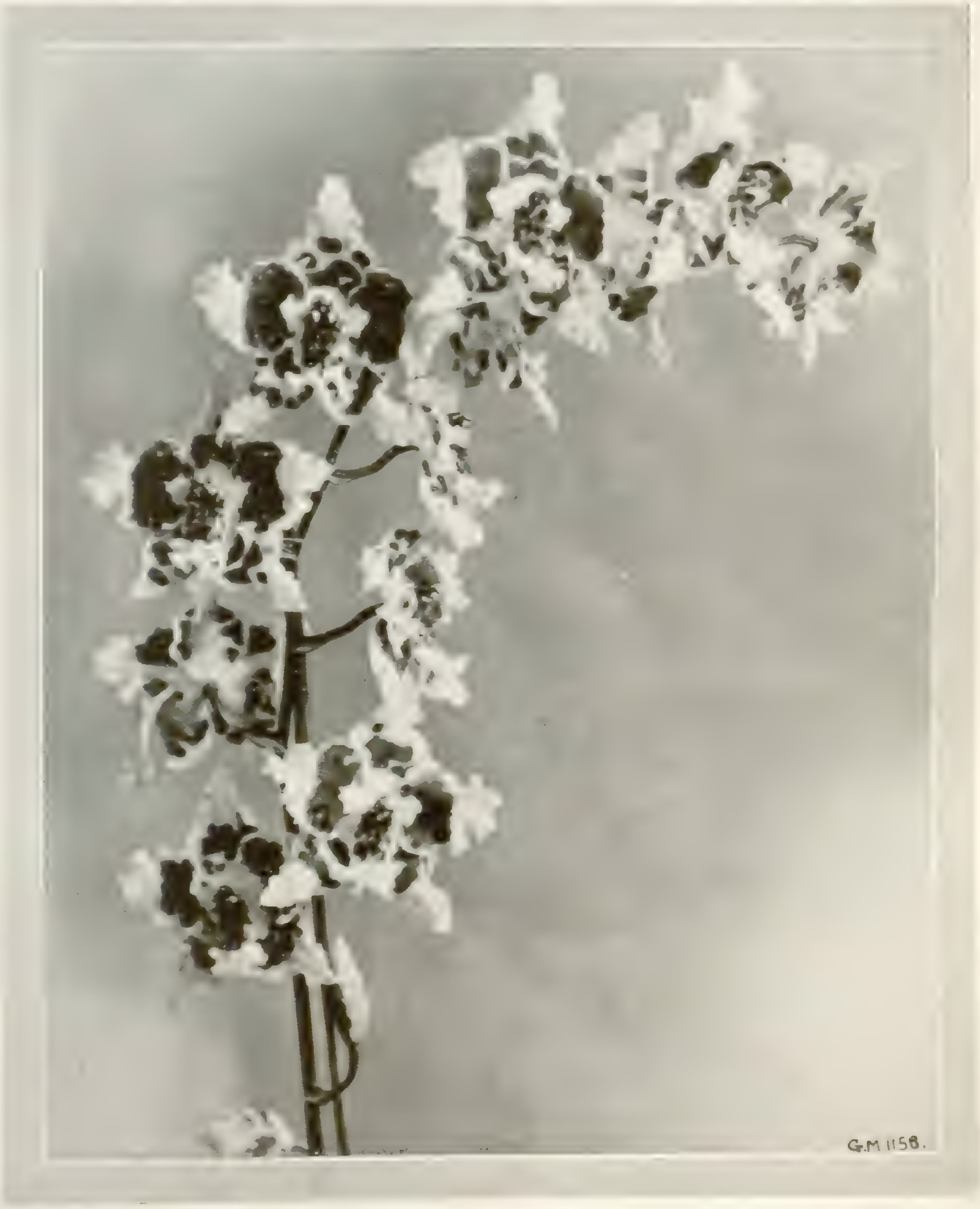
An interesting form of this species which has its home in Cape Colony. It has grass-like foliage, and medium sized blue flowers, with red fringed lip, the latter being borne on slender scapes ten or twelve inches high. A.M., R.H.S., February 22. Messrs. Charlesworth and Co.

CARNATION MRS. TATTON.

An extremely beautiful variety belonging to the Malmaison section, that has the promise of becoming highly popular both in market and private gardens. The flowers are of large size, borne on long stems, and of fine form. The colour is bright carmine-red passing to white at the margin. In the matter of colour, it resembles the well-known Marmion, but the blooms are of much finer form, and more perfect in finish. A.M., R.H.S., February 22. Mr. H. Burnett, Guernsey.

SMALL BORDERS FOR PEACHES.

I agree with Mr. Garner (p. 132) regarding the inadvisability of making borders for peach trees too large and of too rich material. Years ago it was a common custom to remove the whole of the soil about four feet deep, and as much as ten feet wide, for an inside peach border, replacing the natural soil with turf, manure, bones, charcoal, and so on. In those days close pruning also was much more in vogue than at present, and if trees made extra-strong growth, as they did, these gross growths were cut out.



ODONTOGLOSSUM EXIMIUM E. C. ROGERSON.
Flowers white blotched with rose purple. A.M., R.H.S., February 22.
E. Rogerson, Esq.

Now a much more common-sense method of treating both the borders and the trees has taken the place of that previously practised, and with much more desirable results. Nowadays, if a large established tree has to be removed to another site, and it does not give a crop of fruit the same season, much disappointment is the result. Borders for peach trees and vines are all the better for restriction: more satisfactory results are obtained because the roots are more effectually under control. How much superior is the produce from vines of Mrs. Pince grape in a restricted border, as compared with fruit obtained from vines having an unlimited root run, is a well-known fact. No one has demonstrated this better than Mr. Shingler, at Melton, not only with Mrs. Pince, but with many other varieties of grapes. It was not always so with cultivators of thirty or forty years ago.

The late Mr. Wildsmith, who probably grew out-of-door peaches at Heckfield as well as most gardeners, was a firm believer in the restricted border for his trees on a south wall. Every other year the border in front of the trees, on which grew low vegetables, strawberries, etc., was deeply trenched to within a yard or four feet of the wall, cutting off the roots that extended beyond that distance. This trenching, so persistently practised, was the cause of the fibrous nature of the roots of the peach trees, and by which the trees were enabled to carry annually such handsome crops of fruit. With restricted rooting space, ample drainage, and a greater freedom of branch extension root pruning is not nearly so much required as formerly under the opposite practice. Ample drainage is a boon, as much more benefit accrues from copious supplies of water and liquid stimulants given at the right moment than where the roots are enabled to run with impunity into a deep and heavy retentive subsoil, which cannot do other than produce growth of an undesirable character.

E. MOLYNEUX.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

MILTONIAS.—Such species as M. candida, M. Clowesi, M. cuneata, M. Regnelli, and natural hybrids of this section, will now need repotting or top dressing, as the case may be. This work should be attended to before the new growths become too far advanced. It is not advisable to repot these plants annually, providing there is ample room in the pots, and the potting compost in a good state. It will suffice to remove the dead moss on the surface, and after removing any dead leaf bracts and decaying matter about the base, the plants should be examined for any scale insects about the base of the pseudo-bulbs, and be cleansed. This being done, replace the dead potting compost with chopped sphagnum moss. When the plants require more root space it is not always desirable to remove potting compost that is in good condition, for the less roots are disturbed the better. They may simply be transferred to pots of a larger size, taking care to surround the old compost retained with good free and open material, so that the air may have free passage. A compost consisting of equal parts of osmunda fibre, fibrous peat, chopped sphagnum, and broken oak leaves suits these miltonias admirably. Sufficient finely broken crocks and sand should of course be added to keep the compost porous. When potting is completed give a thorough watering with rain water, and bear in mind that all newly-potted plants should be protected from the direct rays of the sun during the hottest parts of the day, and ample moisture be maintained about them, syringing between the pots, and in bright weather a spraying overhead once or twice daily will be an advantage. When they have become established in their new compost ample light is necessary to assist them to harden their growths and aid them in the production and development of their flower scapes.

MILTONIA SPECTABILIS and its allied species M. Moreliana, deserve considerable more attention from growers than they receive at the present time. A few years ago good specimens of these were prominent at the principal summer exhibitions, but it is seldom indeed now that we see a respectable example. I have no doubt the difficulties found in inducing them to bloom satisfactorily accounts, to some extent, for their passing out of favour. They grow freely enough when treated under the same conditions as the majority of intermediate house subjects, but to obtain an abundance of flowers a Mexican house, or other structure where they have the benefit of strong light is essential. They should now have attention, and any repotting requirements attended to. Where they have had a prolonged season of rest the surface moss will have died, and this should be replaced with fresh chopped sphagnum. In repotting use shallow pans or baskets, as they do not require a great depth of potting compost. We find the compost mentioned in the preceding paragraph suits these also. A careful observation is necessary to keep the plants free from insect pests during the spring and summer months.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CHRYSANTHEMUMS. — The plants intended for the production of large blooms should now be all put into 3in. pots and kept growing slowly. They require to be strong, yet without grossness. It is advisable to look over them twice a day to ensure their having a sufficiency of water. This should be done early in the morning, and again in the afternoon, on each occasion syringing the plants gently overhead and damping the surface of the beds in the house if the weather is bright. A little air may now be admitted by the side ventilators on all favourable occasions, care being taken to prevent cold draughts. The plants should be turned round once a week to expose the growth on all sides to the sun, as this helps the wood to mature as it grows, which is essential. Strict attention must be given to keep greenfly in check. Attention to all minor points in detail is necessary, and do not use fire heat if a temperature equal to 45 deg. can be maintained at night without it.

LILIUM HARRISII.—The earliest bulbs of this lily may now be put into a warmer house, being careful to select only those which have a fair amount of roots, and are already developing foliage. If space has been allowed for top-dressing, this operation may be delayed until growth is more vigorous. Place a stake to each growth, and tie them up neatly.

FUCHSIAS that have rested through the winter months should now be turned out of their pots and cleared of all exhausted soil. Repot, and use good turfy loam, leaf-soil, and sand, with a moderate quantity of charcoal, syringing overhead morning and evening to encourage growth, but water sparingly for a week or two till root action commences.

FRANCOA RAMOSA.—Seeds of this elegant subject should be sown now. Those in 6in. pots will derive benefit from a shift into 8in. pots. Grow them on in a cool house for a time, then transfer to a frame.

CANTERBURY BELLS.—Plants that have wintered in frames should be shifted into the greenhouse. Canterbury bells make fine subjects for early flowering, and should have liquid manure given them twice a week.

HUMEA ELEGANS occupying 6in. pots should now be shifted into those 9in. in diameter, and be kept growing slowly in a cool house. Careful watering is essential to success.

LIBONIAS.—These should be cut back and the tops be utilised in the raising of young stock. The old plants may be shaken from the pots, the ball reduced, and be repotted. Those exceeding two years old should be thrown away.—W. Staward, Belford Hall Gardens, Belford, Northumberland.

THE FLOWER GARDEN.

GLADIOLI will, in warm sandy soils, winter safely if left in the ground in suitable localities. This practice is sometimes followed, but it is safer generally, and, on the whole, more satisfactory, to annually lift, and store the corms during the winter months, planting the strongest afresh the following spring. Where special borders are not set apart for these, vacant spaces in the herbaceous borders might be utilised, and if arranged in clumps of six or eight the brightness of the borders will be maintained after many of the herbaceous subjects have ceased flowering. In heavy soils a good layer of sand or sharp road grit should be placed under each corm, and, if possible, the bulbs covered with properly prepared light rich soil. This will greatly promote the production of cleaner and stronger sheaths and flower spikes.

TUBEROUS BEGONIAS required for bedding should now be examined. The season of 1909 was not at all favourable for the proper ripening of the growths or tubers, consequently the losses have been more numerous than usual. The tubers should be started in an intermediate temperature of not more than 60 degrees, or the resulting growths will be weak for the remainder of the season. An excellent way of increasing at this time of the year is by dividing up the tubers, allowing one or more growths to each portion. Sever with a sharp knife, and sprinkle a little powdered charcoal and sulphur over each newly-made cut. Put them singly in suitable sized pots, and replace in a similar temperature to that in which they had formerly been growing. No water need be given for a few days, but a sprinkling overhead on bright days will assist growth.

CANNAS required for sub-tropical beds will likewise require attention similar to that advised for begonias. Unlike the tuberous begonias, the stools are in excellent condition, although stored in a similar way, and the crowns are plump and strong. Many of these will require shifting on into larger-sized pots as the plants increase in size and the season advances, for on no account must they be given starvation treatment before being planted out in May or June. If the pots are overcrowded with roots, and the growth becomes weak before the planting season, no matter how favourable the summer, the plants will not recover. Arranged in masses in beds they give a very bold effect, but if grouped about the lawn, or in suitable places, of seven, nine, or eleven plants, with a grass space between each one, the resulting effect is very pleasing, and a change from the usual orthodox method of arrangement.

GENERAL WORK on the lawns and other spaces will be the completion of turfing, or similar work that has been delayed by the long spell of unfavourable weather. Edgings and verges of turf should be trimmed, and the planting of all deciduous subjects brought to a speedy close. Evergreen shrubs may be safely removed for some time to come, but all needed preparations for these should be made without delay. Laurels and hollies that are bare at the base might be headed back to the required height, or needless straggling growths removed.—W. Hedley Warren, Aston Clinton Gardens, Tring.

HARDY FRUITS.

AUTUMNAL RASPBERRIES.—All canes of these particular varieties should be cut off close to the ground early this month, and later on strict attention should be paid to thinning the resulting summer canes, which will commence to produce fruit from September onwards. Two excellent varieties to grow are German Everbearing and November Abundance. The Alexandra, a new variety, should be given a trial, the large fruits being of excellent flavour.

PLANTING.—The planting of all kinds of fruit trees should be completed without delay. The weather has been most trying for carrying out this work in a satisfactory manner. It has been possible to plant in sandy soils, but in soils of a heavy retentive character it has been quite out of the question. Where land of a heavy nature has to be dealt with it will be found advisable, and more advantageous, to defer planting until next autumn.

COB NUTS AND FILBERTS.—These should be planted in a soil that is well drained; they will succeed, and give good returns when planted in stony ground, and in rough poor soil. Shelter should be provided, such as that of adjacent trees or tall-growing shrubs, as they are subject to injury by frosts when in flower. The trees should be planted ten feet apart, and should be kept in their limit by pruning, or otherwise they will shade each other. The trees should be grown to a single stem, and all suckers removed as soon as they appear. established trees which bear heavy crops annually will be benefited with a good coating of decayed manure, or decayed leaves. The buds of nuts are attacked by a mite very similar to that of the black currant, and the same preventive precautions should be adopted.

BIRDS.—The bullfinch and sparrow are the most serious enemies to the fruit grower by destroying the buds; they are especially fond of the buds of the gooseberry and pear, and once they commence their work of destruction upon the buds of fruit trees it is a serious matter to combat them. Where possible, all soft fruit should be netted, and the birds trapped or shot. It is a good plan to syringe the trees with a wash made from lime and soot, with a little soft soap added, or the trees can be dusted over with equal quantities of lime and soot after a shower of rain. This renders the buds distasteful to the birds for a time, but it will be found necessary to repeat the operation several times if they continue to be troublesome.—Henry R. Farmer, Cardiff Castle Gardens.

ACTION AND MOVEMENTS OF WATER IN SOIL.

(Concluded from page 182.)

Surface Evaporation.

That the distribution of water in the soil changes rapidly at times, so that one layer has gained moisture at the expense of a contiguous layer, has been demonstrated in the following manner. Two cylinders were filled with a mixture of sand and humus in the proportions of 80 parts of the former to 20 parts of the latter. The samples were then properly saturated with water, and allowed to stand for two days. At the end of the second day the surface of both samples were stirred to a depth of one inch, and again allowed to stand. In two days from the time of stirring the surface one of the samples was firmly packed, the firming was done in the evening, and on the following morning the surface of the packed soil showed unmistakable signs of moisture. This is simply an example of what occurs when land is trodden or rolled. The increase of moisture towards the top, which follows soon after rolling, results from increasing the strength of capillary action by bringing the soil particles in the firmed layer closer together, and, as a result, more water is brought up from below, which leaves the lower layer drier. It must not, however, be understood that rolling moistens the ground as a whole, for it does just the reverse. Experiments have shown that more water is lost from rolled than unrolled soil. The reason of this is that the surface soil of rolled land is warmer and the velocity of the wind is not checked by lumps or other unevenness of surface. It is, therefore, good practice to follow the treading or roller with a rake or light harrow, which creates a sort of mulch, and thus lessens the amount of water lost by evaporation. At the same time, the previous firming of the loose soil increases the upward movement of the soil water, and thus brings the much-needed moisture to the roots of the plants.

It has been observed that after a shower the soil at some distance below the surface becomes actually drier. Professor King, in his valuable book, "The Soil," says: "The capillary flow of water may be so strengthened by a shower that the surface soil draws upon the deeper soil moisture at a more rapid rate than before, causing a translocation of the lower soil moisture, the lower soil becoming measurably drier." To obtain definite data on this point, we planned a series of experiments, in which three glass tubes, each twelve inches long, and three-quarters of an inch inside diameter, were used. These were filled with soil obtained from the experimental field. The soil was not dried before transferring it to the tubes. After this had been done a weighed quantity of water was sprinkled over the surface of the soil in the tubes. Six hours after adding this water samples of the soil were again taken, and in every case it was found that the surface five inches contained from 1.8 to 2.5 per cent. more moisture than could be accounted for by the addition of the water to the surface, while the lower five inches had lost a corresponding amount of water.

These observations may be explained in the following manner: When the surface soil has reached a certain degree of dryness, water ceases to rise in it rapidly from below, as shown in the experiments on capillarity. Then when a shower comes, or, as in this case, water is added in sufficient quantities to moisten the dry soil up to a point at which capillary action becomes strong again, an additional amount of water is brought from the moist soil below. So that the surface layer has not only the amount which fell as rain, but an additional amount of moisture drawn from the subsoil.

A very important practical lesson can be gathered from these facts. Suppose a hot, drying wind should follow the shower which has produced this translocation just described, the ground might in a few hours be left drier as a whole than before the rain. Because, not only the rain, but moisture from the subsoil, which is caused to be brought to the surface might be lost. On the other hand, if the soil is stirred at the surface as soon after the shower as may be without injury to tilth, most of the water which fell as rain, and that lifted from the lower layers, will be preserved for the use of the crop. On no account, however, should the stirring be done when the soil is too wet, as puddling, and subsequent baking, are likely to follow as a result of such an operation.

ORCHARD HEATING IN COLORADO.

The 1909 crop of fruit in the Grand valley in Colorado, from the Palisades above to Loma below, valued at $3,000,000 (one dollar equals 4s. 2d.) owes its existence to a unique battle which was waged against Jack Frost at a time when the fruit was at its tenderest age. By unusual generalship and the work of hundreds of enthusiastic volunteers, the temperature in these orchards was actually raised eight and nine degrees over twenty-seven miles of territory, and a precedent was established which will mean much to the future. In California it is said that the temperature has been raised heretofore in some single orchards two or three degrees, but never to eight degrees, and never before has the work been carried on over so great an area. Plans are now on foot to have every bearing orchard in the Grand valley protected by next season; not that there is any likelihood of frost every spring in this section, but because the protection against possible repetition of this year's experience is considered cheap insurance. Representatives of other fruit-growing sections have also recently visited the Grand valley, sent there from their several communities to learn more of the recent experiment.

The raising of the temperature over this large area was accomplished by means of some 300,000 smudge pots of many different types, some burning oil for fuel and some coal, and placed at intervals in the orchards. Oil was carried to the pots in wagon tanks equipped for the purpose. Spraying machines were also used in distributing the oil. A large supply of lighters was kept in readiness in a dry place. Many of these lighters were made by wrapping waste about a twisted wire.

All operations were directed from Grand Junction. Weather stations established over much of the territory, and equipped with thermostats, when the threatening weather arrived, made half-hourly reports on the temperature to Grand Junction. When finally the danger point was approaching, warning was sent to all the ranchmen to light the fires. Volunteers also in nearly all walks of life made their way in automobiles and wagons and on bicycles over the entire area. The trades and labour assembly adjourned its meeting, and worked all night rendering assistance. Men worked in shifts, some at night lighting the fires, and others in the daytime filling the pots. Even women assisted in the work. The campaign in all lasted four days.

So well did this orchard-heating idea work, that while the temperature outside the heated area dropped as low as 20 deg., within the heated area it did not go below 29½ deg. Seventy-five per cent. of all the fruit trees which were in bloom were cared for directly, while even orchards owned by those who were sceptical of the idea were saved by the fires in the adjoining territory.

There were a great many different kinds of pots used in this work. The number used per acre depends upon the size. Forty, sixty, or eighty pots per acre was the average. When coal is used, it is usually lump or nut. With coal at $4 a ton, some one has figured that it cost him $4 per acre to heat his orchard for a six-hour run. Some of the oil heaters are used to the number of sixty or eighty to the acre. In the opinion of some, it is better to have a small-sized pot and use more to the acre, say sixty or eighty, as just stated.

Taking one of the many kinds of pots as an example and figuring coal at $4 a ton, the cost of equipping with heaters and all other facilities for the first year for ten acres is estimated at $449.25, and for the second year $186.25. This provides in the initial cost for 800 heaters, or eighty to the acre. It also provides for forty tons of coal, kindling lighters, fifty pounds of waste, 200 gallons of oil for lighting, the storage for oil, and the building of a coal house. For the first year's equipment for oil pots, including 800 pots for ten acres, and fuel at five cents a gallon, the cost is estimated at $494.25, and for the second year $153.75.

Now that the question of raising the temperature even ten or fifteen degrees over a large area has been settled beyond doubt, the next problem facing the fruit growers is that of regulating the temperature and economy of fuel and labour. For example, there is no need of raising the temperature ten degrees when raising it two degrees will put the blossoms out of danger. Some are planning to meet this problem by having a large number of small pots and only light enough of them to keep the temperature above the danger point. Others have devised pots with a system of drafts, so that the heat may be increased or decreased as is necessary.

The fruit ranches of the Grand valley are very extensive. One, for example, contains 243 acres, and is valued at $250,000. Its crops include peaches, apples, pears, plums, cherries, and soft-shell almonds. An army of people is required to pick the fruit. By another season it is expected electric lines will be running out to the orchards all over the valley, and refrigerator cars will be carried right to the orchards. — "Scientific American."

Horticultural Club.—The next house dinner of the Horticultural Club will take place on Tuesday next at the Hotel Windsor, when Mr. C. Bogue Luffmann will give a lecture on "Old Age in Trees." The dinner will, as usual, commence at 6 p.m.

Peter Barr Memorial.—As already announced a fund is being raised for the purpose of providing a suitable memorial to the late Mr. Peter Barr, V.M.H. The promoters aim at a Barr Medal, to be awarded annually in connection with work among daffodils, and the maintenance of an orphan through the medium of the Royal Gardeners' Orphan Fund. The following is the preliminary list of subscribers: Mr. J. G. Baker, F.R.S., V.M.H., Messrs. Barr and Sons, Mr. J. T. Bennett-Poë, V.M.H., Mr. E. D. Bland, Mr. C. Bourne, Mr. E. A. Bowles, Hon. J. Boscawen, Mr. F. H. Chapman, Mr. E. T. Cook, Mr. W. B. Cranfield, Mr. E. M. Crosfield, Mr. Charles H. Curtis, Rev. C. T. Digby, Mr. C. Dixon, Miss Roberta F. M. Doyne, Mrs. J. Douglas, Mr. J. Douglas, V.M.H., Mr. C. T. Druery, V.M.H., Rev. G. H. Engleheart, V.M.H., Mr. J. Harrison, Miss Jekyll, V.M.H., Rev. J. Jacob, Mr. A. Kingsmill, Mr. Wm. Marshall, V.M.H., Mr. H. B. May, Mr. D. MacDonald, Mr. W. A. Milner, Mr. S. Mortimer, Messrs. J. and R. Pearson and Sons, Mr. R. Hooper Pearson, Mr. G. Paul, V.M.H., Mr. W. Poupart, Messrs. T. Rivers and Sons, Mr. Charles E. Shea, Messrs. Sutton and Sons, Mr. J. Sweet, Mr. Robert Sydenham, Mr. Harry J. Veitch, V.M.H., Mr. P. C. M. Veitch, Mr. James Walker, Messrs. Van Waveren and Sons, Miss Willmott, V.M.H., Rev. W. Wilks, and Mr. A. M. Wilson.

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NATIONAL VEGETABLE SOCIETY.

Schedules of classes and prizes offered at the Society's GREAT EXHIBITION OF VEGETABLES to be held in the ROYAL HORTICULTURAL HALL, WESTMINSTER, on September 28th next, are now ready, and can be had on application to Hon. Sec., E. G. QUICK, Kelmscott, Harrow View, Wealdstone, Harrow.

SHROPSHIRE HORTICULTURAL SOCIETY.

The Schedules for 1910 SPRING and SUMMER SHOWS are now ready, and copies will be forwarded on application to the undersigned.

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EXHIBITIONS AND MEETINGS.

◆

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, February 22.

Present: Mr. E. A. Bowles, M.A., F.E.S., F.L.S. (in the chair); Dr. A. B. Rendle, F.R.S., Dr. J. A. Voelcker, M.A., F.I.C., Messrs. A. Worsley, J. W. Odell, A. D. Michael, G. Gordon, V.M.H., W. Fawcett, J. Douglas, V.M.H., J. Fraser, L. Crawshay, W. Hales, J. T. Bennett-Poë, V.M.H., F. J. Baker, E. M. Holmes, R. H. Curtis, H. J. Veitch, V.M.H., and F. J. Chittenden (hon. secretary).

AZALEA GALL. — Mr. L. Crawshay showed a specimen of the gall on Azalea indica caused by Exobasidium japonicum. (See "Journal, R.H.S.," xxxiv. (1908), p. 45.) Several examples of this gall have been received lately, and the disease would appear to be spreading. The galls should be picked off and burned as soon as discovered.

CYCLAMEN COUM.—Messrs. Jackman sent a pan of Cyclamen coum album multipetalum, a form differing from the type in having seven or eight petals instead of five, so that the flower appeared much rounder than usual.

ACACIA DEALBATA.—Mr. Worsley remarked that he had noticed in Portugal two forms of this plant, one having a smooth bark somewhat silvery in colour, the other rough. There seems to be no record of these variations, and the flowers shown exhibited no marked variation.

ALLEGED RUST-PREVENTING WOOD.—Dr. Voelcker enquired whether any member could give any information concerning a Formosan wood which he exhibited, called in the vernacular "Sianlam," which it was alleged, had the peculiar property of preventing the rusting of iron and steel. Dr. Henry had informed him that he had come across a wood in Formosa under that vernacular name, which belonged to Macilus Thunbergi. Shavings of this wood were steeped in water so as to extract a gummy secretion, which Chinese ladies used for dressing their hair, but he had never heard rust-preventing powers ascribed to the wood. Mr. Holmes took the specimen shown in order to examine it further. Dr. Voelcker also made some remarks upon variation in primroses, said to be correlated with different soils. The committee desired to see specimens if possible.

LICHENS ON AZALEA MOLLIS.—An enquiry re the destruction of lichens (Parmelia physodes) on Azalea mollis was received from Fleet, Hants. It was recommended that the plants should be sprayed with a solution of copper sulphate (1lb.) in water (25 gallons), while the plants were leafless.

MALFORMATION OF PRIMULA SINENSIS.—Mr. L. Crawshay reported that he had examined the specimen of P. sinensis (stellata) shown at the last meeting, and found at the base of the umbel two green bodies which appeared to be very greatly reduced and aborted inflorescences. The linear segments which formed part of these abortions probably represented perianth pieces, the terminal knob on each possibly representing the epipetalous stamen. At the base of these segments, arranged indefinitely owing to the distortion of the placenta, were numerous sessile bodies, probably representing ovules. Mr. Crawshay showed drawings in illustration of his report.

MALFORMED CYPRIPEDIUM.—From Lord Avebury, P.C., came specimens of Cypripedium barbatum malformed. One flower showed the anterior sepals completely divided. They were referred to Mr. Crawshay for examination.

The Horticultural Club.

The annual dinner of this club was held at the Hotel Windsor on Tuesday, the 22nd ult., under the presidency of Sir John Llewelyn, Bart., about a hundred members and guests being present, including a number of ladies.

Prior to the dinner the annual meeting of the club members was held, and a very satisfactory report of the club's progress was given, indicating a material increase in the membership, and a financial position which left nothing to be desired. A particular feature of the report was the interesting and educational character of the lectures which had followed the various monthly dinners during the season, and had now been a principal factor for many years in providing subjects for discussion among the experts present, to the material benefit of all concerned, the club, in this way, combining utility with sociability on the best possible lines.

Thanks to the kindness of Messrs. J. Veitch and Sons, the tables were beautifully decorated with flowers, a special group of rhododendrons figuring in front of the president as a graceful tribute to the special hobby in that connection, in which he has made a decided mark as collector and raiser. The inevitable speeches were interspersed with an admirable entertainment, humorous and musical, which was much appreciated. Mr. W. J. Jefferies, in a brief and happy speech, proposed the toast of the Royal Horticultural Society, to which Sir Albert Rollit responded in his usual telling and humorous fashion, provoking much hilarity by the anecdotes, intermingled with apt remarks on the importance of the society, and its value to the world as a central institution on the largest and best based foundation of all existing ones. References were made to the proposed great international horticultural gathering of 1912, and the hospitality which will then be extended to our foreign guests. Sir John Llewelyn then proposed "The Horticultural Club," dwelling on its value as forming the social centre of the Royal Horticultural Society, and the Rev. Joseph Jacobs responded. Mr. George Monro proposed the chairman's health, which was drunk with all honours. Mr. Edward White welcomed the visitors in the name of the club, and Mr. Smith, a Canadian guest, happily responded, thus concluding one of the most pleasant and most successful functions in the annals of the club.

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Gardeners' Royal Benevolent Institution.

The annual concert, held under the auspices of the Liverpool Auxiliary, took place at the Bear's Paw Restaurant on Saturday last, and added another to the successful evenings in aid of the funds of the institution. Alderman F. Smith, J.P., presided over a crowded and delighted meeting. The committee spared no effort in making the meeting attractive by providing an excellent programme, and brightening the hall with plants and flowers. In the production of the floral display they were ably assisted by Messrs. R. P. Ker and Sons, Messrs. B. Webb and Sons, Mr. C. A. Young, and members of the committee.

In the Chairman's address he emphasised the good work that is being done by the institution, and he hoped, by their further effort, the work might still be increased. He referred at some length to the efforts the Corporation of Liverpool are making in developing a taste for flowers by their exhibitions, window boxes, and plants in tubs. With reference to the employees engaged in the parks and gardens, he said he was in favour of payment being made according to skill; he considered the efficient and trained man was worthier of a higher scale of pay than the beginner or raw workman. He further expressed his sympathy with many of the poorly paid private gardeners. On the motion of Mr. C. A. Young chairman of committee, seconded by Mr. J. J. Guttridge, superintendent of Liverpool parks and gardens, a hearty vote of thanks was tendered to the chairman, and this, on being put to the meeting, was carried with acclamation.

Reading Gardeners' Association.

There was again a very large attendance at the fortnightly meeting held in the Abbey Hall, on Monday, February 21, the president, Mr. Alderman Parfitt, occupying the chair. The minutes of the last meeting having been read and confirmed, several new members were elected. The Hon. Secretary mentioned that a sad case, the almost simultaneous death at Chertsey of a gardener and his wife, leaving a family of six young children, had been brought to his notice by a member of the society. Although the case was outside the radius of the association, a collection was taken in the hall, resulting in £2 14s. being sent to the assistance of the children.

The President then introduced the lecturer for the evening, Mr. John W. Tayleur, B.Sc., of the University College, Reading, his subject being "The Nature and Uses of Manures." Mr. Tayleur, in a very interesting discourse, gave most instructive details of the complex subject of manures, his remarks being most lucidly placed before the audience, and rendered, if possible, more clear by the excellent diagrams, etc., wherewith he illustrated his lecture. [illegible] first with the essential elements w[illegible] which plant life cannot exist, Mr. Tayleur passed to the classes of artificial manures generally recognised, viz., nitrogenous, phosphatic, potash manures, and calcareous, referring afterwards to the several examples which occur under these headings, and giving full particulars concerning different qualities and uses of the various manures.

Advice was also given to those desirous of making their own mixtures so that the best results might be obtained at the smallest outlay.

At the conclusion of his lecture Mr. Tayleur was, on the proposition of the President, accorded a very hearty vote of thanks.

Mr. H. C. Loader, head gardener to M. H. F. Sutton, Esq., Erlegh Park, exhibited a nice group of lachenalias, etc., and Mr. W. Barnes, The Gardens, Bear Wood, staged some beautiful forced rhubarb, seakale, and salads.

British Gardeners' Association (London Branch).

At the last meeting of the London branch of the B.G.A. the question of a dust-proof carriage drive formed the subject of an interesting discussion. One member suggested that, in view of the increase of motor traffic, wood blocks would prove the most serviceable; this would give a smooth, durable surface, and one that could be easily kept clean. Up to the present gas tar was considered to have proved the most satisfactory material. Where this is used it is essential that a good hard-wearing surface should be first secured, such as may be obtained by a good layer of granite consolidated by a steam roller. The surface is then flooded with boiling tar, and afterwards sprinkled over with sand. The great objection to the use of tar in a public park is its unnatural appearance, and the possibility of injury to neighbouring vegetation.

The next meeting will take place at Carr's Restaurant on Thursday, March 10, at eight p.m., when an address will be given by Mr. W. S. Palmer, of Finsbury Park, on "Trees and Shrubs." The following question has also been submitted for discussion at this meeting: "Assuming that all plants owe their origin to one common ancestral stock, how can we account for two such distinct classes of plants as the monocotyledons and the dicotyledons?"

Bristol Gardeners' Association.

A largely-attended meeting was held on February 24, at St. John's Parish Rooms, presided over by Mr. Hayball. A lantern lecture upon "Lawns and Lawn Grasses," was given by Mr. Shipway, representative of the Reading Gardeners' Association. Mr. Hanking very ably manipulated the lantern. Mr. Shipman dealt with the formation of lawns, drainage, levelling, surface preparation, turfing v. seeding, differences of lawns, sowing, varieties of grasses, upkeep of lawns, manures, thin turf, weedy turf, mossy turf, earth worms, fairy rings, lawn implements. It was interesting to learn there are nearly 2,000 varieties of grasses, also that whereas seeding only cost from £10 to £15 per acre, turfing cost £100. The slides shown on the screen included views of the lawns at Oxford College, also of several well-known places, varied with views of golf courses, tennis and croquet lawns, cricket pitches, bowling greens, and archery grounds.

For two orchids Mr. Curtis was first and Mr. Gostling second. For spray and button holes, under gardeners only, Messrs. Whiting, Newman, and Isaac were placed in the order named. In the point competition Mr. Gostling was given three points, and Messrs. Curtis and Woodward two each for orchids. Mr. Shipway was awarded a special certificate for a collection of dried weeds, the same going to Messrs. Garaway for a new red cineraria named Matador.

Dutch Bulb Growers' Society.

The following awards were made at the recent meeting of the Tulip Committee at Haarlem:—

Award of Merit to single early tulip, La Discretion, a seedling variety, cherry colour, with broad white border; single early tulip, Golden Horn, a new variety obtained from Tulip Rosamundi Huikman, flowers light yellow and rose, a splendid forcing variety; and to Darwin Tulip William Copland, an early flowering and good forcing variety.

FORTHCOMING ENGAGEMENTS.

SATURDAY, March 5.—French Horticultural Society of London.

TUESDAY, March 8.—Royal Horticultural Society's Spring Bulb Show (two days); Committees meet at 12 o'clock; lecture at 3 p.m. on "Plant Hygiene," by Mr. F. J. Baker.

WEDNESDAY, March 9.—Continuation of the Royal Horticultural Society's Bulb Show.

Royal Society of Arts Meeting.

East Anglian Horticultural Society.

THURSDAY, March 10.—British Gardeners' Association, London Branch.

MONDAY, March 14.—United Horticultural Benefit and Provident Society; Annual Meeting at the Royal Horticultural Hall, at 8 p.m.

WEDNESDAY, March 16.—Royal Society of Arts Meeting.

THURSDAY, March 17.—Torquay Spring Show.

Linnean Society Meeting.

TUESDAY, March 22.—Royal Horticultural Society; Narcissus Committee at 11.30; Fruit, Floral, and Orchid Committees at 12 o'clock; Masters' Lecture at 3 p.m. on "The Adaption of the Plant to the Soil," by Mr. A. D. Hall, M.A., F.R.S.; Scientific Committee at 4 o'clock.

WEDNESDAY, March 23.—Stour Valley Gardening Society's Exhibition of Vegetables at the Royal Horticultural Hall.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

VARIEGATED CHRYSANTHEMUM. — T. M., Halesowen: We have often seen variegated leaves on chrysanthemums, but we do not remember a plant so finely variegated as the one you appear to have. The leaves are quite handsome, and you should certainly propagate a small stock of plants, and, if possible, exhibit good specimens at exhibitions next autumn. Try a few as summer bedding plants, keeping the growths pinched. If the variegation improves with brighter weather, the variety may be specially useful for summer and autumn effects. Most probably the flowers will not be particularly effective, but a few plants should be grown in bush form for flowering in November and December, so that a good idea of the value of the variety as a flowering plant may be estimated. Do not give away any of the stock.

WISTARIA SEEDS.—J. W. L., Bishopsteignton: It is by no means exceptional to find the wistaria seeding in the South of England, but really fine, well-ripened seeds like those sent are not often seen. We have seen a wistaria growing practically in London carrying its pods of seeds, but we do not remember whether the seeds have ever ripened in this instance.

STOCKS.—J. S., Carnforth: We are giving the matter attention, and you will receive a reply in due course.

MOWRA MEAL.—A. F., Kent: We are glad to have been of service to you, and to receive your letter.

THORN HEDGE BARE AT BASE.—S. E. G., Wexford: It would serve no useful purpose to plant young thorns close up to the base of the old hedge; indeed it would be a great waste of time and money. The "laying" of a hedge is special work, and any amount of description would hardly enlighten you. It means bringing the upper parts of the hedge down to the base, bending and partially cutting the leading stems, and tying them in with tar string or wire in the case of old plants, and doing this in such a way that, when finished, the hedge presents a neat appearance, and is well filled with growth from top to bottom. As soon as new growth commences, the whole of the hedge will then become a mass of greenery, instead of being bare and brown at the base. The best advice we can give is that you obtain the services of a local "hedger," and let him contract for the work of making your hedge useful and presentable.

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HANDY DICTIONARY OF GARDENING.—A. J. W., Tenterden: We can heartily recommend the "Encyclopædia of Gardening" as the handiest work of the kind we know, and as useful as it is handy. The price is 3s. 6d., and it can be obtained from Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.

RED CINERARIA.—A. G., Boston Spa: The specimen shows a very bright and distinct colouring, and seeds of it should be saved and sown. There is room for a great deal of selection, because the flowers sent were of poor quality. The plant should have been isolated, and the seedlings resulting from it should be very carefully selected, saving only the best in form and colour for seed purposes. We have seen a brighter variety than yours, practically a scarlet; it was exhibited at the great exhibition at Ghent in 1908 by Messrs. Vilmorin and Co., of Paris, and is now obtainable through the leading seedsmen who advertise in our columns.

PRESIDENTS OF THE R.H.S. — S. W. W., Liverpool: The first president of the Royal Horticultural Society was the Earl of Dartmouth, who held office from 1804 to 1811; he was followed in order by Thos. Andrew Knight, 1811-1838; Duke of Devonshire, 1838-1858; H.R.H. the Prince Consort, 1858-1861; Duke of Buccleuch, 1862-1873; Lord Bury, 1873-1874; Lord Aberdare, 1874-1885; and Sir Trevor Lawrence, Bart., V.M.H., who has been president since 1885.

NAMES OF PLANTS.

T. B. P.—A Stanhopea, probably S. eburnea.

J. R., Croydon.—1, Pteris longifolia; 2, a pteris, not recognised; 3, Adiantum formosum; 4, Gymnogramma calomelanos; 5, Adiantum cuneatum grandiceps.

M. P., Cromer.—1, Erica mediterranea; 2, Crocus Sieberi; 3, Chorozema Chandleri; 4, Lachenalia Nelsoni; 5, Dendrobium nobile.

W. T., Lampeter.—The odontoglossums are varieties of O. crispum, neither are of special merit or value; 3, Pellæa cordata; 4, not recognised, send again later; 5, Nephrolepis exaltata.

J. H., Forest Row.—1, Rhododendron dauricum; 2, Pieris floribunda; 3, not recognised; 4, Acacia dealbata; 5, probably Rhynchospermum jasminoides; 6, not recognised. The specimens were all very poor ones.

OBITUARY.

MRS. ROBERT LINDSAY.

We learn with regret of the death of Mrs. Lindsay, wife of Mr. Robert Lindsay, who for many years was curator of the Royal Botanic Gardens, Edinburgh, and now resides at Kaimes Lodge, Murrayfield, Midlothian. Mrs. Lindsay had not been in the best of health for some time past, but the news of her death will come as a shock to many who have visited Kaimes Lodge and enjoyed the company of Mr. and Mrs. Lindsay. These will join with us in sympathising with Mr. Lindsay in his loss. Mrs. Lindsay died on the morning of February 20.

MR. DUGALD McCORQUODALE.

We much regret having to announce the death of Mr. Dugald McCorquodale, London director of Messrs. Mackenzie and Moncur, Lim., the prominent hothouse builders. He died on Saturday, February 26, after a prolonged illness. Mr. McCorquodale was a Fellow of the Royal Horticultural Society of London, and was well known and respected by the large number of horticulturists whom he daily came in contact with, principally in London and the South. He was a Scotsman of outstanding character, a native of Argyleshire, and a well-known figure at all the leading flower shows and horticultural gatherings. He leaves a widow and two daughters.

MARKETS.

COVENT GARDEN.

Flowers.

Roses and carnations are plentiful and good. There is a brisk demand and prices are steady.

		s.	d.		s.	d.
Acacia	per bunch	0	9	to	1	0
Adiantum cuneatum	per doz. bun.	6	0		9	0
Anemones	per doz.	1	0		1	6
Arums	per doz.	2	0		4	0
Asparagus	per bun.	1	0		1	6
Azalea, Ghent	per bunch	0	6		1	0
Camellias	per doz.	1	0		2	6
Carnations	per doz. blms.	1	6		6	0
,,	per doz. bun.	12	0		18	0
,, Malmaisons	per doz.	6	0		9	0
Cattleyas	per doz.	6	0		12	0
Croton leaves	per bun.	1	0		2	6
Cypripediums	per doz. blms.	2	0		3	6
Daffodils	per doz. bun.	1	6		5	0
Eucharis	per doz.	3	0		3	6
Freesias	per doz. bun.	1	6		2	0
French fern	per doz. bun.	0	6		0	9
Gardenias	per doz.	2	6		3	6
Lapagerias	per doz.	2	0		3	0
Lilac, French	per bun.	3	0		4	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		3	6
,, longiflorum	per bun.	4	0		6	0
Lily of the Valley	per doz.	6	0		14	0
Marguerites	per doz. bun.	3	0		4	0
Mignonette	per doz. bun.	3	0		4	0
Narcissus	per doz. bun.	1	0		2	6
Odontoglossums	per doz. blms.	1	0		2	6
Pelargoniums	per doz. bun.	4	0		8	0
Roman Hyacinths	per doz. bun.	5	0		8	0
Roses	per doz.	2	6		12	0
Smilax	per doz. trails	5	0		8	0
Tuberoses	per doz. blooms	0	4		0	5
Violets	per doz. bun.	0	6		3	0

Fruits.

Apples and oranges continue plentiful and there is a good request for these and for Cape fruits.

		s.	d.		s.	d.
Apples, English	per bush.	3	6	to	9	0
,, Californian	per case	7	0		14	0
,, American	per barrel	12	0		26	0
,, Canadian	per barrel	12	0		20	0
,, Nova Scotian	per barrel	12	6		18	0
Apricots, Cape	per box	4	0		5	6
Bananas	per bun.	3	0		10	0
Brazil Nuts	per cwt.	33	0		40	0
Chestnuts	per bag	7	0		10	6
Cranberries	per case	6	0		8	0
Grapes, English	per lb.	0	10		6	0
,, Guernsey	per lb.	0	8		1	3
,, Almeria	per doz. lbs.	4	0		7	6
,, Cape	per box	4	0		8	0
Lemons	per case	7	6		23	0
Oranges, Jamaica	per case	9	0		12	0
,, Valencia	per case	7	0		12	6
,, Navels	per case	9	0		12	6
,, Denia	per case	10	0		17	6
,, Tangerines	per box	0	4		1	0
Peaches, Cape	per box	4	0		8	0
Pears, Cape	per box	4	0		8	0
,, Californian	per case	10	0		15	0
Pineapples	each	1	6		4	6
Plums, Cape	per box	5	0		9	0
Walnuts	per 12lbs.	2	0		3	6

LONDON POTATO MARKETS.

Business is steady and supplies large.

		s.	d.		s.	d.
Bedfords	per ton	60	0	to	65	0
Blacklands	per ton	50	0		60	0
Dunbars	per ton	85	0		95	0
Evergood	per ton	55	0		60	0
Express	per ton	60	0		65	0
Kents	per ton	65	0		70	0
Lincolns	per ton	65	0		60	0
Presidents	per ton	60	0		65	0
Up-to-Date	per ton	70	0		80	0
Teneriffe	per cwt.	12	0		14	0
Jerseys, new	per lb.	0	4		0	4½

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METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1910. February 20 to February 26.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Feb. 20—Sunday	1 0	45	43	49	41
,, 21—Monday	1 6	45	41	48	42
,, 22—Tuesday	1 18	46	44	46	41
,, 23—Wednesday	5 18	40	39	48	38
,, 24—Thursday	3 24	44	43	48	35
,, 25—Friday	1 54	46	44	48	41
,, 26—Saturday	6 18	41	39	47	37
Means	(total) 20 18	44	42	48	39

Date. 1910. February 20 to February 26.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Feb. 20—Sunday	0.43	43	43	43	35
,, 21—Monday	0.01	42	43	43	37
,, 22—Tuesday	0 50	42	43	43	33
,, 23—Wednesday	0.13	41	43	43	35
,, 24—Thursday	0.26	40	43	43	37
,, 25—Friday	0.15	41	42	43	36
,, 26—Saturday	0.07	41	42	43	31
Means	(total) 1.55	41	43	43	33

CATALOGUES RECEIVED.

NATIVE GUANO CO., NEW BRIDGE STREET, BLACKFRIARS, E.C.—In the booklet sent out by this firm full directions for the use of native guano for various crops are given, and there are abundant testimonials testifying to the value of the manure for field and garden crops.

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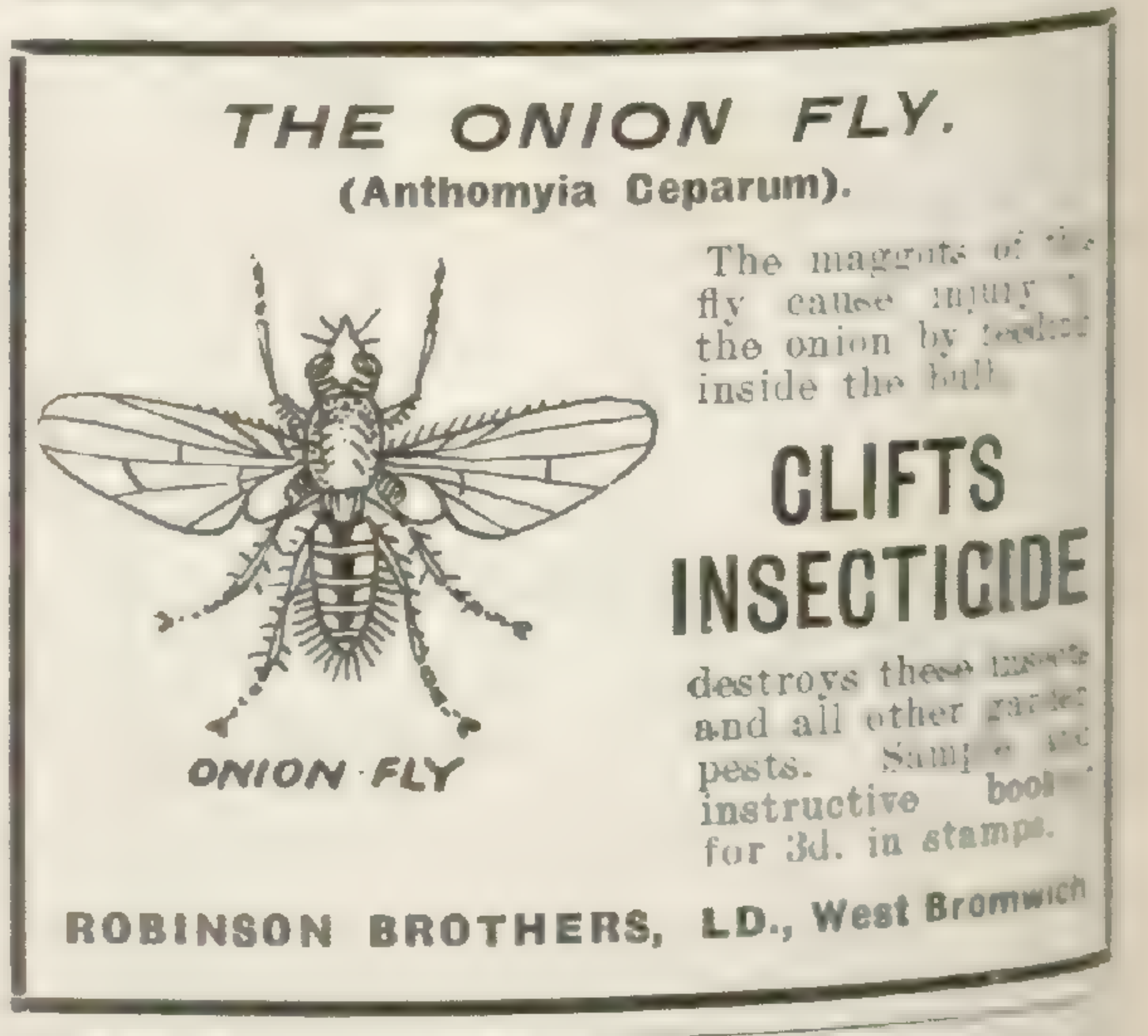

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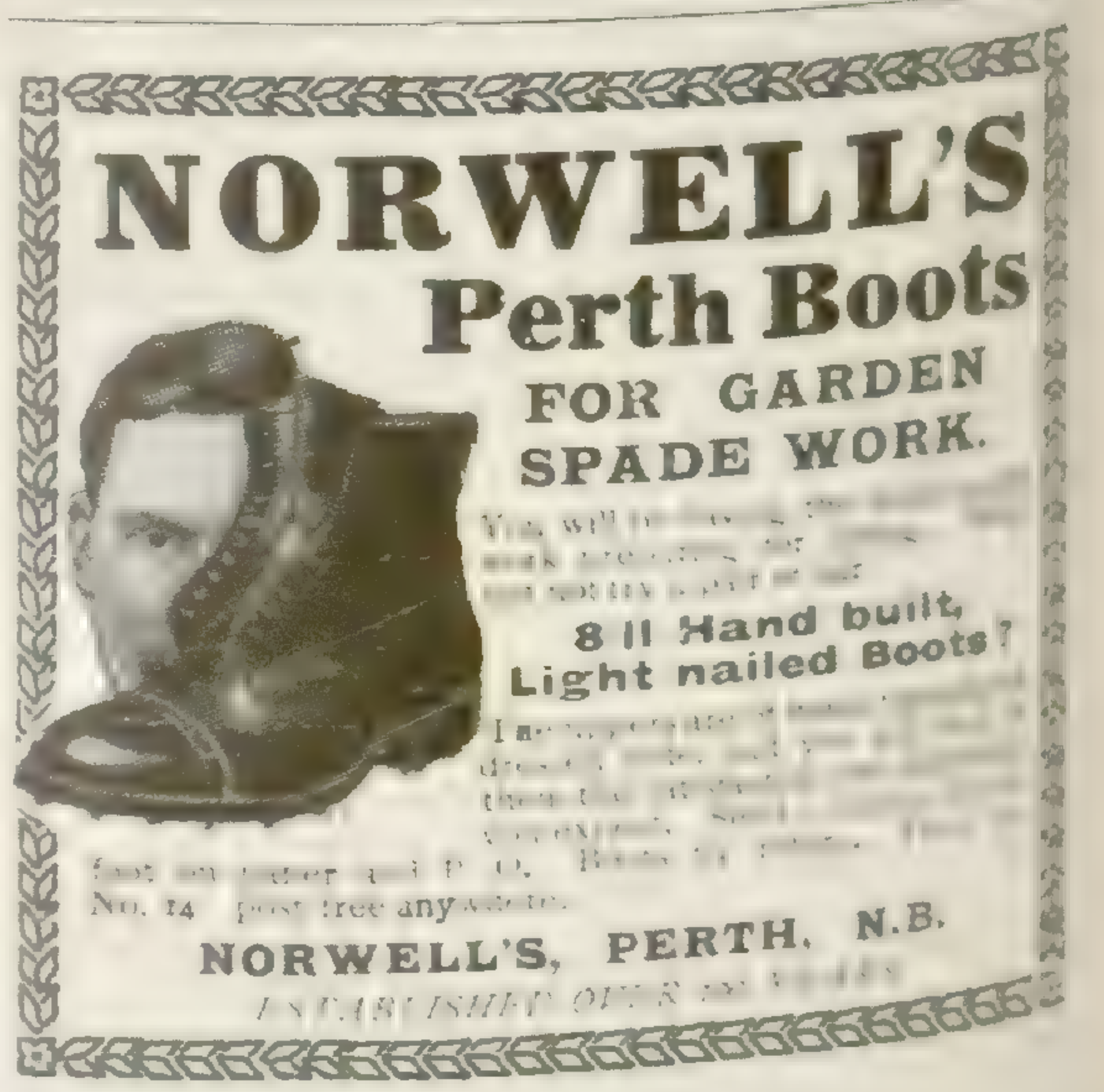

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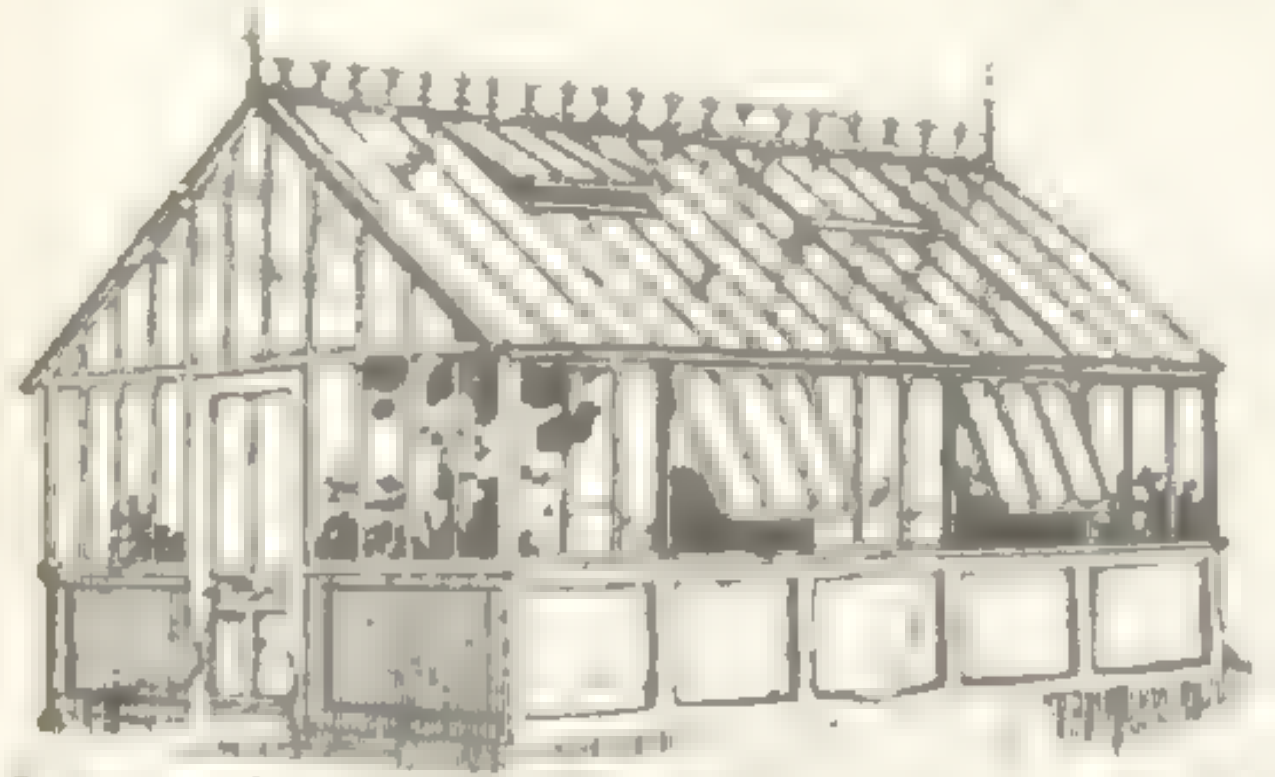

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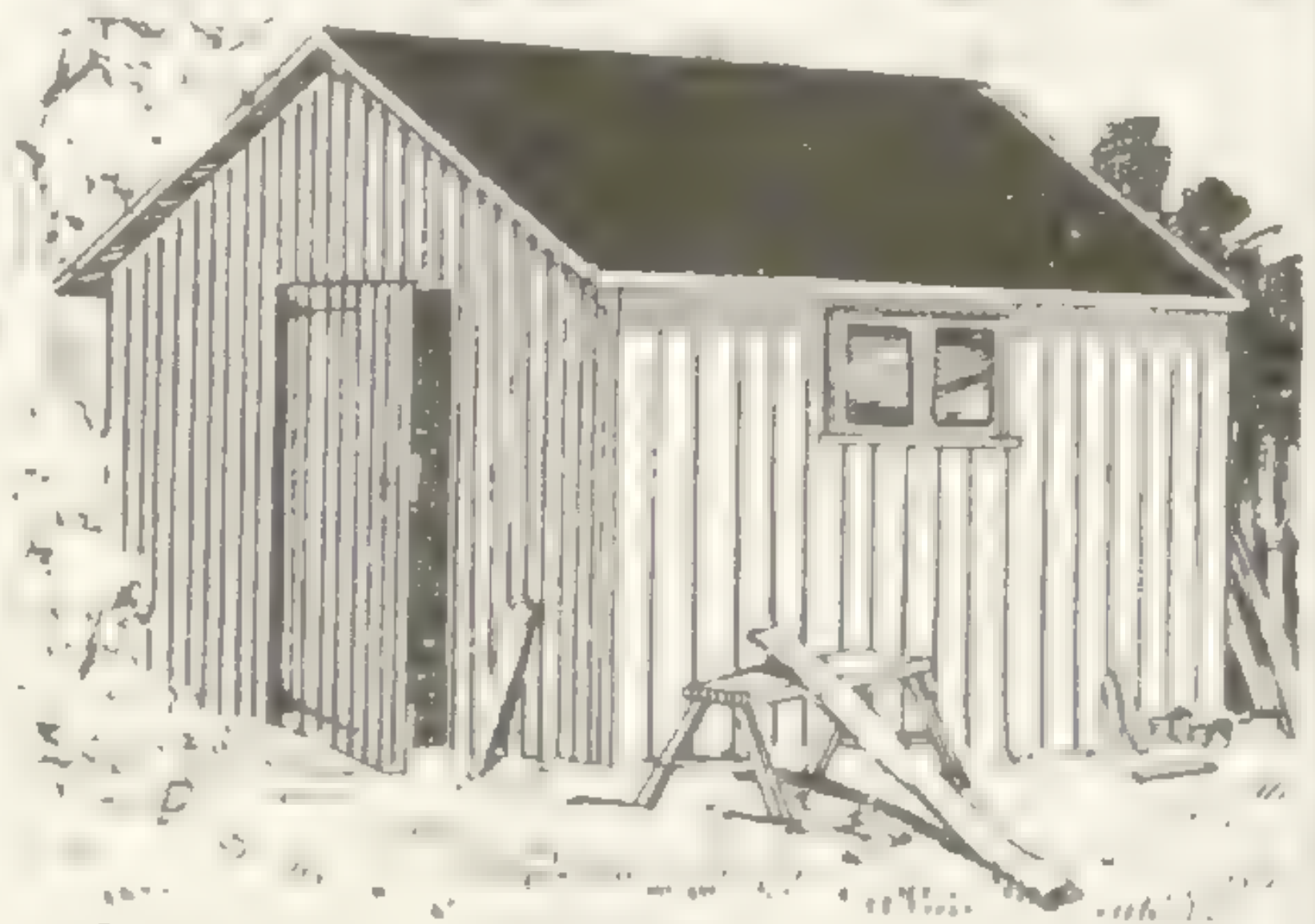
12 ft.	8 ft.	8 ft.	£7 0 0



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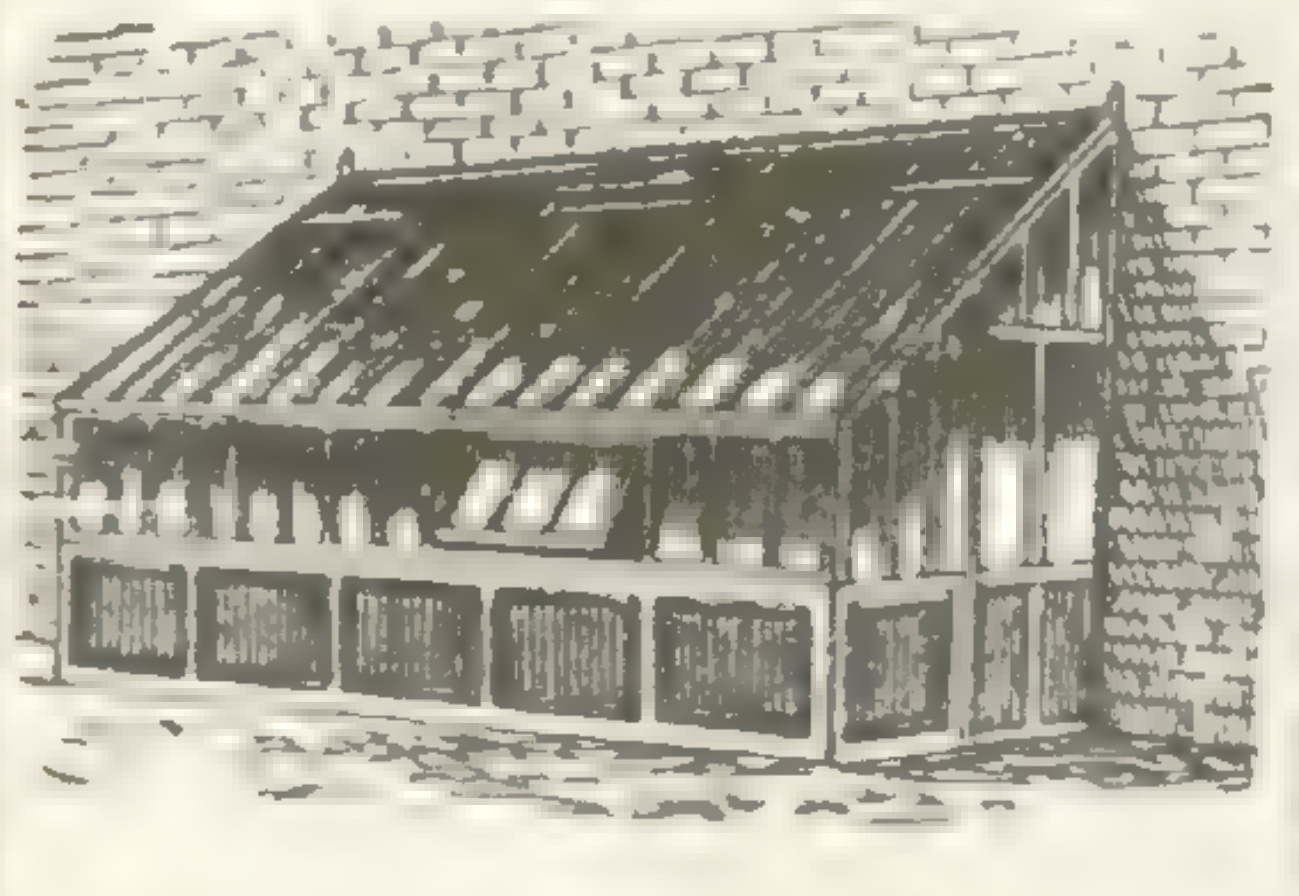

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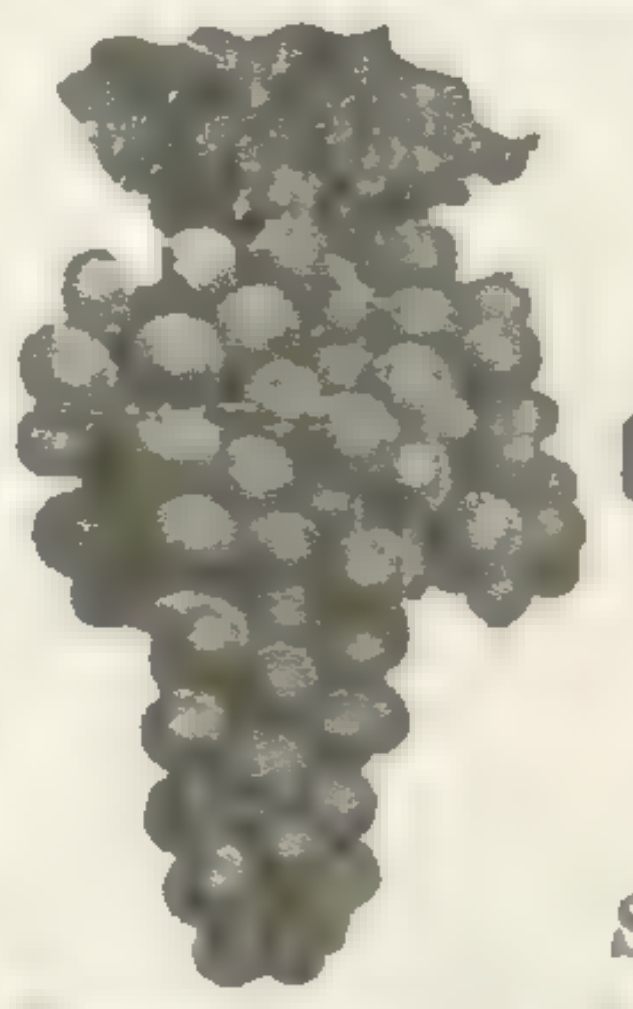

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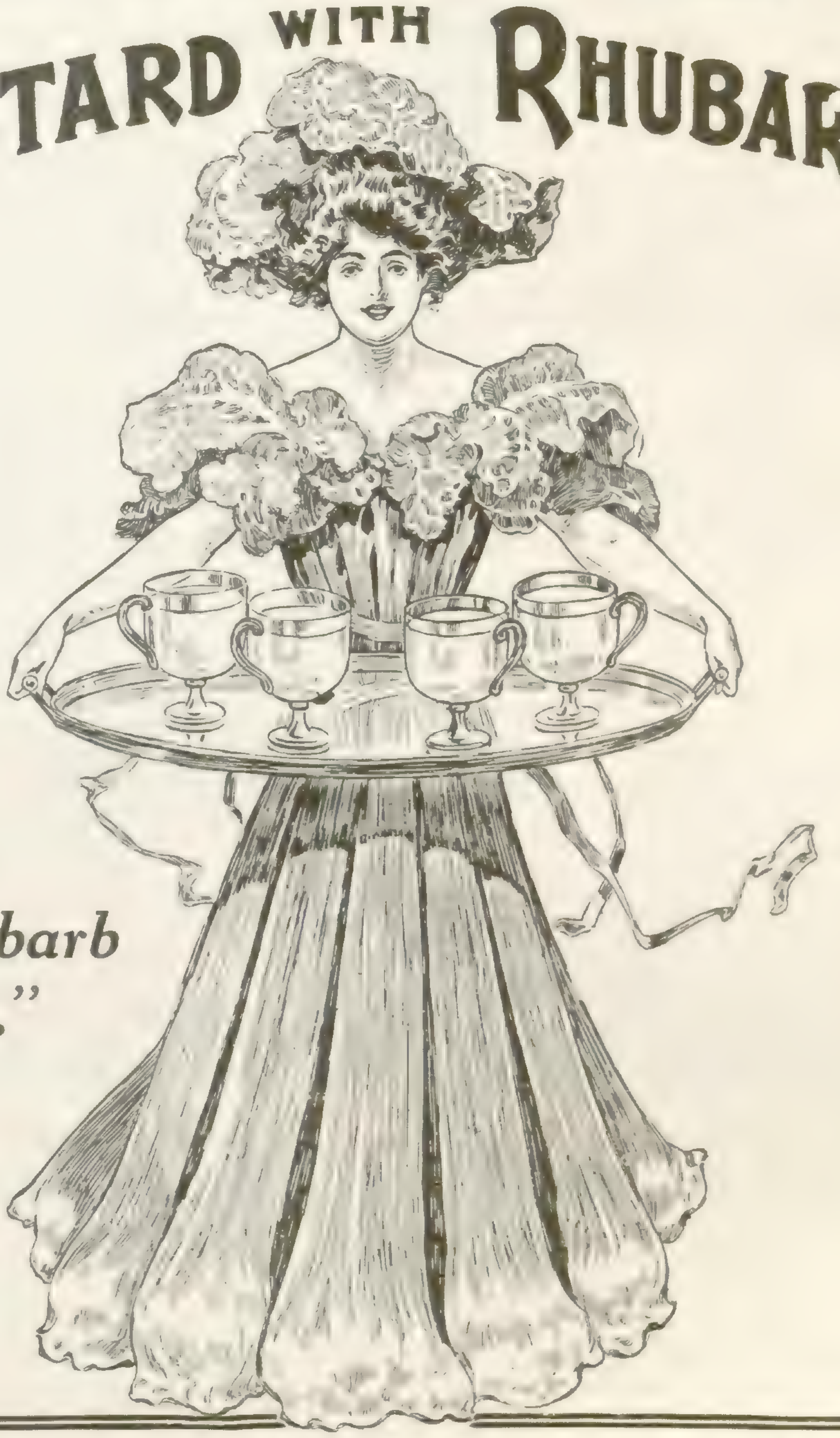

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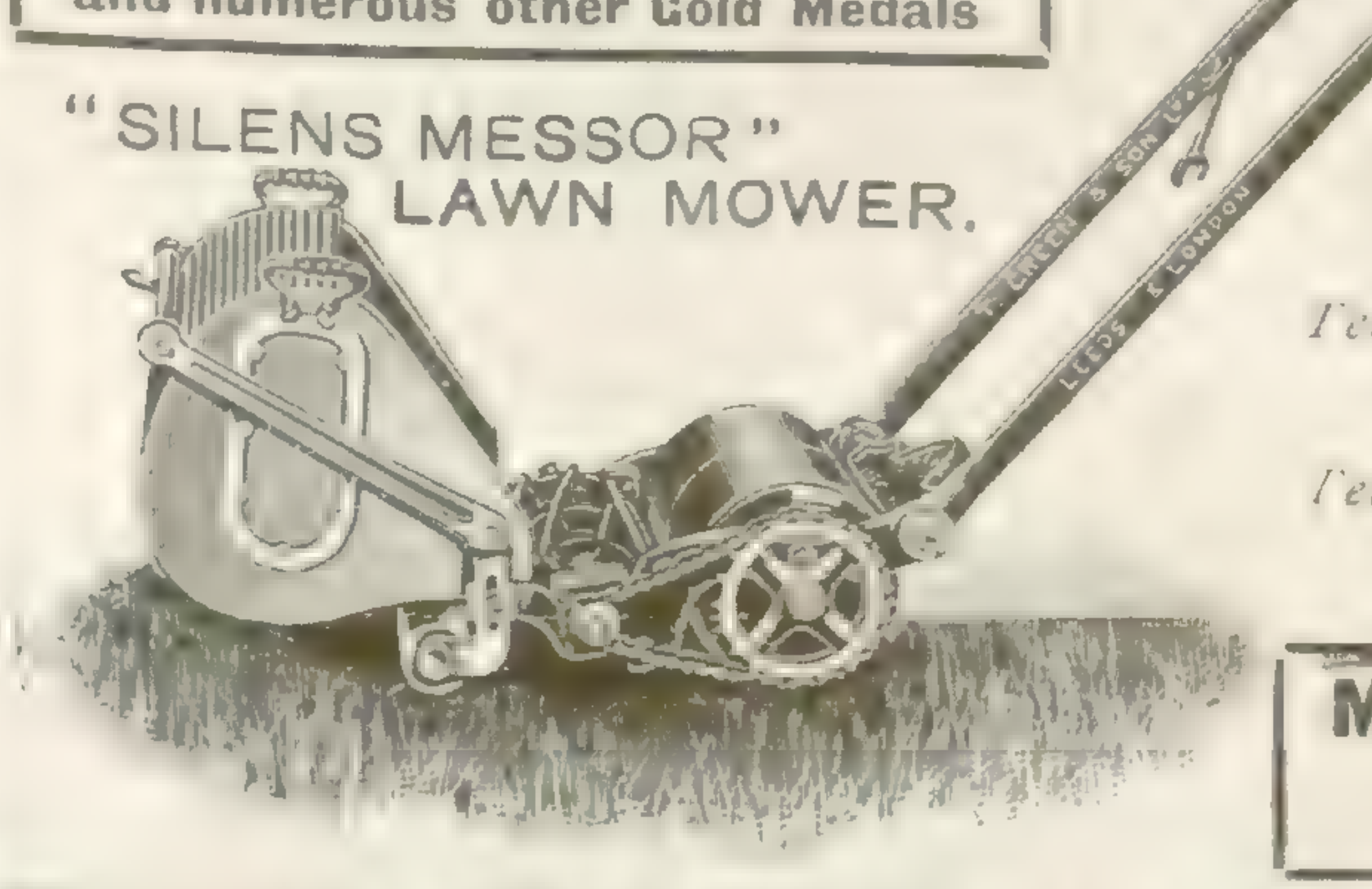

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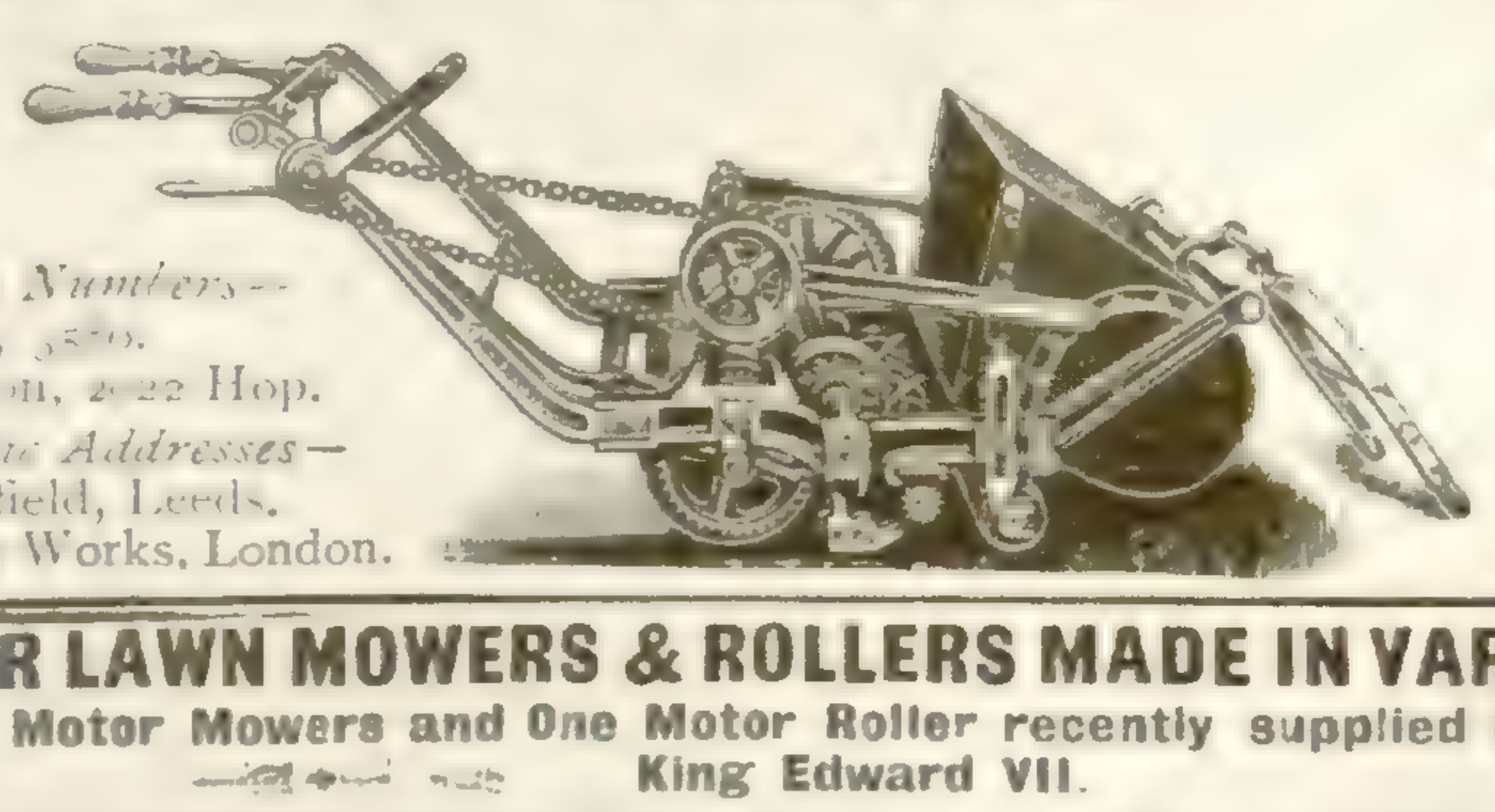

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Employment THE GARDENERS' MAGAZINE Register.

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Situations Wanted.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

D. LAKER, Head Gardener, can recommend W. POYNER as FOREMAN, with 10 years' experience in Plants and Fruit Houses, Flowers, and Kitchen Garden; 19 months' experience with me; age 24; single. W. POYNER, Mill Lane, Tettenhall Wood, Wolverhampton.

GARDENER (Head Working of three or more); Life experience in good establishments Inside and Out; good Manager; highest references; capable and trustworthy; well experienced in Plants, Fruit, Flowers under Glass; age 28; married when suited. J. HEXTALL, Stoke D'Abernon, Cobham, Surrey.

GARDENER (Head of two or good Single-handed.; good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

GARDENER (Head Working), age 50; single; thoroughly understands the cultivation of first-class fruits, flowers, and vegetables, and the general routine of a well-kept garden. SMITH, Somerleyton Green, Lowestott.

GARDENER (Head Working), experienced in the cultivation of Fruit, Plants, Flowers under Glass, also flower and kitchen gardens, hardy fruit forcing, etc.; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working); age 30; practical man all branches, seeks Situation as above; highest references as to character and abilities. J. HEARN, Grendon Underwood, Aylesbury, Bucks.

GARDENER (Head).—Advertiser seeks RE-ENGAGEMENT in first-class establishment, where several are employed; life experience, and thoroughly practical in all branches; five years as head in last situation; can be strongly recommended. Apply DUNKLEY, The Gardens, Mill House, Bourne End, Bucks.

GARDENER (Head Working), life experience Inside and Out, in good establishment; vines, flowers, vegetables, hard fruit, stove and greenhouse plants; capable and trustworthy; good references; married; no family; age 39. R. GRIFFITHS, 8, Pitt Road, Farnboro', Kent.

GARDENER (Head Working, where some others are kept); life experience, all branches, Inside and Out; used to the management of large kitchen garden and pleasure grounds, and general requirements of a place, including the management of bees and poultry; excellent testimonials; married; aged 39. T. Beets, Thornton Hall, Pickering, Yorks.

GARDENER (Head Working) desires Re-engagement; highly recommended by the Baron de Tuyll, thoroughly experienced in the general routine of good establishments; married, no family. E. GIBSON, 15, Victoria Street, Englefield Green, Surrey.

GARDENER (Head Working), age 51, seeks SITUATION; 15 years' experience in good establishments, including Frensham Place, Surrey, Tylney Hall, Hampshire, Bignell House, Oxfordshire; excellent references; married when suited. F. STEVENSON, 153, Tarring Road, Worthing, Sussex.

GARDENER (Head Working; age 35; married. H. MARKHAM, gardener to Viscount Enfield, Wrotham Park, Barnet, strongly recommends a gardener of good practical experience in choice fruits, plants, and the general requirements of a good place; strong and energetic.

GARDENER (Head Working, where two or three are kept); life experience in first-class establishments; well recommended; total abstainer; age 30. A. COOK, The Gardens, Osterley Park, Isleworth, W.

GARDENER (Head Working or Single handed); life experience, 9 years here; death of employer cause of leaving; age 26; disengaged. CHAMBERS, The Old Place, Sleaford, Lincs.

GENTLEMAN highly recommends his GARDENER (Head Working); life experience; excellent characters; left owing to changes; married; age 40; no family. ALFRED PETCHEY, Blythwood, Stansted, Essex.

W. SCRIMGEOUR, Esq., wishes to highly recommend his HEAD WORKING GARDENER, age 38; life experience in all branches of gardening; 11 years as Head; married; life abstainer. MARTIN, 39, West Hill, Highgate, N.

GARDENER (Single-handed); experienced in all branches of Flower and Kitchen Garden; married; age 42. GULL, High Street, Ingatestone.

GARDENER (good Single-handed, or where help is given), age 32; 17 years' experience in fruit, flowers, and vegetables; good references; near London preferred; state wage. FOSTER, 9, Aspland Grove, Amhurst Road, Hackney.

GARDENER (Single-handed, or Under) seeks SITUATION, in or near Birmingham preferred; experienced vegetables, fruit, flowers; age 24; willing to be useful, and can be well recommended. GILBERT CUMMINS, Stourton Caundle, Stalbridge, Dorset.

GARDENER (Single-handed), seven years last situation; age 30; life abstainer; excellent reference; married when suited. J. SIMMONDS, Plaitford, Romsey, Hants.

GARDENER (good Single-handed) seeks ENGAGEMENT; wife and daughter (19) could entirely manage private residence, shooting-box, caretakers, or similar work; excellent personal references; 9 years in last place. COOK, Post Office, Little Bedwyn, Hungerford.

GARDENER (good Single-handed, with help); good all-round Man, in all branches, Inside and Out; would take moderate wage for a comfortable place; middle aged; married; excellent testimonials from last and previous employers. F. OSBORNE, 48, Bradshaw Road, Watford.

GARDENER (Second inside or inside and out); 9½ years' experience; age 24; can be well recommended; married when suited. NORTH, Franks Hall Gardens, nr. Dartford, Kent.

GARDENER (Second or Under); nine years' experience; Inside and Out; good references; age 24; married. Particulars, R. M., 50, Chelsham Road, South Croydon, Surrey.

GARDENER (Second, Inside and Out); 10 years' experience; excellent characters; well recommended; age 26; single. R. STEADMAN, 32, Brassey Road, Winchester.

GARDENER seeks SITUATION as second or Under, Inside and Out; age 25; single; 7 years' present situation; can be well recommended; well experienced in herbaceous plants, roses, lawns, kitchen garden, etc. DYER, Manor House, Beckford, near Tewkesbury. Bothy preferred.

GARDENER or SECOND, age 29; good all-round experience in first-class establishments; six years' excellent reference; abstainer; married if required. G. PRITCHARD, Southbourne Terrace, Emsworth, Sussex.

GARDENER wishes to recommend YOUNG MAN as Second or Third Hand, with five years' experience; present place three years, Inside and Out; good reference; age 22; abstainer; disengaged when suited. A. FRY, Eardemont Lodge, Crayford, Kent.

GARDENER.—Situation wanted in Sussex, as Second of three or four, or kitchen garden, or small single-handed; good refs.; age 29, single. A. C., 5, Depot Road, Horsham.

JOURNEYMAN (Inside and Out), age 21; three years' experience; well recommended. WM. C. FINNEY, 34, Derby Street, Prescot, Lancs.

JOURNEYMAN (Inside or Inside and Out); age 22; good experience in all branches; references; abstainer. Apply G. H. BLACKMAN, 27, Battle Road, Hollington, St. Leonards-on-Sea, Sussex.

JOURNEYMAN (Inside).—J. PRIOR seeks SITUATION as above; 9 years' experience, age 23. The Gardens, Sudbury Hall, nr. Derby.

JOURNEYMAN (Inside), aged 22, seeks SITUATION; good knowledge of growing greenhouse plants; including orchids, carnations, and chrysanths. Address S. WALKER, 2, Wellington Place, Cadnam, near Southampton.

JOURNEYMAN (Inside and Out), age 21, two years' last situation; well recommended. Bothy preferred. F. HELYAR, 46, Coombe Road, Upper Sydenham, Kent.

JOURNEYMAN (Inside), age 20, seeks SITUATION in good establishment; 4½ years in present situation; total abstainer; Bothy. Apply P. COOK, The Gardens, Stockwood Park, Luton, Beds.

MR. W. J. SHORT, Freeland Gardens, Woodstock, Oxon, wishes to recommend H. BEES aged 23, as JOURNEYMAN, Inside or Inside and Out; 9 years' experience; two years' inside here.

GARDENER (Under) seeks good responsible SITUATION, Inside and Out; age 21; good all-round experience of 5½ years; good references as to character, etc. L. BIGWOOD, Kingsbury Green, N.W.

GARDENER (Under) seeks SITUATION. 6 years' experience Outside; age 20; Bothy preferred. Apply W. H. FRANKS, Sandhills, Wormley

YOUNG MAN (20) seeks SITUATION as Under-Gardener, outside; good references. Apply to F. C., 6, Andersons Road, Oatlands Park, Weybridge, Surrey.

YOUNG MAN (21) seeks SITUATION as GARDENER (Under); five years last situation; well recommended; experienced both Inside and Out. Apply W. CORNELL, Kennels, Evercreech, Somerset.

GARDENER (Inside or Inside and Out), age 24; 10 years' experience; 3 years' present situation; 3 years' previous; good references. Bothy preferred. Apply G. BROWN, Bell House Gardens, Dulwich, S.E. No circulars.

GARDENER wishes to recommend YOUTH, aged 17, as IMPROVER, Inside and Out; [illegible] years' present situation; Bothy preferred. Address GARDENER, Manor House, Beckford, nr. Tewkesbury.

IMPROVER, age 16, seeks SITUATION in good establishment; three years' good character; can be well recommended. Apply F. T[illegible], Wootton Bassett Road, Purton, Wilts.

MR. GARRATT, gardener to Lord Ashburton, can recommend good Working Gardener; life experience; age 41; married, one boy, 10; Wife could undertake any domestic work. WORSELL, Grange Gardens, Alresford, Hants.

MR. MACDONALD, Gardener to [illegible] H. Kenrick, Whetstone, Edglaston, Birmingham, wishes to recommend H. HARBIDGE as JOURNEYMAN, First; age 26 years; 4 years' present situation.

MR. W. DAVIES, The Gardens, Brampton Park, wishes to recommend H. BRAYBROOK, age 18; four years' experience, Inside and Out. BRAYBROOK, Brampton, Huntingdon.

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YOUNG MAN, age 19, requires SITUATION in gardens, Inside, or Inside and Out; 5 years' experience; good reference. Apply E. ROOTES, 14, Rawdon Road, Maidstone.

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WANTED, YOUNG MAN, age not under 25 years, for pleasure grounds and conservatory, lawn, and flower borders; wages £1 per week; no Bothy; state all particulars to GEO. HOWARD, Yaldham, Kemsing, Sevenoaks.

WANTED.—Young married man as GARDEN LABOURER for general work in garden. Apply HEAD GARDENER, Woodside, Chenies, Rickmansworth, Herts.

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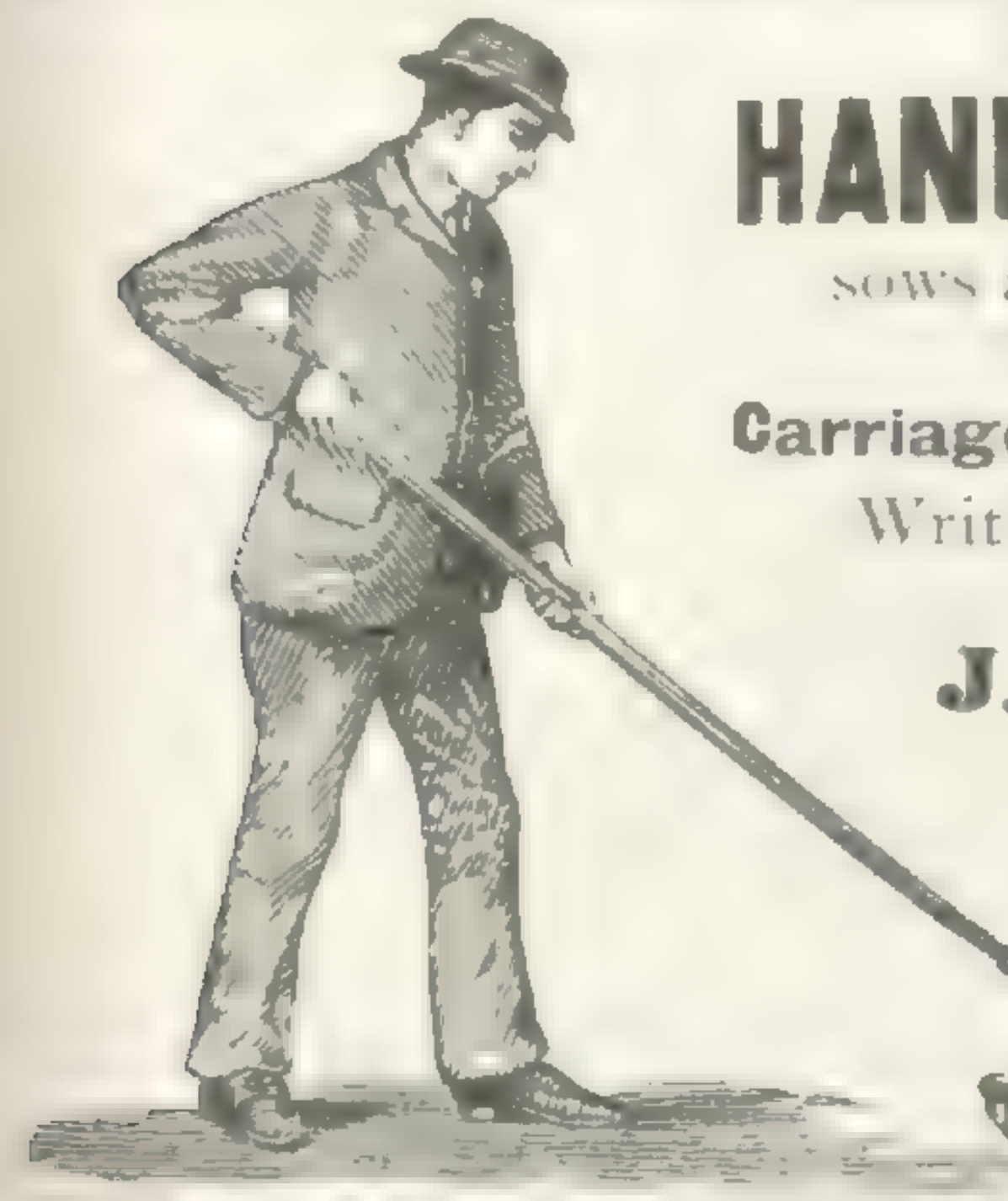

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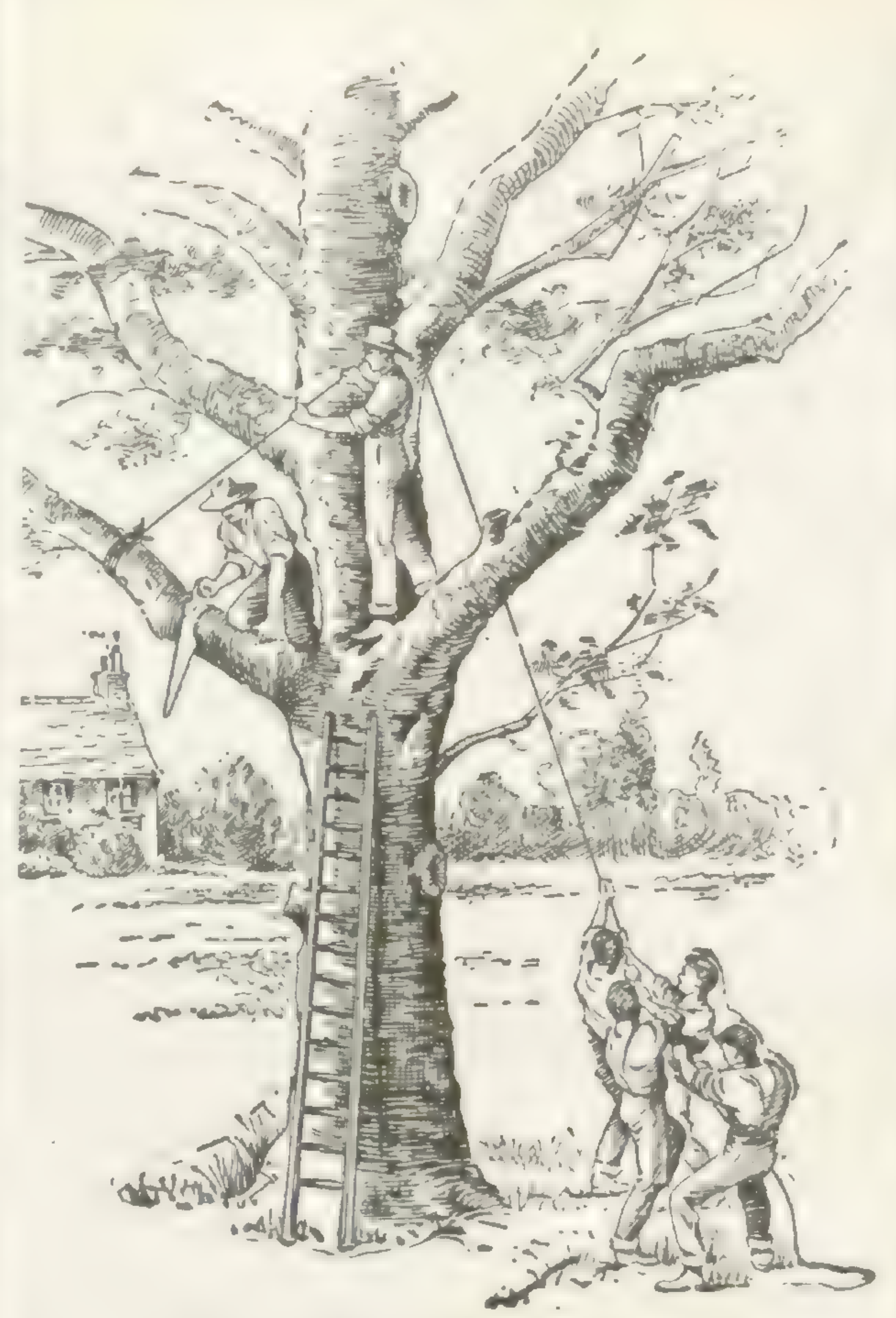

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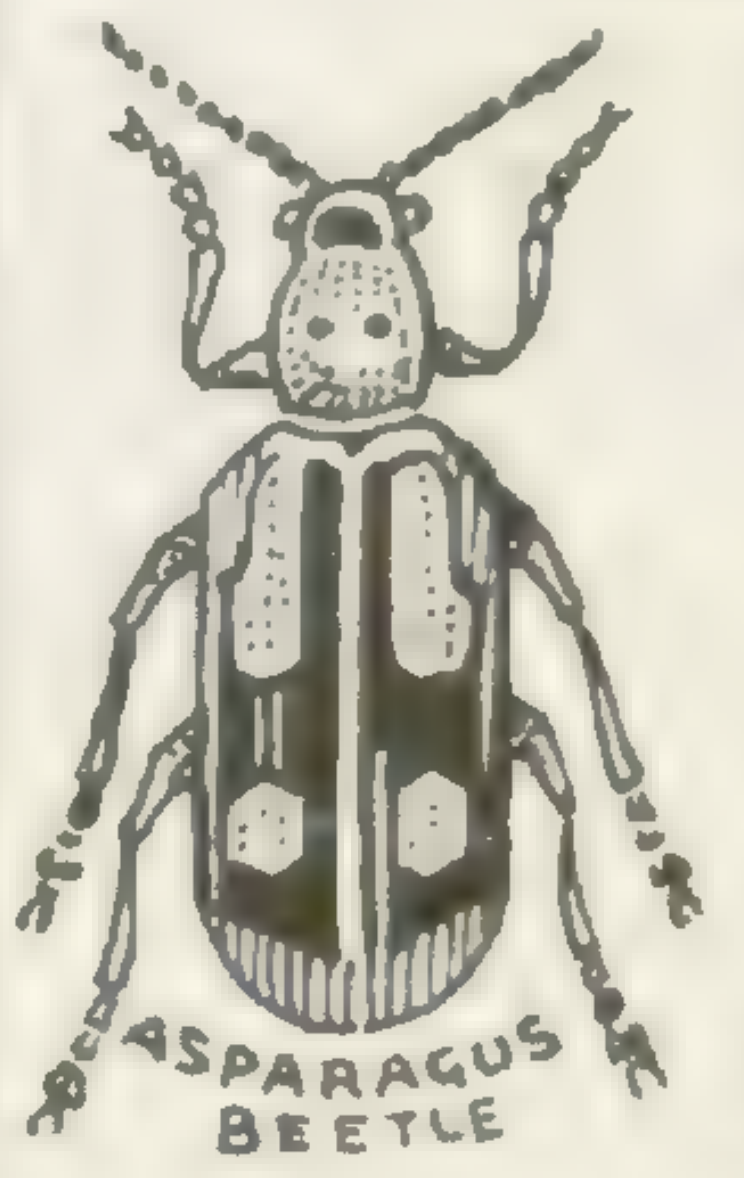

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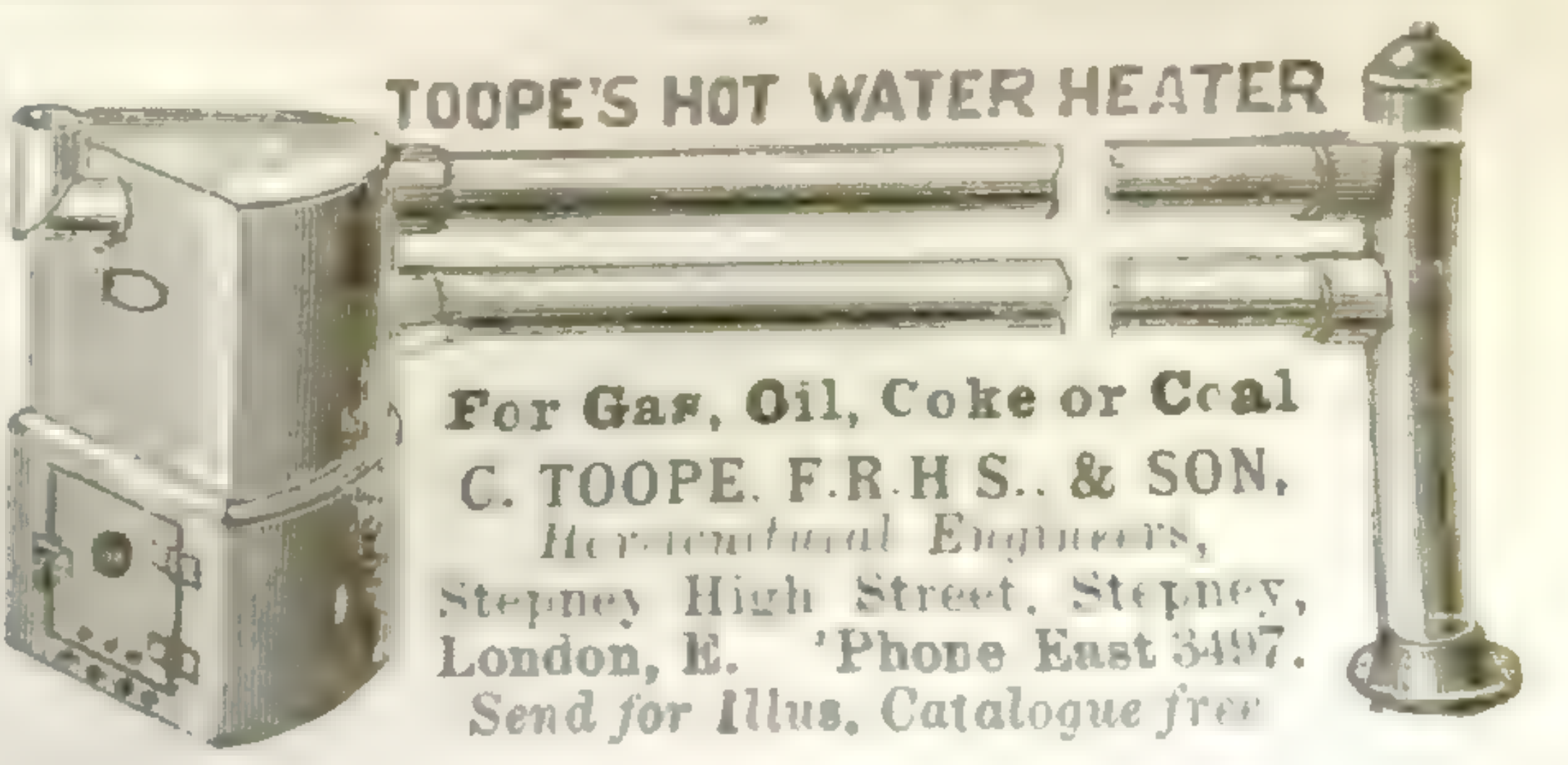

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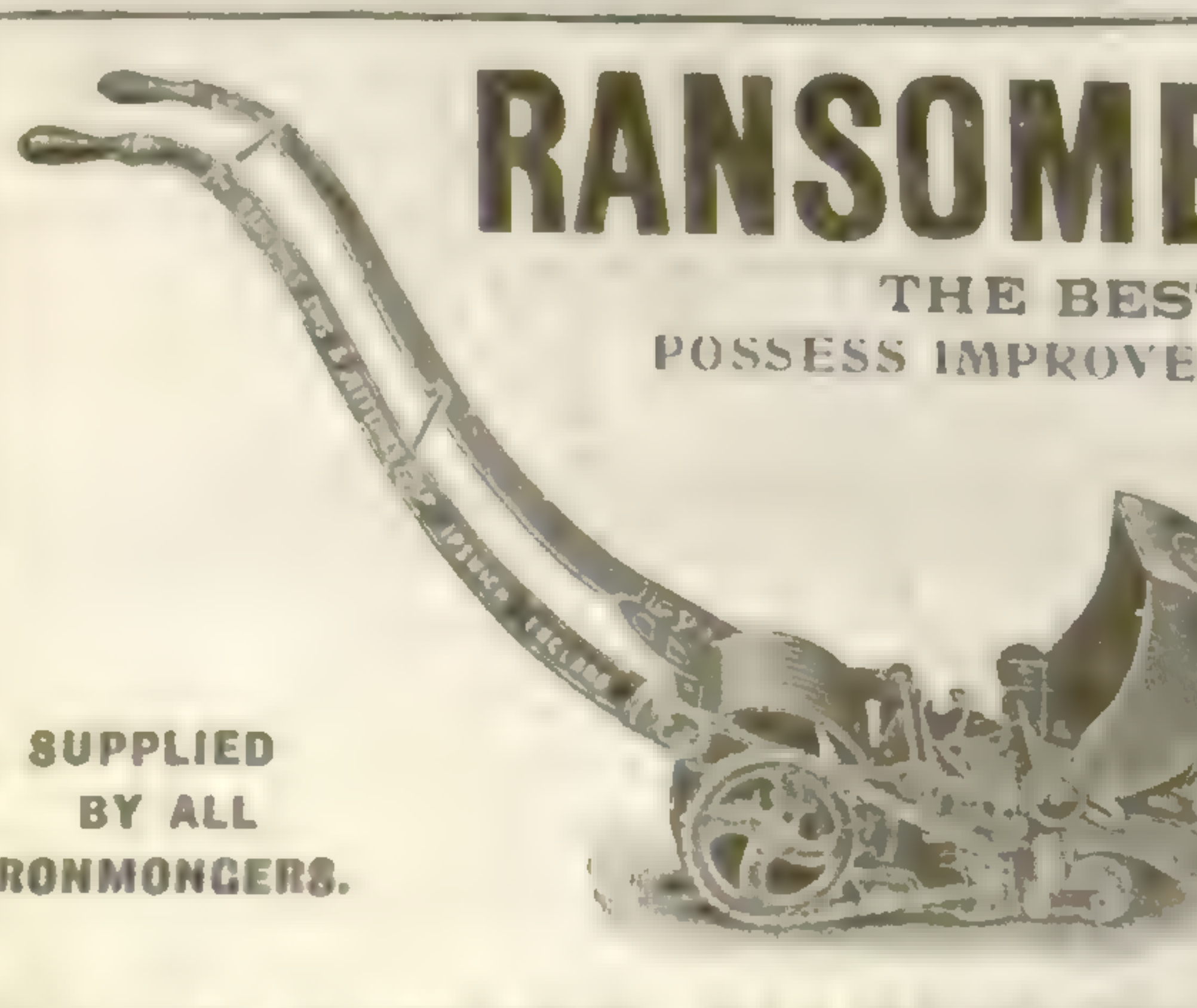

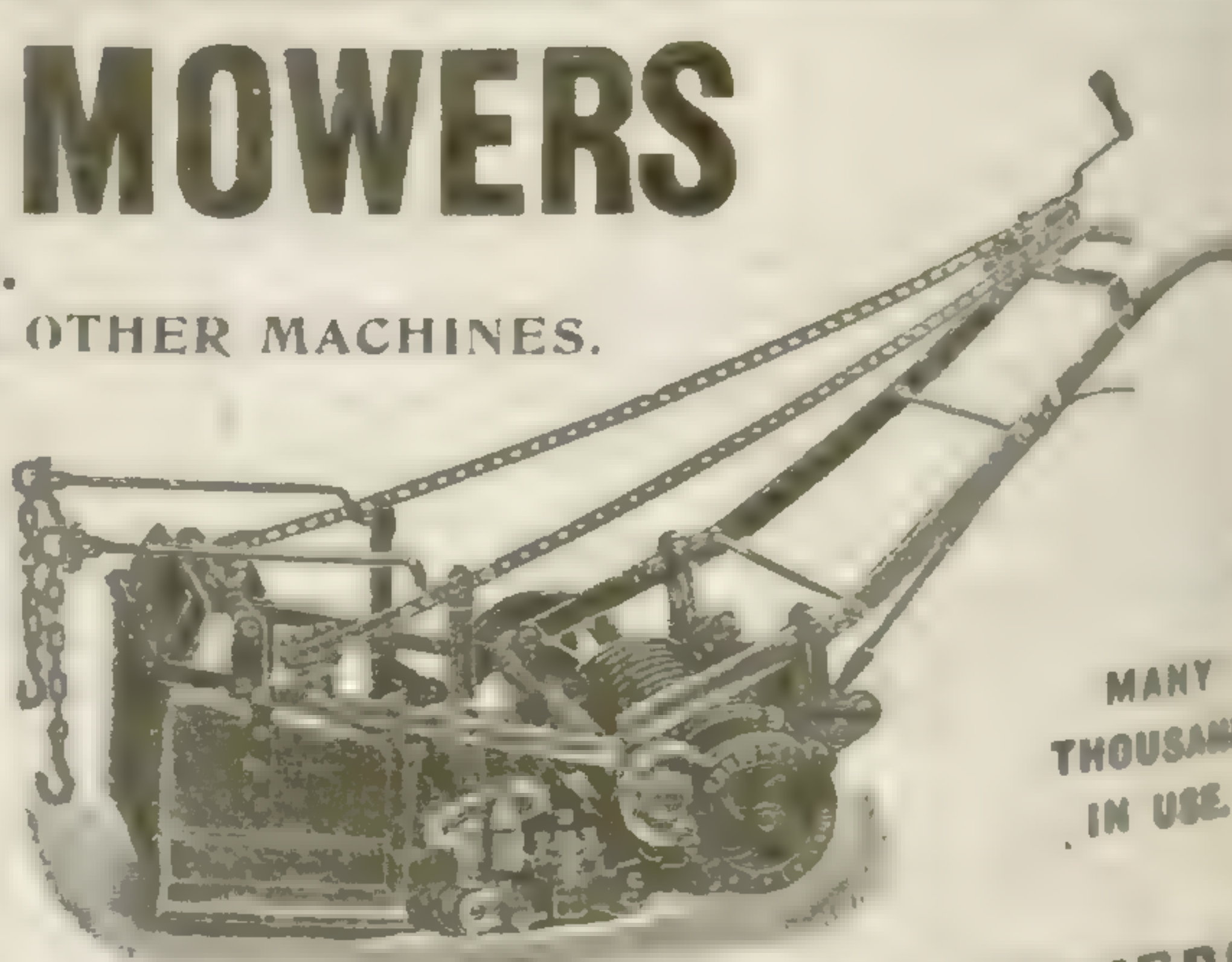

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THE GARDENERS' MAGAZINE.

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Reg. at the G.P.O. as a Newspaper.

SATURDAY, MARCH 12, 1910. (10/6 per Ann. Post Free. To Foreign Countries, 15/-.) **Twopence.**

BARR'S VEGETABLE & FLOWER SEEDS of finest selected strains and tested growth. Descriptive Catalogue, with cultural notes, free.

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GISHURST COMPOUND is harmless in use: its soluble Sulphur, etc., has for 40 years cured blight and fungus on plants, and is good for washing unhealthy dogs. Gishurstine keeps boots dry in all weathers; they will polish. Good for harness. Wholesale from
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JAMES GRAY, HORTICULTURAL BUILDER, CHELSEA, S.W., is arranging this Spring for a large selection of Blinds for Conservatories, Greenhouses, Private Houses, Verandahs, etc., and will send particulars, prints, and prices of these on receipt of a postcard, telephone message (201, Western), or wire "Gray, Chelsea, London."

WELLS' LIST OF NEW CHRYSANTHEMUMS NOW READY, also descriptive Catalogue, post free. Early-flowering Single Chrysanthemum and Pentstemon Seed, 1s. and 2s. 6d. per packet. See page 59 of Catalogue for particulars. WELLS' NEW BOOK, telling everything about Chrysanthemums (new edition ready middle January), the Standard Work, 1s. 6d. post free. W. WELLS, Merstham, Surrey.

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CLAY'S MANURES, CRUSHED BONES
(See back page.)

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UNSURPASSED for all Horticultural Purposes.
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Mr. E. Beckett, Aldenham House Gardens, writes: "I am charmed with your Avalanche Primula, and consider it by far the best white primula that has come under my notice."

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BARNARDS, LIMITED, Norwich.—Best House for Fencing, Espaliers, Pergolas, Fruit Enclosures, Iron and Wire Bordering; all descriptions of Training Fittings, Arches, Wire Netting, Stakes, Wire Lattice, Rollers, and all garden requisites. Now is the time to effect improvements in your garden. Catalogues free; inquiries invited.

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Seed and Bulb Growers,
DEPTFORD, LONDON, S.E.

AMERICAN PERPETUAL CARNATIONS.—Season 1910. Illustrated Catalogue. Everyone interested in PERPETUALS should write for our 1910 Illustrated Catalogue, FREE. Read our "TREATISE ON CULTURE," 1s., post free. YOUNG and CO., 15, HATHERLEY, CHELTENHAM.

GARDEN IRON AND WIRE WORK and Ornamental Wood Work of every description, Espaliers, Rose Trainers, Archways, Pergolas, etc. Now is the time to consider your Garden Improvements. Send for Illustrated Catalogue. BOULTON and PAUL, Ltd., Dept. M5, Norwich.

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The flower PAR EXCELLENCE for Church Decoration at Harvest Festivals and for public gatherings and room decoration.

They thrive exceedingly well in town.

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All are flowering bulbs.

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NOW IS THE TIME TO PLANT Kelway's beautiful Blue Delphiniums, in borders and beds; as clumps on the lawn, and at the sides of carriage drives. There is no hardy flower more stately and of lovelier shades of BLUE—that precious colour in the garden.

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THOMSON'S CELEBRATED MANURES.
For full advertisement see page 218.

THE GARDENERS' ATTENTION will now be occupied with the cleansing of Fruit Trees and Plants. The dormant season is the time to wage war against Mealy Bug, Scale, etc. These pests can speedily be got rid of under glass by the use of XL ALL NICOTINE LIQUID INSECTICIDE. For preparing Fruit Trees and Bushes out of doors for a clean, healthy start next spring, nothing is so effectual as a good spraying after the leaves have fallen, with RICHARDS' XL ALL WINTER WASH, which will destroy American Blight, other insects, moss, etc., and make the bark clean and healthy. Can be obtained everywhere from the Horticultural Trade. G. H. RICHARDS, Manufacturer, 234, Borough High Street, London, S.E.

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Lilies, Cottage & Darwin Tulips, rare Bulbs, Plants.

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R. H. BATH, Ltd., The Floral Farms, Wisbech.
The best New and Standard varieties of Border and Tree Carnations.

WM. SYDENHAM, Melbourne, Derbyshire.
Fully 80,000 Carnations yet to offer. Prices very low. List free.

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Unlimited quantity Early-flowering Chrysanthemums, all up to date varieties. List free.

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Orchids of Every Species.

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"White" Cattleyas and Choice Cypripediums are leading features. Inspection solicited.

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Fully 600,000 Violas offered this season. List free.

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GUNN & SONS, Specialists,
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New and Standard varieties. Lists Free.

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The World-famed Champion Rose Growers.

JAS. COCKER & SONS,
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Send for Catalogue, Free on Application.

HENRY DREW, Rose Grower, Longworth, Faringdon, Berks
Winner of Upwards of 60 Prizes, 1909. Catalogue Free. Estimates Given. Correspondence Invited.

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Tested Flower and Vegetable Seeds

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The Floral Farms, Wisbech.
Select Vegetable and Flower Seeds.

SWEET PEAS.

ROBERT BOLTON, The Sweet Pea Specialist.
Warton, Carnforth,
Catalogues post free.

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1910 EDITION.

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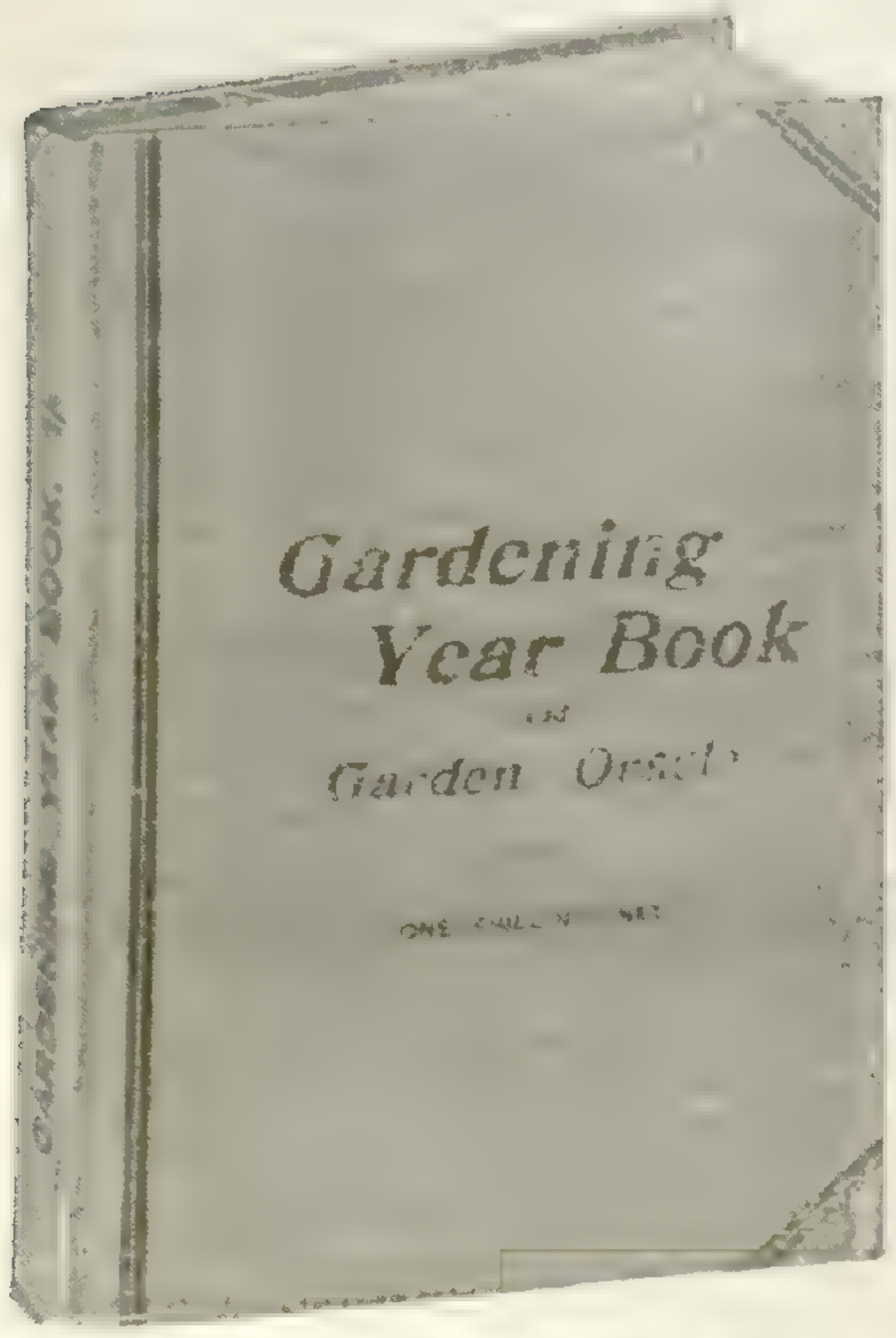

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Please send me a copy of "THE GARDENING YEAR BOOK" *by post, for which I enclose remittance of* 1/3.

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Sales by Auction.

SALES NEXT WEEK.

MONDAY and FRIDAY NEXT, March 14th and 18th, at Twelve o'clock.—Choice Hardy Border Plants and Bulbs, Perennials, Liliums, Gladiolus, Begonias, Tuberoses, etc.

At Half-past One o'clock.—1,000 Roses, Dwarf, Climbing, Tea, etc.; Fruit Trees in variety, Azaleas, Ferns, etc.

WEDNESDAY NEXT, March 16th, at Twelve o'clock. —Herbaceous and Border Plants in variety, Perennials, Japanese Liliums, Gladiolus, Flowering Shrubs, Begonias, Tuberoses, Lily of Valley, Pinks, etc.

At Twelve o'clock.—Trade sale of Miscellaneous Bulbs, Plants, Roots, etc., in large variety.

At Half-past One.—4,000 Roses, Standard, Dwarf, Climbing, Tea, etc.; also Fruit Trees and Bushes in variety.

At Two o'clock.—A consignment of Japanese Liliums in cases, as received.

At Five o'clock.—Azaleas in variety, Rhododendrons, Camellias, Aspidistras, etc.; also 100 lots of Ornamental Palms and Plants, Bays, Greenhouse Plants and Ferns.

FRIDAY NEXT, Mar. 18th, at One o'clock. A further portion of the "Chillingham" Collection of Orchids. Orchids in flower and bud.

MESSRS. PROTHEROE and MORRIS will SELL the above BY AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C. On view morning of Sale and Catalogues had.

ST. JOHN'S NURSERIES, WORCESTER.

Re R. Smith and Co., in voluntary liquidation.

UNRESERVED SALE, by order of the Receiver for the Debenture Holders.

MESSRS. PROTHEROE and MORRIS will SELL BY AUCTION at the St. John's Nurseries, Worcester, on TUESDAY NEXT, Mar. 15th, and two following days, at Half-past Eleven o'clock. The Fifth portion of the clean and well-grown NURSERY STOCK, including 1,500 Rhododendrons, good named varieties, English and Golden Yews, 30,000 Privet, 4,000 Willows, golden, red, and green; Street, Park, and Avenue trees in large quantities. A large stock of climbing plants, Roses and Vines in pots. Thousands of hardy and half-hardy plants in pots, suitable for rock and ornamental gardens; herbaceous plants, etc.

May be viewed. Catalogues can be had on premises; of Messrs. Pinsent and Co., Solicitors, 6, Bennett's Hill, Birmingham; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

BULBS, ROSE TREES, SHRUBS.

Every MONDAY and WEDNESDAY, AT 12.30,

STEVENS' AUCTION ROOMS (Est. 150 Years).

38, KING ST., COVENT GARDEN, LONDON.

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7,000 FRUIT TREES MUST BE CLEARED IN TEN DAYS.—Don't miss the opportunity of getting 5-year-old fruiting trees, Apples, Pears, Plums, Cherries, in best named varieties at "a give away price"; usually sold at 15s. and 18s. doz., but now offered at 8s. doz.; 15s. for 24; 27s. for 50; 50s. 100. Gooseberries and Currants, 2s. doz.; 14s. 100.—KEATLEY, Hambledon, nr. Godalming.

£500 A YEAR FROM AN ACRE OF LAND—French Gardening System. Use the new substitute for Glass and a third the cost. sample yard 1s. 3d., or 15 yards for 10s. Read "What to do and how to do it," by C. KEATLEY, Hambledon, nr. Godalming, by post 4d.

CHOICE NEW CHRYSANTHEMUMS, our Catalogue, including splendid novelties for 1910 is now ready; sent free. SHOW AND REGAL PELARGONIUMS.—12 splendid named varieties, clean sturdy plants, in 3-inch pots, carriage paid to any station 6s. BEGONIA GLORIE DE LORRAINE.—Plants in 3-inch pots, car. paid to any station, 5s. per doz. See Catalogue. J. W. COLE and SON, Chrysanthemum Specialists, Peterboro'.

CABBAGE PLANTS, First and Best.—Ellam's Dwarf, Enfield, Wheeler's Imperial, [illegible] 3s.; Red Pickling, 4s.; Cos Lettuce, 5s.; [illegible] Onion, 4s. 1,000 on rail. Any above, post [illegible] 1s. 100. Also thousands of Blood Red Wall[illegible] very bushy, 1s. 6d. 100, on rail. C. HIGHT, [illegible]h, Surrey.

SEED CATALOGUE, SEED CATALOGUE. —48-page Catalogue, profusely illustrated, free on application. Special offer of Seeds on approval, carriage paid; also Begonias, Liliums, etc. ELLISON, 57, West Bromwich. Established 1890.

PERPETUAL - FLOWERING CARNATIONS, including all finest American and other Novelties. Plants in 3in. pots, value 10s. carr. paid for cash. Catalogue free. H. BURNETT, Carnation Specialist, Guernsey.

25 STRONG CHRYSANTHEMUM CUTTINGS, Exhibition, Decorative, Single or Early. 1s 6d.; 50, 3s.; 100, 5s. 6d.; by return. List. RICHMOND'S CHRYSANT NURSERIES, Ossett, Yorks.

SEED POTATOES, SEED POTATOES direct from best growers. For prices, EDWARD ENGLAND (Cdff., Ltd.), Bath Street, Bristol. Also Cardiff and Swansea.

PRUDENTIAL ASSURANCE COMPANY, Ltd.,

Chief Office: HOLBORN BARS, LONDON.

INVESTED FUNDS EXCEED £74,000,000.

SUMMARY of the REPORT presented at the SIXTY-FIRST ANNUAL MEETING, held on 3rd March, 1910.

ORDINARY BRANCH.—The number of policies issued during the year was **76,087,** assuring the sum of **£7,044,603,** and producing a new annual premium income of **£415,015.** The premiums received during the year were **£4,710,107,** being an increase of **£93,770** over the year 1908. The claims of the year amounted to **£3,018,981.** The number of deaths was **8,375,** and **17,629** endowment assurances matured.

The number of policies in force at the end of the year was **882,804.**

INDUSTRIAL BRANCH.—The premiums received during the year were **£7,171,770,** being an increase of **£246,015.** The claims of the year amounted to **£2,877,978,** including **£176,401** bonus additions. The number of claims and surrenders, including **4,545** endowment assurances matured, was **382,233.** The number of free policies granted during the year to those policyholders of five years' standing and upwards, who desired to discontinue their payments, was **151,865,** the number in force being **1,506,408.** The number of free policies which became claims during the year was **41,386.**

The total number of policies in force at the end of the year was **18,375,229;** their average duration exceeds eleven and a half years.

The assets of the company, in both branches, as shown in the balance-sheet, after deducting the amount written off securities, are **£74,201,701,** being an increase of **£2,242,842** over those of 1908.

The Directors are pleased to announce an increase in the rate of bonus of both Branches of the Company as follows:—

In the Ordinary Branch a reversionary bonus at the rate of **£1 14s.** per cent. on the original sums assured has been added to all classes of participating policies issued since the year 1876. This is an increase of two shillings per cent. over the rate declared for the past three years.

In the Industrial Branch all policies of over five years' duration which become claims either by death or maturity of endowment from the 4th of March, 1910, to the 2nd of March, 1911, both dates inclusive, will participate. This bonus will be paid by way of addition to the sums assured of:—

£5 per cent. on all policies becoming claims upon which at least five but less than ten years' premiums have been paid.

£10 per cent. on all policies becoming claims upon which at least ten but less than fifteen years' premiums have been paid, and

£15 per cent. on all policies becoming claims upon which at least fifteen years' premiums have been paid.

Messrs. Deloitte, Plender, Griffiths and Co. have examined the securities, and their certificate is appended to the balance-sheets.

H. A. HARBEN, Chairman.
THOS. C. DEWEY, } Directors.
W. E. HORNE,

D. W. STABLE, } Joint Secretaries.
J. SMART,

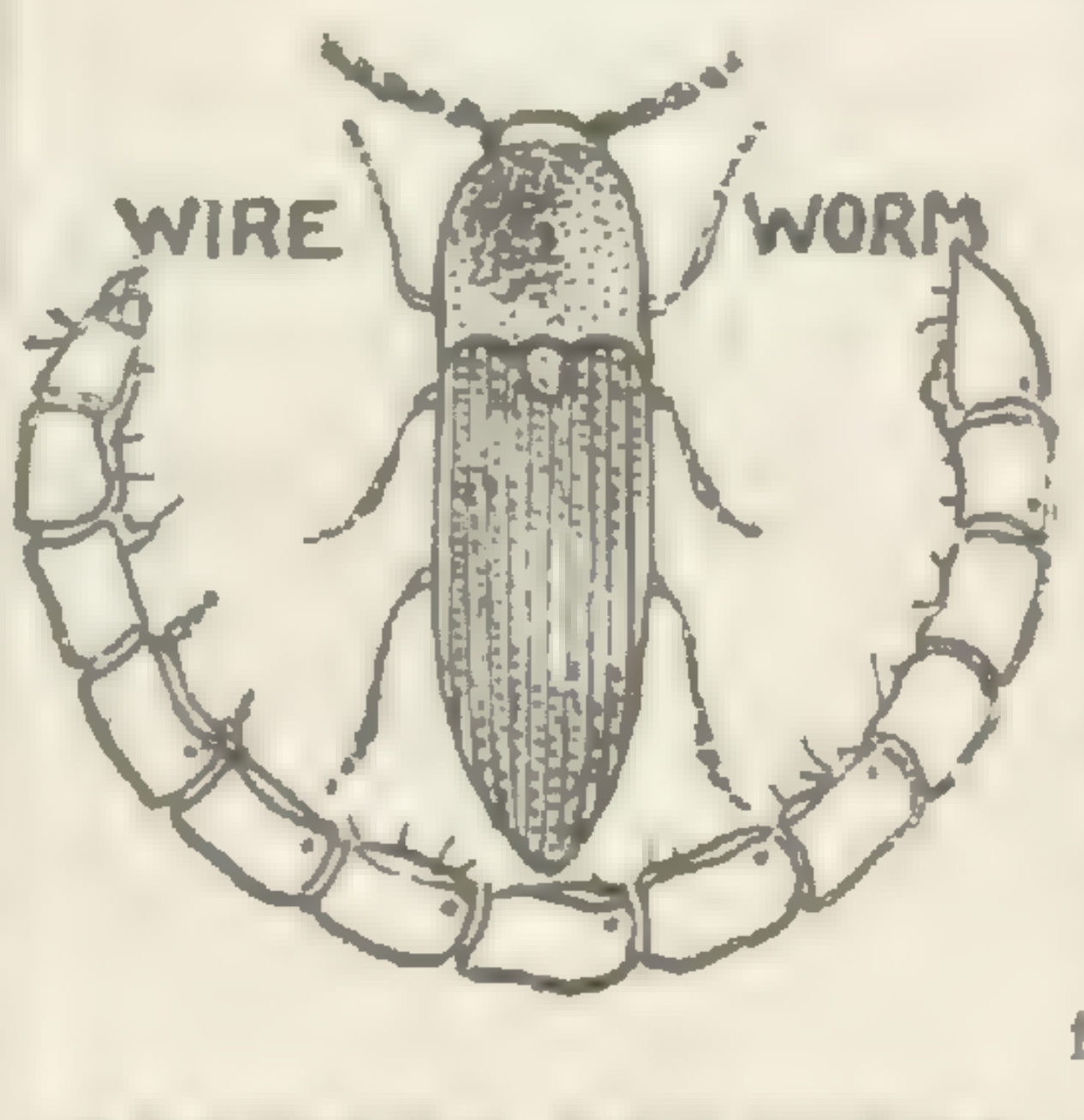
FREDK. SCHOOLING, } Joint Managers.
A. C. THOMPSON,

The full Report and Balance-sheet can be obtained upon application.

WATER CATALOGUE NOW READY
PERRY ENFIELD, MIDDLESEX

THE WIREWORM.

(Elater Lineatus).



The most mischievous of all soil pests and the most difficult to exterminate.

CLIFTS INSECTICIDE

is one of the very few preparations which are fatal to the wireworm. Sample and instructive booklet for 3d. in stamps.

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Our Pots are Low in Price and Rich in Colour. Amateurs should try our FAMOUS CRATES OF POTS, **7/6, 10/6, 15/-, and 21/-.**

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Catalogue Free. Orders sent off same day.

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HERBERTS PARK POTTERY CO., DARLASTON, STAFFS.

BEGONIAS. — PRIZE-STRAIN SINGLE BEGONIAS.—Butterfly, 2s.; Crested, 2s. 6d.; Frilled, 2s.; single, separate colours, scarlet, orange, pink, salmon, yellow, white, 2s.; mixed, 1s. 6d. dozen. ELLISON, F.R.H.S., 57, West Bromwich.

Thompson & Morgan

beg to announce that their Seed Catalogue containing many novelties in Flower and Vegetable Seeds has been published and may be had gratis and post free.

This unique work cannot fail to be of lasting value to all Amateurs, and the information freely given therein is based upon over

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for selling good seeds. Many seeds offered cannot be obtained els where.

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A SPECIALITY FOR MORE THAN 50 YEARS.

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Strong well-ripened Canes, clean and healthy, for planting and fruiting. Descriptive List FREE. ALSO FIGS AND PEACHES.

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Give special attention to the forwarding of Plants, Trees, and Shrubs to all Foreign Parts. Phylloxera Certificates secured when necessary.

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GARDENER (Head Working, where one or two are kept) last six years second of six; experienced, Inside and Out; abstainer; age 27; married, no family, can be well recommended. G. RUSHEN, Pinner Hill Gardens, Pinner, Middlesex.

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GARDENER (Head Working of three or more); life experience in good establishments Inside and Out; good Manager; highest references; capable and trustworthy; well experienced in Plants, Fruit, Flowers under Glass; age 28; married when suited. J. HEXTALL, Stoke D'Abernon, Cobham, Surrey.

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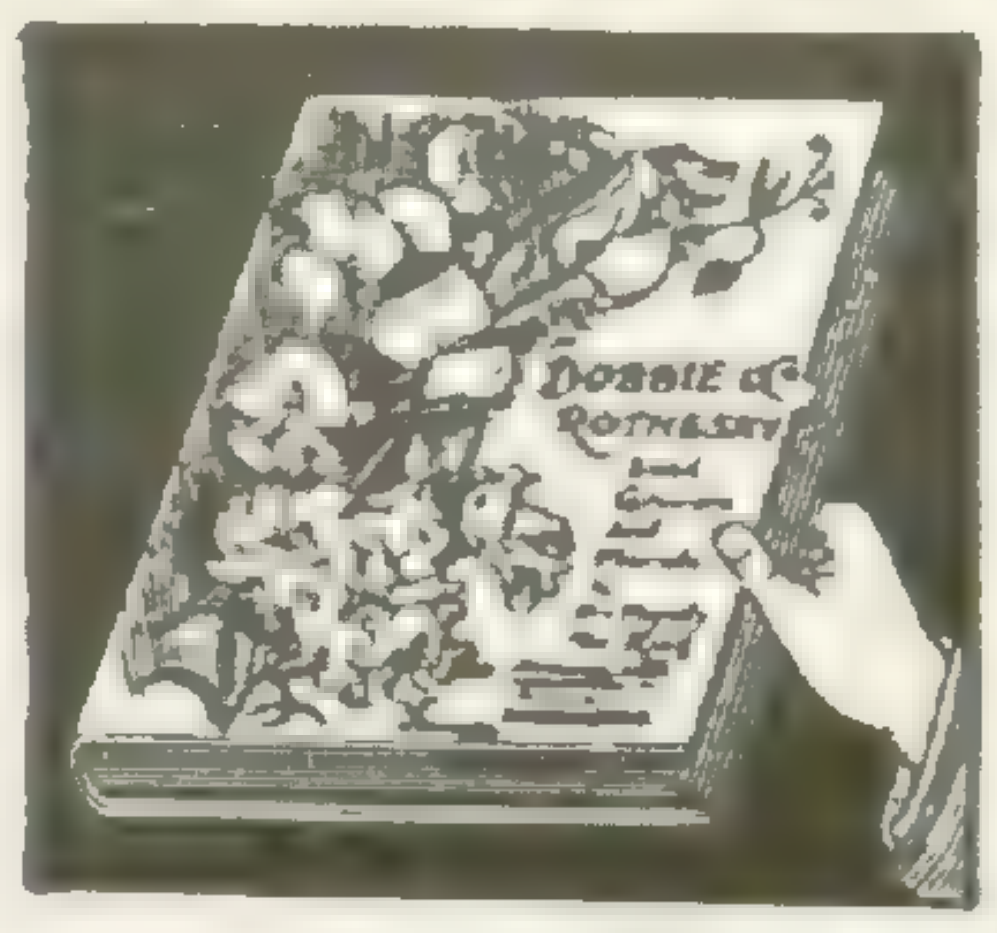

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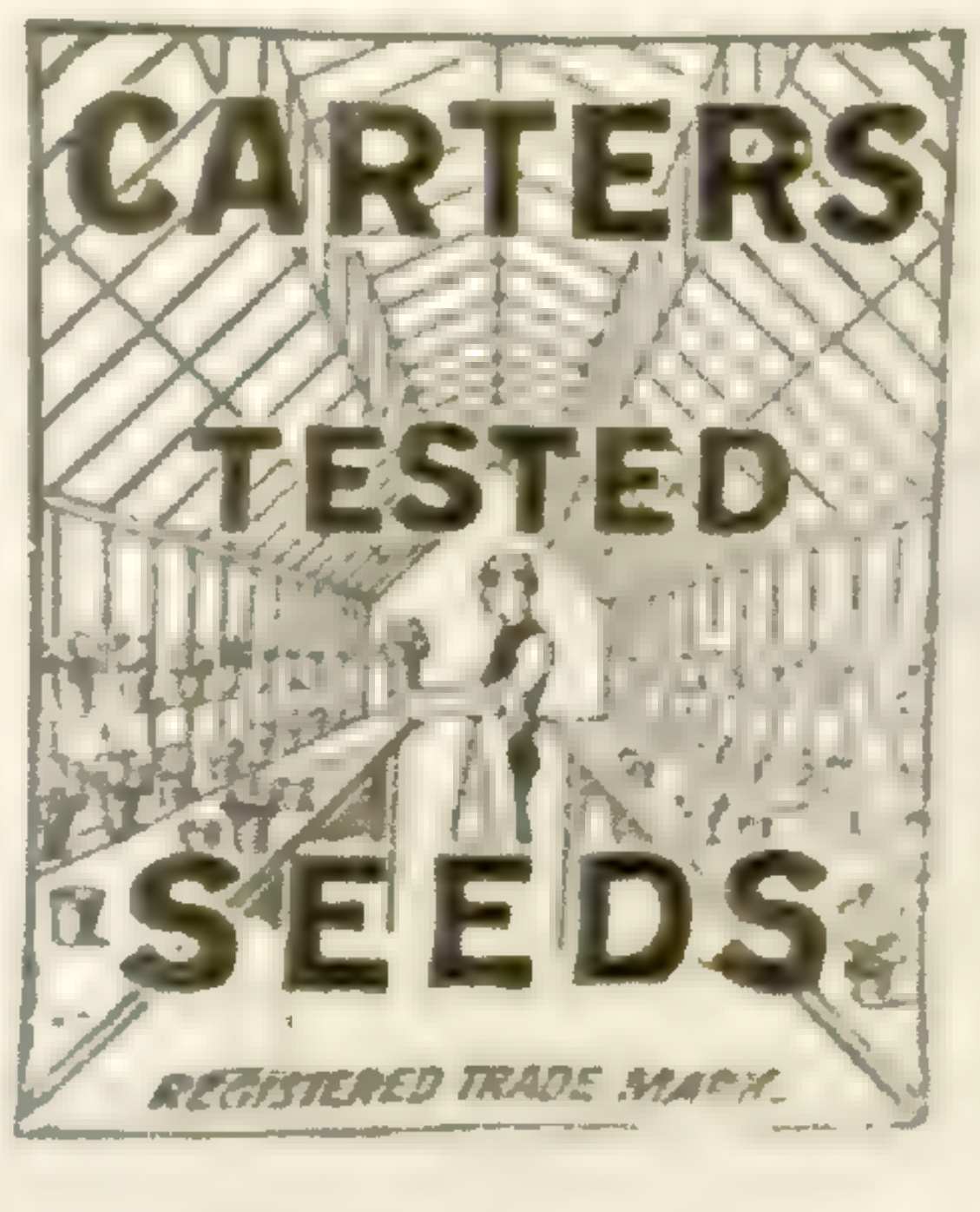

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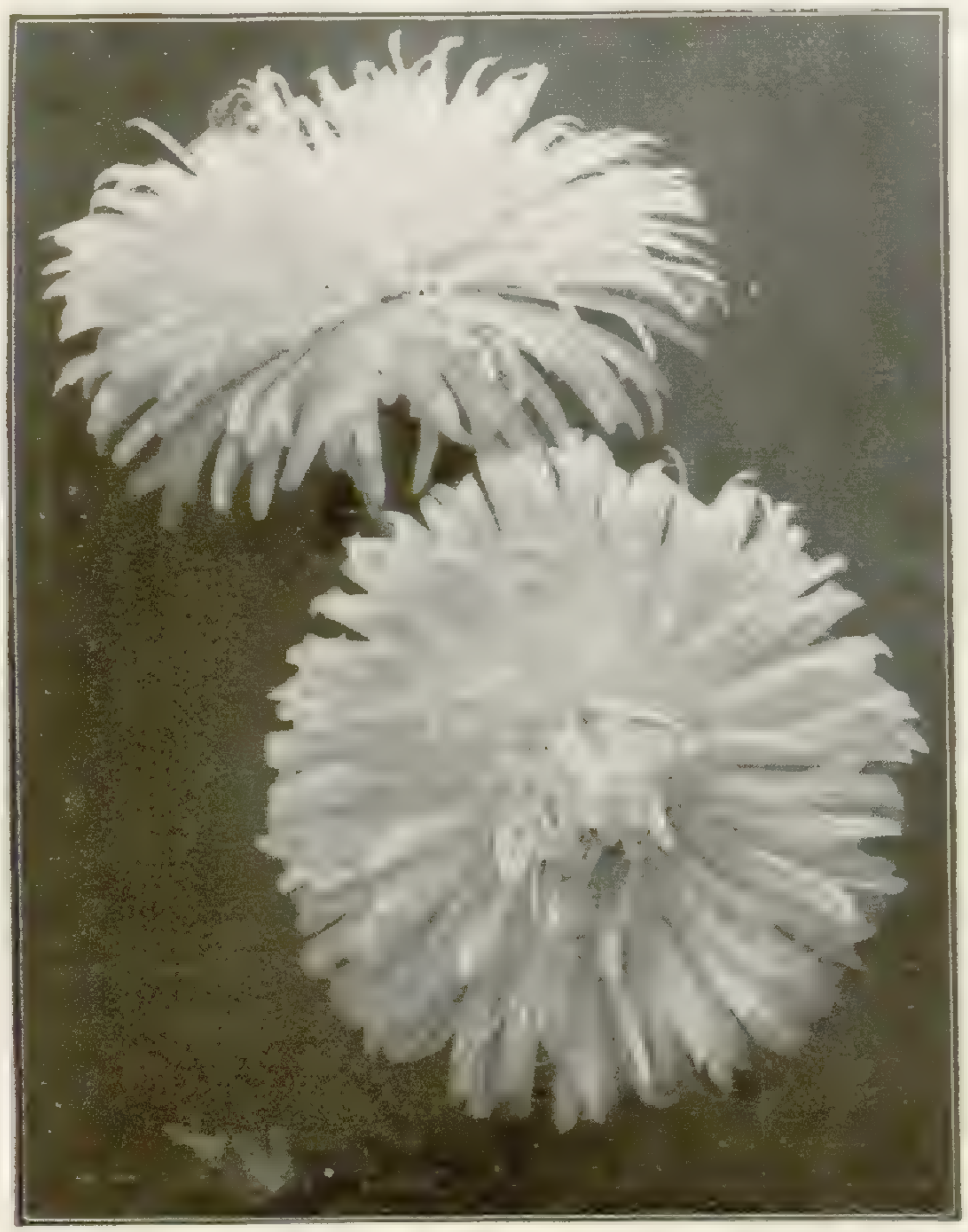
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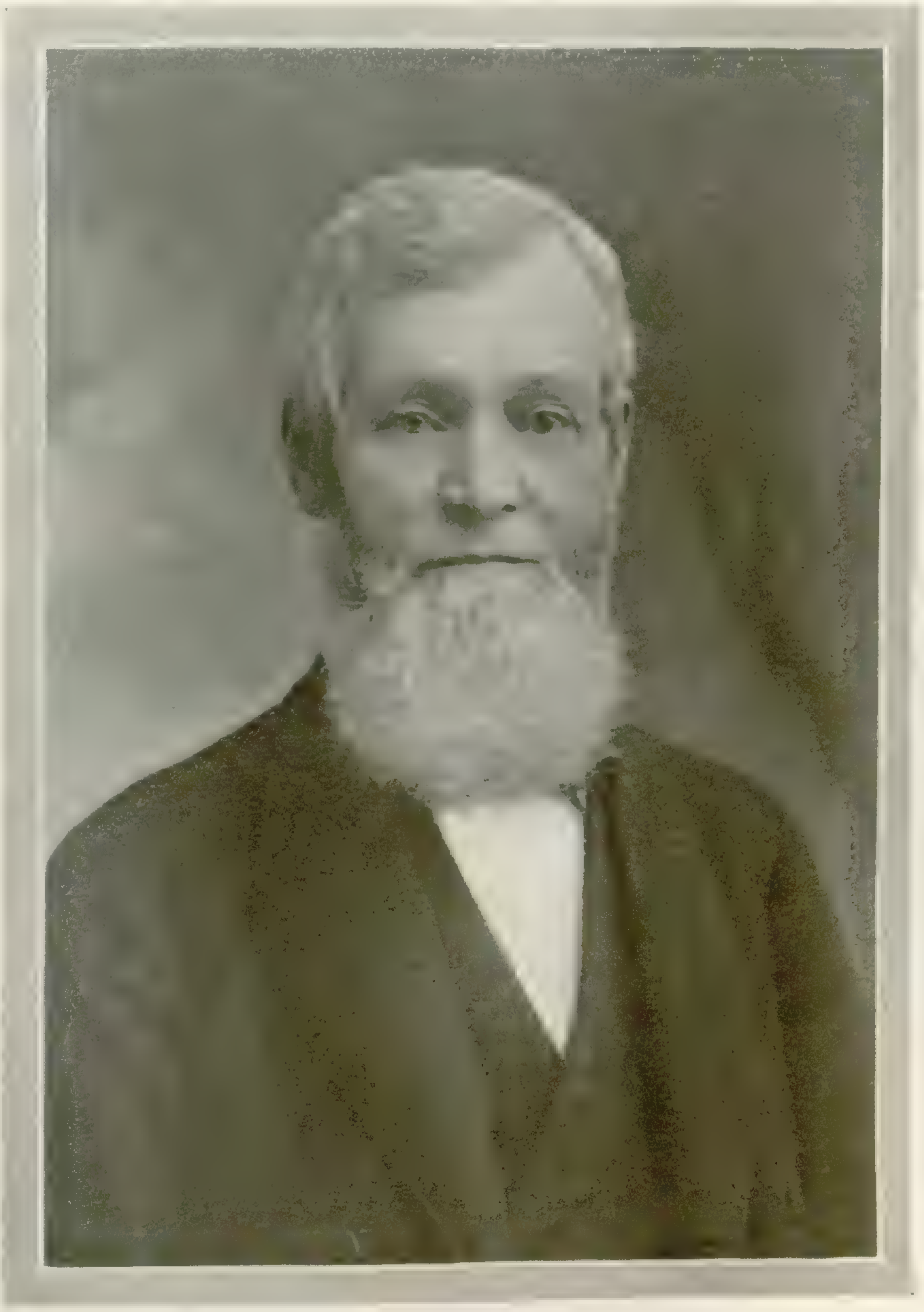
NOTES OF THE WEEK.

Plant Skins.

Apart from the very obvious skins with which we become familiar when peeling an orange, banana, walnut, or other familiar dessert fruit, there are other skins which are less obvious, and are designed for protection of the delicate cell growths which form the origin and foundation of all plant structure. The primary cell itself is of necessity provided with a skin, in this case a delicate membrane devised to enclose the cell contents of sap or sap equivalent and the all-important nucleus or life centre. In the cells which build up plants, the skin is definite enough, and new cells are formed preliminarily by the formation of a cross wall of similar skin by the division in the first place of the nucleus and the eventual formation of this separative wall between the two divisions, thus, as each half perfects itself, forming two cells, and so on. If, however, this sort of skin formation continued indefinitely, the result would be a soft and practically structureless mass, quite incapable of assuming the form and carrying out the varied functions of a plant proper of the higher grades of vegetation. Hence we find that the cell has the power of varying this skin, thickening it and strengthening it; often, indeed, to such an extent, as in the case of wood cells, solidifying itself entirely. Or the cell may modify itself by assuming varied forms, and at the same time fortifying its wall or skin so as to build up supporting veins, which at one and the same time strengthen the fabric and provide channels for the sap supply from below, and the diffusion back again of the modified sap to all parts of the plant for the nourishment of the flowers, the maturation of the seed, and the strengthening of the fabric generally. Under the microscope a cross section of every leaf will show a definite arrangement of cells, with strengthened skins to form a general protective skin proper, and we shall further see that this skin is profusely supplied with little breathing orifices or stomata, through which surplus water is exhaled in one direction while the essential item of plant structure, carbonic acid gas, is absorbed from the atmosphere. This outer skin varies immensely in the different orders and species of plants. In some it is perfectly smooth, as in the holly, in others it is roughened as in the laurustinus; in some it is much corrugated, as in the primrose, and, in short, if we examine every different species of plant in our gardens, we shall find each one with a different skin to its foliage. Then, too, in the process of evolution, the leaf skin has become armed against foes of varied kinds, and also protected against climatal excesses. Thorns, bristles, hairs, and even dense woolly coverings may occur as skin growths, and these may extend to the skins of the stems as well as those of the foliage, and thus prove formidable obstacles to invading insects or effective protection against heat by preventing over transpiration through the pores aforesaid, or against frost, by acting as a blanket. There are, however, protective skins of other kinds. Just as we see in the animal kingdom the thick protective hides of the rhinoceros or elephant, so do we see in all the trees, more or less thick cuticles of bark, from that of the cork oak, with its corrugated slabs of indurated cells, to the thin, delicate, silvery coat of the birch, and all grades in between. In the fruits we see other skins of very diverse nature; no fruit is without one, and many fruits are supplied with a number. The walnut, for instance, has three, one next the seed, a thin skin proper, bitter as gall. As an additional protection, over this is the intensely hard shell, and until the fruit is ripe and this hard shell thoroughly indurated, a thick green husk of strong and unattractive flavour. The chestnut, and indeed most nuts are similarly skinned within and armour-plated without as a double or triple protection against would-be devourers of the precious seed in the centre. In some cases, such as the common equisetums, the clever cells have devised some means of dissolving the flint in the soil, carrying it up through the roots, and fortifying with it the skins of their stems and foliage; probably a very efficacious protection against the rasping tongue ribbons of the snail tribe, as well as the jaws of other insects. The skins of plants, indeed, as we have shown, are as full of multiform and multifold wonders as even the wonderful flowers to whose formation they contribute.



MR. JAMES DOUGLAS, V.M.H.

Mr. James Douglas, V.M.H., is so widely known and highly esteemed by those who have the pleasure of his acquaintance that a large proportion of our many readers will welcome the portrait of him that we have the satisfaction in giving in this issue. Many years have elapsed since Mr. Douglas entered on his horticultural career in the nursery of Mr. Tait at Kelso, and throughout this long period he has been steadfast in his devotion to floricultural and horticultural pursuits, and has done such splendid work as to fully justify the high position he has long occupied in horticultural circles. The auricula was a great favourite in the Kelso district when Mr. Douglas was at Mr. Tait's, and he thus became interested in the flower, and this interest has been fully maintained until the present time. For some forty years Mr. Douglas has been one of the leading cultivators of auriculas, and has been successful in winning prizes well-nigh innumerable for them, and, what is of still more importance, he has raised a large number of show varieties of quite exceptional excellence, as evidenced by the position they occupy in the leading collections. Coming to London towards the close of the fifties Mr. Douglas entered the nurseries of Messrs. James Veitch and Sons at Chelsea, and assisted in staging the collections exhibited by that firm at the flower show held on the occasion of the opening of the Royal Horticultural Society's gardens at South Kensington in 1860. Subsequently, he attended nearly all the shows held in the gardens, sometimes as an exhibitor and sometimes as a member of the committee, and he has also had the pleasure of visiting the gardens as a member of Council. In 1888 Mr. Douglas was appointed to a seat on the Council of the Royal Horticultural Society, and as this was the year in which the society quitted the South Kensington Gardens, he had to bear his share of the anxieties inseparable from those troublous times. He remained a member of Council for nine years, and had the satisfaction of seeing the society reinstated in public favour and entering on prosperous times. First a member of the Fruit Committee, Mr. Douglas was transferred to the Floral Committee, of which body he is a member at the present time. From the Chelsea nurseries Mr. Douglas was transferred to the gardens of Busbridge Hall, near Godalming, and on the death of the owner in 1863 he was appointed to the charge of the gardens of Great Gearies, Ilford, where he remained upwards of thirty years, an appreciative recipient of many generous considerations from his employers, who recognised in him a conscientious and unceasingly active man of business in the garden. Here he specially distinguished himself as a cultivator and exhibitor of various classes of subjects, but his greatest successes were with fruits, florists' flowers, and orchids. It is not possible to touch on particulars with regard to his successes at Great Gearies, except to say that the first prize won by Mr. Douglas was for a pine-apple at Regent's Park in 1866. Early in the nineties, on the death of the owner of Great Gearies, Mr. Douglas established the Edenside Nurseries at Great Bookham, where he has devoted his attention chiefly to carnations and auriculas, and achieved success of a high order, both as a raiser and cultivator. Mr. Douglas has been a member of the committee of the Royal Gardeners' Orphan Fund, and has served many years as a member of the committee of the Gardeners' Benevolent Institution. He was also for several years the secretary of the National Auricula and National Carnation Societies (southern sections). It should be added that Mr. Douglas was included among the first sixty recipients of the Victoria Medal of Honour in Horticulture in 1897.

Torquay Gardens.—As announced in our issue of the 5th inst., we shall give in our next week's issue the first of two illustrated articles on the public and private gardens in and around Torquay. The second article will appear in the issue for the 26th inst. The gardens of which illustrated accounts will be given will include those of Cockington Court, Eltham, Greenway, Lupton House, Normount, Pilmuir, Roby Hall, Walton Lodge, Torre Abbey, and the gardens belonging to the town.

Blanks at Flower Shows are by no means uncommon, and they so greatly militate against the success of these gatherings that they should, as far as is practicable, be guarded against. There are, as competitors are fully aware, two kinds, and the blanks we have in view are those caused by exhibitors failing to fill their entries. Dependant as exhibitors are in many cases upon the weather, which is experienced during the week or so preceding the date of the exhibitions, in having their products in proper condition, they are not wholly to blame when they fail to compete in all the classes in which they have entered. But in many cases the blanks, so painfully apparent in walking through the tents, are caused by the possibilities of the exhibitors' accomplishments not having had careful consideration at the time the entries were made. This want of care should be checked as far as possible, and we note that with this object in view, the Council of the Royal Caledonian Horticultural Society stipulate in the show regulations that "each exhibitor must, along with his entry form, deposit five shillings, which will be returned if he stages all the entries made by him, otherwise it will be forfeited." A similar regulation might be made by many other societies.

Trial of Single Chrysanthemums.—The National Chrysanthemum Society has made arrangements for a trial on a most comprehensive scale of single chrysanthemums, the primary object being to determine varieties that are too much alike. The September and October varieties will be grown out of doors by Messrs. W. Wells and Co., Lim.; the November varieties will be grown in pots by Mr. H. J. Jones, and the December varieties by Messrs. H. Cannell and Sons. In order that these trials may be conclusive in their results, the society will be greatly obliged by nurserymen or raisers possessing varieties not catalogued by the above-named firms sending to them direct cuttings now or plants later in the spring. Those who send varieties for the purposes of these trials should attach the names and give such particulars regarding growth, habit, etc., as are likely to prove useful.

Wolverhampton Floral Fete will be held on Tuesday, July 12, and the two following days, and will be on the same comprehensive scale as in previous years. The great class for a display of miscellaneous plants in and out of bloom, and flowers, with prizes of £40, £30, £20, and £10, occupies, as usual, a prominent place in the schedule, as does that for a group of ornamental foliage plants and ferns, in which the prizes aggregate £57 10s. A new and important class for a rock and water garden has been provided, and "Alpines and other plants and flowers of suitable kinds only to be used." The prizes are £21, £14, £10, and £5. Other new classes include a display of carnations, six vases of carnations, ten dishes of fruit, and a collection of caladiums.

National Amateur Gardeners' Association. — The programme of this enterprising and useful society is of interest as evidence of the excellent work that is being done in the promotion of gardening among amateurs. There are competitions and lectures monthly at Winchester House, Old Broad Street, and an annual exhibition, which will be held in the Royal Botanic Society's Gardens, Regent's Park, on July 9. The hon. general secretary is Mr. F. A. Poulton, Rosemount, Park Road, New Barnet, Herts.

Edgbaston Botanical Gardens.—We have received an illustrated booklet descriptive of these gardens, and the pleasure we have had in perusing the brightly written description of the chief features and admiring the excellent illustrations has been greatly marred by the intimation that the support given is not more worthy of the city. It is surprising to find that there are only 800 members, whose subscriptions amount to about £900, while the annual expenditure amounts to about £2,000.

Croydon Gardeners' Society. Appreciating the value of lantern slides as aids in increasing the interest and usefulness of the lectures given at the fortnightly meetings, the executive of the Croydon Gardeners' Society set itself the task of providing a lantern for their display. It was decided to have an electric lantern of the highest class, and the project was received with so much favour that the necessary funds were soon forthcoming. The lantern was installed at the meeting held on the 1st inst., and the installation had created so much interest that the large hall at Sunflower Temperance Hotel was crowded. Some 200 slides were shown, and the greater proportion of these were views of Croydon gardens. The first slide thrown on the screen was a portrait of the King, the members and their friends singing the National Anthem. Other portraits shown included the president and some prominent members of the executive. This should prove a valuable asset, and the example that has been set at Croydon might with advantage be followed by many other of the large gardening societies. The society has for some years past had a high-class microscope which has proved most useful to the members.

Influence of Grass on Fruit Trees.—Reference has on several occasions been made in these pages to the influence of grass upon the growth of orchard and other fruit trees, as demonstrated by systematic experiment. This influence has invariably been detrimental to the growth of the trees, and in the experiments that have been carried out by the National Fruit and Cider Institute Report, the results obtained by other investigators have been confirmed. The orchard of the institute was planted in 1904 with vintage varieties of apples and pears, and afforded an opportunity of investigating the effects of grass on the growth of trees. At the time of planting, circular holes, 6ft. in diameter, were dug, and this space was kept cultivated. At the end of a year after planting it was arranged that at least one tree of each variety should be treated in each of the following ways: (a) The cultivated area around the tree should remain 6ft. in diameter, (b) the cultivated area should be extended to a circle 9ft. in diameter, and (c) the cultivated area should be allowed to grass over. The measurement of the girth of the trees (at a height of 5ft. 6in.) is not the most satisfactory means of demonstrating the effect of the treatment, but it was adopted as being the one involving the least labour. The results, stated in percentage were as follows: In March, 1906, all the trees had an average girth of 100, and in March, 1909, the average girth was, cultivated area, 9ft., 194; cultivated area, 6ft., 177; and grass-covered area, 165. There can, it is stated in the report, be no doubt from these figures that the grassing over of the original cultivated area of 6ft. diameter resulted in an appreciable check to the rate of growth, while the extension of the cultivated area to 9ft. diameter was beneficial. This seems to show that it is the fine rootlets actively engaged in the absorption of food substances which are the most affected by the presence of grass.

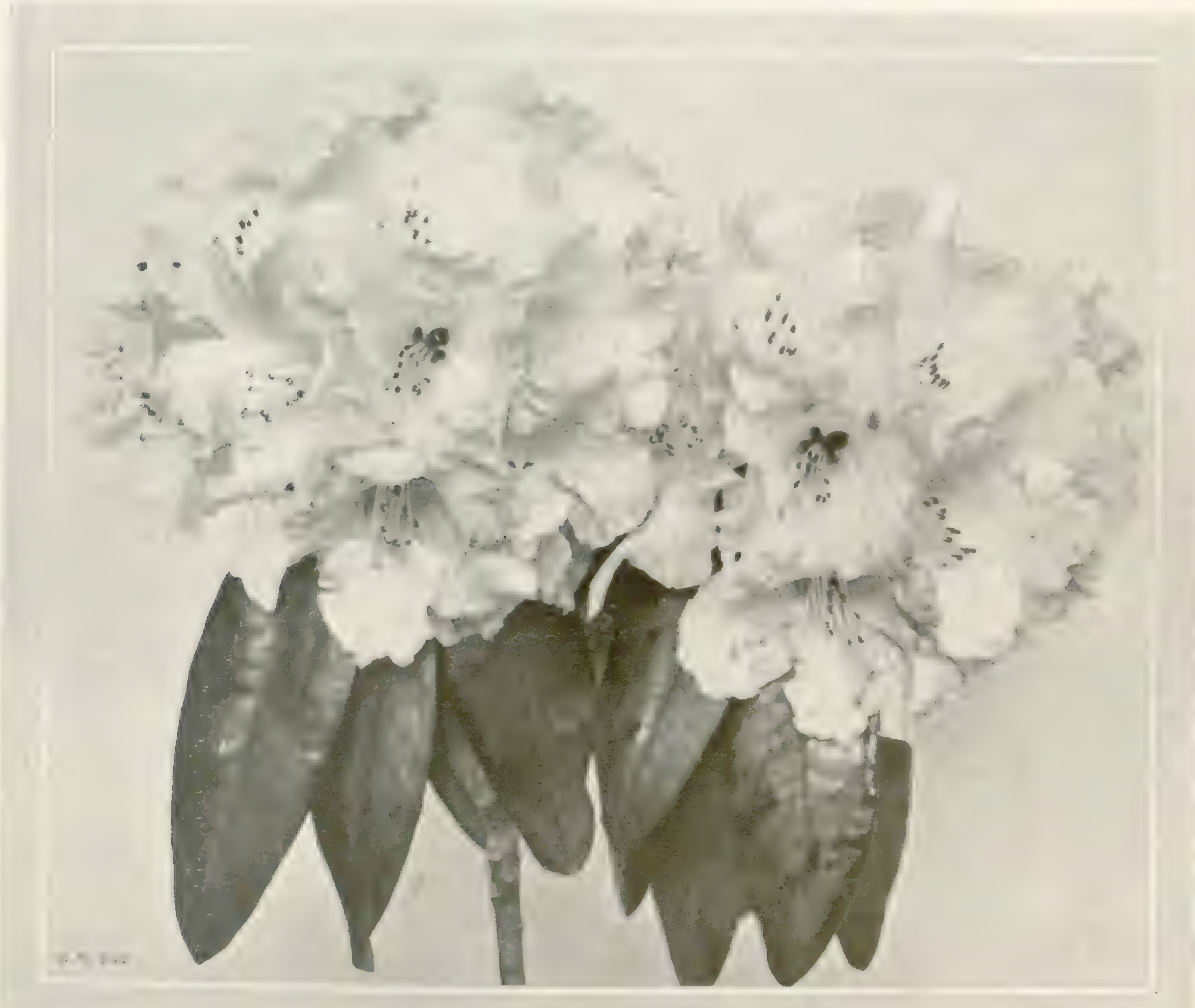
Vandalism at Blackford Hill.—The quarrying operations at Blackford Hill that are being carried out under the direction of the Mid-Lothian County Council have evoked a vigorous protest from Scotch botanists. Growing on the hill are a considerable number of British plants that are rare in a wild state, and it is feared that the excavations in progress would result in the eradication of some of them. At the monthly meeting of the Botanical Society of Edinburgh, Mr. T. Bennett Clark, C.A., the president, called attention to the matter. In the course of his remarks he pointed out that at a time when nature study was of such importance and so much in vogue in connection with every educational institution, it would be an inestimable loss were the locality, where grew so many rare plants, destroyed. At the spot where excavations were now going on existed the principal station on Blackford Hill for Lychnis viscaria one of the rarest British flowering plants. At one time it occurred in several stations in this country, but had now been destroyed or had disappeared from most of these, and at present it probably only existed in an indigenous state at one other place in Great Britain besides the station at Blackford Hill, now threatened with destruction. It was thus quite probable it might entirely disappear from the area of Blackford Hill in a short space of time if the present operations went on. Another plant was Sedum album, of which only one patch grew upon Blackford Hill, and that was in danger of being entirely destroyed. These two plants were perhaps common enough in gardens, but were among the rarest native plants. It would be a matter of deep regret if so interesting a survival of our native flora were swept away and lost to science. A committee, consisting of Mr. Bennett Clark, Mr. Symington Grieve, and Mr. Rutherford Hill, was appointed to bring the matter before Edinburgh Town Council, and, if need be, before the Scottish Office.

Horticultural Exhibition at Liverpool.—In connection with the Royal Agricultural Society's Show at Liverpool next June, it has been decided that the horticultural exhibition should be open from Wednesday, June 22, to Saturday, June 25. The classification will be similar to that provided at Gloucester last year, with the addition of classes for the best collection of eight kinds of vegetables and for the best collection of eight kinds of fruit. The Hon. John E. Boscawen, of Tregye, Perranwell, Cornwall, has been appointed steward of this section, and Mr. Peter Blair, of Trentham, has been appointed manager. The latest date for receiving entries will be Saturday, June 4, and the schedule, entry forms, and full particulars can be obtained from Mr. Thomas McRow, secretary, Royal Agricultural Society, 16, Bedford Square, London, W.C.

Greens and Green-keeping.—Under the title of "The Practical Green Keeper," Messrs. J. Carter and Co. have just issued the third edition of their work on the upkeep of all kinds of lawns, greens, etc., used for various games. The book is by Mr. Reginald Beale, F.L.S., a member of the firm, and contains a vast amount of useful information of the utmost value to those who have the care of golf courses, tennis courts, bowling greens, cricket pitches, croquet lawns, football grounds, etc. Soils, grasses, manures, seeds and seeding, weeds and weeding, and many other matters are skilfully and pleasantly discussed, and the text is freely illustrated with diagrams and reproductions from photographs.

RHODODENDRON MRS. HENRY SHILSON.

Messrs. R. Gill and Sons, Tremough, Penryn, Cornwall, have raised many beautiful rhododendrons, and have been especially successful with the species, hybrids, and varieties belonging to the Himalayan group. R. Beauty of Tremough, R. Duchess of Cornwall, R. Duke of Cornwall, R. Gill's Triumph, R. Gilli, R. Glory of Penjerrick, R. Goliath, R. Mrs. Henry Shilson, and R. Mrs. R. Gill are a few of their finest they have produced, and, in addition, they have raised several new varietal forms of R. arboreum and R. Thomsoni. R. Mrs. Henry Shilson, figured herewith, is a delightful soft pink variety, and the colour has been well described as La France pink, in reference to the shade seen in the lovely La France rose. The flowers are large and of excellent form, and borne in trusses of splendid shape and size. It is a strikingly beautiful rhododendron, and a fine companion to the richer-hued R. Duke of Cornwall and R. Gill's Triumph.



RHODODENDRON MRS. H. SHILSON.
Flowers soft pink.

EARLY SPRING IN THE GARDEN.

"Fair now is the Springtide, now earth lies beholding
With the eyes of a lover the face of the sun;
Long lasteth the daylight, and hope is enfolding
The green-growing acres with increase begun."
W. MORRIS.

Of the spring as a time of beauty it needs more than average originality of mind to speak without becoming trite, or worse, and it is only the poet, in posse if not in esse, who can show us features we have not noticed before, or say what is in many people's minds, but clothed in language which appeals to us with such charm that we try to stamp it upon our mental retina lest we forget it. When Tennyson said

"A million emeralds break from the ruby-budded lime,"

he was certainly saying nothing original, nor pointing out anything that we had not all seen with our physical eyes—which are so often "no eyes"—in common with the horse that is looking over a gate for hours at a time, but probably few of us had actually noticed the full beauty of the limes after sunrise on a dewy morning in early spring until the poet pointed it out to us. And so when he says:

"When rosy plumelets tuft the larch,
And rarely pipes the mounted thrush."

and Browning in Italy in April, thinking of the English spring, exclaims:

"Hark, where my blossom'd pear-tree in the hedge
Leans to the field and scatters on the clover
Blossoms and dewdrops—at the bent spray's edge—
That's the wise thrush: he sings each song twice over
Lest you should think he never could recapture
The first fine careless rapture!"

When, I say, our poets utter such thoughts in such language we are enriched for life by their imagination, the wonderful products of which we can make our own.

But the amateur, whose enjoyment of his garden takes the form of working, too often finds it far too busy a time for any meditation, which is unprofitable from the point of view of the season's plans. There is generally all too much work to do which would have been better done last November—a time when, unless he is a seasoned hand or an enthusiast of considerable staying power, he was tired of his hobby for the year. Much work which ought to have been done then cannot be done now with such good results, but there is, nevertheless, plenty to satisfy the most zealous, and possibly some of the most important work escapes notice altogether. It will be sufficient to give a few instances of more or less routine work which is often left till much too late or never done at all.

We have all observed on a fine March day how quickly freshly-stirred ground dries, while ground which has not been so moved remains in a sour-looking condition for a long time, and most doubtless know it is because the conduction of moisture from below to the surface is arrested by the breaking-up of the soil, so that contrary to appearance this loosening of the surface preserves the moisture in the soil below. Now we know that in an ordinary season the ground occupied by established plants, bushes, trees, etc., gets all too dry before the summer is far advanced. Hence at the earliest opportunity after March comes in the surface of the raspberry and bush fruit plantations, strawberry, rhubarb, and asparagus beds, and the soil round about dwarf fruit trees of all sorts, should be hoed all over, and where a mulch was put over last autumn it should by this time be sufficiently tender to permit of its being chopped up with the hoe and mixed with the soil. The result will be a sweetening of the soil which will be very beneficial. Of course care is necessary where there are plants below the surface, e.g., asparagus; but the stumps of last year's growth will generally serve as danger signals. With the hardy flower borders, beds of bulbs, and other spring flowers, the same kind of work should be done with a little hand-fork. This general stirring of the surface soil should only be done when there is the prospect of at least a whole day's drying weather, after which moderate rain will not destroy the friable state of the surface, but, alternating with night frosts, will probably increase it. In this way we shall preserve the moisture which will be wanted later on. But where ground is going to be dug, or prepared for sowing seeds, it should not be touched till it is getting in nice workable condition, as we want enough moisture to rise to the surface and be evaporated to make it so.

Then there is another matter far enough removed from the quotations and remarks at the beginning of these notes, and that is the application of artificial manures. With many of these applications in the summer, or even late in the spring, are of little value, but some may be used with excellent results in March, especially where no animal manure can be applied otherwise than as a top-dressing. It is too late to apply kainit and basic slag unless they can be dug in, and that in a damp soil; but nitrate of soda—that excellent stimulant and plant food, should be applied at the rate of an ounce to the square yard to rhubarb, asparagus, and strawberry beds, and gooseberry, currant, and raspberry plantations, so that it may be well washed into the soil before the dry weather comes, and also to lettuce, cabbage, and other early vegetables, as the supply of nitrate in the soil at this season is usually very low. All fruit trees should be given a dressing of superphosphate of lime or bonemeal, and the ground hoed immediately after the application, though it is getting late for the latter unless the season is a damp one. The lawn, too, may have a dressing of superphosphate in the early part of March, and even kainit if the season is wet, and then after it has been partially washed in the grass may be given its first rolling, which will complete the work of the artificials. A dusting of nitrate of soda or sulphate of ammonia may follow a little later.

Another matter which is often forgotten, or left till it is too late, is the pruning of the early-flowering shrubs, most of which, flowering as they do principally on the young wood, should not be pruned in the summer or autumn, but directly after flowering is finished, in order to encourage the formation of good strong shoots during the spring and summer. Winter jasmine, winter sweet, flowering currant, Kerria japonica, Forsythia suspensa, and the barberries are instances, and no time should be lost after they have flowered, as they will be using their vitality to no good purpose.

There is no need to touch upon the more general work of the garden at this season, such as the sowing of seeds, the pruning of roses, and the like, as there is no fear of their being forgotten, but many little matters are often neglected that if attended to would make a considerable difference in the success of the year. One is the cleaning up of all rubbish that may harbour insect pests of any description, and either burning or deeply burying it. Closely allied to this is the turning out, or moving, everything that may have afforded shelter to slugs and snails for the winter, as well as setting traps for them—heaps of bran, cabbage leaves, tiles, etc.—as there is no time like this to raid them. The thinning-out of the shoots of perennials should be done as early as it can be seen which are the strongest, while there is no better time in the case of many of them for taking off small rooted pieces for propagation, these making nice plants by the autumn for next year. Another tedious operation is the thinning of fruit blossom on dwarf trees as soon as the separate flowers on the trusses can be removed, always leaving the strongest. The birds, too, which may have left the buds on the currant and gooseberry bushes untouched all the winter, often make a set for them when they begin to swell, probably owing to the exhaustion of other supplies of food at this season. The bushes should be dusted with lime and soot on a damp morning.

The doing of these and many other often forgotten, and more or less uninteresting, operations in the garden will by no means lessen one's enjoyment of the spring when we have the leisure to enjoy it. A busy man once said that the greatest enjoyment the garden furnished him was the contemplation on Sunday of the work done during the past week. A majority of people spend their Sundays to much less advantage, and an hour or two of the day passed in this calm and restful way will not have been spent in vain, even from a higher point of view, if we bear in mind Wordsworth's lines:

"Think you, 'mid all this mighty sum
Of things for ever speaking,
That nothing of itself will come,
But we must still be seeking?"

ALGER PETTS.

BLUE HYDRANGEAS.

Many cultivators of hydrangeas strive to obtain blue flowers, and fail to do so, while others possess plants that bear huge heads of blue blossoms. Sulphate of iron, alum, and iron filings have been applied to the soil by some cultivators with success in some instances, and failure in others. For more than ten years I had charge of a large garden in Hampshire, in which nearly one hundred huge bushes grew in the open borders. A few specimens measured quite nine feet across, and bore scores of heads of flowers nearly every year. There were always a few large clusters of flowers on these plants which measured about fifteen inches across. The bushes were not cut back.

Some of them grew in extremely dry borders, and others in ground constantly saturated with water, which soaked through it from two large ponds. A number bore intensely blue flowers, with a few pale pink ones on the same bushes; while others, growing only a dozen yards away, had deep pink blossoms, and this mixture of colour and variation was the same both in bushes growing in dry, as well as in damp soil, year after year. On the same estate, nearly two miles from the gardens, hydrangeas of large size grew in cottagers' gardens, and bore blue flowers chiefly. The water used in the gardens soaked through the valley in the woods, some of the ground there being boggy. Where the water dripped for a time from the taps on to the gravel beneath, the stones turned to a deep reddish-brown colour; the water was very hard, and contained iron. I have seen fine blue-flowered hydrangeas in Bournemouth in a sandy border, but never any to equal those here referred to.

G. B.

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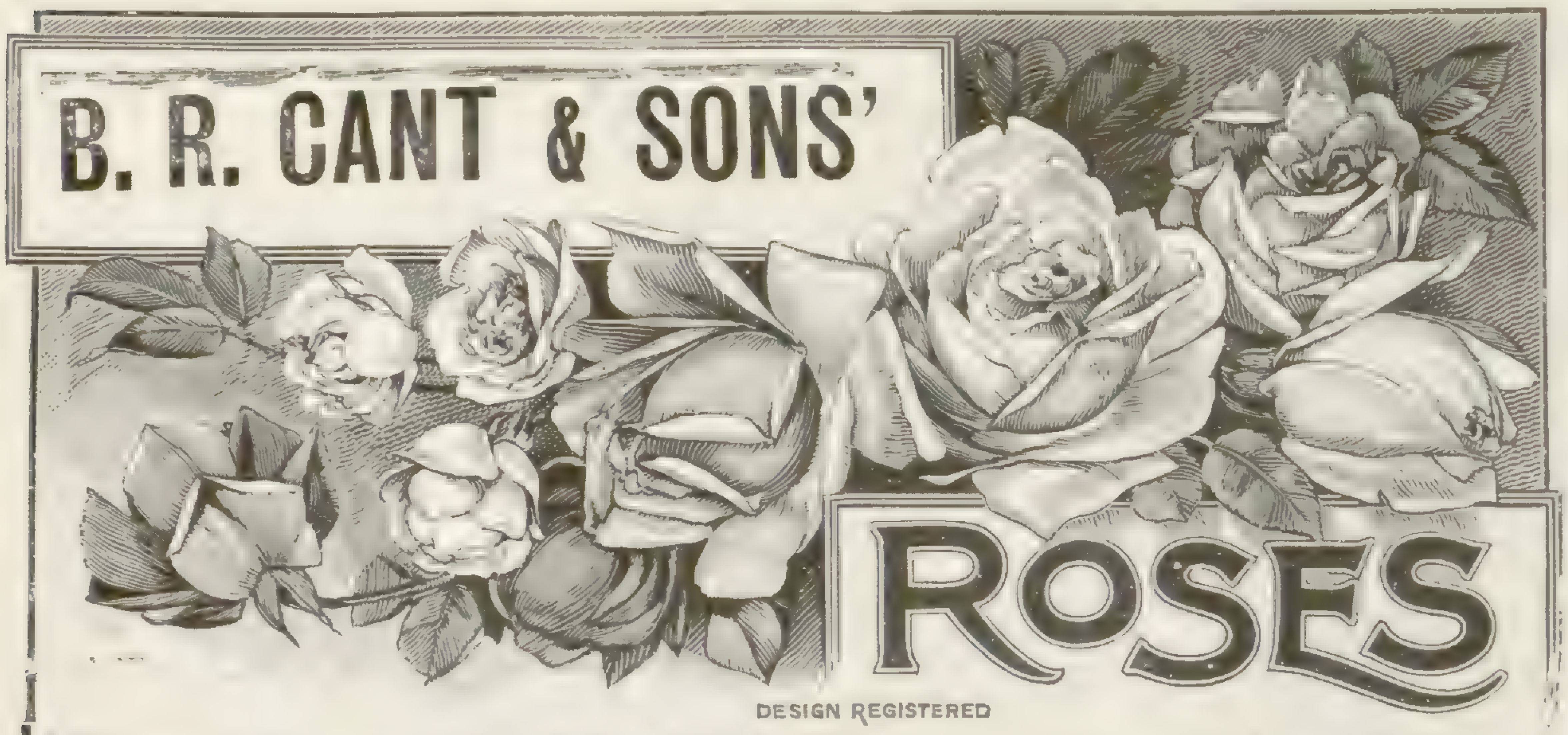

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YOUNG PERPETUAL CARNATIONS.

The influence brought to bear upon the early youth of plants seals, to a very large degree, their future destiny.

A cool-grown, hardy young carnation may not have quite such an attractive appearance to the untrained eye as stock potted in very rich soil and grown in an abundance of moisture and heat. The latter will make a heavy soft spring growth which too often misleads the inexperienced. Yet it is like comparing a spoilt boy with an athlete. To obtain the best results from perpetual carnations, it is imperative that you commence with good stock, and such can only be obtained by normal treatment. You cannot expect to buy such at the same price as you would the more quickly and cheaply grown stock.

Previous to potting the rooted cuttings they should be hardened to withstand light and air, so as to minimise the check. It is most essential that a young perpetual carnation should be grown in a strong, direct light, and, if the cutting has been rooted hardy and cool, only slight shading from the strongest sun for a few days is required, while it is never wise to allow them to be in a great heat for lack of air even when freshly potted. I believe a two-inch pot is the best to put the rooted cuttings in. The roots should be washed free of sand by dipping them into water. The best compost to use is pure, good loam and sharp sand. It is not wise to pot deep or too hard, but both in moderation.

The young plants are best stood on ashes and given a little space between the pots. We, as yet, have not found a substitute for good light and air. It is these two elements which will do more to build up a hard, sturdy young plant than all the elaborate potting composts or overhead syringings in the world.

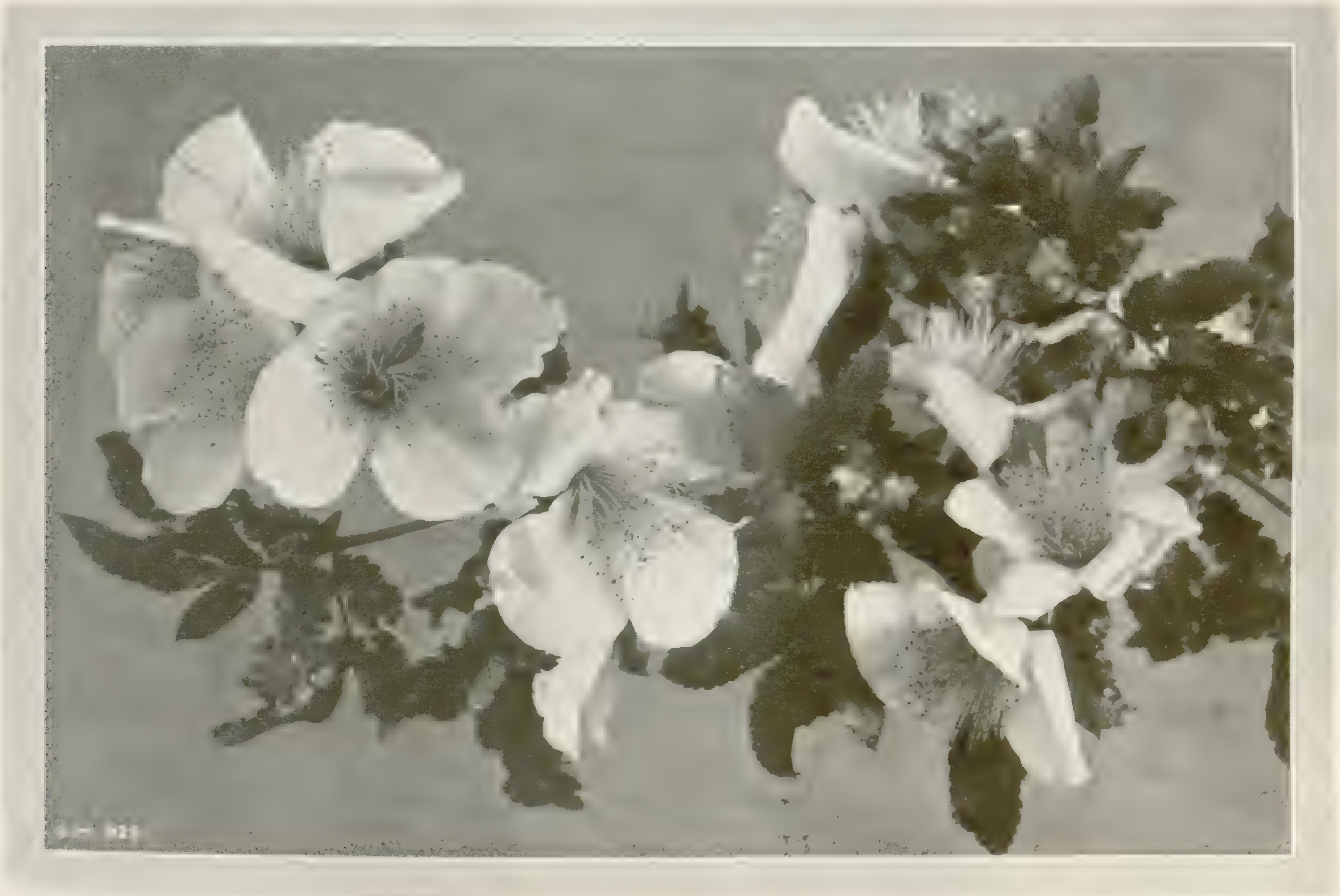
Some will think it waste of time and labour to put a young carnation cutting into a two-inch pot, with the knowledge that it will require to be shifted into a three-inch pot some two or three weeks later, but the difference between plants potted into small pots in the first place and those over-potted is surprising.

The best night temperature is from 40 to 45 degrees. This will appear ridiculously low to some who are of an impatient nature, yet a sturdy-grown young plant, with practically no spaces between the leaves, will eventually make the larger specimen, and this can only be obtained by cool, light, airy conditions.

Montagu C. Allwood.

EUCRYPHIA PINNATIFIDA.

This distinct and beautiful Chilian shrub is so well deserving of a place in all gardens which enjoy the advantages of a kind climate that it would be possible to urge some justification for writing at length with regard to its merits. There is, however, no occasion for doing so, as all that is necessary may be said in a comparatively few words. The shrub was introduced to this country from Chili thirty years ago, and if it has not been planted so extensively as could be wished, a sufficient number of plants are in cultivation to admit of a correct estimate being made as to its adaptability to the climatic conditions that obtain in this country. It has proved as hardy as a considerable proportion of the shrubs that are generally regarded as hardy, but its constitution is not such as will admit of its being successfully grown throughout the United Kingdom. As in the case of some other of the Chilian shrubs that have been introduced to this country, it has a preference for a soft and somewhat humid atmosphere, such as that of Devon and Cornwall. It will grow fairly well in many parts of England other than the western counties; but the progress is slow where the shrubs are exposed to the keen winds characteristic of the eastern counties, and also when they have to bear the low temperatures that are sometimes experienced in the midland and northern counties. Hence when we wish to see really fine specimens we must seek them westward. In both Devon and Cornwall there are many good specimens, but the most noteworthy is probably at Trewidden, the Cornish seat of T. B. Bolitho, Esq. This has a height of between eighteen and nineteen feet, and measures about twenty feet through; and it blooms with remarkable profusion. Good results are obtained in the southern counties of England, and at Buxted Park Mr. Prinsep has been remarkably successful. Broadly stated, this eucryphia may be planted south of the Thames, and in the western counties of England with the full assurance of success. There are many hundreds of gardens north of the Thames in which the shrub may be expected to succeed, and in these it should have a trial. If it succeeds, the specimens will form most attractive features, and should the results not prove satisfactory, they can be removed and replaced by hardier subjects. Good turfy loam to which peat and leaf-mould has been added will form the best compost. The proportions should be three parts each of loam and peat, and one part of leaf-mould. In gardens that are much exposed a position where the specimen can be screened from the east winds should be selected if practicable. The flowers range from two to three inches in diameter, have clusters of stamens with white filaments, and are produced at the end of July or during August, according to the season and the district. Our illustration is a reproduction of a photograph of a spray that was shown by Messrs. J. Veitch and Sons, Lim., at a meeting of the Royal Horticultural Society in July last.



EUCRYPHIA PINNATIFIDA.
A beautiful Chilian shrub, bearing pure white flowers.

THE PREPARATION OF VEGETABLES FOR EXHIBITION.

(Concluded from page 170.)

◆

Kidney Beans.

The middle of April is sufficiently early for the first sowing of this vegetable, while subsequent sowings can be made every two or three weeks until the end of June: the seeds should be buried to a depth of one and a-half inches, while a space of two feet should be left between the rows, and three inches between each drill. After cultivation will consist of thinning out the young seedlings to a space of twelve inches apart, and the most successful pods will be those of a fleshy green, and fair-sized appearance, the pods being fresh and brittle.

Runner Beans.

The soil and situation most suitable for this vegetable are similar to those required for kidney beans. From the first week in May until the end of July sowings may be made at eight or nine inches apart. Eight-feet poles are usually employed, upon which the plants are trained, but if these are not obtainable, the beans may be kept short, and of dwarf habit, by frequent pinching. After cultivation is the same as in the case of kidney beans.

Beetroot.

A sowing should be made at the end of April in a rich, light, sandy soil, one that has been well dug and manured for a previous crop of celery being preferable. The drills should be from sixteen to eighteen inches apart, and the seeds covered to a depth of one to one and a-half inches with fine soil. After cultivation will consist of thinning the plants to about ten inches apart, and in October selected roots may be lifted and buried in sand or dry soil in a cool shed until required for exhibition. In heavy, retentive soils it is impossible to grow beetroots of uniform size and shape without boring holes, which must be filled with sifted soil, one plant being allowed to each hole. Well-formed roots of a medium size and fine texture, with a dark colour and fibre circles wide apart will be most successful as prize winners.

Leeks.

For purposes of exhibition the leek is perhaps one of the most important vegetables, more especially in the northern districts, where its culture seems to be more popular than in the South. Sowings are usually made about the middle of January, while some growers adopt the practice of growing young plants in pots, placing three to four seeds in each pot, and removing all except the strongest seedling when they become established. Good results are secured by mixing with the soil a generous proportion of leaf-mould, or perhaps a quantity of manure from an exhausted mushroom bed. After sowing, the pots are sheltered in a forcing house and grown in heat until the end of April. For planting out, a specially prepared trench must be dug to a width of two feet and a depth of one and a-half spits. The bottom of the trench is filled with fresh horse or cow dung, pressed firmly into a solid compact mass, and alternative layers of manure and soil are then dug in until the trench is full. Holes are dibbled fifteen inches deep and eighteen inches apart, and the young plants inserted therein. Stiff brown paper collars are now necessary in order to secure a large proportion of blanched stem, and as the plants grow the collars are pulled up, and the earth drawn up round the base of the plants. Nourishment may be provided in the form of liquid manure, but these applications must be made judiciously in order to avoid a coarse or rank growth. Thick stems of an even growth, with a good length of well-blanched stalk, free from spots or bulbous indications at the base, will prove most successful.

Onions.

In order to produce prize onions sowings should be made in the early part of January in a gentle heat. At the end of February the seedlings may be pricked out into some good fertile soil, that in which last season's chrysanthemums have been growing being admirable in this respect. The onions may be planted about three inches apart each way, while a fairly equable temperature of about 56 degrees should be maintained, the plants being kept as near the glass as possible. After transplanting them into cold frames at the end of March, and encouraging a strong healthy growth, they should be carefully lifted with a trowel, without disurbing the roots, and planted out in April after a shower of rain.

When well established, nourishment may be provided in the form of fortnightly dressings of liquid manure, soot, or some approved chemical fertiliser, feeding being discontinued at the end of July. Eight or nine days prior to the exhibition the bulbs should be lifted and placed bottom upwards; this will render the bulbs and skins firmer and the necks smaller, while to ensure success they should also be globular, clear, and of uniform size. A clear, shining, and transparent skin is obtained by removing the coarser outer skin of the bulb about a month before lifting.

Parsnips.

These require a long season of growth, and must be sown as early in February as possible. The ground should be trenched to a depth of nearly three feet, and a good layer of manure placed in the bottom; with a powerful dibber holes are made about three feet deep and eighteen inches apart, these being filled with some good soil, in which should be mixed a good proportion of leaf-mould and sand, a little wood ashes and soot being also beneficial. The holes must be filled and the compost rammed in firmly. A few seeds are sown in the centre of each hole; as soon as the young seedlings show the first rough leaf they must be thinned out to two or three plants, and at a later stage to one strong vigorous-growing plant. Little attention will then be required beyond keeping the ground free from weeds, and, when required for exhibition, they should be carefully lifted, washed with a soft cloth, and kept as moist as possible. Smooth, well-coloured, and even-sized roots will be most successful.

Peas.

As a general rule, sowings of peas should take place about the middle of May in ground which has been well dug and manured in the usual manner during the previous autumn. The peas should be sown about two inches apart, and when they have attained a growth of a few inches they may be earthed up and staked in the usual way; a good dressing of soot prior to watering will assist in developing a deep green colour, and to conserve moisture, the application of lawn mowings will be found beneficial. The rows should be kept ten feet apart, the intervening space being utilised for other subjects. Pods of good uniform size, green and fresh, and well filled with tender seeds will be most successful.

Potatoes.

Late varieties of potatoes are usually the best for exhibition purposes; medium-sized tubers should be selected and started in February in a gentle heat. In the first week in April they may be planted out three feet between the rows, and one foot between the sets in ground which has been previously well trenched and manured. Little attention will then be necessary beyond the usual hoeing and earthing up. Some slight protection must be afforded for the first few weeks from the effects of frost, and the tubers should be earthed up about the middle of May, all the blooms being detached at the same time. Lifting must be performed very carefully, and the tubers should be thoroughly cleansed, the most desirable qualities being a good even shape and size, with shallow eyes, and a clean and spotless appearance. J. G. Newsham.

Old Basing, Hants.

HOT WATER FOR NEWLY-PLANTED VINES.

In many instances vine borders are made during the winter months, as there is generally more time to deal with work of this kind then than at any other period. The carting of the turves employed for this purpose has often to be effected in frosty weather, so that the ground over which they have to pass may not be cut up. Under these conditions the turves are frozen through, and if the border is made straight away its temperature cannot fail to be very low. The fresh horse droppings incorporated in the compost in some of the borders tend to increase the warmth in the mass, but rarely to such a degree as to render it fit for the roots of growing vines. No matter how vigorous the canes or healthy the roots of the vines planted in such a medium, the result is bound to be everything but encouraging.

Many examples of vines existing under those conditions have come under my notice, and when the temperature of the border has had to be tested to verify the cause of the weakness of growth, it has been found as low as 40 degrees. In all cases where the borders have been made when the compost was cold, I have found a good soaking with water at a temperature of about 90 degrees at the time the vines were planted an excellent antidote. Sometimes I have given a second soaking in about a week's time after the first, and put a foot in thickness of fresh stable manure on the surface to preserve the warmth in the soil. Under this treatment the young vines have broken strongly, made laterals as thick as my forefinger, and finished off as brown as a nut. To anyone who has prepared his vine borders during the cold winter months I would strongly suggest giving the foregoing idea a trial, if hot water can possibly be obtained, even although it should mean considerable trouble to secure it. Pedestrian

Campanula isophylla. — For edging stages this species is most useful. A batch of cuttings should be put in, placing four in a 2½in. pot. When rooted keep them on a shelf near the glass for a time, and then shift into 4½in. pots. Old examples that are neat and robust can be shifted into larger pots.—W. Staward.

There is no better guide to the kitchen garden than Vegetables and their Cultivation, by T. W. Sanders. It is a complete treatise on the general management of the garden, and the successful culture of vegetables, saladings, and herbs for home use. Price 5s. net, by post, in box 5s. 6d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

DEEP VINE BORDERS.

So well known is it that the best of grapes are in many cases grown upon vines that have their roots confined to moderately shallow borders, and that borders of this description are less expensive to form than are deep ones, that were anyone venturesome enough to recommend the latter, he, to say the least, would not likely be complimented upon his advice. All the same, and though I advocate the use for this purpose of moderately shallow borders, I think that too much stress is sometimes laid upon their necessity, as well as upon the ingredients used in their composition. In this, as in other similar cases, some cultivators appear to have faith in but one way of attaining satisfactory results. I have cause to arrive at somewhat different conclusions to these with respect to vine borders, from experience gained at The Hendre, upon which I will pass some brief remarks.

In the first place, if I am allowed to digress slightly from my subject, I would say that upwards of thirty years ago, when paying a visit to Mr. Roberts, who had at that time charge of the gardens at Gunnersbury Park, he showed me vines infested with phylloxera, and pointed out its effects upon their roots and leaves. So impressed was I with some unnatural conditions to the leaves, and their resemblance in this respect to an unaccountable irregularity in those of the vines at The Hendre, that upon returning home I at once went to the vineries, and there, by the aid of a lens, found the dreaded pest. After the vines in five vineries were destroyed, and other radical measures had been taken to thoroughly eradicate the phylloxera, new borders were made on the piecemeal principal. One of them was placed wholly inside a house having dimensions of 39ft. by 15ft., owing to circumstances that could not be remedied, and, after being provided with ample drainage material, had, unfortunately, as we considered, a depth of four feet of compost, which merely consisted of heavy turfy loam, liberally mixed with mortar rubble, and old porous bricks finely broken, together with what few wood ashes we could command—a not very elaborate composition.

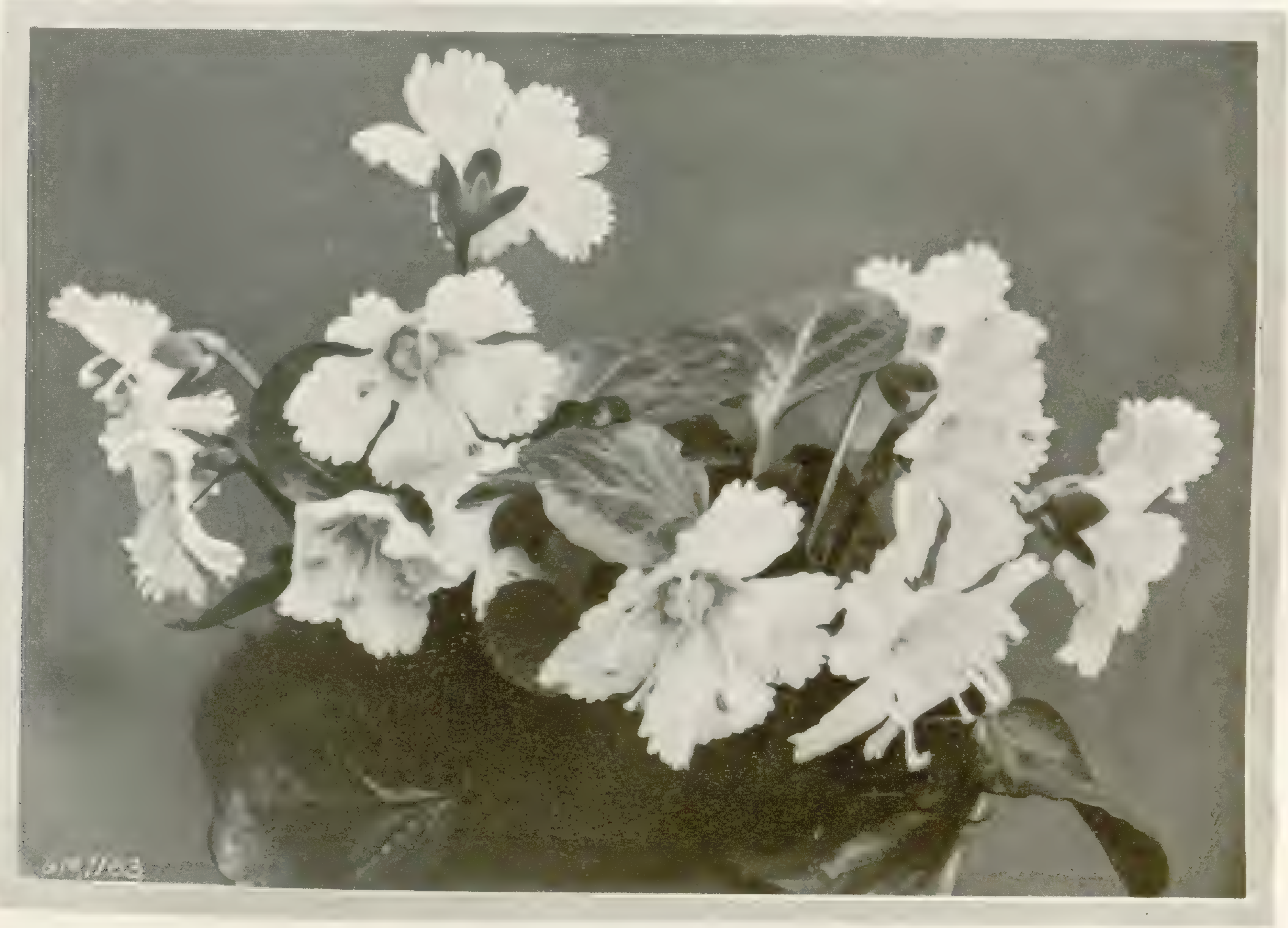
The vines planted in this border at that date, viz., thirty-one years ago, still occupy the house, and their roots have at no time been disturbed, further than that occasioned by yearly top-dressing the border with fresh compost, and all we know about their condition is that we find at such times a plentiful supply of fibrous ones on the border's surface. The vines, with one exception, are trained upon the single rod system, and are spur-pruned in the ordinary manner. They were, however, some years since cut down, and provided with young rods. Owing to the way the house is constructed, the vines have bare stems of five feet before reaching their trellis, and some of these stems at the present time are eleven inches and twelve inches in circumference. The vines have yearly yielded moderately heavy crops of good fruit; in fact, some of the best grapes grown at The Hendre in my time have been produced by these vines, and four of the seven varieties that we staged last autumn at the Royal Horticultural Society's Hall, and for which a silver-gilt Knightian medal was awarded, were cut from them.

The vine borders here, with respect to their composition, are all made upon the lines of the one described, no rich ingredients having been used, and the vines until they reached a full bearing state, and had well filled their borders with roots, had no manurial assistance. Since that stage was reached, however, they have been regularly supplied with top-dressings of artificial fertilisers or with liquid manures.

In writing these notes I do not wish to convey the opinion that I prefer deep vine borders to moderately shallow ones; that would give an erroneous impression. I merely wish to point out to the inexperienced that it is not strictly essential to adhere to one mode, however good it may be, of making borders in order to grow good grapes, and that one need not hesitate to venture upon grape growing, provided he has only comparatively simple means of carrying it into practice. I was recently questioned by an amateur gardener upon this subject, who, from what he had read and been told, had arrived at the conclusion that it was useless for him to attempt to grow grapes with ordinary conveniences though he was desirous of doing so.

T. Coomber.

The Hendre Gardens.



SHORTIA UNIFLORA GRANDIFLORA.

A beautiful variety, remarkable for the relatively large size of its flowers. A.M., R.H.S., March 8. Mr. Grandfield.

APPLE WARNER'S KING.

Undoubtedly, as a tree, this variety makes a splendid bush, pyramid or standard. But I think more espaliers should be grown in gardens, as the branches of these are held more firmly against the strong winds; and there are few varieties of which the fruits are so liable to be blown down as those of Warner's King when growing on the branches of pyramids and standards. Next to espaliers, bushes with their stout branches are the best. I have known small growers who have lost all their best fruits from standard trees owing to the winds blowing them down before they were ripe or fit to gather.

If I wished to grow Warner's King for exhibition I should certainly have a few espaliers in addition to the other forms of trees. Where there are standards, pyramids, and bushes, some protection from the strong gales should be given. This applies to all kinds of fruit trees, practically, but to Warner's King especially.

G. B.

POLLINATION.

Pollination, or that process by which the ovule or embryo seed is fertilised by a pollen grain, formed, it may be, at a considerable distance, and even on a separate plant, ranks undoubtedly among the most subtle phenomena of plant life. The conveyance of the one sexual element to the vicinity of the other is effected by innumerable diverse contrivances involving mediation of insects of various kinds and that of wind and water. In this connection it is undoubtedly the insect agency which has done most in the evolution of flowers from simple forms of little charm to complex ones of extreme beauty. The keynote to this has been the fact that the greater the conspicuousness of a flower, the greater has been its fitness to attract the insect world, and hence by gradual steps floral development has proceeded on the lines of brighter colours, larger blooms or groups of blooms, and greater floriferousness generally, until we have been endowed with that wonderful wealth of beauty we now possess.

Here it may be argued that much of this is due to human selection, but it must not be forgotten that, quite independently of that, there are innumerable perfectly wild and unsophisticated flowers which are fully equal to man's selective triumphs, though due entirely to that sympathetic interrelation between insect taste, so to speak, and floral response to which we have alluded. One of the most remarkable phases of pollination consists in the devices of flowers, not merely to attract insects by their conspicuousness, but to furnish other attraction in the shape of honey glands so placed as to ensure that when they are reached the adjacent pollen shall attach itself to the insect visitor, and so be conveyed, as a rule, to another and distant flower, involving cross-fertilisation rather than self-fertilisation.

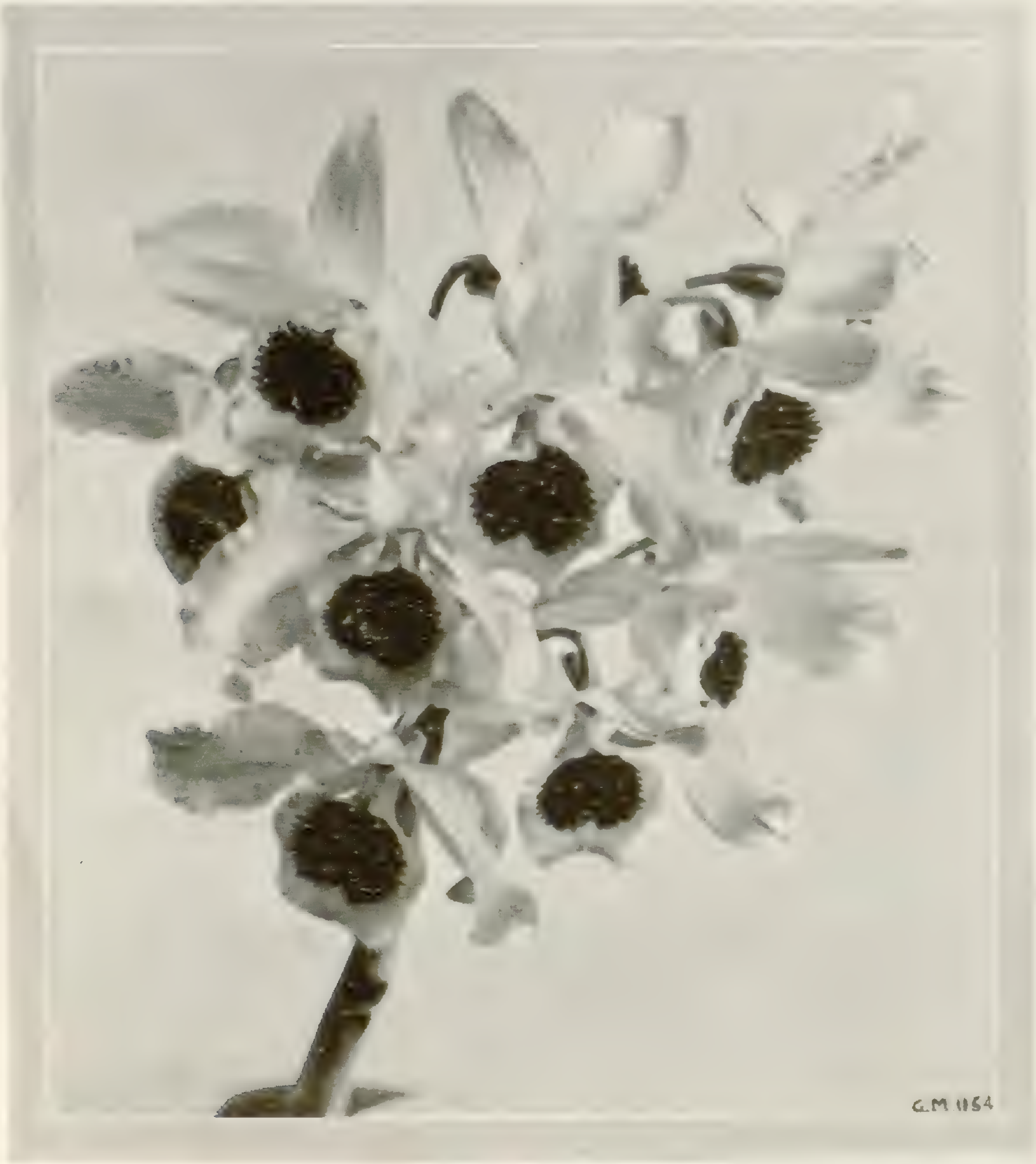
Consider for a moment the marvel involved in the pollination of the little orchis O. maculata, where the forehead of the intrusive bee becomes adorned with two little hornlike stalked pollen masses. These when first attached are nearly upright, and hence would form an obstacle to the entrance of the bee to another narrow-mouthed corolla. These horns, however, are attached by a sort of gum, so delicately composed or distributed that during the bee's subsequent short flight the two little horns are drawn downwards, always in a forward direction, so that eventually they are pushed straight into the next visited corolla and fertilisation is thus effected.

A myriad examples of these subtle arrangements could be cited, but one suffices to show the extreme cleverness, so to speak, of Nature's contrivances for pollination. In another direction we have equal subtlety in the adjustment of the material of the pollen grain to the work it has to perform before reaching the ovule in the ovary or embryo seed capsule. In the flower, taking the commonest type, we find usually in the centre a stigma or stalk-like projection tipped with a viscid knob: at the base of this is the seed vessel. The pollen grain reaching this knob, by any of the means aforesaid, adheres to it and then protrudes a rootlike closed tube, which forces its way between the cells of the stigma, passing completely down it until it reaches the ovary and one of the contained ovules or embryo seeds.

We must now go back a little. The pollen grain when ripe consists of a fecundating cell, associated with material sufficient to form the conveying tube; but this cell differs from ordinary cells inasmuch as it has thrown off half of the all-essential nucleus or life centre, so that it is really only one-half of a complete cell and cannot multiply itself. The embryo seed in the capsule has done precisely the same thing, so that in each case room is left for a combination into a perfect cell gifted with reproductive powers.. At the tip of the pollen tube there is contained the male half-cell, and when it reaches the ovarial half-cell the two conjoin, and by virtue of their conjunction are able to build up the seed, and the process of pollination is completed. From this it is clear that a pollen grain can only fertilise one seed, and we are therefore confronted with the wonderful fact that, taking the poppy as an example, with its enormous number of seeds in a capsule, the stigma must be traversed by as many tubes as there are eventual perfect seeds. Here, however, we see another of Nature's adjustments. An examination of a poppy head shows the stigma, not as a slender stalk, but as a slightly elevated series of ridges, thus providing the needful room for an immense number of tubes.

It is comparatively easy to comprehend that the combination of two half-cells of similar parents as described, can lead to the creation of a new plant of the parental type, but in the case of hybrids or varietal crosses, where each parent may show very distinct characters, it is clear that the two half-cells can only combine with reproductive effect by adopting a compromise and inventing a practically new scheme of architecture to meet the case. Mendel has shown us that they do this, not by an absolute and indissoluble coalition of characters, but by a more or less temporary alliance, which is apt to be broken up at the critical period when seminal reproduction is again to be effected.

Chas. T. Druery, V.M.H., F.L.S.



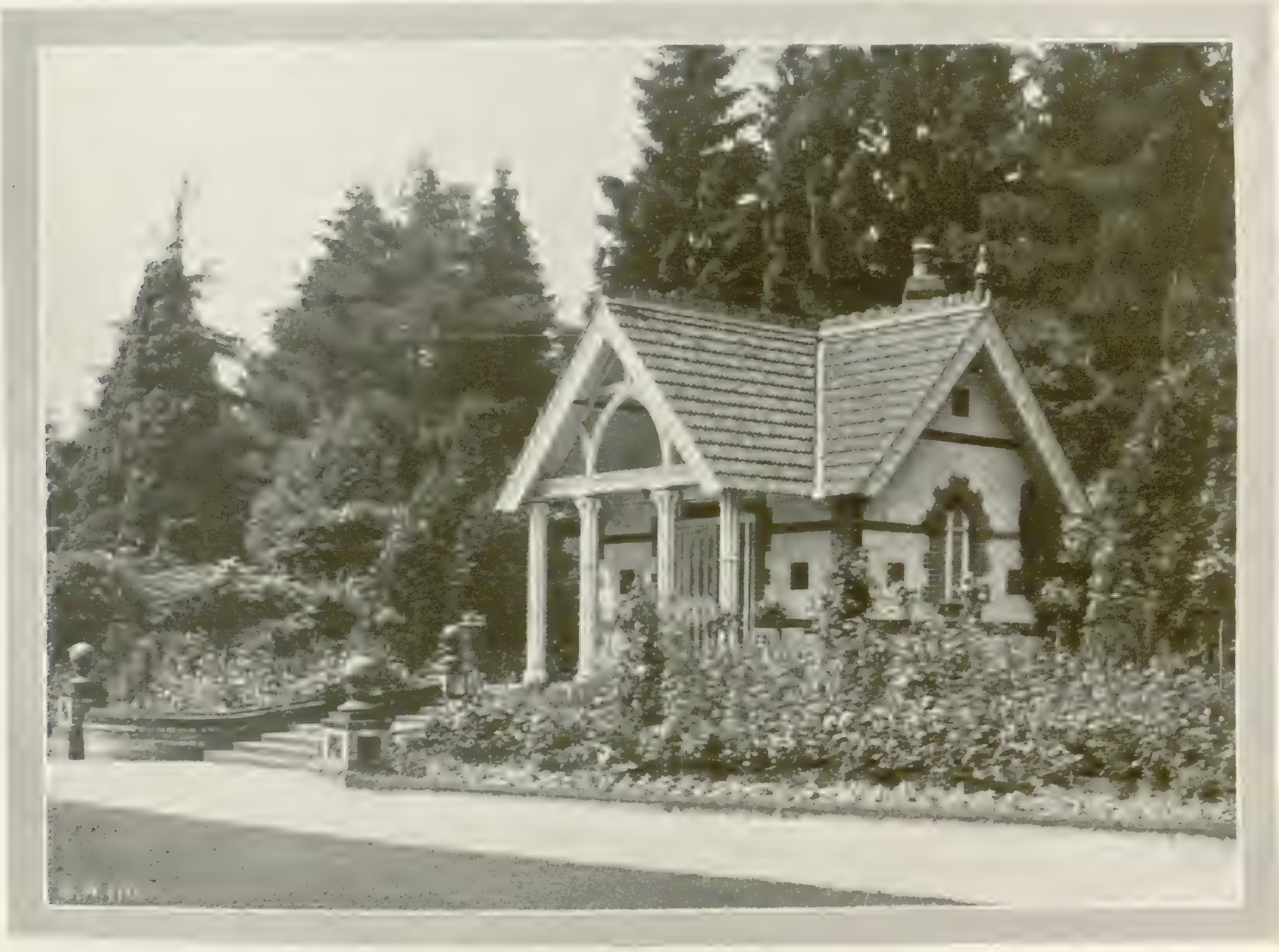
DENDROBIUM RUBENS GRANDIFLORUM.
Flowers rose, purple, and red-purple.

DENDROBIUM RUBENS GRANDIFLORUM.

This very fine, easily grown, and free-flowering dendrobium is by no means new, and therefore it is not an expensive plant. The original D. rubens was raised by crossing D. Leechianum with D. nobile nobilius, while D. rubens grandiflorum is the result of crossing D. splendidissimum grandiflorum with D. nobile nobilius. The difference of parentage is explained by the fact that D. Leechianum and D. splendidissimum have both the same parentage, i.e., D. aureum and D. nobile. Messrs. J. Cypher and Sons, Cheltenham, always grow D. rubens grandiflorum well, as, indeed, they do dendrobiums generally, and the illustration given shows a flowering growth as recently exhibited by them. This fine hybrid has shapely blooms that are richly coloured. The sepals and petals soft rose-purple, heavily flushed, and shaded with bright red-purple, while the broad and rounded lip has a very large central area of dark rich red-purple, this deep colour radiating a little into the paler margin. The Messrs. Cypher were also the raisers of this handsome dendrobium.

A CHARMING TEA HOUSE.

Garden houses are of many kinds, and the various structures that come under notice in gardens that represent the creative powers of past generations of landscape gardeners are of much interest, as showing how widely divergent have been the views held with regard to garden architecture. A century or so ago houses of Italian design were regarded with most favour as a place of rest in the garden; but, although somewhat ornate and attractive in appearance, they had little to recommend them for the purpose for which they were provided. In some cases structures of elaborate design that must have cost large sums of money were in no way more useful as a means of shelter than an inexpensive seat of wood with a suitable cover, and certainly not more comfortable as a place of rest, for but little comfort can be obtained from a seat of stone. As these went out of fashion the rustic summer-house became popular, and, if preferable as a resting-place to the structures they had replaced, they were for a long period so designed as to fall considerably short of what a garden house might and indeed should be. The best of them were pleasant places in which to seek rest and retirement during bright, hot weather, but they were not places to which the owner of the garden or his friends could resort when the weather was not particularly favourable, as, for example, when a keen easterly wind was blowing. Within recent times a considerable improvement has been effected in rustic summer-houses, and as the result thereof those who resort to them are able to so regulate the admission of air as to enjoy an abundant supply of fresh air without exposing themselves to cold draughts and the risks attendant thereon. With a fuller appreciation of the value of the garden as a place of rest and retirement houses of a permanent character are coming into favour. Sometimes they are of wood and sometimes of brick or stone, but the structures that have come under our notice are, for the most part, elegant in design, and well lighted and freely ventilated—points of considerable importance—and they are so arranged that tea can be readily served in them. One of the most tastefully designed and useful of the garden houses that have come under our notice is the one in the gardens of Eridge Castle, the Marquis of Abergavenny's seat, near Tunbridge Wells. This is spacious enough for all the purposes to which a garden house is usually put, and occupies a charming position that commands views of surpassing beauty over the large, finely-wooded park, and contiguous to beds and borders of roses and herbaceous plants that afford a wealth of flowers from early in spring until the autumn is well advanced.



TEA HOUSE IN THE GARDENS OF ERIDGE CASTLE,
The Sussex seat of the Marquis of Abergavenny.

Black Currant Mite.—By the time these notes appear the buds of many varieties of black currants growing in the South will have commenced to open. At this time the mites leave the diseased buds and travel along the branches, and commence their ravages upon the healthy ones. If no preventive measures are taken whole plantations are absolutely destroyed. The bushes should be carefully examined, and all abnormal buds carefully picked off and burnt; branches which are badly infested should be cut clean away with a sharp knife, and immediately consigned to the fire. This destructive enemy can only be stamped out by constant attention for the next two or three months. The bushes should also be dusted over with powdered lime and sulphur early this month, and repeated again at the beginning and end of April.—H. R. Farmer.

ROSE GOSSIP.

While gossiping with some friends about roses the other day this subject came to the front. It started by one saying we did not see the same good John Hoppers and Marie Baumanns now as of old. Several other favourites were quoted, and arguments seemed to prove that these are not so good and striking as formerly.

To my mind the chief reason of this apparent deterioration is the wonderful advance made in the quality of introductions since these old favourites were so far ahead of their compeers. This is confirmed by the few very old favourites found in the winning stands of to-day. True, we have Horace Vernet, La France, Duke of Edinburgh, Charles Lefebvre, Dupuy Jamain, François Michelon, Louis Van Houtte, Duchesse de Morny, and a few more of the older roses still holding their positions in the exhibition box; but the advent of such varieties as Frau Karl Druschki, Hugh Dickson, M. H. Walsh, and Ulster, with heaps between these, naturally detract from the general quality of those once considered so good.

This is the more noticeable with the teas and hybrid teas. Niphetos, Souvenir d'Elise Vardon, Comtesse de Nadaillac, Maréchal Niel, and Catherine Mermet hold their own as well as the cream of the older H. Perpetuals. But there are not many of the rest that have not been ousted by such grand newer varieties as Lady Ashtown, Dean Hole, Earl of Warwick, Alice Lindsell, Charles J. Grahame, William Shean, Pharisaer, Mrs. W. J. Grant, Mildred Grant, Madame Segond Weber, Madame Mélanie Soupert, Lyon Rose, Lady Helen Vincent, Bridesmaid, White Maman Cochet, Molly Sharman-Crawford, and W. R. Smith, which are so far ahead of the majority of teas. Indeed, the wonderfully improved class of hybrid teas may be said to have entirely risen since the introduction of most roses that more than one grower considers to have deteriorated.

Nor do I think our more modern roses are in any way deficient as regards growth, hardiness, or freedom in flowering. If the old roses smelt so sweetly, we can point to newer varieties in Madame Ravary, Lady Battersea, Viscountess Folkestone, and Dr. O'Donel Browne, the fragrance of which cannot be surpassed by the very sweetest of our old favourites. No; I do not think our old friends have lost their original charm or good qualities, but simply appear to a little less advantage because of the sterling qualities so many recent introductions possess.

The plurality of names was also discussed, and I am afraid we got rather warm on that subject. It does seem a pity that raisers should use the same name for more than one rose. Not only do we find the same name in different classes, but even in the same class. We have two Comte de Paris, in addition to a Comtesse; three named Madame Eugenie Verdier, and the same number of Imperatrice Eugenies. Duke of Connaught figures twice, and so does the Duchess; also the Duchess of Edinburgh. Victor Hugo is not sufficient, but we must have two Souvenirs of the same person. Many doubles can be mentioned. Even during the last few seasons these have occurred, and last year we had two Entente Cordiales, and now Pernet Ducher is sending out a second Eugène Boullet!

Then there is much unnecessary confusion with the number of names nearly alike. The quantity of Verdiers, Lacharmes, and Jamains, for example, and the numbers named after certain districts, such as Lyons, Cheshunt, Waltham, etc., to say nothing of the number ending in Rambler. Progress is a climbing tea, with bright carmine, semi-double flowers, while Le Progrès is a short-growing golden yellow. One would think we had exhausted the list of suitable names. Then, again, the great and unreasonable length of several varieties is irritating. Why can raisers not select such as Purity, Beryl, Meta, Peace, Dawn, Sunset, Sunrise, Sappho, etc., or, at any rate, dispense with such double names as Madame Wagram, Comtesse de Turenne, and heaps that exceed this in length?

Then one mentioned he had removed the whole of the material that protected his roses during the past winter. Some declared it was too early, and that the wood needed a little protection as much when the sap was moving as when quite dormant. Another would not protect at all; said he would not harbour delicate varieties when there was such an excellent choice of others as hardy as any of our flowering shrubs. I think he was sensible; but some of us have a fancy for sinica Anemone, Fortune's Yellow, and a few others of the more tender varieties, and it would seem better to give these some little protection—more or less—according to position and locality.

One thing we thoroughly agreed about, viz., that the rose was our favourite flower, and we would meet again for another exchange of ideas. A. P.

Zonal Pelargoniums.—For winter flowering cuttings should be inserted at once, and as soon as rooted pot off singly, pinching them as they grow; and when the weather is favourable expose to full sunshine in the open, and do not allow to become dry at the roots. House them about the last week in September.—W. Staward.

SWEET PEA NOTES.

Sweet peas sown in the open ground during September or October last will now be growing nicely; and, though somewhat early for thinning, yet they should have an occasional hoeing when weather permits, afterwards dusting down each side and between the rows with soot, for, as the ground gets a little warmer and young growth is made, the slugs will be all too eager to sample the tender shoots, and where only a row or two of peas are grown it is quite an easy matter to keep them safe from these pests.

Young plants wintered in the cold frames in pots will be making more growth than those out of doors, and where they are inclined to fall about a few twigs of birch should be put around them to keep them upright. The lights should be kept off as much as possible; in fact, they should never be on except during frost, rain, hail, or snow. I have seen it advised that they should be potted if in small pots, or if several are in a larger pot, but this I have found to be quite unnecessary—in fact, I have wintered sixty plants in a box 20in. by 12in., inside measurement, until early in April, without any of them suffering unduly; but it is really a question of sowing at the right time, and keeping the plants as hardy as possible all the winter through. After February, if the weather is anything like favourable, I should not hesitate to stand sweet peas right out of doors, with an old net over them, and occasionally a mat or tiffany covering on a very severe night.

Spring-sown plants in pots or boxes should now be coming through the soil, and, whether on shelves in the greenhouse or in cold frames out of doors, any degree of coddling must be avoided. Give abundance of air at all times when there is no frost, but should the weather be frosty or cold avoid giving much water at the roots.

Seeds of new varieties being somewhat scarce and dear this last autumn, stocks may be increased by cuttings. Not that these are to be recommended in preference to seedlings, but they are certainly useful as a means of increasing one's stock. It is of very little use attempting to strike cuttings from spring-sown plants, but they will strike readily if taken from autumn-sown plants that have been wintered in a moderately cool greenhouse—in fact, much more readily than when taken from plants that have been wintered in a cold frame. These latter are harder, and when introduced to heat run into growth at once instead of making root, and consequently are not of much use. But, if cuttings are taken from plants that have been in the greenhouse some time, and put in a moderately warm propagating frame, they will root nicely in about fourteen days. My practice is to put four or five cuttings in a large 60-sized pot, using a very sandy compost, and getting the cuttings from 2in. to 3in. in length. These are potted off singly as soon as rooted, and hardened off as quickly as possible, small pots being of course used.

The varieties I have found root most readily are Czarina, Earl Spencer, Anglian Blue, and Carmine, and Lavender George Herbert; but this latter, as well as Silas Cole, Rosie Adams, Apple Blossom Spencer, and one or two others of the very strong growers, are very apt to grow spindly before they root, and therefore demand much care in propagation. For ordinary stock purposes it does not matter much if they do grow away a bit, for they will flower earlier than the seedlings, and consequently are valuable in the matter of seed production, and this is really all I would recommend them for.

Thomas Stevenson.

Woburn Place Gardens.

PEAS.

Peas are a very important crop in every garden, and no vegetable is more appreciated in the household, whether large or small. The first point to be considered is the preparation of the soil, and with reference thereto it must be said that too much importance can hardly be attached to deep working and free manuring. One has only to observe the difference between varieties grown on deeply trenched ground and those on ground that has been merely dug, the yield being heavier and peas superior in flavour on the former.

To grow the peas to perfection trenches should be prepared in the autumn or winter by taking the soil out two feet deep and the same in width, the bottom being broken up and a good layer of well-decayed cow manure spread over the soil. Then partly fill in the trench, and add a good sprinkling of bonemeal, leaving the remainder of the soil to be exposed to the action of the weather, to become sweetened and pulverised. This should be replaced previous to sowing or transplanting. The next thing to be considered is the varieties most suitable, and of these there is a long list. For first early our favourites are Gradus, Early Giant, and Early Morn, followed by Duke of Albany, Centenary, Alderman, and Quite Content for mid season; the last-named is one of the latest introduced, and I consider it the best pea in cultivation, especially for exhibition, as it bears pods seven inches in length. For late crops I am in favour of Autocrat and Gladstone, the first-named being the best flavoured. From the latter we were picking at the end of October last. To keep up a successional supply from May to October, which I am expected to do, I make a sowing every ten or twelve days. The first earlies are sown in boxes at the middle of January, the boxes are placed under glass, and the peas transplanted in trenches towards the end of March. For the main crop we sow outside at the end of March and through April, and so on up to the middle of June.

During a very hot summer peas require a large amount of moisture, both at the roots and overhead, and if neglected in this way they soon die off. During dry weather syringing the rows overhead is very beneficial. Mulching the ground with stable litter is of great help by assisting the retention of moisture, and this helps to save labour in watering. One of the greatest mistakes made in growing peas is that of sowing them too thickly, especially the large-podded varieties. These should be sown not less than three inches apart in the drills. If peas are wanted for exhibition I should recommend a dressing of bone superphosphate on each side of the rows, to be hoed and watered in, as such dressing will increase the size of pods, and bring them into use sooner. By pinching the tops of the leading growths and stopping the laterals or side growths, the development of pods will be accelerated. When gathering peas for exhibition the best time is early in the morning, when the dew is on them, as they will then retain their bloom and freshness much longer than if gathered later in the day. They should be cut with a sharp knife or scissors, and placed in boxes or trays in single layers.

A. Gr

Porters Park, Shenley, Herts.

GLOBE ARTICHOKES.

Though still an esteemed summer vegetable there does not seem to be the same value set upon Globe artichokes as there was even, say, twenty years since. I can well remember the importance attached to this edible collection of vegetables at shows. A contest in the classes for them was considered very unequal were artichokes absent, and the great champions of former days would hesitate an entry if they were not well provided with these globose heads.

To maintain full plantations and vigorous stocks there is need for protection in some form during winter, for, though considered hardy, there are often casualties by the time winter merges into spring. Much, too, depends on the nature of the soil and the altitude of the garden, though even in these matters there are experiences gained that appear to be in conflict with passing theories. I can recall an instance where vigorous and prolific plantations of these artichokes occupied for a long time a situation so low that drainage was a difficult problem, and what made the outlook appear more unfavourable was the fact that a stiff clay formed the subsoil. Despite these apparently unfavourable conditions, artichokes of the very best quality came in regular succession during the summer season, and they not only did their maximum of service in the kitchen, but the records of exhibition successes are not easily forgotten.

Many have of necessity to remember that without some protection their stock of this vegetable is liable to much debility and loss, and steps are taken early in the winter to ensure against it. Some heap up coal ashes around the base of each plant, as these are found not only protective against frost but slugs also, which in some gardens play havoc with the tender crowns. Leaves freshly gathered are the choice of others, while some depend on strawy materials for the same purpose. Individual convenience and adaptation of locality afford the better guide. There are instances, too, where it is unsafe to depend entirely on outdoor reserves. Some stools must be lifted and suitably divided up into crowns that can be potted, or, if a cool frost-proof structure is available, they can be laid in prepared root-forming mediums to await the spring transfer to their permanent site.

It is found advantageous to move the plantation periodically on to new ground, for the constant treading and manuring of the surface, combined with the heavy shade produced by the leafage in summer, make the soil sour and unattractive to their somewhat fastidious roots. It is a fact that in few gardens is there a surplus one can afford to throw away; there is rather an enquiry from one's neighbours for plants that circumstances do not make readily available.

Some are driven to the extreme of seed sowing as a means of augmentation, but, though no formidable difficulty presents itself in providing stocks from seeds, there is a keenly-felt disappointment when, having reached the adult stage, the plants present small worthless heads which neither gardener nor cook can admire. It represents so much wasted time almost invariably to raise artichokes from seeds, and few attempt to repeat the operation. There is in some gardens a mixed stock of these plants, and often one sees the undersized representative—the mongrel—doing duty for the true artichoke, but which, as we have already remarked, give satisfaction nowhere.

The reason for the decline of artichokes in popular favour in the show tent does not readily appear. They certainly represented careful cultivation as much as any other product of the garden. It cannot be said there is a decline of the competitive spirit among vegetable exhibitors compared with, say, twenty or thirty years since; indeed, it is doubtful whether vegetable exhibitions were at any period better or more artistically displayed than they are to-day; but the question that rises in the mind is why the Globe artichokes that in former days were chief among vegetables, should now be so utterly disregarded. That there is still an appreciation remaining in a dietetic sense can be proved easily in the market, for they are largely imported, and meet with a fairly ready sale from vegetable connoisseurs. These imported heads rather confuse the chiefs of culinary departments by reason of their sale in seasons when it is impossible for the British gardener to supply them. Occasions have arisen when orders have been given for Globe artichokes by the kitchen authorities at a season when dry stems and scanty leaves were the only evidence of them in the garden.

W. STRUGNELL.

A TASTEFUL ARRANGEMENT OF BULBOUS FLOWERS

Exhibited by Messrs. J. Carter and Co. at R.H.S. Bulb Show on the 8th inst.

Gardenias.—Plants that are pushing their flower buds may be assisted with liquid manure once or twice a week. Cuttings that were rooted early in the year should be ready for potting, and as soon as nicely established should have the points pinched out. Keep them growing in a high temperature, potting on and pinching them as they require it, and they will make good-sized flowering plants by the winter. It is best to keep young batches of these to take the places of the older plants, as the latter are very apt to become infested with mealy bug or scale, and once either of these pests obtain a good hold they are difficult to get rid of. To keep these pests down, or as a preventive, the plants should be periodically syringed with paraffin emulsion.—T. S.

WORK FOR THE WEEK.

◆

THE ORCHID HOUSES.

GENERAL REMARKS.—The sun's rays have now become so strong that the root blinds will require to be brought into use during the hottest portions of the day. It is always necessary to use greater care in protecting the plants when the days are lengthening than in the fall of the year; the plants have just passed through the dull season, and are more liable to become disfigured in many cases, or so hardened, in the case of odontoglossums, that the over-ripening causes the leaves to fall, with the result that we have the undesirable feature of leafless pseudo-bulbs. I find that even strong reflected light from snow also has a tendency to cause the foliage to become red. While it is desirable we should at all times secure properly ripened and matured growths, so that the plants may be able to produce their flowers to the best advantage, this must be done without distressing or unduly straining the plants.

PERMANENT SHADING.—Where the blinds do not properly overlap, and at the south ends of houses, a thin coat of permanent shading should be put on the glass. I find that by powdering the whiting finely before wetting it, and then mixing it with skim milk, with a little salt added, the frost at night does not seriously affect it. It may either be applied with the ordinary whitewash brush or sprayed on with a fine spraying syringe. The latter is a quicker way, and with care the work can be effectually done. The sides of the houses may also now be stippled with whiting, although where other material of a portable nature can be provided, such as lengths of shading suspended by hooks, which can be easily removed when not required, it gives some advantage at this early season.

ATMOSPHERIC MOISTURE.—The life of most epiphytal orchids depends on the atmospheric conditions. We are liable to place a considerable amount of stress upon the suitable potting composts for the different kinds of orchids, and I am perfectly willing to admit that there is considerable advantages derived from providing the plants with compost to suit their requirements; but unless this is accompanied by suitable atmospheric conditions it will avail but little. It is no easy matter, and one that requires the careful consideration of even the most expert orchid cultivator, to provide such conditions of atmospheric moisture as may safely be afforded according to the frequent changes of the outside atmosphere and temperature. Plants of the cattleya family, which perhaps suffer more than any other orchids from the excessive use of artificial heat, depend almost entirely on atmospheric moisture to keep their pseudo-bulbs plump during the resting season. Care should be observed not to damp or spray the plants until the normal temperature of the house has been reached, and it should also be done sufficiently early in the day to permit of its becoming evaporated before the night temperature is reached. The cool divisions, especially where ventilated freely, will now require to be damped on the floors, etc., twice a day. Spraying overhead in this division should also be done early to permit of the plants becoming dry before nightfall.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

PROPAGATION.—Many of the cuttings put in as advised in a previous calendar should now be well rooted. They should be removed from the propagating frame, but not until they have been gradually inured to a little air. On their removal it is a good plan to stand them among the plants on the stage for a few days, where they will be sheltered from the sun and air somewhat. Keep them sprayed overhead to prevent flagging, and, as soon as they can stand it, remove them to a shelf near the glass, or to a more open stage, where short growth may be made.

CALADIUMS.—The main batch of these plants will now be growing, and no time should be lost in having the corms shaken from the old soil. Where small plants in 48's and 32's are required for decorative purposes single corms potted up will do well, but where large specimens are wanted then several good large corms should be put into large pots or pans, and it is wise to pot them straight away into the pots they are to remain in, as the beautiful foliage requires very careful handling. Although caladiums like plenty of water, they are very liable to suffer if anything approaching stagnation occurs, so a very light, but fairly rich compost should be prepared for them, consisting of equal parts of fibrous loam, peat, leaf-soil, and sand, with plenty of charcoal and well-dried cow manure added. With this compost, and the pots or pans well crocked, caladiums should make a fine show in the stove for several months.

BEGONIAS.—A batch of cuttings of the various varieties of the Lorraine type should now be put in, choosing cuttings that are coming up from the base of the plant, these making the strongest and bushiest plants. For a later batch of cuttings a few plants should now be put into the stove, and they will not be long before they throw up growths. In addition to Begonia Gloire de Lorraine we have now a choice collection of large-flowering hybrids, chiefly introduced by the Messrs. Veitch. These will be going out of flower, and should be partially cut down and rested before proceeding to propagate from them. Two very handsome foliage begonias for the winter are B. Gloire de Sceaux and B. Haageana, and these, if propagated shortly, will make fine plants by the autumn. All the above should be rooted in a brisk bottom heat, using a very sandy compost and potting them before the roots attain any great lengths.

SEEDLINGS of gloxinias, begonias, streptocarpuses, etc., must be carefully looked after, and if on shelves must be carefully shaded from the sun, as even an approach to dryness will seriously check them; as soon as large enough to handle they must be pricked off, and it is surprising how much more quickly they seem to grow when put into fresh soil.—Thomas Stevenson, Woburn Place Garden.

FRUITS UNDER GLASS.

STRAWBERRIES.—Plants swelling their fruits should be placed near the glass upon shelves, and may, in order to hasten the ripening of the crop, be subjected to a temperature of 65 to 70 degrees by night, and 75 degrees by day, from fire heat, with an increase to 85 to 90 degrees from the sun's warmth, if it is accompanied with careful ventilation. Under these conditions, and with a view to keeping down red spider and assisting the swelling of the fruit, the plants should be well syringed in the morning and early afternoon. Careful attention must be paid to watering; discreetly give weak farmyard liquid or an occasional light dressing of a suitable artificial compound. Thin turves placed beneath the pots, when they are first arranged upon the shelves, lessen labour in watering. Once the fruits commence to colour keep up a gentle circulation of air through the house, and thus slightly lower the temperature; discontinue syringing and the use of manures. Attend to successional crops in the way recommended for early ones in a previous calendar.

LATEST PEACH HOUSE.—This house should be closed as soon as the trees commence to blossom, but if ordinary weather prevails no artificial warmth will be necessary. Here, however, fire heat has at times been used in order to keep the blossoms from being frozen. During the blossoming period promote, by careful ventilation, a mild circulation of air through the house, but avoid cold draughts. Bees are usually at this season of the year instrumental in perfectly setting the fruit, otherwise artificial means have to be resorted to for the purpose. After the blossoms fade well syringe the trees daily when the weather is favourable.

FRUITING PLANTS OF QUEEN PINE-APPLES.—Maintain for these a night temperature of 70 degrees, with corresponding rises by day, and, while they are in blossom, a fairly dry atmosphere. Remove gills from the fruit stems and all suckers from the plants, as it will be best for several reasons to reserve a selection of later-formed suckers for propagating purposes. As soon as the flowering period is over support the fruits in an erect position by stakes placed firmly in the plunging material, and increase the atmospheric moisture by damping available surfaces several times daily and by spraying the plants overhead on sunny days after the house is finally closed. Be careful to keep the soil moist, but by no means very wet, and by way of stimulant just discolour the water with Peruvian guano at each watering.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

LETTUCE.—Those sown last autumn and wintered in rough frames can now be successfully planted in a warm and sheltered spot. If good endive is not plentiful a portion of the forward lettuce plants should be planted in rich soil in a cold frame, and every inducement given to hasten the growth by spraying lightly on fine days, and closing the frames early to conserve all the possible sun heat for the night. Stanstead Park is an excellent lettuce for this mode of culture, besides being one of the hardiest varieties. Those raised in heat should be pricked off as required. Make further sowings in boxes of Sutton's Supreme and Little Gem.

VEGETABLE MARROWS.—These are highly appreciated, especially when an early crop can be obtained. Sow the seeds singly in small pots and place in a temperature of about 60 degrees. Shift into 48-sized pots as growth proceeds, and later on plant out on a mild hotbed in a firm compost of loam, spent mushroom bed material, and a little mortar rubble. Other plants can be put into boxes, and trained up the trellis of an intermediate house, where space can be spared. To secure a good set of marrows the fruits must at this season be fertilised daily. Pen-y-byd and Moore's Cream are very fruitful varieties for early crops.

ONIONS.—No time must be lost, whenever the ground can be brought to a good tilth, in sowing the main crop. Much can be done by strewing the site, if wet, with a good dressing of burnt garden refuse direct from the burning heap, and soot and dry soil from under the potting bench. When applied proceed to fork over the bed lightly, breaking up the lumps and levelling as evenly as possible. If the plot is now found to be fairly dry on the surface lightly tread the bed over, rake down, draw off the large stones and rubbish, and sow the seed in shallow drills drawn one foot apart. After covering the seeds lightly use the wooden rake to finish off with, this being preferable to an iron one, as it leaves the surface in a rougher state, and there is no danger of a caked surface to hinder the growth of the seedlings. Main Crop, Improved Reading, and Long Keeping are good varieties for a continuous supply.

CELERY.—About the middle of the present month the main batch should be sown in boxes placed in a very gentle heat. If preferred, the seeds can be sown thinly on a mild hotbed under frames. The early seedlings will require to be pricked off into boxes and kept growing in gentle heat. Guard against any checks. Celery still in the ridges can now be lifted and placed in ashes, in an upright position, under a hedge or wall facing north; this will give a check and prevent the advance of flower stems for a long time.

POTATOES.—Plant another batch in the skeleton frame for succession. A few may be planted on a south border between the rows of peas. Sow small quantities of spinach, turnips, and radishes.—G. Ellwood, Swanmore Park Gardens.

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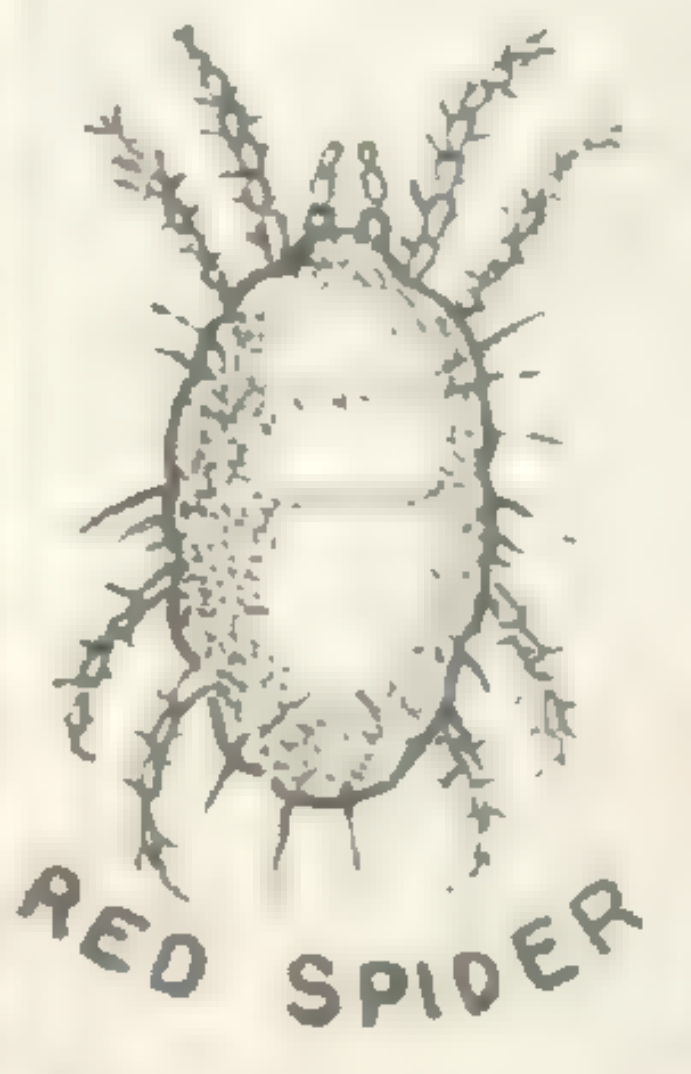

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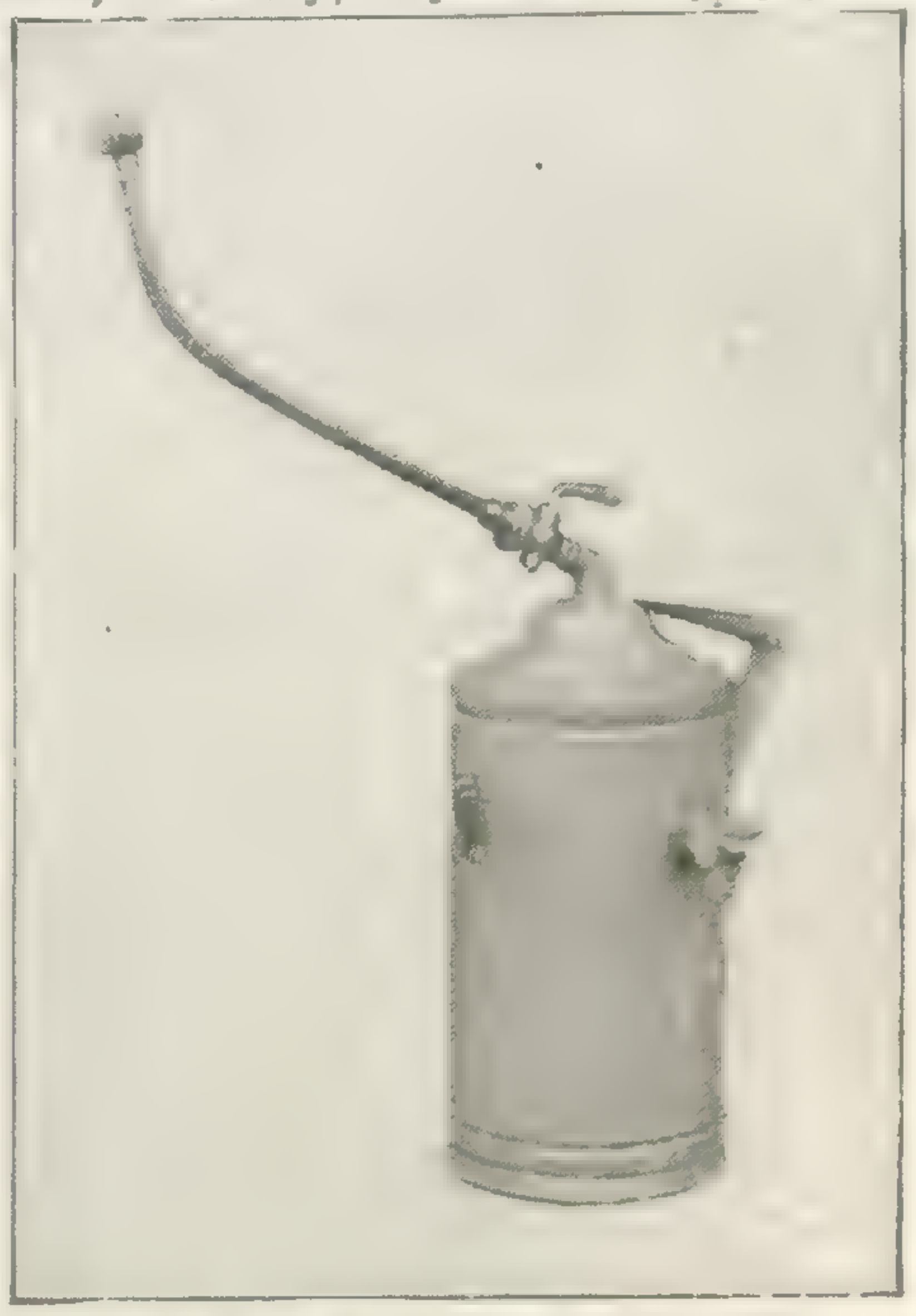

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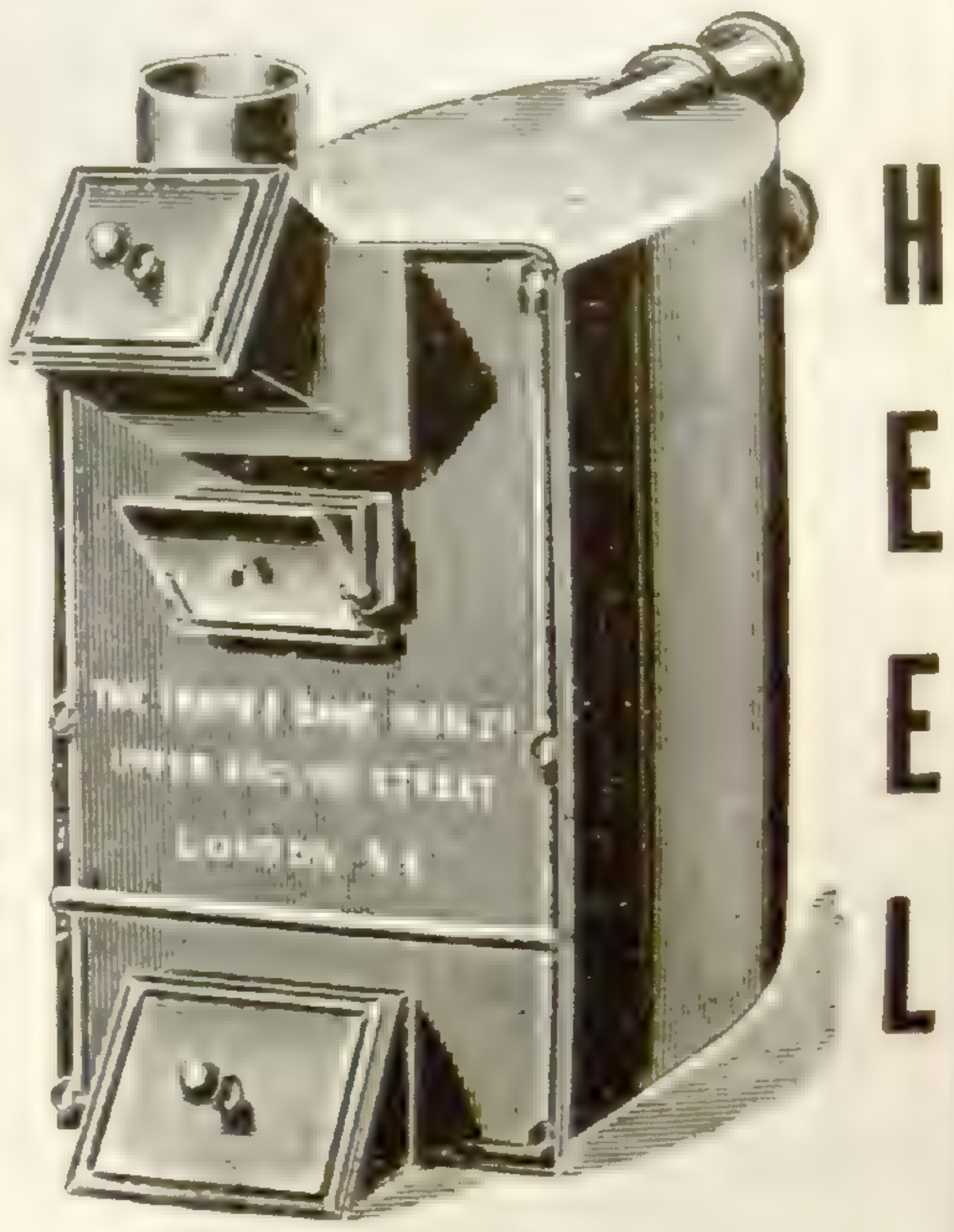

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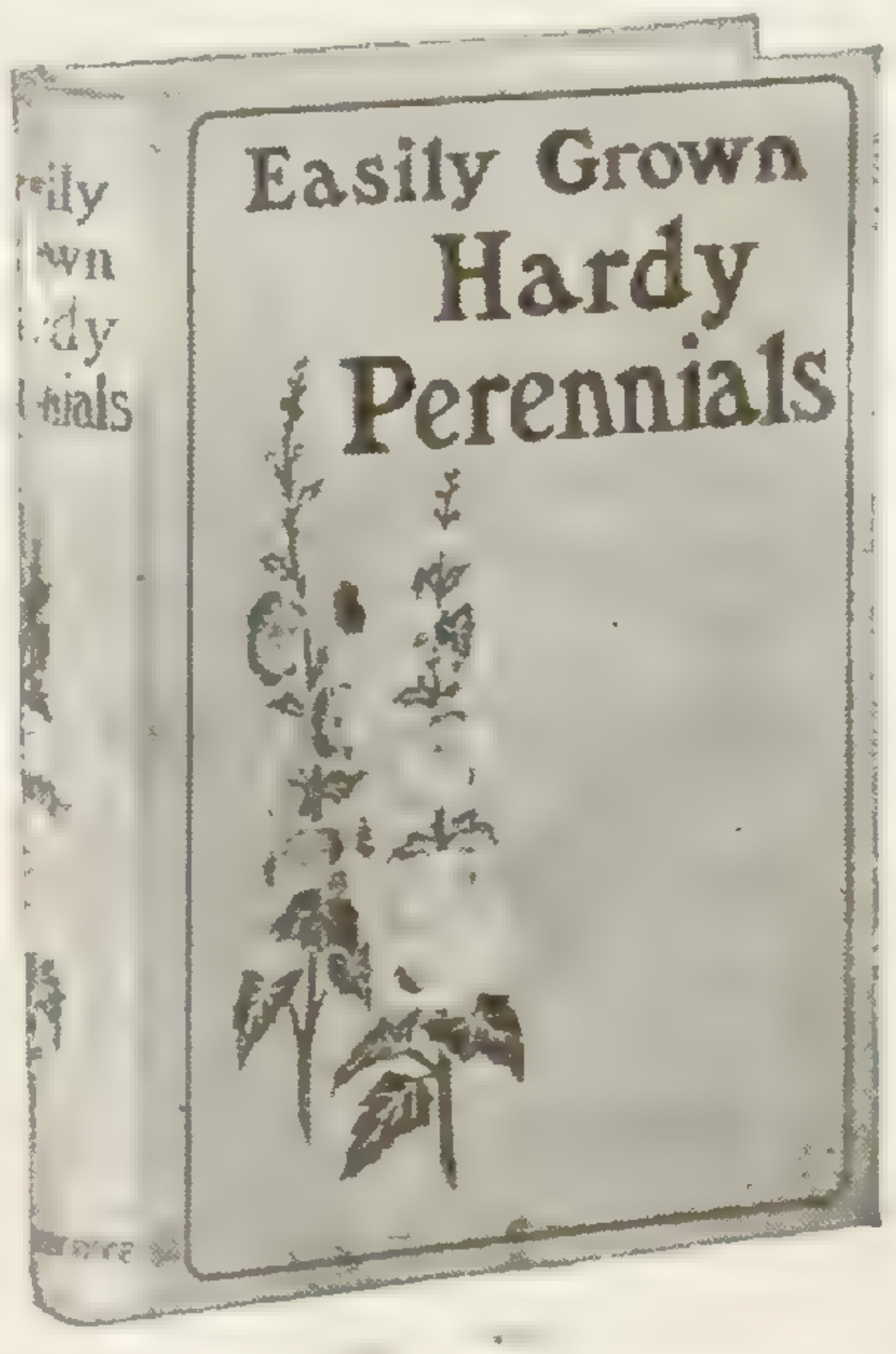

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EXHIBITIONS AND MEETINGS.

◆

National Dahlia Society.

The first conference held under the auspices of the National Dahlia Society since its absorption of the London Dahlia Union, was held on Friday, March 4, at Carr's Restaurant, Strand, W.C. Mr. Edward Mawley, V.M.H., presided, and opened the proceedings a few minutes after six o'clock.

Briefly, Mr. Mawley reviewed the history of the dahlia, the introduction of the several sections into which the flower is divided by florists. He referred to the great diversity of form and colour possessed by the flower, and said that it was popular because it was at its best in the autumn, when most other flowers were fading. The conference was, he thought, necessary, especially as it was many years since a dahlia conference was held. There was a danger that in the efforts to improve dahlias for exhibition purposes they had overlooked the value of the flower for the purpose of garden decoration.

Among those present we noticed Mr. and Mrs. Stephens, Mr. Gordon, Mr. Stredwick, Mr. J. B. Riding, Mr. S. Mortimer, Mr. Wyatt, Mr. J. T. West, Mr. Hawes, Mr. Doncaster, and a considerable number of amateur members, both ladies and gentlemen. Altogether there were over fifty present.

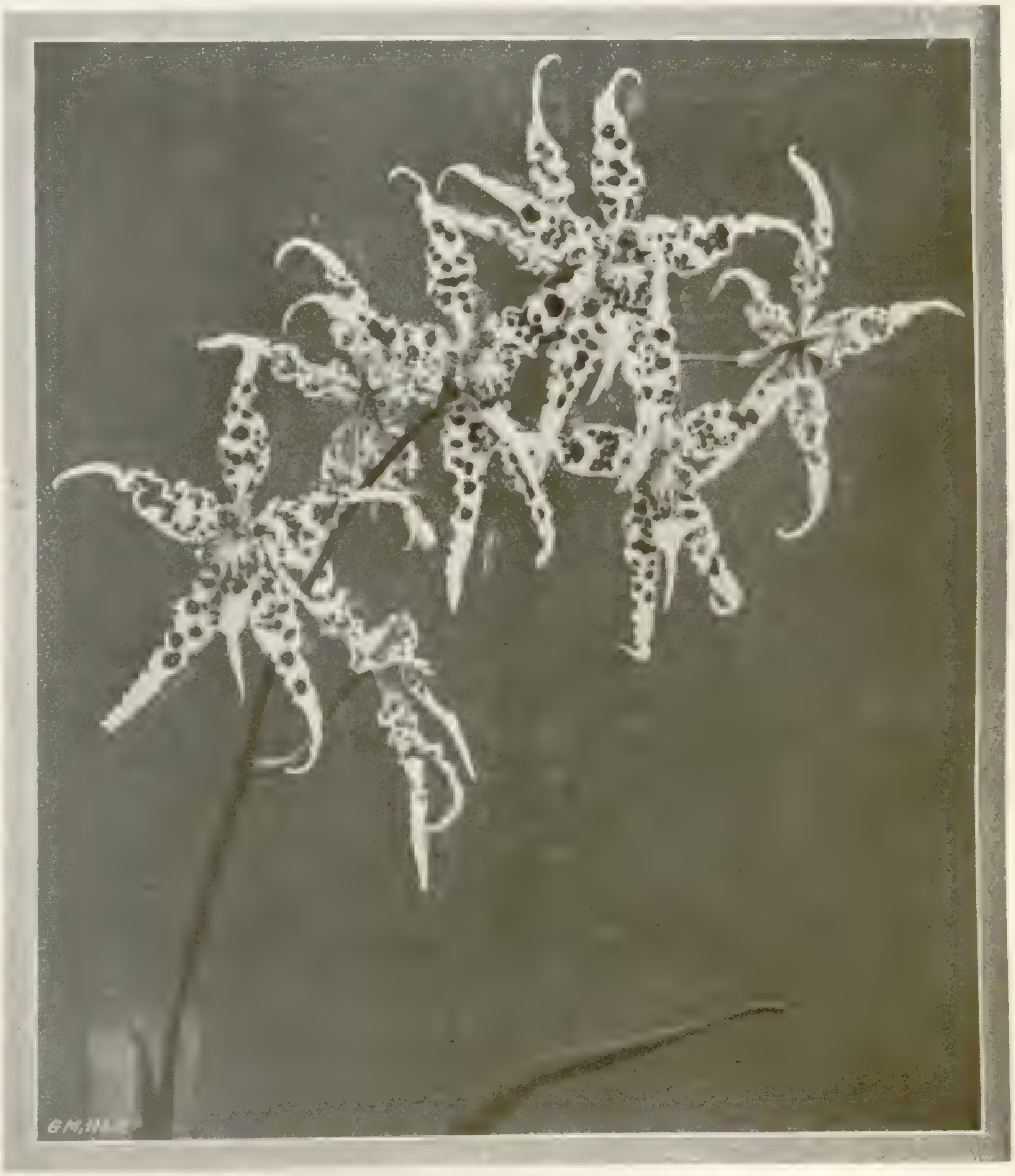
The first paper was read by Mr. George Gordon, V.M.H., Editor of The Gardeners' Magazine, and his text was.

DAHLIAS IN GARDEN DECORATIONS.

Considering that the centenary of the introduction of the dahlia into Europe was celebrated a quarter of a century ago, and that the National Dahlia Society has been engaged in holding exhibitions and making awards to novelties for a long period, I feel in a somewhat strange position in addressing you this evening with "Dahlias in Garden Decorations" as my text. However singular it may appear that the subject should at this late period in the history of the flower have a place in to-night's programme, there can be no doubt that the time has come when we who take an active interest in dahlias should pause for awhile and endeavour to devise some means for bringing the immense value of the flower, in its diversity of form and colouring for beautifying the flower garden, into greater prominence. We should not only consider this point, but should make strenuous efforts to show the flower-loving community in the clearest possible manner the lines they must follow to have in their gardens the wondrously beautiful displays dahlias are capable of producing.

Before we can make any real advance in the endeavour to place the dahlia in the position it should occupy among the many plants available for beautifying the flower garden during the summer months, we must break away from traditional methods, and make very considerable changes in our views with regard to the methods of procedure by which the best interest of the flower can be served. We must first of all recognise the fact that all the dahlias in cultivation are not, for some reason or other, suitable for garden decoration. The majority of those whom I am addressing will probably feel within their own minds that this fact is well known to those who are well acquainted with dahlias. Just so. The experienced grower knows well enough that only a small proportion of the varieties in one or two of the more important sections can be successfully used for the embellishment of the garden, but the general body of amateurs do not. Hence I regard it as of immense importance that we, as a society, should give increased attention to garden varieties; for, unless this is done, neither the society nor the flower will enjoy to the full the popularity we could wish.

The society has been in existence many years, and has conferred distinctions upon an immense number of varieties, but not until the past year or two have awards been made to varieties specially shown for their usefulness in the garden. The individual blooms have alone been considered in the making of awards, and, while this is the best method in determining the fitness of varieties for the exhibition board, it fails altogether as far as garden decoration is concerned. Under such an unsatisfactory system it is not surprising the raisers should have devoted their attention almost exclusively to the development of the individual blooms, with the result, in the case of the cactus varieties, that comparatively few are of any considerable service otherwise than for exhibition, and the cult of the dahlia put back many years. I am hopeful that, with the change in the policy of the society in the granting of certificates, raisers will devote more attention to habit and freedom of flowering, and that we shall as a result have at our command a race of cactus varieties possessing those qualities that will justify their receiving a more prominent position in beds and borders.



ODONTOGLOSSUM CRAVENIANUM.
A beautiful hybrid exhibited by Messrs. Charlesworth and Co. at R.H.S. Meeting on the 8th inst., when it received an Award of Merit. Flowers white, spotted with chocolate-purple.

I am anxious to see them prominent because of my appreciation of the value of free-blooming and effectively-coloured varieties in mixed borders as well as in beds and groups. Within recent years mixed borders have become a great feature in the gardens of all classes. Sometimes these borders are filled with hardy herbaceous plants; in other cases half-hardy plants are associated with them, and in some instances the last-named are alone employed. Dahlias are herbaceous, but not hardy, yet the value of varieties that are really suitable for the garden is so great that there is not a border in the United Kingdom that would not be immensely enhanced by the inclusion of a selection of the best. Yet they are almost everywhere conspicuous by their absence. During the past three years I have had opportunities of seeing between fifty and sixty of the best gardens in this country in which mixed borders are great features, and not in half a dozen were dahlias represented. In more than one instance I made some enquiries with regard to their exclusion, and the reply in several instances was to the effect that they had been banished because of their having made such rampant growth that the few flowers produced were hidden, and that but dense masses of foliage met the eye. In these cases the mistake was made of assuming that the cactus dahlias only are suitable for the purpose. For a considerable period they were described by writers who knew but little about them, as the best of all for decorative purposes, hence the mistaken views that obtain in some quarters. As a matter of fact, there are varieties in all the sections that are singularly effective when grown under the conditions favourable to flower production, and they should be utilised as far as space and position will permit. There is no period of the year when the gardens of country houses of the wealthy are more fully enjoyed than in August and September, and, as the mixed border begins to show signs of waning in the first of the two months, the dahlias are most useful as an aid in maintaining a procession of flowers until the frost comes and ruthlessly makes an end of tender vegetation.

It we would give the garden dahlias an opportunity of displaying their capacities for flower production we must break away, to some extent at least, from the traditional cultural methods. We should, in the first place, impress upon our mind two important facts. One is the short period over which our summers extend, and the other is the necessity for the plants having sufficient time to reach the flowering stage. We know that the best period for dahlia shows is the first two weeks in September, but the garden varieties should be in full bloom early in August. If they are not, they will fail to fully justify the time and labour bestowed upon them. It is surprising what a difference an increase in the length of the season makes in flower production, and, as bearing upon this point, it may be of interest to mention that when we escape frosts until November is well advanced strong-growing cactus varieties that are regarded as worthless for the garden will, if occupying sheltered positions, become so enveloped in flowers as to produce a rich display of colour for several weeks.

We cannot, it need hardly be said, do anything to extend the season by protecting the plants at the end, but we can do much to lengthen it by commencing sufficiently early to have strong plants for bedding out at the end of May. Thousands are annually put out with stems that, if larger than knitting needles, do certainly not exceed in thickness an ordinary lead pencil. Plants of this description represent a loss of nearly a month, or about twenty-five per cent. of the whole season. It matters not whether the stock be raised by means of cuttings or division of the tubers, they should be well established in large 60's by the middle of April at the latest, and be then shifted into 6in. pots, and a compost consisting of turfy loam and well-rotted manure used. Either method of propagation will give good results, but plants raised by division of the tubers will come into flower at an earlier period. If the stock is purchased the plants should be obtained at the period mentioned above, and after a day or two's rest be shifted into larger pots, precisely as advised for those home raised. Subsequently to the repotting they should be placed in a frame, where they can be near the glass, have protection from frost, and enjoy a free circulation of air in fine weather. Plants so raised will grow away vigorously, and come into bloom far in advance of those kept in 60's until bedded out. When advocating this system I am frequently met with the objection that the space available will not admit of more than a few being grown. The only proper reply to such objections is, if there is only a space for a few, grow only a few and destroy the others. A dozen strong plants are certainly preferable to six dozen weakly ones.

With regard to soil preparation, it cannot be too distinctly stated that the heavy dressings of fat manure that are so frequently recommended for beds and borders are both unnecessary and undesirable. The soil should be deeply dug, and a moderate dressing of manure applied, but more liberal enrichment will promote soft growths and hinder the production of flowers.

Mr. S. Mortimer emphasised the fact that almost all the varieties of show and fancy dahlias were of immense value for garden decoration, if grown in good but not very rich soil.

Mr. Wyatt urged the tying out of the growths of dahlias grown for garden decoration, and the removal of the low, late, and sappy growths. It was a great advantage to keep the growth to a few only and tie them to one central stake.

Mr. J. T. West considered that the gross cultivation of dahlias was answerable for a great deal of the condemnation of the flowers for garden decoration. He further agreed that the show dahlia was one of the best for garden decoration. The cactus dahlia was the greatest sinner from the decorative point of view, but he believed that in a few years the section would be greatly improved in this direction. He considered the dahlia had been a brilliant success among florists' flowers.

Mr. Stredwick thought if as much attention was given to a dahlia as to any other florists' flower, equal success would follow.

Mr. Stephens said amateurs should not expect to be able to produce flowers such as the experts stage, in their first attempt. He regretted the introduction of so many fine textured and needle-pointed varieties of cactus, that needed so much special care and protection. He thought raisers were making a mistake in raising so many of these comparatively delicate varieties.

Mr. Mawley rounded off the discussion, and referred to the usefulness of single dahlias for garden decoration.

The second paper was by Mr. J. W. Stredwick, who dealt with "The Culture of Exhibition Dahlias." Mr. Stredwick has been so successful with cactus dahlias that his instructions should be very carefully considered by those who propose to become competitors.

THE CULTURE OF DAHLIAS FOR EXHIBITION.

The principal object of this short paper is to aid those who are anxious to learn the best means of growing cactus dahlias for exhibition, and in the first place I wish to warn those who believe that the best method is to grow from old tubers, because from my own experience, although you may get quantity, one rarely, if ever, gets quality, for the blooms grown in this way come shallow, with a few rows of petals and large, open centres.

If you are to succeed on the exhibition table the best plan is to get good strong, healthy plants, well rooted, about the end of April or the first week in May, when, if purchased from any trade grower, they should be in what is known as small sixty pots. When received, if the pots are well filled with roots, they should be at once shifted into, say, five or six inch pots, acording to their size and condition, at the same time taking great care that the soil is suitable, and not too wet or too dry, and after repotting also great care must be taken not to overwater the plants, or they will soon become sickly, and practically never recover, however much care is then taken. Now, in giving advice to anyone who has not the means or the opportunity to carry out that advice, seems of little value, yet at the same time I can only advise, however difficult it may be to carry it out, and will give the simplest advice I can.

I have already told you what to do on receiving your plants, and when they are repotted the best simple plan is to put them into an ordinary garden frame with a little heat by night, and kept fairly close by day, and shaded for two or three days from the sun until they are to some extent established in the new soil, then the more air you can give them by day when the weather is warm and suitable the better, but on cold days great care must be taken so that air is given without risk of a sudden check to the plants, and by night the frame should be closed, and as the weather becomes more genial the frame should be gradually left open at night until no cover is given before planting out. I would also mention that in some cases perhaps a second shift would be required if the season for planting out should be a late one, but let me also warn against letting a plant get pot bound, or over potting, which perhaps is the worst of the two evils.

Now as to planting out; the first question usually asked is as to what kind of soil is best suited for growing dahlias, and I have at all times, and many times given this answer. I have never found any reasonable soil out of which I could not grow a good cactus dahlia, but the principal thing, which is often left to the last and least thought of, is the preparation of the soil, and I can only give you our own method, and although we never get anyone to believe this, yet it is a fact that much of our soil is among the worst naturally that is upon this earth, yet we succeed to some extent nevertheless.

Now instead of leaving your ground, as many do, until just before planting out time, and then all at once become very anxious about its preparation, get it dug deeply, eighteen inches deep if you can, and the rougher the better, in the late autumn, and let it lie exposed to all the winter weather, and then early in March if possible, put on a good coat of stable manure, and dig it over with a new tool as deeply as you can.

About this time we usually have frosty nights so that all the clod smashing is performed by natural agency, we then turn the soil again about three times before planting out time, the first week in June. If this process is followed, the soil, whatever its composition, should be in first-class condition by that time.

The soil having been properly prepared and made ready as before described, then get ready for planting out. Stretch a line in the direction of your first row of plants, and about two feet from the edge of the pathway, put in a small stump and then repeat this about four feet apart; these will be the positions for your plants to occupy; around the points so marked dig out evenly holes about fifteen inches in diameter, and a good spit deep, fill the holes half full of good, fairly rotted stable manure, with about as much scot as a 60's pot will contain, and the same quantity of well-slaked lime, but fresh; next widen the diameter of the hole by digging in and thoroughly mixing the surrounding soil with the manure, etc., fill in with soil originally excavated, and press it all down evenly. The first row being now ready, the others may be prepared in the same way, leaving five feet between the rows at least; then taking a trowel, dig out a hole large enough to take the ball with the soil as it leaves the pot; put in the plant, replace the soil necessary, and press down firmly.

The dahlias at the time of planting out ought to be about a foot high, and these should be at once secured by putting in a strong stake, not less than four or five feet out of the ground, and tying the plant securely, but not too tightly to the stake.

Now if the weather be favourable, the plants will soon begin to show signs of growth, and most likely buds, the latter, if exhibition is your object, must be at once pinched out, and if the plants be of sufficient height, one or two joints below had better be removed; at the same time, all the strength will be thrown into the bottom growths, which will soon require to be looped up to the stake to protect them from the wind. It is now advisable to put to each plant two more stakes, as the one previously put down, the three forming a triangle around the plant; around the stakes put some stout yarn, to which, when of sufficient length, the branches may be tied evenly all round inside the enclosure; in the case of bushy plants, thin out the weakest branches leaving about six to each plant.

Unless the weather is very dry they will not require watering at first, but in this matter common sense must be exercised, but on no account over-water a plant when just planted out, or the young roots will be rotted, and recovery will be slow; at the same time, take care that your plants are not dry before they are knocked out of the pots, or you will find it difficult to wet the ball after without excessive watering; on the other hand, do not water your plants and then immediately turn them out of the pots, which is likewise a bad practice.

It is more than likely that the early buds, after the treatment before mentioned, will be too early for the shows, except in late districts or early shows, and if it is desired that the plants should have all the vigour possible at the most important time, take out the leading bud in each shoot, bearing in mind this most important fact that from the time this tiny bud is formed, a month must elapse before it can develop into a perfect flower. Do not make a mistake and have half-developed flowers on the show morning.

Now, first a word on disbudding. As soon as it has been decided to let the plants continue to bear blooms, take out all the side shoots and buds, except the centre buds, for three or four joints downwards, leaving the lower laterals to produce future blooms. We never take out any of the lower shoots which, as the season advances, generally bear the finest flowers.

Watering and feeding are other important points upon which it is very difficult to advise, because seasons and climates differ so much. However, the cactus dahlia is a water-loving plant, and it is therefore better to give freely than not enough.

As the plants increase in height, they require great care to keep them secure from the wind. A grower may think his plants safe, but admit they are a bit loose, but he will attend to them to-morrow. Sometimes to-morrow is too late, and before to-morrow's dawn a gale has practically ruined the whole year's work and hope. Always remember a stitch in time saves nine. Constantly give a tie here and there, and safety is assured. Again, as the plants advance and begin to bear a good number of blooms, they will want something more than clear water. It is an excellent plan to get, say, a forty-gallon cask, and put into it a bag containing good rotted stable manure, keeping the cask filled with water and never watering from a water main or pump direct, the water from which is always much colder than the open air. Renew the manure from time to time, using different kinds if possible.

Mulching is often an important matter. It is a great advantage to us in dry weather, but whether it is of value in all climates is open to question, because the sun's rays are thereby prevented from penetrating the soil to a great extent. We do it here in dry seasons as soon as the three stakes are put in, placing a layer of rough stable manure over the ground to a depth of about two inches. Artificial manures, which are many and varied, are often of great value in the hands of those who know how to use them, and sometimes work wonders at the critical moment; but I should advise beginners to use them with the greatest caution, never allowing themselves to be persuaded that animal manures can be entirely dispensed with.

Shading, if properly carried out, is of great importance in all weathers. In very bad weather we cannot get perfect flowers without some protection, but it must not be forgotten that the blooms must always be tied firmly, so that they are in the centre of the shade, and not too close to it, but so placed that a current of air can pass through, otherwise the shade will do more harm than good at times when the sun is hot. As to the shade itself, we make our own from fine canvas or calico; the shade is conical in shape, about twelve inches in height, and the same in diameter at the base, around which runs a wire; a cane of five feet in height is pushed into the ground about nine inches, the shade being fixed to the cane by means of a wire at the top, and the one around the bottom, and at a convenient height to cover the bloom. At this point I wish to mention how inadvisable it is for exhibitors to grow a large number of varieties, and only one or two plants of each; those who do this will often find they are burdened with work, and that when blooms are wanted for competition they have not enough blooms of some varieties. Suppose, for example, that the desired class is one of nine varieties, three blooms in a bunch, it will be found that more than one good bloom from each plant on a given day can seldom be depended on. Rather obtain a selection of good reliable sorts in number according to the classes in which you intend to compete, with a surplus of two or three, and not less than three plants of each variety, you may then with work and care succeed in reaching the top of your section.

Mr. Wyatt believed that one central stake and four stakes around it was better than the use of three stakes only, the object being to tie and keep out the growths so that light and air can reach every portion of leaf and stem. He thought some of the bottom growths at least should be removed.

Mr. Nye asked how one was to cope with a dahlia growing 12ft. high, and whether espalier-trained dahlias were to be recommended.

Mr. Mortimer thought that for a wall, fence, or for lining a path, espalier or fan-trained dahlias would be a success.

Mr. Davison (and also Mr. Mortimer) agreed that the proximity of trees had a great deal to do with dahlias growing unusually tall. He believed Wm. Marshall and some other cactus varieties needed early pinching to secure flowers in time for the shows. Mr. Stredwick said Rev. A. Hall needed rather more care and protection than most other varieties.

Mr. West said it was difficult to persuade amateurs that dahlia traders were not rogues. He urged the purchase of pot roots (year-old plants) by amateurs to secure early exhibition flowers. He disagreed with Mr. Stredwick, who said that plants from cuttings gave better and more double flowers than pot root plants.

Mr. Stredwick urged that the cactus dahlia did not deserve the condemnation it had received as a plant for garden decoration, and he referred to the great success of cactus varieties at Settle in America, and at the White City in London.

Mr. Mawley advocated the marking of certain dahlias in the society's catalogue as purely exhibition varieties, as was done with roses.

The third and last paper was "Methods of Exhibiting Dahlias," and the subject was tackled in a very hearty manner by Mr. J. B. Riding, who, after dealing with the history of dahlia competitions, poured scorn upon the continued use of boards, and the stiff arrangement of blooms for display at exhibitions. We shall give the text of Mr. Riding's paper shortly.

Mr. Mortimer thought Mr. Riding's remarks too drastic. It might be possible to work up to the use of vases entirely in years to come, but it would be foolish to do away with boxes at once.

Mr. Stredwick said the society hardly practices what it preaches, and last year did not give any honour at all to new cactus varieties which had especially long and stiff stems.

Mr. Wyatt thought the form of exhibition should be altered slowly, if alteration was desirable, but agreed that Mr. Riding had drawn attention to many obvious evils attending the exhibition of dahlias.

Mr. Gordon said he very largely agreed with Mr. Riding, and urged him to persevere in his efforts to reform the present method of exhibiting dahlias, and referred to his own efforts (now happily largely successful) in reforming chrysanthemum shows. He suggested a gradual reform, so that the altered circumstances would not press too heavily upon competitors. The display of cactus dahlias in vases, without supports, would speedily do away with the production of varieties with short and weak-necked stems. He hoped the society would soon take steps to show that the dahlia was a beautiful, as well as a show flower.

Mr. Stephens said he would even go further, and have a class or classes for dahlias in pots, as grown, to show the habit and character of the varieties, and promised help in the matter of prizes.

Mr. Nye said that at Dalston four years ago there were only about half a dozen dahlia growers, and now there were over a hundred, and to popularise the flower he challenged any amateur society to compete with them in a class for twelve dozen blooms grown by its members, twelve blooms from each of twelve members, time and place to be determined.

Mr. Mortimer urged the institution of classes for pot-grown plants.

Mr. C. E. Wilkins referred to the display of pot-grown dahlias in the past, and said the plants staged were not sufficiently attractive to induce the committee of the society to repeat the classes.

Mr. West hoped the National Society would soon become largely composed of small amateurs, and would attach to itself many kindred societies. For the small grower the boards were necessary, but there was room for both boards and vases. He believed the conference would do a great deal of good.

Mr. C. H. Welsh urged increased facilities for the affiliation of small amateur societies, to give lectures on dahlia culture, and otherwise help to extend dahlia culture among amateurs, especially among the crowds of working men who love and grow flowers and live in the suburbs.

Mr. Riding dealt with the several points raised, and expressed his delight at having created such a brisk and interesting discussion, and urged that the dahlia must be popularised if its culture was to be extended as it deserved to be. In other words, the society must advance in the matter of exhibition arrangements.

Hearty thanks to the readers of papers and to Mr. Mawley for presiding concluded the proceedings.

Royal Horticultural Society.

The exhibition held at the Royal Horticultural Hall, Westminster, on Tuesday and Wednesday, March 8 and 9, was something more than an ordinary meeting. It was a fine display, with the added attractions of a keen bulb competition, the whole making a spring show of great beauty and attractiveness, and lasting two days instead of the usual one.

Orchids, daffodils, hyacinths, and tulips, forced shrubs, alpine flowers, and carnations were the chief subjects staged, and there were a few novelties.

On the Tuesday afternoon there was a great crowd of visitors, and at times there were solid blocks of people in the gangways, all hopelessly striving awhile to pass along.

FLORAL COMMITTEE.

Roses were very lovely, as grown and shown by Messrs. G. Mount and Sons, Canterbury, who had a beautiful group of grand blooms of Joseph Lowe, Richmond, the new yellow Lady Hillingdon (A.M. on behalf of Messrs. Lowe and Shawyer, Uxbridge); Liberty, and a pink seedling. Some grand carnations were staged finely by Mr. C. Engelmann, Saffron Walden, whose stands of the dark crimson Carola were greatly admired; O. P. Bassett, Mrs. H. Burnett, Vinca, and White Perfection were others splendidly shown.

A particularly fine group of alpine and other early spring flowers was put up in good style by Mr. J. Grandfield, gardener to Sir Everard Hambro, K.C.V.O., Hayes Place, Hayes. Rhododendron praecox, Azalea amoena, etc., formed the background, and the centre of the display was of Primula denticulata alba, surrounded by P. Forbesi. A few daffodils were associated with muscaris, Primula marginata, P. floribunda, P. frondosa, P. malacoides, and P. cashmeriana. The saxifragas were delightful, as shown in pans and pots, and here S. Boydi, S. B. alba, S. Burseriana, S. apiculata, and S. marginata were particularly fine. Hardy heaths and Shortia uniflora grandiflora, were other fine things in this unusually fine exhibit.

Messrs. Paul and Son, Cheshunt, were represented by some lovely lilacs, backed by standards of the useful Pelargonium Clorinda. The lilacs were specially fine. Messrs. Jas. Carter and Co., Holborn, had a novel, interesting, and striking exhibit right opposite the entrance. It was two terraces of the greenest grass, with central steps, and a fountain behind. The background was of cupressus, and directly in front of this was a series of semicircular groups of daffodils, hyacinths, and tulips. The dividing line between the two terraces was composed of low rockwork planted with polyanthuses, anemones, primulas, squills, and crocuses. At either end were flanking groups of tulips and clipped trees.

The perpetual carnations shown by Mr. H. Burnett, Guernsey, were superb in size and colour, his Enchantress, Rose Pink Enchantress, White Perfection, Emperor, Mrs. H. Burnett, and Britannia being unusually fine. From Messrs. Bakers, Wolverhampton, came a collection of alpines, the saxifragas, Primula denticulata, and P. d. alba, Iris reticulata, Cyclamen coum, trilliums, and dwarf phloxes being the chief objects. Mr. Profittlich, Twickenham, brought up some superb lily of the valley. Messrs. Heath and Son, Cheltenham, arranged alpine and spring flowers in a rock garden, and made a pretty little exhibit. Messrs. Wm. Paul and Son, Waltham Cross, again exhibited a fine display of cut camellias.

Carnations, Lilium longiflorum, and L. speciosum, as well as Golden Spur daffodils were superbly shown in large and small vases by Mr. W. H. Page, Tangley Nureries, Hampton, the liliums were especially fine. Messrs. C. Brooks and Son, Worthing, Basingstoke, submitted blooms of their strain of primulas. Messrs. H. Cannell and Sons, brought up a few interesting cacti, and some of their beautiful zonal pelargoniums. Messrs. T. S. Ware, Lim., showed a collection of early hardy flowers, backed by heaths, rhododendrons, bamboos, etc. Saxifragas, primulas, and irises were notably good. Messrs. G. and A. Clark, Dover, had also a rock garden, and showed primula species and polyanthuses well.

Mr. F. H. Chapman showed some lovely irises of the reticulata section, including a number of seedlings; with these were seedling freesias and seedlings of Narcissus calathinus. Messrs. Stuart Low and Co., Enfield, had a famous lot of cut carnations, and flowering plants of heaths, cytisus, daphnes, cyclamens, boronias, and azaleas. Messrs. H. B. May and Sons, Edmonton, showed a great variety of ferns, including the finer varieties of Polypodium vulgare; small clematises in flower, were also a feature.

Messrs. Sutton and Sons, Reading, filled a large space with well-grown hyacinths, and they staged these in pleasing groups, two contrasting or harmonising varieties in each group. Some of the combinations were pink and pale-blue, apricot and cream, white and pink, dark blue and yellow, and apricot and rich red, and these were all very attractive, as well as suggestive for future spring designs. Palms and small ferns provided the setting of greenery. Messrs. J. Veitch and Sons, contributed a fine lot of hyacinths in pots, many of the popular kinds, such as King of the Blues, Jacques, La grandesse, and Grand Maitre, carrying splendid spikes.

Messrs. J. Veitch and Sons, Chelsea, put up a fragrant and beautiful group of forced lilacs. The plants were dwarf bushes, all splendidly flowered, and the leading varieties were Grand Duc Constantin, Virginalis, Souv. de Louis Spathe, Mdme. Casimir Perrier, Chas. X, Alphonse Lavallee, and Marie Legraye. The same firm contributed a very attractive bank of greenhouse rhododendrons, the lovely Camellia reticulata, Primula Kewensis, Streptosolen Jamesoni, Coleus thyrsoideus, Indian azaleas, and the elegant Cineraria Feltham Beauty. Mr. G. Reuthe, Keston, Kent, brought up camellias, rhododendrons, species of crocus, hepaticas, Narcissus cyclamineus, hardy heaths, anemones, etc. Messrs. R. Wallace and Co., Colchester, filled one corner of the hall with a rock garden exhibit that was very naturally arranged with delightful early flowers. The little glade of hardy cyclamen, the nook filled with Iris reticulata, and the foreground of the lovely Primula viscosa Mrs. J. H. Wilson, and the groups of Saxifraga Boydi, Dog's Tooth violets, and fritillaries were the leading features of an interesting exhibit.

Messrs. R. Gill and Sons, Penryn, Falmouth, had a glorious lot of rhododendron trusses, these representing their own varieties, seedlings, and Himalayan species; R. Wm. Shilson, R. eximium, and R. barbatum were all delightful. Messrs. Bees, Mill Street, Liverpool, showed a group of the graceful Primula malacoides. Messrs. J. Cheal and Sons, Crawley, submitted hardy flowers, and Messrs. J. Peed and Son, Norwood, showed alpines.

ORCHID COMMITTEE.

Messrs. Charlesworth and Co., Haywards Heath, had a group of lovely orchids, the odontoglossums being especially graceful and beautiful. Odontoglossum Cravenianum (A.M.), Odontioda Bohnhofiæ, O. Bradshawiæ, O. Keighleyensis, and the splendid O. Charlesworthi were conspicuous among a host of dendrobiums, Brassia brachiata, Miltonia Bleuana nobilior, etc. Mr. A. W. Jensen, Haywards Heath, brought up odontoglossums and Cattleya Schroderæ. Mr. J. Gurney Fowler, Glebelands, Woodford, contributed several fine odontoglossums. Mr. J. Collier, gardener to Sir J. Colman, Bart., Reigate, showed choice dendrobiums, Cirrhopetalum Mastersianum, and Bulbophyllum Siegobulbon. Messrs. Stanley and Co., Southgate, had cattleyas, masdevallias, and odontoglossums. Mr. R. G. Thwaites, Streatham, showed the yellow Dendrobium Chessingtonensis and Sophro-cattleya Doris. Mr. Mertens, Ghent, again brought over some delightfully coloured seedling odontoglossums.

Messrs. Stuart Low and Co., Enfield, sent the rare Cœlogyne pandurata, Cymbidium Holfordianum, Dendrobium nobile nobilius, Cymbidium Sanderæ, Cattleya Schroderæ, etc., and a number of the more popular dendrobiums. A group of finely-grown calanthes was staged by Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham; the spikes were specially well developed, and the flowers large and bright.

Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, brought up Lælio-Cattleya Goldfinch magnifica (A.M.), Cattleya chocoensis alba, and C. Empress Frederick Westonbirt var. Mr. Day, gardener, to H. S. Goodson, Esq., Fairlawn, Putney, showed splendid plants of Odontoglossum illustre King of England, D. crispum Battle of Waterloo, Odontioda Charlesworthi, and O. Bradshawiæ Goodson's var. Messrs. J. Cypher and Sons, Cheltenham, had a pretty group of orchids, their dendrobiums being a leading feature, cypripediums, Sophronitis grandiflora, and the old Ada aurantiaca were also shown with Cœlogyne cristata.

A fine example of Cymbidium Lowio-eburneum, carrying twenty-one splendid spikes of bloom, was sent up by Mr. Branson, gardener to G. Hanbury, Esq., Blythewood, Burnham. Messrs. Sander and Sons, St. Albans, displayed orchids well, and the group contained some excellent odontoglossums, the old Dendrobium velutinum, Renanthera Imschootianum, cattleyas, and the pretty Lælio-cattleya Ernesti. Messrs. Heath and Son, Cheltenham, had a small group of cypripediums. Dendrobium Ainsworthatum aureum—thus it was labelled—was shown by Mr. White, orchid grower to Sir Trevor Lawrence, Bart., Dorking; it is a yellow-flowered hybrid; Epi-cattleya Nebo (A.M.) was also shown. Mr. E. V. Low, Haywards Heath, showed several plants of Cymbidium Sanderæ, Cattleya Schroderæ, Dendrobium pallens, and Brasso-cattleya Digbyano-Schroderæ.

DAFFODIL COMMITTEE.

Messrs. Cartwright and Goodwin, Kidderminster, staged flowers of the newer daffodils, including examples of King Alfred, Lucifer, Citron, White Lady, Southern Star, Weardale Perfection, and Coreen. A collection of tulips in pots was arranged by Messrs. R. and G. Cuthbert, Southgate, Middlesex. The flowers were of good quality, and carried on stiff erect stems. Sir J. T. Lipton, Unique, Prince of Austria, Pottebakker White, Keizer Kroon, Mons. Tresor, and Vermilion Brilliant were represented.

Messrs. Barr and Sons, Covent Garden, displayed a number of charming daffodils, and they showed Lord Roberts, Weardale Perfection, Peter Barr, Cassandra, Janet Image, Argent, etc. The same firm had Lenten lilies and other early spring flowers in abundance. Mr. A. Watts, St. Asaph, showed a cross between Narcissus obvallaris and N. cyclamineus, and he also showed a Giant Blue primrose.

Daffodils were shown by Messrs. J. R. Pearson and Sons, Lowdham, Notts, who had a small collection that contained such varieties as Blackwell, Homer, Gipsy Queen, Scarlet Eye, Topaz, Victoria, etc. Messrs. R. Sydenham, Lim., Birmingham, had bulbs grown in moss fibre, and excellent cut blooms of Homespun, White Lady, Commodore, Glitter, Circlet, Incognita, and other good varieties. Messrs. R. H. Bath, Lim., Wisbech, had one table side filled with bulbs grown in moss fibre in ornamental bowls and pans.

VEGETABLE COMMITTEE.

This body apparently had an easy task, as, so far as we could ascertain, there was only one exhibit before it.

Hardy kales, useful and ornamental, were exhibited by Messrs. Sutton and Sons, Reading, and of special interest were the examples of Asparagus, Improved Hearting, A1, and Hardy Sprouting kales, all of which were staged in excellent condition.

BULB COMPETITION.

There was an excellent competition on this occasion for prizes provided by the Royal Dutch Bulb Growers' Society, Mr. R. Sydenham, and Messrs. R. P. Ker and Sons.

In the traders' section Messrs. R. and G. Cuthbert secured the Royal Dutch Bulb Growers' Society's gold medal for twenty pans of hyacinths, ten plants in each pan, and they won with a finely-grown set that included Captain Boyton, Lord Derby, City of Haarlem, Ivanhoe, etc.; also the gold medal for their extensive exhibit of hyacinths, arranged across the end of the hall. The spikes of Jacques, Ivanhoe, King Menelik, La Grandesse, and Captain Boyton were very fine.

First prize for eighteen hyacinths was won by Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, who had superb spikes of Jacques, City of Haarlem, Ivanhoe, King of the Blues and Captain Boyton; second prize fell to Mr. Jas. Gibson, gardener to the Duke of Portland, Welbeck Abbey, Worksop, for finely-developed examples; Mr. A. Lewis, gardener to T. Von Heyder, Esq., Stone House, Allerton, Liverpool, third. Very fine were the four pans of hyacinths shown by Mr. E. Beckett, V.M.H., and with which he gained the first prize in that class; the varieties were City of Haarlem, King of the Blues, La Grandesse, and La Victoire, and there were ten plants of each—a grand set. Mr. J. Gibson was a close second, and Mr. Prime was third.

The best dozen hyacinths were from Mr. H. Prime, gardener to the Marquis of Salisbury, Hatfield House, Hatfield; here again City of Haarlem, Ivanhoe, Le Victoire, and L'Innocence were splendid; there was a keen competition in this amateurs' class, and the other awards fell in order to A. Earle, Esq., Childwall Lodge, Wavertree, Liverpool, Mr. G. Dyke, gardener to C. Watney, Esq., Garston Manor, Watford; Mr. T. Hudson, gardener to W. G. Woodhouse, Esq., The [illegible], Childwall, Liverpool.

Mr. Howe, gardener to Lady Tate, Park Hill, Streatham, led for six pots of tulips in moss fibre, showing Rose Gris de Lin, Van der Neer, Vermilion Brilliant, Keizer Kroon, and Prince of Austria; Mrs. [illegible], Grange Road, Ealing, second. For six pots of daffodils, in moss fibre, Mr. W. Howe had an excellent first with Emperor, Frank Miles, Beauty, White Lady, Leonie, and [illegible]. Mr. Howe scored for six hyacinths in moss fibre, and Miss Michell, Oakfield, Cricklewood, was second.

Mr. Cryer, gardener to J. A. Kenrick, Esq., Berrow Court, Birmingham, was awarded first prize for a dozen pots of amaryllis; he won with splendidly-grown specimens of gorgeous varieties.

CERTIFICATES AND AWARDS.

First-Class Certificate.—To Phaio-calanthe Baron Schroder, from Baron Schroder (gardener, Mr. Ballantine), The Dell, Egham.

Award of Merit.—To Lælio-cattleya Goldfinch Westonbirt var., from Lieut.-Colonel Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury; to Cymbidium Low-grinum Rosslyn var., from H. T. Pitt, Esq., Rosslyn, Stamford Hill; to Epi-cattleya Nebo, from Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking; to Odontoglossum Cravenianum, from Messrs. Charlesworth and Co., Haywards Heath; to Fritillaria imperialis chitralensis, from Miss Watson, Finchampstead, Berks; to Saxifraga scardica obtusa, and to Shortia uniflora grandiflora, from Sir Everard Hambro (gardener, Mr. Grandfield), Hayes Place, Hayes; to tea rose Lady Hillingdon, from Messrs. Lowe and Shawyer, Uxbridge.

MEDALS.

Gold.—To Sir Everard Hambro, Hayes Place, Kent, for group of alpines.

Silver-Gilt Flora.—To Mr. L. R. Russell, Richmond, for forced flowering shrubs; to Messrs. J. Veitch and Sons, Chelsea, for hyacinths, lilacs, etc.

Silver-Gilt Banksian.—To Messrs. R. Wallace and Co., Colchester, for a rock garden display; to Messrs. W. Cutbush and Son, Highgate, for carnations and forced shrubs; to Messrs. Cartwright and Goodwin, Kidderminster, for daffodils; to Messrs. R. and G. Cuthbert, Southgate, for group of tulips in pots; to Messrs. Sutton and Sons, Reading, for hyacinths.

Silver Flora.—To Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. J. Cypher and Sons, Cheltenham, for orchids; to H. S. Goodson, Esq. (gardener, Mr. Day), for orchids; to Baron Schroder (gardener, Mr. Ballantine), for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to Mr. H. Burnett, Guernsey, for carnations; to Messrs. Jas. Carter and Co., High Holborn, for a spring garden display; to Mr. C. Engelmann, Saffron Walden, for carnations; to Mr. W. H. Page, Tangley Nurseries, Hampton, for carnations and liliums; to Messrs. Paul and Son, Cheshunt, for lilacs and pelargoniums; to Mr. G. Reuthe, Keston, for early shrubs and alpines; and to Messrs. Barr and Sons, Covent Garden, for daffodils.

Silver Banksian.—To Mr. A. W. Jensen, Lindfield, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Mr. E. V. Low, Haywards Heath, for orchids; to Mr. R. Sydenham, Lim., for daffodils; to Messrs. R. H. Bath, Lim., for daffodils and tulips in fibre; to Messrs. Stuart Low and Co., Enfield, for carnations, etc.; to Messrs. H. B. May and Sons, Edmonton, for ferns and clematis; and to Messrs. Barr and Sons, Covent Garden, for hardy plants.

Bronze Flora.—To Messrs. G. Mount and Sons, Canterbury, for roses; to Messrs. Wm. Paul and Sons, Waltham Cross, for camellias; to Messrs. T. S. Ware, Feltham, for hardy flowers; and to Messrs. R. Gill and Sons, Falmouth, for rhododendrons.

Bournemouth Gardeners' Association.

On March 1 a paper was read by Mr. Reeves on behalf of Miss C. Agnes Rooper, on "Some Experiments in Grafting by French and German Scientists." There was a good average attendance of members to listen to the paper written by Miss Rooper, who takes very keen interest in all matters appertaining to horticulture, and in this association in particular.

Mr. C. Pearce occupied the chair, and opened the discussion after the paper was read. Miss Rooper, in her paper, said the object of both savants was the same, namely, to try whether it would be possible to produce hybrids by grafting, and make their new qualities constant and distinctive. Up to this date they had not met with success. Both the French and the German gentlemen, said Miss Rooper, used herbaceous plants for their experiments because they could see the results quicker and more easily than by taking longer-lived plants.

The Frenchman, Monsieur Daniel, experimented first with plants on their own roots. He took a bean (Phaseolus vulgaris), sowed the seeds on a hotbed, in pots; the seventh day after the sowing, he grafted the resultant seedlings on each other; five days later he repotted them and grew them under the cloche system of cultivation, then gradually hardened them off until he placed them in their final situation. The result in comparison with plants from seeds sown at the same time and treated in the ordinary way under the same cultivation was, that the grafted plants, although they grew and flourished, were smaller in size than the others, and their leaves were fewer and paler in colour.

The next experiment was to graft a lettuce upon a salsify, which resulted in an improvement in the flavour of the lettuce, whilst on the other hand, its size was less than that of the normal lettuce. The operation was performed when the plants were but a few weeks old. Another curious graft with a good result with regard to flavour was by M. Daniel, who grafted a young shoot of the common hedge garlic upon a young cabbage; he cultivated the combined plant for two years; at the end of this time the peculiar onion-like smell of the hedge garlic had considerably diminished in strength, and had become combined with the smell from the cabbage, whilst the taste was a very pleasant one.

The results of the following grafts were, to change the shape of the plants. He grafted a Helianthus grandiflorus sulphureus on to a Helianthus tuberosus, a variety with red tubers. In comparing the tubers of the grafted plants with those of the normal ones they were found to differ considerably. The tubers were fewer in number, smaller, more regular, and they were attached to the stem above ground by some underground stalks which were thin and a few inches long. The colour of their skin was white in some of the tubers, pink in others, and in others again pink at the ends and white near the stem; while the normal ones were completely pink all over. A cauliflower was grafted on a turnip, the result being a feeble one. The cauliflower produced its head and the usual leaves surrounded it, but it was ill-shaped, and the root of the turnip was small in comparison with a normal one.

The theory of the German professor, Mr. Winkler, is, that to produce hybrids by grafting it is necessary to choose those plants which bud freely, and throw off side shoots easily, as poplars and willows do when pollarded, and for this reason, that the cultivator has greater power to regulate his grafts than in plants which are not so easily induced to throw up this kind of branch. Mr. Winkler took for his experiment a seedling of Solanum lycopersicum, which he grafted with Solanum nigrum. From this graft leaves were produced on the branches which were partly those of the tomato and partly those of S. nigrum. The fruits resembled those of the latter in form and size, but differed in being covered with white hairs, and the juice was of a lighter colour than in the normal fruit. Mr. Winkler experimented further by taking grafts from the grafts produced by this combined plant and producing varieties through them which all possessed distinctive qualities, although partaking of the nature of the original two plants, some having leaves like the tomato on one side of the stem, and like those of S. nigrum on the other; and some having leaves half like a tomato and half like those of S. nigrum.

Other instances of grafting were given, and hearty votes of thanks were accorded Miss Rooper, Mr. Reeves, and the chairman.

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British Gardeners' Association.

At the last meeting of this association, Mr. George Hemming in the chair, resolutions were passed condemning the action of the London County Council in appointing a soldier as chief officer of the Parks Department. A sub-committee was appointed to consider the adviseableness of convening a congress of gardeners, and invitations will be issued to leading members of the profession to take part in it. Fifty-three new members were elected, bringing the total up to 1,706.

FORTHCOMING ENGAGEMENTS.

MONDAY, March 14.—United Horticultural Benefit and Provident Society; Annual Meeting at the Royal Horticultural Hall, at 8 p.m.

WEDNESDAY, March 16.—Royal Society of Arts Meeting.

THURSDAY, March 17.—Torquay Spring Show.
Linnean Society Meeting.

TUESDAY, March 22.—Royal Horticultural Society; Narcissus Committee at 11.30; Fruit, Floral, and Orchid Committees at 12 o'clock; Masters' Lecture at 3 p.m. on "The Adaption of the Plant to the Soil," by Mr. A. D. Hall, M.A., F.R.S.; Scientific Committee at 4 o'clock.

WEDNESDAY, March 23.—Stour Valley Gardening Society's Exhibition of Vegetables at the Royal Horticultural Hall.
Great Jubilee Bulb Exhibition at Haarlem, to be opened by Prince Henry of the Netherlands; continues to March 31.

FRIDAY, March 25.—Good Friday.

MONDAY, March 28.—Easter Monday.

WEDNESDAY, March 30.—Royal Society of Arts Meeting.

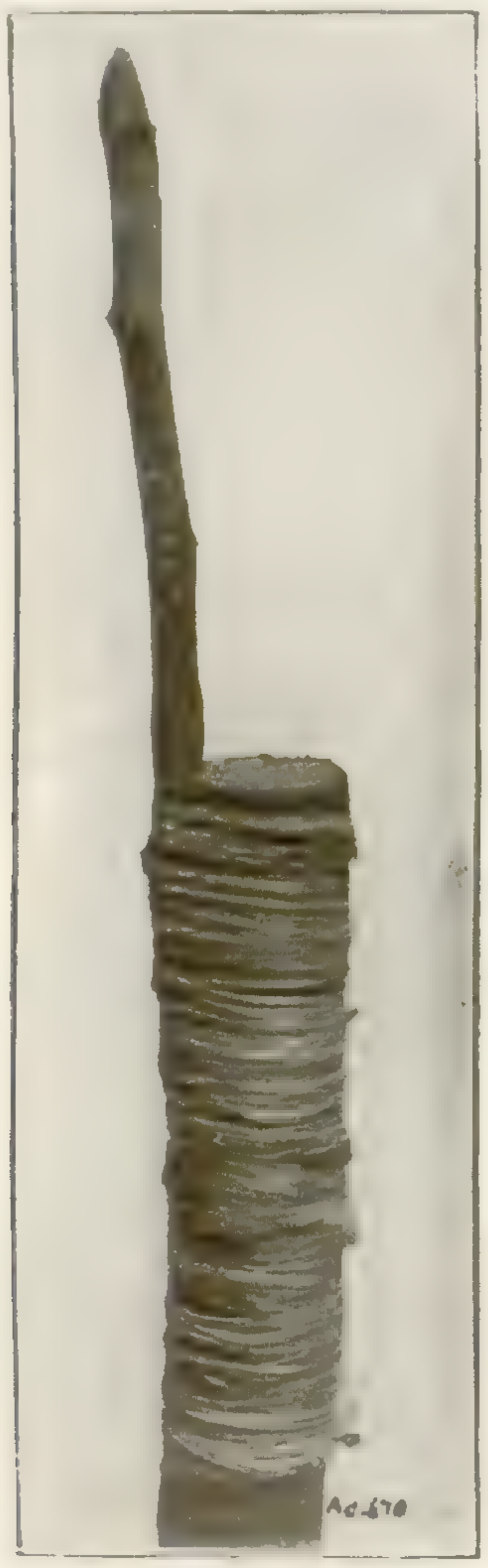
Prudential Assurance Company, Lim.—The sixty-first annual report for the year ending December 31, 1909, of this company is of the most satisfactory character, and affords further proof of the high estimation in which it is held. In the ordinary branch, the number of policies issued during the year was 76,087, assuring the sum of £7,044,603, and producing a new annual premium income of £415,015. The premiums received during the year were £4,710,107, being an increase of £93,770 over the year 1908. The claims of the year amounted to £3,018,981. The number of deaths was 8,375, and 17,629 endowment assurances matured. The number of policies in force at the end of the year was 882,804. In the industrial branch, the premiums received during the year were £7,171,770, being an increase of £246,015. The claims of the year amounted to £2,877,978, including £176,401 bonus additions. The number of claims and surrenders, including 4,545 endowment assurances matured, was 382,233. The number of free policies granted during the year to those policyholders of five years standing and upwards who desired to discontinue their payments, was 151,865, the number in force being 1,506,408. The number of free policies which became claims during the year was 41,386. The total number of policies in force at the end of the year was 18,375,229; their average duration exceeds eleven and a-half years. The assets of the company, in both branches, as shown in the balance-sheet, after deducting the amount written off securities, are £74,201,701, being an increase of £2,242,842 over those of 1908.

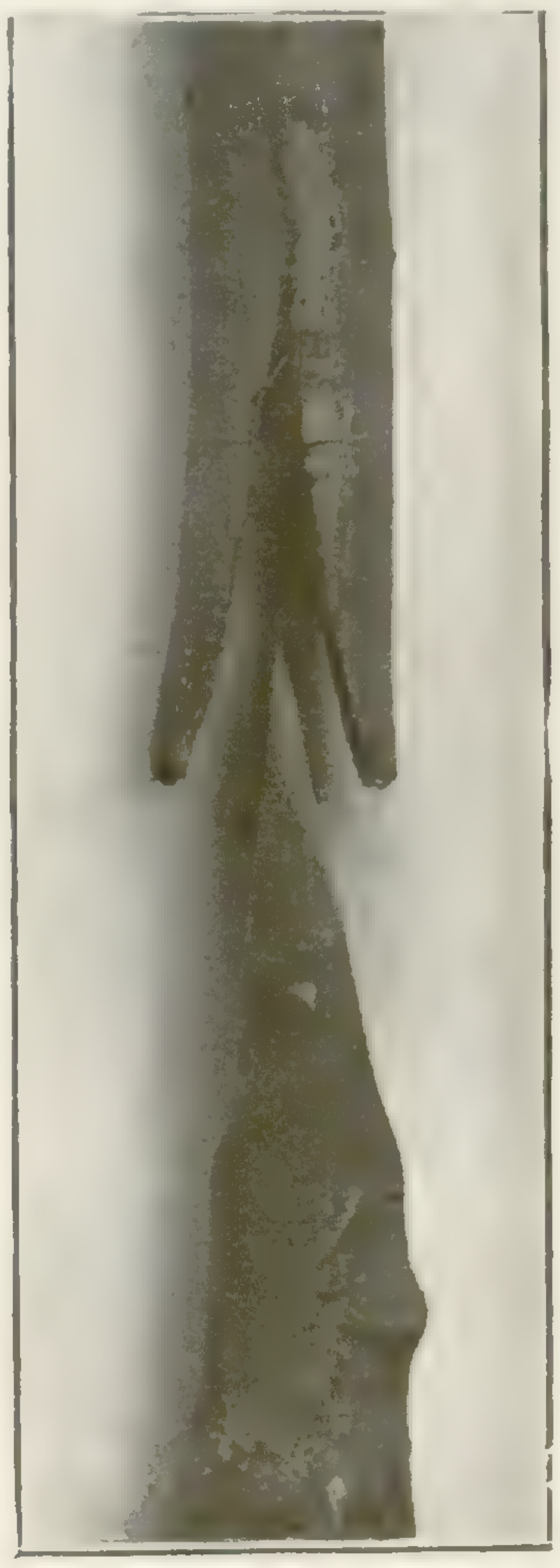
ANSWERS TO CORRESPONDENTS.

WHITE SPECKS ON VINES.—E. B., Manor Park: The specks are probably due to sap exudation, but we are examining them further, and will report if there are developments.

UNSATISFACTORY VINE LEAVES.—H. J. W., Larbert: The trouble is a purely local one, and, much as we should like to, we cannot help you at this distance. Perhaps the insecticide used was stronger when used for the lower part of the vines than for the upper part. The hot-water pipes may have been treated with something that has proved unpleasant to the vine growths near them. Questions of light and moisture may also have some bearing upon the unsatisfactory state of the few lower growths.

CROWN AND SADDLE GRAFTING.—M. P. N., Newark: Grafting is one of the oldest, and also one of the most popular, of methods of propagating fruit trees. It is also a fine means of renovating an orchard by grafting good varieties of apples on to healthy stocks of worthless varieties. Clematis, lilacs, and several ornamental shrubs are propagated by grafting, and this method of increase is largely adopted in the multiplication of new roses early in the year. The vogues most popular with cultivators are crown grafting, saddle grafting, and tongue grafting, and they are undoubtedly the best. In crown grafting, the portion of the stock in which the scion or graft is to be inserted is cut off square at the top, and a triangular cut, three inches or so in length, is cut in the side. The lower part of the scion is cut to fit the stock, and a slight nick is made at the top of the cut to allow the scion to project slightly over it. This method is suitable for large or small stocks, which may be seedling apples or crabs with a single stem on the branches of trees of considerable age. Saddle grafting is only suitable for small stocks, not greatly exceeding in size that of the scion. In carrying out this method, the top of the stock is so cut on each side to a depth of three inches as to form a wedge, and the base of the scion is cut to fit it. In tongue grafting the stock is cut to fit much the same as with crown grafting, and a slice is cut in a sloping direction, commencing about three inches from the top. About an inch from the top a slit is made to receive the tongue of the scion. The latter is shaped at the base in much the same manner as the top of the stock, and a notch is made to form a tongue, which is inserted in the slit on the stock. In fixing the scion must fit exactly on one side. Grafting out of doors is best done in March, when the sap is rising, and the scions should have been cut a month or so previous, tied into small bundles, with the names attached, and inserted in a border on the north side of a wall. The scion must be tied in securely, and the tying material and the top of the stock be covered with a thick layer of grafting wax or a prepared clay mixture.


CROWN GRAFTING OF FRUIT TREE.


SADDLE GRAFTING OF FRUIT TREE.

RED-LEADING SWEET PEA SEEDS.—G. R. D., Bedford: For outdoor sowing it is often desirable to red-lead sweet pea and also culinary pea seeds to preserve them from mice and birds. You should hurry up with the sweet peas, and you cannot do better than secure a copy of the third edition of "Sweet Peas and Their Cultivation," 1s. 2d., or 1s. 8d. (cloth), post free from THE GARDENERS' MAGAZINE office, 148 and 149, Aldersgate Street, E.C. The seeds must be moistened, and a shallow tin lid of a box or canister is a specially suitable implement for moistening the seeds in. Use clean water, and leave the seeds in the water for half an hour, then pour off all the superfluous water and dust the moist seeds with dry powdered red lead, taking great care not to inhale the powder, as it is extremely poisonous. With a circular motion roll the seeds round in the tin lid until each seed is covered with a thin coating of red lead, then place the seeds on a sunny shelf in a greenhouse to dry, and as soon as dry enough to handle without removing the lead, sow them thinly where they are to grow and produce flowers.

GRUBS IN FERNS.—H. R., Yarmouth: The grubs are those of the Vine Weevil (Otiorhynchus sulcatus), a pest that is capable of doing a great deal of harm to vines, and to the roots of ferns, asparagus, gloxinias, and many other plants. The eggs and grubs are often imported in leaf-soil, hence it is always a good plan to sterilise such material when there is any doubt as to infestation. If the plants are all fairly well established, you may stand the pots in a tank of tepid water, the latter reaching well above the rim of the pots, for twenty-four hours. The grubs will be suffocated by this means, and if the plants are laid on their sides to drain, and carefully treated in the matter of watering, no harm will come to them. If the plants need repotting, then deal with them at once, taking great care to free them from the old soil and to burn or deeply bury such soil and the grubs in it. You should deal with the matter at once, as the grubs are so far advanced that they will ere long assume the beetle or weevil form, and be able to move about freely.

BLACKENED DAHLIA CUTTINGS.—J. C., Tunbridge Wells: The two cuttings sent were so badly smashed in the post that it was quite impossible to tell what they were or what was the cause of the trouble to which you refer. It is a great mistake to put specimens for inspection or for naming between the folded sheets of an ordinary letter, and send them thus through the post without any kind of protection. If you will send us one or two cuttings, and a rooted cutting, showing the blackening, pack them in a little tin or wooden box, and direct them to the Editor, Endsleigh, Priory Park, Kew, Surrey, we will do our best to discover the cause and find a remedy for the mischief.

NAMES OF PLANTS.

H. J. W., Larbert.—Carex brunnea variegata.

S. E., Hitchin.—1, Pteris semi-pinnata; 2, Nephrodium lepidum.

A. F., Hunstanton.—1, Abies Douglasi; 2, Thuia Lobbi; 3, Coprosma Baueri variegata.

R. Y., Torquay.—1, Cornus mas; 2, Iris stylosa; 3, I. histrioides; 4, Scilla siberica.

C. R. G., Effingham.—1, Primula farinosa; 2, a good, deep-coloured P. obconica; 3, Odontoglossum crispum, a very poor variety.

K. C. F., Bridgewater.—1, Crowea angustifolia; 2, Boronia megastigma; 3, Acacia dealbata; 4, Sparmannia africana; 5, Odontoglossum triumphans; 6, Cypripedium Euryades.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1910. FEBRUARY 27 TO MARCH 5.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Feb. 27—Sunday	7 42	39	36	45	35
„ 28—Monday	—	40	39	46	31
Mar. 1—Tuesday	9 36	37	35	48	33
„ 2—Wednesday	3 12	45	43	51	39
„ 3—Thursday	9 42	44	40	50	35
„ 4—Friday	8 42	42	40	51	33
„ 5—Saturday	10 0	46	42	56	33
Means	(total) 48 54	42	39	49	34

DATE. 1910. FEBRUARY 27 TO MARCH 5.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Feb. 27—Sunday	0.01	40	42	43	30
„ 28—Monday	0.11	39	42	43	24
Mar. 1—Tuesday	—	39	42	43	35
„ 2—Wednesday	—	40	42	43	28
„ 3—Thursday	—	40	42	43	27
„ 4—Friday	—	40	42	43	26
„ 5—Saturday	0.01	40	42	43	
Means	(total) 0.13	40	42	43	28

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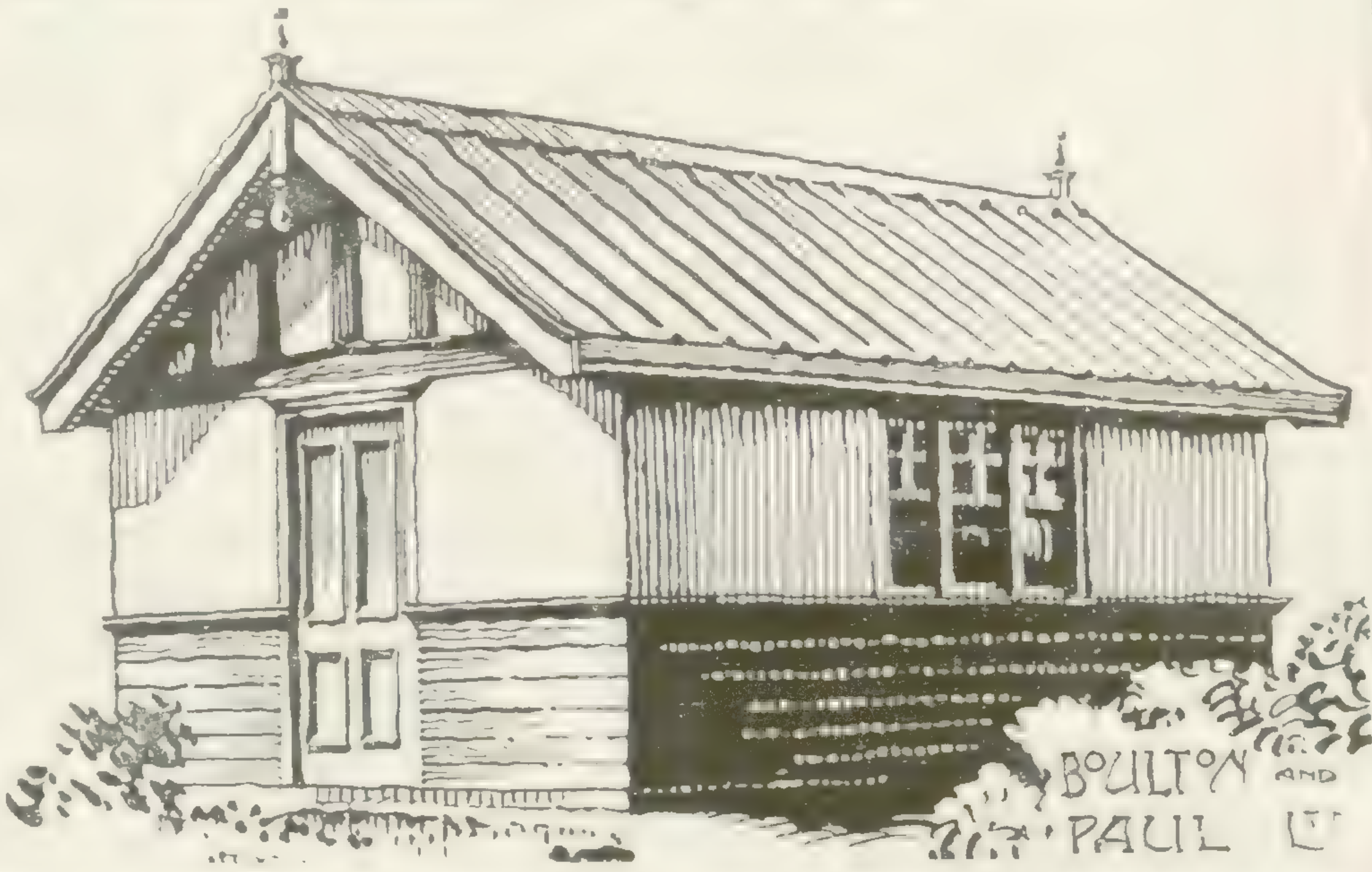

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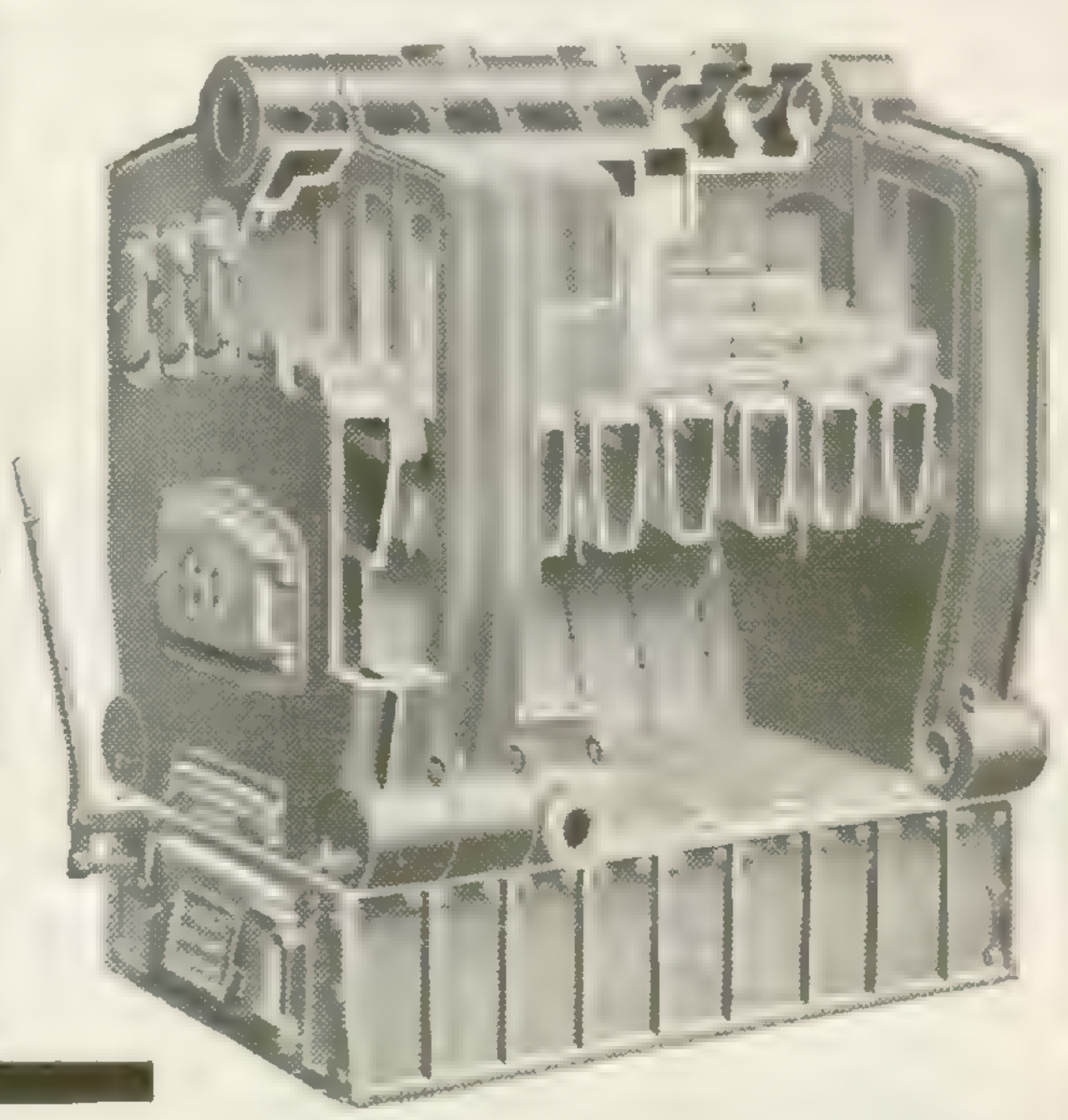

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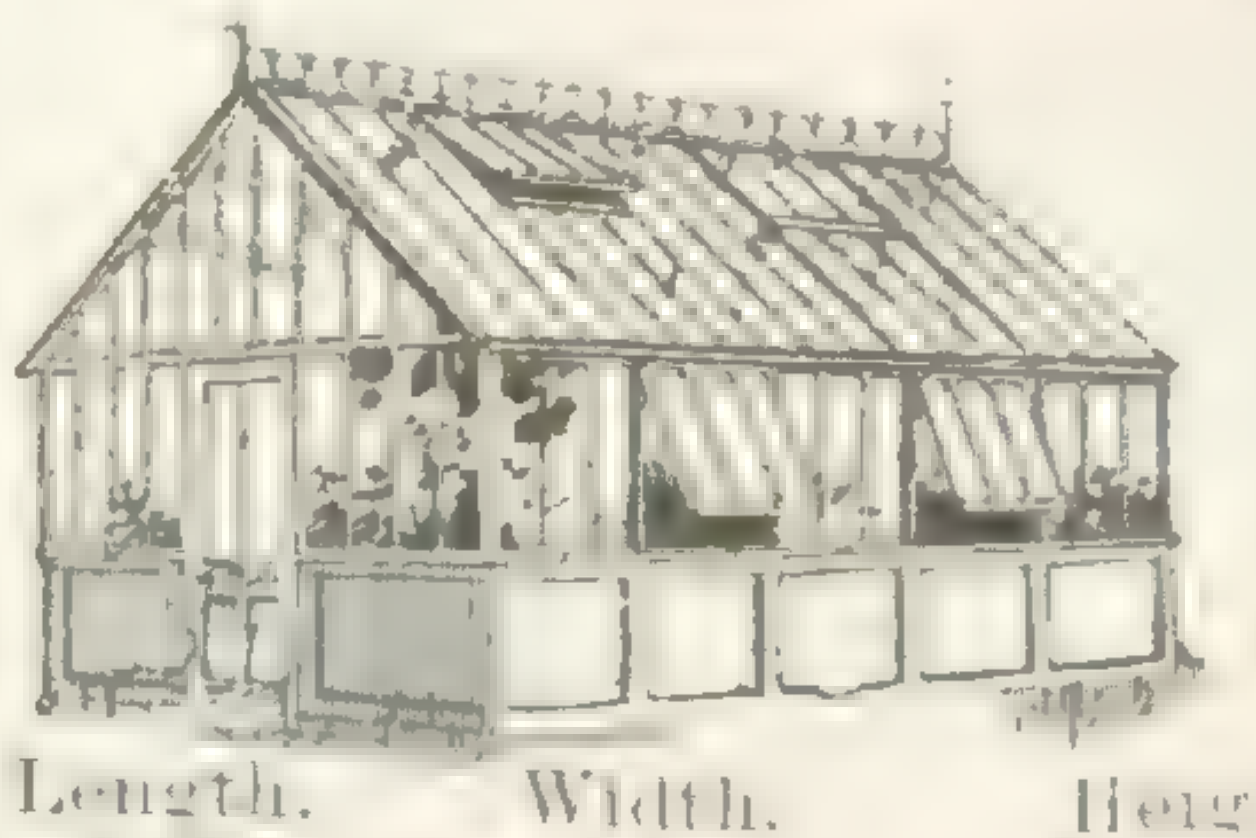

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12 ft.	8 ft.	8 ft.	£7 0 0

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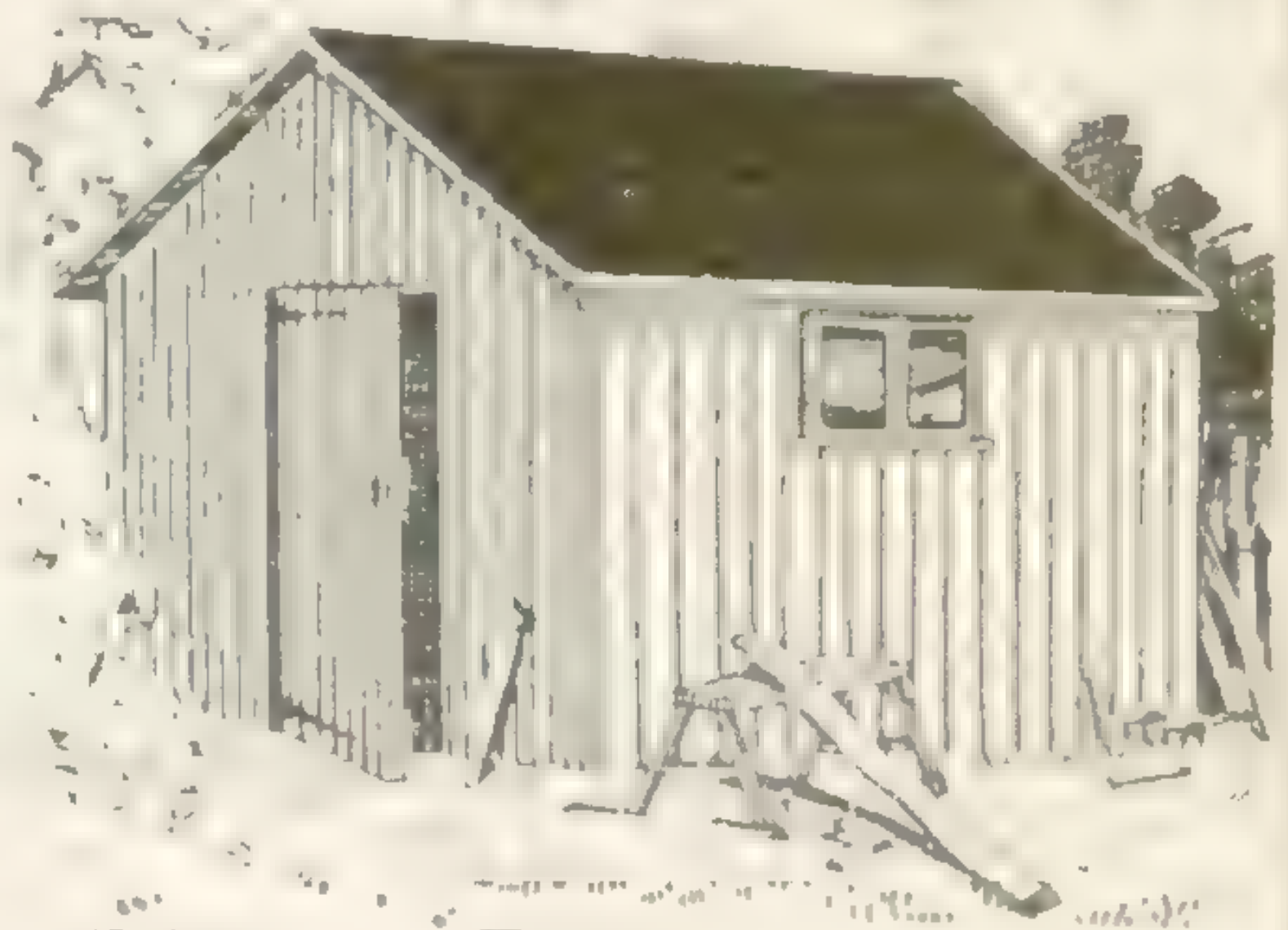

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9 ft.	8 ft.	8 ft. 6 in.	£3 6 0
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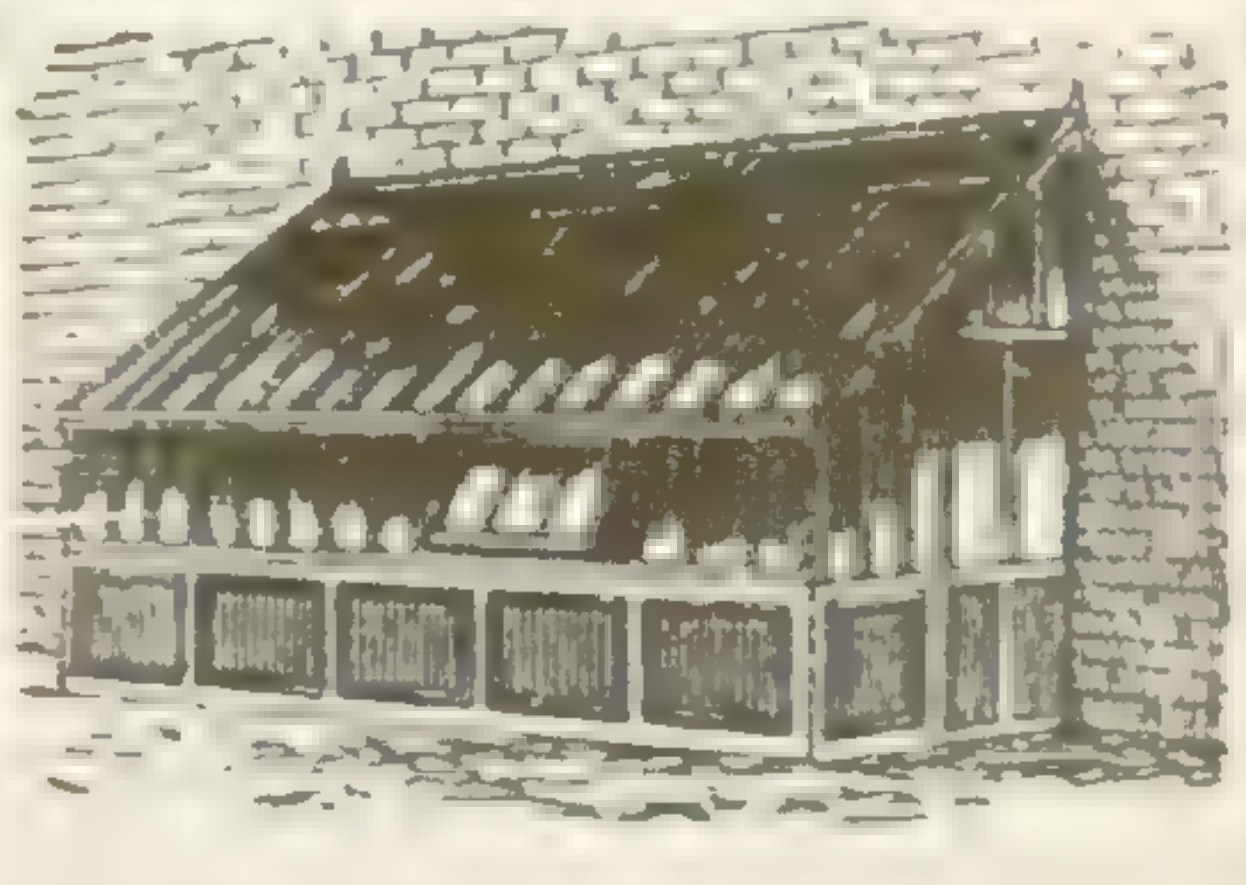

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By T. W. Sanders, F.L.S. (W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.) Price 1s. net, by post 1s. 2d.; cloth 1s. 6d., by post 1s. 8d.

This addition to the literature of the mushroom, and, indeed, other edible fungi has, we learn from the preface, been written to meet the requirements of amateur gardeners, who need guidance as to the various methods of growing mushrooms for home consumption. Hence, there are chapters on mushroom spawn, the preparation of beds, indoor and outdoor culture, the production of mushrooms in cellars and greenhouses, and in these we find all the details essential to success stated concisely and with remarkable clearness. There is also much information on the culture of mushrooms by various simple and somewhat unconventional methods, and on various other points of interest associated with mushrooms. The several pests that hinder the grower in his endeavour to obtain abundant supplies receive attention, and the best methods of combating them are described. Of special interest is the chapter on the cooking of mushrooms. This, however, is not less useful than interesting as the recipes are remarkably good. There is a chapter on edible fungi, in which numerous species other than the Common Mushroom (Agaricus campestris) are described. We are glad to find that the author states in the first paragraph, "It is hardly safe for anyone lacking an intimate knowledge of mycology, and especially familiarity with the genera and species, to gather and eat them." It is certainly not safe, for some that are of good flavour and not harmful when quite young, give very unpleasant, if not dangerous results when somewhat advanced in development.

THE HORTICULTURAL DIRECTORY FOR 1910.

("Journal of Horticulture" and "Poultry" Office, 12, Mitre Court Chambers, Fleet Street, London). Price 1s

This handy book of reference is so well known and regarded with so much favour that it would be superfluous to go much beyond directing attention to the fact that the edition for the current year is published, and is fully equal in merit to the issues of previous years. As usual, the work contains a directory of the London and provincial nurserymen and seedsmen, a list of home and Colonial botanical gardens, a list of fruit and flower salesmen, and a list of horticultural builders, and a directory of the gardeners in the United Kingdom. The last-named forms the principal feature of the work, and its importance will be fully appreciated when we state that it occupies 365 pages.

CULTURE OF THE CHRYSANTHEMUM.

By W. Wells (W. Wells and Co., Merstham, Surrey). Price 1s. 6d.

We are not quite certain when the first edition of Mr. Wells' book was issued, or how many editions have been published, but we are quite clear with regard to the high degree of popularity it has enjoyed from the first, and to its value as a guide to those anxious to obtain a leading position among the more successful of the cultivators. This edition is the fiftieth thousand, and a better proof could not be desired of the estimation in which it is held by those who devote attention to chrysanthemums. Mr. Wells, in the issue of this edition, has fully appreciated the popularity the book has enjoyed, and with a view to even further enhance its usefulness has subjected the contents to a thorough revision, and has added several new chapters. Especially interesting is the author's account of his trip to the United States in November last, for he visited many of the leading shows, and not a few of the principal growers and raisers, and expresses his views freely with regard to what he saw.

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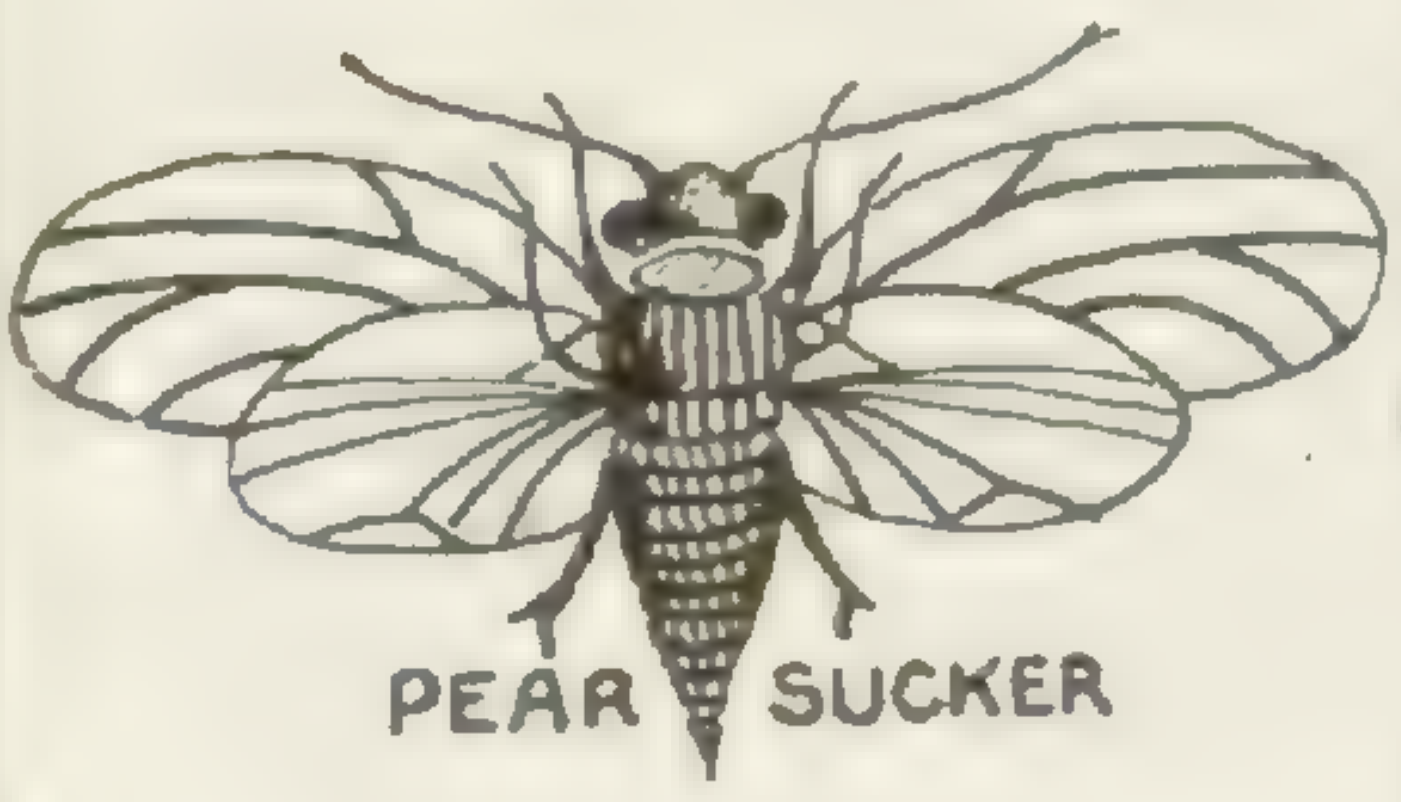

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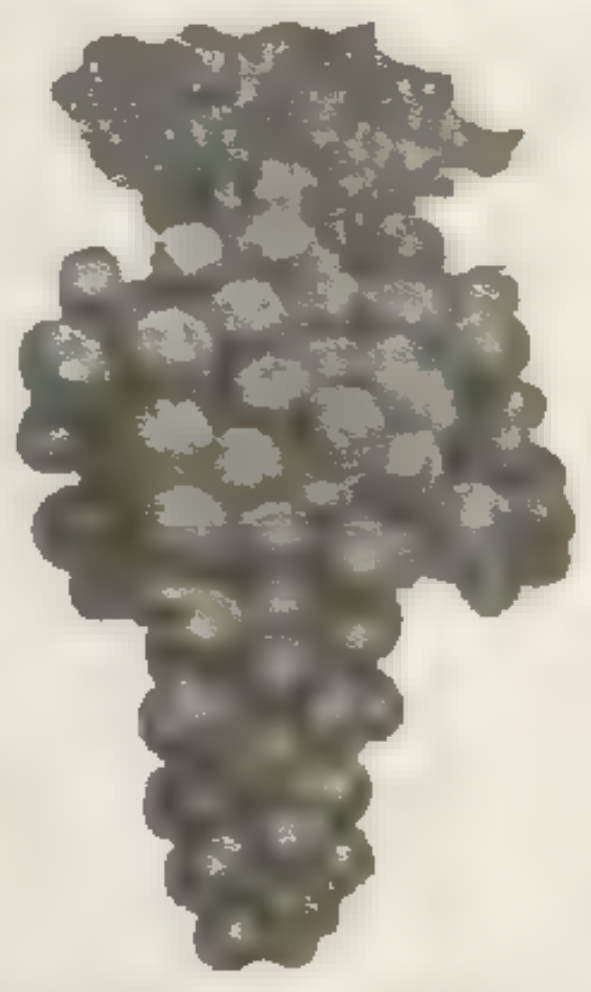

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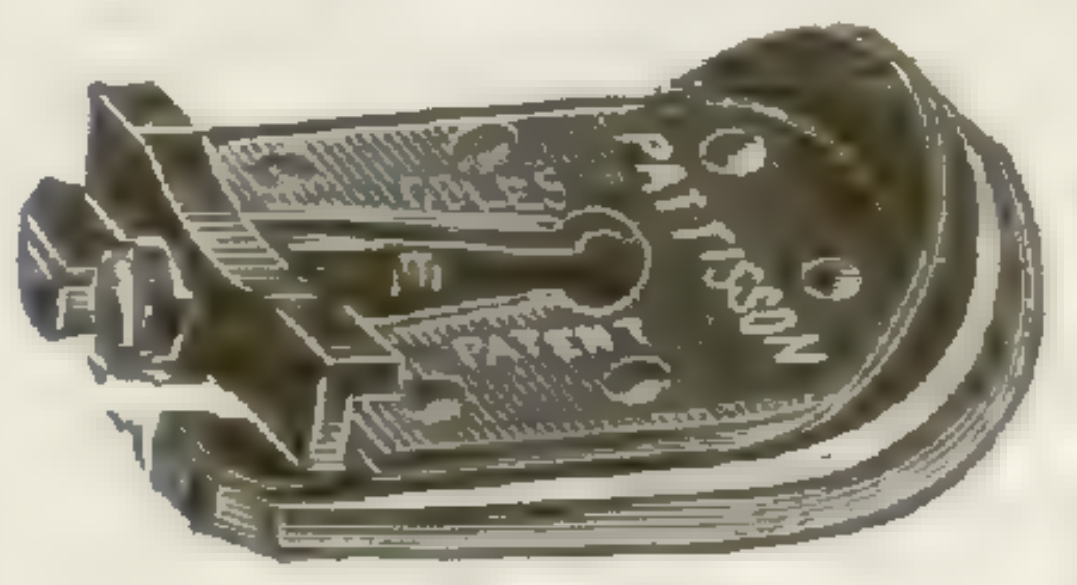

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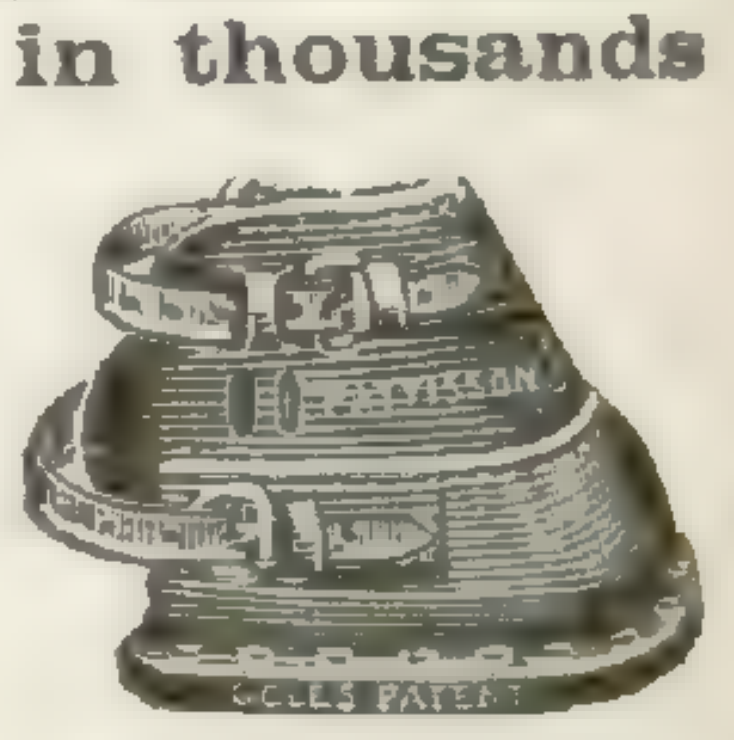

Fig. 2.

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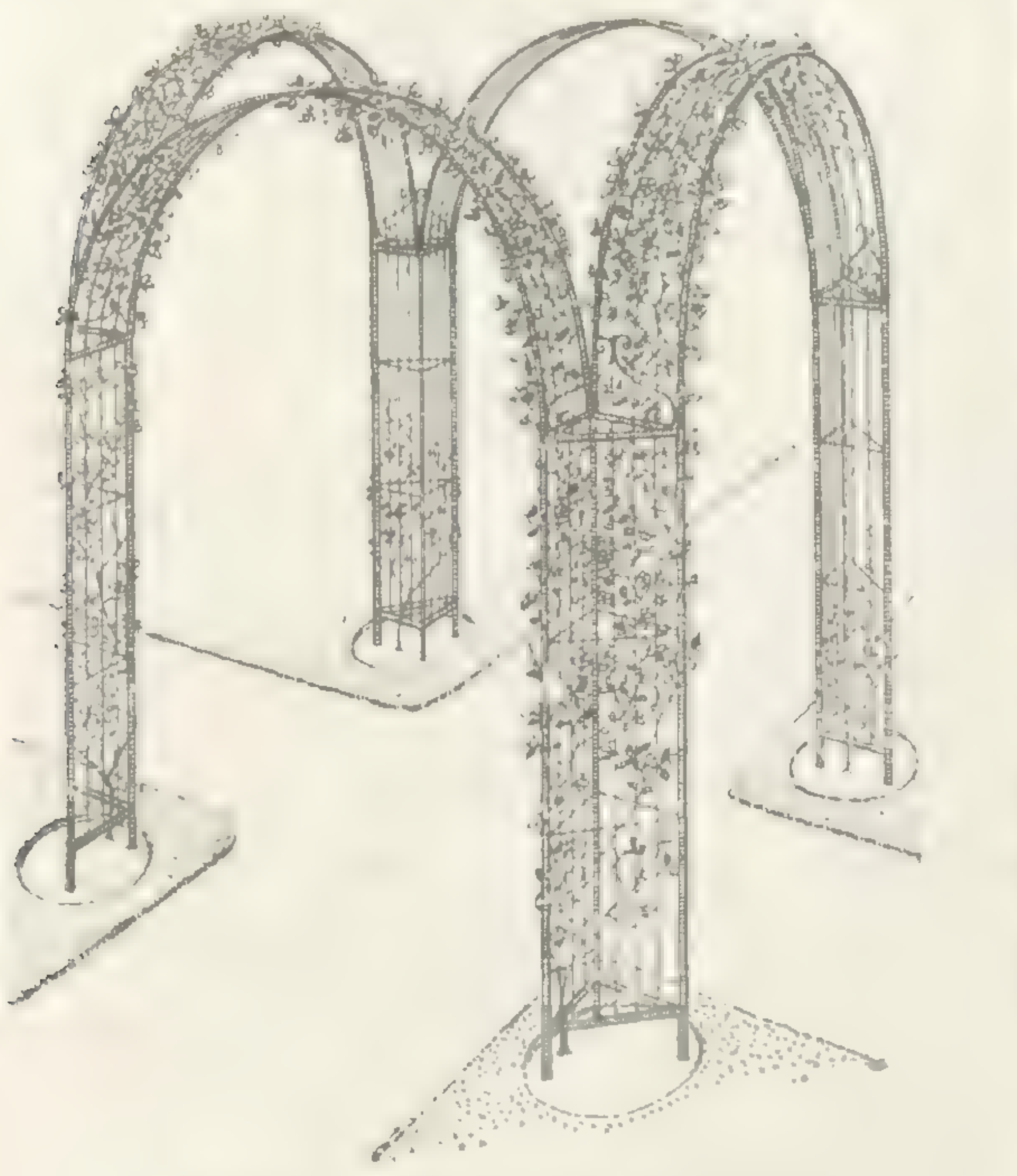

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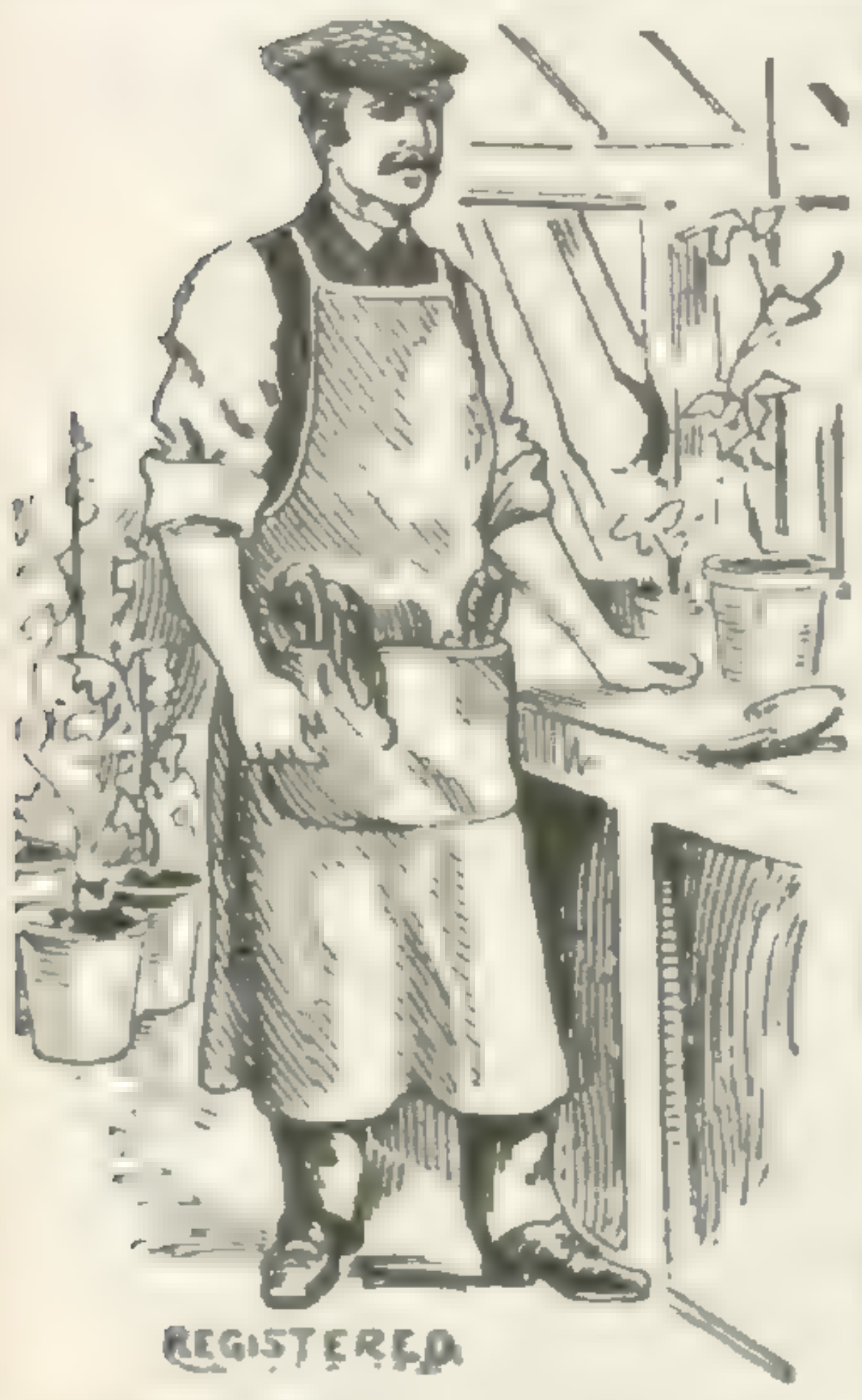

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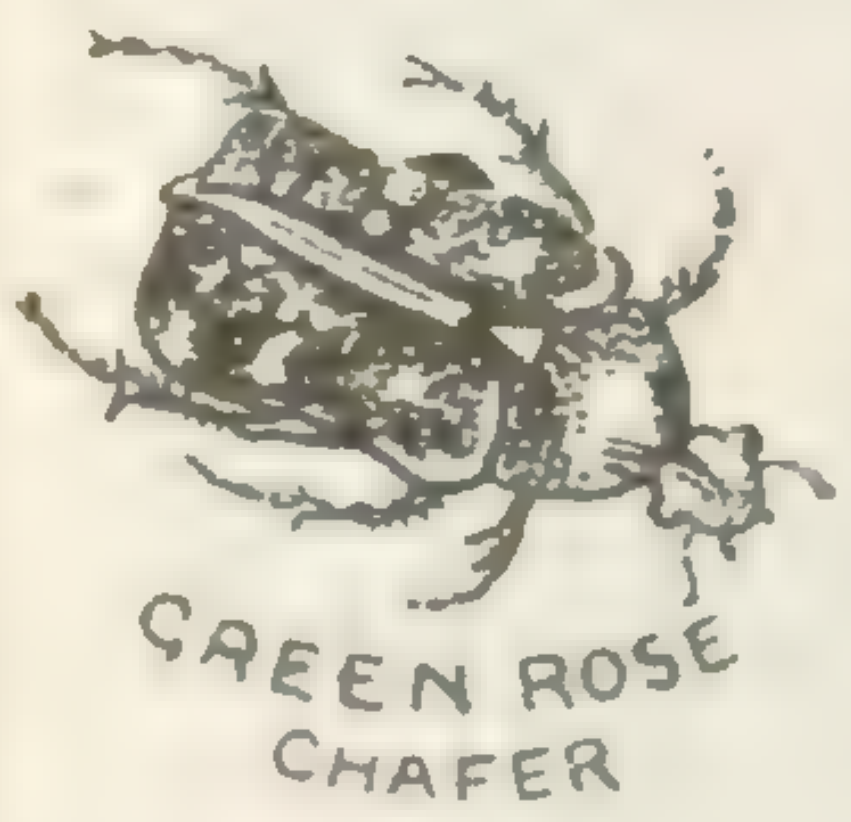

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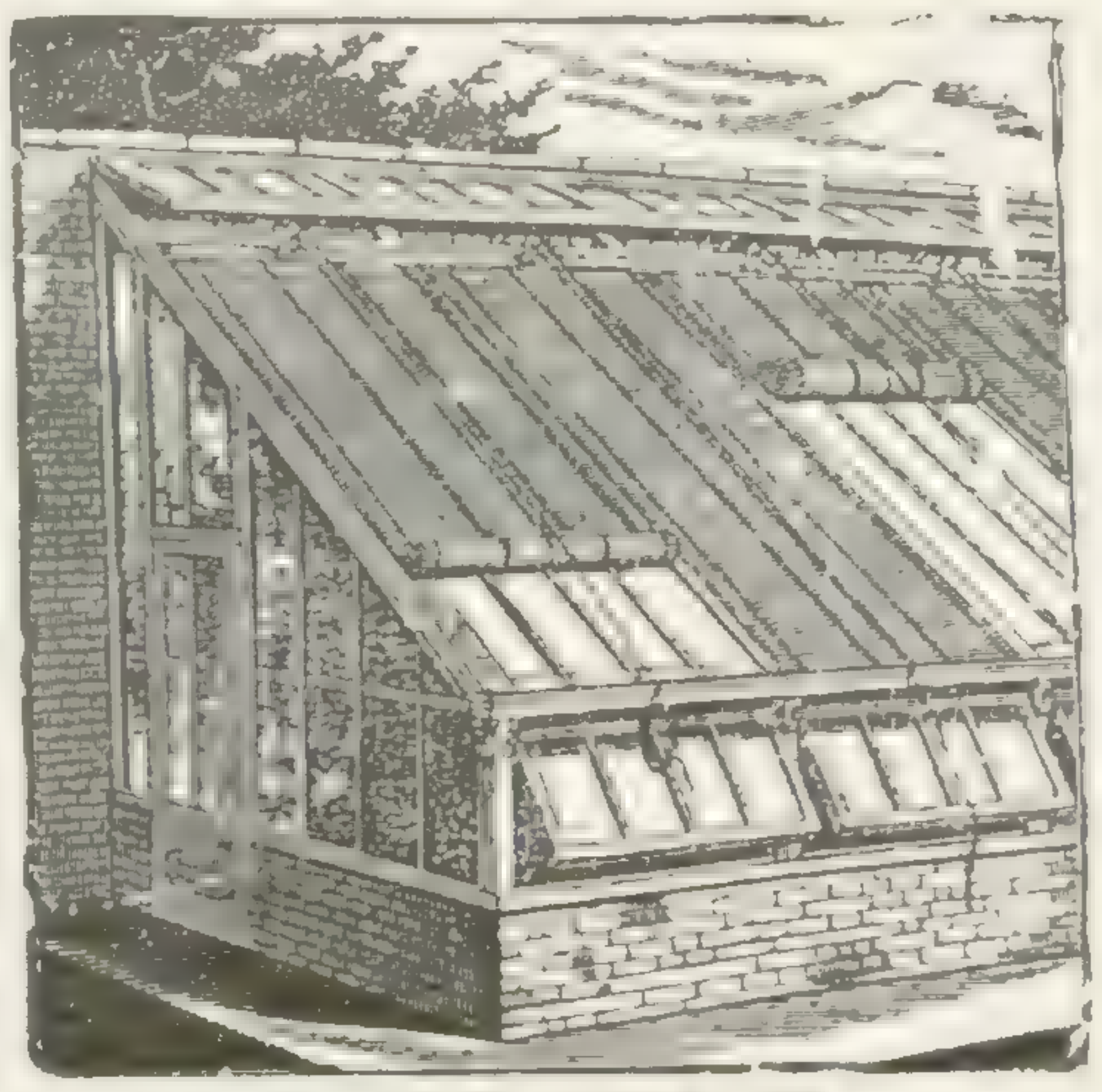

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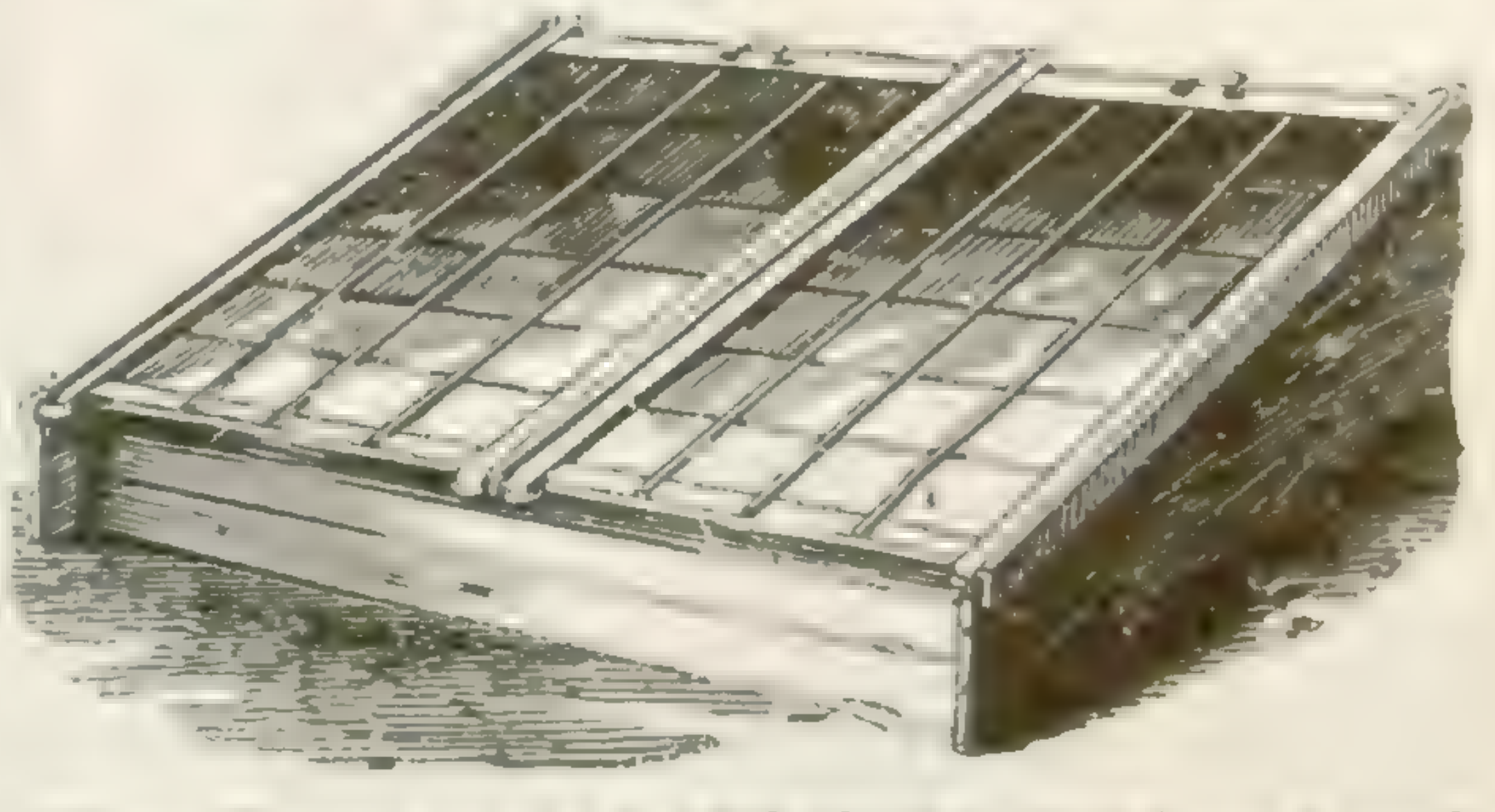

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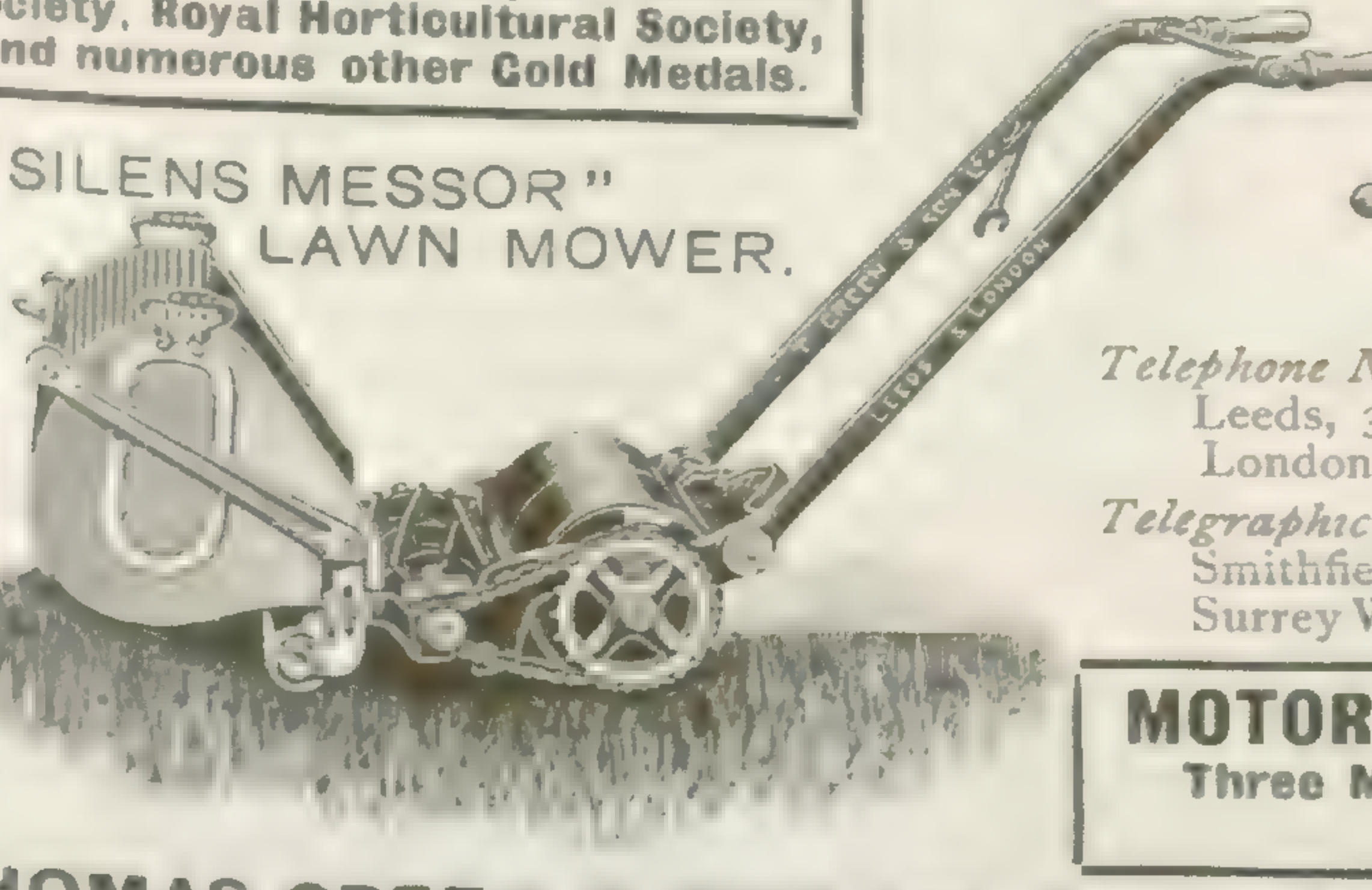

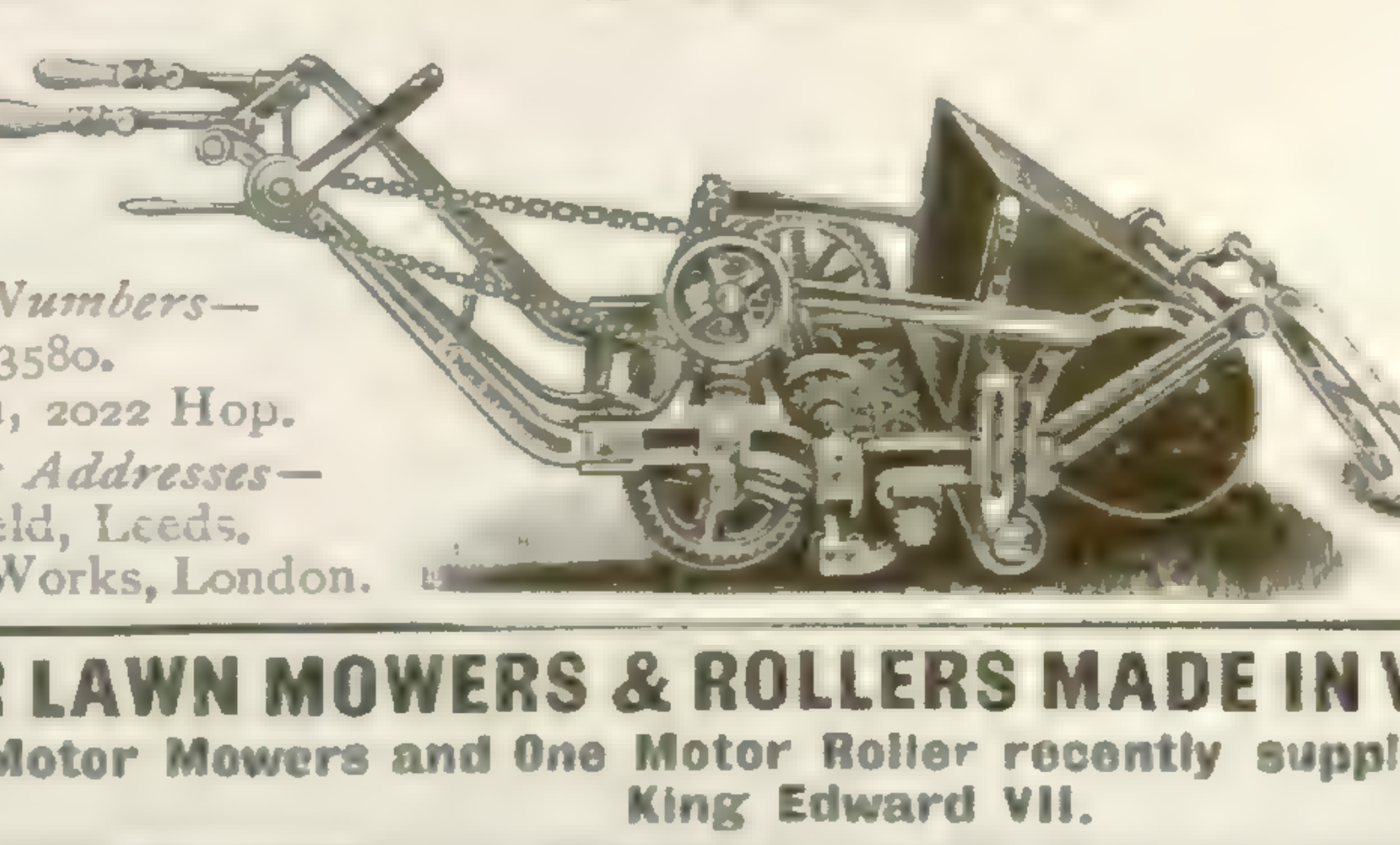

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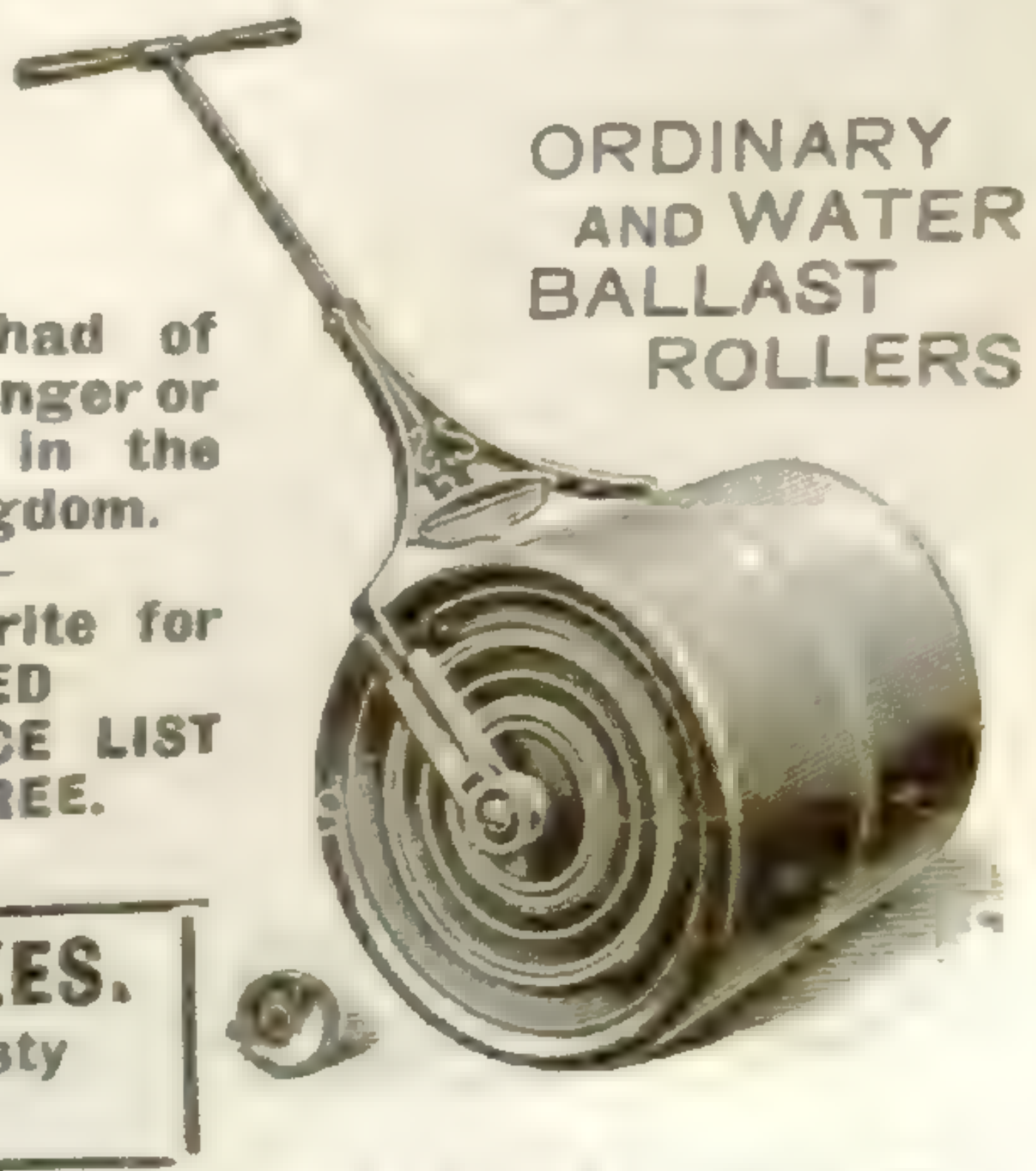

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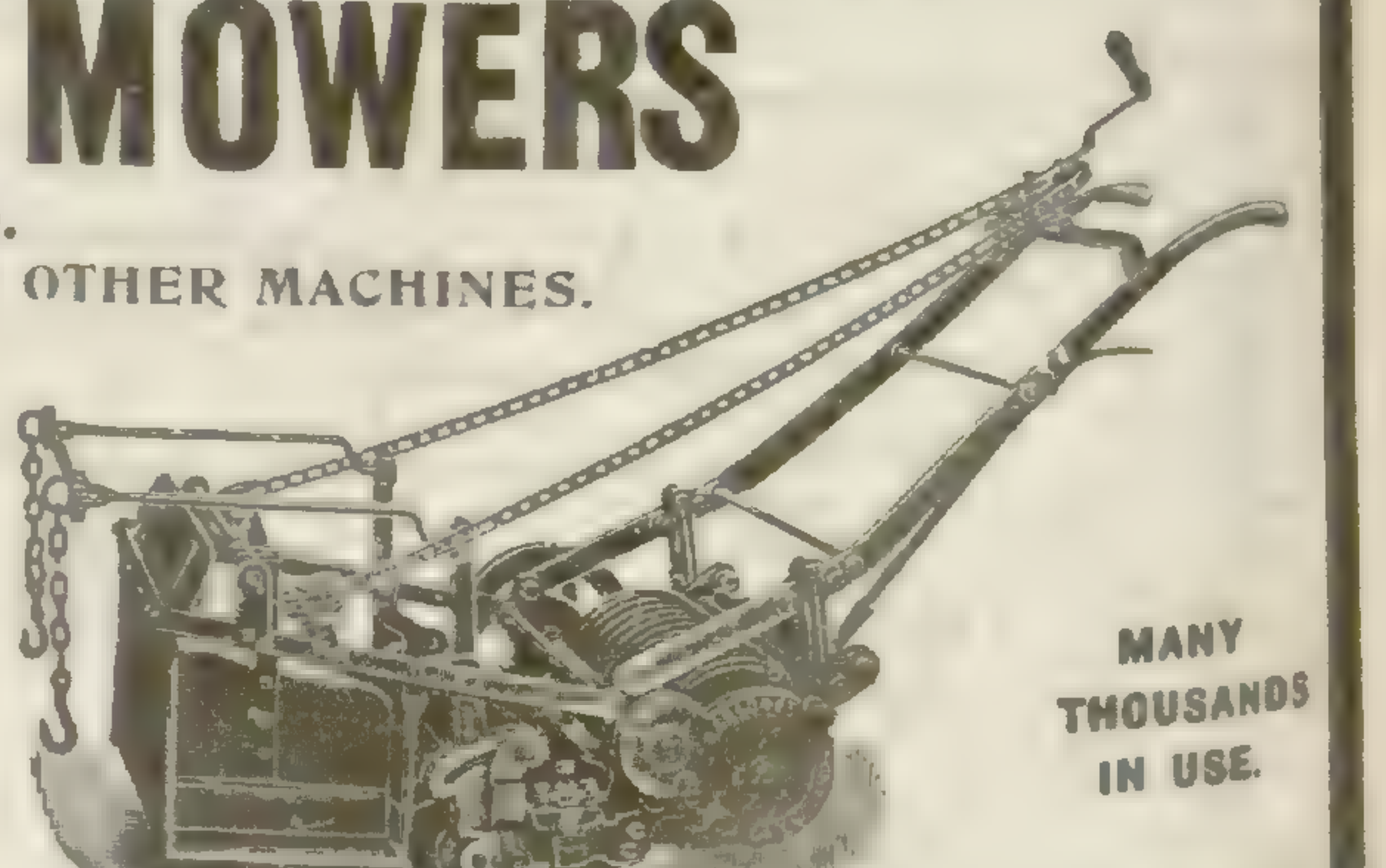

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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

CAPT. GREENWOOD will be pleased to recommend good Man as HEAD GARDENER, where two or more kept; life experience in good establishments; single; age 28. J. MURDOCK, Swarcliffe Hall, Birstwith, Leeds.

GARDENER (Head Working, where several are kept); life experience in all branches, Inside and Out; well up in fruit, flowers and vegetables; highest references; capable, trustworthy, and excellent manager; married when suited: age 28. HEXTALL, Stoke Road, Pebham, Surrey.

GARDENER (Head Working or good Single-handed); 15 years' experience in fruit, flowers, vegetables, peaches; Inside and Out; leaving through death; married; age 30; two children; excellent characters. HEAD GARDENER, Wood Hall, Shenley, Herts.

GARDENER (Head). — Advertiser seeks RE-ENGAGEMENT in first-class establishment, where several are employed; life experience. and thoroughly practical in all branches; five years as head in last situation; can be strongly recommended. Apply DUNKLEY, The Gardens. Mill House, Bourne End, Bucks.

GARDENER (Head of two, or Single-handed), good all-round experience with vines, cucumbers, tomatoes, fruit, flowers, lawns, and vegetables; excellent references; age 26; married when suited. P. PERRY, 27, Berkeley, Road, Stamford Hill.

GARDENER (Head Working, where one or two are kept); life experience in good establishments, Inside and Out; thorough knowledge of orchids; good character; life abstainer; married, age 29. W. STEVENS, Aston Cottages, Henley-on-Thames.

GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

GARDENER (Head Working), age 50; single; thoroughly understands the cultivation of first-class fruits, flowers, and vegetables, and the general routine of a well-kept garden. SMITH, Somerleyton Green, Lowestoft.

GARDENER (Head Working) desires Re-engagement; highly recommended by the Baron de Tuyll; thoroughly experienced in the general routine of good establishments; married, no family. E. GIBSON, 15, Victoria Street, Englefield Green, Surrey.

GARDENER (Head Working, where some others are kept); life experience, all branches, Inside and Out; used to the management of large kitchen garden and pleasure grounds, and general requirements of a place, including the management of bees and poultry; excellent testimonials; married; aged 39. T. BEERS, Thornton Hall, Pickering, Yorks.

GARDENER (Head Working), life experience Inside and Out, in good establishment; vines, flowers, vegetables, hard fruit, stove and greenhouse plants; capable and trustworthy; good references; married; no family; age 39. R. GRIFFITHS, 8, Pitt Road, Farnboro', Kent.

GARDENER (Head Working); age 30; practical man all branches, seeks Situation as above; highest references as to character and abilities. J. HEARN, Grendon Underwood, Aylesbury, Bucks.

GARDENER (Head Working), experienced in the cultivation of Fruit, Plants, Flowers under Glass, also flower and kitchen gardens, hardy fruit forcing, etc.; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working). — Gardener's Son seeks SITUATION where two or three are kept; life experience, including 5½ years at Londesborough Park and over two years in present situation as Foreman; age 27; good references. HODGSON, Kirklees Gardens, Brighouse.

GARDENER (Head Working).—Mr. G. ELLIOTT, Gardener to J. M. Courage, Esq., Derry's Wood, Wonersh, can with every confidence recommend T. VOLLER to any Lady or Gentleman who requires a thorough efficient Gardener: four years as Foreman in present situation.

GENTLEMAN highly recommends his GARDENER (Head Working); life experience; excellent characters; left owing to changes; married; age 40; no family. ALFRED PETCHEY, Blythwood, Stansted. Essex.

W. SCRIMGEOUR, Esq., wishes to highly recommend his HEAD WORKING GARDENER, age 38; life experience in all branches of gardening; 11 years as Head; married; life abstainer. MARTIN, 39. West Hill, Highgate, N.

GARDENER (Head or Single-handed), life experience in all branches, capable and trustworthy; excellent references from past and present employers; age 27; married when suited. W. BEEDLE, The Gardens, Stargroves, Newbury, Berks.

GARDENER (Single-handed, or where another is kept); 9 years at present situation; married, one child; good reference. Apply J. BROWN, Pinner Wood, Pinner, Middlesex.

GARDENER (Single-handed), married.—Gentleman recommends E. COOK as above; hardworking, willing, and thoroughly reliable; life experience; understands electric light plant. Address 4, Warman's Cottages, Mill Hill, N.W.

MR. J. DOUGLAS, V.M.H., can highly recommend W. MUTTER to any Lady or Gentleman requiring a Head or Single-handed Gardener; 15 years' experience Inside and Out; married; aged 28. Address Elm Road, Leatherhead.

GARDENER (Single-handed or Head of two or three); life experience Inside and Out; abstainer; age 32; married when suited; disengaged. GOLBY, Buckland, Betchworth, Surrey.

GARDENER (good Single-handed or where another is kept); life experience Inside and Out; good references; married; age 30. S. COOK, 9, High Street, Barkway, Royston, Herts.

GARDENER (good Single-handed, with help); good all-round Man, in all branches, Inside and Out; would take moderate wage for a comfortable place; middle-aged; married; excellent testimonials from last and previous employers. F. OSBORNE, 48, Bradshaw Road, Watford.

GARDENER (Single-handed), good all-round, understands cows; can be highly recommended from present employer; over five years; married, no family. T. GARRINGE, Larne Villa, Lindfield, Sussex.

GARDENER (Single-handed or otherwise), age 25; single; 11 years' experience, Inside and Out; good references. A. RANDALL, 40, Victoria Place, East Street, Epsom.

GARDENER (Second), age 29; life experience in first-class establishments; well versed Inside and Out; excellent references; married when suited. PRITCHARD, 5, Southbourne Terrace, Emsworth, Sussex.

GARDENER (Second or Single-handed); life experience; age 24; good reference; total abstainer. W. MANFIELD, The Gardens, Burgate. Godalming, Surrey.

GARDENER (Single-handed or Second).—JOHN CARTER, gardener to Sir Walter Greene, Bart., Nether Hall, Bury St. Edmunds, highly recommends his Foreman as a thorough experienced Man, Inside and Out, growing and forcing fruit, flowers, and vegetables; married; age 29; no family. SIMS, Junction Road, Cowley, Oxford.

MANAGER or FOREMAN; Carnations (Expert), Roses, Chrysanthemums, Grapes, Cucumbers, Tomatoes, etc., etc.; first-class references; disengaged. GEO. BESTER, Clematis Cottage, Stevenage, Herts.

FOREMAN (Inside), age 27; thoroughly experienced with all fruits, plants, house, and table decorations; highly recommended from present and previous situations. W. ISAAC, Hinton Charterhouse, Bath.

JOURNEYMAN (Inside or Inside and Out); can be highly recommended; age 20; two years in present situation. J. PREECE, The Gardens, Barnsley Park, Cirencester.

JOURNEYMAN (Inside and Out); seven years' experience; age 21; good character; abstainer. G. ROWLANDS, The Gardens, Langton Hall, Spilsby, Lincs.

JOURNEYMAN (Inside) seeks SITUATION under good Foreman; two years at Danesfield; well recommended; age 19; disengaged. E. DILLEY, Carneles Green, Broxbourne, Herts.

JOURNEYMAN (Inside); 9 years' experience; age 23; good references. Apply J. PRIOR, The Gardens, Sudbury Hall, near Derby.

JOURNEYMAN (Inside).—Mr. CAMPIN, Manor House Gardens, Alton, Hants, would be pleased to recommend A. OCKENDEN; five years' experience; age 22; Bothy preferred.

JOURNEYMAN (Inside and Out), age 21; two years in last situation; well recommended; Bothy preferred; disengaged. F. HELYAR, 46, Coombe Road, Upper Sydenham, Kent.

JOURNEYMAN (Second), age 18; Inside or Inside and Out; three years in present place; well recommended; Bothy preferred. Apply PARKES, The Gardens, West Town, Bristol.

JOURNEYMAN (22), under Foreman; 7½ years' experience; Bothy preferred; well recommended. P. TWEED, Hinck's Row, Atherstone, Warwickshire.

MR. PRAGNELL, Cranbourne Court Gardens, Windsor Forest, wishes to highly recommend J. SMITH as JOURNEYMAN, Outside; age 20; abstainer. Home counties preferred; 6 years' experience.

J. W. HUCKVALE, Head Gardener to F. B. Wright, Esq., Wootton Court, Warwick, will be pleased to recommend A. EDWARDS as JOURNEYMAN (Inside); age 20; present situation four years as Journeyman (Second). Above address.

SITUATION COUPON

To the Advertisement Manager of "The Gardeners' Magazine, *148 & 149, Aldersgate Street, London, E.C.*

For MARCH 26, 1910.

Please Repeat my Advertisement.

Name..

Address..

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Date..........................

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

MR. W. J. SHORT, Freeland Gardens, Woodstock, Oxon, wishes to recommend H. BEES, aged 23, as JOURNEYMAN, Inside or Inside and Out; 9 years' experience; two years' inside here.

GARDENER (Under); single Man; good references. Apply WALTER NEALE, Fulmodeston Guist, Norfolk.

GARDENER (Under, Inside and Out or Single-handed); 9½ years' experience, all-round work; good character; age 23. FUDGE, 2, Wycliffe Road, Winton, Bournemouth.

YOUNG MAN (18) seeks SITUATION in the garden as Improver, Inside, or Inside and Out; 2 years' experience; good references; disengaged when suited; Bothy preferred. V. MEPHAM, 21, High Street, Old Town, Eastbourne.

YOUNG MAN (22) seeks SITUATION; Second, where three or four are kept; well up in pleasure grounds and fruit, with a knowledge of Inside work; excellent references; six years experience. H. RAPLEY, Rose Lodge, Norwood Hill, Charlwood, Surrey.

GARDENER (Under) seeks good responsible SITUATION, Inside and Out; age 21; good all-round experience of 5½ years; good references as to character, etc.; bothy preferred. L. BIGWOOD, Kingsbury Green, N.W.

GARDENER, good all-round; well up in garden work, Inside and Out; married; 6 years' good character. F. COSSINS, Placewood Cottage, Sutton Valence, Maidstone.

SITUATION WANTED as GARDENER; Single-handed or with help; life experience Inside and Out; good refs.; age 36. H. P., 21, Office of this Paper

HEAD GARDENER wishes to recommend his Son as IMPROVER (Inside and Out); aged 19, three years' experience; Bothy preferred. W. JARRETT, The Wakes Gardens, Selborne, Hants.

IMPROVER, age 16, seeks SITUATION in good establishment; three years' good character; can be well recommended. Apply F. TULL, Wootton Bassett Road, Purton, Wilts.

WANTED, SITUATION as GARDEN LABOURER, age 40; married, no family; good character and good experience; scythe and machine and spade work, etc; willing to be useful; disengaged. W. L., Grove Yard, Daybrook, Nottingham.

YOUNG MAN, age 28, requires SITUATION as Second, Inside or Inside and Out; 14 years' experience; Bothy preferred. Apply Mr. JESS, The Gardens, Parmoor, Henley-on-Thames.

YOUNG MAN (18) seeks SITUATION in Gardens, IMPROVER (Inside, or Inside and Out); three years experience; well recommended. H. TOMPKINS, Mears Ashby, Northants.

YOUNG MAN, age 26, life experience in general work, seeks SITUATION, Inside and Out; steady, industrious; well recommended; lodgings preferred. ROBB, The Gardens, Appleby Hall, Atherstone.

YOUNG MAN (19); GARDENER (Under); five years' experience Outside; good character; strong, willing, obliging. A. W. DINNAGE, 43, West Street, Crawley, Sussex.

YOUNG MAN in Pleasure Grounds and Kitchen Garden; age 26; 5 years' reference. H. HOGG, care of Mrs. Spooner, Walnut Cottage, Clapham, near Worthing, Sussex.

YOUNG MAN, age 20, requires SITUATION in gardens; 6 years' experience; good reference; Bothy preferred. Apply H. YOUNG, Exton, Oakham, Rutland.

YOUNG MAN, age 19, requires SITUATION in gardens, Inside, or Inside and Out; 5 years' experience; good reference. Apply E. ROOTES, 14, Rawdon Road, Maidstone.

YOUNG MAN (23), Inside under Foreman, or Inside and Out; eight years' good references. GOAD, 14, Ladysmith Road, Eltham, Kent.

YOUTH (17½), with some experience, seeks SITUATION in Gentleman's Garden to improve, with good references; strong and willing. F. WELLS, Herbert Road, Hornchurch, Essex.

LAD, age 15, seeks SITUATION as APPRENTICE or IMPROVER; three years' excellent character; well educated; height 5ft. 7in.; Bothy preferred. FRANK BRISTOW, Bathealton, Wiveliscombe, Somerset

Situations Vacant.

WANTED.—Young married man as GARDEN LABOURER for general work in garden. Apply HEAD GARDENER, Woodside, Chenies, Rickmansworth, Herts.

WANTED a YOUNG MAN, age 21, understand vines, peaches, and general work of greenhouse; wages, 18s., with lodge. Apply GARDENER, East Burham Grove, nr. Slough.

WANTED, strong YOUNG MAN for Outside; some knowledge of glass; able to take duty and well recommend, 14s.; Bothy and vegetables. Apply G. W. HOWSON, Grimsthorpe Castle Gardens, Bourne.

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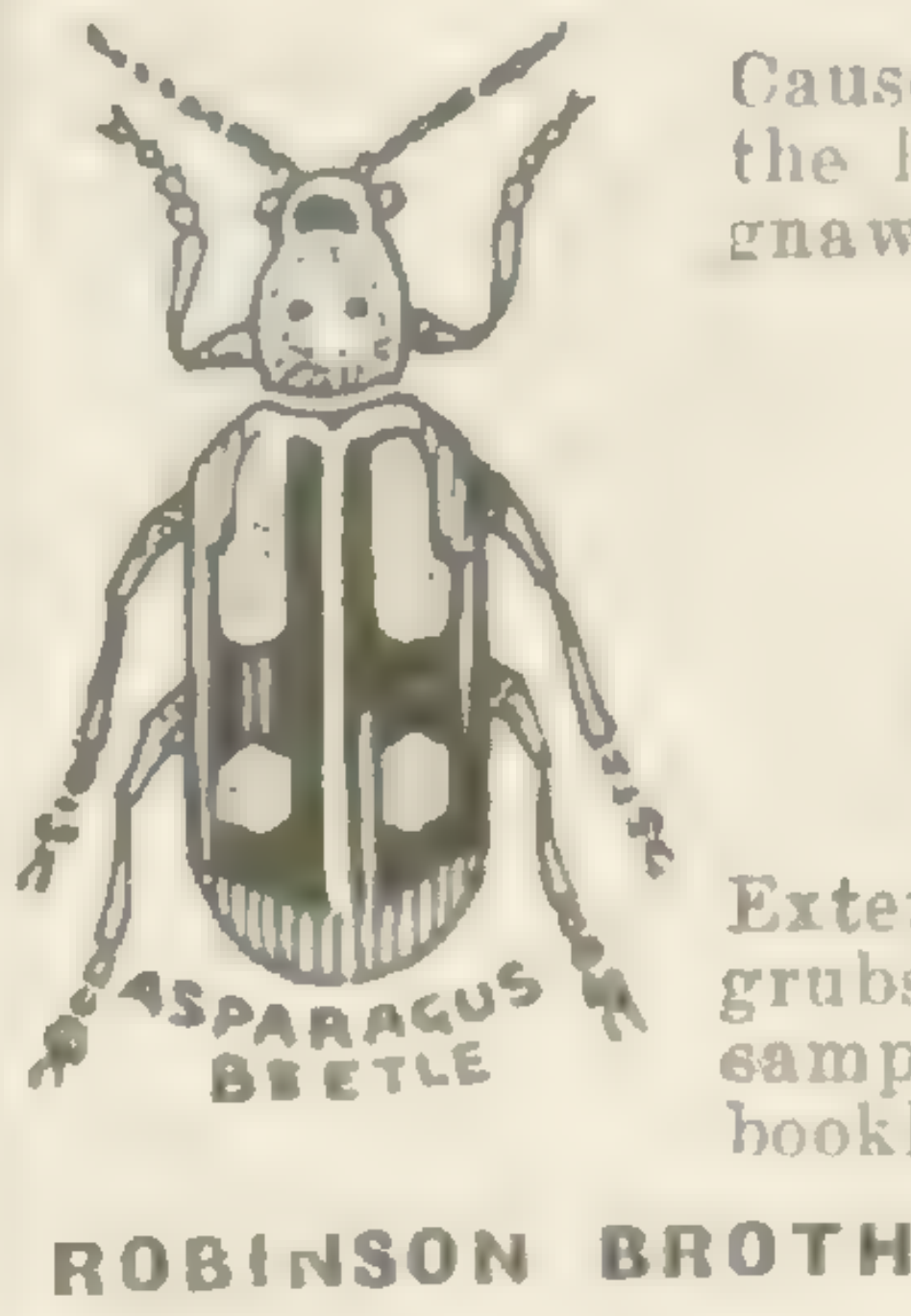

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VOL. LIII.—No. 2,942. SATURDAY, MARCH 19, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Protection of Fruit Trees.

MR. W. A. COOK.

The rapidly-swelling flower buds of fruit trees in garden and plantation should suggest to those who have not had sufficient experience to be in a position to fully appreciate the importance of keeping well in advance of the season's work, that provisions for the protection of blossom and embryo fruits from spring frosts should be made forthwith. The experienced cultivator will not be in need of advice as to the importance of promptitude, or the steps that should be taken; but for the information of those who have not a close acquaintance with the details of fruit tree management, it is necessary we should at the present time direct attention to the more important points in the selection and use of protecting materials. In the first place, it should be clearly understood that the protection should not be given before it has become really necessary, and that the materials used should not exceed what is absolutely necessary for safeguarding the embryo crops. The reason for delaying the use of protective materials as long as is possible consistent with safety, and of limiting the quantity to the necessities of the case, may be very briefly stated. Shelter such as is afforded by netting or textile fabrics necessarily maintains a higher temperature about the trees, and therefore assists in accelerating the development of the flowers, and this is not desirable, inasmuch as the earlier the flowers are developed the longer, generally speaking, is the period in which they are exposed to the risk of injury from unfavourable climatic conditions. With regard to the use of the material, if this is applied so liberally as to deprive the trees to any considerable extent of light and air, the growth will be weakened, and more or less injury done both to the trees and their crops. There are several methods by which the crops of such fruits as peaches, nectarines, apricots, apples, pears, and plums can have efficient protection in all but exceptional seasons, but in private gardens it will be advisable to place the chief dependence upon such well-tried materials as scrim canvas, tiffany, and fish netting. Fighting the frost with the aid of smudge fires, which has proved successful in California, and in the West of England, belongs to the commercial orchard rather than to the garden devoted to the production of supplies for home use: and the old-fashioned method of using branches of spruce fir or evergreen shrubs should only be resorted to where there is a difficulty in obtaining a sufficient quantity of other material. Branches of trees and shrubs are better than nothing, but they have an untidy appearance in a well-kept garden, they deprive the trees of a considerable share of the light and air so essential to their well being, and they may assist in bringing insect pests from shrubbery and plantation to the fruit trees. In the selection of fabrics and netting it is essential to give full consideration to the time that can be devoted to the trees when under protection, as well as to the relative merits of the materials. Scrim canvas, of which there are several varieties, is perhaps the most efficient, but to use this material to the best advantage the trees should be regularly covered and uncovered, for its texture, which renders it so valuable as a means of protection from frost, excludes so much light and air that when allowed to remain in position throughout the day the growth may become seriously weakened. An ideal method of protecting wall trees is a movable glass coping twenty-four or thirty inches wide, and curtains of scrim canvas. These curtains should be about six feet wide, and of a length sufficient to reach from the lower part of the coping to within about ten inches of the ground. With the aid of hooks they can be suspended from a wire fixed under the lower part of the coping, and be held in position at the bottom with hooks and a horizontal wire some ten inches above the surface of the border. So arranged they can, with the aid of poles placed twelve feet apart, be drawn back in the morning, and made secure for the day. The coping may be made with thin boards, instead of glass, or even with canvas. Two thicknesses of fish netting may be used instead of canvas, and as there is no occasion to uncover the trees during the day, it will have a great advantage in the large number of gardens where the staff is hardly equal to requirements. There is a still simpler method that may be adopted with much success, as proved by the results that have been obtained by more than one generation of gardeners. This consists in suspending a double thickness of fish netting from hooks driven into the wall immediately under the coping thereof. The netting must, of course, be of sufficient width to reach to the lower part of the wall, and it should be kept from the trees by means of slender poles long enough to reach to the top of the wall when fixed six inches or so into the border, and be placed in a slanting direction. If poles are not available pieces of wood with a fork at the end ten or twelve inches long will be efficient in keeping the netting from the trees. So far our remarks refer chiefly to wall trees, which should, as a matter of course, receive the first attention; but we are much impressed with the importance of giving trees of choice pears, plums, cherries, and apples growing in the open quarters protection from spring frosts whenever practicable. For these trees fish or other netting, or very coarse canvas, will be preferable, as the material must remain in position until protection is no longer needed. We have used both netting and coarse canvas with so much success in the protection of bush, espalier, and pyramidal fruit trees, and our experience is by no means singular, that we strongly recommend this aspect of fruit tree protection receiving fuller consideration than, in so many instances, has yet been the case. There are difficulties in the way of our recommendation being generally acted upon, but, wherever practicable, there should be no hesitation in giving protection, as it may mean the difference between an abundance of choice fruit instead of a supply so scanty as to afford but a poor return for the time devoted to the trees in the course of the year.

Mr. W. A. Cook, head gardener to Sir Edmund Loder, Bart., Leonardslee, Horsham, is well-known by reputation and by his writings to our readers; and they will, we are sure, be pleased to see the portrait of so able a gardener in the present issue. Mr. Cook has had a varied experience. He commenced his gardening career at Shenfield Manor, and from thence proceeded to Rayners, the seat of Sir F. Rose, Bart., near High Wycombe. He next went to Woburn House, also in Buckinghamshire, and then to Norman Court, in Hampshire. After a short stay here, he proceeded to London, and his experiences in and around the metropolis included a stay at Henderson's Pineapple Nursery, under Mr. James O'Brien; a season in the propagating department at Battersea Park; a period with a high-class florist in Oxford Street; a few months in the grape-growing department at Mr. T. Rockford's establishment at Turnford Hall, and a short stay at the Crystal Palace. We find Mr. Cook next taking charge of the gardens at Holme Wood, Peterborough, where Lady Wells had a fine collection of alpine and herbaceous plants, as well as of botanical curiosities; but Mr. Cook's health was not good at this time, and a change was necessary, so after two years' stay he moved on to Compton Bassett, in Wiltshire, the seat of the late Major Heneage, V.C., who was a keen horticulturist, had a large estate and garden, and was intensely interested in fruit culture and hardy-flowering shrubs. Here Mr. Cook stayed nearly thirteen years, and then passed on to the charge of Earlstoke Park, Wiltshire, where he was busily engaged in remodelling the gardens, when the death of the owner put an end to his engagement. He then took charge of the gardens at Shirley Park, Croydon, the famous old seat of the Earls of Eldon, and afterwards went to Leonardslee, where Sir Edmund Loder's extensive collections (freely illustrated in our issue of February 8, 1908) give ample scope for his skill and wide experience. Mr. Cook is a very keen fruit grower, and has a special love for alpines and for conifers, and these latter are specially well represented at Leonardslee. Mr. Cook is also very fond of cricket and music, these are his "hobbies," and in connection with the summer game he has taken numerous prizes that give evidence of his skill both as a bowler and a batsman.

"**Botanical Magazine.**" — The issue of this publication for the current month contains illustrations of Rehmannia Henryi, a distinct species discovered by Mr. A. Henry about 1885 in the neighbourhood of Ichang, and introduced to cultivation three years since by Mr. E. H. Wilson; the corolla tube is yellow, speckled with red, and the lobes white; Aquilegia alpina, a handsome species with rich blue violet flowers; Rhododendron mucronulatum, a pleasing deciduous species, with small pink flowers; Pittosporum Colensoii, a handsome shrub bearing bright red flowers, but too tender to be grown in the open except in the Scilly Isles, and it may be some parts of Cornwall; and Notylia trisepala, a Mexican orchid, bearing slender racemes of greenish-white flowers, and more interesting than beautiful.

Garden Superintendent of the Innes Horticultural Institution.—Mr. E. J. Allard, foreman of the outdoor departments of the Botanic Garden, Cambridge, has been appointed garden superintendent of the new Innes Horticultural Institution, and has already entered upon his duties. Mr. Allard has had extensive experience suited to the work. He commenced his career in gardening at Gore Court, and afterwards for some months he was with Messrs. Sander and Sons, of St. Albans. From them, in 1895, he came to the Botanic Garden, Cambridge, as an improver-gardener, and after three years in the plant houses went to Kew. From Kew he returned to the Cambridge Botanic Garden, as foreman of the plant houses a position he occupied for over five years. He was then foreman of the outdoor departments for another five years, and he has done excellent service in both capacities. He has thus had a wide Cambridge experience, by which he is especially fitted for experimental as well as for other work, and for which there will no doubt be full scope in the development of an institution that must have important influence on British horticulture. Through our columns Mr. Allard is well known to horticulturists for his plant photography and his writings. His name is commemorated in two good hybrids he has raised—Nepenthes Allardi and Passiflora Allardi. Into his new sphere he will carry the best wishes of all his friends.

The Queen at the Japanese Exhibition. — On Tuesday last her Majesty Queen Alexandra paid a surprise visit to Shepherd's Bush for the purpose of inspecting the progress already made by the Japanese people with their part of the great exhibition that is to be opened two months hence. The Japanese gardens attracted her Majesty's attention, and she showed a keen interest in the design and arrangement of these landscapes in miniature, and conversed with Mr. Izawa, the Japanese head gardener, who, however, was so overcome by the idea that the gracious lady was Queen and Empress that his usually fluent English speech failed him, and Count Mutsu had to come to his aid. The Japanese workmen were all delighted with and very excited over her Majesty's visit, and joined with the Britishers in cheers for her. The Japanese Gardens are beginning to assume a very attractive appearance, and it is hoped that those portions of the grounds which are reserved for British horticulturists will be equally worthy of the inspection of visitors. A large portion of the available land has already been let, but there is still room for some more nurserymen and seedsmen, who can obtain plots for the purpose of displaying their methods of cultivating farm and garden plants, shrubs, lawns, etc.

Indian State Forests.—To the meeting of the Indian section of the Society of Arts, Mr. S. H. Eardley Wilmot, C.I.E., contributed an important paper on Indian State Forestry. In the course of his paper he stated that the area of the forests under the control of the Indian Forest Department was 240,000 square miles, representing about a fifth part of British India. The Department would have liked the wooded area so distributed that its produce would have been easily accessible to all its inhabitants, but they arrived too late. Mankind had been warring against the forest with fire and axe thousands of years before their time, and the Department had saved what was left. The total income from the forests of British India in 1906-7 was £1,776,000, and a net profit of £839,000 accrued to the State. The influence of the forest began immediately below the snow-line, at about 16,000ft. elevation. First came the upland meadows, next the shrubby growth of juniper and alpine rose, and afterwards the birch and firs; below these appeared the forests of oak and rhododendron, cedar, and pine, and further down the forests of long-leaved pine, which yielded good timber and much resin; and the submontane forests at still lower elevations contained the most valuable timber, such as teak, ironwood, sandal, rosewood, red sanders, and ebony. Then across the Bay of Bengal there were the primeval forests, where ocean currents had brought the seeds of exotic trees to flourish on the island shores. With the exception of teak, sandal, and a few ornamental woods, practically the whole of the timber output was consumed in India.

Cœlogyne cristata.—The cultivation of Cœlogyne cristata and its varieties is now so well understood that it is by no means unusual to meet with large, finely-flowered specimens in visiting gardens. Notwithstanding this fact, it is always a pleasure to have an opportunity of enjoying the beauty of specimens bearing the impress of cultural skill of a high order, and also to hear of them. We have to acknowledge the receipt from Mr. H. Alexander, of the Green Mount Gardens, Wigan, of photographs of groups of Cœlogyne cristata in which the specimens are of large size and finely flowered. In each group there are four specimens, and these have an average diameter of four feet.

B.G.A. Concert.—The London branch of the British Gardeners' Association is holding a Bohemian concert at Carr's Restaurant, Strand, on Saturday, March 19, at 7.30 p.m. Mr. E. F. Hawes will preside. Single tickets are 1s. each, and double tickets (lady and gentleman) 1s. 6d. each, these being obtainable from members of the branch, or from Mr. Cockram, the hon. secretary, 8, Burns Road, Battersea. The proceeds of the concert will be given to a London hospital.

"**The British Fern Gazette.**" The third number of this quarterly publication has made its appearance, and is not less interesting than were its predecessors. The Editor (Mr. C. T. Druery, V.M.H.) deals with the naming of varieties; but he does not—as we anticipated he would do—touch the question of ridding the host of the barbarous names which so many beautiful forms have had inflicted upon them. On the contrary, he states that he does not intend "to enter into the vexed question of nomenclature generally, which, in point of fact, is no such bugbear to those within the cult as it appears to outsiders." That may be; but there can be no doubt that the long and unpronounceable names which numerous varieties of British ferns possess keep many plant lovers outside the cult who should be busily engaged in adding to their gardens a selection of varieties that would greatly enhance their attractions.

NEW PLANTS, ETC.

LÆLIO-CATTLEYA GOLDFINCH WESTONBIRT VAR.

This very beautiful variety differs from the original hybrid between L.-c. warnhamensis and C. aurea in having a deeper colouring. There is an orange suffusion in the golden sepals and a fine orange-red shading in the petals, while the lip is bright red-purple. A.M., R.H.S., March 8. Lieut.-Colonel G. Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

PHAIO-CALANTHE SCHRODERÆ.

A very interesting and novel orchid, obtained by crossing Phaius Wallichi with Calanthe C. B. Schröder. The habit of growth is intermediate between the parent, and the flowers are fairly large. The sepals and petals reflex, and are soft greenish-yellow with a purplish base, while the large lip is dark crimson-purple. F.C.C., R.H.S., March 8, Baron Schröder (gardener, Mr. Ballantine), The Dell, Egham.

EPI-CATTLEYA NEBO.

A curious little hybrid between Epidendrum O'Brienianum and Cattleya Clæsiana. The growth is very like that of an epidendrum, and the manner of flowering is also similar. The small flowers are carried in a terminal cluster; the sepals and petals are rosy pink, and the lip white. A.M., R.H.S., March 8. Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

CYMBIDIUM LOW-GRINUM ROSSLYN VAR.

In this varietal form the lip is white, finely coloured with bright crimson, and with yellow side lobes. The sepals and petals are red-brown. A.M., R.H.S., March 8. Mr. H. T. Pitt, Stamford Hill.

ROSE LADY HILLINGDON.

A beautiful new tea-scented rose that appears to be very suitable for forcing. It has long stems and handsome leafage, and the full, broad-petalled blooms are of a pleasing shade of yellow. A very fine new rose. A.M., R.H.S., March 8. Messrs. Lowe and Shawyer, Uxbridge.

SAXIFRAGA SCARDICA OBTUSA.

An encrusted, dense-growing saxifraga that carries pretty white blooms. It is an excellent and useful kind, and adds variety to this now extensive group of alpines. A.M., R.H.S., March 8. Sir Everard Hambro (gardener, Mr. J. Grandfield), Hayes Place, Kent.

SHORTIA UNIFLORA GRANDIFLORA.

A charming little alpine that appears to be a stronger grower than the type. It has flowers much larger than those usually seen, and these are of pretty pink shade. A.M., R.H.S., March 8. Sir Everard Hambro.

FRITILLARIA IMPERIALIS CHITRALENSIS.

This is quite distinct from the ordinary yellow forms of the garden Crown Imperials; but Kew has decided it is a geographical form of F. imperialis, and so named it Chitralensis, as it was collected near Chitral, where in the flowering season it covers the ground, and is a fine sight. It is quite hardy, of more slender growth, and scarcely so tall as a Crown Imperial, and its flowers are yellow. The new-comer promises to be a very useful hardy spring flower. A.M., R.H.S., March 8. Miss Watson, Finchampton.

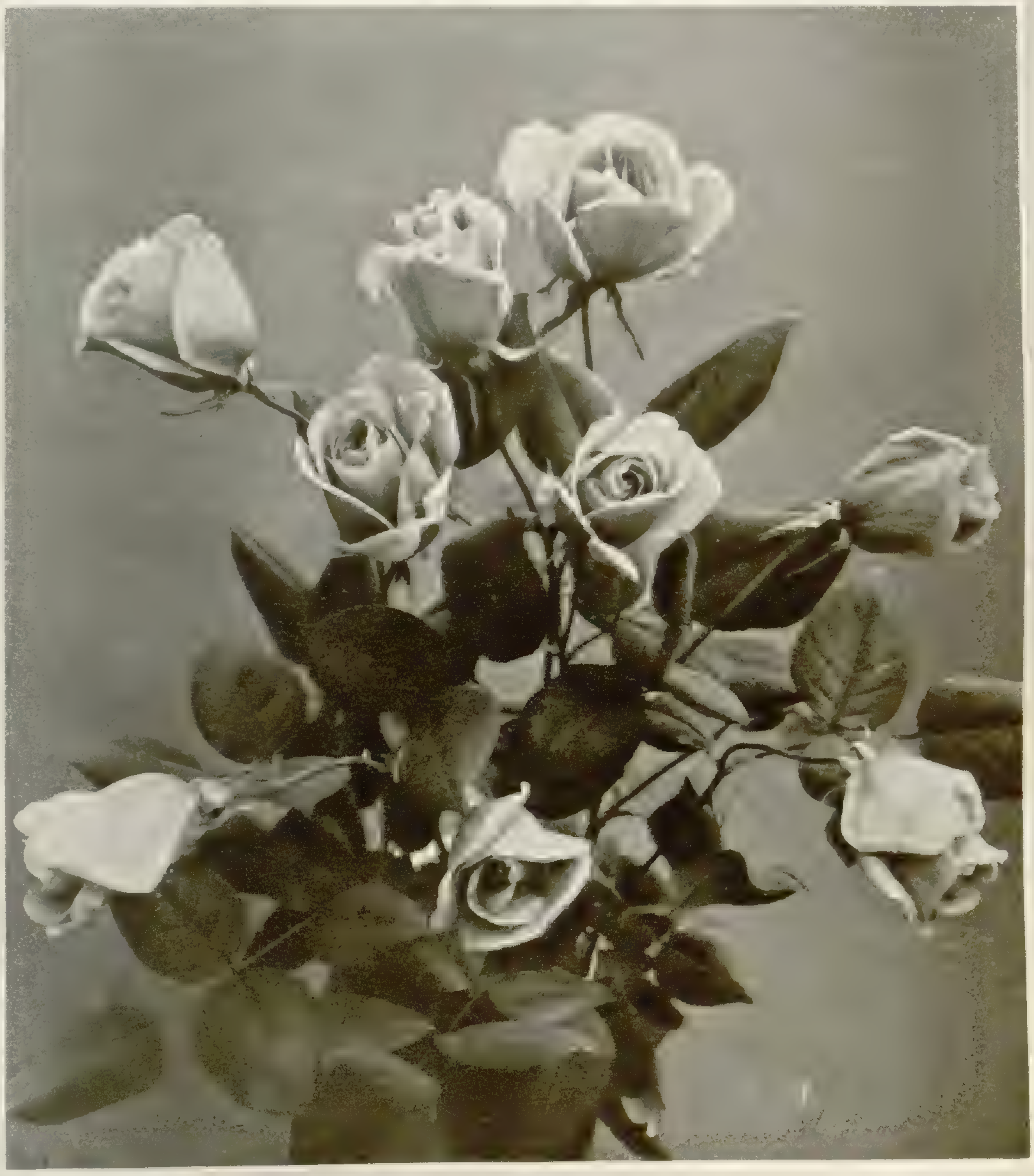
KITCHENGIA UNIFLORA.

A pretty little prostrate plant from Madagascar. It has fleshy green leaves along its slender shoots, and its flowers are solitary and terminal, tubular and of a bright rose-red colour. The plant is not unlike a creeping or drooping sedum. "Bot. Mag.," t. 8.286.

THE BEST LOAM FOR PERPETUAL CARNATIONS.

Carnations can be, and are, grown in a variety of soils of extremes in texture, yet it is wise to avoid very light or very heavy soils. A great deal depends upon the grower who controls the food and water supply. It is also important that he should endeavour to thoroughly understand the peculiarities of his particular soil.

It is generally conceded by all the best carnation growers of both this country and America that the ideal soil for carnations is a silky, semi-sandy loam, one which feels smooth when rubbed between the fingers and thumb; sufficiently light in texture to afford free and ready drainage of any surplus moisture, yet with sufficient body to retain the available plant food. It should come from a well-drained locality, and possess an abundance of vegetable fibre. As a rule such loam is light-brown in colour, and invariably is very evenly balanced in the essentials of plant life, viz., potash, phosphoric acid, and nitrogen, and hence will not require to be greatly enriched. We may be as much mistaken over our loam as we are over our bread. It is not essential that all good loam should be light brown, nor is it true that only good bread is white.



NEW TEA-SCENTED ROSE LADY HILLINGDON.

A.M., R.H.S., March 8. Messrs. Lowe and Shawyer, Uxbridge. Flowers soft yellow.

There are many excellent qualities in clayey soil, but this should be exposed to aeration and freezing for some time previous to its being used, so as to make its constituents available to the plant. It will also require much sand and manure to make it mechanically right for carnations. The danger is of it going down too solid, and so be too retentive of moisture.

Avoid black sandy peat soil, also cold gritty soil which is devoid of all humus. These are the two classes of soil in which it is most difficult, if not impossible, to grow carnations, yet it is safe to say that almost any turf from a meadow that has fed cattle can be made suitable for them.

The old practice of stacking loam for one to two years previous to use, with the idea that such treatment mellowed and generally improved the soil, has been proved erroneous. Loam is different to wine, and there should be a limit to its age. We now know that the average loam is in a prime condition for use for carnations after being cut from six to nine months, and also that the stacks should not be excessive in size, there being a danger of the loam becoming sour in the centre. To turn the loam after being stacked three months is labour well spent. The one idea in preparing turf is to have the vegetable fibre sufficiently decayed to be a food to the plant, and yet keep the soil open. Hence, if the fibre is too much decomposed these advantages are lost.

Montagu C. Allwood.

Pyannies (Pæony), Lilies, and Roses are the aristocrats among hardy plants, to which the rural cottagers of England have clung with the greatest tenacity. Call to remembrance these picturesque homes, and instantly we have these noble hardy plants grouping themselves as accessories of local colouring, and imparting an old-world beauty that is every day becoming more rare.—Thomas Smith, Walmsgate Gardens, Louth.

ANNUALS FOR THE CONSERVATORY.

Time was when annuals of any description would have been considered unworthy of use as decorative plants for the conservatory, or even for room decoration. Opinions, however, have changed, as we see by the numbers of annuals grown in pots for the London and provincial markets, to say nothing of the numbers now grown in private establishments for home use.

With but few exceptions cool treatment is all that is necessary for most of these subjects. In all stages of their growth extremes of heat and cold are decidedly harmful, and should be carefully guarded against. The cultivator should aim at having the plants as robust as possible, or, in the majority of cases, the flowering period will be unsatisfactory.

Neither must the plants be overcrowded in the pots, or in the structure in which they are growing. A cool frame, or pit, fully exposed to the sun, is the most suitable structure in which the majority of these may be grown. Plenty of air night and day—must be given when the weather is at all favourable.

It is the custom with many growers to sow the seeds direct into the same sized pots in which the plants are intended to flower; others first raise the seedlings in small pots, and transfer into larger as required. In either instance, it is absolutely necessary that the seedlings should be thinned out at the earliest possible moment, and the utmost care taken that the soil does not become sour by over-watering, or failure will surely follow. Immediately the pots become filled with roots feeding must commence, and nothing is better, or safer, than diluted liquid cow manure to which a little soot has been added; this, given as a watering twice or three times a week, or as may be deemed necessary, will not only considerably lengthen the flowering period, but the individual flowers, or spikes, will be much finer.

The majority of these annuals thrive well if grown in a mixture of soil composed of about three parts loam and leaf-soil, and one of coarse silver sand or road grit; if the latter is used it must be clean and sharp. The usual processes of staking and tying must be carried out as with other pot plants, if the best results are to be expected. The following list of annuals, hardy and otherwise, includes only those that are easily grown, last well, and are the most useful.

Alonsoa Scarlet Gem and A. Warscewiczi compacta are both half-hardy annuals, flowering freely at all stages of their growth; a sunny position should be given to them, or they will become drawn, and exceed their natural height of ten or twelve inches. These are very bright and telling, and lend themselves admirably to pot culture.

Amaranthus salicifolius and A. tricolor are valuable foliage plants, highly decorative, and adapted to greenhouse or frame treatment during the summer months; they delight in an abundance of moisture and sun. Both are classed as half-hardy annuals.

Asters are now largely grown as pot plants, the Victoria, Empress, and Diadem types being especially suitable. These afford a wealth of colour for a long period, and an economical way of growing them in bulk is that of bringing the plants on in beds of prepared soil, on a sheltered border, and, just as the buds are forming, carefully lift and transfer into suitable pots; if well watered, and carefully shaded for a few days, the plants soon recover themselves.

Among candytufts any of the giant varieties are useful as pot plants, and one plant in a 48-sized pot is sufficient; feed freely, and grow in the full sun.

Chrysanthemums (annual varieties) make very showy and effective pot plants as they grow rapidly, and are almost hardy, delighting in plenty of moisture and cool treatment. A wide range of colours is now obtainable among these, all are profuse flowering, and continue so for a very long period. The double coronarium varieties are extensively grown for market purposes. One plant is ample for a 48-sized pot, if well grown. An occasional syringing overhead with clear soot water will promote the health of the plants, and assist in keeping away insect pests. For early spring flowering the seed should be sown during the autumn, and for summer and autumn flowering during March or April.

Collinsia bicolor, although not often seen as such, makes a pretty pot plant, and deserves to be grown far more extensively than it is at present; cool treatment is all that is necessary, with not too liberal feeding.

Dimorphotheca aurantiaca is one of our newest annuals; the flowers are orange coloured, and produced freely. Cool treatment is best; plants raised in heat are inclined to become drawn and straggling in growth. They will flower in from six to eight weeks from the time of sowing the seed, and remain in flower for a quite considerable time.

Godetias, with perfectly cool and careful treatment, make very beautiful and effective decorative plants. At no stage of their growth must they receive warm treatment; an abundance of air, night and day, is essential to their well doing, and thus treated they continue in flower for quite a long time, and are very attractive. One plant for a 48-sized pot is ample, and as the plants increase in size and the pots become filled with roots liberal feeding should be resorted to, in order to maintain vigour and prolong the flowering period.

No list of annuals would be complete without the old-fashioned favourite, mignonette; when well grown few flowers find greater favour as pot plants than these, of which there are now so many excellent varieties, ranging in colour from white to crimson. At all stages of their growth the plants should receive an abundance of moisture, but the pot drainage must be perfect. The soil used should be light, rich, and porous, the addition of crushed brick rubble, or old mortar, forming an excellent medium for the plants to grow in. Should artificial feeding become necessary, the manure used should be of a cool nature, and great care be used in its application.

Myosotis (forget-me-nots) are always acceptable in the greenhouse or conservatory. Seeds sown in the open ground during the early summer months will furnish excellent plants for lifting and growing in pots for flowering indoors during Christmas and the New Year. Ruth Fischer is an excellent variety for this purpose, the plants are compact in habit, and the flowers of a charming blue colour, with glossy green foliage. Perfection and Royal Blue are also desirable varieties.

Nicotiana affinis and its several varieties are valuable annuals for the conservatory, as they continue to bloom for a considerable time after those growing out of doors have been destroyed by frost. Most of these are very sweetly scented, and will flower freely, even under most indifferent treatment; seeds should be sown in heat during March or April, gradually hardening off the seedlings as the season advances.

Nemesia strumosa and its varieties are all welcome subjects among this class of plants. For early spring flowering the seeds should be sown during the autumn, and the plants receive cool treatment at all times, or no more artificial heat than is absolutely necessary to exclude frost from the structure in which the plants are growing. The utmost care must be used when giving water, especially in the earlier stages of growth.

Rhodanthe maculata and R. Manglesi are half-hardy annuals of a distinctly showy character. The seeds should be sown in the pots in which the plants are intended to flower; if for late summer use no heat is required for raising the seedlings. A fair sprinkling of seed should be allowed for each pot when sowing, as it is necessary to have quite a number of plants in each pot, growing fairly close together, otherwise the pots will be but scantily furnished. When their beauty as pot plants is on the wane the flowers may be cut and used as everlastings for winter use.

W. HEDLEY WARREN.

Aston Clinton Gardens.

VIOLAS IN SANDY SOIL.

Many persons are, I know, very reluctant to plant violas in a sandy medium. These plants do better in a good holding loam, I admit, but they also succeed well in a sandy soil if well looked after during the summer months. In a seaside town on the west coat of Lancashire I had much experience in the cultivation of violas, and roses, too, in sandy soil; in fact, the ground seemed to be almost pure sand in many places. I saw violas succeed well in a certain garden there, and did not fear to try them myself afterwards.

The light ground was deeply trenched, a very easy matter, and a good quantity of well-rotted manure was mixed with the soil but near the surface. Care was taken to put out the plants with a nice ball of rich soil adhering to their roots, and the planting was done as early as possible in the spring, so that the violas were nicely established in their summer quarters before the ordinary bedding-out work was finished. Twice during the summer some rich soil and rotted manure, mixed, and passed through a rather fine-meshed sieve, was put on as a surface mulch an inch deep, and this did the plants much good.

Being not far distant from the sea the gardens were almost floating on water when the tides were high, and it was a very easy matter to find water by digging down to a depth of three or four feet at such times. But the garden in which the violas grew so well was situated on rising ground, and the sea water did not moisten the soil near the surface. In the case of my roses, though, it did. Very often sea water was found about thirty inches or three feet below the surface, filtered in from the sea, which was never much below the soil level in that part. The roses were grand specimens, and bore huge flowers in profusion.

G. B

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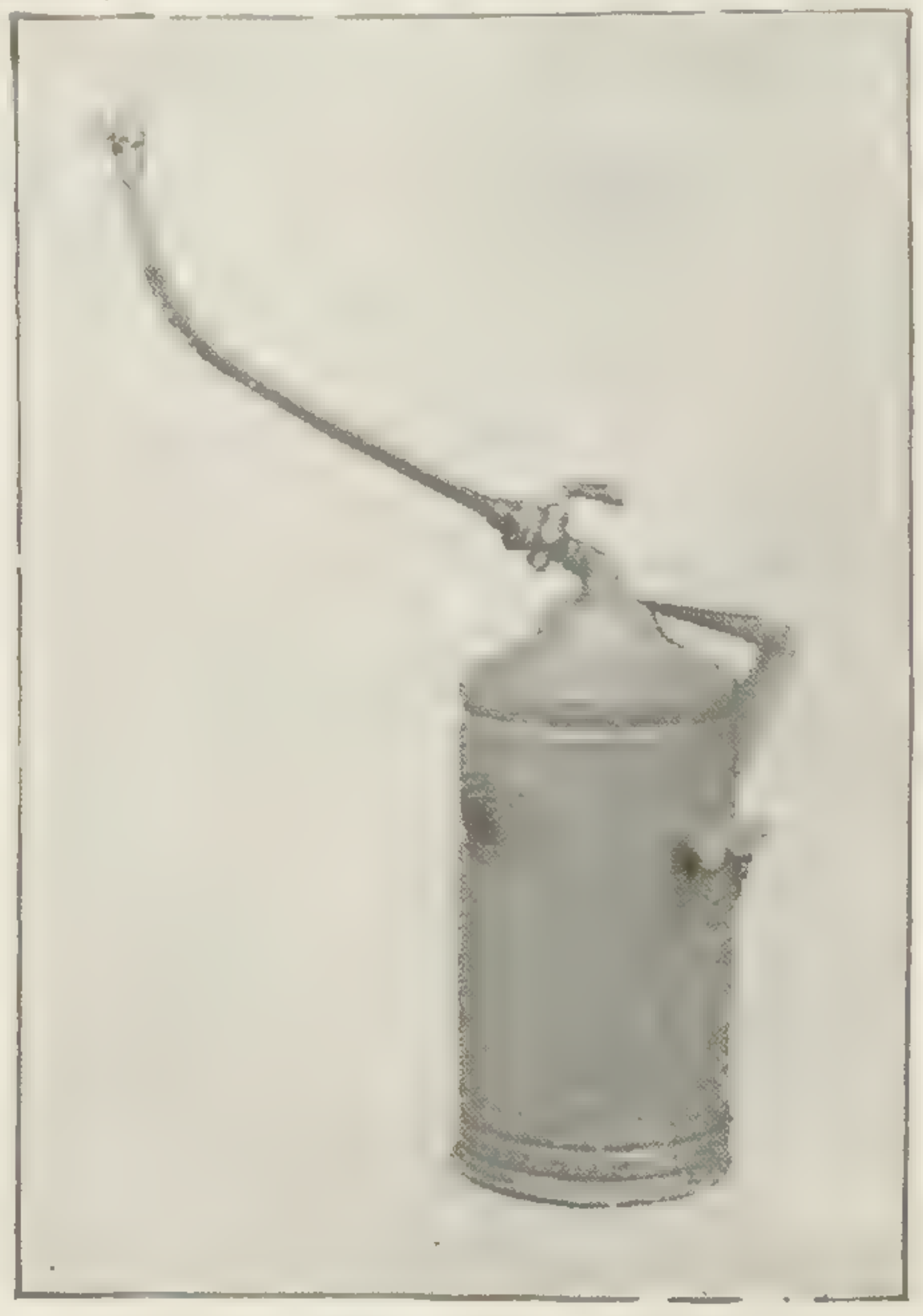

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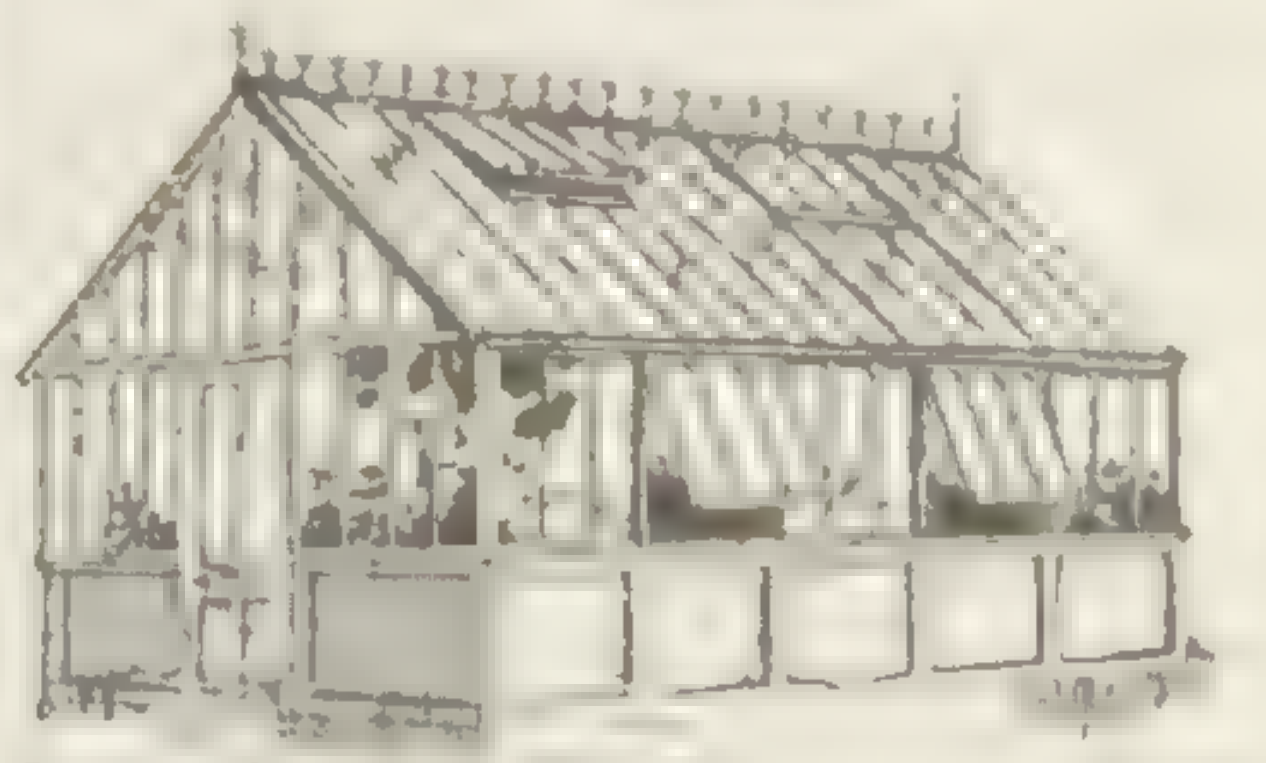

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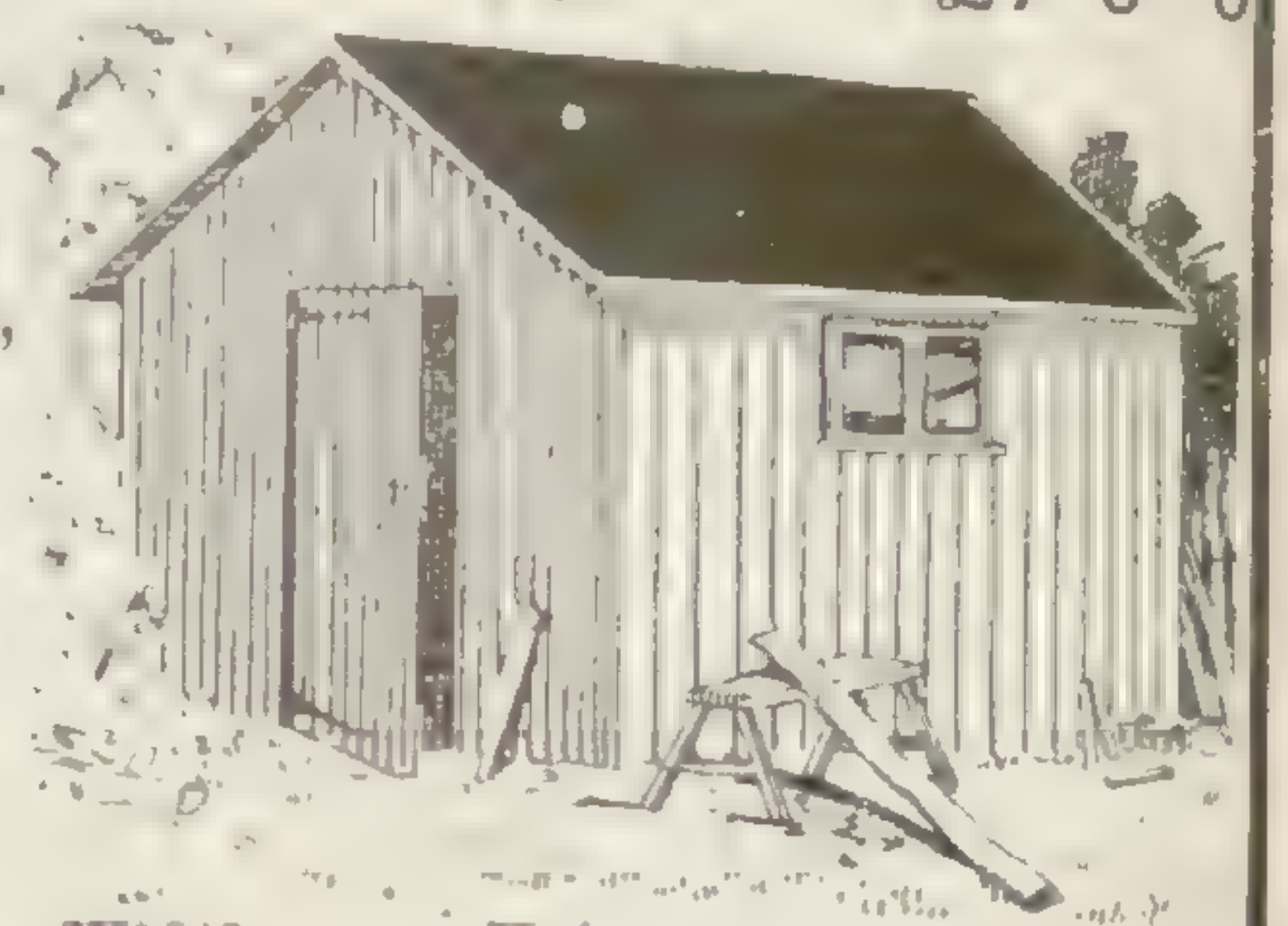

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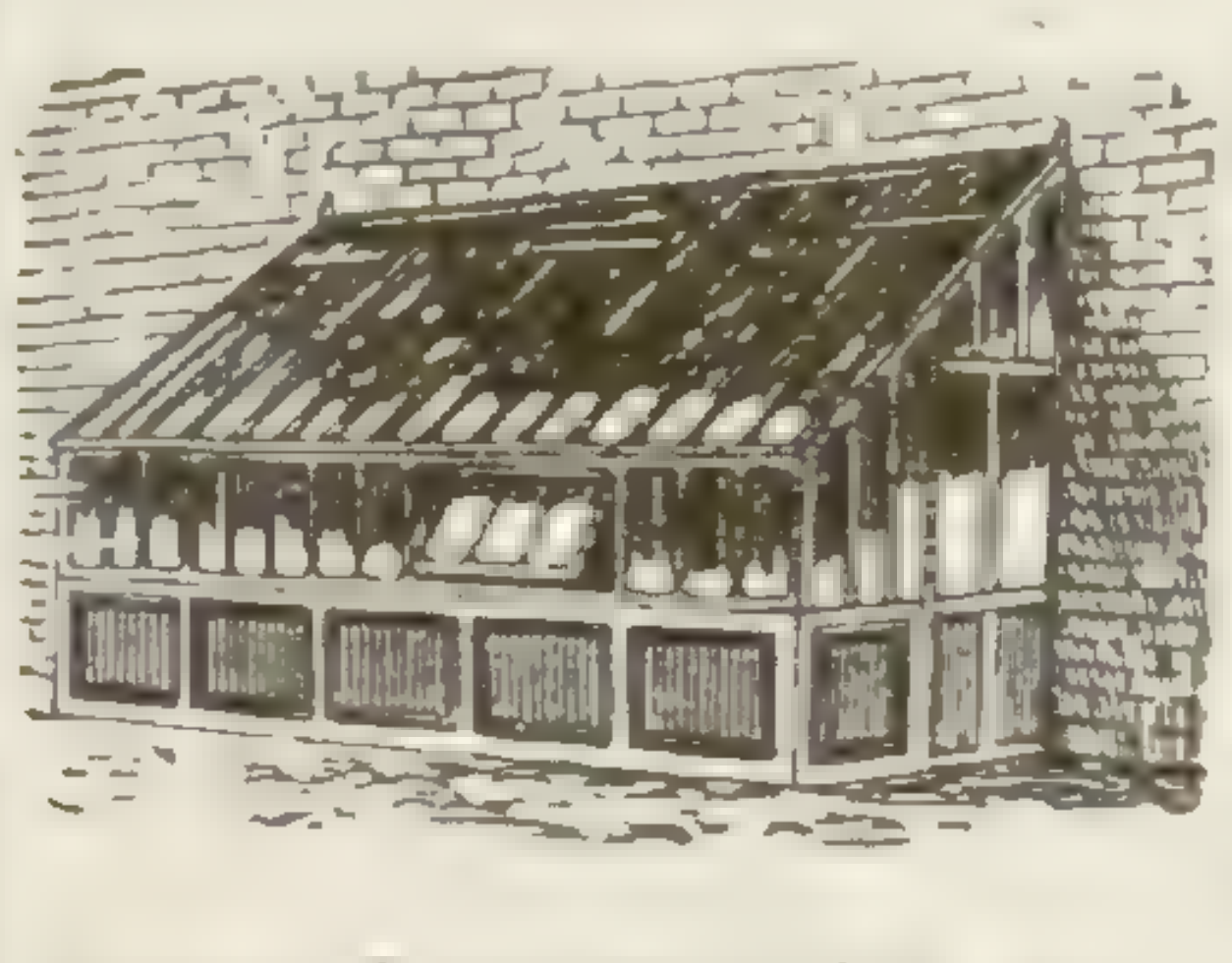

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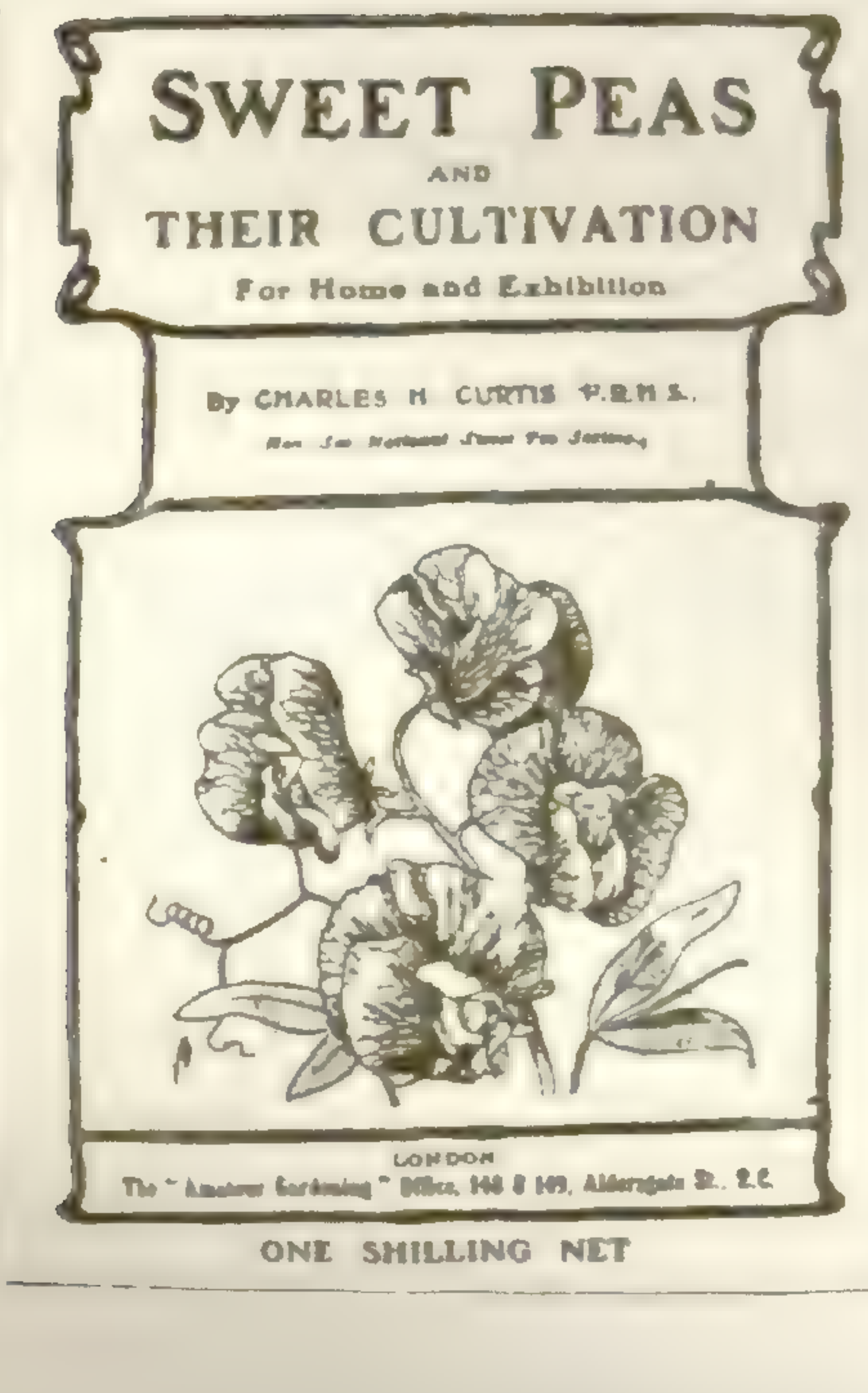

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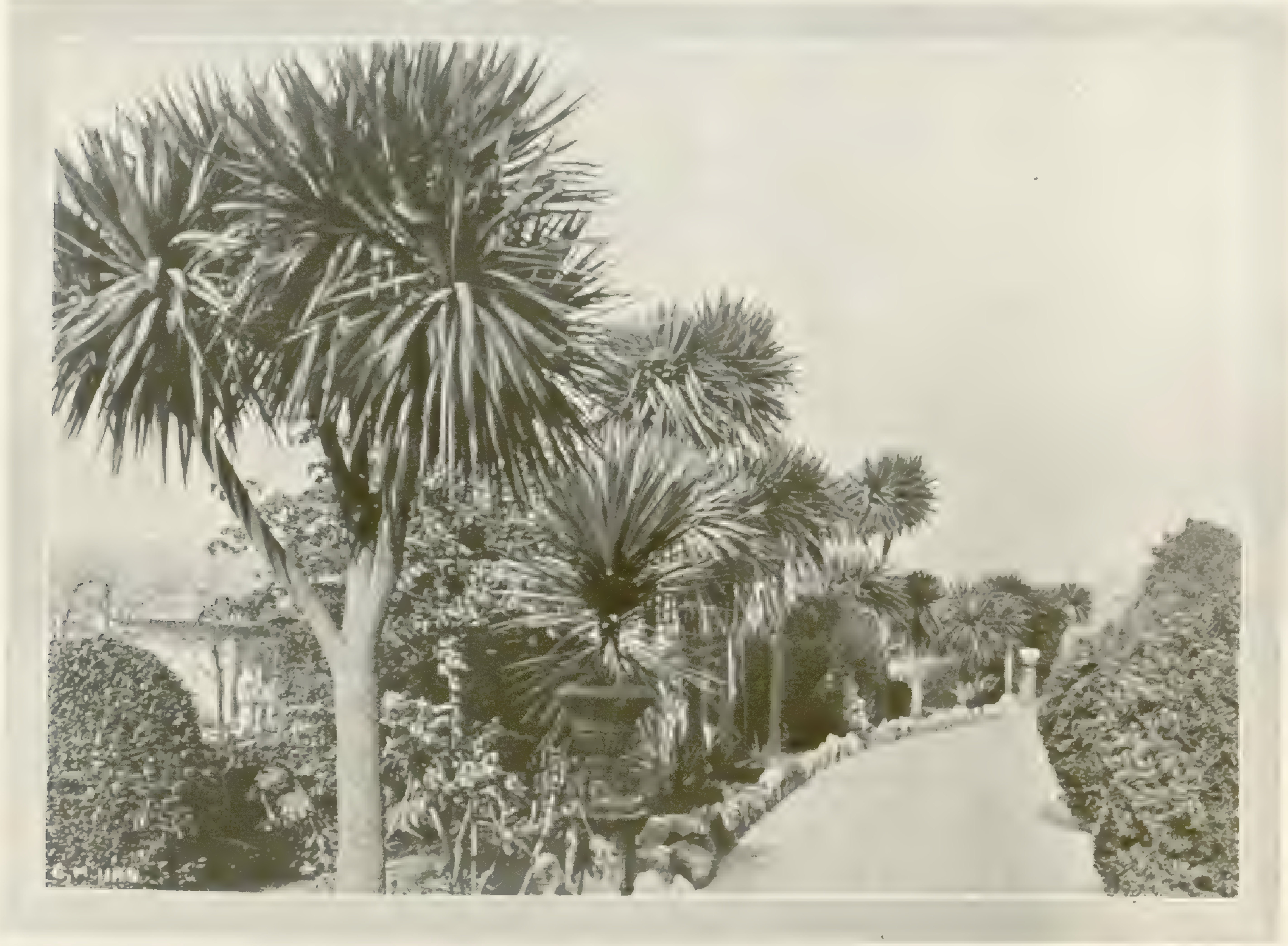
GARDENS ROUND TORQUAY—I.

In giving an account of some of the more noteworthy of the many interesting and attractive gardens in and around Torquay there is no occasion to set forth, or even refer to, the advantages possessed by the town as a health resort. These are widely known, and it would appear from the continuous extension of the boundaries that they are fully appreciated and taken advantage of. Moreover, information with regard to them is readily accessible, and without difficulty intending visitors can place themselves in possession of the facts relating to the climatic conditions and other matters of importance to those in search of health or relaxation from the strain of everyday life. In studying the climatic conditions they will learn that the mean annual temperature of Torquay is in excess of that of England as a whole, that the mean maximum temperature is lower, and the mean minimum temperature is higher, and that the daily range is less at Torquay than in other parts. They will thus learn that the summers are cooler and the winters are warmer than elsewhere, and that the climate is remarkable for its equability. They will learn also that the annual rainfall is only about two inches in excess of that of the whole of England, that the air is relatively dry, and that the average sunshine is very high, more particularly in winter. These points are mentioned, not so much from the hygienic as from the horticultural point of view, as they will enable the reader to more fully understand how it is that a considerable number of subtropical plants, which hardly exist in the open in other parts of the United Kingdom, make the most luxuriant growth, and give a quite distinct character to garden scenery. Torquay has been described as Sunshineland, and it fully justified its appellation during the week in which the gardens to which reference will be made were visited. Last year was not remarkable for its record of sunshine, but from Monday midday till the Saturday afternoon the sun shone uninterruptedly and with great brilliance, rendering it difficult to obtain good photographs, and completely spoiling not a few promising subjects.



TORQUAY—DRACÆNA WALK IN THE ROYAL TERRACE GARDENS.

Torquay, long famous for the historical events that have taken place within its beautiful bay, appears to have first obtained attention as a place of residence for members of the community, other than the hardy fisherfolk and seafaring people, in the early part of the last century, and it was not long in obtaining popularity. The earlier houses were built in the northern corner of the bay, at the junction of two valleys, one of which comes down from the north-east and the other from the north-west. With the growth of the town main roads were made through these valleys, and flanked with houses, and from these other roads radiated in all directions, and on the slopes and summits of the lofty hills and high cliffs stately mansions and moderate-sized villas were built, and their environment converted into beautiful gardens. In the conversion of the hillsides and cliffs into building land it would appear that their arborescent features were, as far as possible, preserved, and the effect produced by the white houses perched high up among the trees is remarkably beautiful.

Public Gardens.

According to the official reports, Torquay has thirty-five gardens, with an aggregate area of 300 acres, and these, under the care and supervision of Mr. H. A. Garrett, the Borough Surveyor, are throughout remarkable for the admirable manner in which they are kept. Large as is the area in proportion to the population, it does not appear in excess of requirements.

The most important of the public open spaces are the Princess Gardens, which occupy a position between the Torbay Road and the margin of the bay, not far distant from the point at which the principal roads through the town converge. There are several enclosures, all skilfully designed, tastefully embellished, and highly kept, and some are devoted to flowers, and others to garden games. A more delightful place in which to spend an hour or so daily during a short stay at Torquay would not be desired, for the visitor can enjoy the flowers or the games according to his bent, or he can take the wiser course, and enjoy both. In addition to the beautiful display of flowers, and the interest of bowls and lawn tennis, there is the magnificent bay, so exquisitely beautiful that it would be difficult to exaggerate its distinctive charms.

TORQUAY—PRINCESS GARDENS.

One of the Princess Gardens, in which Flora reigns supreme, is herewith depicted, and in the illustration we have evidence of the vigour with which plants from warmer climes than our own thrive under the conditions that obtain in this favoured town. The handsome Dracæna australis, which requires the shelter of glass in other parts of England, has grown to a size that indicates considerable age, and the finely branched heads suggest the stately aspect of specimens in their native habitats. Each year this and other gardens are made gay with tulips, wallflowers, arabis, and other subjects that yield of their floral beauty in the season of spring, and these are, in their turn, replaced by the more beautiful of the tender and other plants that belong to the summer. Nearly opposite to the Princess Gardens is the commencement of the famous Royal Terrace Gardens, which proceed a considerable distance westward at the foot of the cliff. Here we have still further proof of the equable temperature which prevails throughout the year, and the long lines of stately dracænas, the luxuriant Australian tree ferns, and the bold groups of the New Zealand flax, with other denizens of temperate regions, produce effects so widely differing from those produced in gardens in other districts as to at once arrest the attention and evoke the admiration of those who visit the gardens for the first time.

The King's Gardens, still farther westward, have been formed within the past few years, and if of less importance from the gardener's point of view, are not without interest. These have been formed on a comparatively narrow strip of ground alongside the road that runs on the western boundary of the grounds of Torre Abbey, and afford but little scope for the landscapist's art. Good use, however, has been made of the ground by the authorities, who have formed a long shallow pond, crossed here and there by rustic bridges, and thus afforded the children an opportunity for indulging their taste for sailing toy boats.

Eastward is an open space of some importance, and this is known as the Torwood Garden, and is probably one of the earliest of the gardens formed in the town. It contains many fine old trees, that are well able to give welcome shade during the summer months, and there are sufficient flower beds to admit of the production of attractive displays of flowers. Still further eastward is the Manor Garden, which has been formed on the slopes between the famous Lincombe Drive, and the sea. In the laying out of this area an endeavour has been made, and with much success, to maintain, as far as possible, the original features of the ground, and a more delightful natural garden one could not well desire. Cary park and Babbacome Downs also extend over a large area, and are remarkable for their beauty and for the large number of fine flowering shrubs they contain.

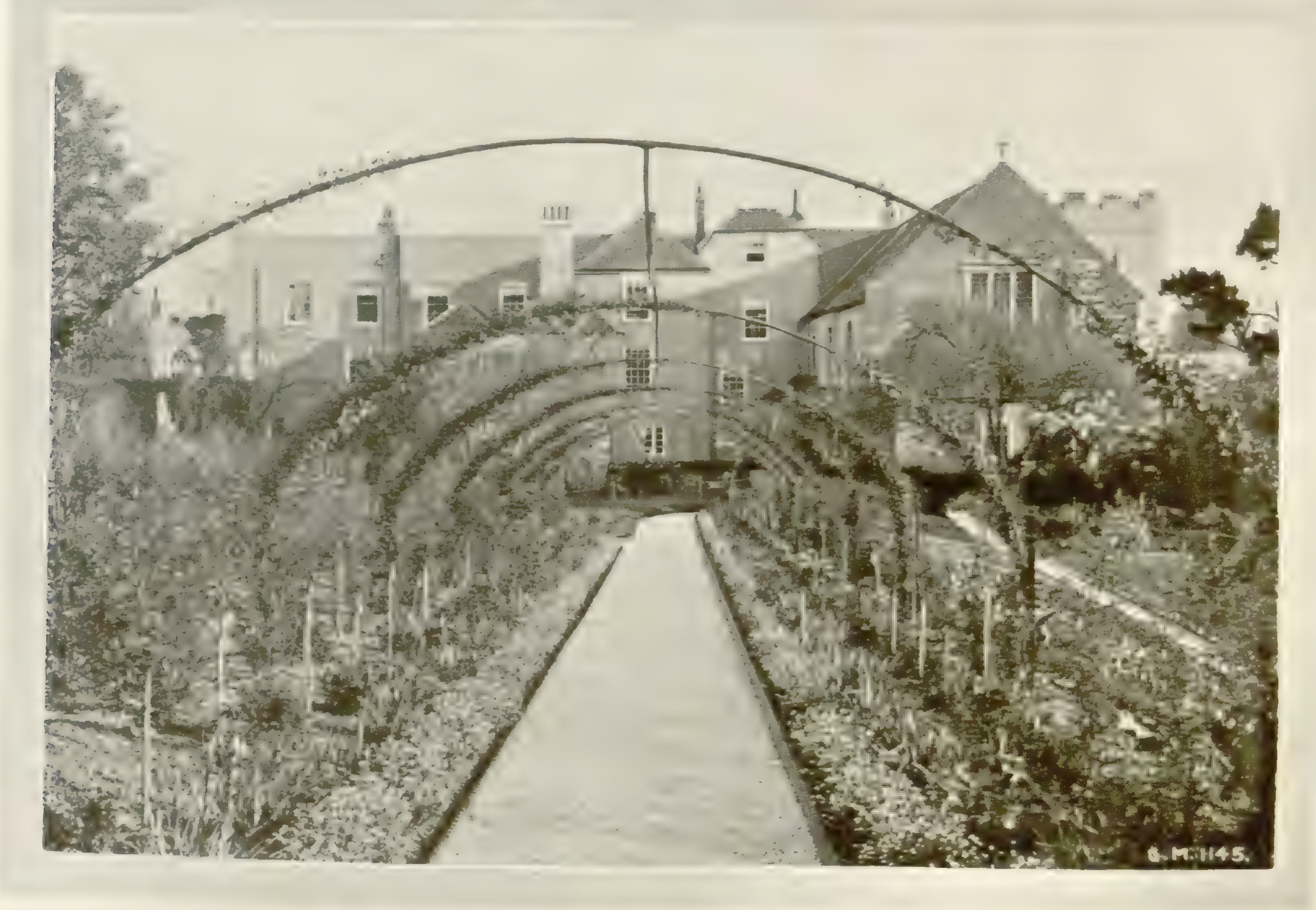
Torre Abbey.

Torre Abbey, which occupies a charming position on the margin of the bay, some three-quarters of a mile to the west of the centre of the town, is remarkable for the extent and high-keeping of its gardens and of much interest for its historical associations. Its history extends over some six centuries before Torquay obtained a prominent position as a health resort, and, as shown by its records, did much for several centuries, as in the case of some other of the great religious houses, to stimulate an interest in gardening and farming. Here, as in other parts of the country, we have evidence of the remarkable judgment shown by the founders of monastic houses in the selection of a site that is not only beautiful, but well suited to the production of the various crops and the rearing of the cattle necessary for the sustenance of the members of the house.

The abbey was founded in 1196 by Lord William Brewere for Premonstratensian monks, and was so liberally endowed by the founder as to be the most wealthy of the thirty-two houses belonging to the order in this country. At the Dissolution in the reign of Henry VIII., the abbey shared the fate of other religious houses, and during the period between the Dissolution and the year 1662 it had many owners. For a time it was the property of the Ridgways, who built the stately white mansion which forms so conspicuous an object, with its background of rich green foliage and foreground of undulating meadows, from the Torbay Road. A portion of the original buildings still remain, the most noteworthy of these being the handsome 14th century gate house and the grange, a spacious building, in which, on the capture of the "Capitana," the flagship of the admiral in command of the Spanish Armada, the crew of the vessel, some 400, were lodged. From this fact, it has long been popularly known as the Spanish barn. In the year 1662 the Abbey and the land belonging thereto passed by purchase into the possession of the Cary family, in whose hands it has remained until the present time. The present owner of the seat is Colonel Cary, who with Mrs. Cary, takes the keenest interest in their gardens.

Between the terrace garden on the south front and the sea there is a wide stretch of undulating park-like land, with a fringe of fine old trees on either side, and a few splendidly developed specimens occupying isolated positions in the open space. One of the most noteworthy of these is a variegated sycamore of huge size, and perfect in development. On the eastern side of the mansion are two exceptionally fine mulberry trees that were planted 88 years since on the occasion of the marriage of Colonel Cary's mother and father. One of [illegible] was blown down about forty years ago, and received a considerable check therefrom. but it is, notwithstanding, a fine tree at the present time. Proceeding from the mulberry trees in a northerly direction, some interesting ruins of the old Abbey are passed, and the rockery is entered. This extends the whole length of the garden, of which a part is illustrated, and affords ample opportunities for rest and retirement. The trees are of great height, and many have their trunks clothed with ivy. and the space between them has been so freely planted with bulbs and other plants as to afford a profusion of flowers, particularly during the spring months.

Both Colonel and Mrs. Cary have a strong love for roses in their various attributes of beauty, and among the more recent additions that have been made to the gardens are the spacious rose borders that flank the principal walk through the kitchen garden, and the rose arches by which it is so admirably spanned. In the borders are dwarfs and standards representing the finest of the varieties specially adapted for cultivation in these forms, and for furnishing the arches the finest of the rambling roses have been utilised. As Mr. Clarke is a skilful cultivator of roses, as of most other things, these grow freely and bloom profusely, the rambling varieties being especially attractive during the season of flowering. Other fragrant flowers that receive special attention are sweet peas and carnations, and both are grown largely and to a high degree of perfection. The sweet peas are grown in ground contiguous to the rose garden, where, with the assistance they receive from Mr. Clarke, they make a robust growth, produce flowers of high quality, and bloom quite late in the season. As evidence of the success with which sweet peas are grown, it should be stated that the flowers usually occupy a foremost position in the competitions at the local exhibitions.



TORRE ABBEY—ARCHES OF ROSES IN THE KITCHEN GARDEN.

Under glass both the perpetual carnations and the Malmaison varieties are grown with much success, and the large structure devoted to them was remarkably attractive at the time we were at Torre Abbey, and there was abundant evidence that no difficulty is experienced in maintaining a plentiful supply of blooms throughout the year. Other structures devoted to ornamental plants were not less interesting in their way, and fully deserve lengthened notice, as, indeed, do the peach houses and vineries in which crops of great excellence are annually produced.

Intensive culture receives the attention of Mr. Clarke, and he has achieved considerable success, both in glass-houses and under cloches in accordance with the French practice. Under both methods of procedure the advantage of the protection of glass in the production of winter and spring salads, even in so kind a climate as that of Torquay, was brought into strong relief. We were specially interested in the crops of cabbage and cos lettuce in a cool peach house that had been raised from seed sown in October. The plants were growing in the border, and there was a plentiful supply of large tender hearts that in quality have certainly not been surpassed by the finest of the French products. Early lettuces of high quality are everywhere in request, and this method of producing them is of much interest from the fact that the crop in no way interferes with the peach trees.

Lupton House.

Some five or six miles west of the town of Torquay is Lupton House, the seat of Lord Churston, a seat that is not less remarkable for its fine trees and other objects of interest than for the surpassing beauty of its surroundings. The mansion is the most readily reached by way of Churston Ferrers station on the Kingswear railway, and as the line winds for the greater part of the distance round Torbay, a continuous succession of views of land and water is obtained that are, for the most part, exquisitely beautiful.

The village of Churton Ferrers is described as about half a mile from the station, but it must be a mile to the handsome lodge by which access to the domain is obtained, and, after passing through the gates, a considerable distance has to be covered before the mansion and gardens are reached. The carriage drive runs for the greater part of its length along the high ground on the west side of the park, and here one might linger long enjoying the glorious picture formed by the wide-spreading woods, and large expanses of grass that vie with the emerald in brilliancy. The owners of the estate must for several generations have been great lovers of trees, for the high banks to the west of the drive are clothed with kinds, all more or less handsome, and including not a few that are uncommon in park scenery. On the left-hand side coniferous and deciduous trees have been freely planted, and at sufficient distances apart to allow them to attain their full development. To enumerate the trees that attract attention would involve the preparation of a lengthy list, and it will suffice for the present purpose to say they consist of the finest kinds, and that their condition shows they have been well cared for. Very interesting also are the groups and single specimens of the Evergreen Oak (Quercus ilex), which are in so robust a state of health as to leave no doubt as to the conditions that obtain being in every way favourable to their full development.

Occupying a site in somewhat of a hollow, the stately mansion of white stone does not command a prospect extending beyond the park, but the area of this is so vast, and the scenery so exquisite that no feeling could well arise as to a want of breadth. With a foreground of handsome shrubs and a spacious terrace garden, and a background of woods that extend a long distance up the valley, the house forms a charming picture when viewed from the higher ground. I had intended giving an illustration of the mansion in its setting of greenery, but the huge Turkey oak appealed so strongly to me that it has been substituted. The terrace garden, of which a portion is illustrated, is bounded on the south and west with rhododendrons and other flowering shrubs. On the west is a fine hedge of Berberis Darwini that closely approaches twelve feet in height, and is of proportionate thickness. This valuable evergreen not only grows vigorously at Lupton, but blooms profusely, and the great hedge presents much the appearance of a mass of burnished gold for a considerable period during the summer months. The rhododendrons are not less noteworthy in their way, for on the margin of the terrace and on the slopes that rise from the eastern end are specimens of Rhododendron arboreum that produce, concurrently with the display of golden blossom of Darwin's berberis, a colour effect of the most charming character. There is also a comprehensive collection of the hybrid rhododendrons that are perfectly hardy in all parts of the United Kingdom, and these thrive not less satisfactorily than do their Indian neighbours. Both the newer forms and the old favourites are represented in the collection, and conspicuous among the former are the specimens of Pink Pearl, of which it would be desirable to write in appreciative terms were it not so popular as to render praise wholly unnecessary.

On the eastern slopes associated with the groups of the arboreum rhododendrons are considerable numbers of specimens of the Irish yew that are so perfect in development as to contribute materially to the attraction of this part of the grounds. There are several specimens of this yew near the lodge that are hardly less remarkable for size and shapeliness. Contiguous to the mansion are specimens of Pinus insignis and Wellingtonia gigantea that not only are of great height, but perfect from apex to base.

The common primroses constitute a delightful feature of the park in spring time, some of the breadths occupying an area of several acres, and all richly bespangling the lush green carpet with their flowers. Later on the bluebells are equally attractive, for the woods abound with them, and annually they yield freely of their elegant flowers.

Pilmuir.

Occupying a commanding position on the high ground to the north-west of the town is Pilmuir, the residence of A. Backhouse, Esq., who is well known throughout the district for his strong affection for alpine plants and for the keen interest he takes in gardening generally. Standing several hundred feet above the valley below, the mansion commands a wide prospect, and the views over land and water are richly diversified and of great beauty, and especially attractive are the peeps that are obtained through the trees at various points with which the hill on its western side is clothed. The gardens are extensive, varied, and highly kept, and it matters not what aspect of horticulture the visitor may be specially interested in, he will not fail to find much that will be instructive and give him pleasure. Those who give attention to alpines will find a rock garden in which they might spend several hours without exhausting its interest; if they have a special liking for moisture-loving plants, the skilfully planned water garden will afford them abundant entertainment, and there are other features of a widely different character that are not less noteworthy.

It is not necessary to proceed far after passing the handsome lodge gates to find evidence of the successful utilisation of rock plants, and it is certainly not possible to continue long on a tour of inspection without being impressed by the high keeping which is manifest on all sides. The railway arch that spans the carriage drive not far from the lodge is admirably masked by ivies and other plants of scandent habit, the drive is flanked by specimen trees and shrubs, flowering plants abound, and consequently in the approach to the mansion the visitor has a foretaste of the pleasure in store. While hardy plants greatly predominate, those commonly known as half-hardy are taken advantage of as far as may be necessary, and they are employed in contributing to the summer charms of the flower garden on the south side of the mansion. Here there are two displays annually, and when we saw the garden in the spring May flowering tulips and wall-flowers predominated, and produced a singularly beautiful effect. On the other side is a conservatory elegant in design, and this fine structure had for its chief occupants Indian azaleas of various sizes, and, as every plant was bearing its full quota of flowers the effect was startling in its richness and beauty.

Proceeding from the conservatory in a northerly direction, and for a considerable distance, is a walk alongside of which is much that is of interest. To the right is a wall with a border at the foot, and over its surface are trailing many choice plants that are seldom seen out of doors in other parts of the country. In the border are large numbers of herbaceous plants, bulbous and otherwise, and these also include many kinds of great rarity. On the left-hand are bold groups of rhododendrons that consist of the finer varieties, and beyond these is a broad belt of trees that clothe the side of the hill. These are of considerable age, and the whole of the intervening space is filled with bulbous and other plants that in their season carpet the ground with their flowers.

Entrance to the rock garden is obtained a short distance down the drive, and the site has been so well masked that it comes as a surprise to the visitor to find himself in a large area wholly devoted to the denizens of the Alps. The garden, which is of comparatively recent date, was designed and constructed by Messrs. Backhouse and Son, of York, and may well be regarded as an excellent example of their work. To describe the garden in detail is unnecessary, but as indicating its general character it may be mentioned that boldness has been combined with ample provision for the growth of the plants in the formation of the mounds and slopes, and that the walks by which the area is intersected are so arranged that ready access can be obtained to any of the occupants. In the centre is a rocky pool, with a summer-house of distinct character, and at the north-west end is a deep gorge spanned by a rustic bridge. To enumerate any considerable proportion of the large number of beautiful plants that have been used in furnishing the garden would require much space, and it must suffice to say that on the various mounds and slopes are arabis and alyssum, androsace and aubrietia, dianthus and draba, gentian and geranium, helianthemum and hypericum, iberis and iris, linum and lithospermum, phlox and pentstemon, potentilla and primula, saponaria and silene, and saxifrage and sedum growing with great vigour and contributing their share to the interest and attractions which a well-planned rock garden is so well able to afford. The water garden is a little farther down, and this contains an excellent selection of water lilies and a number of attractive subjects that flourish on the margin of lakes and ponds.

Away on the high ground are the kitchen and fruit gardens, with numerous glass structures devoted to fruit and plant culture, and here, as elsewhere there is ample evidence of Mr. T. Prowse's skill and administrative ability.

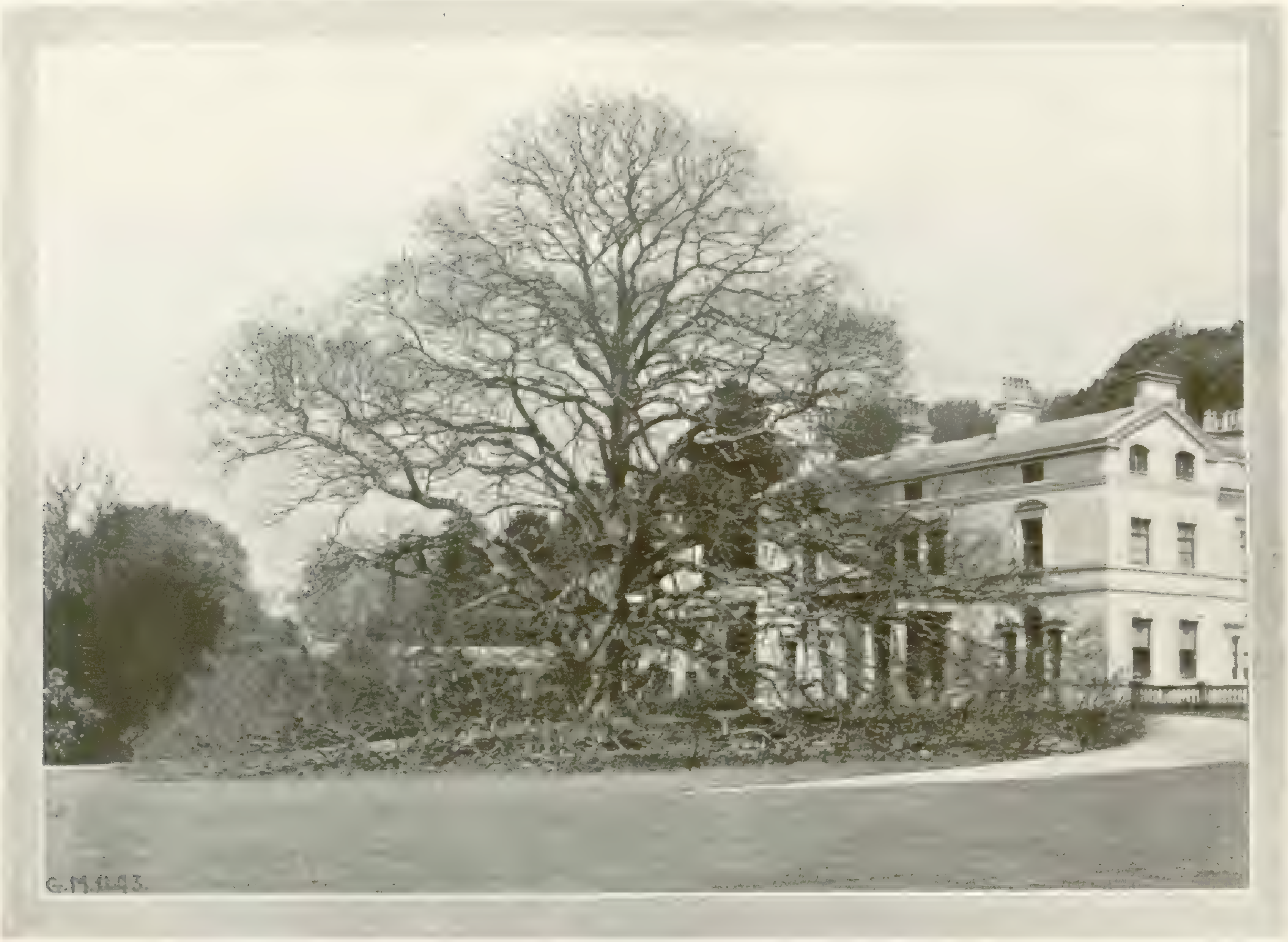
Eltham.

In a visit to Eltham, however short it may be, there is no difficulty in seeing that the owner is well acquainted with rock and other hardy ornamental plants, or of understanding that he fully appreciates their manifold charms, and holds very clear views with regard to the conditions under which they appear to the greatest advantage. There certainly cannot be any doubt upon these points, and as the salient features are recalled to mind, it appears quite impossible to find a garden of similar area wherein the interest could be more varied or the attractions greater than that which Mr. Eden Phillpotts has as a setting to his charming residence.

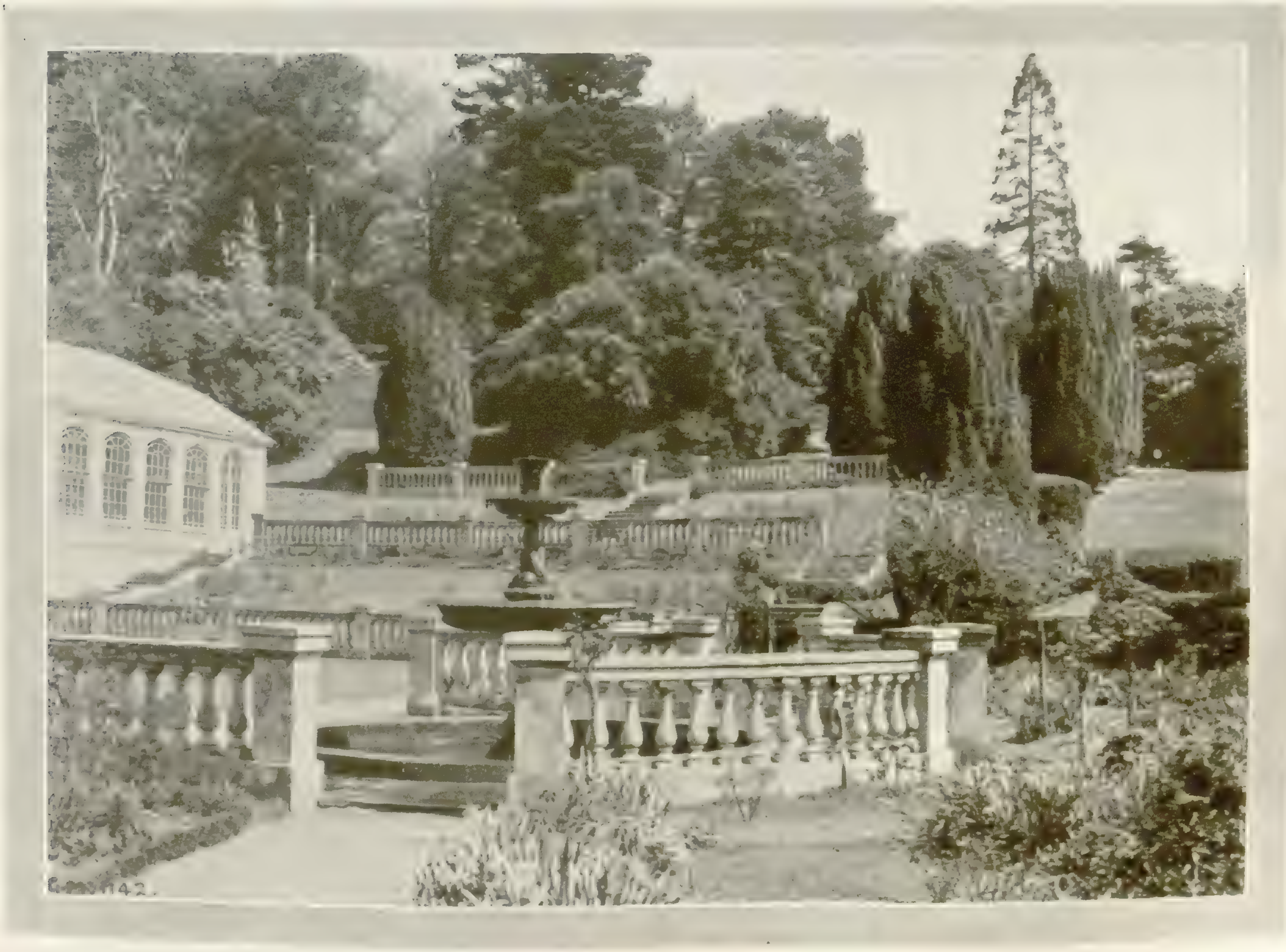
As in so many other instances in and around Torquay, the garden is formed on the side of a hill, with a sharp slope, and whatever difficulty there may have been in dealing with the ground, it was successfully accomplished by forming levels at two or three points, and dealing with them in such manner as to suggest that the terraces and the slopes owed their origin to a desire to provide for the requirements of the plants with which the garden is so tastefully embellished. The residence occupies a site at the higher part of the ground, and therefrom there is a gentle slope, with velvety turf as a covering. At the bottom of this slope is the top of the rockery, which extends the whole length of the house, and rather sharply slopes to the terrace walk. In front of the latter is a border which is supported by a light brick wall, carrying elegant pillars that form admirable supports for the arches over which rambling roses fling their sprays of foliage and flowers in graceful profusion. At the foot of the wall is a narrow border in which various choice shrubs have became established, with a large, finely-kept lawn beyond.

Rock plants and roses constitute the predominant features, and without pausing to enquire which is the more important of the two, it may be said that both are rich in interest and instruction, and contribute their full share to the attractions of the garden. The rockery, of which a glimpse is seen through the openings between the pillars, was so arranged as to afford accommodation for as large a number of plants as possible, but ample provision was made for the extension of the roots, and evidence of this is found in the vigour of growth and the profusion of flowers. In the lower part of the lawn there is a second rockery, not so large as that near the house, but not the less interesting on that account. On the two rockeries there are upwards of one thousand species and varieties, and a finer representation of the denizens of the Alps could not well be desired in a private garden. Certainly few gardens contain so comprehensive a collection, and the success that has been achieved in the cultivation of alpines by Mr. Eden Phillpotts and his skilful gardener, Mr. Sharland, affords an excellent object-lesson on their great value in gardens of somewhat moderate dimensions.

The border immediately in front of the



LUPTON HOUSE—MANSION AND TURKEY OAK.



LUPTON HOUSE—THE FOUNTAIN GARDEN.

terrace rockery is devoted to dwarf and standard roses, and, although the position is naturally hot and dry, they make an excellent growth and bloom freely. Their robust health is probably explained by a deep rich border. That the border has been well prepared, and its fertility adequately maintained is suggested by the appearance of the ramblers, which grow vigorously and give a wealth of bloom in their several seasons. The illustration of the arches represents the roses as they are commencing their growth, and will be more useful in showing the method of training than one representing them at a later stage; but it is only by seeing them when the greater number of the varieties are in bloom that an adequate idea can be obtained of the charming effect that is annually produced. A pleasing feature also is that formed by the lily pond in the lower part of the ground, this having been designed with due regard to the requirements of the water-lilies and also to the needs of the various plants that thrive on the margins of lakes and ponds where their roots can have ready access to an abundance of moisture. Lilies of another kind are also successfully cultivated, and in the season of growth, as the plants approach the flowering stage, may be seen big specimens of Lilium auratum rising to a height of eleven feet, and plants of L. giganteum, with stout stems having a height of between ten and eleven feet. The handsome L. sulphureum and L. Henryi attain to so high a degree of development as to prove a veritable surprise to those who are only acquainted with examples of these lilies of the usual character. On the terrace are fine specimens of Clianthus puniceus, Magnolia grandiflora, and actinidia, which annually bloom with remarkable freedom, and the effect produced in the season of flowering by the great masses of brilliant crimson and pure white flowers must be singularly beautiful.

George Gordon.

*** The second article on the "Gardens Round Torquay" will appear in our issue of the 26th inst.

PILMUIR—ROCK GARDEN AND SUMMER HOUSE.

VARIEGATED-LEAVED CHRYSANTHEMUM.

The editorial answer to "T. M.," Halesowen (page 197), in reference to a variegated-leaved chrysanthemum, brings to mind one which was exceedingly popular 40 years ago. I allude to the variety Sensation, which was distributed by the late Mr. William Bull, of Chelsea, in 1865, and was given a First-class Certificate by the Royal Horticultural Society on June 10 of that year. It was of free growth, and the variegation clearly and regularly defined, each leaf being broadly margined with pale yellow. The flowers were of the pompon type and pure white in colour, but the beautifully-marked foliage formed its claim to recognition. I speak of it in the past tense, for it has, I believe, long since dropped out of cultivation. It is very questionable if any variety of chrysanthemum has since that time proved as remunerative as Sensation, as for a few years it was sold by thousands. The great cause of the popularity of this variety was its advent just as the ribbon border craze of flower-gardening became very acute, and this variegated-leaved chrysanthemum proved itself an ideal subject for this purpose. The late Mr. John Wills, one of the pioneers of this phase of garden decoration, used the variegated chrysanthemum largely, and his lead was followed by many who aspired to meet with similar distinction in that particular line. Carrying one's thoughts back to the time indicated, no regret need be felt that the embellishment of our gardens is carried out in more rational manner than when the available space was simply occupied with long lines of colour.

W. T.

THE CORNELIAN CHERRY.

Among large growing shrubs this is one of the showiest in February, for during the latter half of the month it is covered with its small yellow blossoms, which create an effective display, especially on a bright day. Scientifically, the Cornelian cherry is known as Cornus Mas, while it may be occasionally found in gardens under the synonym of C. mascula. Under favourable conditions it attains a height of 16 or 20 feet, with a wide spread, but it may be kept lower by drawing out the strong leading shoots occasionally. The leaves are oval and of no ornamental merit. The flowers are borne in small heads from most of the axillary buds, and they are succeeded by oval fruits, which, when ripe in September and October, are scarlet in colour. It is a good shrub for a back place in a shrubbery, a mass in the wild garden or a group on the outskirts of a plantation, and rarely fails to give a good account of itself.

There are several varieties with variegated leaves and others whose fruits show a variation in colour from the type. The former are the most conspicuous, and good ones are aurea elegantissima and variegata. The latter is the more vigorous of the two, and has pretty silver variegated leaves, which keep their colour well throughout the hottest summer. It is a good shrub for a conspicuous position. The other has golden variegated foliage, but is a less vigorous shrub, though handsome when at its best. The type is a native of most parts of Europe and some parts of Asia. Its wood is very strong, and its branches are used for walking sticks, while those of greater dimensions are made into forks for various agricultural purposes in some Continental countries.

W. D.

Kew.

A CHAT ABOUT FRUIT CULTURE.

At the present time, when many persons in this country are turning their attention to the land, and the possibilities of rearing a healthy, thrifty people on it, the Colonies are not idle, inasmuch as some of their best representatives are in England at the present time setting forth the great possibilities that doubtless do exist in certain localities, more especially in the vast regions of Canada, for those who possess capital, and the necessary knowledge, and a healthy desire to apply these in a proper form.

I have listened with much interest to the clearly-explained possibilities that lie in front of those who would take up fruit growing in British Columbia, for instance, and have also admired the lecturers for telling us that it is not our undesirables they are craving for, but those who are prepared to take sufficient capital to tide them over the initiatory stage of such undertakings. From the excellent fruits of British Columbian apples seen at various shows during the past few seasons, one is prepared to affirm that they are excellent in every way, carefully graded, splendidly packed, without outward blemish of any description, and each variety true to character. We have been told that in no other country (certainly not in England) can such a high percentage of first quality fruit be obtained, and one cannot altogether dispute this point. But we do know that fruit growing in some of the districts is in its infancy, and that youth has a great deal to do with the standard of quality; as the trees become older and the soil more exhausted, and the branches damaged, so the percentage of A1 quality must recede after the trees have reached their maximum stage.

PILMUIR—A RAVINE IN THE ROCK GARDEN.

The time is coming in England when because a person takes off his coat to work he will not be considered incapable of higher thinking and organising powers, and there is not the slightest doubt that if those who go to the Colonies were only prepared to do with less of the social side of life at home, and would work with the same will and sacrifice, be it fruit production or anything else, they would succeed.

When one goes about inspecting trees here and there, it seems deplorable that in a country like ours there should be hundreds of acres that are a disgrace to any nation, and a serious menace to those who would like to do better but are overshadowed by fungoid and insect pests: and no one may take steps to condemn such injustice being done to a neighbour.

There are in England to-day hundreds of acres of land yielding next to nothing that would grow apples to perfection, but if money is to be made it must be in planting thousands of one variety, more especially those varieties that will keep for some months. For market purposes it is the height of folly to grow a few trees only of what are supposed to be the best varieties, and which scarcely anyone agrees about. For private use, and in large establishments, a few more varieties are necessary, but from experience I am convinced of the futility of planting a few trees of possibly a hundred varieties for really practical purposes. They are a serious hindrance, and a positive nuisance at storing time, and next to useless should it be necessary to market the fruits, as is sometimes the case in private establishments.

I am often sorry for the gardener, as regards the fruit trees he is called upon to tend. It often happens that the owners know nothing about the laws that govern tree life, more especially fruit tree life, and men often find, on taking a fresh situation, that the trees are old, or, if young, have been seriously mismanaged. I may be wrong, but, in my opinion, every man should know something about the building up of fruit trees, and be intimately acquainted with stocks and their influence. One can learn so much more by training a few trees oneself, not only their heads, but their roots also, and it is these latter that are the key to the successful treatment during the first five or six years of a tree's existence, and upon the treatment then accorded will depend the future success.

I might say a few good words for our best fruit growers, because they spare no pains to keep their stocks healthy, and by the frequent removals their stocks are subjected to, a fibrous root system is encouraged which has a beneficial effect upon the tree for life. So much depends upon the right kind of stock, and the manner in which that stock is managed, even before the process of budding is performed. When buying trees I would far rather, had I the choice of very vigorous trees or those of moderate growth, take these latter, as being likely to produce the best results after removal. I have sometimes been prevailed upon to buy trees I have not seen, and from sources practically unknown, these being offered as "better than can be had from any other source at the same price," but, on arrival, have frequently found that the true principals of fruit tree formation are ignored for the sake of wood production and a "big tree."

I have seen cordons of three years' growth with not a sign of blossom, and with roots that have certainly never been moved since before the bud was inserted. However, our best fruit tree producers never lose sight of the destiny of their trees, and cordons that will have fruit buds in their second year may be bought in quantity from any reliable source. For producing first quality fruit, either for private or market use, there is nothing like plenty of cordons and dwarf bush trees; these latter, when properly managed, will bear from 25lb. to 35lb. of fruit per tree at seven or eight years from the bud or graft, in the larger varieties. If trees are two or three years old on the paradise stock when purchased, by the time they are six years old (if properly treated on their arrival from the nursery), they will, in good garden soil, require to have been bodily lifted at least twice, have their roots severely shortened, and be firmly replanted. Trees managed upon these lines will not require as much pruning, as the branches will be studded with fruit buds, and, usually, the only growths that produce shoots are the leading bud for extended growth, and the two immediately below it. Surely it is a saving of labour and a profitable investment when trees are brought into early bearing by cultural management, and until one practices various ways and means to attain some object one cannot truthfully say that they are not practicable, or suited to their case.

ELTHAM—ROSE ARCHES ON THE TERRACE.

Everyone knows that a tree moved from one portion of their garden to another, and carefully planted, will be little affected, more especially in the case of apples on broad-leaved English paradise stocks. The case, however, has a totally different bearing when trees come a long railway journey, are mutilated or broken at the roots, and have been dry for nearly a week. These sustain a severe loss of energy, and unless something drastic is done to bring about the right conditions for growth, the young trees bought with such high hopes will not prove a blessing.

Notwithstanding all that has been said, and written, in England of late years in connection with this question, it is still a fact that thousands of young trees are annually ruined because the owner does not bring to bear upon them a few simple common-sense rules. It is frequently the soil or the climate that are at fault, or so it is stated by the owner, and if one tried to convince him that it was his own judgment at fault the attempt would fail.

Although growing a goodly number of both standard and bush trees, I prefer the latter for quality and quick returns; they are easy to prune, and to gather from, and handy for applying washes as preventives of insect pests and fungoid diseases. Where horse labour is cheap much may be done with trees on crab or seedling apple stocks as the ground between may for some years be deeply cultivated, and a system of intercropping pursued without in any way doing damage to the trees, the cropping may be of annual duration, or may take the form of bush fruits, which are easily propagated by the thousand. I should like to see every farmstead in England remodelled as regards its fruit trees, because, with the natural conditions of farm life, and horse labour for cleaning the land, if the residents understood anything of fruit growing, they would find a few acres of fruit trees a source of profit. There are a few who are gradually increasing their fruit quarters yearly on land they have acquired, and the general farm crops are growing fewer on that account. I am quite convinced the only way to become fully acquainted with the management of fruit trees of any description is by studying them carefully, root and branch, from their earliest stages, and as each tree requires individual treatment, so it must be understood at pruning time by those in charge. If owners of gardens only knew the value of well-trained young trees, we should soon find many of the old specimens that are now kept to grow wood and moss converted into ashes, and thus brought back to the land in a useful state. We grumble at the farmer because he does not spray his trees, and go into scores of otherwise well-kept gardens, where the employers will not spend the few shillings necessary to free the garden walls and old trees of their living freight of pests.

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The frame is filled in September with strong clumps of double blue violet (Marie Louise), from which a good bunch can always be picked from that date until April. After then the frame is wanted for hardening off plants for flower beds and window boxes. In summer it is filled with seedlings to be grown on later in the greenhouse, and then the frame is again used for violets. The garden walks are spanned at intervals with rustic arches covered with roses of the rambler type, which add greatly to the beauty of the garden in July. The herbaceous border is planted with a choice selection of hardy plants in up-to-date style, indeed the whole garden forms a fine object-lesson of what can be accomplished by an enthusiastic lady who devotes her attention to horticulture.

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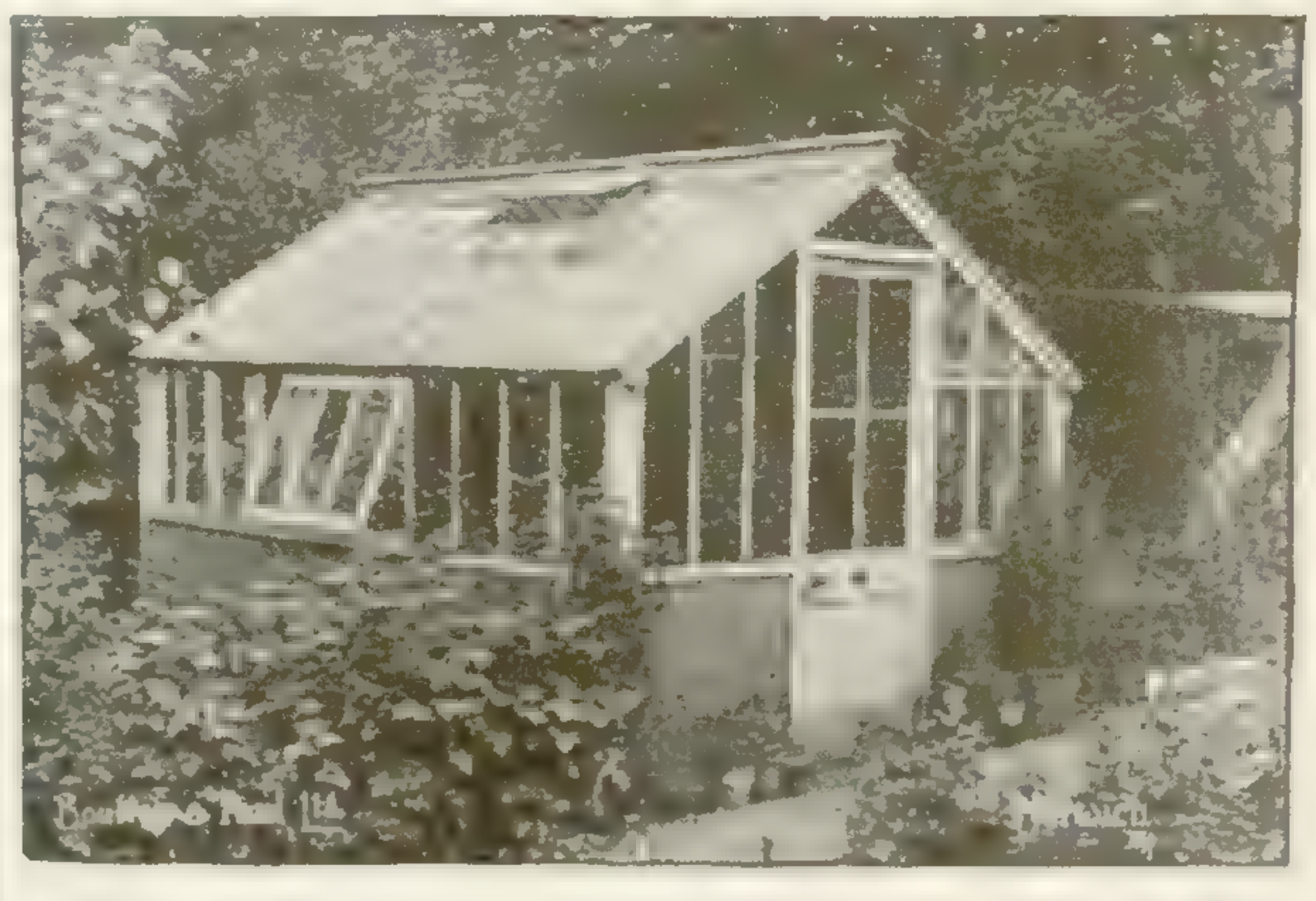

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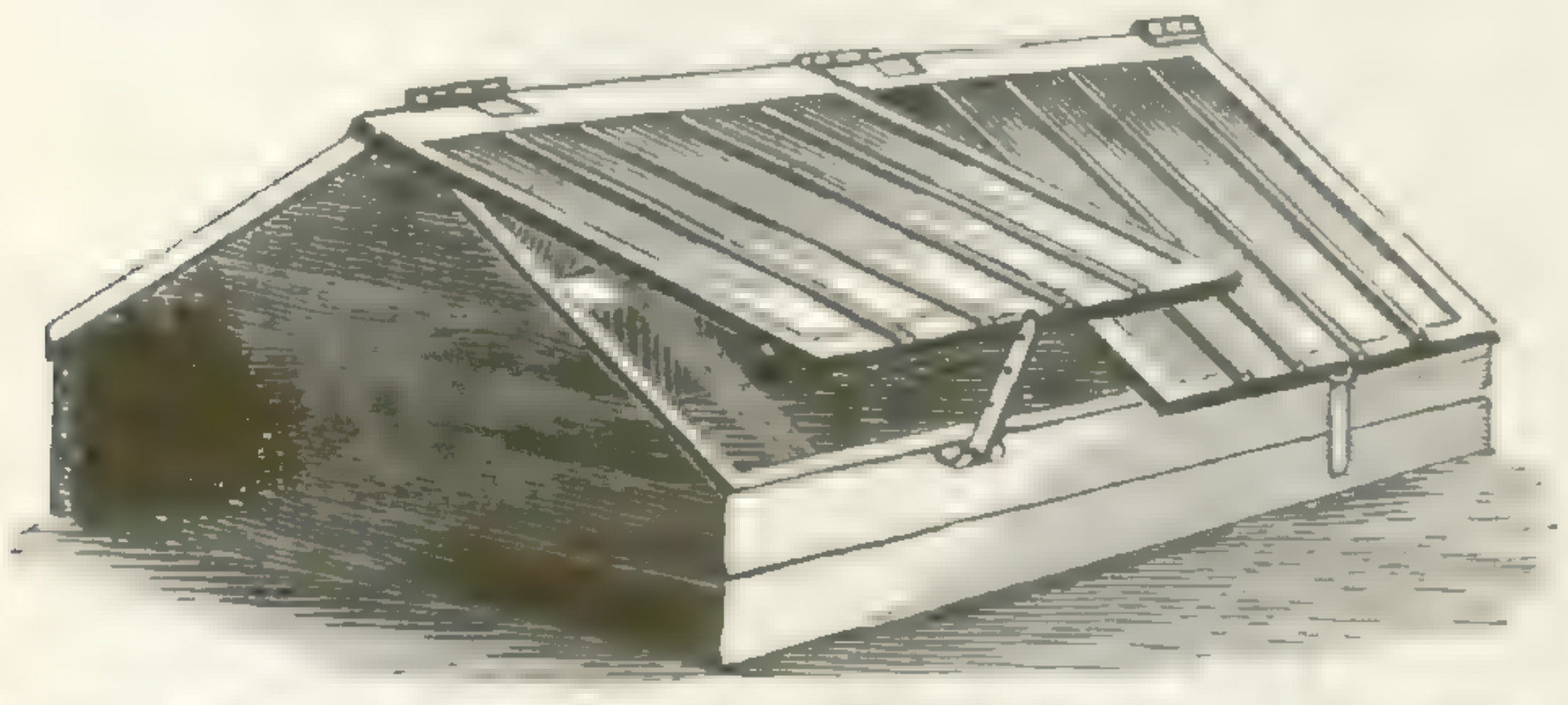

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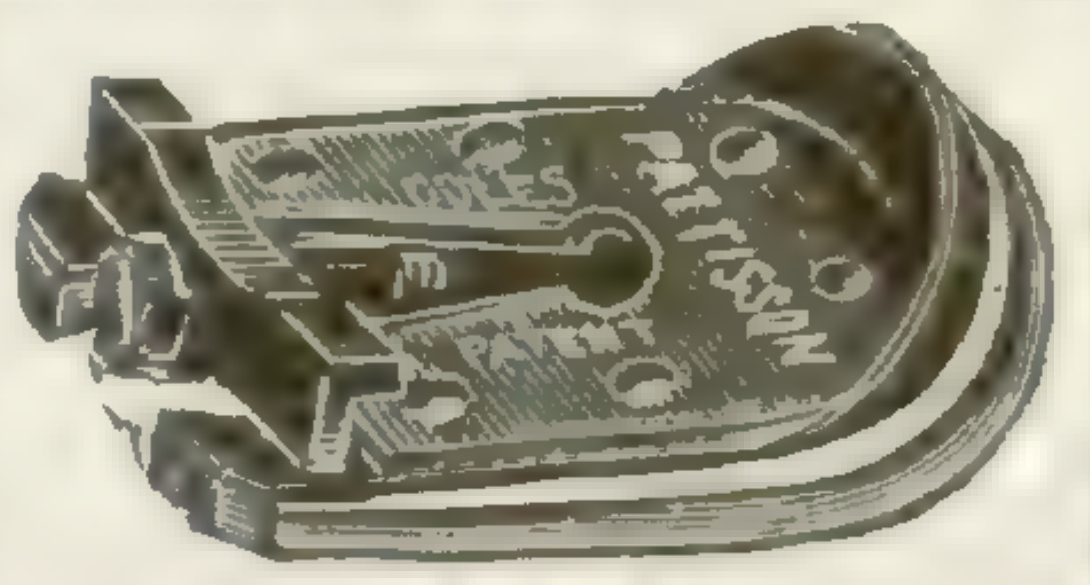

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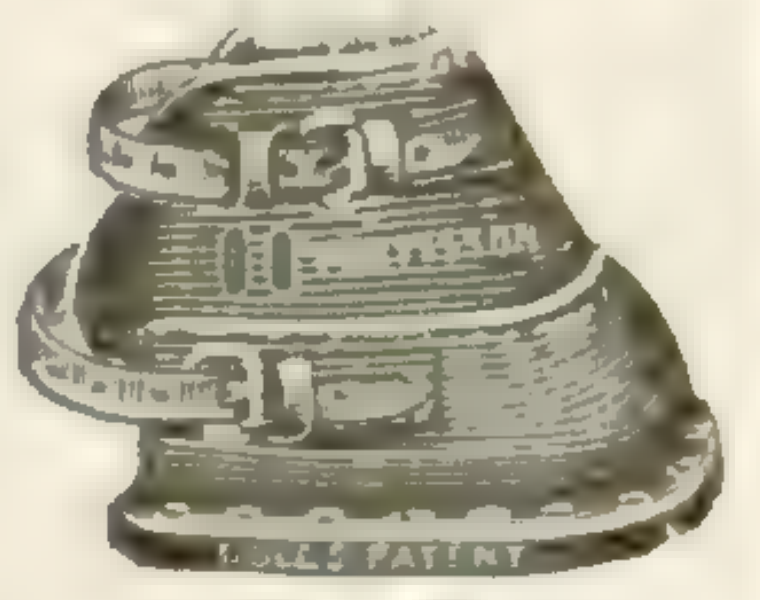

FIG. 2.

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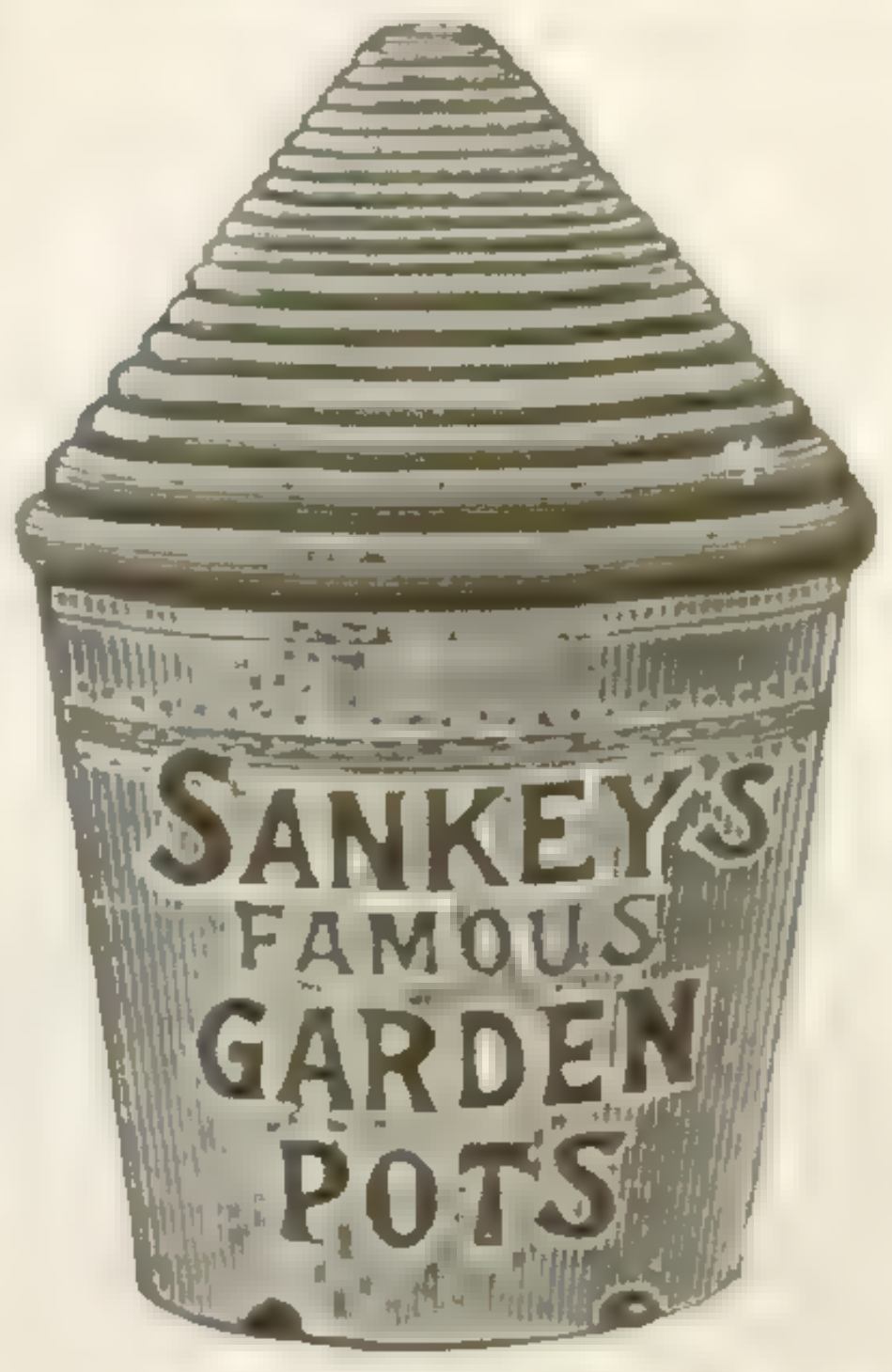

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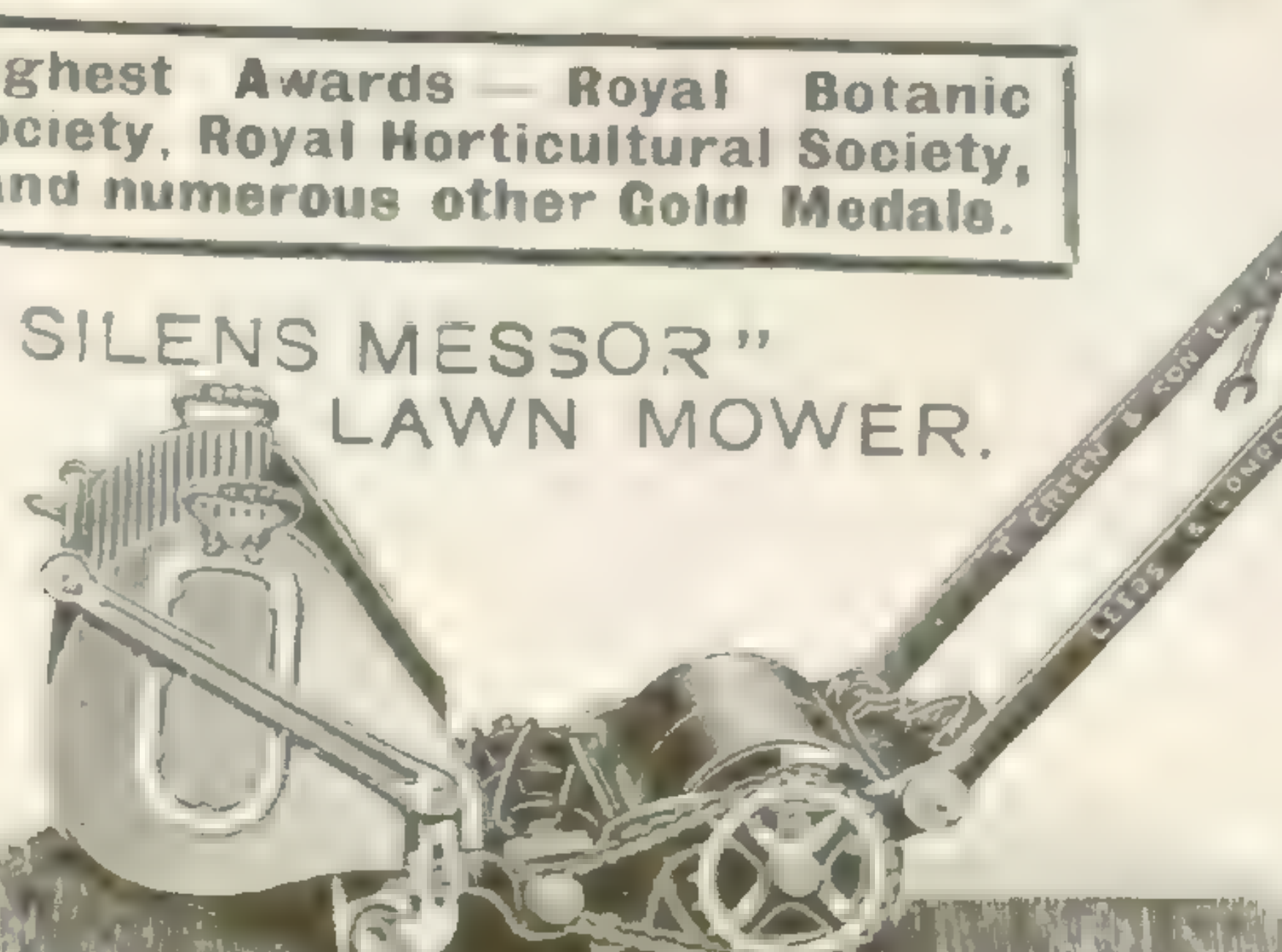

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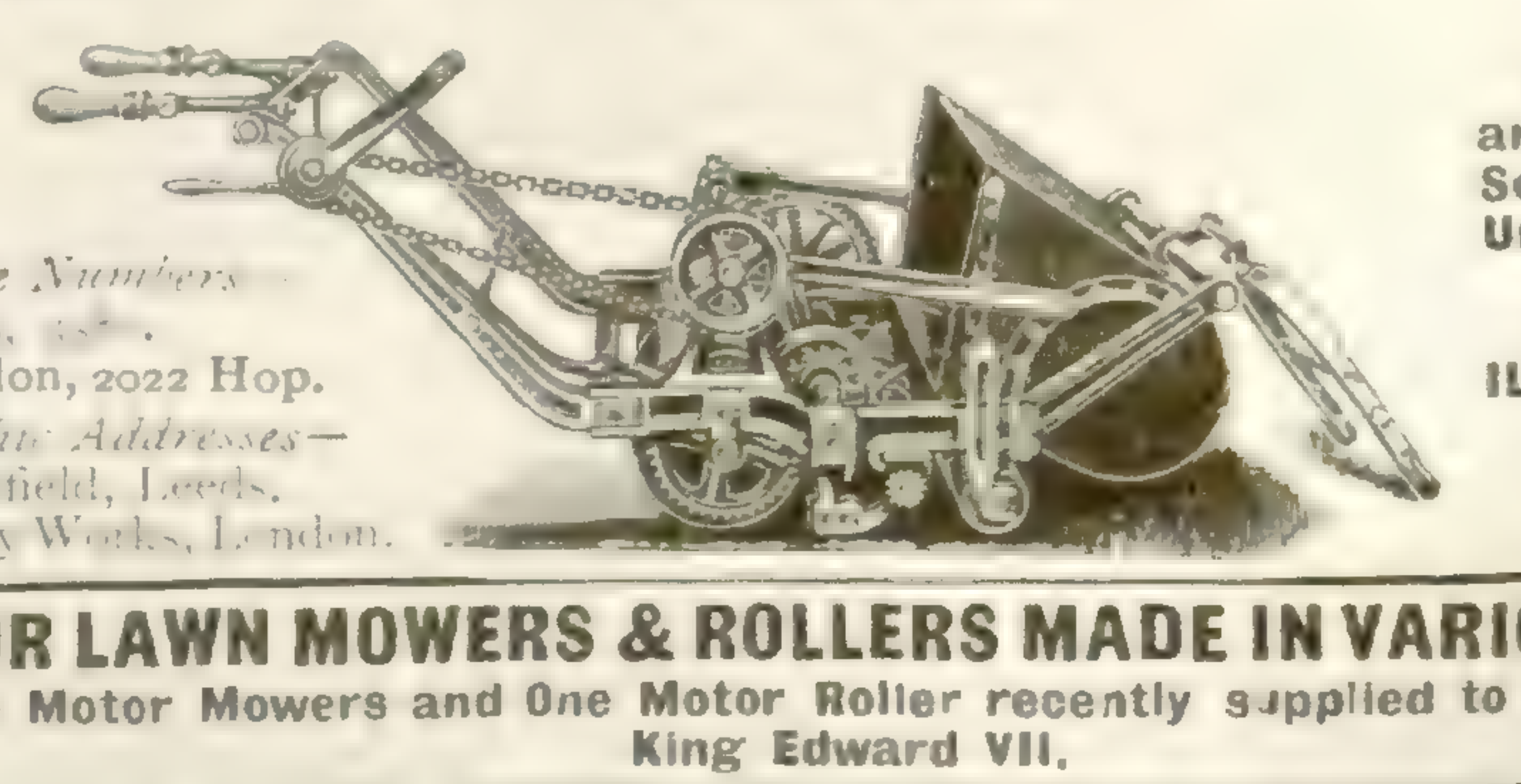

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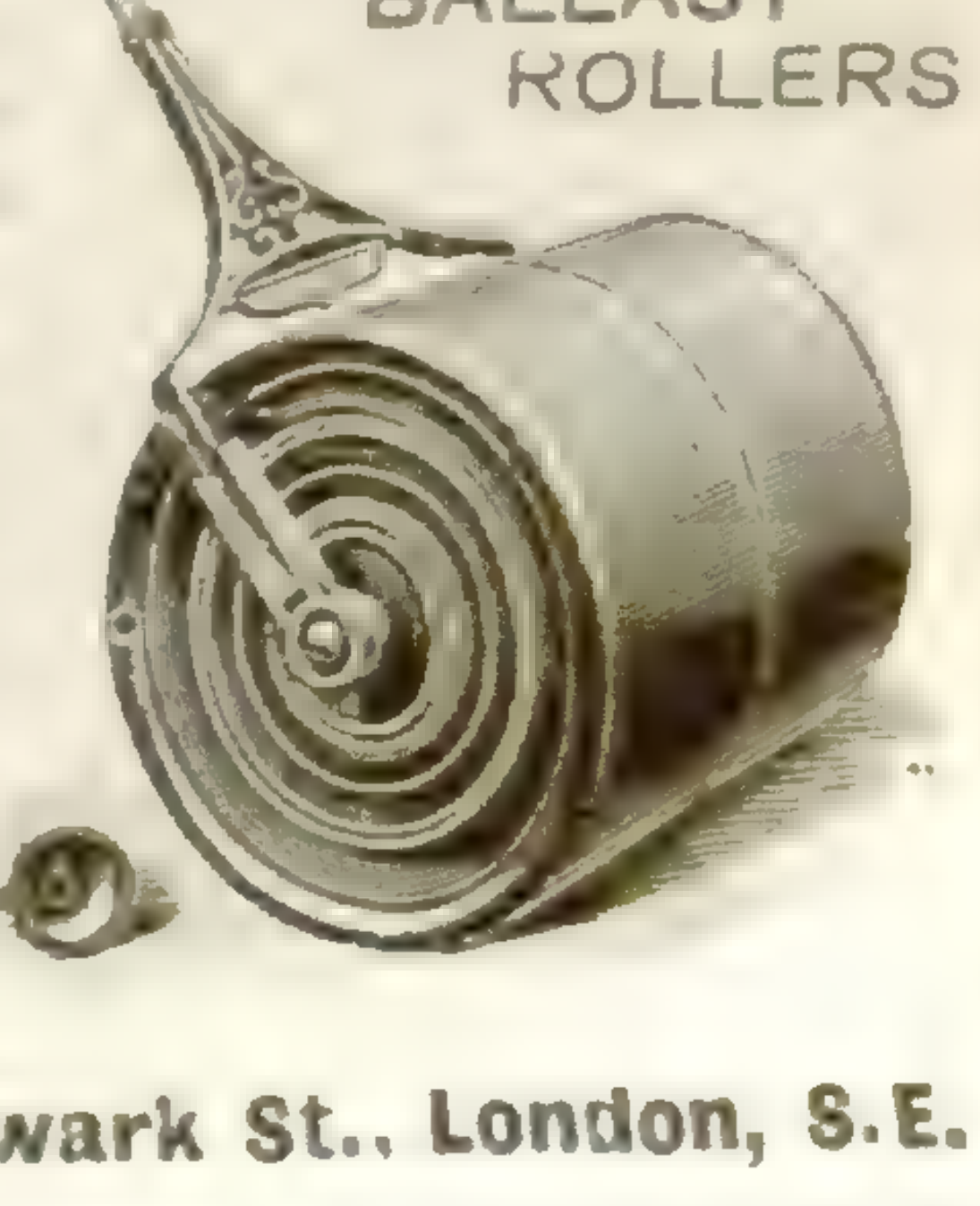

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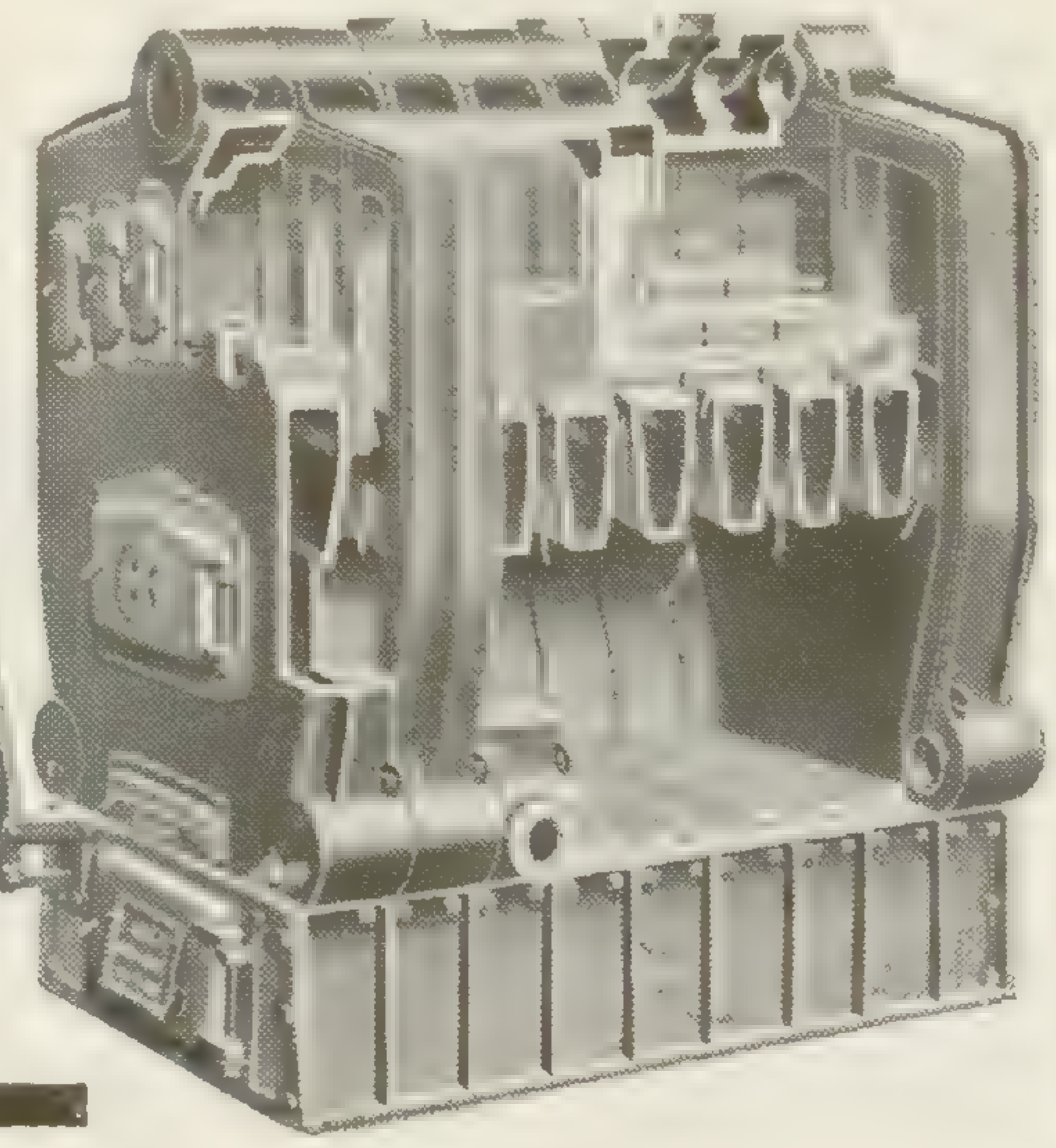

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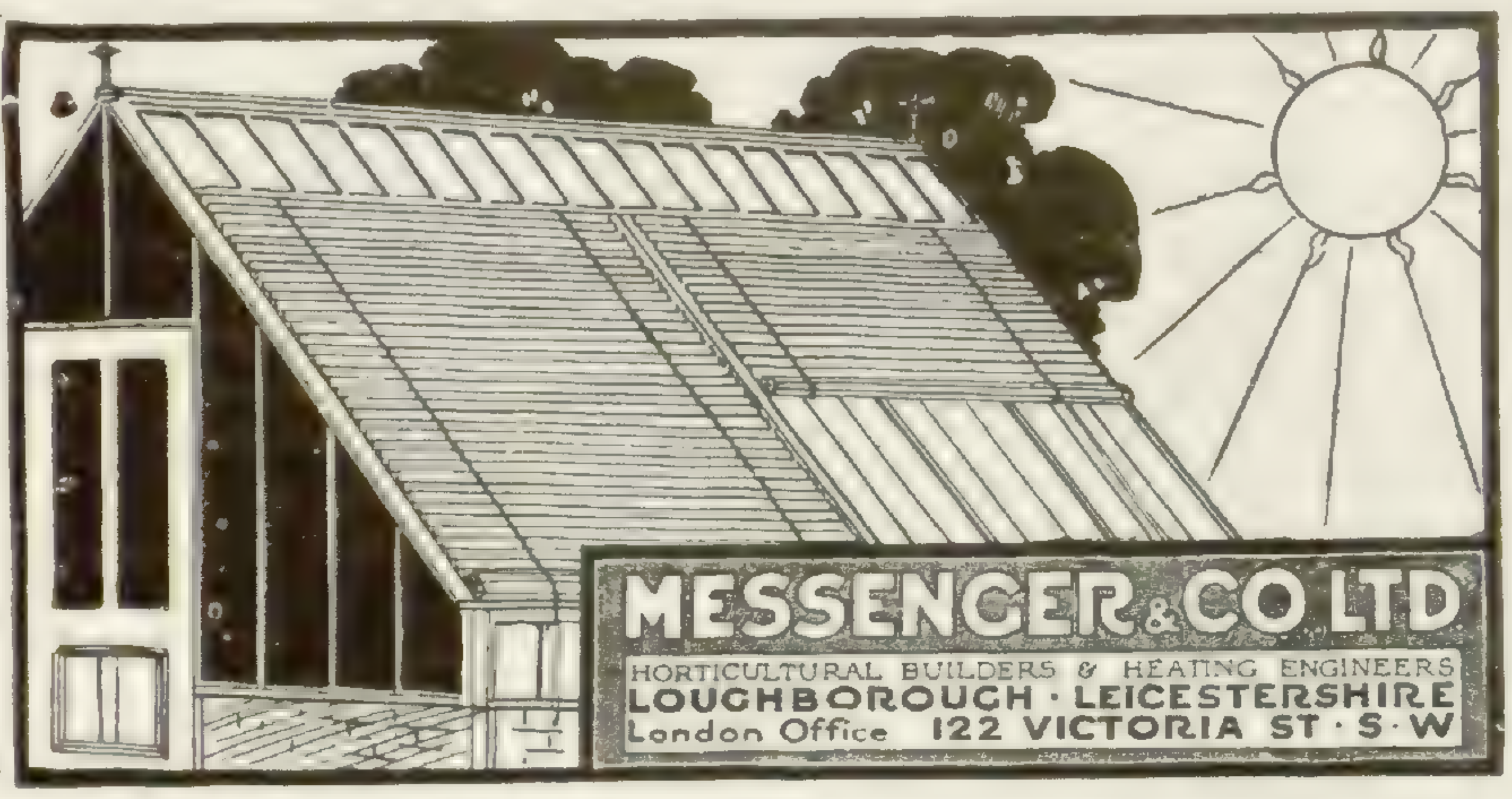

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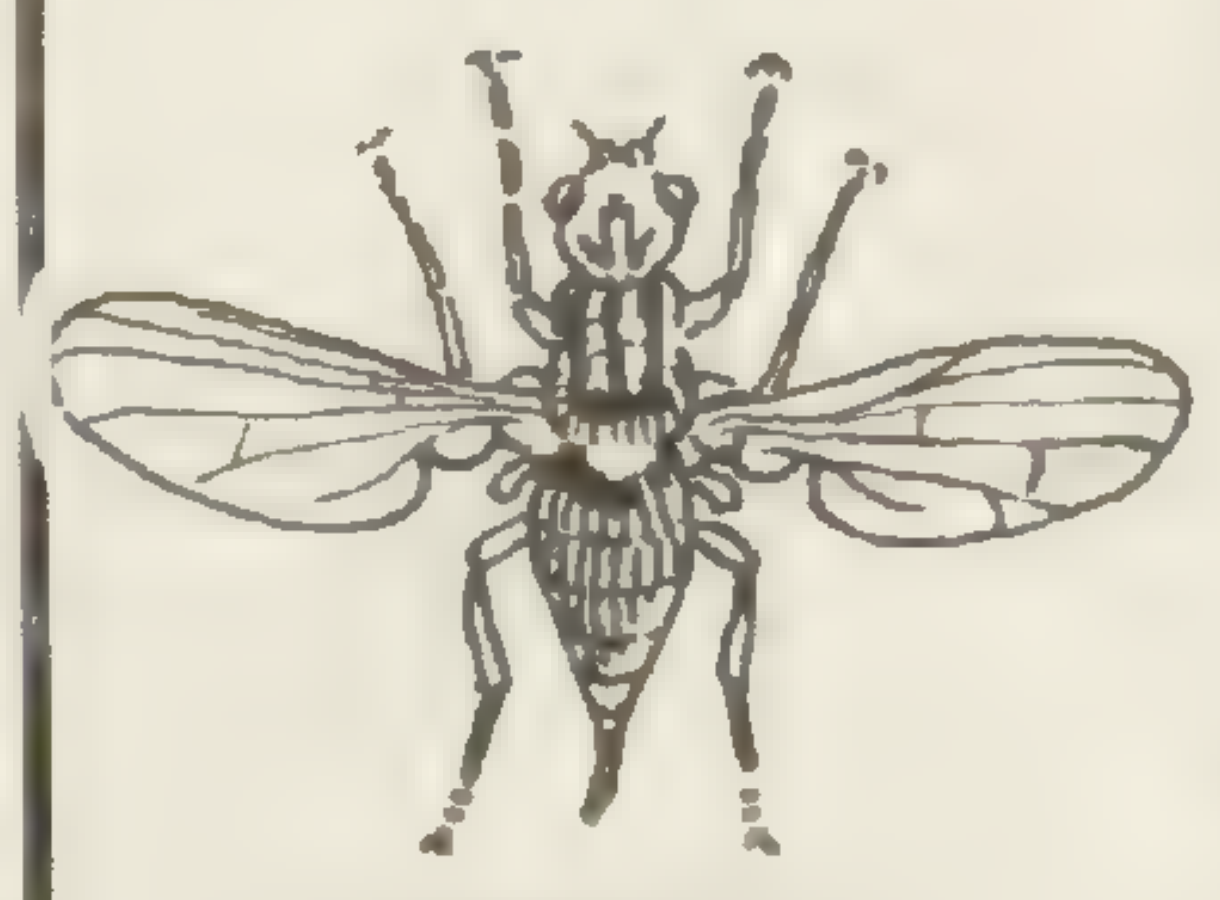

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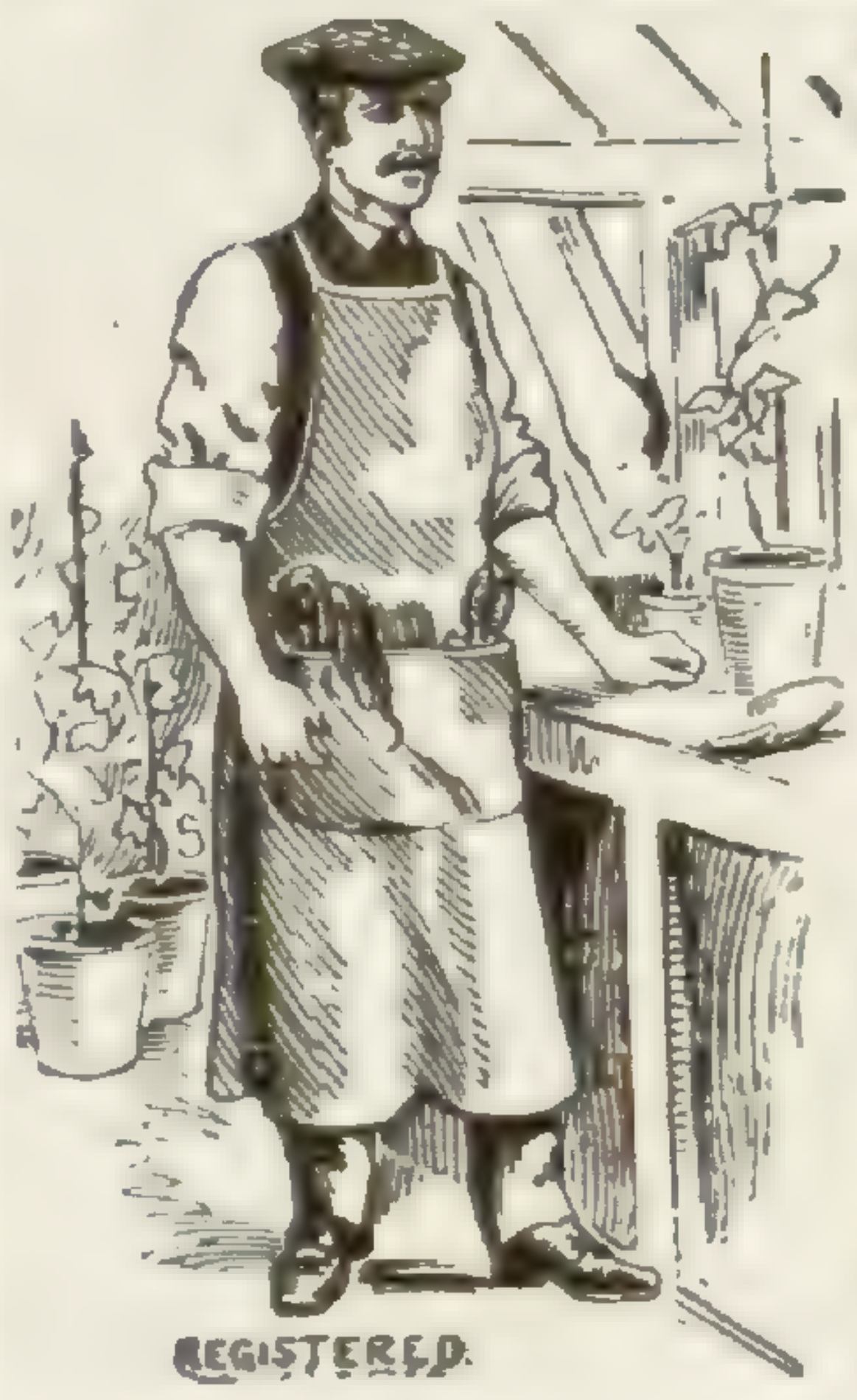

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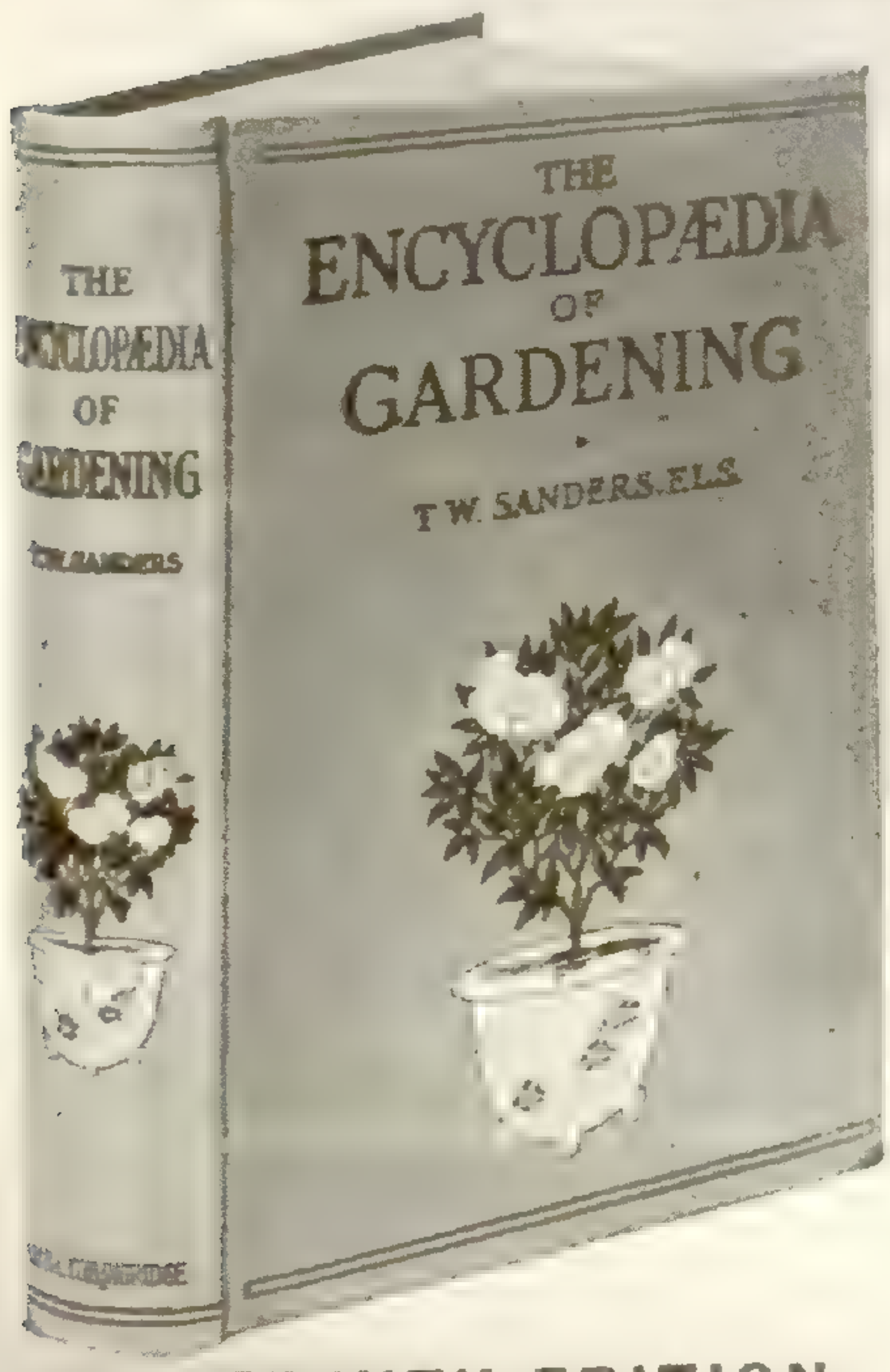

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OUTDOOR TOMATOES.

With the introduction of new tomatoes of a more precocious character than we had formerly, much has been done to encourage open-air cultivation of these fruits. We have now sturdy, free fruiting kinds far in advance of those of a few years ago, when our earliest tomatoes were chiefly of the corrugated, or ribbed, type, which detracted somewhat from their appearance whether for private consumption or for market. The ribbed appearance seems to be a characteristic of the very earliest croppers, and although we have now almost succeeded in obliterating that peculiarity, I have noticed at times it will still show itself, though it is quite possible that a too gross or luxuriant growth may be responsible for this reversion to the original shape, though such reversions may often be seen in winter-fruiting tomatoes.

To obtain good plants for outdoor culture, seed should be sown early in March; if sown earlier they become stunted and starved before the weather is warm enough to risk putting them out, so that there is nothing gained by being too early. The plants start away much better if unchecked before planting. It is essential for success to have well-established plants previous to planting out, for the better and stronger they are the quicker will they commence to fruit and ripen. In our variable summers outdoor tomato culture is something of a speculation, therefore every encouragement should be given the plants during June, July, and August, and also during September.

Our summers are far from being favourable to the fruiting and ripening of tomatoes growing in open quarters, and while many are planted with the expectation of securing crops, such expectations are not always realised. The summer of 1909 proved the speculative character of outdoor tomatoes, therefore every warm place on houses, or suitable aspects on walls, should be utilised for tomatoes.

The system of growing the plants will be similar to that recently advised for indoor culture, viz., the cordon system. If the tomatoes have been grown steadily, and moderately cool, then the end of April and the early part of May, in the warmer localities, will be soon enough to put them out against walls, and May or June, according to situation, for planting entirely in the open quarters. Good plants should be put out in either positions, and if they are well established, showing the first flowers, a considerable gain will be made towards cropping.

The culture after planting will consist of the removal of all lateral growths as they appear, keeping each plant to a single stem. The amount of crop produced will depend on the season and position, but it is a waste of energy to allow fruits to be formed which can never be ripened, therefore, as the season advances, the leader should be stopped to hasten the ripening of the crop, while the fruits that cannot finish outside may be gathered and fully ripened on a warm shelf indoors.

In many private gardens there are vegetable frames or pits, and these, if not required for other purposes after the early crops are lifted, can be utilised for tomatoes with a large measure of success. Such places also relieve some of the houses that may have to be used for earlier crops of tomatoes. The treatment recommended for house culture will suffice for frame plants.

The selection of varieties is always an important point, and herein there is no lack of choice; evidently there are no bad tomatoes, and safety does not depend so much on variety, as on suitability. There has been much endeavour to produce an early variety for outdoor culture, but the very earliest are not quite the smoothest fruited, and the smooth fruits of attractive appearance are demanded nowadays. Outdoor, Sunrise, Dwarf Red, Hipper I., Stirling Castle, Up-to-date, and all the small or ornamental varieties given in the recent article on "Summer Crops of Tomatoes" are among the best for outdoor culture. The smaller-fruited varieties are very suitable for the cooler conditions.

T. H. Slade.

SOME USES FOR SWEET PEAS.

The immense popularity of the sweet pea as a vase and bouquet flower is a thing apart from its fame as an exhibitor's blossom. There is another manner in which it is entitled to be highly valued, however, and that is as a garden ornament.

Instead of viewing an annual that requires to climb as an untidy grower, let us see what can be done to show it off to the best advantage, and yet make it add to the effect of the pleasure grounds. To begin with, banish the usual pea stick; it is the too wide practice of training sweet peas upon this that has caused it to be relegated to the kitchen garden, or placed in rows and groups in reserve beds. Single plants tied up to a slender bamboo cane each make excellent pillars, and enable the real grace and beauty of stem, foliage, and bloom to be fully appreciated. It should be remembered that Mr. Brotherston, a noted Scottish grower, gave similar advice some years ago. He counselled: "Grow the plants singly, allowing each plenty of room. If you are able to get plenty of good loam, allow each plant one and a-half barrowfuls, and of leaf-soil half a barrowful, incorporating these with the top spit of the garden soil."

In no other way can the sweet pea plant be fully shown as an individual instead of a member of a crowd. Those cultivators who wish to discover whether certain varieties that seem much alike really possess points of difference, cannot do better than adopt this method. Rows of bamboo-trained sweet peas, the pillars wide apart, make a beautiful background to a border of low-growing annuals against a fence, or not far from wall or trellis covered by roses, or may occupy the middle row of borders and long-shaped beds in the open.

This style of growing has, therefore, a distinct decorative value; it is not calculated, though, to display the sweet pea as a colour producer; probably a hedge of one variety is the best means of achieving this, except in the few gardens in which there exists a large dell that can be planted at summit, base, and all up the sloping sides, with a scarlet, rose, blue, mauve, or orange variety. By utilising the slopes the heads, or chiefly flowering tops of sweet pea clumps are congregated on slightly differing levels, so that a bank effect of bloom is gained, and lower stems remain hidden. Some terrace slopes look well similarly treated; the lowest sweet peas must show their stems, of course, next to the path, but it is a good plan to use a row of the dwarf Lathyrus sativus azureus, the sky-blue miniature pea, to minimise the bare look that will otherwise displease the eye solely by its excessive contrast with the massed blossom show above. There is a pure white Lathyrus sativus that should be useful in places where the sweet peas are mauves, or blues, with which azure would not harmonise, but I am not able to state from experience whether it is as dwarf as the blue.

Hedges of sweet peas do not demand the usual faggots: a capital support can be made by bamboo canes at intervals, with five or six horizontal lines of string stretched taut between, and some vertical strings tied up these, ending in wooden pegs in the ground; up the latter strings the young tendrils will cling quite as readily as to the fine twigs usually given for their first hold.

There is no rivalling the colour of an orange sweet pea, massed in full sunshine, with a surrounding of green turf; every man may choose his own favourite variety, and thus fully prove its non-fading character. The hue is more striking than scarlet, because we have so many flowers of various heights that supply vermilion, or blood-crimson; the same may be said of rose and mauve, white, cream, and maroon, as well as the sweet pea shades of blue. Salmon varieties are also exceedingly valuable for garden effects.

Sweet peas for front gardens were unheard of a few years ago, once more because the faggots were, perhaps rightly, considered so uncouth. Hedges, trained on wire, bamboos, strings, or, as I have seen successfully carried out, over sweet briar hedge foundations, may well flank the tradesman's path, making, as they will do, gorgeously blossoming screens of four to six feet height. A free use of the handsome tall galvanised sheep-wire supports, sold for the purpose, in bed centres, and as lawn pillars, will further improve front gardens, while the employment of the sweet pea as a summer climber to cover bare stems of permanent subjects, such as roses, clematises, and ampelopsis, cannot be too strongly advocated. Many house fronts or verandah pillars, archways, trellises, or summer shelters show these leafless old trunks of well-established climbers, and against them, in an adequate measure of new soil, the sweet pea is willing to flourish. Mauve peas, with yellow roses, blues with pink, cream with red, white with crimson, salmon with purple, offer some beautiful harmonies.

There is an airy grace, a summer softness of look about these flowers that can only be fully observed when the plants are perfectly trained and flourish in full healthfulness; of this truth every cultivator should show himself to be aware, and surely garden occupants that are with us for so many months deserve every effort from the grower. It has been truly and poetically said:

> "O blossom poised for flight,
>   Yet resting still
> That butterflies may light
> In quivering delight
>   Just when they will.
>
> O colour-petals rare,
>   Rose-blushing, red,
> White, azure, each more fair;
> Summer remains our share
>   Till thou art shed."

M. H.

Ivy Growing on Walls should now be trimmed back, and the trimming should be done somewhat severely if the walls are to be kept neatly furnished. The old stems and growths adhering to the bricks or stonework will soon produce an abundance of young foliage, and ivy-clad walls so treated afford little harbour for sparrows or other undesirable vermin, and at the same time there is less risk of the ivy breaking away from the wall by an undue weight of lateral growths.—W. Hedley Warren.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEEDLINGS.—It is advisable that seedlings which have been either in store or seedling pots should have attention, and be repotted, if necessary, as early in the season as possible. The aim of all hybridists of the present day is to shorten the period between the time of seed-sowing and flowering, and with this end in view the plants should have every encouragement. A few years ago a season's growth and a regular period of resting were considered the correct method in so far as they imitated Nature, and the fact that the plants were being treated under artificial conditions was for many years overlooked. This system of resting simply retarded the growth, and in those cases where the plants had filled their pots with roots, simply resulted in starvation, and there was very little advance in growth for many years. We have gained by experience, and now we treat our plants differently, and, by affording them practically the same treatment as that given to seedlings of other plants, we are enabled to obtain far more satisfactory results within about the same period as that required to bring the bulbous plants to a flowering stage.

SEPARATE POTS FOR SEEDLINGS.—In dealing with seedling orchids I have, as most of the readers of the Gardeners' Magazine are aware, advocated putting plants into separate pots at the earliest possible moment. I consider that the requirements of the individual can be thus more readily attended to than is possible under the collective treatment, where several are pricked out in the same pot. The question of room is frequently a serious one, and it is when one is compelled to prick out several together in pots that we are able to observe how frequently the "survival of the fittest" works out during the winter season.

COMPOST.—In the case of cattleyas and allied genera we find that a suitable compost consists of equal portions of fibrous peat, polypodium, broken leaves, and chopped sphagnum, with sufficient sand and broken crocks to keep it open. This must be varied in coarseness according to the size of the plants and pots used. It is not advisable to pot too hard in the early stages of growth. For seedling dendrobiums little else is desirable than finely-chopped moss with a little fine peat and ample sand added. Care must be taken that the sphagnum moss is fresh when used. For odontoglossums the same compost as that advised for cattleyas we find suitable; here again potting should be done lightly, it is quite time enough to resort to firm potting when the plants are nearing the flowering stage. For phaius, cypripediums, calanthes, and most of the terrestrial orchids we add a little fibrous loam, and, to render the compost porous, add a liberal sprinkling of finely-broken crocks. The pots in all cases should be thoroughly clean and drained to about one-third their depth.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

FORCED SHRUBS.—As soon as these have finished flowering pick off all seed vessels and remove the plants to a warm house. Frequent applications of liquid manure will help to develop growth, and syringing twice a day will keep red-spider in check, and also assist leaf and stem development. When growth is completed and hardened, plunge the pots out of doors in ashes, or stand in a cool situation, but never allow the soil to become dry.

SALVIA SPLENDENS.—Plants that were cut back some time since will now have furnished plenty of cuttings, and a batch of these should be rooted now. Seedlings are, however, the best, and can be raised in a few months.

PRIMULAS.—These will now be ready for picking off into a mixture of good loam and peat, with a liberal quantity of sand added. Use 2½in. pots, and keep near the glass for a week or two.

VALLOTA PURPUREA.—These beautiful bulbs, which frequently thrive luxuriantly and flower abundantly in cottage windows, are, curiously enough, often the despair of the gardener. Healthy plants, not too pot-bound, should be merely given a top-dressing. Repot the others in a mixture of fibrous loam, leaf-mould, and sand. Use comparatively small pots, and do not press the soil too firmly. All the plants should be placed in a light position while making their growth; keep the surroundings and the roots moist. When they have completed their growth remove to a cool frame.

CLIVIAS (Imantophyllums). — Specimens coming into flower should have copious waterings. Frequent applications of liquid manure are essential during the period of growth. Those in large pots do not often require potting. Large plants needing attention may be divided, and they will furnish a quantity of useful plants of smaller size. After dividing and potting, place them in a warmer house, and syringe overhead to encourage growth.

SUCCULENT PLANTS.—All the species of cacti which during the winter have been kept dry at the roots will now be showing signs of new growth. This is the best time for carrying out any necessary repotting. As the plants thrive and flower best when grown in comparatively small pots, it is not necessary to repot healthy specimens every year. When it is necessary to repot these shake the greater part of the old soil from its roots, examine them carefully, and cut away any damaged portions; cacti are not greatly affected by rather severe root-pruning. Good fibrous loam and sand, with plenty of broken brick rubble or limestone, is a satisfactory compost for most succulents. Tall plants and those with weak stems will require to be supported with a stake.

CAMELLIAS. — These will now require a slightly-higher temperature and a moist atmosphere. They should be syringed twice daily to keep the leaves clean, and when those not planted in beds and borders have finished their growth remove them to the open air. Freely ventilate the house when growth is finished. — W. Staward, Belford Hall Gardens.

THE FLOWER GARDEN.

BEDDING PELARGONIUMS and similar plants have by this time been potted off, and have made new growths; the latter, if removed and inserted in shallow boxes of sandy soil—or singly, in pots—and placed in a warm house will soon strike if kept rather dry, and make as fine plants as those struck in the autumn; in fact, often better, if carefully grown on for a few weeks in favourable quarters.

DAHLIA ROOTS that were potted a few weeks ago are now throwing up cuttings in abundance; these, when about three inches in length, might be taken off with a small piece of the old tuber attached, inserted singly in 2½in. pots, and plunged in a temperature of about 70 deg.; the cuttings should be well watered in, but care be afterwards taken to prevent damping off. If a propagating case is used, the light should be wiped daily, and all superfluous moisture thus removed. So treated, roots will form in about a fortnight, after which the plants should be removed to a shelf near the glass in a temperature of about 65 deg. Other dahlia roots not required for propagating purposes might be started in a cooler house, and grown on slowly before being planted out in May or June.

ROSES, both dwarf and standard, may now be pruned during favourable weather, leaving the teas, or other tender varieties, until last. Remove all weak or unripe growths, and prune back to the early-formed buds of last season's growth, or to well-ripened wood. When dealing with the climbing section it is usually considered best to remove most of the old wood that has flowered during the previous season and to shorten back all weak growths, retaining only the strongest and best for furnishing the walls or trellis, as the case may be.

SHRUBBY CALCEOLARIAS growing in frames should receive a good watering before being lifted and transplanted into other frames or pots; if in frames plant out four inches apart each way, as this allows space for lifting the plants with good balls of earth at planting-out time. Shade for a time, if necessary, and as soon as the plants renew their growth, pinch out the points to keep the plants dwarf and bushy.

GENERAL.—Advantage should be taken of dry days to complete the planting of the herbaceous borders; this operation has been unduly delayed through the wet weather, and the consequent unworkable condition of the soil. Asters, stocks, zinnias, etc., may be sown in gentle heat; shade from bright sun, and keep the soil uniformly moist until the seedlings are well through the soil, then remove to cooler quarters, or, if growing on a slight hotbed, on warm days remove the lights, or otherwise admit plenty of air into the structure. All outside borders should now be made ready for sowing the main batch of hardy and half-hardy annuals early in April; if the borders are exposed and dry, dig in an extra quantity of well-decayed manure.—W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

GRAFTING.—If not already done, those fruit trees that require regrafting should be headed back, as advised in a previous calendar. Fruit trees generally in this locality are in a forward condition, and grafting will be undertaken from now onward. Some varieties being ready before others, the most essential point to remember in grafting all fruit trees is not to undertake this work unless there is a free circulation of sap in the stocks that are to be operated upon. Rind grafting is the method usually adopted when dealing with large trees. The scions must be tied firmly and well covered over at the base with grafting wax.

PROTECTING FRUIT BLOSSOM. — The prospects of good crops of fruit are all that can be desired in this locality; but owing to the heavy rainfall and the mildness of the weather throughout February the fruit buds are much too early for a good crop; we certainly shall experience some frost and cold winds this month. Peaches, nectarines, and apricots, on walls, that have been tied in bundles to retard their flowering should have their shoots nailed or tied-in without delay. All protecting material should be made ready to place over the trees when in bloom; double fish-netting, tiffany, or canvas can be used to ward off frosts and cold winds. The protecting material should be fixed to the top of the coping on the walls, and arrangements made so that it can be raised during bright sunny weather and lowered again at night. Some means should also be provided, so that the material will not rub against the blossoms.

FIGS.—The pruning of fig trees can still be done; the knife should be used sparingly upon the ripened wood, removing only exhausted or unripened shoots. The fig will grow in any soil that is not too rich, and where plenty of old lime rubbish or chalk has been mixed freely with it, plenty of drainage should be provided for the roots, as they require a considerable amount of water when the fruit is swelling. The soil should be made firm and the rooting area confined to a limited space; this has the effect of checking the strong growths, which are so characteristic of the fig; it also materially assists in the ripening of the wood and the production of good crops. Figs succeed remarkably well when planted on south walls in narrow borders beside the paths; and two varieties which succeed well here are Brown Turkey and White Marseilles.

STRAWBERRIES. — New plantations should be made without delay. Choose a fine day, when the soil is in a good working condition.—Henry R. Farmer, Cardiff Castle Gardens.

SHROPSHIRE HORTICULTURAL SOCIETY.
The Schedules for 1910 SPRING and SUMMER SHOWS are now ready, and copies will be forwarded on application to the undersigned.
H. W. ADNITT, } Hon. Secs.
W. W. NAUNTON, }
Shrewsbury.
Feb., 1910.

THE BOURNEMOUTH HORTICULTURAL SOCIETY EXHIBITIONS.
SPRING SHOW, April 5th and 6th, 1910.
AUTUMN SHOW, Nov. 1st and 2nd, 1910.
For Schedules and particulars, apply to C. W. BARRETT, Sec., "Lucerne," Fenton Road, West Southbourne, Bournemouth.

THE LIVERPOOL HORTICULTURAL ASSOCIATION.
SPRING BULB, ETC., SHOW, April 6th and 7th, 1910.
Prize Money, £95.
SWEET PEA, ROSE, CARNATION, ETC., SHOW, July 20th and 21st, 1910.
Prizes, £46, and 5 Guinea Silver Bowl and Medals.
AUTUMN CHRYSANTHEMUM, ETC., SHOW, November 9th and 10th, 1910.
Prizes, £108, and 20 Guinea Silver Challenge Cup.
The above Shows will be held in the CORN EXCHANGE, FENWICK STREET, LIVERPOOL.
Particulars and Schedules from Secretary, HAROLD SADLER (Finney, Son, and Sadler, Chartered Accountants), 31, North John Street, Liverpool.
Telephone: Bank, 3957. Telegrams: "Abatement."

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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United Horticultural Benefit and Provident Society.

The annual general meeting of this useful society was held at the Royal Horticultural Hall, on Monday, March 14, at eight p.m., Mr. Charles H. Curtis presiding. The attendance was small, and this may be taken as evidence of the steady progress and general excellence of the working of the society, because, if there is anything of a controversial character, new rules, etc., the members turn up in large numbers. Nevertheless, remembering the excellent work done month by month and year by year by the officers and committee, those members who are within easy distance of Vincent Square (and there are about two hundred who are) ought to attend in larger numbers, and show their appreciation of the good work done without fee or reward; indeed, done at personal expense.

After the usual formal proceedings, the report and various balance-sheets were presented. Of these latter we select the treasurer's statement for the year.

REPORT OF THE COMMITTEE FOR 1909.

In presenting its report for the year 1909, together with the balance-sheet for the same period, the committee has much pleasure in recording steady progress in membership and in financial matters.

Sixty-five new members were elected during the year, but as twenty-four members lapsed and seven died, the net increase is thirty-four, the total membership now standing at 1,325. One of the deceased members was Mr. Nathan Cole, who in the earlier years of the society's work was a member of committee. The amount paid out to nominees of deceased members was £300 10s. 11d., this sum including £30 4s. 1d. paid to the nominee of a lapsed member.

The sum of £9 7s. 2d. has also been paid to lapsed members on reaching sixty years of age.

Subscriptions to the benevolent fund amounted to £231 3s. 4d., and the payments therefrom to £129 11s., the latter amount including the sums regularly paid to several members over seventy years of age, as well as a few grants made to members in great distress.

The Convalescent Fund does not thoroughly fulfil its mission, and the committee believes that if members recovering from severe illness would take advantage of the benefits it offers there would be a material reduction in the amounts paid out during sickness. Members often return to business before fully recovered, and consequently have sometimes to come again upon the sick fund, whereas a brief holiday and change of air following sickness would fully restore them. The subscriptions to this fund, including £5 5s. from Mr. N. N. Sherwood, V.M.H., amounted to £10 2s., and the one grant from the fund was £1 10s.

The management expenses have been kept as low as possible, consistent with the proper working of the society. There has been no special or extra expenditure of any kind, and the total management charges amounted to £195 11s. 10d., as against £192 19s. 10d. in 1908.

The annual dinner was held in October at the Waldorf Hotel, when Mr. J. B. Slade (of Messrs. Protheroe and Morris) proved a most able chairman, and set forth the benefits of the society in a very lucid manner. Unfortunately the weather was against a large attendance, but those present spent a very enjoyable evening, thanks to Mr. Slade, and to Mr. T. Winter, who once again superintended the musical arrangements. Mr. Slade became an hon. member, and also introduced Messrs. J. Rochford and J. Russell as hon. members.

The question of providing for a grant to any member who may have the misfortune to lose his wife by death has been considered by the committee, but as there are many points of far-reaching importance involved in any such new departure on the part of the society, the committee proposes to take actuarial advice before putting any proposals before the members, and to take such advice in connection with the forthcoming quinquennial valuation of the society.

The many benefits attaching to membership of the society are well known to the members themselves, although not all of them, as already pointed out, are taken full advantage of. But if the society is soon to hold that large place in the horticultural world it is meant to fill, then there must be greater effort on the part of private members. In return for a payment of 9d. per week a member receives 18s. per week for six months if continuously ill for that period, and 9s. per week for a further six months if still ill (12s. and 6s. respectively if the subscription is 6d. per week). In cases of chronic sickness 6s. and 4s. per week respectively is granted, and, should a member be unable to follow his employment after attaining the age of seventy years he receives a sum varying, according to circumstances, from 5s. to 8s. per week. After reaching sixty years of age a member may withdraw a sum equal to double the amount of the interest on his deposit account, in any one year, and thus, in times of stress be able, in many cases, to pay his contributions to the society from the amount standing to his personal account in the books of the society.

In short, the society provides for sickness, makes provision for chronic illness, renders aid to the distressed, credits each member with a due proportion of the surplus funds, helps the convalescent, and cares for the feeble and aged. Every member should act as a missionary of the society, and continually preach the gospel of thrift and self-help with intent to secure new members. The financial stability of the society is beyond question.

During the year four children of deceased members have been elected to the benefits of the Royal Gardeners' Orphan Fund, and the committee therefore commends this excellent charity to the society. A subscription of 5s. per annum entitles a subscriber to one vote at each election, and if a large number were to subscribe the election of children of deceased members to the benefit of the fund would be practically assured.

In conclusion, the committee begs to once more acknowledge the kindness of those who, as honorary or life members, or in other ways, assist the society and help to extend its usefulness and sphere of influence.

CHARLES H. CURTIS (Chairman),
WILLIAM COLLINS (Secretary).

TREASURER'S STATEMENT FOR 1909.

Dr. RECEIPTS.		£ s. d
1909. January 11th.		
To Balance brought forward		252 19 7
1909-10.		
To Subscriptions, etc., per Secretary—		
Benefit Fund	£2,145 14 10	
Benevolent Fund	231 3 4	
Convalescent Fund	10 2 0	
Management Fund	159 9 9	
Advertisement and Dinner Account	13 9 6	
	2,559 19 5	
,, Dividends on Investments	989 18 8	
,, Bank Interest	2 6 11	
,, Income Tax Returned	48 10 0	
		3,600 15 0
		£3,853 14 7

Cr. EXPENDITURE.		£ s. d.
1909-10.		
By Balance due to Secretary		1 1 7
,, Payments per Secretary—		
Sick Pay to Members	£571 15 0	
Management Expenses and Salary	195 11 10	
		767 6 10
,, Payments to Nominees of Deceased Members	270 6 10	
,, Lapsed Members Account paid out	39 11 3	
,, Withdrawals from Deposit Accounts—		
Members over 70	25 0 0	
Interest withdrawn	72 3 10	
		407 1 11
,, Grants from Benevolent Fund		129 11 0
,, Grant from Convalescent Fund		1 10 0
,, Investments		1,862 11 8
		3,169 3 0
,, Balance due from Secretary		2 11 11
,, Balance at Bank—		
On Deposit Account	200 0 0	
,, Current Account	481 19 8	
		681 19 8
		£3,853 14 7

The Chairman moved the adoption of the report and balance-sheets as presented, and in doing so reviewed the work of the society during the past year. He drew attention to the auditors' note, which was to the effect that, while the investments of the society amounted to £35,800, the approximate market value of these was about £32,400, or £3,400 less than the par value, but towards this difference there was a depreciation fund of £2,251 8s. The Chairman pointed out, however, that, although this depreciation fund was an excellent safeguard in case the society was compelled to realise any of its investments, yet the investments were mainly in Corporation stocks that were redeemable at par many years hence, therefore the society was in a doubly strong position, as it had purchased in most cases a good deal below par. He also pointed out that, though the investments were £500 lower in 1909 than in 1908, this was due to the fact that within a few days of the end of the 1908 financial year a block of stock was purchased at a low rate, whereas at the end of 1909 there was a balance of about £700, including £200 on deposit, and £100 had already been invested in 1910, so that the difference was more apparent than real.

Mr. Burge seconded the motion. Mr. Price and Mr. Mark Webster spoke, each expressing a hope that the members would bring the advantages of the society before the members of horticultural or gardening societies to which they belonged, and pointed out that they and others were members, because Mr. Burge had on several occasions explained the whole working of the society at Beckenham. Mr. Webster also urged that something be done to further advertise the society, especially as there was a balance to the good on the dinner and advertisement account. Mr. J. Harrison Dick moved a recommendation to the committee to the effect that steps be taken to advertise the society at gardeners' meetings and horticultural societies. The Chairman said that a detachable nomination form would be placed in the report when sent to members, in the hope that each member would, through it, secure at least one new member, and a young member for preference. The motion was then put and carried unanimously, and the meeting decided to print 3,000 copies of the report, balance-sheet, and list of members.

The election of four members of committee was then proceeded with, and the retiring members, Messrs. Woods, Harding, Harrison Dick, and Wilson were all unanimously re-elected. Mr. W. Collins was unanimously re-elected secretary, and several members eulogised his services. Mr. Collins has been secretary for twenty-three years. Messrs. Gunner and Puzey were again elected auditors of the society's accounts.

Votes of thanks were then passed to the trustees; to Mr. W. P. Thomson, the treasurer; to the committee; and to the horticultural Press. Messrs. Winter, Hill, Bedford, Burge, Stambridge, Hawes, J. H. Dick, Price, Webster, Wheeler, and Thomson took part in the proceedings, which were all of the pleasantest possible character. A vote of thanks to the Chairman concluded the meeting.

At a subsequent committee meeting Mr. Charles H. Curtis was again re-elected chairman of committee, and Mr. Thomas Winter was re-elected vice-chairman.

Farewell Presentation To Mr. James W. Laird.

A large number of the horticultural friends of Mr. James W. Laird, of the firm of Messrs. Laird and Sinclair, Lim., Dundee, met him on the evening of the 4th inst., in Wood's Rooms, Commercial Street, to honour him on the occasion of his leaving for America, where he purposes making a home in Virginia.

W. S. Melville, Esq., J.P., the esteemed president of both the Dundee Horticultural Society and the Dundee Chrysanthemum Society, presided, and was supported by the leading nurserymen, seedsmen, and gardeners of the district.

Loyal and patriotic toasts having been pledged, the Chairman proposed that of "Our Guest, Mrs. Laird, and Family"; and, in doing so, said that the country was suffering grievously by the loss of such men as Mr. Laird. It was poor consolation to say what was Britain's loss was America's gain. In wishing them Godspeed in the land of their adoption, and from the bottom of their hearts praying for the best blessings a good God could bestow, he trusted that they would soon be surrounded by a coterie of friends equally as devoted as those with whom they were now parting.

On replying, Mr. Laird said it was the proudest evening of his life, and at the same time, one of the saddest; he had tried during the last thirty years to take his share of horticultural work, and in the land he was going to many of his leisure moments would be spent thinking of the many good friends and the associations he had left behind. His earnest hope was that the future held a pleasant reunion in store for them all.

During an interval in the musical programme, the Chairman called upon Mr. William Grant, as one of Mr. Laird's oldest associates, to present him with their gifts. In the course of a felicitous speech, Mr. Grant handed to Mr. Laird a gold watch and chain, and a purse of sovereigns. The watch, which is a valuable hunting-cased English lever, bears his monogram, and the following inscription engraved upon it: To Mr. James W. Laird, from his horticultural friends, as a mark of esteem on his leaving for America, Dundee, March 4th, 1910." Subsequently Mr. David Storrie handed over a gold watch for Mrs. Laird.

On rising, Mr. Laird had a grand reception, and in returning thanks, said the memory of that evening would never fade from his recollection. Their kindness and valuable gifts to himself and his wife would be appreciated and cherished in remembrance of the happy friendship which had always existed between them. After referring to many of the happy incidents which bound them together, his emotions would only allow him to thank them all for practical kindness and expressions of affection.

An interesting programme of vocal and instrumental music was well sustained, and further enhanced by the introduction of a lengthy toast list, when all the speakers took the opportunity offered of expressing their regard for Mr. Laird, and their personal good wishes for a bright and happy future for the family circle.

Mr. J. W. Laird is the second son of the late Mr. R. B. Laird, of Messrs. Downie and Laird, of Edinburgh; Downie, Laird, and Laing, of London; and Laird and Sinclair, Dundee. Mr. James Laird served his apprenticeship in the Edinburgh nurseries of the firm, afterwards going south to Sheffield, where he remained two years in the Handsworth Nurseries of Messrs. Fisher, Son, and Sibray. In 1878 he returned to Dundee, but in 1883 he went to Australia, where he remained for two years, and after returning home he took over the management of Fountainbrae Nurseries, Monifieth, a position he only now relinquishes.

Bristol Gardeners' Association.

A largely-attended meeting was held on March 10, at St. John's Parish Rooms, and presided over by Mr. S. Shaddick.

A lecture upon "Cyclamens" was given by Mr. Cane, who grows these flowers well at Northwoods. Several photographs of plants were handed round, which was a proof of the lecturer's skill in cultivation. Mr. Cane recommended the treatment of cyclamens as annuals, and advised deferring the order for seed until the beginning of October, which, he said, is the best time to sow, thus making sure of new seed. The seed-pans should be placed on a shelf in a house in which a temperature ranging from 60 to 65 deg. is maintained. The seeds should be sown 1¼in. apart, and the seedlings be potted singly when two leaves were formed, and at the end of May be shifted to summer quarters, the best place being a cold frame with a north aspect. A fortnight later they should be placed in their flowering pots (6in.), and shaded from bright sunshine. The lecturer made a special point of placing the corm half an inch below the surface.

The exhibition of cyclamens was quite a feature, especially a bank staged by Mr. Hendy, of Westbury-on-Trym, which won for him a special certificate. For two cyclamens Messrs. Shelton, Hendy, and Curtis were placed as named. Mr. Cane was awarded a certificate for two vases of cut bloom, and Messrs. Curtis and Woodward received two points each, the former for orchids and the latter for violets. The Secretary read a letter from the president, Colonel Carey Batten, inviting the society to view his orchids.

British Gardeners' Association (London Branch).

The monthly meeting of this branch took place at Carr's Restaurant on Thursday, March 10. Two new members were elected, bringing the total membership of the branch up to 183.

The formal business being concluded, Mr. North called attention to a paragraph in the "Kentish Mercury," where it stated that, in answer to a question put by Councillor Mathews at a meeting of the Greenwich Borough Council, it was admitted that an engineer had been appointed to the post of superintendent at Charlton Cemetery. The appointment, Mr. North remarked, was another case of "No gardeners need apply." He also thought it was the duty of the B.G.A. to take the matter up.

The meeting then agreed to send a resolution protesting against the appointment of an engineer to a post that could only be properly filled by a qualified gardener. This protest was sent to the Clerk of the Greenwich Borough Council.

The next business dealt with was the question published in the B.G.A. "Journal"—Assuming that all plants owe their origin to one common ancestral stock, how can we account for two such distinct classes of plants as the monocotyledons and the dicotyledons?

The subject was ably dealt with by Mr. Barnes, who gave an interesting account of the development of these two great classes of plants, tracing their histories from facts deduced by geologists and botanists. He concluded his remarks with a brief reference to the natural causes that have proved such dominant factors in the evolution of plants, such as natural selection and the influence of environment, these resulting in the survival of the fittest.

The Chairman then introduced Mr. Palmer, who gave an excellent paper on "Trees and Shrubs."

The discussion was opened by Mr. North, who dwelt upon the necessity of looking well into the future when selecting trees and shrubs for planting, this being especially necessary in the case of small gardens. He thought better results would be obtained if people would only have patience to wait for the slower-growing evergreens that would furnish the garden all the year through, instead of planting deciduous trees that soon became too large. Mr. Friend, who followed, spoke of the difficulties experienced in inducing any great variety of trees and shrubs to grow in a congested and smoky district like Islington, where even such hardy subjects as privet gradually died out, and had to be replaced every three years.

At the close of the meeting Mr. Winter proposed a vote of thanks to Mr. Palmer for his paper, and complimented him upon the able and exhaustive manner in which he had dealt with his subject. This was seconded by Mr. Barnes, and carried with applause.

Birmingham Gardeners' Association.

"In Nature's Garden" was the subject given recently before a more than ordinary attendance of the members at the Athletic Institute by Mr. Herbert Thompson (an Associate of the Birmingham Naturalists' Society). Mr. T. Humphreys presided. The lecture was illustrated by a large series of excellent lantern slides, and much interest was evoked by the lecturer's account of his natural history camping expeditions with the camera with one or two congenial companions. One of the most impressive all-night outings was on the summit of Snowden to view the glorious sunrise, and, fortunately, their vigils were rewarded with the most sublime scene ever presented to their enchanted gaze.

Graphic descriptions and illustrations of various botanical subjects, such as the reproductive organs of the hazel and willow, orchids, etc., etc., were also portrayed; likewise birds and insects, and numerous other subjects appertaining to Nature's domain, and more or less associated with the vocation of gardening. Altogether this lecture was one of the most enjoyable entertainments of the association.

Reading Gardeners' Association.

The usual fortnightly meeting of the Reading and District Gardeners' Association was held in the Abbey Hall on the evening of March 7. Mr. T. Judd presided, in the unavoidable absence of the President, over a good attendance of members.

The Chairman mentioned that Mr. G. Herridge, a much-respected member of the association had died, and it was resolved to send a letter of condolence to the relatives, and a wreath.

The hall was made most attractive by the lovely display of Giant primulas in variety, backed by myosotis, deutzias, and wistarias, exhibited by Mr. R. Doe, gardener to M. J. Sutton, Esq., J.P., Holme Park, Sonning, and by a superb lot of cinerarias from Mr. F. Townsend, The Gardens, Hillside. Mr. Barnes, Bearwood Gardens, also sent a beautiful collection of hardy-flowering shrubs, consisting of andromeda, berberis, arbutus, Pyrus japonica, pernettya, jasminum, Forsythia, and a collection of hybrid rhododendron, clianthus, and correa cut from the open ground in Cornwall.

The subject for the evening's discussion—"The Hardy Flower Garden"—was introduced by Mr. House, who comes from the kindred association at Bristol, and is held in high esteem by the Reading members. It is needless to say that the subject in the hands of so able a lecturer was thoroughly expounded. Mr. House, in the course of his remarks, explained the meaning of the words "herbaceous," "perennial," "biennial," and "annual," and dealt with the making of borders, time of planting, colour schemes, and combinations, giving also a list of the most suitable plants. He set forth the plants which require to be lifted every year and replanted, and those which should not be disturbed for a number of years, at the same time giving hints on exhibiting perennials. A good discussion took place, and a hearty vote of thanks was accorded to Mr. House, and also to the exhibitors.

Five new members were elected.

Elstree Horticultural Society.

On Tuesday evening, the 8th inst., a large number of members of the Elstree and Boreham Wood Society met in the Church Room, Elstree, to hear a lecture by Mr. F. E. Newman, of Watford, whose subject was "Sweet Peas." The lecturer opened his remarks with an interesting account of the early history of these popular flowers, and then gave details of cultivation, etc. Before concluding, he strongly urged those who had not already done so to become members of the "National Sweet Pea Society," and pointed out the immense amount of information and interest to be derived from membership of that society. A number of questions were put to the lecturer, and ably answered, and a good discussion followed, and Mr. Newman was accorded a most hearty vote of thanks for his instructive remarks.

East Anglian Horticultural Society.

The members turned up in goodly numbers at the March meeting of this society, held in Norwich. Mr. Lewis Smith (Shotesham Park Gardens) presided. A well-written paper by Mr. D. Howlett, Thorpe, upon "The Culture of Soft-wooded Greenhouse Plants," was read, and evoked a fair discussion.

Mr. H. Perry incidentally remarked that that would be the last meeting Mr. W. Palmer, gardener to the late Mr. J. B. Coaks, Norwich, would be amongst them, as he had decided to try his fortune in the fruit districts of British Columbia. Mr. Palmer has been a very active member, and contributed several papers during his engagement at Norwich. Mr. John Clayton and Mr. L. Smith both added words of compliment, and a wish for every success was given by all present.

The exhibition tables were well filled with good examples of fruits, pot plants, and vegetables. Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., Cringleford, staged a fine bunch of mixed cut blooms, and a choice odontoglossum. Mr. W. Laws, gardener to G. E. White, Esq., Eaton, again manifested his prowess with winter-flowering carnations, his display coming in for much commendation. Mr. S. Hunt, gardener to Mrs. Willis, Ipswich Road, Norwich, grows the pretty Soldanella alpina in pots, and very effective were the two he brought up to this meeting. Apples and pears comprised the fruit section, and beet and turnips were the chief feature in the vegetable section.

Ruella macrantha.—This is a very useful subject for winter flowering as a pot plant, and also as a cutting flower, standing well when placed in water. The flower heads are terminal, and in colour similar to rehmannia. Good-sized plants may be grown in six-inch pots, and these may have two or three stoppings of the shoots when growing, the number being regulated by the flower heads required. I noticed recently a fine batch of plants grown by Mr. Barks, at Bletchingley.—T. H. Slade.

NEW BOOKS.

FERTILISERS AND MANURES.

By A. D. Hall, M.A., F.R.S. (John Murray, Albemarle Street, W.) Price 5s. net.

Although this work is intended for farmers and senior students in agricultural schools, it will be found equally valuable to horticulturists, not so much for the information it will give them on the use of particular fertilisers for the several crops, as for the clear statement of the principles and practice in manuring. Especially will the book be found useful to those who are desirous of becoming so fully conversant with the principles governing the use of manures that they can readily adapt their practice to the conditions that obtain in widely separate districts. If the book is to have, writes the author, any justification for its existence, it will be by helping men to a greater skill and knowledge in the use of their fertilisers and manures. There is no lack of books which give an account of the origin and composition of fertilisers, but the object of Mr. Hall is to make the reader understand their mode of action, and their relation to particular crops and soils, "for it is only by understanding the why and the how that a farmer can properly adjust his manures to his soil and his style of farming; he must to some extent reason the scheme out for himself; he cannot simply be told." What is true of the farmer, is true also, in some degree, of the gardener, for without considerable thought, it is not possible for him, especially when having to deal with a fresh set of conditions, to use fertilisers to the best advantage.

In the introductory chapter the author deals with the early notices of manures and manuring, the growth of the theory of the nutrition of plants, the investigations of Priestley, Boussingault, Liebig, Lawes, and Gilbert, Hellriegel, and others, the introduction of commercial fertilisers, and the constituents of the soil. The second and third chapters are devoted to fertilisers containing nitrogen. In the fourth and fifth chapters phosphatic manures are fully dealt with; potassic fertilisers occupy the sixth and farmyard manure the seventh. There is no occasion to give a list of the contents of the whole of the chapters, but it must be said that in the thirteen into which the book is divided, the fullest information is given with regard to natural and mineral manures and the principles underlying their use in crop production. We should have liked to direct attention to some of the more important questions discussed by Mr. Hall, but the space available will not permit of this being done. We therefore all the more strongly commend the work to the notice of those of our readers who are desirous of obtaining an insight into the science of manuring. We do this all the more readily because the book is not less interesting than instructive, for Mr. Hall is not only a master of his subject, but is able to present scientific facts in so pleasant a manner as to at once command the attention of the reader, and to sustain his interest until the end.

FRENCH GARDENING.

By Thomas Smith, F.R.H.S. (Utopia Press, Worship Street, Finsbury, E.C.)

This addition to the literature of intensive culture as practised by the market growers around Paris, is based on the work that is being done at the French garden, Mayland, Essex, and well deserves the attention of those who are interested in this aspect of market gardening. The farm of which this garden forms a part is the enterprise of Mr. Joseph Fels, an American gentleman who, during the seven or eight years he has resided in this country, has been engaged in various movements that have for their object the bringing back of the people to the land. One of the movements is, it will be remembered, the utilisation of vacant land within the metropolis in the production of vegetables and flowers by the working classes resident in the several districts. A strong believer in the advantages of small holdings, Mr. Fels purchased a farm of over 500 acres in the parish of Mayland, Essex, for the purpose of converting it into small holdings, in order to show what should be done generally. A small adjoining property of 13 acres has been purchased, and on a part of this area a French garden was instituted, and "the results," we are told, "have been so good that there is every reason to believe it will prove a commercial success as well as an effective object-lesson.

The book is well written, and the directions for the formation and furnishing of gardens intended for intensive culture show a practical acquaintance with the various details, and are free from the exaggerations that have so frequently been associated with reference to market gardening conducted on French lines. In the same way the directions for the production and marketing of the crops are clear and trustworthy. With reference to the all important question of the capital necessary for equipping and working a French market garden of two acres, the author states that a sum of not less than £2,000 is necessary. The cost of equipment will be £1,290, and the working expenses the first eighteen months will be at least £700. The first year's return is estimated at £800, and this amount will be required for carrying on the business for the second year. The gross returns for the second year should, it is suggested, exceed those for the first, and may amount to as much as £1,000. This, according to the figures, would give, after allowing £100 for the wages of working proprietor, a profit of £200, which is by no means excessive, having regard to the amount of capital invested.

BEES FOR PROFIT AND PLEASURE.

By H. Geary (W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.) Price 1s. net, by post 1s. 2d.; bound in cloth 1s. 6d. net, by post 1s. 9d.

Honey is such a wholesome and nourishing food that the wonder is more owners of gardens do not keep bees for pleasure and profit. Whether this apathy be due to the dread of bees, or to the want of elementary knowledge of how to manage them, it is difficult to say. Of one thing we are certain; if the would-be beekeeper would only seriously study the excellent practical advice given in the volume under notice, he would soon become fascinated with the hobby, and take it up keenly, with advantage to himself and the community in general.

The volume in question is one of a series of shilling handbooks on rural subjects edited by Mr. T. W. Sanders, F.L.S., and it contains twenty-five chapters full of valuable information on every phase of bee-keeping. The author pleasantly discusses the natural history and habits of bees; the varieties suitable for this climate; the various forms of hives and necessary appliances; the general management of bees, as feeding, swarming, etc.; the extraction of honey, including its various uses; the diseases of bees, and so on; concluding with an excellent calendar of work in the apiary during the year. Illustrations are also freely used in the text, thus adding greatly to the attractiveness as well as usefulness of the book.

Cinerarias as Bedding Plants.—Last year, in a sheltered part of the Bournemouth Public Gardens, some very beautiful plants of cinerarias were grown by Mr. J. B. Stevenson, the able superintendent of the extensive gardens and parks. Being protected by low-growing shrubs from strong winds, the cinerarias were not bruised in the least, and the lovely flowers were seen to great advantage in their setting of healthy leaves. In order to have cinerarias in suitable condition for bedding out as here described, seeds must be sown in September, the resultant plants being kept through the winter, and put out in the beds the following June.—Geo. Garner.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

NEW SWEET PEAS.—N. B., Derby: Soak the seeds in tepid water for twenty-four hours, and then sow them singly in three-inch pots, and place in a warm greenhouse. As soon as the growth bursts through the soil, transfer the batch to a cold frame, keeping the lights on for a day or two, and at night, unless the weather is specially favourable. The amount of ventilation allowed should be soon increased, until just before planting time the lights are left off altogether.

REX BEGONIAS.—L. D. G., Nottingham: The variegated-leaved or Rex begonias are easily propagated; indeed, few plants are more readily multiplied. If a leaf has been injured in any way, remove it from the plant, and lay it back downwards, on sandy soil in a pan or box, first cutting through all the prominent veins and ribs with a sharp knife at intervals of about an inch. When laid on the soil a few pebbles should be used to keep the leaf in position. Kept moist in a warm house, buds will soon form at the cut portions, and presently develop into little plantlets that should, in due course, be removed and potted separately.

SPROUTING SEED POTATOES.—S.C.M., Littlehampton: We have repeatedly drawn attention to the advantages to be obtained from sprouting seed potatoes, and we strongly advise you to at once place the seed tubers with their thick ends uppermost in boxes, and stand them in a light position, such as a cold frame, or shelf in a cold greenhouse, or a light shed. Here the growths will come stout and strong instead of thin and weakly, and you should rub off all but the two or three best shoots before planting time. All shoots produced from other eyes than those at the top of the tuber should be rubbed off as soon as formed.

WOOD ASHES FOR SWEET PEAS.—O. B., Bedford: As wood ashes are very rich in potash, and sweet peas are benefited by potash in the soil, you will be quite right in dressing the flat freely with the ashes. Fork them lightly into the soil at once, and, when you take out the shallow trenches for the sweet peas, dust two ounces of superphosphate into each eight or nine feet run of trench.

TOMATO SEEDS.—E. T. B., Sevenoaks: Sow the seeds at once in sandy soil in a box or pan, and place in the warmest corner of your house. Cover the pan with a sheet of glass until the seeds germinate, then remove it. If you take a little pains and sow the seeds an inch apart, there will be no danger of producing weak, spindly seedlings, but the youngsters will be sturdy and grow away steadily, as they are potted into three-inch, and subsequently into five-inch pots. When established in the three-inch pots, let the plants have all the light obtainable, and more air than previously.

FORCED DAFFODILS.—T. L. R., Basingstoke: When the flowers have faded or have been cut for use, put the pots or boxes of plants in a frame, water them as necessary, and give air on all favourable occasions. Ventilation may soon be increased, and before long the stock may be stood out under a sheltering hedge or wall. Still water them as they need it, or, if the opportunity serves, plant them out in borders or shrubberies, or other places, where they will soon ripen their leaves and die down. Next spring plants so treated will bloom, and in the following year they will give flowers of good quality. It is certainly well worth while taking a little care of the best of the late-forced daffodils.

WIREWORMS.—M. E. J., Winchester: The fact that there are several kinds of wireworms is by no means generally understood. Further, the grubs of the crane fly are sometimes confused with wireworms, as also are the millepedes. A true wireworm has six tiny legs towards the fore-part of its body, and a sucker-foot at the tail end. The crane-fly grubs have no true legs, while the millepedes have very many. There are at least four kinds of wireworms hurtful to garden and farm crops, and probably the one that is the most harmful is the grub of Elater (or Agriotes) lineatus. Wireworms are the grubs of Click Beetles, and in the wireworm stage they remain for four or five years in the soil, chiefly feeding on roots near the surface. In winter time they go deeper down into the soil, as the frost increases in severity, but come up again in the spring time, and it is during spring and early summer that they may be best trapped by means of hollowed halves of potatoes, and pieces of carrot or turnip, placed a little below the surface of the soil in gardens where their presence is all to well known. Both salt and gas-lime used at the rate of about 8lbs. per rod and dug into infested plots in autumn, have proved very successful in dealing with wireworms.

SOWING GORSE FOR COVER.—W. T. J., St. Mellion: Gorse is best sown in the autumn, as soon as the seeds are ripe, and they will then germinate readily the following spring. Draw the drills a yard apart, and sow the seeds at the rate of about half a pound to every 100 feet run of drill. You would probably find it a better and cheaper plan to sow the seeds in drills a foot apart, in a prepared seed bed, and transplant the seedlings when large enough to the site they are to occupy, planting them about a yard apart every way, or closer if it appears necessary to cover the ground more quickly. When established, gorse should be cut over rather severely every third year to keep it dense.

SCALE ON PEAR TREES.—F. S., Mynach: It is too late to properly deal with the scale on pear trees this season, but next winter the trees should be loosed from the wall and both wall and branches should be sprayed with a caustic soda and potash mixture. At present your best plan is to soften the scales by syringing the trees with warm soapy water, following this by scraping the stems and branches with a blunt knife, using only sufficient force to remove the pests. When all that is possible has been done in this direction, paint all the branches with a mixture made up of two pounds of soft soap, 1lb. of flowers of sulphur, and 14 gallons of water. Dissolve the soap in just sufficient boiling water, and gradually stir in the sulphur, then add sufficient water to make up about 14 gallons. You can, of course, make a smaller or a larger quantity of mixture, providing the constituents are used in the same proportions as above.

SEEDLING SNOWDROPS.—T. J. N., Aylesford: The flowers did not show any improvement upon, or distinction from those of the ordinary type of snowdrop, but as they were faded badly on receipt it is possible they showed some distinct colour variation when fresh. If you will let us know whether this is so or not, we will advise you in the matter.

"CHRYSANTHEMUMS AND HOW TO GROW THEM FOR EXHIBITION" by J. B. Wroe. Sixth Edition, revised to January, 1909, and including the new varieties.—Full details on timing and stopping for Northern, Southern, and Midland growers, selections of the best varieties, illustrated instructions on taking the buds, cuttings, staging, etc. Prices 1s. net, by post 1s. 2d.; cloth, 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

OBITUARY.

◆

MR. DREWETT O. DREWETT.

It is with sincere regret we have to record the death of Mr. Drewett O. Drewett at his residence, Willow Wood, Riding Mill, Northumberland, on Wednesday, March 9th, in his 72nd year. The deceased gentleman was preparing to call on some friends, when he suddenly collapsed and died almost immediately, in his dressing-room. By the death of Mr. Drewett the North of England has lost one of its leading garden lovers, and a most generous supporter of horticulture. On p. 374 of our issue of May 15 last year we gave particulars of Mr. Drewett's gardens, and of his enthusiasm for orchids, in the cultivation and hybridisation of which he had been keenly interested during the past quarter of a century. Ever of a kindly disposition, his hospitality was always extended to those who visited his gardens. He was an annual subscriber, indirectly, to the Gardeners' Royal Benevolent Institution, and he gave every encouragement to the horticultural and mutual improvement societies in the district. The funeral took place on Monday last at Salehurst, Robertsbridge, Sussex.

We extend our sincere sympathy to Mrs. Drewett in her sad bereavement.

MR. McDONALD.

A sad fatality occurred at Braemar, Aberdeenshire, on Tuesday afternoon last. Mr. McDonald, a local florist and jobbing gardener, of Fern Cottage, Braemar, had occasion to go through a field leading from the public road. A stream runs through the field, and it is supposed that the unfortunate man tried to leap across, missed his footing, and fell, striking his forehead against a stone, which stunned him. The stream, or ditch, contained only a few inches of water, but before he was discovered life was extinct. Mr. McDonald, who was sixty-five years of age, served his apprenticeship as a gardener at Traquhair House, near Peebles, afterwards returning to his native parish, where he did a good local business. Quite a gloom has been cast over the district at Mr. McDonald's untimely end, as he was well known and highly respected. Deceased is survived by a son and two daughters, to whom the deepest sympathy is evinced.

FORTHCOMING ENGAGEMENTS.

TUESDAY, March 22.—Royal Horticultural Society; Narcissus Committee at 11.30; Fruit, Floral, and Orchid Committees at 12 o'clock; Masters' Lecture at 3 p.m. on "The Adaption of the Plant to the Soil," by Mr. A. D. Hall, M.A., F.R.S.; Scientific Committee at 4 o'clock.

WEDNESDAY, March 23.—Stour Valley Gardeners' Society's Exhibition of Vegetables at the Royal Horticultural Hall.

Great Jubilee Bulb Exhibition at Haarlem, to be opened by Prince Henry of the Netherlands; continues to March 31.

FRIDAY, March 25.—Good Friday.

MONDAY, March 28.—Easter Monday.

WEDNESDAY, March 30.—Royal Society of Arts Meeting.

TUESDAY, April 5.—Royal Horticultural Society: Narcissus and Tulip Committee at 11.30; Fruit, Floral, and Orchid Committees at 12 o'clock; Lecture at 3 p.m. by Rev. Prof. G. Henslow, V.M.H., on "The Use of the Spectroscope in the Study of Plant Life"; Scientific Committee at 4 o'clock.

Scottish Horticultural Association.

Bournemouth Spring Show: Two days.

British Gardeners' Association, [illegible]

WEDNESDAY, April 6.—Liverpool Spring Show.

THURSDAY, April 7.—Linnean Society.

MONDAY, April 11.—United Horticultural Benefit and Provident Society.

WEDNESDAY, April 13.—Royal Caledonian Horticultural Society's Spring Show: Two days.

Cornwall Daffodil and Spring Flower Show, at Truro: Two days.

THURSDAY, April 14.—Kingsbridge Daffodil Show.

British Gardeners' Association, London Branch.

WEDNESDAY, April 15.—Haarlem Second Special Bulb Show; Ten days.

TUESDAY, April 19.—Royal Horticultural Society: Narcissus and Tulip Committee at 11.30 a.m.; Fruit, Floral, and Orchid Committees, at 12; Lecture at 3 p.m., on "The Wild Flowers of the West of Ireland," by Mr. R. Lloyd Praeger, B.E., B.A.; Scientific Committee at 4 o'clock.

Devon Daffodil Show, at Barnstaple; Two days.

Shrewsbury Spring Show.

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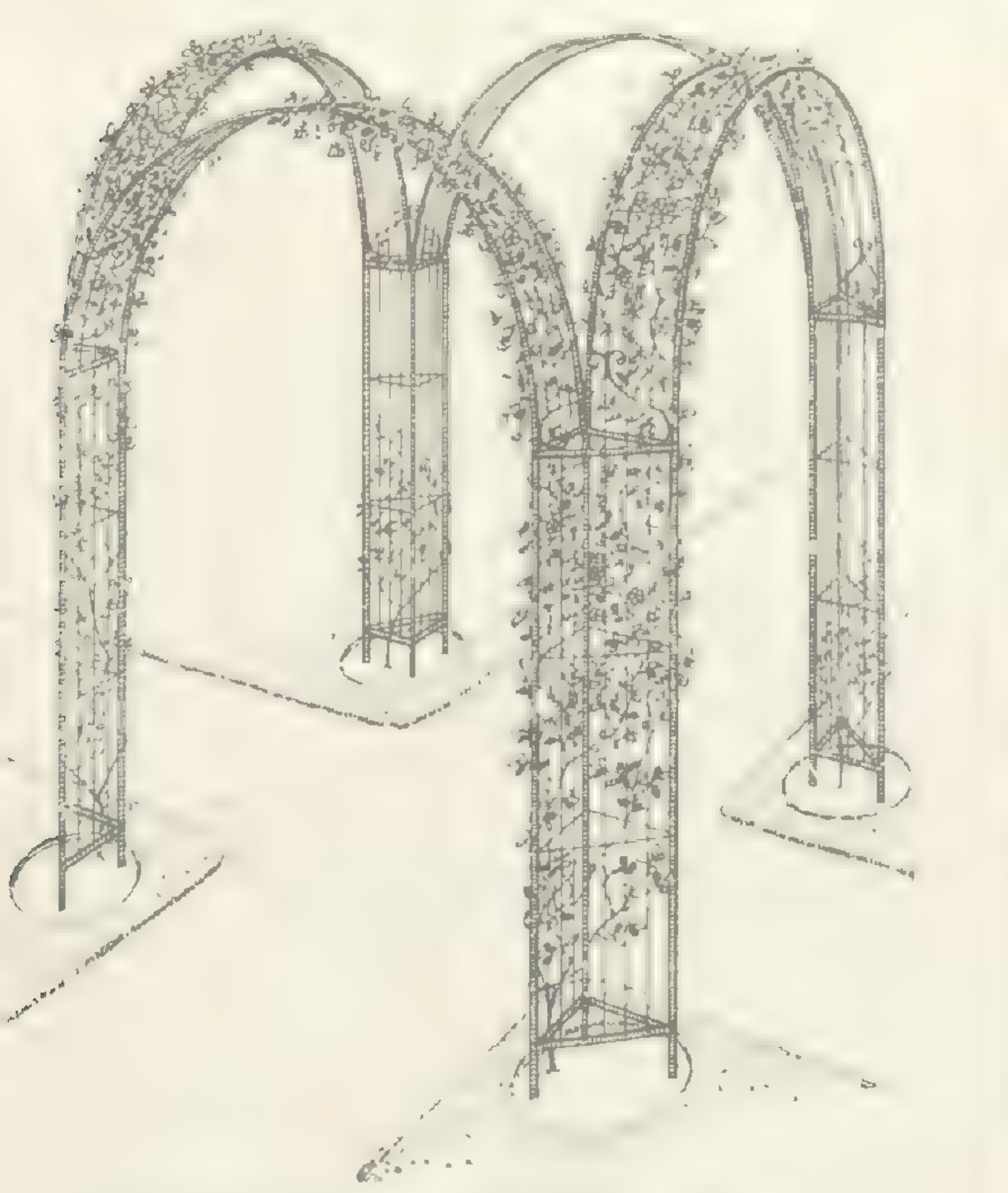

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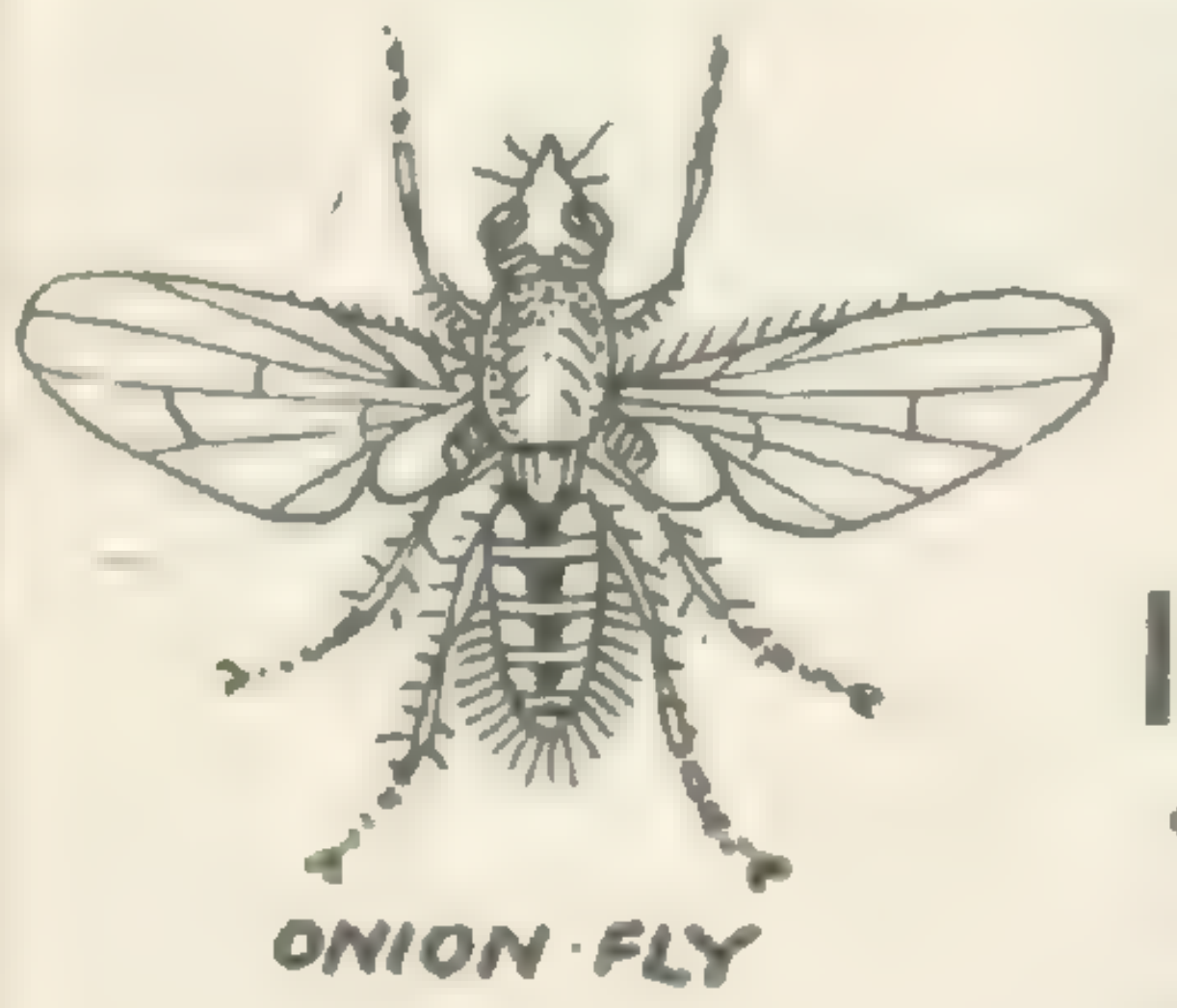

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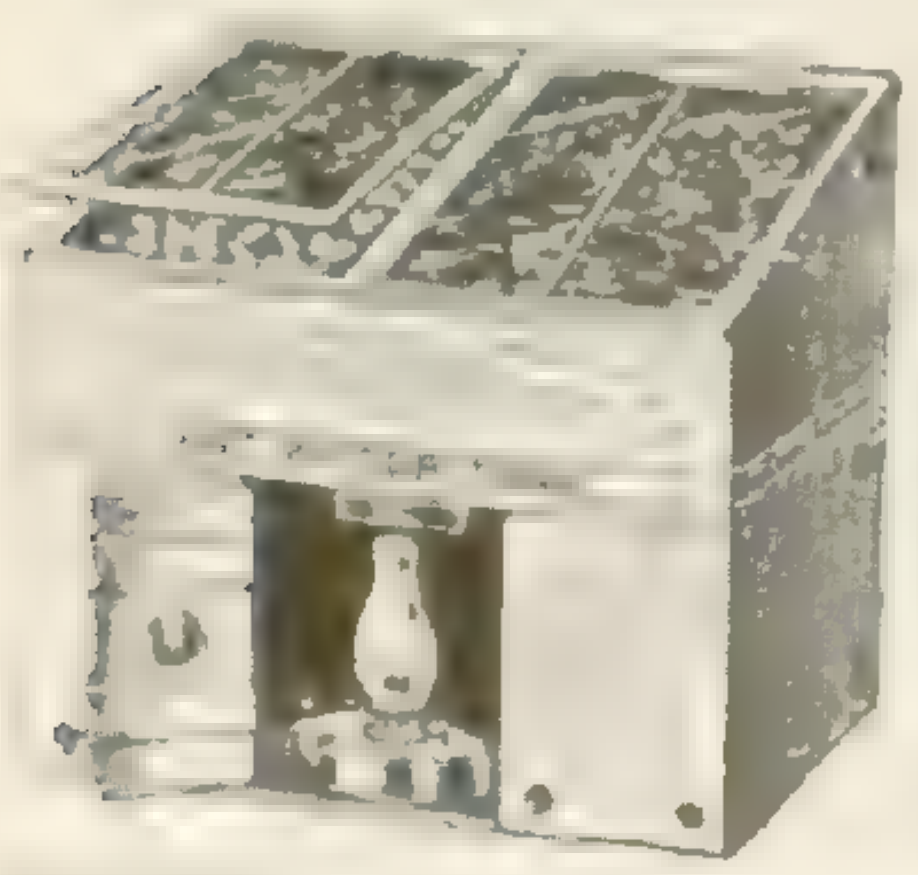

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TRADE NOTES.

From Messrs. William Bull and Sons, King's Road, Chelsea, we have received a box of blooms of their specialities in Chinese primulas. All the varieties represented are excellent, but the white Snowdon, the bright Salmon Queen, and the deep-red Duke of York were especially noteworthy.

Messrs. Mackenzie and Moncur, Lim., of Edinburgh and London, inform us that they have appointed Mr. W. E. Turnbull to succeed the late Mr. D. McCorquodale in the management of their business as carried on from 8, Camden Road, London, N.W. Mr. Turnbull has had over twenty-five years' experience, and clients can therefore feel assured that the care and attention devoted in the past to enquiries and the execution of orders will be continued in the future.

FLOWER SHOW SCHEDULES.

We shall be obliged if secretaries of societies will forward us a copy of their schedule for the present year.

Swanage Horticultural Society: August 1.
Leicester Flower Show: August 2 and 3.
Northampton Flower Show: August 3 and 4.
Sevenoaks Horticultural Society: August 9 and 10.
Teddington and Hampton Wick Horticultural Society: July 13.
Leamington Horticultural Society: July 27 and 28.
Haywards Heath Horticultural Society: July 20.
Croydon Chrysanthemum Society: October 26 and 27.
Hawick Diamond Jubilee Show: August 27.
Hawick Chrysanthemum Show: November 25 and 26.

Jasminum primulinum. — This very fine yellow jasmine, while scarcely hardy, except in sheltered positions, is well worthy of a position in a cool house, where it can be trained near the roof glass, or where it can have free exposure to the light. On a sheltered wall outside, it is an attractive object when in flower, but to convey a proper effect of its beauty one must see it growing under cover. Flowers produced outside have no comparison in size and purity of colour with the blooms grown under glass. Those in search of a winter-flowering plant with yellow flowers, will find this worth their consideration.—T. H. Slade.

Omphalodes verna.—One of the loveliest of our perennial spring flowers is Omphalodes verna, a plant worthy of its time-honoured place, if only for the bright, refreshing blue of its flowers. Unlike a large number of the orthodox spring flowers, this subject requires very little attention, as it grows freely in any ordinary soil, and succeeds to perfection under the light shade of deciduous trees. Omphalodes verna early responds to the awakening influence of spring, the first flowers being generally in evidence early in March. The general character of these are very suggestive of the forget-me-nots, but in other respects the plant is quite distinct. The flowers are on six-inch pedicels, and are only few-flowered, while the colour is a very fine blue with a conspicuous white line marking the throat. The radical leaves are oval-heart shaped, passing into a more lanceolate form as they ascend the stem, the stems are prostrate, and the plant increases in much the same way as the garden strawberry. There is also a white-flowered form of Omphalodes verna, but it is singularly lacking in the beauty which endears the type to flower-lovers. Both are good growers, and most reliable for carpeting rough ground. The foliage alone is decorative, even when the flowers are gone. They also succeed in such charming company as the Tiarella cordifolia (Foam Flower), and Gentiana asclepiadea (Willow Gentian). — Thomas Smith.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Trade is fairly good; daffodils are abundant and so are liliums, arums, and carnations.

		s.	d.		s.	d.
Acacia	per doz. bun.	8	0	to	10	6
Adiantum cuneatum	per doz. bun.	6	0		9	0
Anemones	per doz.	1	0		1	6
Arums	per doz.	1	6		3	0
Asparagus	per bun.	1	0		1	6
Azalea, Ghent	per bunch	0	6		0	9
Camellias	per doz.	1	0		2	0
Carnations	per doz. blms.	1	6		6	0
,,	per doz. bun.	12	0		18	0
,, Malmaisons	per doz.	6	0		12	0
Cattleyas	per doz.	6	0		10	0
Croton leaves	per bun.	1	0		2	6
Cypripediums	per doz. blms.	2	0		3	6
Daffodils	per doz. bun.	1	3		4	0
Eucharis	per doz.	3	0		3	6
Freesias	per doz. bun.	1	6		2	0
French fern	per doz. bun.	0	6		0	9
Gardenias	per doz.	1	6		2	6
Lapagerias	per doz.	1	6		3	6
Lilac, French	per bun.	3	0		4	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	2	6		3	6
,, longiflorum	per bun.	2	0		6	0
Lily of the Valley	per doz.	6	0		14	0
Marguerites	per doz. bun.	2	0		4	0
Mignonette	per doz. bun.	3	0		4	0
Narcissus	per doz. bun.	1	0		2	0
Odontoglossums	per doz. blms.	1	0		2	6
Pelargoniums	per doz. bun.	4	0		6	0
Roman hyacinths	per doz. bun.	5	0		9	0
Roses	per doz.	2	6		8	0
Smilax	per doz. trails	5	0		8	0
Stocks	per doz. bun	3	0		4	0
Sweet Peas	per doz. bun.	3	0		6	0
Tuberoses	per doz. blooms	0	4		0	5
Violets	per doz. bun.	1	0		2	6

Fruits.

Business is brisk and there are good supplies.

		s.	d.		s.	d.
Apples, English	per bush.	3	6	to	9	0
,, Californian	per case	7	0		11	0
,, American	per barrel	12	0		26	0
,, Canadian	per barrel	12	0		28	0
,, Nova Scotian	per barrel	12	6		20	0
Apricots, Cape	per box	4	0		5	6
Bananas	per bun.	3	0		9	6
Grapes, English	per lb.	1	3		4	0
,, Belgian	per lb.	1	0		1	6
,, Guernsey	per lb.	0	8		1	3
,, Almeria	per doz. lbs.	4	0		8	0
,, Cape	per box	5	0		7	6
Lemons	per case	6	0		15	0
Oranges, Jamaica	per case	9	0		12	0
,, Jaffa	per case	10	6		12	6
,, Valencia	per case	7	0		12	6
,, Navels	per case	9	0		12	6
,, Denia	per case	10	0		16	0
,, Tangerines	per box	0	4		1	0
Peaches, Cape	per box	4	0		6	0
Pears, Cape	per box	3	0		6	0
,, Californian	per case	10	0		15	0
,, Australian	per box	15	0		20	0
Pineapples	each	1	6		4	6
Plums, Cape	per box	3	6		7	0

Vegetables.

There is an excellent general demand and good supplies.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	2	0
Asparagus	per bun.	3	0		10	0
Beet	per bush.	1	6		2	0
Beans (Madeira)	per basket	2	6		5	0
Brussels Sprouts	per bush.	2	0		2	6
Cabbage	per tally	3	0		5	0
Carrots	per doz. bun.	2	0		3	0
Cauliflowers	per doz.	1	0		2	0
Celery	per doz. rolls	5	0		14	0
Celeriac	per doz.	1	6		2	6
Chicory	per 12lb.	2	6		3	6
Coleworts	per tally	2	0		4	0
Cucumbers	per doz.	4	0		9	0
Endive	per doz.	2	0		2	6
Horseradish	per doz. bun.	10	0		17	6
Leeks	per doz. bun.	1	0		2	0
Lettuce	per doz.	1	6		1	9
Marrows, Madeira	per doz.	10	0		16	0
Mushrooms	per doz. lb.	6	0		12	0
Mustard and Cress	per doz. pun.	0	10		1	3
Onions	per case	6	0		7	0
Parsley	per doz. bun.	1	6		3	0
Parsnips	per bag	1	6		3	0
Radishes, French	per doz. bun.	1	3		1	6
Rhubarb	per doz. bundles	0	7		0	10
Savoys	per tally	3	0		4	6
Seakale	per doz. pun.	9	0		12	0
Spinach	per ½-sieve	1	3		2	0
Tomatoes, English	per doz. lb.	8	0		12	0
,, Canary	per case	9	6		14	0
Turnips	per doz. bun.	2	0		3	0

Roses may be grown to perfection by following the instructions given in Roses and their Cultivation, by T. W. Sanders. A selection is given, with description of all the best varieties, and full details for culture outdoor and under glass. Price 2s. 6d. net, by post. in box. 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1910. March 6 to March 12.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Mar. 6—Sunday	2 30	48	45	52	44
,, 7—Monday	7 30	49	47	55	45
,, 8—Tuesday	0 24	48	46	53	42
,, 9—Wednesday	—	50	48	51	47
,, 10—Thursday	3 42	44	42	53	41
,, 11—Friday	0 36	43	40	48	40
,, 12—Saturday	—	39	38	42	38
Means	(total) 14 42	46	43	51	43

Date. 1910. March 6 to March 12.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Mar. 6—Sunday	0.06	43	43	43	38
,, 7—Monday	0.02	43	43	43	38
,, 8—Tuesday	—	44	44	43	36
,, 9—Wednesday	0.55	45	44	43	45
,, 10—Thursday	—	45	45	44	37
,, 11—Friday	0.35	44	45	44	38
,, 12—Saturday	0.02	44	45	44	37
Means	(total) 1.00	44	44	43	38

LONDON POTATO MARKETS.

Supplies are not so large as of late, and business is steady.

		s.	d.		s.	d.
Bedfords	per ton	60	0	to	65	0
Blacklands	per ton	50	0		60	0
Dunbars	per ton	85	0		95	0
Evergood	per ton	55	0		60	0
Express	per ton	60	0		65	0
Kents	per ton	65	0		70	0
Lincolns	per ton	65	0		60	0
Presidents	per ton	60	0		65	0
Up-to-Date	per ton	65	0		80	0
Teneriffe	per cwt	10	0		12	0
Jerseys, new	per lb.	0	3½		0	4

CATALOGUES RECEIVED.

BEES, LIM., MILL STREET, LIVERPOOL.—A select list of alpine and herbaceous plants.

RANSOMES, SIMS, AND JEFFERIES, ORWELL WORKS, IPSWICH.—A neat little pocket list of this firm's specialities in lawn mowers for various purposes, and in various sizes, edge cutters, lawn sweeping machines, etc.

CHILVERS AND SON, HUNSTANTON.—An interesting, handy, and illustrated catalogue of conifers, evergreen, and flowering trees and shrubs.

WM. ARTINDALE AND SON, NETHERGREEN, SHEFFIELD.—A useful descriptive catalogue of plants, including florists' flowers.

KELWAY AND SON, LANGPORT.—Under the title of "Kelway's Manual for 1910-11," this firm has issued one of the most interesting and beautiful of catalogues we have ever seen. It is a quarto volume of 342 pages, and its sections are devoted to perennials, seeds, and bulbs. The illustrations are numerous and good, and the ten coloured plates add to the many attractions of a quite unique and most useful production.

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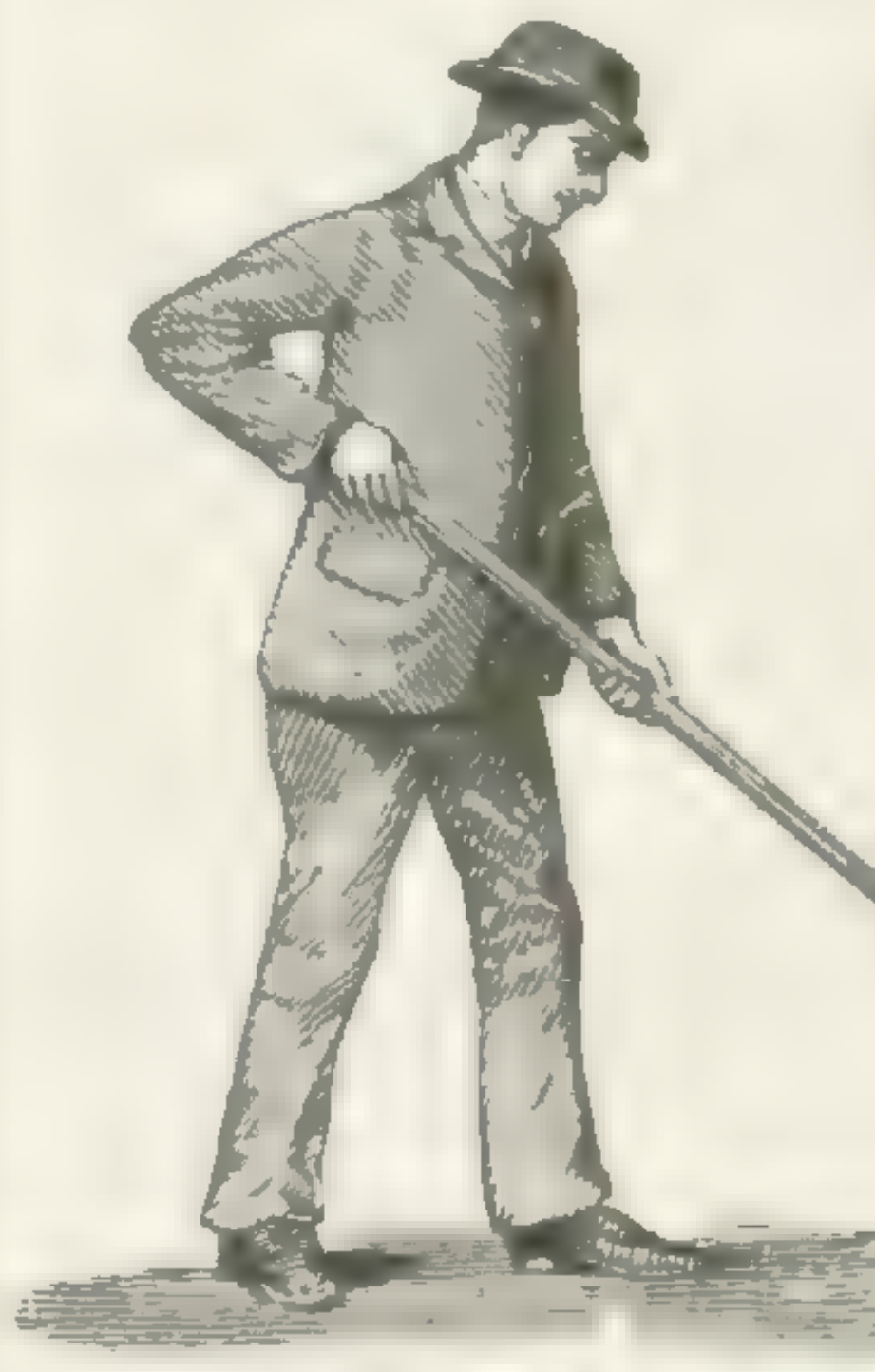

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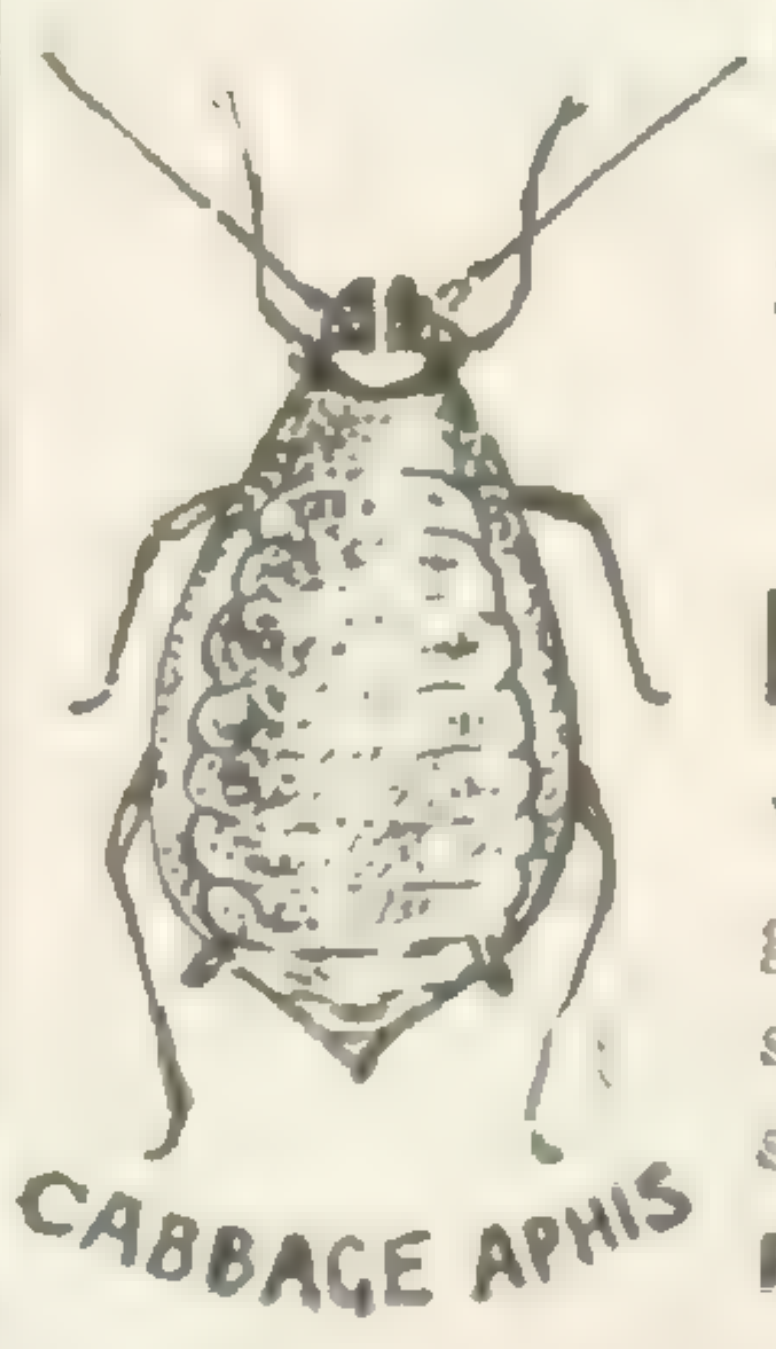

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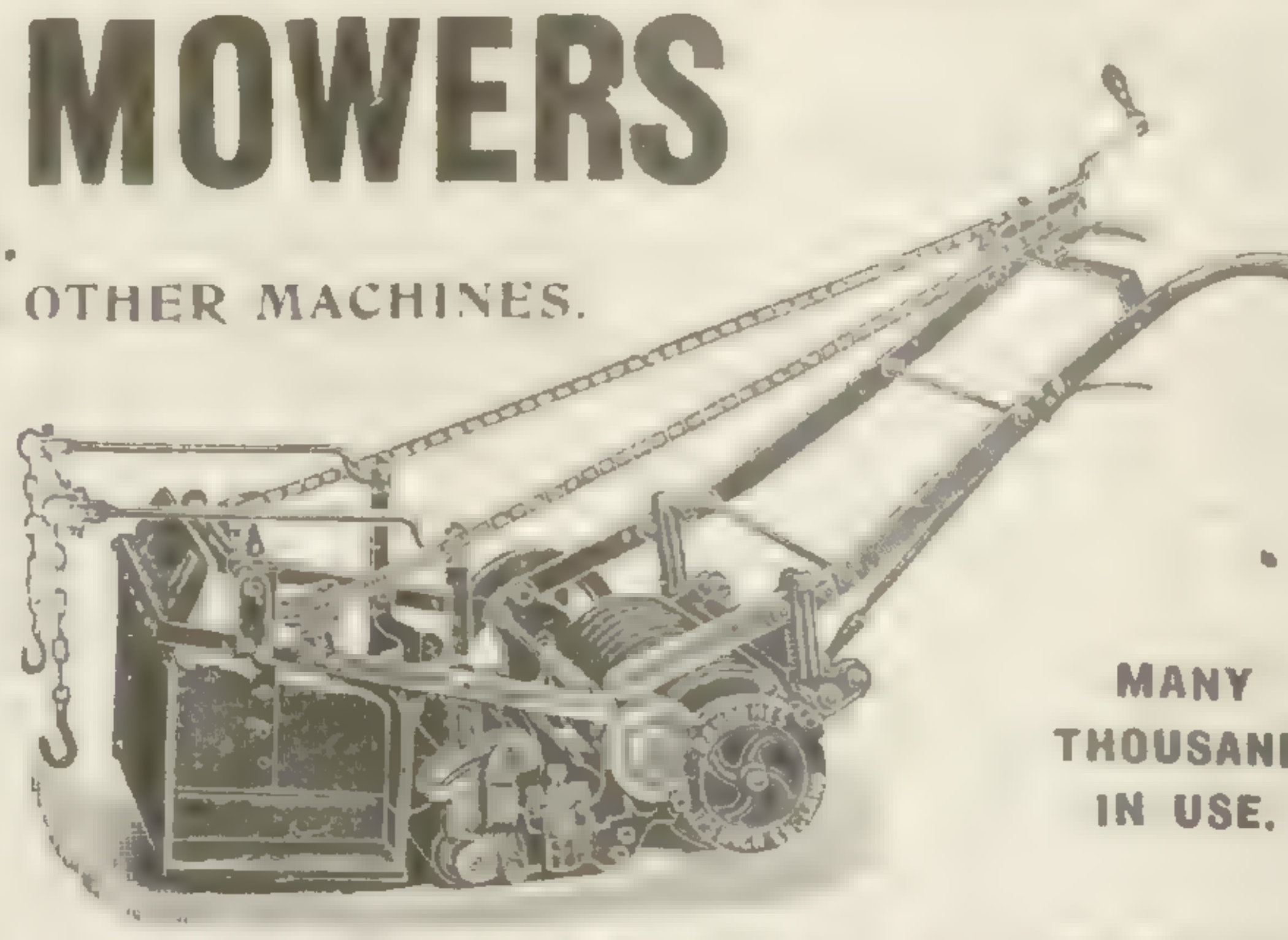

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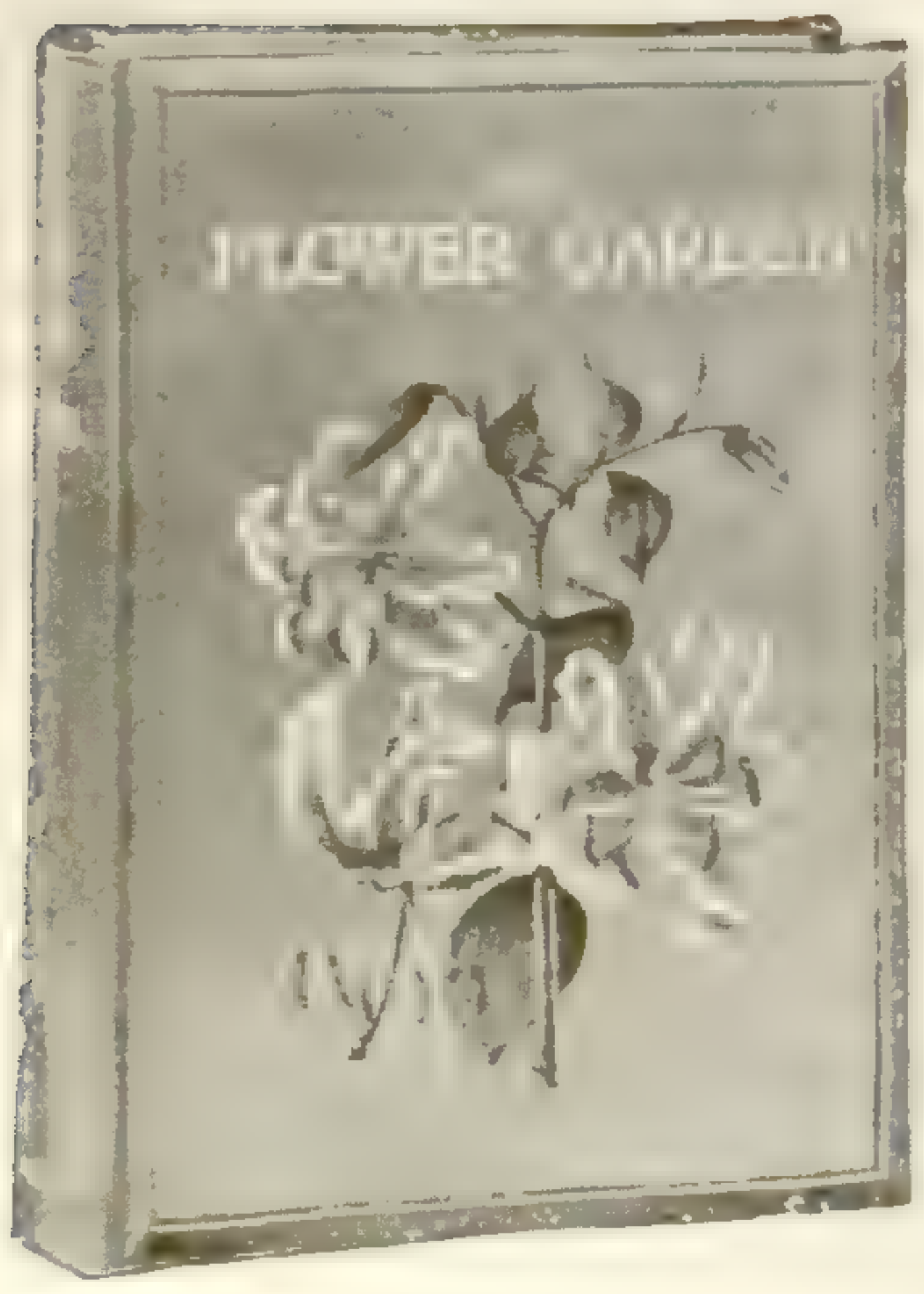

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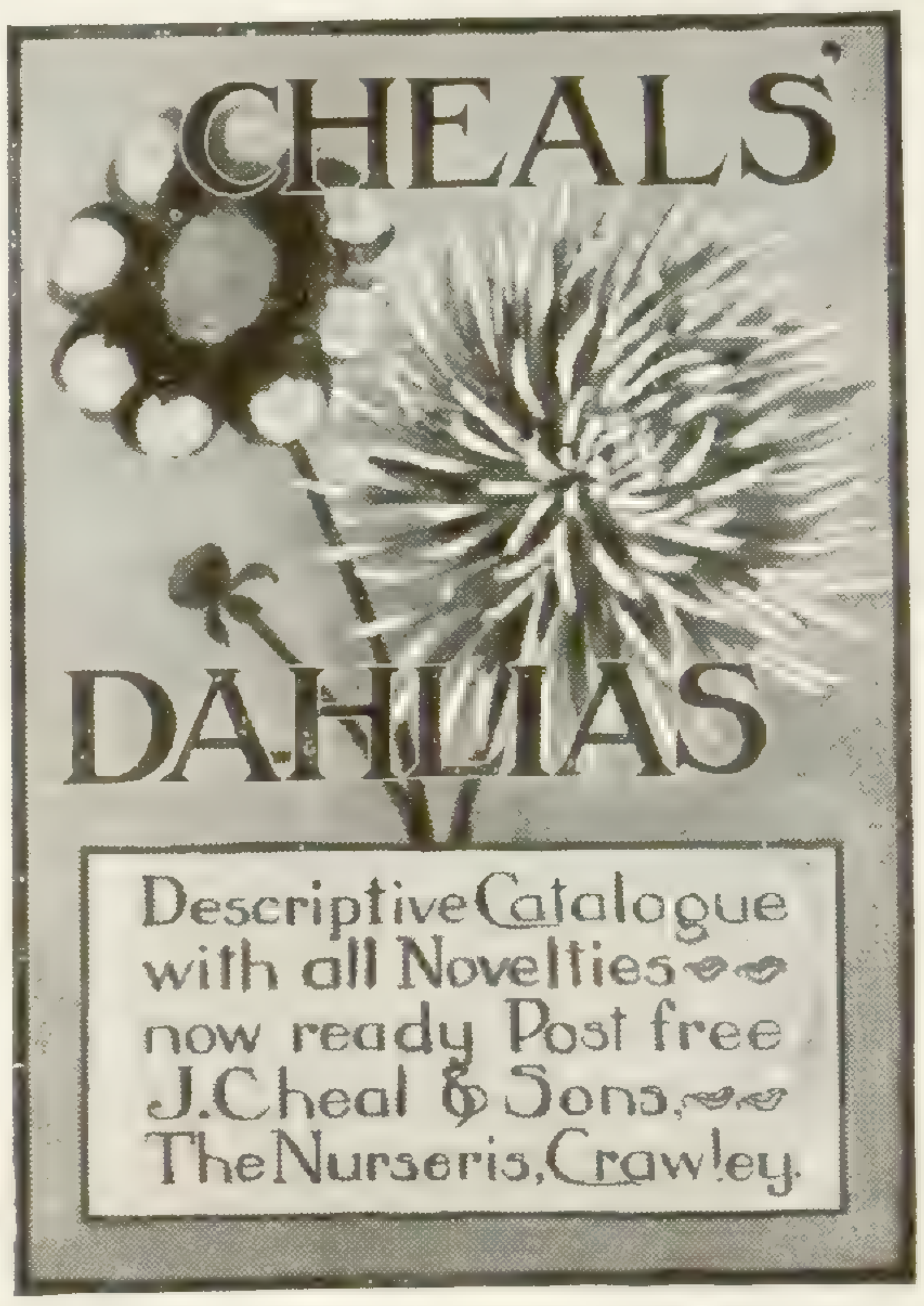

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LISSADELL.—The above are only a few selections from our 1910 List.—Please write for same to J. A. COOPER. Lissadell. Sligo. Ireland. mentioning this paper.

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THE Gardening Editor in "Exchange and Mart," Jan. 7th, and other dates, says, "Those who are wishing to run their gardens on economic lines would do well to send at once to the address above given for a catalogue." It is post free, and contains over 3,000 species and varieties of flower, fruit, and vegetable seeds. All in penny packets.

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Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

GARDENER (Head Working), age 31, seeks SITUATION; 15 years' experience in good establishments, including Frensham Place, Surrey, Tylney Hall, Hampshire, Bignell House, Oxfordshire; excellent references; married when suited. F. STEVENSON, 153, Tarring Road, Worthing, Sussex.

GARDENER (Head Working); age 30; practical man all branches, seeks Situation as above; highest references as to character and abilities. J. HEARN, Grendon Underwood, Aylesbury, Bucks.

GARDENER (Head Working), experienced in the cultivation of Fruit, Plants, Flowers under Glass, also flower and kitchen gardens, hardy fruit forcing, etc.; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head). — Advertiser seeks RE-ENGAGEMENT in first-class establishment, where several are employed; life experience, and thoroughly practical in all branches; five years as head in last situation; can be strongly recommended. Apply DUNKLEY, The Gardens, Mill House, Bourne End, Bucks.

GARDENER (Head Working). — Gardener's Son seeks SITUATION where two or three are kept; life experience, including 5½ years at Londesborough Park and over two years in present situation as Foreman; age 27; good references. HODGSON, Kirklees Gardens, Brighouse.

GARDENER (Head Working, where two or three others kept); age 36; married; life experience Inside and Out in good places; six years last place. COOPER, Erlestoke Park, Devizes, Wilts.

GARDENER (Head Working), life experience Inside and Out, in good establishment; vines, flowers, vegetables, hard fruit, stove and greenhouse plants; capable and trustworthy; good references; married; no family; age 39. R. GRIFFITHS, 8, Pitt Road, Farnboro', Kent.

GARDENER (Head Working, where several are kept); life experience in Fruit, Flowers, and Vegetables Inside and Out; capable, trustworthy, and excellent Manager; highest references; age 28; married when suited. HEXTALL, Stoke Road, Cobham, Surrey.

GARDENER (Head Working, where more are kept), age 28; life experience Inside and Out in good places with Vines, Fruit, Plants, House Decorations, Forcing, etc.; good references previous places. MIDDLETON, Exbury House, Exbury, Southampton.

GARDENER (Head Working), life experience in the Cultivation of Fruit, Plants, and Flowers under glass; also Lawn, Flower, and Vegetable Garden and the general requirements of a place; expert at bees; manage poultry if required. Wife laundress. THOMAS BEERS, The Gardens, Thornton Hall, Pickering, Yorks.

GARDENER (Head Working), age 50; single; thoroughly understands the cultivation of first-class fruits, flowers, and vegetables, and the general routine of a well-kept garden. SMITH, Somerleyton Green, Lowestoft.

GARDENER (Head Working), good practical experience in glass, kitchen garden, pleasure grounds, etc.; age 33; married; well recommended. R. TAYLOR, The Cedars Lodge, Byfleet, Surrey.

GARDENER (Head) or good Kitchen Gardener's place wanted; thoroughly experienced; 5½ years in last situation; married; age 38. W. SALVAGE, Yatendon, near Newbury.

GENTLEMAN highly recommends his GARDENER (Head Working); life experience; excellent characters; left owing to changes; married; age 40; no family. ALFRED PETCHEY, Blythwood, Stansted, Essex.

W. SCRIMGEOUR, Esq., wishes to highly recommend his HEAD WORKING GARDENER, age 38; life experience in all branches of gardening; 11 years as Head; married; life abstainer. MARTIN, 39, West Hill, Highgate, N.

GARDENER (Head or Single-handed), life experience in all branches, capable and trustworthy; excellent references from past and present employers; age 27; married when suited. W. BEEDLE, The Gardens, Stargroves, Newbury, Berks

GARDENER seeks SITUATION (Head Working, or Single-handed); near London preferred; age 40, married, no family; thoroughly experienced; 17 years' good reference. DIXON, The Lodge, Great Horkesley Park, Nayland, Suffolk

GARDENER (good Single-handed, with help); good all-round Man, in all branches, Inside and Out; would take moderate wage for a comfortable place; middle-aged; married; excellent testimonials from last and previous employers. F. OSBORNE, 48, Bradshaw Road, Watford.

GARDENER (Single-Handed or with help); experience Inside and Out; 17 years last situation; leaving through death; excellent references. Wife willing to do anything required; age 30.—ROGERS, 179, Buckingham Road, Aylesbury, Bucks.

GARDENER (Single-handed or otherwise), age 25; single; 11 years' experience, Inside and Out; good references. A. RANDALL, 40, Victoria Place, East Street, Epsom.

GARDENER (Single-handed), good all-round, understands cows; can be highly recommended from present employer; over five years; married, no family. T. GORRINGE, Larne Villa, Lindfield, Sussex.

GARDENER (Single-handed, or where another is kept); 9 years at present situation; married, one child; good reference. Apply J. BROWN, Pinner Wood, Pinner, Middlesex

MR. J. DOUGLAS, V.M.H., can highly recommend W. MUTTER to any Lady or Gentleman requiring a Head or Single-handed Gardener; 15 years' experience Inside and Out; married; aged 28. Address Elm Road, Leatherhead.

W. HEALY, Coldhayes Gardens, Liss, can highly recommend his Foreman to any lady or gentleman requiring a trustworthy, capable Man as SINGLE-HANDED GARDENER, with help preferred; age 34; married, 2 children.

MANAGER or FOREMAN; Carnations (Expert), Roses, Chrysanthemums, Grapes, Cucumbers, Tomatoes, etc., etc.; first-class references; disengaged. GEO. BESTER, Clematis Cottage, Stevenage, Herts.

MR. HART, Caldecote Towers Gardens, Bush Heath, Herts, can highly recommend J. BARRETT as FOREMAN (Inside); age 27; 14 years' experience in large establishments in Fruit, Plants, House, and Table Decorations; excellent testimonials.

GARDENER (Second), age 29; life experience in first-class establishments; well versed Inside and Out; excellent references; married when suited. PRITCHARD, 5, Southbourne Terrace, Emsworth, Sussex.

GARDENER (Second or Single-handed); 24; 5 years' experience, at present in general work; good character; abstainer; willing, obliging; Bothy. ALBERT SHEARING, Cranborne, Salisbury.

GARDENER (Second, where eight or more are kept); 12 years' practical experience; can grow for exhibition if required. P. CRANE, Pear Tree Cottage, Winkfield, Windsor.

GARDENER (Second, Inside or Inside and Out); good knowledge of Vines, Peaches, Cucumbers, and Melons, etc.; age 23. Near London preferred. R. L. OTTAWAY, The Cedars Cottage, Denham, Bucks.

GARDENER (Second, Inside or Inside and Out).—Mr. ELLIS, Franks Hall Gardens, near Dartford, Kent, confidently recommends WILLIAM NORTH as above; 9½ years' experience; age 24; married when suited. Apply first, NORTH, above address.

YOUNG MAN, age 28, requires SITUATION as Second, Inside or Inside and Out; 14 years' experience; Bothy preferred. Apply Mr. JESS, The Gardens, Parmoor, Henley-on-Thames.

YOUNG MAN (22) seeks SITUATION; Second, where three or four are kept; well up in pleasure grounds and fruit, with a knowledge of Inside work; excellent references; six years experience. H. RAPLEY, Rose Lodge, Norwood Hill, Charlwood, Surrey.

JOURNEYMAN (Inside), age 22, seeks SITUATION; good knowledge of growing greenhouse plants, including orchids, carnations, and chrysanths. Address, S. WALKER, 2, Wellington Place, Cadnam, near Southampton.

JOURNEYMAN (Inside and out); age 22; 6½ years' experience; 2 years' present situation; good reference. J. CANTRELL, 2, Forest Villas, Peel Road, South Woodford, Essex.

JOURNEYMAN (Inside or Inside and Out); can be highly recommended; age 20; two years in present situation. J. PREECE, The Gardens, Barnsley Park, Cirencester.

JOURNEYMAN, age 20, in Fruit and Plant Houses under Foreman; five years' experience; good references. H. EDWARDS, Sotterley Gardens, Wangford, Suffolk.

JOURNEYMAN (Inside); 9 years' experience; age 23; good references. Apply J. PRIOR, The Gardens, Sudbury Hall, near Derby.

JOURNEYMAN (22), under Foreman; 7½ years' experience; Bothy preferred; well recommended. P. TWEED, Hinck's Row, Atherstone, Warwickshire.

JOURNEYMAN (Inside) seeks SITUATION under good Foreman; 4½ years' experience; well recommended; age 19; disengaged. E. DILLEY, Carneles Green, Broxbourne, Herts.

JOURNEYMAN seeks SITUATION (Inside and Out, or Outside); 5½ years' experience in pleasure grounds and kitchen garden, herbaceous border, etc.; some knowledge of glass; age 21; good references, well recommended. L. BIGWOOD, Kingsbury Green, N.W.

SITUATION COUPON

To the Advertisement Manager of "The Gardeners' Magazine,
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For APRIL 2, 1910.

Please Repeat my Advertisement.

Name ....

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....

Date.............. .. ..

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

JOURNEYMAN, age 18, seeks SITUATION; Inside preferred. W. STACEY, The Gardens, Silchester Hall, near Reading.

JOURNEYMAN (Inside or Inside and Out); age 22; seven years' good experience; good references. A. E. PECK, Tempsford Hall Gardens, Sandy, Beds.

JOURNEYMAN (First, Inside); good experience in Fruit and Plants; can be well recommended; age 22; total abstainer. G. HANN, Over Compton, Sherborne, Dorset.

JOURNEYMAN (Inside and Out), age 21; two years in last situation; well recommended; Bothy preferred; disengaged. F. HELYAR, 46, Coombe Road, Upper Sydenham, Kent.

JOURNEYMAN (Inside).—Mr. CAMPIN, Manor House Gardens, Alton, Hants, would be pleased to recommend A. OCKENDEN; five years' experience; age 22; Bothy preferred.

F. IBBOTSON, Rolleston Hall, Leicester, wishes to recommend F. JARVIS as JOURNEYMAN (Inside or Inside and Out); age 21; strong and willing; six years' experience.

J. W. HUCKVALE, Head Gardener to F. B. Wright, Esq., Wootton Court, Warwick, will be pleased to recommend A. EDWARDS as JOURNEYMAN (Inside); age 20; present situation four years as Journeyman (Second). Above address.

MR. H. HENLEY, Saxham Hall Gardens, Suffolk, well recommends E. GARWOOD as JOURNEYMAN in Fruit and Plant Houses; age 23; seven years' experience; three years here.

MR. R. LEWIS highly recommends E. FORSEY as JOURNEYMAN (Inside); seven years' experience; abstainer; age 22; Bothy preferred. The Gardens, Bystock, Exmouth, Devon.

MR. W. J. SHORT, Freeland Gardens, Woodstock, Oxon, wishes to recommend H. BEES, aged 23, as JOURNEYMAN, Inside or Inside and Out; 9 years' experience; two years' inside here.

MR. SWAIN, Broome Hall Gardens, Greenfield, Shrewsbury, would be pleased to recommend his Son as JOURNEYMAN, Inside or Inside and Out; age 19; good references.

MR. L. E. WALKER, Barton Hall Gardens, Bury St. Edmunds, highly recommends G. SPENCE as JOURNEYMAN (Second, Inside) in a good establishment; six years' experience; age 20; disengaged. G. SPENCE, High Street, Yoxford, Suffolk.

MR. J. WILSON, Thornes House Gardens, Wakefield, Yorkshire, will be pleased to recommend S. HUNTER as JOURNEYMAN (Inside); nearly eight years' experience; age 22; Bothy preferred.

R. POOLE, Mytton Hall Gardens, Montfordbridge, Shrewsbury, would be pleased to recommend G. PERRY as JOURNEYMAN (Inside or Inside and Out); age 21; six years' experience.

GARDENER, good all-round; well up in garden work, Inside and Out; married; 6 years' good character. F. COSSINS, Placewood Cottage, Sutton Valence, Maidstone.

GARDENER (Under, Inside and Out, or Single-handed); 11 years' experience; good all-round worker; good character; age 25. LAMPARD, 5, Camden Grove, Chislehurst, Kent.

GARDENER (Under) wants SITUATION Inside and Out, or Pleasure Grounds; good references; near Lincoln preferred. F. DAWES, jun., Gayton, King's Lynn.

GARDENER (Under, Inside and Out or Single-handed); 9½ years' experience, all-round work; good character; age 23. FUDGE, 2, Wycliffe Road, Winton, Bournemouth.

GARDENER (Under) seeks SITUATION in good establishment Inside or Inside and Out; age 25; good references. E. DOW, care Mr. Humphreys, Franklynns Lodge, Franklynns, Haywards Heath, Sussex.

YOUNG MAN (19); GARDENER (Under); five years' experience Outside; good character; strong, willing, obliging. A. W. DINNAGE, 43, West Street, Crawley, Sussex.

A YOUNG MAN, single, 29, requires a SIT as GENERAL LABOURER in garden or gentleman's estate; good pers. ref. Apply T. HAYWARD, 169, Cambridge Street, Aylesbury, Bucks.

HERBACEOUS and ALPINE SPECIALIST.—Mr. E. R. BUSH, late Manager of Messrs. Ware's Herbaceous, Alpine, and Aquatic Department, is open to accept appointment as above to any Nurseryman, Nobleman, Lady or Gentleman requiring a Man of long and practical experience. Fairholme, Alfred Road, Feltham.

IMPROVER (Inside and Out), age 20; five years' good character; Bothy preferred. W. DAVEY, 8, Downs View Cottages, West Ewell, Surrey.

IMPROVER; 2½ years' character; age 17; Inside; Bothy required. GEO. THOMSON, Easneye Park, Ware, can highly recommend R. WALKER, as above.

IMPROVER, age 16, seeks SITUATION in good establishment; three years' good character; can be well recommended. Apply F. TULL, Wootton Bassett Road, Purton, Wilts.

IMPROVER (18) requires SITUATION (Inside or Inside and Out); 4½ years' experience; abstainer; industrious; good character; Bothy preferred. E. ANKIN, Palace Gardens, Ely, Cambs.

IMPROVER, age 17, tall, strong, and willing, seeks SITUATION in good Garden, where he can learn Inside; two years' experience Outside. GARDENER, Tremans, Horsted Keynes, Sussex.

IMPROVER (Inside and Out), age 19; four years in present situation. SEARS, Milgate Park, Bearsted, Maidstone.

LAD, age 15, seeks SITUATION as APPRENTICE or IMPROVER; three years' excellent character; well educated; height 5ft. 7in.; Bothy preferred. FRANK BRISTOW, Bathealton, Wiveliscombe, Somerset.

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WANTED, SITUATION as GARDEN LABOURER, age 40; married, no family; good character and good experience; scythe and machine and spade work, etc; willing to be useful; disengaged. W. L., Grove Yard, Daybrook, Nottingham.

YOUNG MAN (18) seeks SITUATION in Gardens, IMPROVER (Inside, or Inside and Out); three years experience; well recommended. H TOMPKINS, Mears Ashby, Northants.

YOUNG MAN (18) seeks SITUATION in Gardens, Market Nursery, or Market Garden as beginner; strong and willing; good character. C. B., 45, Windsor Road, Holloway, London, N.

YOUNG MAN, age 20, requires SITUATION in gardens, 6 years' experience; good reference; Bothy preferred. Apply H. YOUNG, Exton, Oakham, Rutland.

YOUNG MAN, age 19, requires SITUATION in gardens, Inside, or Inside and Out; 5 years' experience; good reference. Apply E. ROOTES, 14, Rawdon Road, Maidstone.

YOUNG MAN seeks SITUATION in the garden, Outside, age 30; Oxford preferred. J. PRIOR, Severals Cottages, Rush Court, nr. Wallingford, Berks.

YOUNG MAN (18) seeks SITUATION in the garden as Improver, Inside, or Inside and Out; 2 years' experience; good references; disengaged when suited; Bothy preferred. V. MEPHAM, 21, High Street, Old Town, Eastbourne.

YOUNG MAN, age 18, as IMPROVER; excellent character and references. L. MONK, care of County Gardens, Chelmsford.

YOUNG MAN, age 21, seeks SITUATION in the nursery, Inside or Out; 5 years' experience. F. PRIOR, Severals Cottages, nr. Wallingford, Berks.

Situations Vacant.

WANTED a YOUNG MAN, age 21, understand vines, peaches, and general work of greenhouse; wages, 18s., with lodge. Apply GARDENER, East Burham Grove, nr. Slough.

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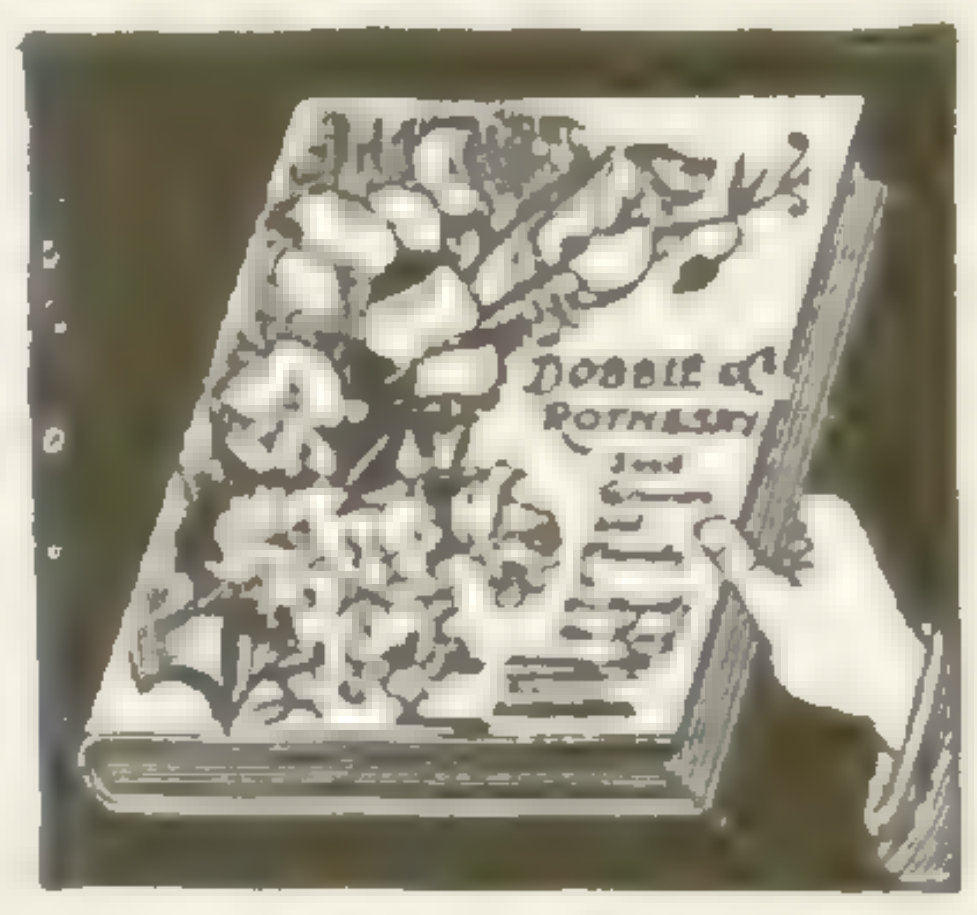

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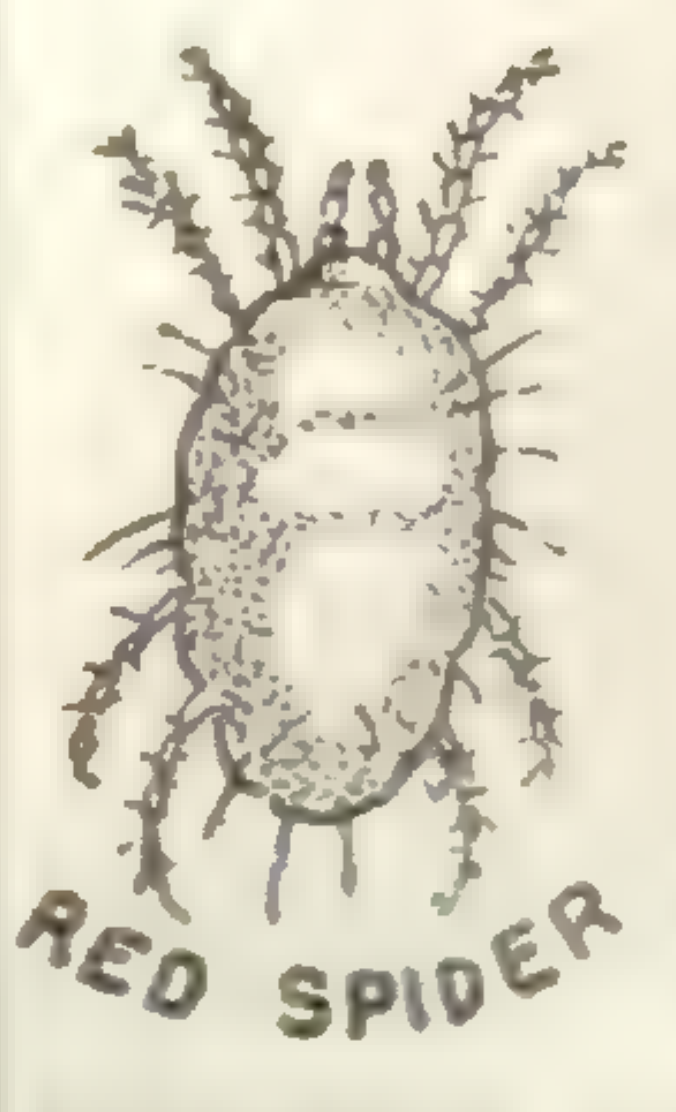

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VOL. LIII.—No. 2,943. SATURDAY, MARCH 26, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Horticultural Lectures.

MR. E. J. ALLARD.

With the opening days of spring the winter session of the numerous gardeners' associations will have drawn to a close, and the committees will, if they are wise, be giving attention to the preparation of the programme of the meetings that will be commenced shortly after the cessation of the summer's activities. Hence some reference at the present time to this important matter can hardly fail to prove useful, especially to those who are desirous of avoiding a slavish adherence to traditional methods of procedure. In many instances the consideration of the programme is deferred until within a comparatively short period of the inaugural meeting of the session, but there are several objections to such delay. In the first, the members of the executive will not have six months afterwards so clearly in their mind the weak and strong features of the session as at its close, and therefore will not be in a position to so fully appreciate the desirability of making such changes in methods of procedure as are essential to the maintenance of the meetings at a high level. By commencing the preparatory work now there will be less difficulty in obtaining papers and lectures from horticulturists living at some distance beyond the sphere of the society's operations. As regards readers of papers resident in the district, the additional time will be a distinct advantage, as it will give them fuller opportunities for thinking out the details of their subjects previous to committing their thoughts to paper. There is the further advantage in commencing early, of being able to bring the programme before those who are interested in gardening well in advance of the opening meetings. Whether the programme should be wholly filled by members, or include several lectures given by prominent horticulturists, is a question that must be determined by the circumstances of each case. There are not wanting those who believe that the first of the two methods is preferable. From long experience of the work of gardeners' societies we are fully persuaded that the best course is to include in the programme of each session the names of a few prominent horticulturists who reside outside the district. They may not be more successful cultivators or better speakers than some who reside within the district, but the occasional visit of a stranger quickens the interest in the meetings, and he will, more often than not, state his views upon some particular subject in a quite different manner than that to which the members have become accustomed. If the societies are to fully accomplish the work of which they are capable, the adoption of the second of the two courses of procedure is imperative. The time has gone by when the whole of the meetings should be given up to the discussion of subjects of a severely practical character. Science, as well as practice, should have full recognition, and in each session about one-third of the papers and lectures should be on scientific matters having a direct bearing on horticulture, and these should be by recognised authorities on the respective subjects. The formation, composition, and amelioration of soils, the science of manuring, plant growth, hybridisation and cross-fertilisation, fungoid diseases and insects injurious to plant life, are subjects of much importance to those engaged in garden management, and if dealt with by those fully conversant with them will be of intense interest. The great industries that appeal to gardeners, such as the daffodil industry, the tomato industry, and the grape industry should also receive attention, and if they are dealt with by those who are well acquainted with what is in progress, both at home and abroad, the meetings will be profitable as well as interesting. At least two evenings of the session should be set apart for an account of the chief gardens in the district, or of great gardens in other parts of the United Kingdom, including, if so desired, the botanical establishments. Not so long since the Croydon Gardeners' Society devoted an evening to an illustrated lecture on the gardens of which Croydon is the centre, and it was regarded as one of the most successful of the many admirable meetings which this enterprising society has held. Before societies can carry out programmes of so comprehensive a character as here suggested it will be necessary for them to have greater financial strength than is usually considered sufficient. They should certainly follow the example of the Croydon Society, and provide themselves with a good projection lantern, as slides are a necessity for many of the subjects mentioned. They will be found useful for many others, and, if some discretion is exercised, they will add much to the interest of the meetings. The lantern should be a good one, and adapted to the place of meeting and the method of illumination available, but the cost of purchase will not be so large that the amount cannot be raised without special difficulty, provided the necessary enterprise is forthcoming. It was found at Croydon, as will be found elsewhere, that the owners of gardens readily contribute to the fund raised for the purchase of the lantern. Illustrated lectures invariably prove the most attractive, especially when the members include a considerable proportion of amateurs, but it should be distinctly understood that the slides should be used to elucidate the remarks of the lecturer rather than to hide any defect he may possess as a speaker. The financial aspect of the work is not disposed of by the purchase of a lantern. The payment of lecturers on special subjects will have to be considered, and, with reference thereto, we would point out that it is unreasonable to ask someone who has obtained a prominent position in the world of horticulture to lecture without fee, and, more often than not, to allow him to be out of pocket to the extent of his travelling expenses. It is, of course, a different matter in the case of members, and of those resident in the same district, as they may be assumed to be sufficiently interested in the success of the society to be willing to render it assistance. Demonstrations of horticultural practice and of floral decorations should have a more prominent position in programmes than is usually assigned them, for they are especially useful to young gardeners, and of interest to those who are no longer young.

Mr. E. J. Allard, whose name is familiar to our readers by reason of his writings and the many reproductions from his plant portraits that have appeared in these pages has, as we have already announced, just taken up the very important post of garden superintendent at the John Innes Horticultural Institute, at Merton, of which Mr. Bateson is the director. Mr. Allard commenced his gardening career in a private establishment, where he had a good grounding in the general routine of garden practice. He then spent a few months in a nursery, and eventually entered service as an improver at the Cambridge Botanic Gardens, under Mr. R. Irwin Lynch, M.A., where he added greatly to his experience and knowledge of plants. From Cambridge Mr. Allard went to Kew, where the large plant collections, library, practical work, and courses of lectures further enabled him to add to his knowledge and widen his experience. From Kew Mr. Allard returned to Cambridge Botanic Gardens, where for five and a-half years he was foreman of the indoor department, this period being followed by one of five years as foreman of the outdoor department of the same establishment. Mr. Allard has had a good deal to do with the experimental work carried on at Cambridge, and took an active part in the work of plant breeding there, and doubtless this experience will also be of great value to him in his new duties. What force the John Innes Horticultural Institute is to exert upon the horticultural world depends largely upon the lines of development Mr. Bateson lays down; he has certainly an able lieutenant in Mr. Allard, who has our heartiest wishes for a successful career.

Haarlem Jubilee Flower Show.—The first of the series of horticultural exhibitions arranged by the General Bulb Growers' Society of Haarlem for the celebration of its jubilee was opened on Wednesday, March 23, under the most favourable auspices. The exhibition is being held in Hertekamp Park, one of the public parks belonging to the city, and a more delightful place for the holding of flower shows it would be difficult to imagine. It is extensive, finely wooded, and convenient of access, and the greater part of its area has been converted into a veritable flower garden that will be rich in attractions during the next two months. Just now it is gay with crocuses, and these will be followed by daffodils and hyacinths in variety, and a wide range of tulips in which early, mid-season, and May-flowering varieties are fully represented. The contributions to the first of the temporary shows are arranged in four spacious structures that are equally remarkable for elegance of design and suitability for the purpose for which they have been erected, the lighting being particularly good. Within the several exhibition houses there is an exceptionally fine display, hyacinths, tulips, mollis azaleas, rhododendrons, and lilacs being especially noteworthy. British horticulturists are in strong force, and among those who answered to their names when the jury was called on Tuesday morning last were: Mr. J. F. McHattie, of Edinburgh; Mr. G. Cuthbert, of Southgate; Mr. Walter Ware, Bath; Mr. C. E. Pearson and Mr. Duncan Pearson, of Lowdham; and Mr. George Gordon, Kew.

The Crush at the Horticultural Hall.—In order to avoid a repetition of the crush that occurred on the occasion of the R.H.S. meeting of March 8, direction posts were set up in the hall on Tuesday last, indicating the route visitors should follow, and, in addition, every visitor was handed the following notice: For your own comfort as well as for that of others, you are entreated to turn to the right immediately on entering the hall and keep stedfastly to the right, thus making the entire circuit of the hall, along the walls, first; and then proceeding to the central tables, still keep up and down to the right.

Vandalism at Camberwell.—The fact that a fine chestnut tree has been cut down in Camberwell Grove, for no apparent reason than the provision of work for the unemployed, and that the plane trees in Grove Park have been hideously lopped, though still young, is causing a great deal of anxiety on the part of tree lovers, for these things appear to have been done under the direction of the Borough Council, and not under the advice or guidance of anyone with a knowledge of arboriculture.

Herbert Park, Dublin.—A premium having been offered for the best design for the laying out of Herbert Park, Dublin, the site of the recent International Exhibition, a large number of designs were submitted, and that of Messrs. J. Cheal and Sons, landscape gardeners, Crawley and London, has been accepted, and the premium awarded accordingly.

Rothamsted Report for 1909.—The annual report for 1909, from the Rothamsted Experimental Station, Harpenden, with the Supplement to the Guide to the Experimental Plots has reached us, and shows that the staff under the direction of Mr. A. D. Hall, M.A., F.R.S., has been exceedingly active during the past year in the investigations of matters of great interest to agriculturists and also to horticulturists. Special subjects investigated and briefly referred to in the report are "The Effect of Partial Sterilisation of Soil on the Production of Plant Food," "Direct Assimilation of Ammonia Salts by Plants," "The Development of the Grain of Wheat," "The Amount of Free Lime and the Composition of the Soluble Phosphates in Basic Slag," and "Estimation of Calcium Carbonate in Soils." In connection with partial sterilisation, it is stated that the heating or treatment of soil with antiseptics kills off the protozoa and amœba which live on soil bacteria, and thus keep down their numbers, but it leaves unhurt some of the spores of the ammonia-producing bacteria which afterwards can develop to a much greater extent because freed from this normal check. Soil partially sterilised by being heated to 100 degrees for two hours is said to give a marked increase of crop.

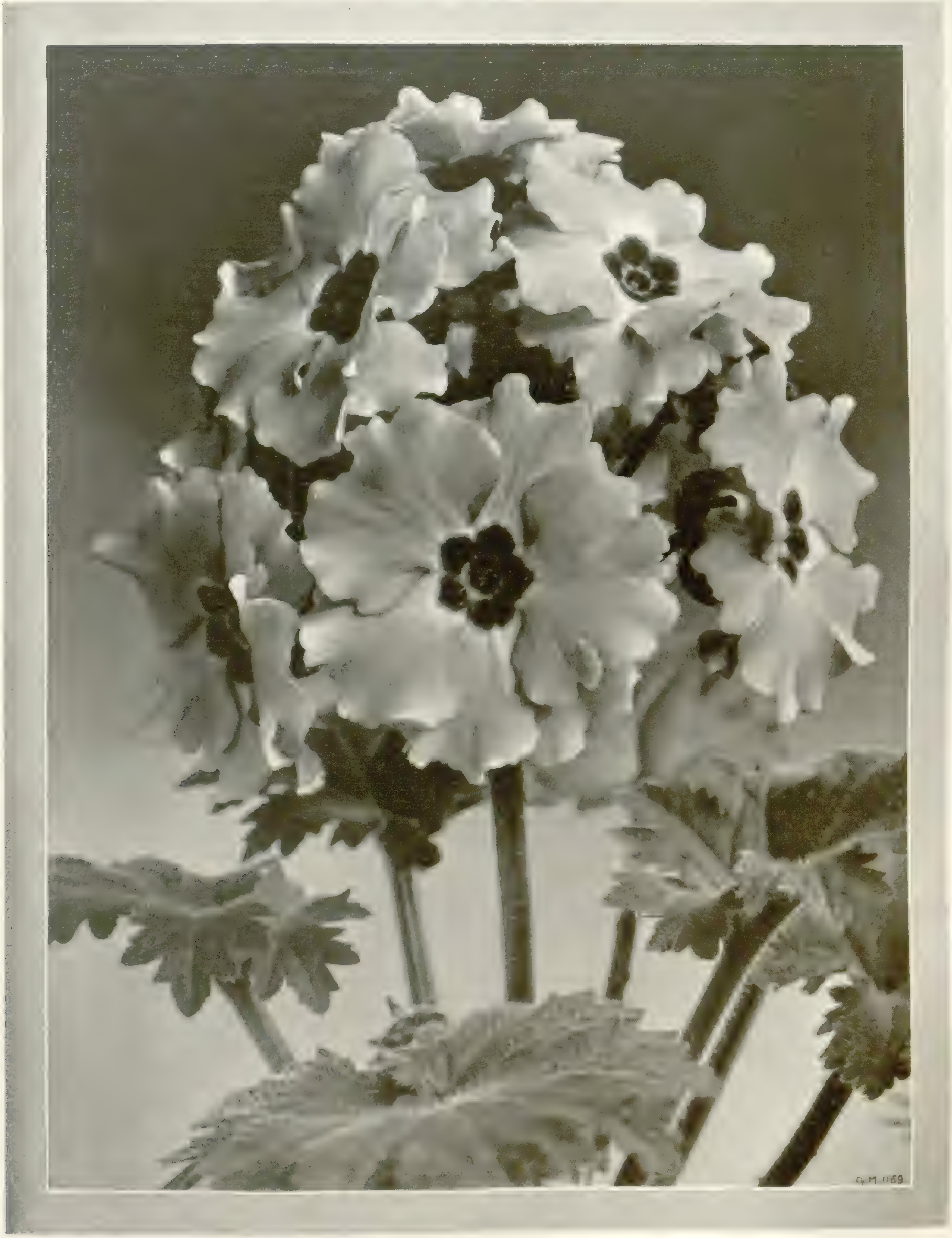
Proposed Gardeners' Congress.—Mr. J. Weathers writes: "It has been suggested that the time has arrived when the gardeners of the United Kingdom should meet together to discuss matters affecting their interests and profession. The chief difficulty in the way of this is to select a day and a time that would be convenient to any very large number, but probably the first day of the Holland House Show at Kensington—that is, on Tuesday, July 5 next—would be as good a day as any to secure a meeting of representative gardeners from various parts of the kingdom. Gardeners generally are beginning to feel that unless they co-operate in some way, the best positions in their calling are likely to be filled by men who have had no horticultural practice or experience. If gardeners in sympathy with the idea of holding a conference will kindly send their name and address to me at Talbot Villa, Isleworth, I think I may say that the Executive Council of the British Gardeners' Asociation will be only too pleased to co-operate and to defray the expenses."

Royal Botanic Society.—At a meeting of this society, held on Saturday, March 19, Mr. Pembroke S. Stephens, K.C., presided. Fifty-four new Fellows were elected and sixty-one nominated for ballot at the next meeting. Since the beginning of the year 181 new Fellows have been elected and proposed, this constituting a "record" for the society.

The Elm Avenue at Battersea Park.—Mr. V. Cockram, secretary of the London Branch of the B.G.A., writes that the central elm avenue at Battersea Park is being destroyed by a disease more deadly than the woodman's axe, and one which is beyond the power of man to prevent or cure. The trees have fallen a prey to the attacks of such parasitical fungi as Polyporus Ulmadia and P. sulphureus. These parasites have found a lodgment in the bark and the fungus has eaten its way through the fibres of the branches, and so weakened them that they are apt to fall without warning, especially when the leaves are heavily laden with rain. It will thus be seen that the trees have become a source of danger to the public, and it is only necessary to recall the fatal accidents which occurred in Kensington Gardens some time ago to realise how serious the danger really is. It is on this account that the authorities have reluctantly had to condemn the beautiful elm avenue in Battersea Park and have the diseased and dangerous branches removed.

Crocuses at Uttoxeter.—From Mr. J. Marston, gardener to H. Ford, Esq., The Hall, Uttoxeter, we have received two photographs of the crocuses in flower under a fine old beech tree in The Hall gardens. The photographs are not suitable for reproduction, but they indicate what must be a delightful scene at this season of the year, and are something like that to be seen at Kew or in Regent's Park.

Rehmannia Briscoei. At the recent meeting of the R.H.S. Scientific Committee, Mr. Harry J. Veitch showed a hybrid between Rehmannia angulata (of commerce) and R. Henryi. The hybrid had been raised by Mr. T. W. Briscoe, after whom it was named. The parents were also shown, for comparison. The hybrid was in most characters intermediate between its parents, being dwarfer than angulata and having an erect inflorescence instead of a condensed one, as in the pollen parent. The flowers were intermediate in colour and of a soft, pleasing pink. The leaves were arranged in a rosette, and were similar in shape to those of R. Henryi and had the same dark veinings, while they were much more velvety-hairy than those of R. angulata, though a little less so than those of R. Henryi. A Botanical Certificate was unanimously recommended for Rehmannia Henryi, now for the first time exhibited and a Certificate of Appreciation was unanimously recommended to Messrs. J. Veitch and Sons for work in connection with the raising of this interesting hybrid.



PRIMULA PRINCESS MAY.

A fine giant-flowered blush variety raised by Messrs. James Carter and Co. (See next page.)

THE HOLBORN PRIMULAS.

In 1837 James Carter, the founder of the firm of Messrs. James Carter and Co., of Holborn, offered six varieties of sweet peas, but in the absence of the original catalogue one may reasonably suppose there was no offer of Chinese primula seed at that date, for Primula sinensis was only introduced in 1820. However, it is interesting to notice that Chinese primulas attracted the close attention of the florists long before the sweet pea did, although the latter was introduced many years previously. The reason for this is to be found, probably, in the fact that the Chinese primula soon came to be prized as a winter-flowering plant, and this, in the days when retarding and forcing were not conducted as now.

Whether the Chinese primula will always fill the large place it has occupied during the last five-and-twenty years is purely a matter of conjecture, but there are at present no signs of any diminution of its popularity in private gardens, though in recent years somewhat fewer plants are grown for market. There is a sturdiness, symmetry, and beauty, and yet no lack of elegance, about a finely developed plant of a fine primula that appeals to most lovers of flowers, and many gardeners, amateur and professional, would feel that the circle of the horticultural year had been hopelessly broken if primulas were absent.

Messrs. J. Carter and Co. have taken a foremost position among those who have been responsible for the evolution of the Chinese or florists' primula, but although you must go, or send, to Holborn for seeds of their fine varieties of these flowers, you must journey to Forest Hill to see the flowers themselves. During February and early in March many houses are filled at the Houston Road Nurseries with batches of the many delightful varieties for which the Holborn firm is deservedly famous. Every care that long years of experience can suggest is taken to keep the primulas up to the high-water mark of perfection in habit, freedom, and size of truss and bloom, and every year new crosses are made and colour variations carefullly selected for further development for the purpose of still improving on the existing varieties. Some varieties offered fifteen years ago have been superseded, and there are now small stocks of improved strains that promise, in due course, to surpass the best of to-day. The advance is necessarily slow in the case of such a highly bred flower, but it is none the less sure. A Holborn primula is but another title for a first-class primula.

A quite considerable number of varieties are offered by Messrs. James Carter and Co., but it is not necessary to enter into minute details concerning them, especially as in the present issue there appears a life-size reproduction of a young plant of a variety named Princess May, and this may be taken as a good example of the type of plant and flower produced by these eminent seedsmen and florists. Princess May has blush-coloured flowers, with a bold orange-yellow eye. King Edward is one of the finest of white varieties, and has fringed flowers of great substance and beauty. Elaine is a quite old white variety as primulas go, and though surpassed in form of flower by its newer relatives, it is so wondrously free flowering that the demand for it is always large. Holborn Queen is another white primula that is interesting, because its giant flowers are produced all through the primula season, there being no loss in size as the season advances. A new giant white selection, with finely formed, solid flowers, promises to be an improvement on King Edward, while White Bouquet, with its big foliar calyces, provides an interesting development, as well as a good display of big white, orange-eyed blooms.

Among the bright colours Crimson King still holds a prominent place, the colour being very bright and pleasing, while Giant Crimson is of excellent colour and has the larger flowers. Holborn Carmine is extremely popular, and it is specially useful because when all the Holborn varieties are sown at the same time, this one invariably comes into bloom ten days or so earlier than all the rest. It is very free, and gives very large trusses of bloom. Giant Salmon, with bright flowers measuring from 2¼ to 2¾ inches across, commends itself to the connoisseur and the competitor; it is a magnificent variety in every way. Holborn Pink is another delightful variety, while for those who like the colour Giant Magenta is splendid, being exceptionally large and free.

The development of the blue shades is proceeding apace, and there are some very charming selections in both dark and light blue that promise well for the future. For the present The Czar, for a dark, and Light Blue, for a paler shade, fill the bill, though it must be confessed that Light Blue inclines rather towards lavender.

There are many other varieties of both giant and ordinary types; a fine range of colouring is the six distinct varieties of Star primulas, i.e., white, pink, salmon, lilac, blue, and crimson; and a splendid set of double varieties represented by Prince of Wales, salmon; Violet Queen, bluish-purple; Double Crimson, rich crimson; Aurora, blush-pink, and a great favourite for cutting from; Double Scarlet, very bright; and Snowflake, pure white.

LEEKS.

Though the leek may be regarded as a quite common vegetable, and one of the easiest to cultivate, because it is perfectly hardy and adapts itself to any soil or locality, yet it is nevertheless one of the most difficult to produce in the very height of perfection. For some reason the leek is more appreciated in the northern districts than in the south. Valuable prizes and keen competition for leek culture are frequently to be met with in Scotland and in the North of England, and, I venture to say, few vegetables give more pleasure to the keen cultivator than does the leek.

Seed sowing should be done at intervals from January to the middle of April, according to the time at which the specimens are required. The seeds are best sown thinly in shallow boxes filled with a light compost, and raised in gentle heat. Immediately the young plants are large enough, they should be pricked off into other well-drained boxes of from three to four inches in depth, and grown under glass, always endeavouring to promote a sturdy growth; thoroughly harden before planting out.

The best results may be looked for when the plants are cultivated in trenches much in the same way as those prepared for celery. These should be taken out and prepared during the month of March, and left in this condition until planting time comes round. As far as possible, choose an open sunny site, especially for the early plantings. Sufficient distance should be allowed between each trench for the work of watering, earthing, etc. At least one foot of good half-decayed manure should be placed in the trenches, and if the soil is of a very stubborn and unkind nature it will well repay to add from four to six inches of some nicely-prepared compost of a lighter nature.

Assuming the weather is favourable, the earliest plants should be put out about the middle of April, from twelve to fifteen inches apart, with a garden trowel. Make them very firm, and give a thorough watering in. In case of very cold winds the plants should be sheltered in some way, and the tops be frequently damped to prevent them from flagging. Where plenty of room and convenience is at hand the young plants may be cultivated in pots previous to planting out.

Blanching is the most important item in connection with successful leek culture. Here, let me point out, it is absolutely useless to cultivate the plants well and attempt to blanch them afterwards. This work should be commenced immediately after the plants are put out into the trenches, and can only be properly accomplished by using much care and attention. There are many methods practised, but the best I know is the use of brown paper collars, which are now sold for the purpose. These are placed over the top of each plant, with a small stick on either side to keep them in an upright position, at the same time placing a little fine soil around each to exclude light and air. After this place a nine-inch plank on either side, thus forming a kind of box about ten inches in width. The plants should be examined frequently, and the collars drawn up as the blanching proceeds, each time adding sufficient finely sifted soil of a poor nature around the base until the desired length of blanching is acquired, when the collars may be entirely removed, and a little clean wheaten straw placed carefully between the plants to prevent heavy rains splashing the soil into the axils of the leaves. This simple plan of fixing boards has much to recommend it, as the roots are not then buried to an unnecessary depth, which must of necessity occur when the plants are banked up. Watering and feeding can be carried out in a much more efficient manner also.

The leek is a moisture-lover, and it should not be allowed to suffer for the lack of it, either at the roots or overhead. Abundance should be given both in a clear and liquid manure form during the growing season, and in showery weather some reliable fertiliser should be applied, according to instructions. In very hot, dry weather place about three inches of half-decayed horse manure over the roots. Leeks grown in this way, whether required for exhibition or home consumption, are in every way superior to those grown in the ordinary way, as the blanching is much more perfect, and grit, which is most objectionable, does not get into the axils of the leaves.

For late spring supplies very good results may be obtained by heavily manuring and thoroughly trenching a piece of ground in an open position. Deep holes should be made with a crowbar, and the young plants let down to the depth of about a foot, afterwards working the finest of the soil round the plants, but this can only be relied upon for quite ordinary use.

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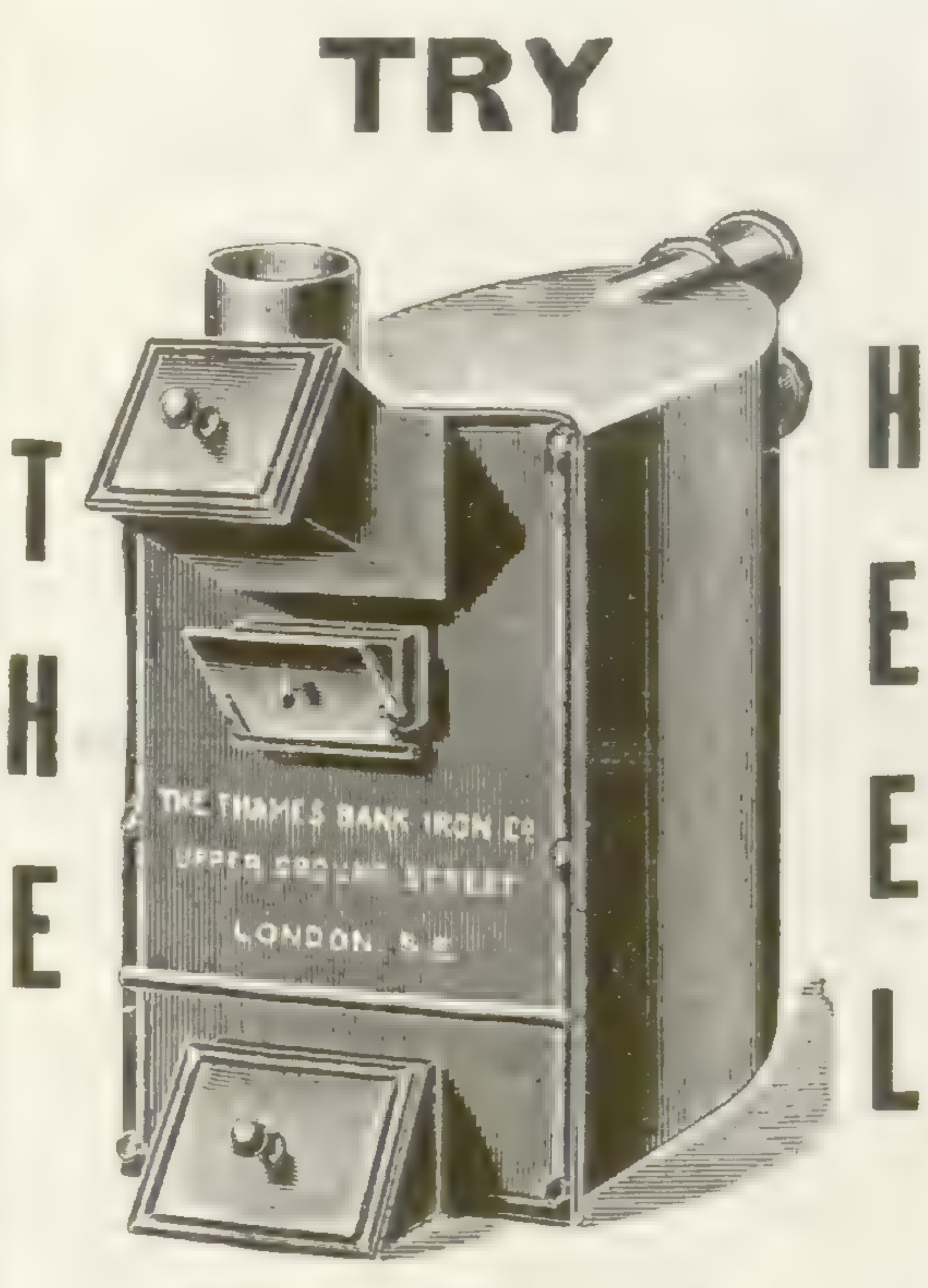

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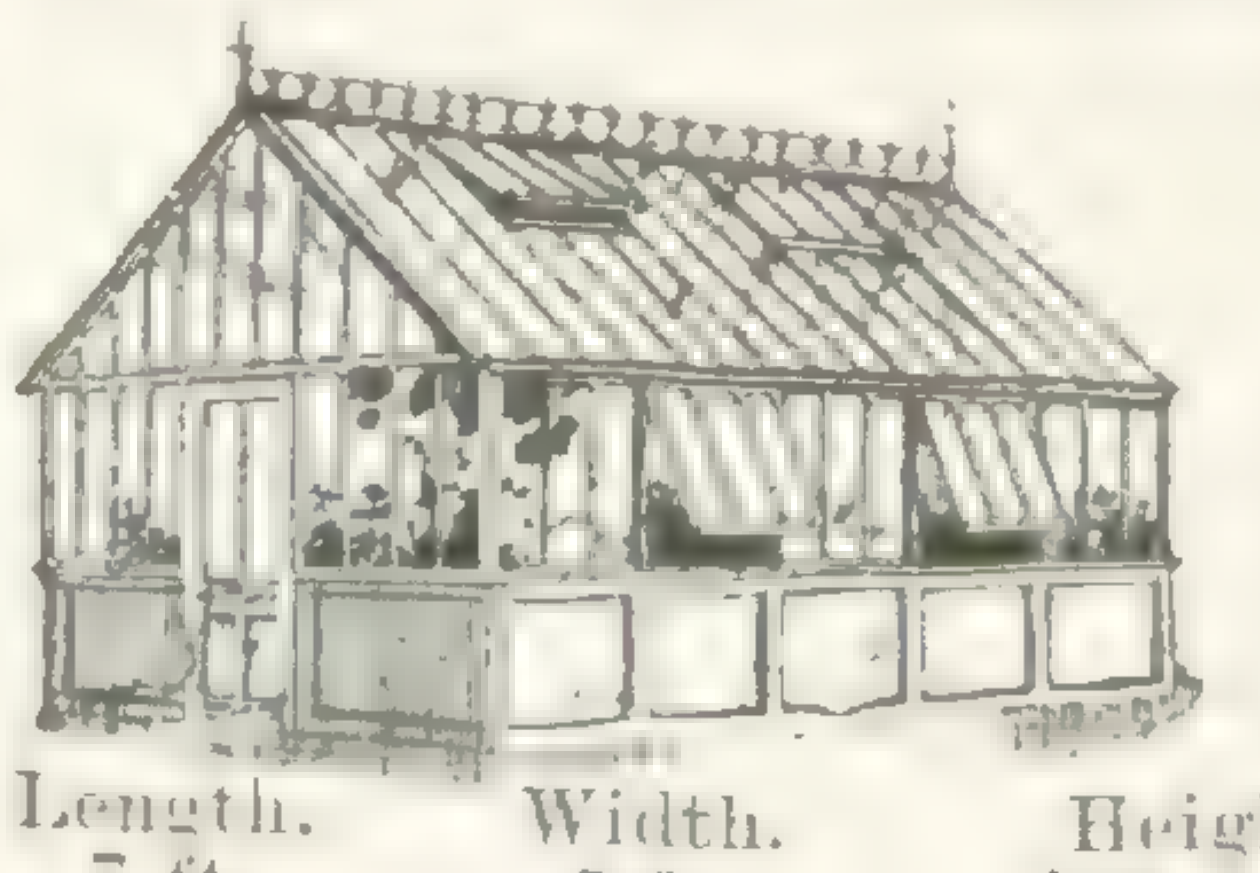

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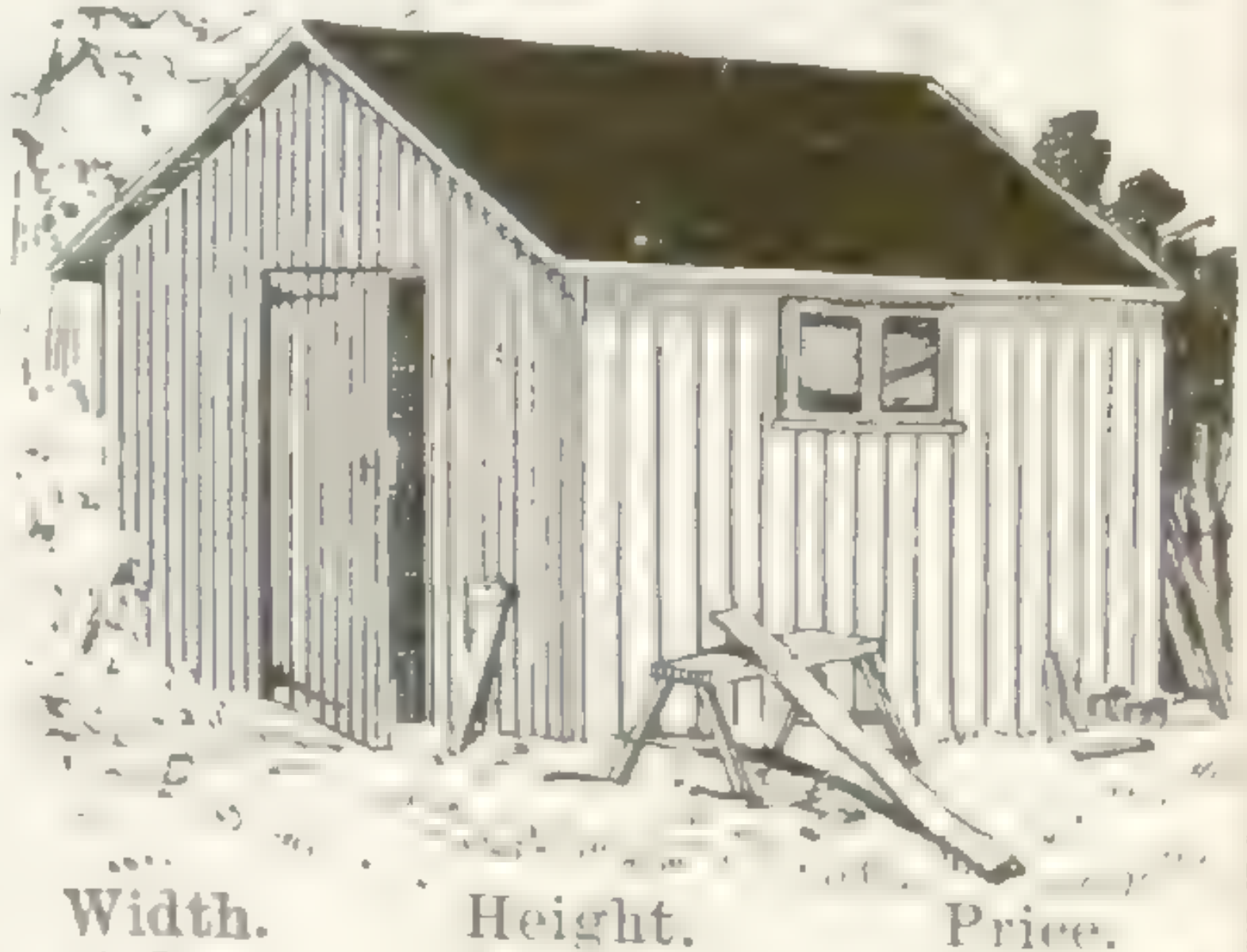

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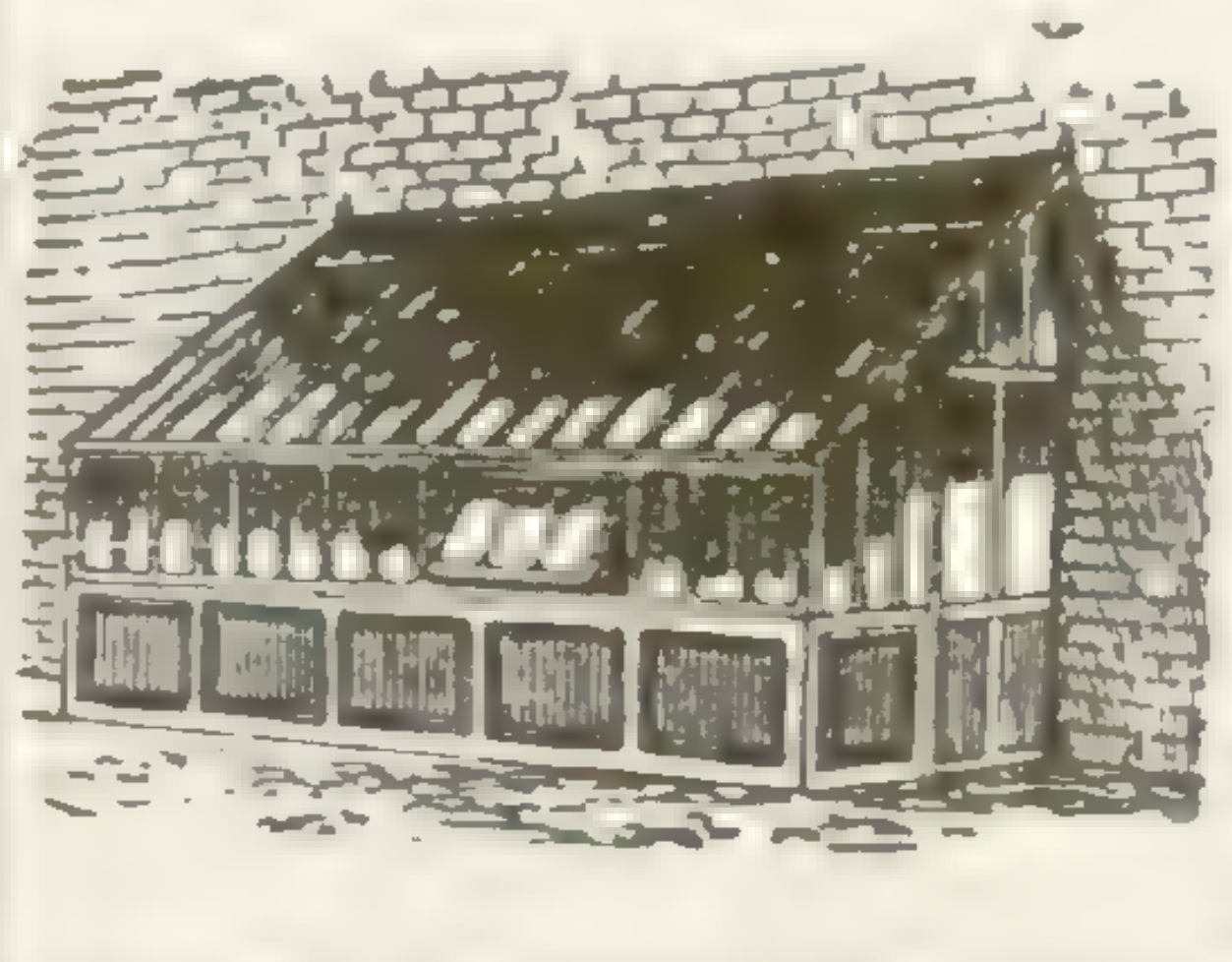

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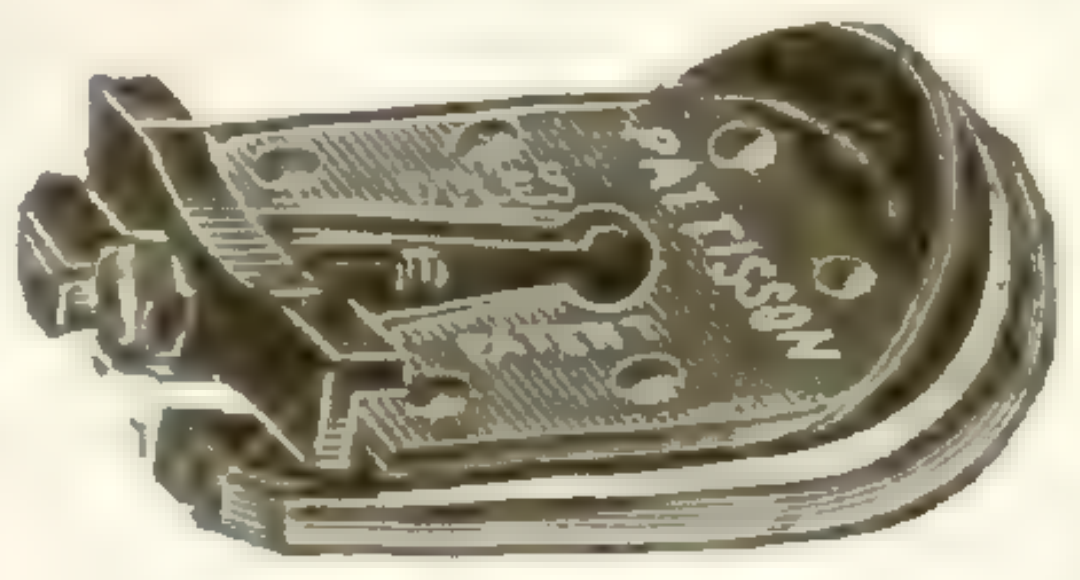

FIG. 1.

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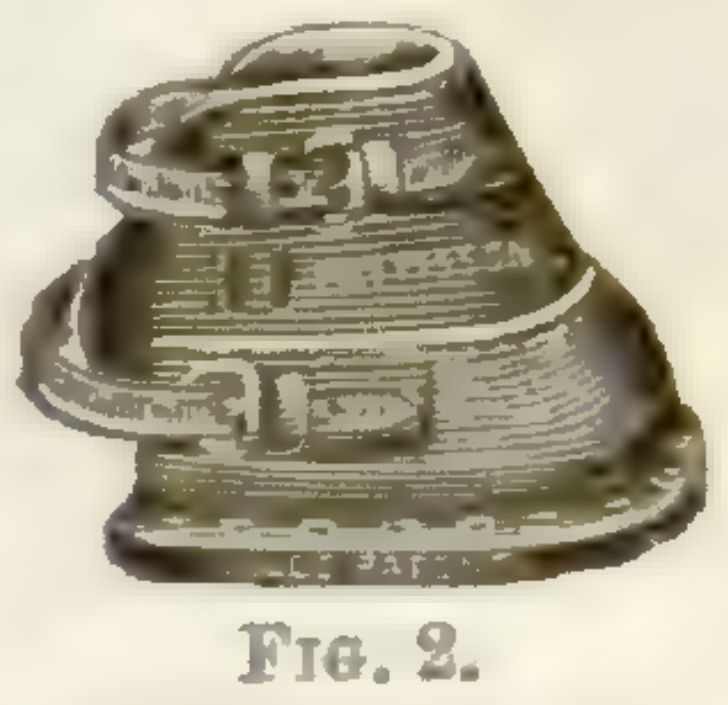

FIG. 2.

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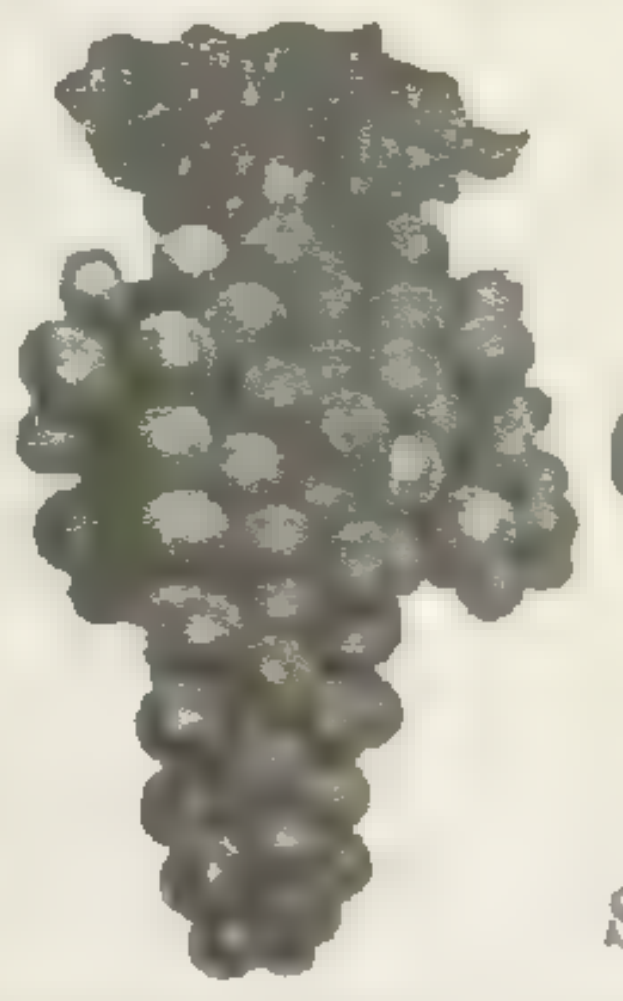

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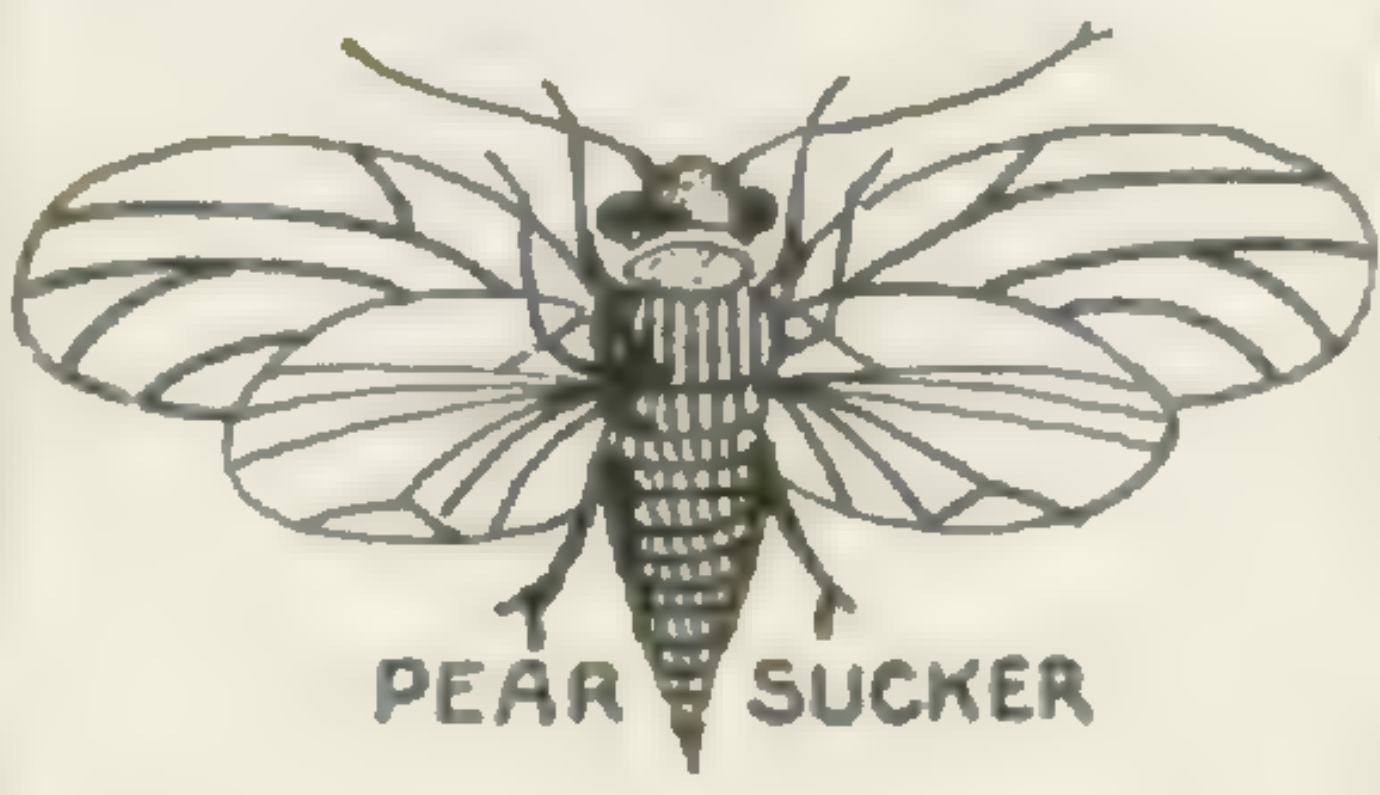

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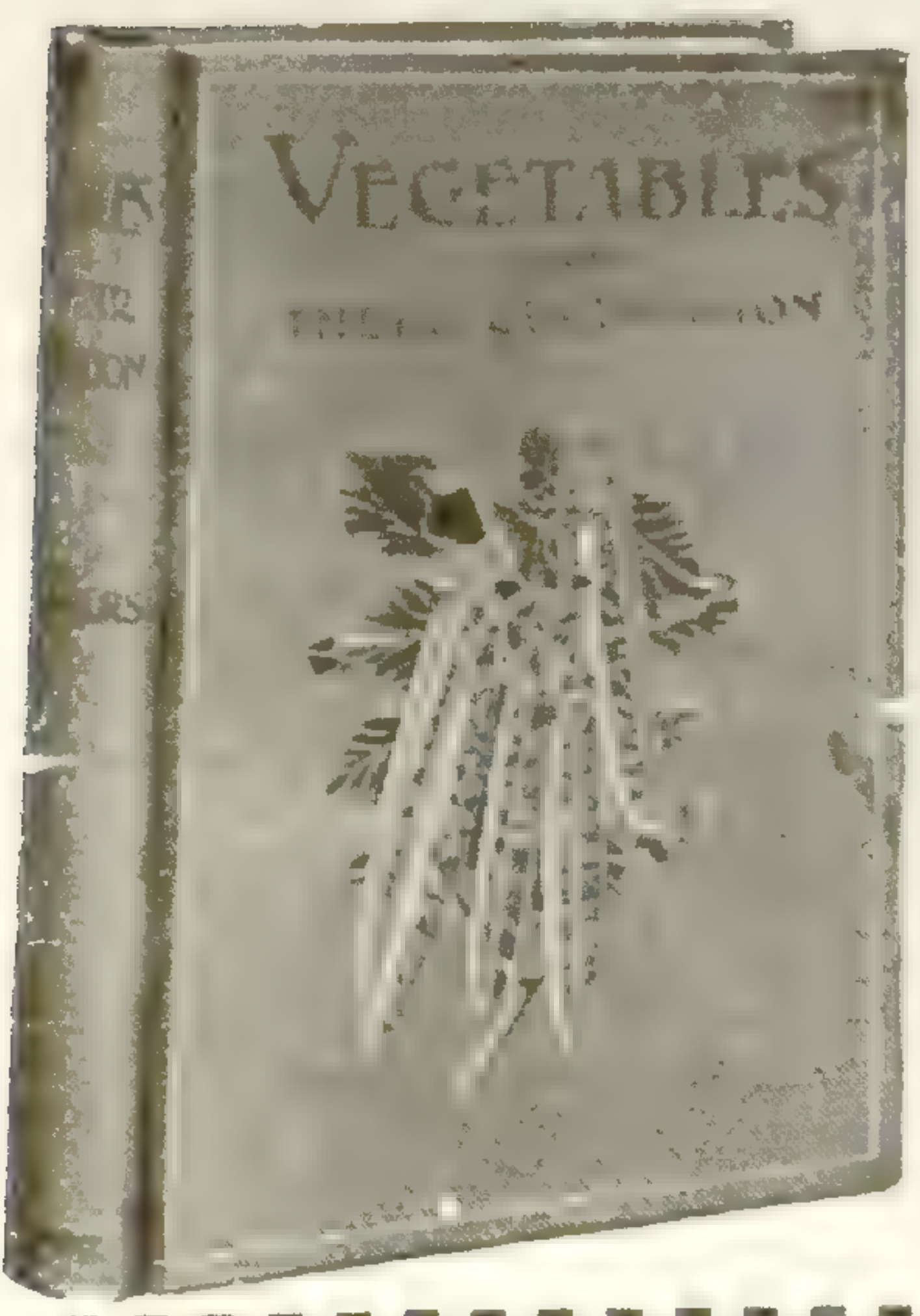

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GARDENS ROUND TORQUAY—II.

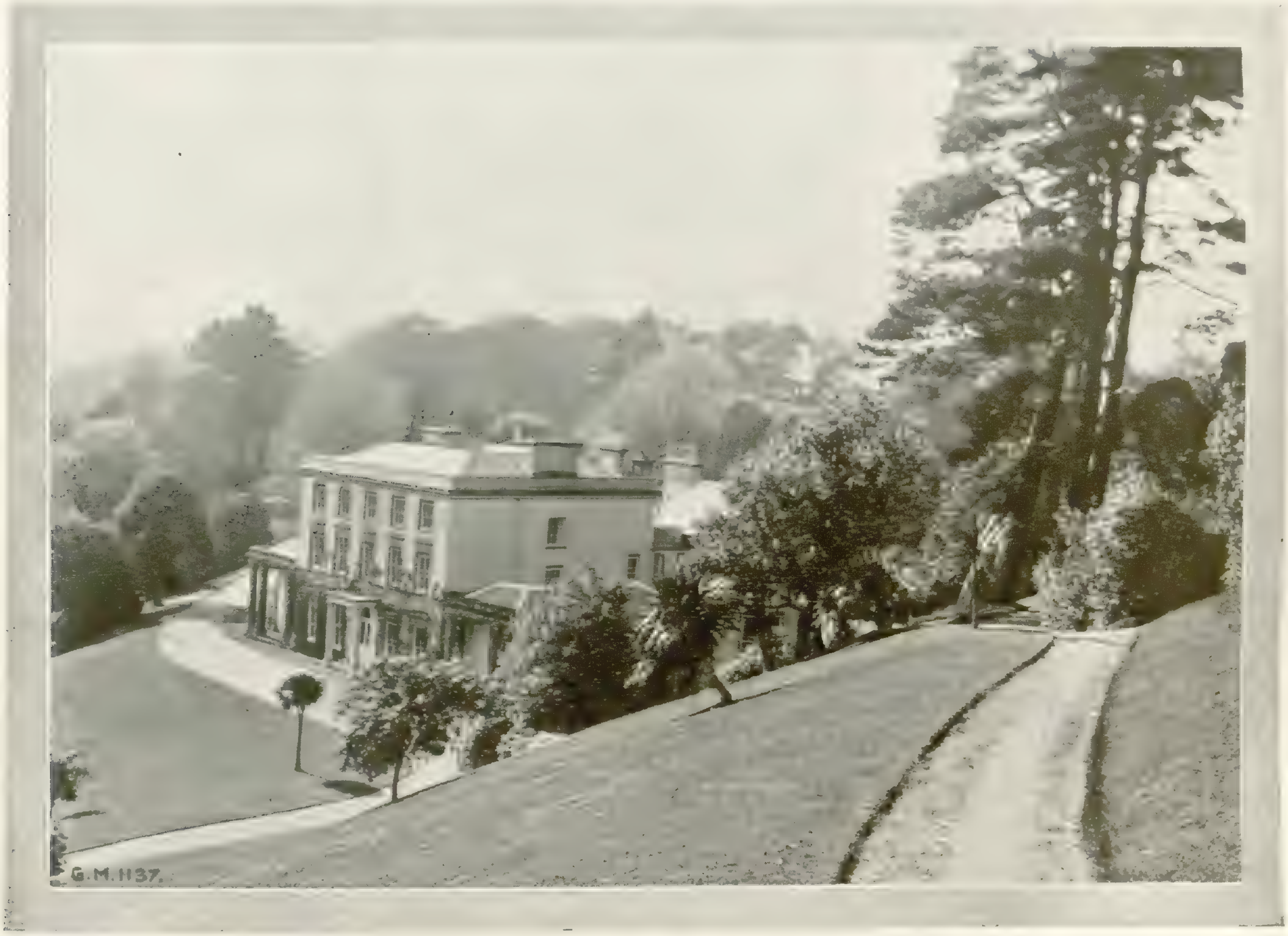
Greenway House.

Of a quite distinct character to other gardens in the Torquay district are those of Greenway House, the seat of T. B. Bolitho, Esq., which have long enjoyed fame for their richness in the choicer forms of arborescent vegetation. The numbers and development of rare trees and shrubs that have a place in them are indeed so remarkable that those who visit the gardens for the first time might well be excused were they for a moment to indulge in the supposition that by some unknown means they had been transported to a clime more kind to tender vegetation than even that of Devonshire. There would certainly be no difficulty when walking through the grounds and admiring the many rare trees and shrubs that claim attention, in imagining that the garden was in some temperate region where frost is unknown rather than in this England of ours with its great variations in temperature, from the effects of which the western counties do not wholly escape.

Greenway House is about nine miles from Torquay in a south-westerly direction, and the mansion with its picturesque grounds occupies a prominent position in the woods that overhang the Dart, which, by reason of its great beauty, has been spoken of as the English Rhine. But Devonians who know the two, consider that an injustice is done their own river by bracketing them, and they have certainly good grounds for their contention. As once the residence of Sir Walter Raleigh, and the birthplace of Sir Humphrey Gilbert, Greenway is rich in historical associations, but there is too much of interest in the gardens to permit of their having even the briefest reference made to them. The grounds are eminently picturesque, as will be seen from the accompanying illustrations, and the mansion occupies a site on the plateau about midway between the river bank and the fine old Scots firs that stand out prominently on the higher ground and contribute their share to the beauty of the scene. From this position the mansion commands a prospect in which land and water combine to form a picture of incomparable loveliness.

Within a short distance of the mansion are a goodly number of coniferous and deciduous trees, remarkable for their large size and perfection of development; but it is interesting to note that they are so placed as not to interfere in any way with the views obtainable from the windows or the open lawn in front. There are large numbers of finely developed trees of the kinds that are not usually met with in gardens, and were they to have the special mention they so fully deserve they would form a somewhat lengthy list.

Reference can alone be made to the rarer kinds, and consequently we at once pass on to what is known as the battery garden. Here we find a specimen of Guevina avellana that has certainly no equal in the United Kingdom. The tree, which belongs to the natural order Proteaceæ, is a native of Chili, and was distributed many years ago by the late Mr. William Bull, but the Greenway specimen must have been planted some time previous to that event, as it can hardly be less than fifty years old. It is now some twenty-three or twenty-four feet in height, and has a spread of over twenty feet, thus very closely approaching the dimensions to which it attains in Chili, of which country it is a native. The leaves are coriaceous, impari-pinnate, and have ten, twelve, or fourteen leaflets, of which the lower pairs are pinnate, and, as they depend in a graceful manner they give a very pleasing appearance to the tree. The flowers are borne in August in erect racemes, are ivory white, and these are followed by small fruits, green at first, and eventually becoming purple. In its native country the fruits are eaten as an article of food.



GREENWAY HOUSE—THE MANSION.

In the same garden are white, crimson, and other camellias, which grow vigorously and bear each year a profusion of flowers, and spreading over a large area of the wall that bounds one side of the garden is a fine specimen of Rhynchospermum jasminoides. Here also are well-developed specimens of the handsome Fan Palm, Trachycarpus excelsa, and the bold-growing New Zealand flax, and a remarkably fine specimen of Callistemon speciosus, which annually produces its scarlet flowers in great profusion. The green-leaved and variegated forms of Phormium tenax are well represented, and there are many fine examples of P. tenax, P. tenax variegata, and P. Colensoi variegata, and of the first-named the most remarkable specimen is one nine feet high, growing on the bank of the Dart, within a short distance of the mansion. Hereabouts also are some of the finest of the bamboos and several yuccas in a high state of development.

GREENWAY HOUSE—VIEW DOWN THE RIVER DART.

Among the shrubs of special interest that grow in the open at Greenway with greater vigour than with the shelter of glass and the aid of fire heat in other districts are Acacia armata, a grand specimen eight feet or so in height and not less than ten feet in diameter, and A. verticillata, also of large proportions; Azara microphylla, not less than twenty feet in height; Boronia Drummondi, and B. megastigma; Abelia floribunda, which annually blooms freely; Eriostemon nerifolium; escallonias, great masses ten to twelve feet high; Clerodendron trichotomum, represented by a grand specimen that blooms with great profusion; the elegant white-flowered Choisya ternata, with its profusion of fragrant blossom; Garrya elliptica, Arbutus unedo, and some other shrubs that are hardy elsewhere, but require favourable conditions for their full development, are represented by specimens of exceptional size. The brilliantly coloured Embothrium coccineum grows vigorously, and in each recurring spring the great masses of rich crimson flowers produce a brilliant effect. Very fine also are Benthamia fragifera, Photinia serrulata, Pittosporum Mayi, and P. nigrum, both of which bloom freely, and present an attractive appearance at all seasons of the year. It need hardly be said that where the foregoing thrive rhododendrons flourish also, but it should be mentioned that both tender and hardy kinds are represented by splendidly developed specimens, some rising to a height of twenty or more feet.

Mention has been made of the fact that the elegant Rhynchospermum jasminoides flourishes on the open wall, and it should be added that a number of other climbers that are properly regarded as belonging to the greenhouse succeed equally well without the aid of glass. The handsome Clianthus puniceus and its beautiful white form cover large spaces on the open wall, and each of the specimens annually produces hundreds of flowers. Jasminum primulinum is in an equally thriving condition, and blooms with remarkable freedom. Plumbago capensis, Swainsonia albiflora, Cassia corymbosa, Indigofera Gerardiana, and Bignonia radicans, B. Cherere, and some other species are also of interest for the manner in which they flourish in the open.

There are many other trees and shrubs in these interesting gardens that should have special mention, but sufficient have been enumerated to show how remarkable is the collection of comparatively tender subjects. That Mr. Bolitho takes the keenest of interest in the several features is sufficiently obvious, and it is not less obvious that Mr. Murley, the able gardener, is fully versed in all that relates to the cultural requirements and the history of the many noteworthy plants under his care. It should, however, be mentioned as a matter of interest that Mr. Murley has had the honour of winning several valuable silver cups for his employer with spring-flowering trees and shrubs.

Roby Hall.

This important seat, which has passed into the possession of Sir John Edwards Moss, Bart., by purchase within a recent period, occupies a delightful situation in the open country a few miles to the north of Torquay, and is very properly regarded as one of the chief centres of horticultural activity in the district. Sir John is an enthusiastic gardener, knows trees and shrubs well, fully understands the management of woodlands, and is so greatly interested in orchids that he has formed a collection that is not less remarkable for its extent than for the number of choice hybrids it contains, and the success achieved in their cultivation.

Roby Hall was built and the grounds designed and laid out by Brunel, the famous engineer, but it had for some years previous to the estate passing into the hands of Sir John Edwards Moss been unoccupied, and as this period included the time when in the ordinary course of things, gardens of recent date require some revision, they have suffered somewhat here and there from overcrowding. Much has been accomplished in the thinning of specimen trees where it has become necessary, and in the clearing up of those parts of the ornamental woodlands that had become overgrown. What has already been done indicates a happy combination of vigour and caution on the part of the owner, and in a walk through the grounds it was surprising to find how closely he was acquainted with every tree and shrub, and how full was the consideration given to every specimen where the removal of one or more had become necessary.

Briefly stated, the mansion occupies a position on the high ground at the head of a small valley that trends in a southerly direction, and, as the lower part has been kept free from trees with the exception of specimens standing singly, a fine view from the mansion is obtained of the country beyond, with some of the higher parts of Torquay in the distance. The sides of the valley are flanked by woodlands, and on the margin thereof coniferous and deciduous trees, and rhododendrons, with other choice shrubs have been planted. These have all attained to goodly dimensions, and, as they are, for the most part, finely proportioned, the vista thus formed is one that at once attracts attention and compels admiration. This area has been greatly improved by the formation of bold groups of shrubs in suitable positions, these including several of mollis and Ghent azaleas, which in a few years hence will add immensely to the colour effects during the spring months. There are also fine masses of hardy herbaceous plants of bold growth that are now so well established as to contribute liberally in their season to the general effect.

The coniferous trees that fringe the woodlands comprise a large proportion of the finest kinds that were in commerce thirty years or so ago, and the major portion are so splendidly developed that were they to be mentioned in detail it would be necessary to speak of them in highly appreciative terms. Seldom are such perfect specimens of the Chilian Pine (Araucaria imbricata) met with, for in many cases where the growth is light, it is spare also, but here the growth is characterised by lightness combined with sufficient density to give boldness also to the trees. Many of the cedars and firs are also especially noteworthy for their handsome contour. Among the more noteworthy of the rarer trees were Pittosporum Mayi, about thirty-five feet in height and perfect in development, and Ilex pectinata, with a height of about twenty-five feet and of a similar diameter. Of a different character, but of much interest, is the large tree of Gleditschia triacanthos, that is seldom met with in such excellent condition.

The formal flower gardening is confined chiefly to the terrace, where it is customary to have spring and summer displays, and not far distant from the mansion are the structures devoted to the fine collection of orchids. There are some five or six of these, all with span roofs and arranged parallel with each other, and connected with a broad corridor at the north end. Not only is the arrangement of the houses in accordance with the most advanced ideas, but the heating arrangements, the ventilation, and shading are also of the best. The plants evidently appreciate the conditions under which they have been placed, for the collection, which comprises about 5,000 plants of various sizes, is in the finest possible condition. To give the names of those which are especially noteworthy would involve the preparation of a somewhat lengthy list, and it is therefore necessary to limit the reference to a statement that the collection comprises many of the finest of the bigeneric and other hybrid forms of cattleyas and lælias, hybrids of cypripediums and odontoglossums, and a long range of choice varieties in the several groups. A short distance from the orchid houses there is a fine range of houses devoted to fruit culture, with an aggregate length of upwards of 250 feet. Of these three are devoted to grapes, three to peaches and nectarines, and two to cherries, and there is so much that is of interest associated with them that it is a matter for regret that it is not possible to refer to them otherwise than thus briefly. These are new, and have been planted within the past few years, and the excellent growth that has been made and the splendid crops that have been produced testify to the skill of Mr. Luckhurst, the head gardener, in the management of this, as of the other departments, of these important gardens.

ROBY HALL—TULIPS IN THE TERRACE GARDEN.

Normount.

Prominent among the gardens that spread over the lower slopes of Warberry Hill, which rises a short distance to the north-east of the centre of the town, are those of Normount, the residence of Miss Chadwick. These gardens are some of the largest of those near the centre of Torquay, and the widely spreading lawns, the finely developed trees, the examples of subtropical vegetation, and the tastefully arranged flower beds form an admirable setting to the handsome mansion, and afford much that is pleasurable and interesting to visitors, whether of a horticultural turn of mind or otherwise. On the lawns are handsome specimens of coniferous and deciduous trees, the Australian dracæna, large in size and robust in health, and groups of choice shrubs, and in the lower part of the ground is an excellent example of rock gardening, the bold rockery extending for a considerable distance alongside the carriage drive.

At the time when these notes were made flowers that belong to the spring were in the ascendant, and very attractive were the displays that had been produced by Mr. F. E. Peacock, the head gardener, in the association of bulbous and fibrous-rooted plants. Especially beautiful was the arrangement of the beds alongside the lower terrace walk which has an additional charm in the line of handsome Irish yews that extends its whole length. The hyacinths, it need hardly be said, were over, but the tulips were in the zenith of their beauty, and rising from carpets of double arabis, aubrietias, wallflowers, and other plants of lowly growth, they produced a charming effect. The upper terrace walk to the left of the Irish yews leads to a handsome summer house, and the wall, with its beautiful vases, affords support for a considerable number of shrubs and climbers that are remarkable either for rarity or beauty, or it may be for both. Along the front are masses of the finest of the aubrietias, and those who are acquainted with these free-blooming subjects will have no difficulty when glancing at the illustration in understanding how beautiful is the effect produced by large, dense masses, such as those Mr. Peacock is successful in obtaining. There were also in the border groups of golden alyssum, the double white arabis, and May flowering tulips.

On the other side of the wall that is illustrated is the kitchen garden, but it has been so far diverted from its original purpose that it is now almost wholly devoted to flowers and fruit. Very attractive here was the large border, in which golden and crimson polyanthuses and wallflowers combined to produce a rich display of colour. The bold masses of herbaceous pæonies produce in their season a glorious effect, and the carnations form a delightful feature, for they are grown in immense numbers and with much success. Raby Castle, which has long been in general cultivation, is a great favourite at Normount, and many thousands of blooms are annually produced. Annual flowers are also cultivated extensively, and special attention is given to the fragrant sweet peas, and the method of procedure is so devised that a succession of flowers is maintained over the longest possible period.

NORMOUNT—AUBRIETIA BORDER AND SUMMER HOUSE.

Cockington Court.

Of the many "beauty spots" within a quite short distance of Torquay pre-eminence might probably be given to the Cockington district, but, as there is no occasion to institute comparisons between the charms of the various points of interest, the preferable course will be to state that there is not one that can be regarded as superior to that in which Cockington Court is situate. For upwards of two and a-half centuries this fine old manor has been the home of the Mallock family, the present owner being Captain Mallock, who, as in the case of many of his ancestors, takes the keenest interest in his fine seat. Nestling amid the wide-spreading trees that form so characteristic a feature of the valley, the village of Cockington, with its thatched cottages standing in gardens fragrant with the blossom of many an old-fashioned flower, takes us back to the distant past, and affords an excellent representation of village life as it existed a century or more ago under conditions favourable to the health and happiness of the participators therein. Torquay, some two miles distant, reckoning from the centre of the town, has extended its borders to within a short distance, but the village, with its old time associations remains unchanged, and withal is so beautiful that there is no occasion for surprise that it should be the haunt of the artist who has a taste for depicting rural life as it exists amid picturesque surroundings.

The village clusters around the two entrances to the Cockington Court demesne, and of these one is modern and the other ancient, and the latter, an old timber-fronted lodge, probably takes us back to a date anterior to the purchase of the property by the ancestor of the present owner. The mansion stands some distance from the entrance lodge, and the carriage drive passes through sylvan scenery of exquisite beauty. At one point the banks are clothed with the hart's-tongue, which revels in the conditions that obtain, and attains to a degree of development quite unknown to those who have not had an opportunity of seeing this fern growing in the western counties, where it can enjoy the equability of temperature and the atmospheric humidity necessary to the full development of the dark green strap-shaped fronds. Farther on, the carriage way intersects a beautiful tract of woodland of considerable length in which Himalayan rhododendrons produce glorious displays during the spring months. Some overhang the drive, others stand up boldly among the underwood to a height of twenty or more feet, and all so splendidly flowered as to prove to demonstration that the conditions which obtain are equally favourable to the growth and ripening of the wood. Within this wood are several lakes of considerable extent, and very attractive in one of them were the reflections of the rhododendrons with the tender green leafage of the deciduous trees as a background.

Emerging from this fine tract of woodland the road again passes into the park, and the scene looking up the valley with the manor house and the ancient village church near the head, is so beautiful as to make an impression not likely to be soon effaced. The rising ground to the right and left are finely clothed with woodlands, and in the open space are many timber trees of noble proportions. The grounds surrounding the mansion are in the natural style and in keeping with the environment. Hardy plants are fully utilised and successfully cutivated, and prominent among the flowers employed in the production of the spring display was a remarkably fine strain of polyanthuses. On the grassy slopes of the lawn the double white anemone was flowering freely, and the myriads of pure white flowers peeping above the bright green blades of grass presented a delightful effect. One of the great features of Cockington Court is that formed by the hardy rhododendrons which were planted in the woods some years since in immense numbers. These are not varieties of Rhododendron arboreum or R. ponticum, but consist of the choicest hybrids, and in the season of flowering the thousands of trusses in their diversity of colouring must be wondrously attractive.

The kitchen garden at Cockington Court must, it might well be imagined, be a veritable heat trap, for in a hurried run through them, Mr. B. Richards, the head gardener, was able to point to crops of potatoes, peas, and other vegetables that were fully a month in advance of similar crops in gardens round London, and much earlier than those which had come under notice elsewhere in the neighbourhood.

Walton Lodge.

In the gardens of Walton Lodge, the residence of H. G. Cumming, Esq., rock gardening has of late years undergone considerable development, and those who have an affection for the many beautiful alpine plants that are now in cultivation find much to interest them. Flanking the terrace walk that runs immediately in front of the residence, and extending some distance beyond are spacious flower beds, in which both spring and summer displays are annually produced. Of the latter it is not possible to speak from personal knowledge, but, judging from what had been accomplished in the use of spring-flowering plants it is not difficult to imagine that they are at once effective and tasteful. The illustration of this part of the garden shows that tulips were freely planted, and that they were arranged amid wallflowers and other suitable plants. The two wallflowers the most largely used were Primrose Dame and Ruby Queen, whose colours are indicated by their respective names. On the walls are clematis in variety, the elegant Banksian rose, myrtles, ceanothus, Carpentaria californica, Bignonia radicans, and other plants that may be utilised in such a kind climate as that of Torquay for the clothing of wall spaces. In the borders are fan palms in a high state of development, and near by are fine clumps of herbaceous pæonies, the Austrian briar rose, and other noteworthy objects, and on the far side of the lawn is a pergola of recent construction that at no distant date will form a distinct and attractive feature.

At the western end of the residence is a small rock garden, in which the plants are fully established, and produce in their respective seasons a bright display of flowers. Aubrietias, candytufts, and other free-growing plants have been the most largely planted, and form large masses of foliage and flowers. At the bottom of the sloping lawn, and in a somewhat retired part of the grounds is the spacious rock garden, which has been formed within the past few years, and is rapidly becoming a highly attractive feature. The general character of this garden is well shown in the accompanying illustration, but the strong contrasts, due to the brilliant sunlight and deep shade of the trees, are not favourable to a pleasing representation of the various plants that find a home within its boundaries. This garden is of special interest as an indication of the possibilities of cultivating under favourable conditions a collection of alpine plants in a space that had been occupied by trees and shrubs of no great value from the decorative point of view, and the object lesson it affords is one that well deserves the attention of those who appreciate the manifold charms of rock plants.

George Gordon.

NORMOUNT—SPRING FLOWERS ON THE LOWER TERRACE.

MIGNONETTE.

Some will be surprised to hear that failures in growing this ubiquitous garden annual are not uncommon, but it must be remembered that many of even the commonest garden weeds need certain conditions to enable them to survive in the struggle for existence. It is essentially a plant of the chalk, doing its best on limestone and chalky soils, and often making poor weedy plants on damp and rich garden soils which are deficient in lime. On the latter class of soil, especially if they are of a very heavy nature, mortar rubbish is the best dressing that can be applied when preparing the soil, all animal manure being withheld. It is seldom, indeed, that mignonette fails to do well on account of the poorness of the soil, while, if mortar rubbish is not available, lime or basic slag should be used instead.

Early in April is quite soon enough for sowing the seed in the open ground, but if specially fine plants are wanted seed of one of the stronger-growing varieties should be sown towards the end of March in a cool house or frame, from which frost is excluded. The seedlings should be carefully planted out singly in sixties as soon as they are in the third leaf. The seedlings are not readily transplanted, and some will be spoiled in the process, while many more will be lost in an earlier stage if the soil is kept too damp, or too little air is given. The mignonette is undoubtedly best suited for dry, open, and sunny positions. If plants raised in this way are put out at the latter part of May in deeply-cultivated soil, and some little attention given them in the way of thinning out weakly shoots, fine specimens will be obtained. When sowing in the open some of the best situations are dry banks, narrow margins of soil between gravel paths and brick walls, and any clear spaces in sunny flower borders. In wet soils mignonette often fails to make its appearance owing to the depredations of slugs.

As regards varieties, they are many, and every nurseryman's catalogue mentions several. For perfume none is any improvement upon the old common mignonette, but many are better in colour. Machet is a very popular variety, grown largely in pots for the London market, its bold spikes of reddish flowers being familiar to all. For an all round sort, to be used for pots, or the open ground indiscriminately, it is perhaps as good as any. There are varieties of various shades of red, crimson, and yellow.

Alger Petts.

Globe Artichokes.—These will now require to be taken in hand. Remove the protecting material, and trim off neatly all the decayed parts of the plants, finally digging in a good dressing of decayed manure and ashes if the ground is of a heavy nature. If cold winds prevail place spruce boughs on the northern side until the growth is accustomed to exposure.—G. E.

THE POTATO CROP.

The time of year is now with us when planting potatoes will be seriously claiming our attention, especially the earliest plantations. It cannot be too strongly impressed upon those who have had only a limited experience with kitchen gardening that much of the success or failure of the crop depends on how these preparations are carried out. One of the foremost considerations should be to have the sets in proper condition at the time of planting, which means that they are furnished with three green, short, strong, sturdy growths from their leading eyes, the others being removed as they appear. This detail may seem trivial, but it goes a long way towards a supply of even-sized tubers at lifting time. To secure this desirable end the potatoes should have been placed in boxes with their large end upwards, in a cool position, and fully exposed to the light. The result of leaving them in too warm a temperature is to produce drawn, blanched growth, which has to be rubbed off, and helps to weaken the forces of the potatoes, so that proper support is not given to the young shoots when they require it after planting.

The First Planting.

The time to plant will largely depend upon the part of the country and the position of the garden, but in most cases early March plantings require some form of protection, such as glass lights or matting over them during cold winds or frost, and can only be regarded as crops to carry over a short period, and should be made in small proportion to the other plantations.

An excellent position for an early crop is to plant a row a foot from a south wall, and running parallel with it. The wall helps to conserve the heat of the soil, growth is active, and, should protection be required, it can be easily given by placing boughs or canvas over the plants. In any case the early batch should be planted on the warmest borders available.

There are many good and reliable varieties, and Ashleaf Kidney is generally most suited for the earliest crop, as it is very compact in growth. One called Field's Seedling has done remarkably well here for a few years; May Queen is satisfactory, and with many Duke of York is a great favourite.

If the ground has been manured and dug early, and exposed to the winter frost and winds, it will be in good condition, and will only require the drills to be cut out at two feet apart, and about four inches deep. Place the sets twelve inches apart. A dressing of wood ashes is always of assistance to this crop, and can be easily applied by spreading it along the trench when planting. Fork the soil back over the drills, leaving the top in an evenly moulded condition for the growths to push through.

The Second Planting.

This can be made in larger proportions on a wider and open border, and for such planting the larger and stronger-growing potatoes are very prolific, such as Epicure, Royal Kidney, and Snowdrop, which is yet unsurpassed for cooking quality. To afford them room for growth six inches more is allowed from row to row, and three inches more in the row. In other respects they are planted similar to the earlier planting. Strict attention should be paid to keeping the growths moulded up to protect the stems against late frosts, as damage from this very seriously affects cropping—more so than is generally supposed.

Labour in moulding is not wasted, as the periodic moving of the soil is beneficial to the plants, and, with about three earthings up, the moulding is finished. If the growth is not satisfactory a dressing of the special concentrated manures that are offered are of value if sown between the rows when rain is anticipated.

The Main Planting.

From the middle of April to May the main, or late, planting will be made. From various experiments carried out myself and from observation made, I am convinced that the practice, so often carried out by farmers, of planting their potatoes directly over new strong farmyard manure is a wrong one. It is much better to work the ground early, adding the manure a month or two previous to planting. New manure forces soft top growth, which is particularly liable to disease, and is made at the expense of the tubers.

As potatoes vary so much both in cooking qualities and productiveness in different soils and positions it is difficult to recommend varieties for general acceptance, but, so far as I have been able to judge, we cannot yet leave out of the list the comparatively old varieties (as potatoes go), such as Up-to-Date, Scottish Triumph, and Duchess of Cornwall. These all did well last season here in every respect. Maincrop is a splendid cooking variety, but is inclined to be light in crop. Reading Giant also does satisfactorily.

In planting these late sorts two feet six inches should be allowed between the rows, and a distance in proportion from plant to plant in the row. During the growing season we actively employ the hoe between the plants until they are ready for the final moulding up. As previously recommended for early varieties, apply a dressing of artificial potato manure between the rows if it is seen that growth is not making proper progress.

Charles Flack.

Cholmondely Castle Gardens.

WALTON LODGE—THE TERRACE WALK.

WALTON LODGE—A MINIATURE ROCK GARDEN.

WALTON LODGE—THE ROCK GARDEN.

AMONG THE ROSES.

So far as the present year has gone this has not been a season when the usual calendarial work could be carried out with advantage. Everything has been so abnormally wet, and the weather so unseasonably mild, that one could not keep up with work, and avoid getting on the ground without risk of doing more harm than good.

But whatever the weather may be at the end of this month, I shall commence pruning, even if we have to use boards to walk on. Personally, we are better off than many of our neighbours, our grounds laying fairly high, and on the slope from due north-east to south-west. Still, we are much handicapped by the persistent rains However, unless one takes every opportunity now we shall probably be overtaken by excess of absolutely necessary work shortly. Roses planted during the past season can be cut back to advantage much earlier than the established plants, and if, after doing this we loosen the surface soil a little, and then apply a mulch of manure, I think we gain by earlier pruning. Almost all soils have settled down very closely and firmly through wind pressure and rain, and my experience tends towards early spring mulching in preference to any winter dressing; especially during such a season as we are passing through, when a great deal of plant food is wasted.

Upon solid ground, and with established plants, I should not hesitate to prune the hardiest of the varieties. Here again, after raking off the trimmings, I would mulch and then turn over the soil just enough to partly cover the manure. The advantage of this will be obvious when the hoe gets to work presently. Owing to the mildness climbers are unusually precocious, and, so far as possible, I would do the bulk of the work among these at once.

I cannot advise any further transplanting of roses from the open ground, unless exceptional care be taken, but one can easily fill up gaps, or even plant entire beds, from plants out of pots. In the case of teas and their hybrids this is a safe and satisfactory method late in the season. As soon as we get brighter weather one must expect everything to grow away rapidly, and as the plants now in the ground are making root growth freely, it is not advisable to mutilate the roots by late planting, with the risk of drying winds and growing weather so close upon us. Much of this is avoided in the case of pot plants, because only a very few of the roots are disturbed, and their activity is continuous.

In one way it has been a very trying season for standards. So far as the briars for stocks are concerned, the wind has blown them about a great deal; but, apart from this, we have so far been fortunate in escaping the killing effects of a keen dry wind, and I know of nothing more trying to newly-planted standard stocks than this. But both in the case of briar stocks and roses, wind-waving has been inevitable, unless the plants were secured effectually at the time of moving. Whether it is a standard or dwarf plant the majority of them will be found to sway, leaving a smooth-surfaced hole at their base. This is always harmful, and I would loosen the soil around the base of the plants before setting them up straight once more. To a great extent this avoids strain upon the roots, which are certain to be active by this time. A wind-swayed plant will suffer more or less all the summer unless this smooth hole has been filled up.

I write in the middle of March and we have not a rose stock planted, with the exception of standards from the hedgerows. Out of the quantity to do we have generally got in some ere this, mostly by digging and planting according as the ground was prepared for a row. Where the ground was dug during winter most of it will be too wet to work upon yet, and I would prefer to wait until fairly good weather arrives.

Roses should be coming on very rapidly under glass now, and in spite of so little sun they are well up to the usual date. Now, too, is a very critical time with insects and mildew. Wage war early. This is old advice, but none the less sound. I prefer a careful use of natural liquid manure to any chemicals for stimulating the plants.

So far as we have put the knife among our roses, there is not so much brown pith as I feared to find, and this is always encouraging for the ensuing season.

A. PIPER.

VIRGINIAN COWSLIPS.

Mertensia virginica is one of our best late spring-flowering plants, and is perfectly hardy. It succeeds in the drier parts of the bog garden, or in half-shady nooks among choice hardy ferns, where its relative beauty is greatest on account of the neutral setting of the fern fronds. The flowers of this mertensia are produced in terminal clusters, the stems arch gracefully, and the individual flowers are cup-shaped, having the segments united and contracted for the greater part of their length into a narrow tube. The colour passes from purple into a fine shade of blue, but in each head all stages of the transition are noticeable at one and the same time; the leaves are broad, oval-lanceolate in form, and diminishing in size as they ascend the flower stem, which varies in height from eighteen to twenty-four inches.

Another fine species is M. sibirica, with flowers varying from pink to porcelain-blue. The stems arch over, and the flower heads fork into short racemes; the leaves are somewhat fleshy, and appear as if coated with a dull blue-grey bloom. M. sibirica grows to a height of eighteen inches, and continues in flower from May till early autumn.

M. primuloides is a dwarf species with bright blue flowers having a distinct yellow eye; it only grows six inches high, and is most suitable for a choice position on the rock garden. It is a good grower when planted in a level part in peat and loam, and lightly shaded from the midday sun.

THOMAS SMITH.

Walmsgate Gardens.

Small Borders for Peaches.—Being very interested in the cultivation of peaches, I read with much interest Mr. Geo. Garner's article on the subject of "Small Borders," and with it I entirely agree. The best house of peaches I ever had was one with a small border. But my neighbour, who had a small three-quarter span greenhouse, with a small border behind a cement path, which could not have been more than eighteen or twenty inches wide, with about the same depth, planted two peach trees therein, and the result was surprising. The trees grew well, soon reached the top, and he trained them to the wires over the path. The last time I saw them they had nearly covered the whole house, and he has never failed to secure a good crop of fruits. I was much struck by the health of the trees, especially as they were growing in an ordinary greenhouse, and showed what can be done in a small border.—C. ENGLISH, New Place Gardens.

METHODS OF EXHIBITING DAHLIAS.

The following original paper, dealing drastically with methods of exhibiting dahlias, was contributed by Mr. J. B. Riding at the dahlia conference recently held by the National Dahlia Society:—

I may mention at the outset that the subject of this paper is not of my own choosing, but it strikes one as being like a biblical text, around which a hundred sermons can be preached, so I propose accepting it under similar conditions and taking my own course.

First of all, I propose alluding to the history of exhibiting dahlias, which, so far as this society is concerned, commenced in the year 1858. I have, through the kindness of Mr. Arthur Turner, a copy of the first schedule issued for September 23 and 24, 1858.

The first show was held in St. James's Hall, when eleven classes were arranged for competition. You will readily understand that at that early date the exhibitors had only show and fancy varieties to deal with, even the pompons were not in existence, much less the cactus, pompon cactus, single, giant, collarette, and paeony-flowered sections.

One can imagine the spectacular effect of such a show, with its long lines of boards, without anything to relieve the monotony of the display. One can well understand, however, that the promoters of our first National Show would be perfectly satisfied with such an exhibition, for most things in the early Victorian period were devoid of taste and refinement, at least such as is recognised now; but what is still more surprising to me, is to find that the exhibitors of to-day and the framers of our schedules, have not deviated one iota in their methods of exhibiting since the year 1858; we still have the long lines of show and fancy blooms at our exhibitions, and staged in similar boxes of the same dimensions. Can we recall any other National Horticultural Society in Great Britain which has been content with the same old ways and the same old methods for over 40 years, with the exception of the National Dahlia Society? I think not—at least, I am not acquainted with any. Small wonder then that the show and fancy dahlias have been under a shadow or cloud for many years. To my mind it is nothing short of marvellous that they have not dropped into obscurity years ago. Why? Simply because the public only sees them at the flower shows, and then under such barbarous conditions that they do not even stop to admire them, much less grow them.

The present method of exhibiting show and fancy dahlias is a relic of early Victorian times, and appeals to no one in these days, except, perhaps, a few keen exhibitors, and I feel sure they would welcome a change, too. Small wonder the general public take such little interest in this section, for who, except a dahlia fancier, can see any beauty in rows of coloured drumheads, for as such they must be regarded by all flower-lovers. Why on earth should we cultivate beautiful flowers with fine, handsome stems, then deliberately almost decapitate them, leaving about six inches of stem, which is drawn through a tube, which tube is then corked up and the blooms in this fixture dumped on show boards at six inches apart like rows of soldiers? Surely we should be past such practices in the twentieth century, but really I find we make no attempt whatever to popularise the double or show flowers, for beyond those methods I have described, we do not see them displayed in any other way at our dahlia shows; in fact, we are worse in this respect than our ancestors, for in the schedule I have referred to there is a class for the best ornamental group of cut dahlias, artistically arranged. Surely, if such exhibits could be arranged in 1858, they could be managed in 1910.

I know it will be pointed out that such a stiff, formal flower does not lend itself to decorative effect, but the same might be said of the huge sunflower, the incurved

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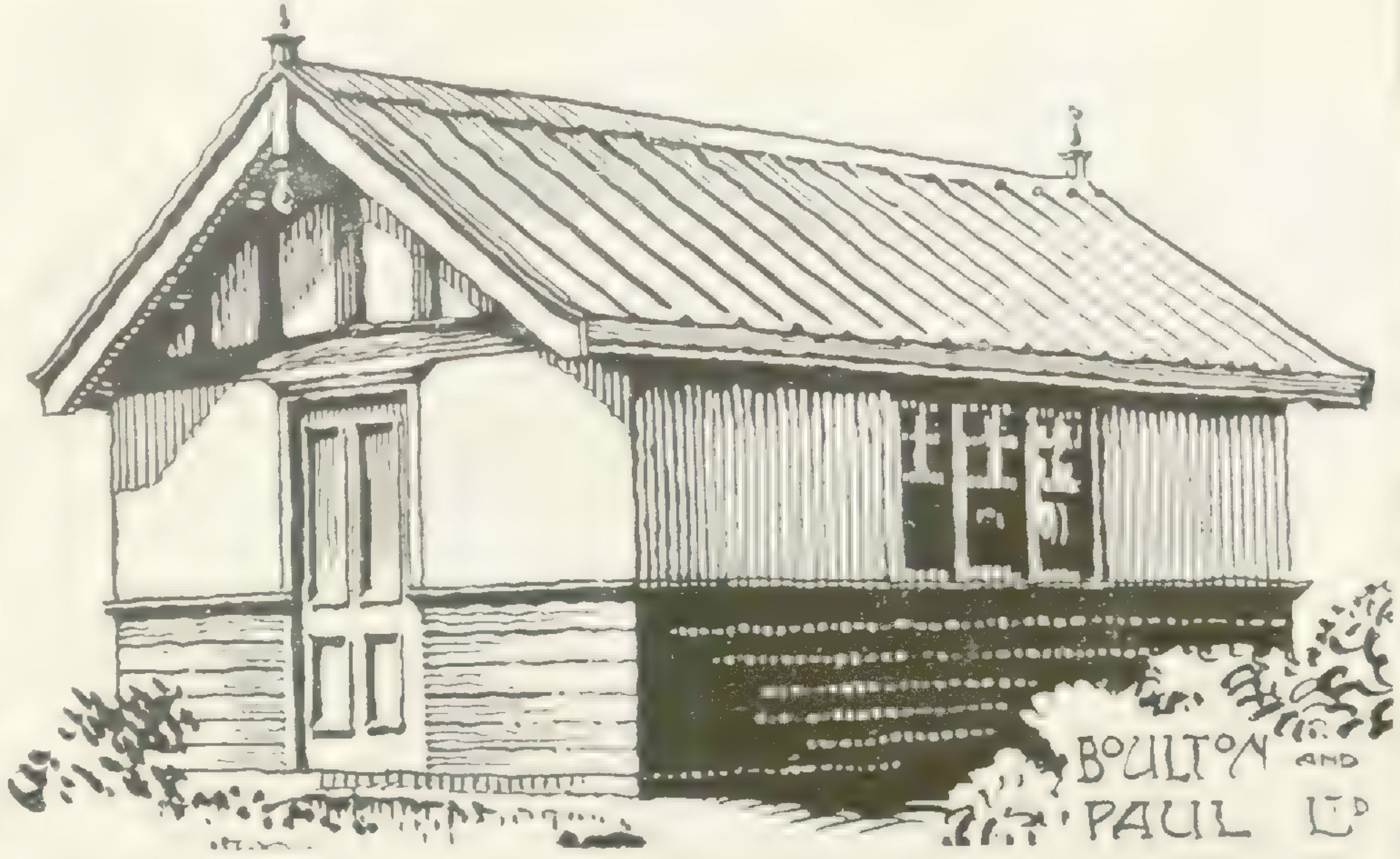

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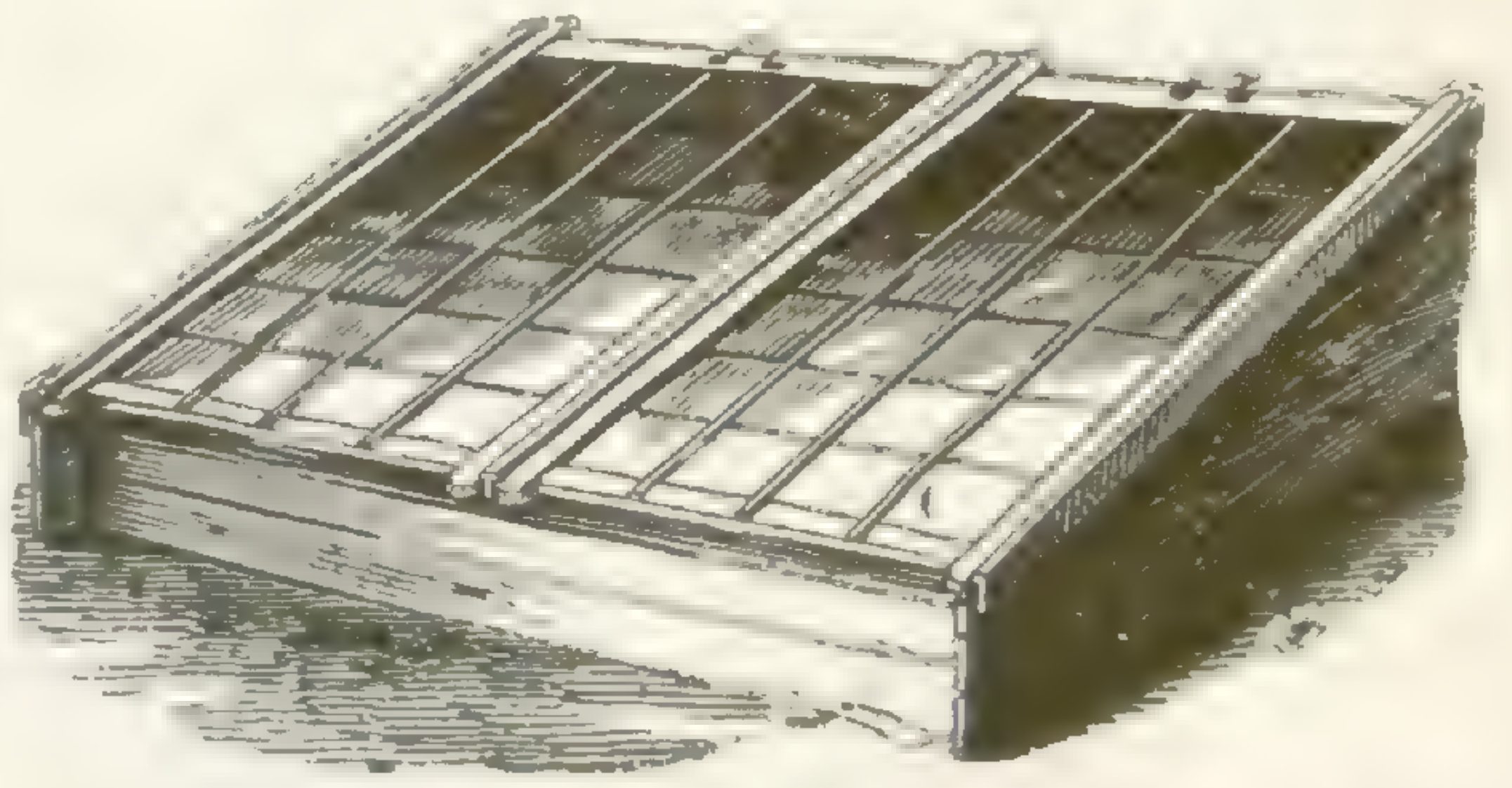

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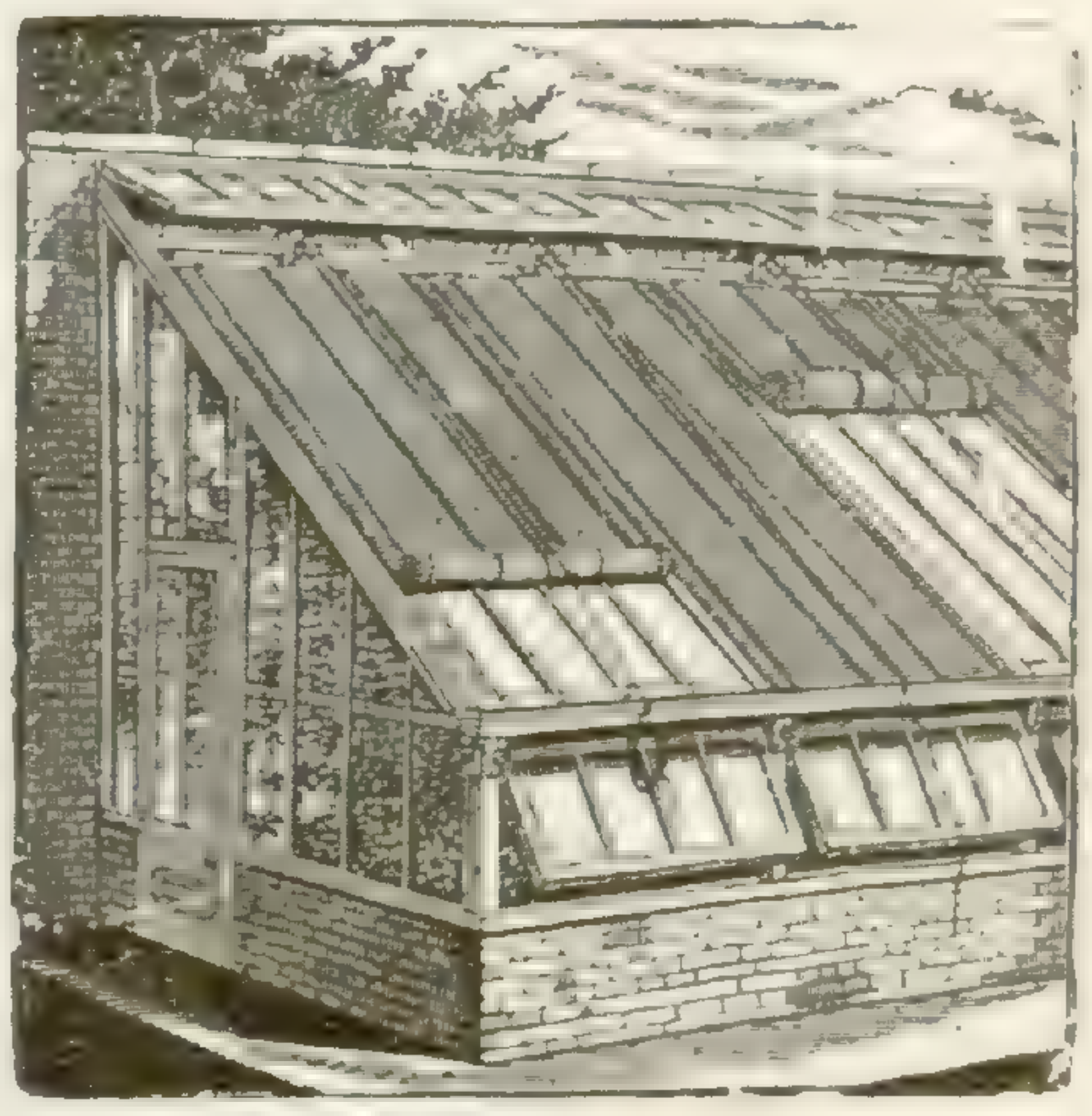

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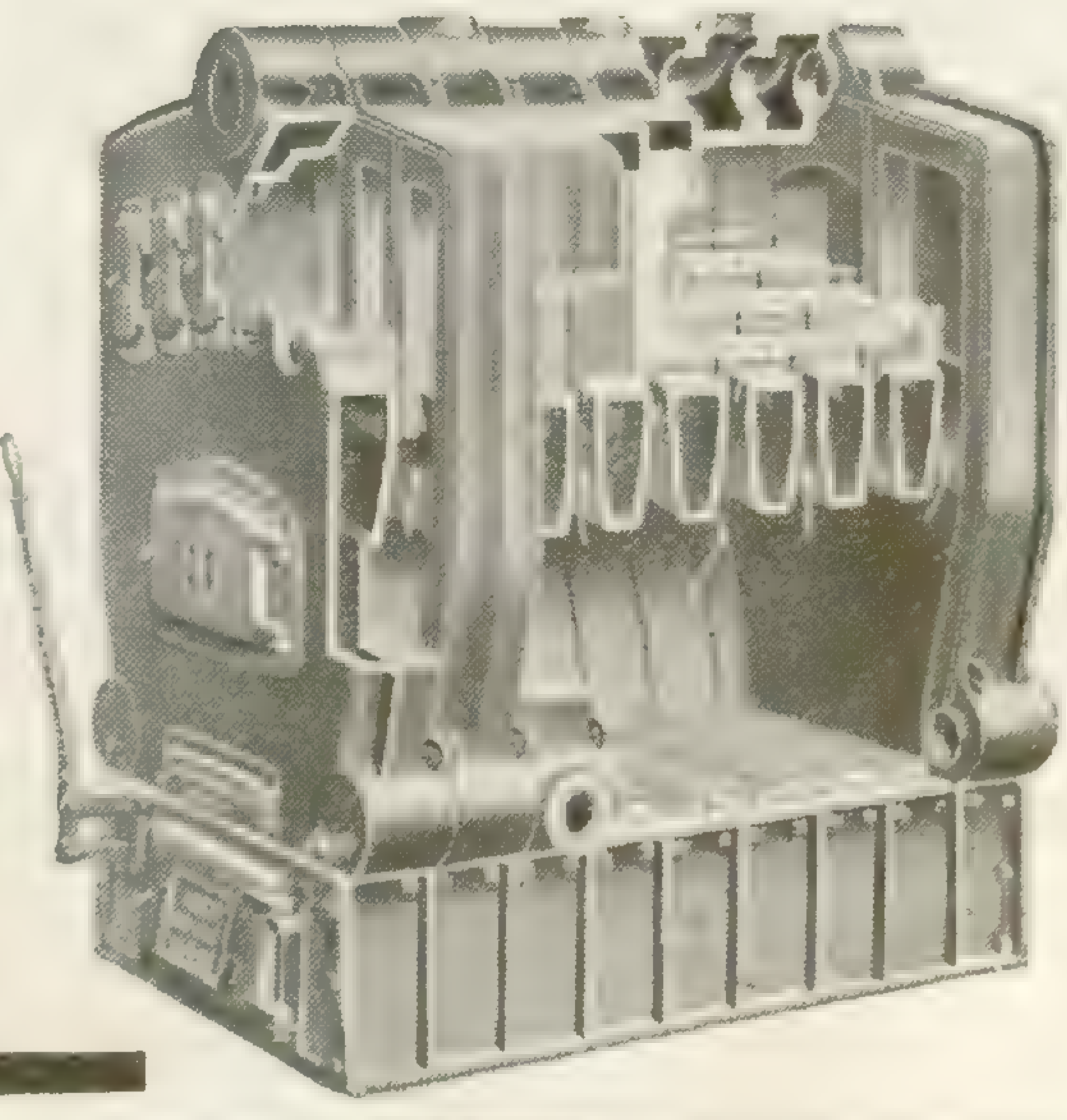

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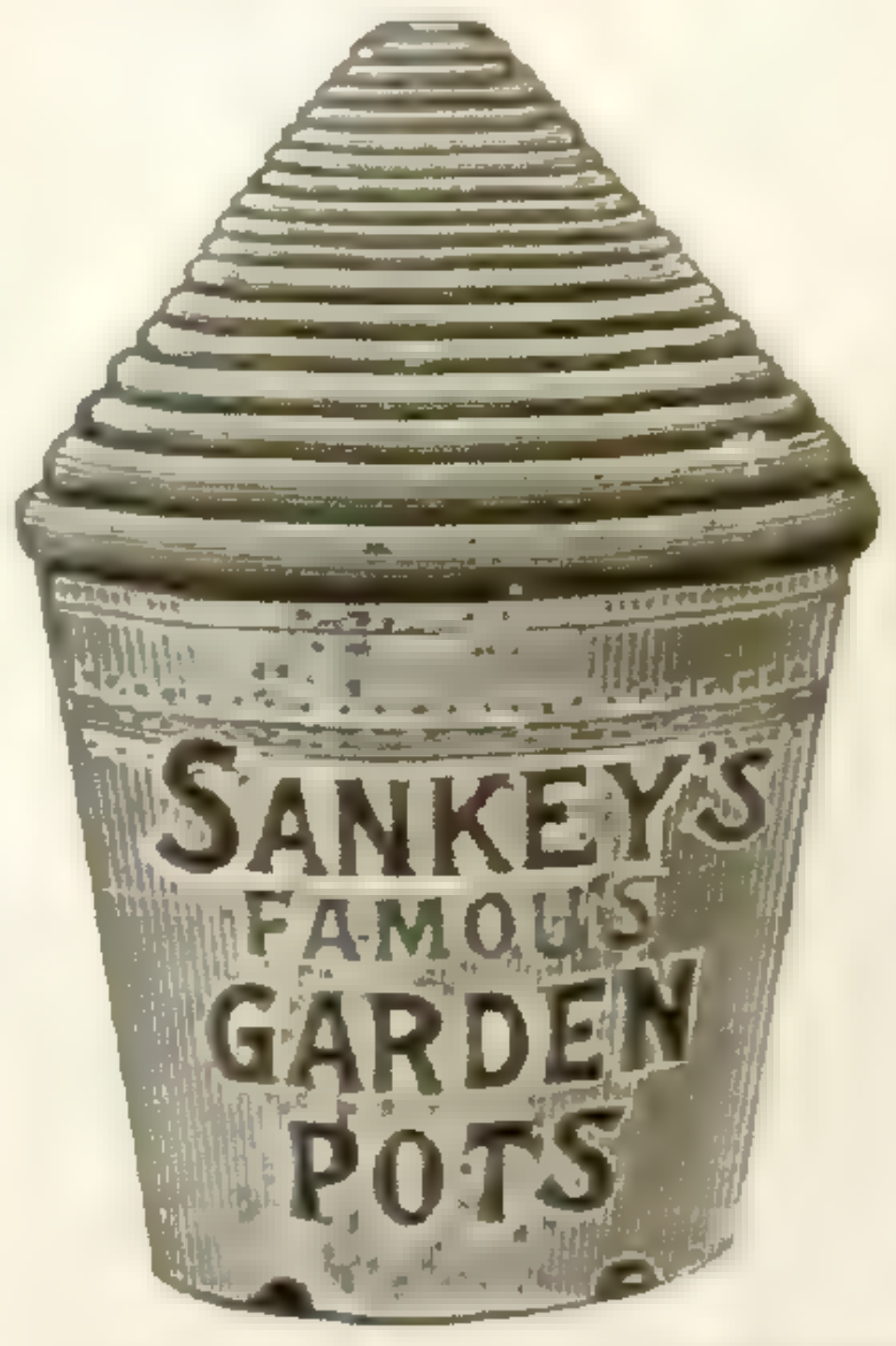

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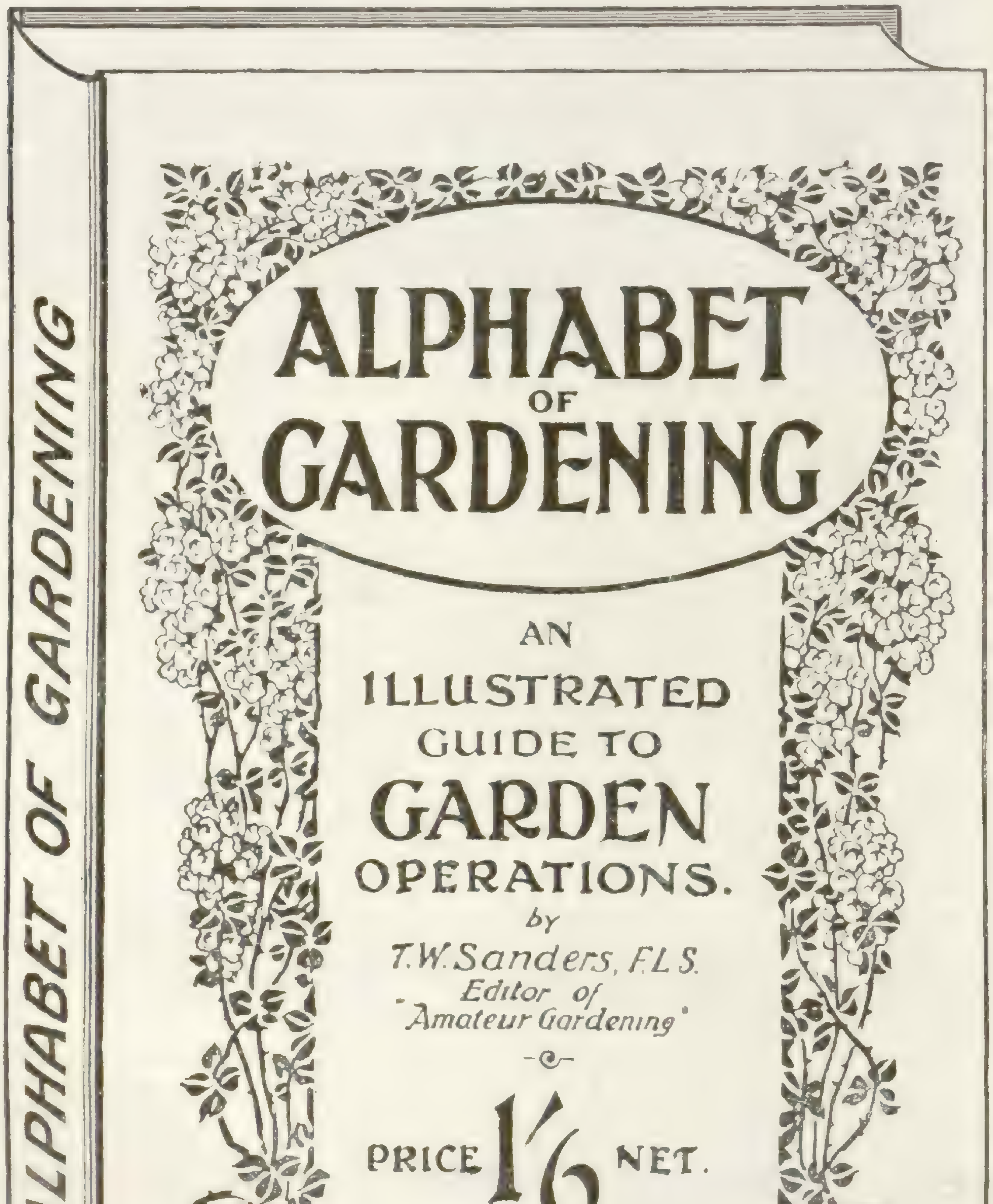
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chrysanthemum, and other flowers of a similar type; but do we find it so? Certainly not.

As far as the incurved chrysanthemum is concerned, it is becoming more liked for decorative work each season. I personally am quite convinced that the show or double forms will again become popular, if we can only show them to the public in a more natural and artistic way; but while we exhibit them as at present, it is impossible for them to rise again.

It will be a glorious day for the show dahlia when we do away with the timber and ironmongery departments at our shows. I would suggest that after our second show this year, to be held at the Royal Botanic Gardens, it would be a fine advertisement for the National Dahlia Society, and the flower itself, if we made a huge bonfire on the rubbish heap of that establishment of the boards and boxes which have been such a curse to this beautiful flower. Naturally, you ask what would you exhibit in? I reply, equally naturally, why, in vases, of course! Now I know perfectly well the objections that will be raised; the first, that it would be impossible to judge them under such conditions, but that objection is as dead as Queen Anne; we have heard it in connection with other flowers, and know its value. Take chrysanthemums and roses as examples. Are not these staged in vases? Yes, and judged, too; so there is an end to this objection. Then, again, the exhibitor will tell you it is impossible to exhibit forty-eight varieties in one class; and a good thing, too, say I.

Twelve varieties of five or six blooms of each, arranged in vases, would be infinitely more effective and pleasing. Objection No. 3 would also come from exhibitors, viz., the difficulty of carrying their blooms on long stems to the shows. This I grant you is a genuine objection, but it is one of those difficulties that have to be overcome, and while other flowers are taken to shows with long stems, there is no reason why the double dahlia should not be treated likewise, especially as the cactus varieties now figure in this form. Other objections are: The time taken in staging at the show; the cost of vases to a society; and no doubt many others; but I think I have said quite enough to convince you that it is high time we had a different method of staging the show varieties.

Now I come to the pompon section. These pretty little flowers are now very popular, and deservedly so, but I doubt very much whether our present method of exhibiting them is the best that could be devised. Gridirons occupy their proper place in the kitchen department of every household, but surely it was an evil day when some of our leading exhibitors conceived the idea of adopting a modification of a culinary article in which to strangle the popular little pompon. No doubt exhibitors have heaped loads of blessings on the head of the inventor, but I am under the impression these blessings have not been universal. Take the case of the amateur, with ten blooms, and ten only of one variety; he has with much patience and care effectually secured number nine; but number ten refused to take the wire properly, and, as in the case of most persons who are hanged, it suffers from a broken neck. I shall not trouble you with the language used on such occasions.

The only justification for using such unnatural appliances is that the work of making up can be done at home, and consequently takes up little time on the day of the show, but like the show boxes, these flat-faced specimens of the ironmongers' and tinkers' art will have to depart from our shows if the pompon is to take up the position it rightly deserves in the rank of popular flowers, for it gives quite a wrong impression of the natural beauty of the flowers. Anything more stiff and formal could not be imagined. The formality is anything but natural, and does not tend to place this pretty little section in its proper sphere.

Now we come to the cactus section: it has been said with a certain amount of truth that the advent of the cactus varieties saved the dahlia from falling into oblivion; at all events its development has largely been responsible for the increased popularity of the flower to-day. How far this development will continue does not come within the scope of my paper, though I may be permitted to say that the cactus varieties became popular because they had lost the formality and stiffness of the older types, they were more in accord with people's ideas of taste and refinement, and last, but not least, they have been staged in a manner more pleasing to the general public.

I need hardly point out the usual method of staging, for you know they are exhibited in wire frames in threes or sixes, according to the schedule. For my part, I should bar every wire frame from a show, simply and solely because they are so unnatural, and because I am convinced the flowers can be staged without them; in fact, you will remember we have already classes where the flowers are staged in vases without wiring or facing, and they are such an object-lesson that I trust the time will come when this type of exhibiting will be the only one seen at our shows.

I fully recognise that it would be impossible to do without wiring for some few years, for some of our most beautiful cactus flowers have such horrible apologies for stems, that if they had to be staged without artificial support they would present a sorry figure. Neither do I see any great objection to such wires, provided they are not made up into stiff frames with the flowers facing all one way, like a squad of soldiers.

The general tendency at all shows now is to produce a natural exhibit, and I cannot call to mind any other flower that suffers such indignity—except perhaps the viola, and this as a sprayed flower is fast disappearing. Those of you, who bear in mind the splendid exhibits of Messrs. Cheal and Sons, Mr. Seale and Mr. Treseder, in the vase classes, and again in the baskets, which were most beautiful and natural, will remember these were more generally admired by the public than any other section of the show; in short, these represent my idea of the best method of exhibiting the cactus dahlia. I know it is far more difficult for the exhibitor, because he requires a quantity of beautiful foliage, which is not easily obtainable, and it takes far longer to arrange at the show, but exhibiting of every kind has advanced so much during the past ten years that an exhibitor's machinery has become as important as his flowers; by machinery I mean his foliage, supports and assistants.

The trade exhibitors of dahlias, who utilise bamboos, vases, etc., with an appropriate setting of foliage, grasses, ferns, and plants, produce a far finer effect than is seen in our artificial competitive classes, and it is upon these lines that we should proceed if we want to bring our exhibition up-to-date. Why should the dahlia world lag behind and be content to stage its blooms in the same old way, when the rest of the horticultural world is forging ahead? As an instance, rock and alpine plants used to be arranged in vases at shows: now such a procedure is quite out-of-date, and never seen, for a far more natural form of displaying their beauties is in vogue, and the same might be said of many other flowers.

It is only necessary to mention the other sections of dahlias, for the remarks I have made are equally applicable to them.

The single, giant, decorative, paeony-flowered, and the collarette forms, can all be arranged in vases, and in every case their decorative effect should be kept in mind, for it behoves a committee to remember that the crowd at a dahlia show consists of one fancier to ninety-nine people who do not see the points of beauty that the fancier is looking for, but who recognise and appreciate a beautiful floral display; and if this were provided, I feel sure our dahlia exhibitions would be more popular than they are to-day.

In conclusion I must draw attention to the naming and labelling of varieties, because I think I am justified in doing so by the title of my paper. I have been present at the majority of exhibitions held in London for the past twenty years, and I say that the method of labelling and the slipshod fashion in which it is carried out is only excelled by one other National Society. Surely this should be altered. As far as cards are concerned, they are cheap enough in all conscience; yet what do we see? Long strips of paper, somewhat related to lining paper for walls, with four dozen names written off in four lines, often with lead pencil, a perfect puzzle to the general public, and when the paper slips a little, confusion is worse confounded. Why should this be allowed? It should be insisted upon that each variety should be clearly and legibly named, which is more than is done at the present time.

I see in the year 1858 cards were provided for this purpose by the society, and it would be a good thing if it were carried out now. At all events, let us do away with the state of things as it exists to-day. If I can only shame some of the exhibitors into taking more care and interest in this matter, I shall feel fully satisfied in having called attention to a matter which is highly educational, and for the good of the flower itself.

GESNERA ZEBRINA.

I, too, was very much interested in the timely references to Gesnera Royal Orange in the Gardeners' Magazine of February 12, which were so reminiscent of my acquaintance with G. zebrina upwards of sixty years ago, during my probationary career in horticulture under my father. I believe that he procured G. zebrina from Messrs. Knight and Perry, of Chelsea, soon after its introduction from Brazil in 1840. He cultivated it with great success as a late autumn and winter-flowering plant.

I have a vivid recollection of its enchanting appearance and its bright scarlet-yellow panicles of flowers, and the rich, mottled, dark green, velvety foliage—attractions which are not usually combined in the same plant. Grown either as a mass from 18in. to 24in. across, to furnish large vases, or as single specimens for the dinner-table or flower-stands, it is unsurpassable for effect, and the wonder is that its cultivation at the present time should be so little recognised, especially, too, considering its easy cultivation. Possibly the introduction of the numerous garden hybrids which have been evolved is partly responsible for the comparative neglect of the exquisite G. zebrina.

Beautiful compeers of the latter are: G. Exoniensis, with its richly-coloured and velvety foliage (a hybrid from G. zebrina and G. refulgens); G. Herbertii, G. cinnabarina, G. Cooperii, G. gloxiniæflora, and G. zebrina splendens. A valuable feature in the newcomer—i.e., G. Royal Orange—appears to be its comparative hardiness, as it requires only a medium temperature. It would have been additionally instructive had the colour of its foliage been described in connection with the excellent illustration and cultural details given on page 127.

Birmingham. William Gardiner.

Cauliflowers.—Where sturdy autumn-sown plants have been well hardened off in cold frames they can in many districts be planted out now with safety. Choose a sheltered site, preferably one with a southern aspect. If severe winds occur protect with yew or spruce boughs, as this secures strong and quick growth. Those growing in pots intended to "head" therein should have a top-dressing of equal parts of loam and decayed manure; give occasional applications of liquid manure, and keep the plants on in a house near the glass. The small-headed varieties advised to be sown in January are now being planted thickly in both warm and cold frames between the late or spring endive, the latter being taken up later and conveyed to the mushroom house, and the space provided is then sown with turnips, beet, etc.—G. Ellwood.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

THE CATTLEYA HOUSE.—The plants in this division will now be in more or less active growth, either developing roots or producing their flowers. Those that are producing new roots from the base of the last made pseudo-bulbs should be repotted if necessary before the new roots become far advanced, as there is considerable risk of danger if the points of the roots are injured. We find a compost of peat, broken finely, leaves, osmunda fibre, and chopped sphagnum a suitable one, with sufficient broken crocks and silver sand added to render the whole porous. All newly-potted plants should be carefully protected from bright sunlight until the new roots have become established in the fresh compost. Supply with tepid rain water as soon as potting is completed, but only sufficient root moisture should be given afterwards to keep the plants plump. It is a good plan to spray fresh-potted plants overhead once or twice a day, as this will very considerably assist them to retain their normal plump condition. Plants that are producing their new growths should not be hurried. It is far more desirable that they should be retarded for a few weeks, so that they may then be afforded the full advantage of the more favourable outside conditions. There can be no doubt but that there is a great deal to be gained where such species as C. Warscewiczi (gigas) and C. Dowiana aurea can be retarded, and exposed to a reasonable amount of light. Under this treatment the most shy-flowering varieties of the former species are induced to flower, and there is also less danger of the plants commencing secondary growths after flowering.

LATE SPRING AND SUMMER-FLOWERING SPECIES and hybrids will have their flowers advancing through the sheath, and such must have every encouragement to assist the development of the flower buds, and the expanding of their flowers. To bring out the best colour in the flowers of this showy class of plants good light must be allowed; this will have considerable effect, but it should not be forgotten that, while strong light will assist plants to gain colour before they expand, it has also the effect of bleaching the colours out in expanded flowers, hence the open blooms must be shaded. It frequently happens at this season of the year, when the atmosphere becomes heavily charged with moisture, that some of the plants collect a considerable amount of water inside the flower sheath. In some cases this may be noticed by the transparent appearance of the sheath; in others the sheath begins to discolour. In any case, if it is desirable to save the flowers, it is a good plan to sever the sheath about half-way down, or as low as the flower buds will permit; the sheath should then be opened with the blade of the knife, which will permit the moisture to escape, and thus save the flower buds from decay.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

AIRING AND SHADING.—Now that the days are lengthening and the sun beginning to gain power, the blinds should be examined and fixed ready for use. Not that they will be necessary yet for crotons, dracænas, gardenias, ixoras, etc., but at the same time some of the more tender foliage plants, such as caladiums, alocasias, etc., ferns, and seedling plants of many kinds may with advantage receive a little shade during the hottest part of the day. Where roller blinds are not ready thin tiffany tacked to battens will answer the same purpose. Do not evade this matter of shading, for the more the shading is used the more tender the plants become, and consequently are more liable to scorch if by chance the blinds are not let down early. Much ventilation will not be necessary for awhile, as the majority of the plants have not recovered from the check of potting, but a little air should be admitted a few hours daily, as in a close, stuffy atmosphere the surface of the soil, as well as the pots, soon become green, which is not an advantage by any means. An overhead syringing may be given, both in the morning and afternoon, on all bright days, though in the afternoon it should be done early enough for the foliage to become dry before evening. As the forced plants are worked out of some of the warmer houses they will make room for gloxinias, begonias, streptocarpus, etc., though, of course, these two latter will gradually be inured to a greenhouse temperature.

ACALYPHAS.—These are among the most easily-grown of stove plants, and for many purposes are very useful. A. musaica and A. marginata are in demand for filling small vases on the dinner table, and jardinieres in the house, so that a batch of these should be raised whenever there is room for them. Acalypha hispida is also a very graceful plant, and is seen to best advantage when grown in baskets suspended from the roof; for this purpose strong rooted cuttings should be selected, placing one or three in a basket, according to its size, and if they are put in before the young plants become pot-bound it is surprising how quickly and how much more strongly they grow than when grown in pots. Place the baskets where they will have plenty of light without much strong sun, and as soon as the tassels of bloom begin to push out keep the syringe from them, and they will keep in good colour for months. The foliage will require an occasional sponging to keep down spider, which is somewhat of a pest to this plant.

ANTHURIUMS AND ALOCASIAS.—These are amongst the finest of all stove plants, the former being prized for their spathes, as well as for their noble foliage, while the latter are grown entirely for their foliage, which in many kinds is strikingly handsome. If these plants were not attended to during the general potting, no time should be lost in putting them in order. Where repotting is necessary this must be carefully done. For large plants pans are preferable to pots, and these should be crocked quite two-thirds of their depth, and the potting compost should consist of a mixture of very fibrous loam, peat, leaf-soil, charcoal, broken crocks, silver sand, and sphagnum moss. Pot as firmly as this compost will allow, and if the plants are at all unsteady after potting, a few stakes should be put to the principal leaves to steady them until the roots are running freely in the new compost, which will not take long, providing a very humid atmosphere and a high temperature is kept up. Shading is very essential, particularly after repotting. If an increase of stock is necessary, this may be provided by division of the rhizomes in the case of alocasias, or of the crowns in the case of anthuriums, but large plants are much to be preferred to a number of small ones. — THOMAS STEVENSON, Woburn Place Gardens.

FRUITS UNDER GLASS.

EARLY VINES IN POTS. — If high quality in the fruit is preferred to quantity the vines must not be very heavily cropped, but, under good management, the leaves will be kept healthy, and each vine should perfect seven or eight ordinary-sized bunches. During the time the fruit is swelling, a temperature from fire-heat of 65 deg. at night, and 70 to 75 deg. by day will suffice, but advantage should be taken of bright days to raise the figures to 85, or 90 deg., and at such times carefully admit air from the top ventilators early in the day, but avoid cold draughts, and close the ventilators again when the sun's heat begins to wane, at which time damp all available surfaces inside the house. The maintenance of a moist atmosphere will both greatly assist the vines and discourage attacks of red spider, but should this insect appear, check it at once by sponging the leaves with soapy soft water. Regularly stop lateral growths, and pay close attention to watering and nourishing the plants with diluted liquid manure, or top-dressings of suitable soluble fertilisers.

SUCCESSIONAL VINES. — Black Hamburgh, Madresfield Court, Foster's Seedling, and similar varieties should, while in blossom, be afforded a night temperature of 65 to 70 deg., with the usual rises by day; the atmopshere, by discreet attention to ventilation, and moisture must be maintained in a buoyant and tolerably dry state, and other usually adopted means be also taken to insure a good "set" of fruit. As soon as the fruit has set, the bunches should be thinned, leaving the required number of the best to furnish the crop, but the weight of crop should be governed by the vigour of the vines and the available means of feeding them. Keep sub-laterals stopped at one leaf, and as soon as the laterals have become firm finally bring them down and secure them to the trellis. Commence the thinning of the berries upon such free-setting varieties as the Black Hamburgh as soon as it can be ascertained which berries have taken a decided lead, and, in doing so, endeavour to leave sufficient of the best placed of these to form perfect bunches.

EARLY FIGS IN POTS.—As soon as the fruit now nearing its final swelling on the earliest trees shows signs of ripening, the ventilation of the house should be judiciously increased, and the atmospheric moisture lessened, but the fire-heat should be sufficient to uphold a night temperature of 65 deg., and 5 or 10 deg. more by day, otherwise the prospects of a good second crop will be impaired; for the same reason the leaves should be kept clean. The quality of the fruit will be improved by free exposure to air and sun, which may be enhanced by the stopping and thinning of shoots. When ripening, keep the fruit dry.

SUCCESSIONAL FIGS IN BORDERS.—If disbudding has not been adequately done to prevent crowding, rectify the evil by thinning-out the weakest shoots, and at the same time thin the fruits of overburdened trees. Stop the remaining shoots at the fifth leaf in order to assist them to develop a good second crop. Well syringe the trees, and admit a little air in the early morning of sunny days, increasing this as the sun gains power, but entrap the sun heat by closing early, at which time syringe the trees and damp their surroundings. Heavily-cropped trees, with their borders filled with roots, will require, apart from manurial mulchings, liberal supplies of liquid manure, and occasional top-dressings of artificial compounds.—T. COOMBER, The Hendre Gardens.

THE KITCHEN GARDEN.

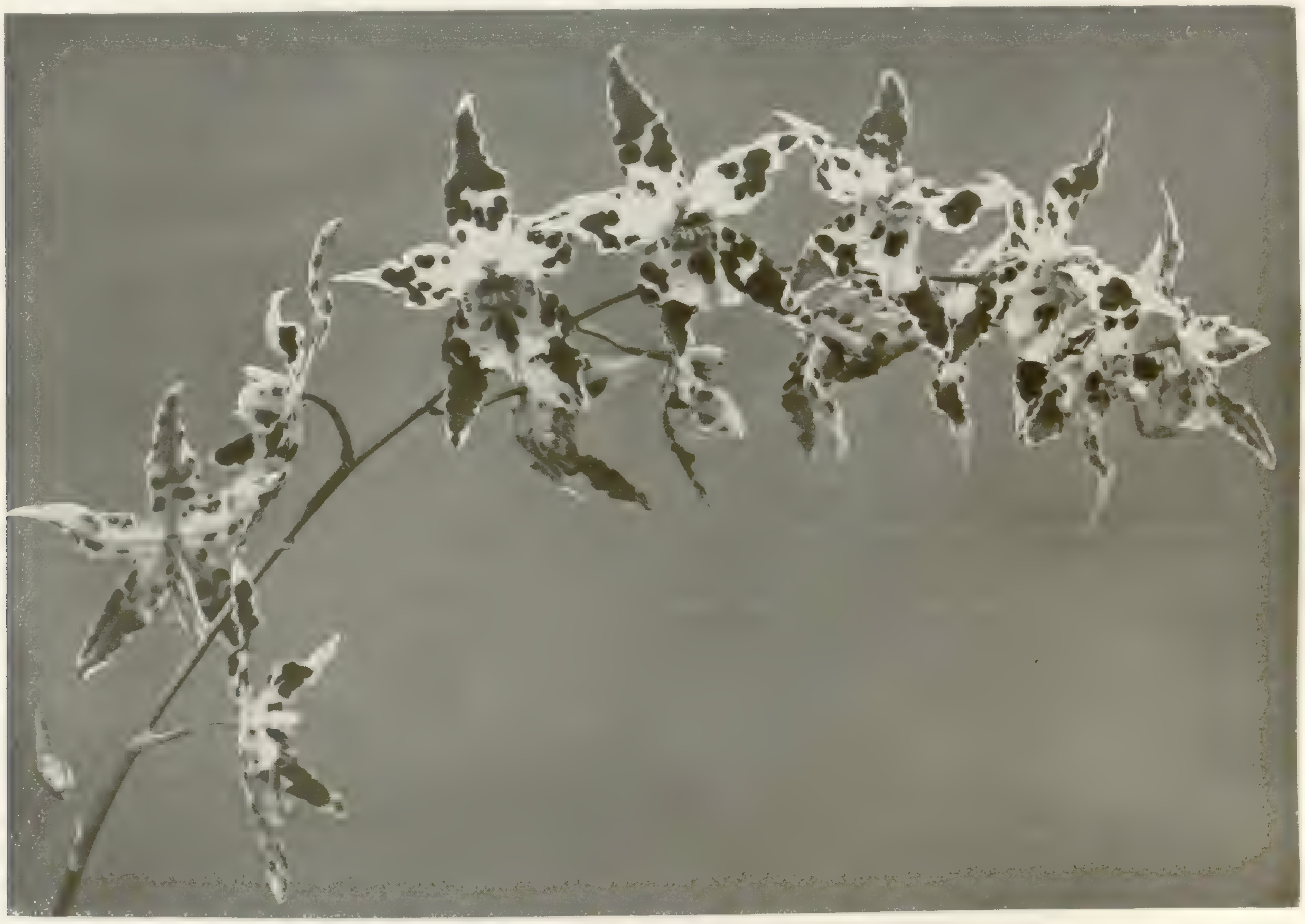
CARROTS.—The main sowing should now be made in a quarter which has been specially prepared for this crop; great pains should have been taken in the preparation of the soil by trenching and adding soot, road scrapings, fine leaf-soil, and mortar dust, if available, as this is perhaps the most uncertain of all kitchen garden crops on many soils. Previous to sowing the bed should be brought to a fine dry tilth, scattering burnt garden refuse, old potting soil, soot, and lime plentifully over the surface: fork well in, and bring the surface into a fine state. Rake level, and draw shallow drills at one foot apart. For exhibition specimens holes must be bored with an iron bar three feet deep, at fifteen inches apart, and these filled with four parts sandy soil, one part burnt wood ashes, road sand, and a quart of bonemeal to a good barrowful of the mixture. Good strains of Intermediate are unsurpassed for exhibition purposes. For shallow soils, Early Gem, Favourite, and Model are excellent stump-rooted kinds. Carrots growing in frames must be thinned as required, and given an occasional dusting of soot; give regularly sprayings, and just sufficient air to prevent them becoming weak and drawn.

PEAS.—It will now be safe to sow in the open quarters good supplies of the more tender marrowfat varieties. Trenches are preferable, adding well-decayed manure and burnt garden refuse in their preparation. When finished the trench should be three inches below the general level. It will be found the plants will yield a healthy and more bounteous crop, and over a longer period if this little extra care is taken.

OUTDOOR TOMATOES.—To procure good plants for putting out in the open by the end of May, a sowing must be made at once. Sow the seeds in boxes filled with sandy soil, cover with very fine soil, and place in a temperature of 55 degrees. When two rough leaves are developed put them singly in four-inch pots, using three parts loam, one part leaf-soil, one part spent mushroom bed manure, and a little mortar rubble or sand. Keep them in a similar temperature until well established, and then harden them carefully in a cold frame. In choosing a site for these select a south wall or fence. The mistake most often made with outdoor tomatoes is that the soil is too rich, and far too deep. Excellent results can be obtained if the plants are placed on an ash or cinder base, and rammed very firmly, placing just enough chopped loam, in heaps, to receive each plant. It will be found the sun will thoroughly warm the heaps, and that light top-dressings will soon be needed, while stocky, fruitful growths will result. When four trusses of bloom show, top-dress with horse manure, and water as required.

FRENCH BEANS.—Make a plentiful sowing in pots of the variety Canadian Wonder, as this succeeds the earlier forcing kinds. If sown two or three seeds in 60-sized pots they can later be planted out in pits or frames as can be spared for them. Maintain a constant supply in the bean house, and ply the syringe very forcibly and freely among the plants to keep red spider at bay.

HOEING.—This very important work must be carried out constantly among all growing crops whenever the ground is in working order. Plots that are lying rough, awaiting potatoes, cauliflowers, and other subjects, should be again turned over, so that the ground is brought into a high state of fertility by exposure to the atmosphere.—Geo. Ellwood, Swanmore Park Gardens.



ODONTOGLOSSUM GLADYS VAR. H. W. CHEAL.

A.M., R.H.S., March 22, Messrs. J. and A. McBean, Cooksbridge. Flowers white, heavily marked with chocolate-red, with a yellow lip.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

The Royal Horticultural Hall was well filled with exhibits on March 22, but was not so packed as at the previous meeting. Some of the displays were of special interest, but many were a long way below the standard that ought to be maintained at the "fortnightlies." Exhibitors imitate each other too closely in the design and contents of their groups, and rarely show in any new or distinct manner. Daffodils, orchids, early vegetables, roses, carnations, and forced shrubs were the leading features of the show. The new direction boards indicating how visitors should begin, continue, and end their tour, caused a good deal of amusement, and "Start here" and "Finish here" suggested athletic sports or a race meeting rather than a flower show. The directions were chiefly honoured in the breach, but as there was no crush, as on March 8, there was no inconvenience.

FLORAL COMMITTEE.

Mr. Bain, gardener to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, brought up the elegant Calathea crocata (A.M.), a maranta-like plant with neat spikes of bright orange-yellow coloured bracts and small yellow flowers nestling in pairs at the base of the bracts. A showy and interesting plant. Mr. J. Edney, gardener to Mrs. Bischoffsheim, Warren House, Stanmore, brought forward a finely-grown lot of pot roses, the leading varieties being Frau Karl Druschki, Richmond, Mrs. J. Laing, and La France. Vases of lovely roses were also shown by Messrs. R. F. Felton and Sons, Hanover Square, who put up exquisite flowers of Mdme. Abel Chatenay, Mdme. Melanie Soupert, Mrs. Joseph Lowe, Franz Deegen, and Kaiserin Augusta Victoria.

A delightful exhibit of Primula obconica, well grown, splendidly flowered, and in a fine range of colouring from pure white to bright red-magenta, was made by Messrs. James Veitch and Sons, Lim., Chelsea, who also set up a group of gorgeous amaryllis, fragrant boronias, and elegant cinerarias. The Messrs. Veitch also set up a grand display of forced flowering shrubs, their rhododendrons, including R. primulinum (A.M.), viburnums, wistarias, and Andromeda speciosa cassinæfolia being the chief features. Messrs. William Paul and Son, Waltham Cross, were also exhibitors of forced shrubs in great variety.

Messrs. Paul and Son, Cheshunt had a fine show of flowering trees and shrubs, including excellent specimens of Rhododendron Kewense. Very beautiful were the hardy rhododendrons displayed by Messrs. R. Gill and Sons, Penryn, Cornwall, all cut from the open in Cornwall; the arboreum varieties were superb, and R. Duchess of Cornwall was grand. A magnificent plant of Primula imperialis, with leaves nearly 18 inches long, was a surprise to lovers of primulas.

Mr. R. B. Leech, Woodhall Gardens, Dulwich, had a bright exhibit of anthuriums of the Scherzerianum and Rothschildeanum sections. Messrs. J. Carter and Co., Holborn, were responsible for a rock garden, prettily planted, and with a pool of water. Messrs. Jarman and Co., Chard, displayed cinerarias. The fine Princess of Wales violet, with very long stems and fragrant blooms was well shown by Messrs. S. Bide and Sons, Farnham, Surrey, and the new Lady Hillingdon rose, recently figured in our columns, was again displayed by Messrs. G. Mount and Sons, Canterbury. Mr. G. Prince, Longworth, was also an exhibitor of roses.

The elegant Begonia manicata was largely shown by Messrs. H. Cannell and Sons, Swanley; and Messrs. J. Peed and Son, Norwood, contributed a batch of lachenalias. The fine Cyrtomium Rochfordi, a splendid greenhouse fern, the elegant Nephrolepis lycopodioides, and a few fine examples of Polypodium glaucum crispum were all shown by Messrs. Thomas Rochford and Sons, Broxbourne.

Hardy flowers and forced flowering shrubs were contributed by Messrs. W. Cutbush and Son, Highgate, rhododendrons and Anemone blanda being conspicuous subjects. Messrs. J. Cheal and Sons, Crawley, had a small rockwork display. Messrs. Bakers, Lim., Wolverhampton, had hardy primulas and other alpines. Messrs. Jackman and Son, Woking; and Messrs. T. S. Ware, Lim., Feltham, also had pretty displays in this department.

The boldest group of carnations was Mr. Burnett's, whose Guernsey-grown flowers were of fine size, his Mikado, Marmion, Mrs. H Burnett, and the new R. F. Felton (A.M.) attracting a great deal of attention. Messrs. W. Cutbush and Son had also a display, as did Messrs. Stuart Low and Co., Enfield, who had roses, etc., as well, while Mr. W. H. Page, Tangley Nurseries, Hampton, had magnificent sheaves of fine carnations and liliums.

DAFFODIL COMMITTEE.

Daffodils were shown in large numbers, and there were six groups of these and other bulbs before the Daffodil Committee. Messrs. Cartwright and Goodwin, of Kidderminster, had a very elegant exhibit of good flowers of choice varieties, such as White Lady, Circlet, King Alfred, and Cornelia. Mr. A. Wilson, formerly of Spilsby, and now of Bridgwater, had some lovely new unnamed seedling daffodils, and his vase of Tamariane was greatly admired.

In Messrs. Sutton and Sons' large contribution of tulips, tastefully arranged in groups of a variety, Orange Blossom, La Reve, Coleur Cardinal, and La Remarquable were very fine. Messrs. R. Sydenham, Lim., Birmingham, and Messrs. R. H. Bath, Wisbech, had displays of bulbs grown in moss fibre.

Messrs. Barr and Sons, Covent Garden, displayed both new and popular daffodils, tulips, and alpine flowers;. and Mr. Frank Lilley, Guernsey, sent daffodils and anemones.

ORCHID COMMITTEE.

Orchids were again well shown, and in Messrs. Stuart Low and Co.'s group Odontioda Bradshawæ and Cymbidium insigne were conspicuous among odontoglossums, masdevallias, etc. Brasso-cattleya Mariæ, with delightfully fringed lip, some exquisite odontoglossums, and Odontioda Bradshawæ were conspicuous in Messrs. Charlesworth and Co.'s display. Messrs. Sander and Sons, St. Albans, had a fine lot of odontoglossums and some lovely deep blue spikes of Vanda cœrulea, and the new Houlletia Sanderi (A.M.).

Dendrobium rubens grandiflora and the yellow D. Melpomene were notably good in Messrs. Cypher and Son's group. Lælio-cattleya Trimyra (A.M.), from Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), has sulphur-yellow flowers and orange-tinted lip: Sarcochilus Hartmanni and Lycaste Mantini also came from Burford Lodge. Cymbidium insigne was the leading feature of the display by Mr. E. V. Low, Haywards Heath, but the pure white Lycaste Skinneri alba was also fine, and Mr. Collier, gardener to Sir J. Colman, Bart., Gatton Lodge, Reigate, had a number of interesting botanical orchids, and Odontoglossum Thompsonianum Gatton Park var. (A.M.).

Brasso-cattleya The Baron, with large and exquisite blooms, was well shown by Mr. J. Gurney Fowler, Glebelands, Woodford. Among many good things Messrs. J. and A. McBean, Cooksbridge, had a gem in Odontoglossum Gladys var. H. W. Cheal (A.M.), which has white, chocolate-red marked flowers, with a yellow lip—very pretty. Two examples of Cattleya Robert de Wavrin were brought up by Mr. Alexander, orchid grower to Lieut.-Colonel Holford, C.V.O., Westonbirt, Tetbury, but one of these, named Westonbirt var. (F.C.C.) was far ahead of the type in size and colouring; it has lovely soft rose-coloured sepals and petals, and light bluish purple lip with yellow and ruby throat.

FRUIT AND VEGETABLE COMMITTEE.

Early vegetables were finely shown by Messrs. Sutton and Sons, Reading, their Golden Ball lettuces, broccolis, French beans, chicory, Delicacy cucumbers, Duchess of York peas, Harbinger cabbage, and Sutton rhubarb being fine features. Messrs. J. Veitch and Sons contributed early salading and coloured kales, and Veitch's New Sprouting Kale, a prolific variety.

CERTIFICATES AND AWARDS.

First-Class Certificate. — To Cattleya Robert de Wavrin Westonbirt var., from Lieut.-Colonel Holford, C.V.O. (grower, Mr. H. Alexander), Westonbirt, Tetbury.

Award of Merit. — To Odontoglossum Thompsonianum Gatton Park var., from Sir J. Colman, Bart. (gardener, Mr. Collier), Gatton Park, Reigate.

To Odontoglossum Gladys var. H. W. Cheal, from Messrs. J. and A. McBean, Cooksbridge.

To Houlletia Sanderi, from Messrs. Sander and Sons, St. Albans.

To Lælio-cattleya Trimyra, from Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

To Rhododendron primulinum, from Messrs. James Veitch and Sons, Chelsea.

To Calathea crocata, from Sir Trevor Lawrence, Bart. (gardener, Mr. Bain), Burford Lodge, Dorking.

To Carnation R. F. Felton, from Mr. H. Burnett, Guernsey.

MEDALS.

Gold.—To Messrs. Jas. Veitch and Sons, Chelsea, for flowering shrubs, primulas, amaryllis, etc.

Silver-Gilt Flora.—To Mr. W. H. Page, Hampton, for lilies and carnations; to Messrs. W. Cutbush and Son, Highgate, for carnations and hardy flowers; and to Messrs. T. Rochford and Sons, Broxbourne, for ferns and roses.

Silver-Gilt Banksian.—To Messrs. R. and G. Cuthbert, Southgate, for azaleas, etc.; to Messrs. S. Low and Co., Enfield, for carnations, roses, etc.; to Mr. L. R. Russell, Richmond, for flowering shrubs; to Messrs. Cartwright and Goodwin, Kidderminster, for daffodils.

Silver Flora.—To Messrs. Sutton and Sons, Reading, for tulips; to Mr. A. Wilson, Shovel, Bridgwater, for daffodils; to Mr. Edney, gardener to Mrs. Bischoffsheim, Warren House, Stanmore, for pot roses; to Mr. H. Burnett, Guernsey, for carnations; to Mr. R. B. Leech, Woodhall, Dulwich, for anthuriums; to Messrs. H. B. May and Sons, Edmonton, for ferns and clematises; to Messrs. G. Mount and Sons, Canterbury, for roses; to Mr. A. Speer, Esher, for flower paintings; to Messrs. Jas. Carter and Co., Holborn, for rock garden; to Messrs. R. Felton and Son, Hanover Square, for roses; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to Mr. E. V. Low, Haywards Heath, for orchids.

Silver Banksian.—To Messrs. G. and A. Clarke, Dover, for hardy flowers; to Mr. Galsworthy, Chertsey, for flower pictures; to Messrs. R. Gill and Sons, Penryn, for rhododendrons; to Messrs. G. Jackman and Son, Woking, for hardy flowers; to Messrs. Paul and Son, Cheshunt, for rhododendrons; to Messrs. Wm. Paul and Son, Waltham Cross, for camellias, etc.; to Messrs. T. S. Ware, Lim., Feltham, for hardy flowers; to Messrs. Barr and Sons, Covent Garden, for hardy flowers, and also one for daffodils; to Messrs. J. and A. McBean, Cooksbridge, for orchids; and to Mr. A. W. Jensen, Lindfield, for orchids.

SCIENTIFIC COMMITTEE, MARCH 8.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair), Professor Sir A. Church, Messrs. J. T. Bennett-Poë, F. J. Baker, W. Hales, R. H. Pearson, H. J. Veitch, A. W. Hill, J. S. Arkwright, L. H. Crawshay, J. Douglas, W. Fawcett, J. Fraser, A. D. Michael, Dr. J. A. Voelcker, and F. J. Chittenden (hon. secretary).

SCALE ON ALDER.—Mr. R. Newstead, A.L.S., reported that the scale insect on the stem of alder shown from Mr. Lynch at the last meeting was Aspidiotus salicis.

FUNGUS ON SAXIFRAGA.—Mr. Chittenden reported that he had examined the Saxifraga longifolia sent to the last meeting by Mr. Farrer, and found it to be attacked by the rust fungus, Puccinia saxifragæ. This fungus attacks several species of saxifrage, but appears to be rather uncommon in Britain.

HYACINTH BULBS FAILING. — Mr. Michael reported that he had failed to find any bulb mites on the hyacinth bulbs submitted to him at the last meeting, and thought the death of the roots had, in all probability, been caused by excess of moisture at the roots soon after they had been formed.

MALFORMED CYPRIPEDIUMS. — Mr. L. H. de B. Crawshay showed drawings illustrating the malformations shown in the twin-flowered inflorescence of Cypripedium barbatum from the Lord Avebury exhibited at the last meeting. He remarked that the two-flowered scape had branched about the middle. The terminal flower had a complete perianth except the labellum, which was absent, its only indication being a median streak in the anterior sepal. The column was formed of two normal anthers and two staminodes, the stigmatic plate being absent and its place occupied by the anterior staminode. The ovary contained two placenta placed opposite to one another. The lateral flower is normal in every way, except in the trimerous outer whorl of the perianth, which shows reversion to the primitive type, the three segments being divided to the base. The ovary contained only one placenta, placed anteriorly.

PIGMENTS IN BEAN SEEDS.—Mr. E. A. Bunyard has examined the pigments in the seeds of the beans shown at a recent meeting, and writes that they exhibited seven distinct tints of brown, two shades of green, one black, and one blue-black. All the tints of brown are due to one pigment.

It is insoluble in carbon bisulphide, water, alcohol, ether, acids, and alum, but soluble in an aqueous solution of ammonia. A flocculent precipitate is thrown down from this solution by acetate of lead, and a strong black colour formed when treated with ferrous sulphate.

It seems probable therefore that the pigment is a tannin, but the small amount of material renders it impossible to affirm this with any accuracy. It is apparent that they are merely quantitative differences of the same pigment. The beans are referred to under numbers, as No. 1, etc.; the colours (Code des Coleurs) as C 100, etc.

Bean No. 1 is, for instance, a near approach to C. 107, and the pigment, in a state of purity, would probably be between the "standard colours" Nos. C. 101 and 126.

Nos. 9, 6, 3, are closely matched by C. 107, 113, 143 respectively, and the parent beans show the pigment much diluted in C. 128 D.

No. 8 has, however, a distinct green tinge. In this, microscopical examination reveals the pigment in a finely-granulated condition, which causes, of course, greater light absorption than when in a liquid or semi-liquid condition. C. 167 gives this tint well.

No. 2 might at first be considered black, but a careful examination reveals its greenish hue, due to a large amount of the same pigment, also very finely granulated. No. 11, an apparent black, reveals the same condition. The colour in these two cases is soluble in ammonia, and gives a solution identical with that extracted from No. 1.

The only other case I have met where a yellow pigment strongly concentrated gives an appearance of black, is the case of Cœlogyne pandurata, in which the black lines are formed of highly-concentrated yellow pigment.

The case of Nos. 8, 2, and 11, in which the pigment is much granulated, is paralleled by the dark chocolate varieties of sweet peas. In these the anthocyan sap is deposited in dense granules instead of being in liquid form, and the very dark shades are thus produced.

No. 10 is of a blue-black tint, not represented in the code, and is due to a strong concentration of an anthocyan pigment. The well-known dwarf bean Negro Largo is coloured with the same pigment. The limited material made it impossible to ascertain in which division of the anthocyans it should be placed.

WOOD ALLEGED TO PREVENT IRON RUSTING.—Mr. E. M. Holmes reported that he had examined the wood shown at the last meeting by Dr. Voelcker, and found it to be from a coniferous tree, which Mr. Herbert Stone, F.L.S., suggested might be an agathis; he had not seen it before, however. Mr. Holmes could suggest no reason why a decoction of the wood should prevent rusting. It appears to contain resin, but that is insoluble in water. It is certainly not the wood of Machilus Thunbergi, as has been suggested, for that belongs to the lauraceæ.

LILACS SPORTING.—Messrs. Paul showed a white-flowered lilac with two bunches of lilac flowers and one bunch of white at the end of one of the branches, affording a somewhat remarkable case of a white flower sporting to lilac.

GNAURS ON BEECH.—Mr. W. Fawcett, F.L.S., showed a branch of a beech from Tunbridge Wells having several large, smooth swellings upon it. A section through one of them showed that the middle portions were quite dark brown, and there were dark streaks also in the wood. No fungus mycelium, however, could be discovered. It was suggested that the specimen should be referred to Dr. Henry.

SUCKERS ON PLUMS, ETC.—Mr. J. Fraser, F.L.S., showed specimens illustrating the development of suckers on plum roots. He pointed cut that the first sign of a sucker appearing is a swelling on the root. On this swelling, scale leaves, rather thick in texture, arise, and later the little bud develops into a shoot. He suggested that, in order to avoid the development of suckers, seedling plums should be used for budding, and not suckers.

FASCIATED ASPARAGUS.—Mr. J. S. Arkwright showed a remarkable specimen of fasciated asparagus measuring about two inches across, and somewhat spirally twisted. Fasciation is common in this plant, but it is seldom that such a large specimen is sent to the committee.

SEEDLINGS FROM AMARYLLIS.—Mr. J. Hudson showed two seedlings from an amaryllis which had been pollinated with pollen from Vallota purpurea, having flowered in the autumn. They did not show in any essential point the characters of vallota, and it was suggested that the flowers should be self-pollinated and seedlings raised from them, to see whether the next generation showed any segregation in the direction of vallota.

National Chrysanthemum Society.

On Monday evening last the Executive Committee held a meeting at Carr's Restaurant, Strand. Mr. T. Bevan in the chair. The St. Peter's Chrysanthemum Society and the Lytham Gardeners' Association were admitted in affiliation. The Secretary then submitted the usual financial statement, showing a balance in hand. Arrangements have been entered into with the Crystal Palace Company for the holding of two shows in 1910, the first to be on October 5 and 6, and the second on November 2, 3, and 4. The secretary was empowered to make all final arrangements and sign the contract on behalf of the society. To replace the members retiring by rotation from the Floral Committee, the following gentlemen were elected:—Messrs. D. B. Crane, W. Howe, J. H. Witty, H. J. Jones, D. Ingamells, and Ladds. The members of the Finance, Schedule, and Publications Committees were re-elected as in 1909. The question of the annual outing was discussed. No place was decided upon for the present, but it was resolved that the outing take place about July 25 next. The new schedule for 1910 is to be left in the hands of the committee, and in it is to be included an audit of all the varieties staged at the last November show. A conference will be held in the Essex Hall in December next, and particulars will be announced later; exhibition blooms, however, will form the chief subject for discussion, and the Schedule Committee will carry out the details. The revised dates of the Floral Committee meetings are September 5 and 19, October 5 and 24, November 2 and 21, and December 7 and 19.

Referring to the trials of single varieties, visits by the Floral Committee will be made as follows:—To Messrs. W. Wells and Co. on September 10 and 24 and October 15; to Mr. H. J. Jones, at Keston, on November 12; to Messrs. Cannell and Sons on December 10.

Mr. Bevan referred again to the Chrysanthemum Show at Brussels, and hoped the members would assist in making a creditable display. Mr. Harman Payne agreed, but as the great expense was referred to, he expressed the hope that some official help might be obtained from the Royal Commission. The N.C.S. were quite prepared to uphold the honour of English horticulture, and would probably be the only English society to do so, but their financial position hardly justified their so doing as a mere matter of honour.

New members were elected, and the meeting closed after a rather long and interesting agenda.

United Horticultural Benefit and Provident Society.

The monthly committee meeting of this society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on Monday, March 14, Mr. C. H. Curtis in the chair. Six new members were elected, making a total of 32 for the past three meetings. Several members over 60 years of age took advantage of Rule 18 to draw the interest on their deposit account. A cheque for £11 14s. 4d. was drawn for the nominee of a late member. The amount paid to sick members was rather heavy, £60 5s. having been paid since the previous meeting.

Bournemouth Gardeners. Association.

MARCH 15.

On the above date George G. Hamilton, Esq., F.R.C.S., gave a lecture with demonstration on "The Fungi Causing Disease in Man and Animals" before the members and a number of the public who were invited by the committee to attend. The chair was occupied by Dr. N. MacGillycuddy, who introduced Dr. Hamilton to the audience.

Some splendidly painted specimens of fungi were shown—these being the work of Mrs. Walter C. Clarke, of Michelgrove House, Boscombe, Bournemouth. Dr. Hamilton also exhibited coloured photographs on glass, and some "cultures" of germs of various bacilli on gelatine in glass tubes. One tube in particular proved of great interest to the gardeners present, as it showed the tubercle bacillus of consumption growing on a piece of potato.

The lecturer directed attention to the umbrella shape of many kinds of fungi, and said the spores were thereby protected. Fungi were not formed after the manner of most plants, as they did not possess either stems or leaves, but were composed of great numbers of cells. They increased by means of spores, which were distributed by themselves, by air and by water running through drains and gutters. Unless the soil or position was suitable, the lecturer remarked, the spores would not grow, and he instanced certain fungi that grew freely enough on fir trees, and also in the soil under them, but not anywhere else, while others thrived on beech branches only. It was a difficult matter to determine which were edible and which poisonous fungi, even experts being sometimes deceived, Dr. Hamilton said. But beetles, slugs, and other insects were never in error in this matter. Our edible mushroom, the lecturer said, was supposed to have been first introduced into this country by the wild horse, and it was a fact that wherever horses grazed mushrooms grew. Dr. Hamilton said it was not properly decided as yet whether one or a number of fungi were responsible for the commencement of "fairy rings," but it was a fact that as the fungus died it created sulphide of hydrogen, which caused the rings to widen out and occupy fresh soil; in the end, however, the fungus actually killed itself by what it produced.

The lecturer made some very valuable remarks about the timely spraying of young fruit trees, so as to prevent fungi gaining access to the inner parts of trunk and branches through deep cracks and other openings. He said there were plenty of old, neglected orchards in this country, and occasionally we could see the stems and branches white with limewash and similar preparations, but all such operations were practically useless, as the washes only touched the outer fungi, and left the internal portions free. Therefore, the only right method to pursue was to pay close attention to the well-being of all young fruit trees, and never let the fungi gain any hold upon them.

At the close of the lecture there was a discussion, several members and Dr. Hill taking part in it. In replying to a hearty vote of thanks, Dr. Hamilton referred to the great importance of light as a preventive of fungus growth.

A vote of thanks to the chairman brought to a close a very interesting and enjoyable evening.

Elstree Horticultural Society.

There was a large assembly in the Elstree Church Room on Tuesday, the 15th inst., to hear Mr. William Cutbush, of Barnet, deliver a lecture on "Roses." The lecturer dealt in a most thoughtful and capable manner with all the more salient features in connection with the production of "The Queen of Flowers," and at the close of his address was warmly applauded, and, after dealing with various questions in an efficient manner, was accorded a most hearty vote of thanks.

In connection with this meeting, there was a display of hyacinths by the school children in competition for prizes, and also an honorary exhibit of these same flowers, staged by Mr. E. Beckett, V.M.H., gardener to the Hon. V. Gibbs, the president of the society.

Reading Gardeners' Association.

There was again a large attendance of members at the fortnightly meeting held in the Abbey Hall, Reading, on Monday evening, March 21, the President (Mr. Alderman Parfitt, J.P.), occupying the chair.

As at the previous meeting, the hall was rendered most attractive by exhibits which would have done credit to Vincent Square. Beautiful cinerarias were staged by Mr. R. Doe, The Gardens, Holme Park (M. J. Sutton, Esq.), and a splendid group of Cineraria stellata was displayed by Mr. F. Townsend, The Gardens, Hillside (from the vice-president). Mr. W. Barnes, The Gardens, Bearwood, exhibited early cabbages, grown in the open, from seed sown in July, which would have been considered remarkable even three weeks or a month later. Mr. H. Goodger, gardener to Mrs. Collins, Stoneham House, Calcot, was awarded the association's certificate for his exhibit of violets.

The lecturer for the evening was Mr. T. Judd (chairman of the committee), and his subject, "Plants for Spring Bedding." Briefly touching on bulbs at the commencement of his remarks, Mr. Judd explained how by the exercise of a little thought and the judicious sowing of suitable seeds, it was a simple matter to quickly make the garden beautiful in early spring. The subjects advocated by the lecturer as being specially adapted for securing an early display of bloom included alyssum, arabis, aubrietia, daisy, erysimum, limnanthes, myosotis, pansy, nemophila, polyanthus, primrose, silene, stock, viola, and wallflower, while Canterbury bells and sweet williams might with advantage be used to extend the flowering period. Mr. Judd gave full information with regard to the preparation of the seed beds, time of sowing, and after-treatment of his favourites, with a view to obtaining the best possible results.

An exceedingly interesting discussion followed, and at the close of the meeting Mr. Judd was the recipient of congratulations and a hearty vote of thanks.

British Gardeners' Association (London Branch).

On Saturday, March 19, the members of the above branch entertained their wives and friends at a Bohemian concert at Carr's Restaurant, Strand. Mr. E. F. Hawes, chairman of the branch, presided, and there were about 100 members and friends present.

The musical programme, arranged by Mr. Andrews, proved a great success, and was thoroughly enjoyed. Selections from Shakespeare were admirably rendered by Mr. Clarke, and listened to with great interest. A vote of thanks to the ladies and gentlemen who kindly gave their services brought to a close a most enjoyable evening.

Banbury Gardeners' Society.

This society held its fortnightly meeting at the White Horse Hotel, Banbury, on Friday, the 18th inst., when Mr. R. Wadham, gardener to Mrs. Bradshaw, Steeple Aston Grange, very kindly gave a lecture in the place of Mr. G. Hunter, Blenheim Palace Gardens, who was unable to attend. There were about thirty members present.

Mr. Wadham gave a very excellent and instructive lecture on the "Culture of Early-Flowering Plants for Gardens and Allotments." He dealt principally with stocks, mignonette, forget-me-nots, violets, and some of the easily-cultivated orchids. The usual discussion followed. A very hearty vote of thanks was given the lecturer. A vote of thanks was also passed to the Mayor for presiding.

OBITUARY.

◆

MR. JAMES McINDOE, V.M.H.

We regret to learn of the death on March 16, of Mr. James McIndoe, V.M.H., who for a long number of years was gardener to the late Sir J. Pease, at Hutton Hall, Guisborough. Mr. McIndoe was a clever grower and exhibitor of fruits, and won hundreds of prizes all over the kingdom. During recent years Mr. McIndoe resided at Dartford. Death was due to cancer, and followed a long and painful illness.

Algæ in Water Tanks. — Dr. Voelcker recently exhibited some small, rather leathery masses of algæ, which had been taken from a cement tank, on the sides of which they had grown. The presence of the algæ, which proved to belong to a species of Oscillatoria, rendered the water unpleasant to drink. It was suggested that the tank should be covered, as the algæ would not develop in the dark, or that a weak solution of copper sulphate should be added to the water.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

SWEET PEAS.—F. E., Salisbury: Try "Sweet Peas and their Cultivation," 1s. 2d., or 1s. 8d. (cloth), post free, from the GARDENERS' MAGAZINE Office, 148, 149, Aldersgate Street, E.C.

RUELLIA MACRANTHA.—E. R. B., Swinford: You can obtain Ruellia macrantha through any of those nurserymen who advertise indoor plants in our columns. It is an acanthaceous plant, and propagated by cuttings. In its younger stages it needs to be treated as a stove plant.

GAZANIA PYGMÆA.—H. J., Kingstown: Gazania pygmæa (Sond) is the same as G. bracteata of N. E. Brown, but we find neither name in any of the seed lists at hand. Try Messrs. Bees, Lim., Liverpool, or Messrs. Thomson and Morgan, of Ipswich.

BOTANICAL MAGAZINE. — F. J. M., Warrington: A great deal depends upon the binding and general condition of the copies, but even if these are good the value of the first thirty or forty volumes of this work is small. The value of the volumes you have is also further reduced because they commence with 1793 instead of at 1787, when the work began. Give us some idea of the binding, and say how many volumes there are (two or three years are often bound in one volume), and we shall be better able to help you.

OTIORHYNCHUS GRUBS IN FERNS.—Mr. C. T. Druery writes: "I saw in your 'Answers to Correspondents' of March 8, a note on 'Grubs in Ferns,' in which it is stated that twenty-four hours' immersion in water will kill the grubs. I have found that immersion in water for that time will bring many of the grubs to the surface, where, of course, they can be collected and killed, but not long since I experimented with some grubs, and found that even when kept under water for two or three weeks they revived when taken out and dried, so that immersion is not the practical remedy we have considered it to be, except in the partial way indicated. I am told by my fern-loving friends who have tried it that Vaporite is very effective, and I am making experiments myself which point in the same direction, though I cannot as yet absolutely confirm them. When the beetle appears it cannot stand immersion for more than a few minutes, and with a pot plant or pans of seedlings attacked by them a few minutes immersion under water brings them unfailingly out of their hiding places, whence they crawl up to the light, and are easily caught. As they are usually content to prey upon the plants nearest their point of emergence from the soil in which they have passed the grub stage, it is well, directly their attack is noticed, to plunge the pot or pan as directed, and secure their capture."

JUDGING ROSES.—T. G. M., Hampton: The National Rose Society, in dealing with this subject, suggests that three points should be given for high-class blooms; two for medium; one for those not so good, but not bad enough to cut out; and one or even two extra points for a very superior bloom. One point should be taken off for every bloom decidedly bad. No point should be allowed for a bloom left tied by an exhibitor. A typical bloom of a three-point rose (which may be carried by one of the judges) should be selected, and referred to as necessary in order to keep up a uniform standard throughout the exhibits. In the case of trebles (which, if shown in boxes, must be arranged triangularly) each treble is to be regarded as a unit, and not as three separate blooms. Points must therefore be given as in Rule 22—three points for the best treble, two points for a medium treble, and so on. In the mixed classes Teas and Noisettes shall have no especial favour shown to them. Where the blooms are of equal merit, the judges shall proceed to consider their general evenness, variety, arrangement, freshness, and setting up in the stands, the boxes being placed side by side and in the same light for the purpose of comparison.

HORTICULTURAL EXHIBITIONS AT BRUSSELS.—F. E. C., Liverpool: In connection with the International Exhibition, to be held in Brussels this year, three great horticultural exhibitions have been arranged, and special information concerning these can be obtained from the Secretary, Horticultural Committee, 8, Whitehall Place, S.W. We may state, however, that the first show will be held from April 30 to May 3, and is for hardy and hothouse plants, forced fruits, and vegetables, and will include a section for floral decoration; entries close on April 15. The second show, from September 24 to 27, is for fruit and market garden produce; entries close on September 10. The last show, to be held from October 29 to November 2, is for flowers and chrysanthemums; entries close on October 10.

DAFFODILS IN BORDERS. — M. L. M., Newport (I. of W.): It frequently happens that when daffodils have been planted rather closely in groups of a variety, either between shrubs or among herbaceous plants, they do well for a time and then deteriorate. The reason is that the bulbs have increased in number, and there is a fight for existence, and until some of the bulblets are crowded out into new soil, or some have been squeezed out of existence, there will be few good flowers. As soon as the leaves die down this year lift the groups of bulbs (taking care to keep them labelled and apart from each other) and separate the bulbs. The larger bulbs may be planted in beds or borders—not on the old sites unless quite new soil is provided—and the smaller ones be planted in rows in a nursery border, there to increase in strength and size and presently make good flowering bulbs. It is a good plan to lift, sort out, and replant daffodils at least every third year, though most people who are keenly interested in these flowers lift and replant every year, or not less seldom than alternate years.

EXHIBITING SWEET PEAS.—C. L., Abergavenny: The National Sweet Pea Society has a number of regulations governing the exhibition of sweet peas, and referring not only to the flowers themselves, and their display, but also to the show arrangements, etc. These would occupy more space than we can spare in these columns, but you can obtain them in full in the schedule of the society, a copy of which will be forwarded on application to the Hon. Secretary, Mr. C. H. Curtis, Adelaide Road, Brentford.

GORSE FOR COVER.—W. I. J., St. Mellion: The common gorse or furze (Ulex europæus) will serve the purpose admirably, especially if a portion of the cover is cut over every third year.

PHOSPHATE OF POTASH FOR SWEET PEAS.—S. N., Bath: Phosphate of potash is an excellent fertiliser for sweet peas if first applied when the flower buds are forming, and then not more often than once a week during the flowering season. It should be given in liquid form, dissolving 1oz. in [illegible] gallons of water, this amount being sufficient for three or four feet run of row. As the plants develop and carry more [illegible] flowers the strength of the application may be gradually increased to 1oz. per gallon, but on no account must this stimulant be given when the soil and roots are dry. If dry, water with clear water and follow with the fertiliser the following morning or evening.

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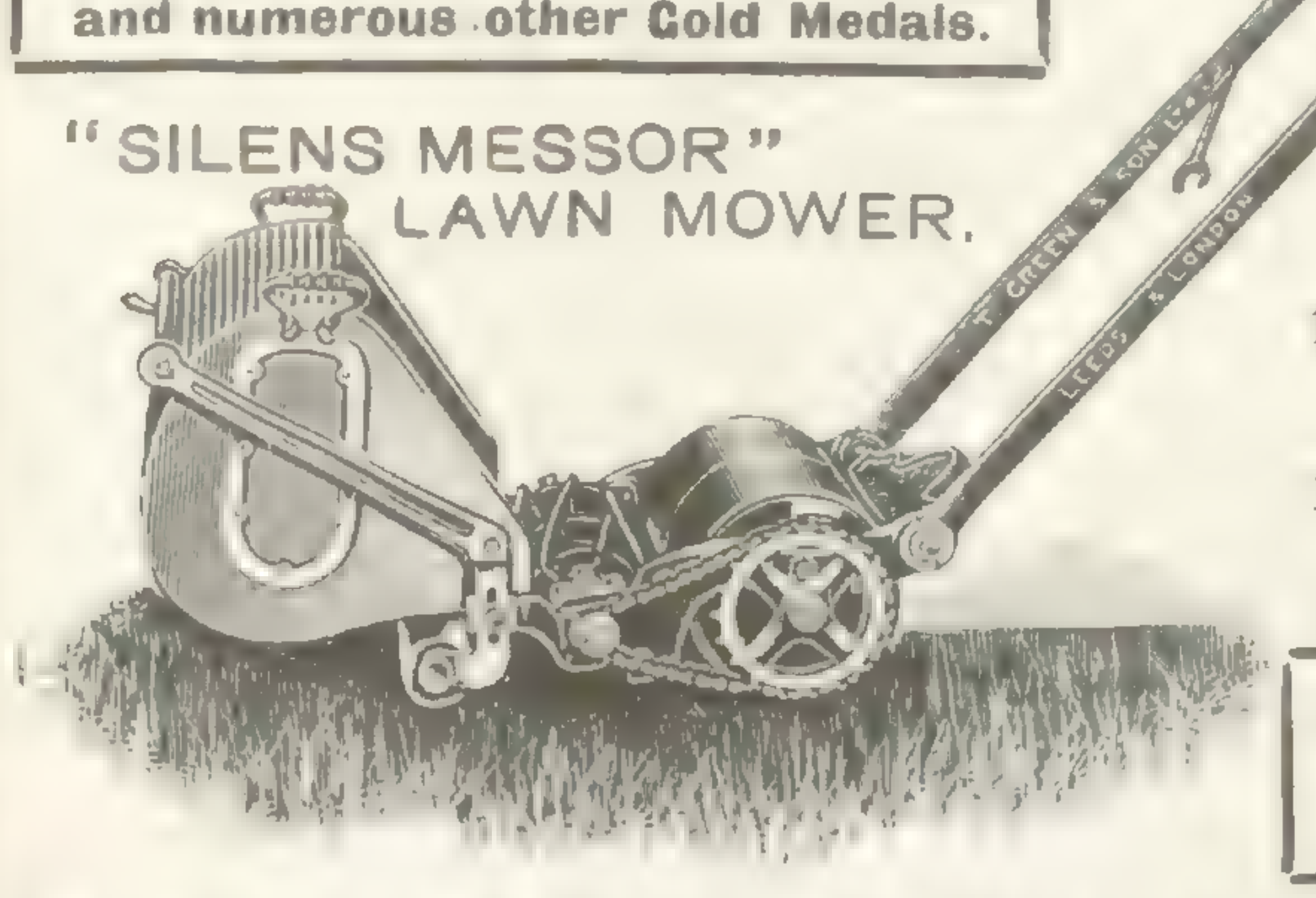

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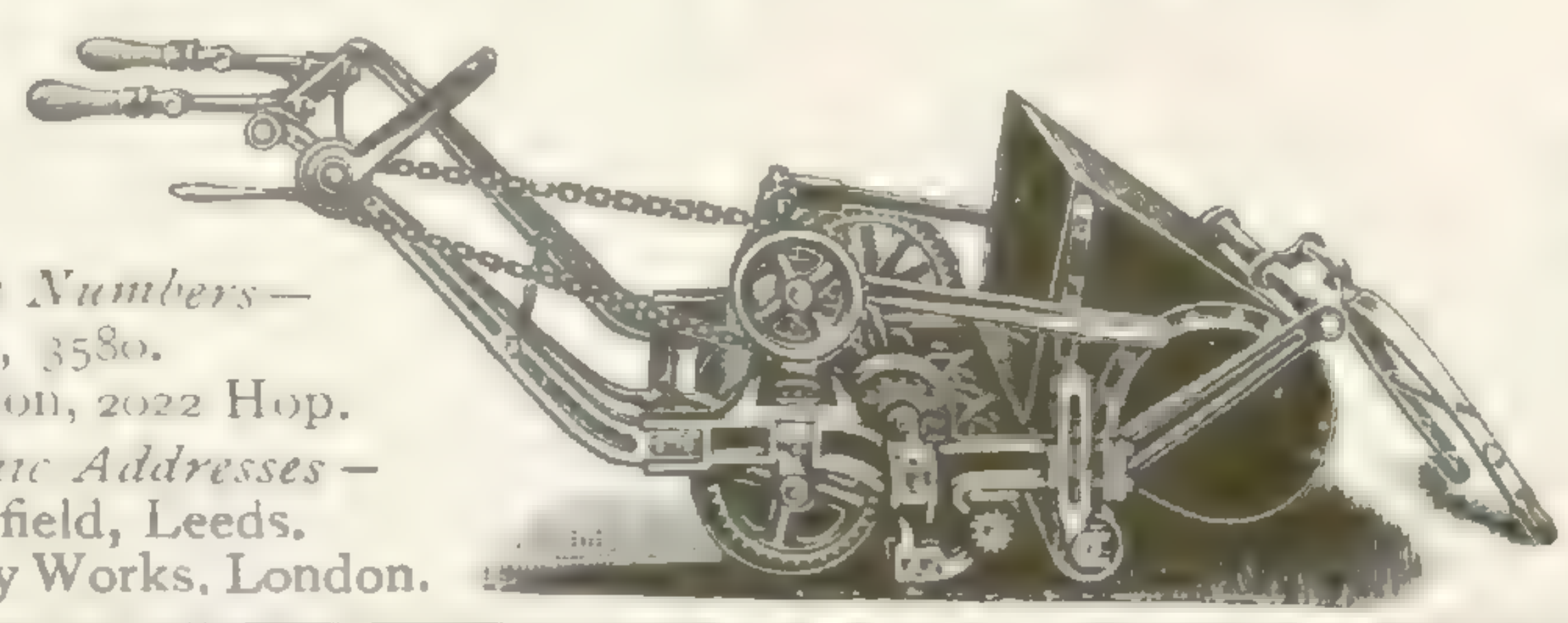

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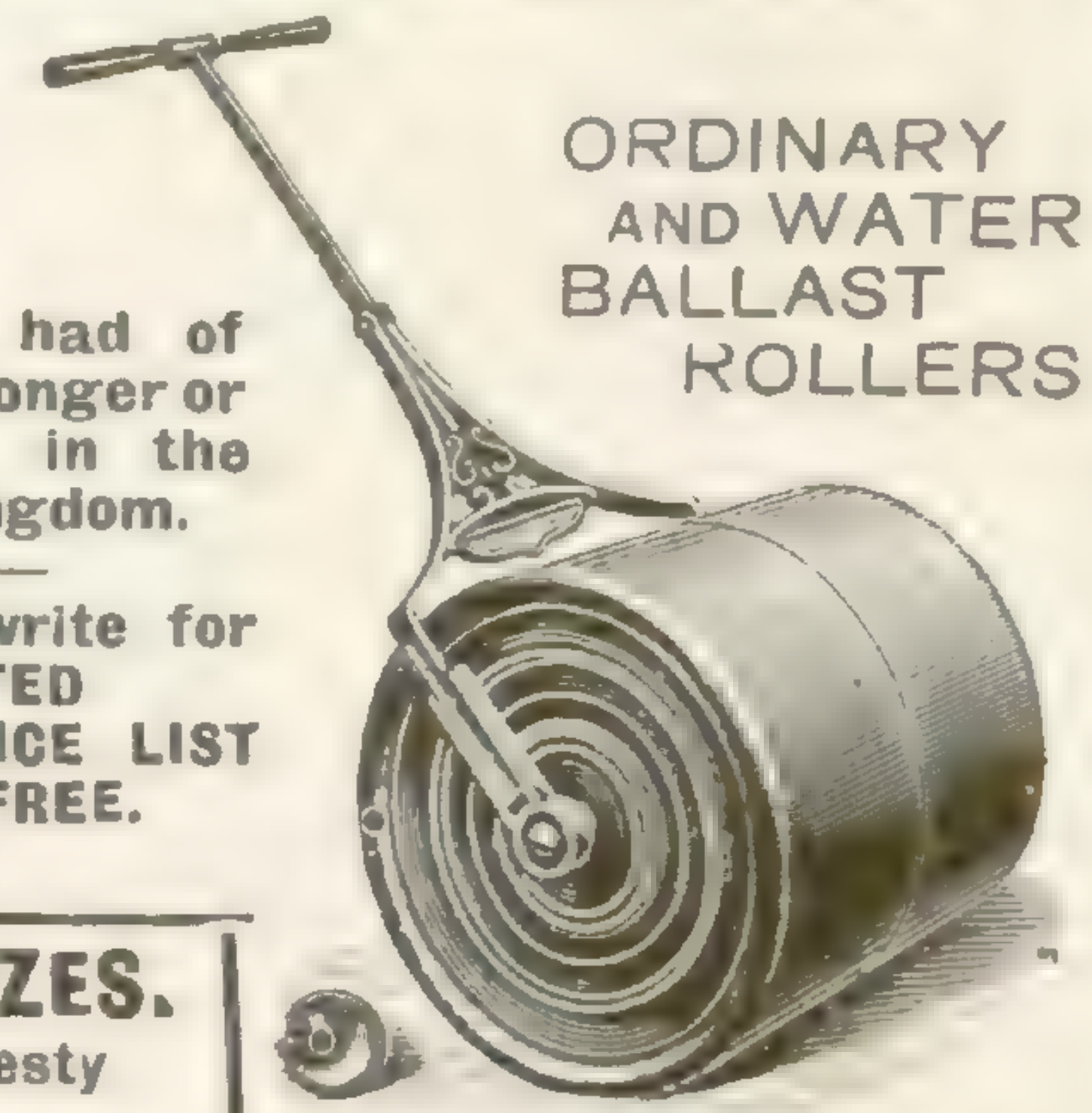

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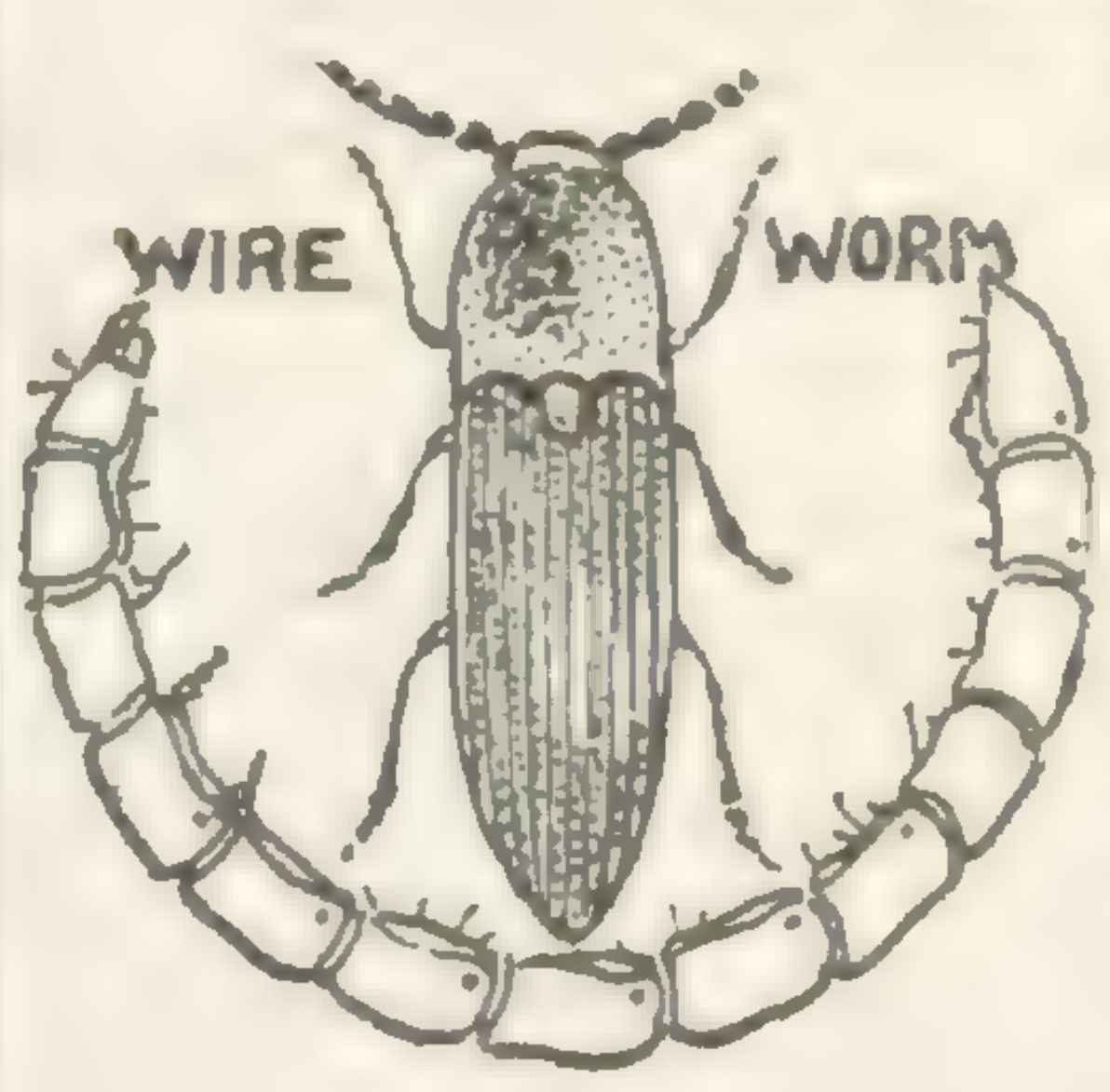

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NAMES OF PLANTS

A. C., Humble.—Iris japonica.

G. R., Sandy.—Begonia megastigma.

R. R., Guernsey.—1, Rhododendron barbatum; 2, R. Keysi; 3, Pittosporum Tobira.

H. E. B., Padstow.—1, A form of Cypripedium Euryades; 2, Monstera deliciosa; 3, Odontoglossum triumphans.

M. E. W., Leatherhead.—1, Forsythia suspensa; 2, Scilla sibirica; 3, Helleborus colchicus; 4, Saxifraga apiculata.

C. H. J., Hinckley.—1, Primula Forbesi; 2, P. floribunda; 3, Saxifraga apiculata; 4, Odontoglossum loochristiense.

S. O. A., Bridgwater.—1, Laurus camphora; 2, Iris reticulata; 3, Petræa volubilis; 4, a good form of Primula obconica.

ZONAL PELARGONIUMS.

The very interesting and timely article by Mr. T. Stevenson, on page 166 of the GARDENERS' MAGAZINE, will prove of great service to many readers. I fully agree with all your able correspondent says; and I strongly advise all inexperienced cultivators of the popular zonal to duly note the instructions given, as Mr. Stevenson always excels with plants that he undertakes to cultivate.

The principle of propagating two batches of cuttings during the year, firm potting and cool treatment, but full exposure to the sunshine at all times are sound, and should always be adopted. There are now many new and extremely handsome varieties, especially in the single-flowered section, and the list given by Mr. Stevenson is an excellent one. I would like to add another variety, namely, Lady Warwick. It is such a beauty in every respect; the lovely flowers are freely produced, and the habit of the plant is perfect; in fact, this is a grand variety to grow on into large specimens, as recommended by your correspondent. An old semi-double flowered variety, named Guillion Manglessi, was very largely grown twenty-five years ago. It was much used for table decoration, the colour, purplish-crimson, showing up grandly in the artificial light. The habit of the plant was all that could be desired, dwarf, and very bushy. The flowers were produced in great profusion, similarly to those of the white-flowered Hermione. Throughout the summer months the plants were grown in the open air, and placed in a warm house in September. With the exception of Raspail Improved, I have not seen a better variety for table and general house decoration in the dull days of winter.

GEO. GARNER.

Anemone coronaria.—A beautiful, yet inexpensive display is readily obtained from the single and double forms of the poppy anemone, the dormant corms being freely offered by trade growers at the present moment. They embrace a wide range of colours, and may be had either in mixture or in distinct shades to name. Where the ground has been prepared in advance, planting may be carried out immediately on receipt, placing the tubers some three inches deep, and making them moderately firm in the soil. All the forms of Anemone coronaria succeed in a light, loamy, well enriched soil, and in positions where they receive a large amount of sunshine; light shade is, however, beneficial by enabling the flowers to retain their qualities longer. They produce a good effect when massed in beds and borders, and if a planting distance is observed that admits of the introduction of some late-flowering annual among them, no awkward vacancy occurs when they ripen off. An excellent practice is to plant them alternately with tufted pansies (violas), and where the spent flowers and seed pods of the latter are early removed, the maximum season of flowering is thereby secured. Poppy anemones planted in spring come into flower during June and July, thereby forming a succession to those planted in autumn.—THOMAS SMITH.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Plenty of all kinds of flowers in season have met a brisk demand; prices are very firm.

		s. d.		s. d.
Acacia	per doz. bun.	8 0	to	10 0
Adiantum cuneatum	per doz. bun.	6 0		9 0
Anemones	per doz.	1 0		1 6
Arums	per doz.	1 6		3 6
Asparagus	per bun.	1 0		1 6
Azalea, Ghent	per bunch	0 6		0 9
Camellias	per doz.	1 0		2 0
Carnations	per doz. blms.	1 6		6 0
,,	per doz. bun.	12 0		18 0
,, Malmaisons	per doz.	6 0		12 0
Cattleyas	per doz.	6 0		10 0
Croton leaves	per bun.	1 0		2 6
Cypripediums	per doz. blms.	2 0		3 6
Daffodils	per doz. bun.	1 3		4 0
Eucharis	per doz.	3 0		4 0
Freesias	per doz. bun.	1 6		2 0
French fern	per doz. bun.	0 6		0 9
Gardenias	per doz.	1 6		2 6
Lapagerias	per doz.	1 6		3 0
Lilac, French	per bun.	3 0		4 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	2 6		3 6
,, longiflorum	per bun.	2 0		6 0
Lily of the Valley	per doz.	6 0		14 0
Marguerites	per doz. bun.	2 0		4 0
Mignonette	per doz. bun.	3 0		4 0
Narcissus	per doz. bun.	1 0		2 0
Odontoglossums	per doz. blms.	1 0		2 6
Pelargoniums	per doz. bun.	4 0		6 0
Roman hyacinths	per doz. bun.	5 0		9 0
Roses	per doz.	2 0		8 0
Smilax	per doz. trails	5 0		8 0
Stocks	per doz. bun.	2 0		3 0
Sweet Peas	per doz. bun.	3 0		6 0
Tuberoses	per doz. blooms	0 4		0 5
Violets	per doz. bun.	1 0		2 6

Fruits.

Steady supplies continue and business is good. Cape fruits continue to sell well.

		s. d.		s. d.
Apples, English	per bush.	3 6	to	9 0
,, Californian	per case	8 0		11 0
,, American	per barrel	12 0		26 0
,, Canadian	per barrel	14 0		28 0
,, Nova Scotian	per barrel	12 6		25 0
Apricots, Cape	per box	4 0		5 6
Bananas	per bun.	3 0		9 6
Grapes, English	per lb.	1 3		3 6
,, Belgian	per lb.	1 0		1 6
,, Guernsey	per lb.	0 8		1 3
,, Almeria	per doz. lbs.	4 0		8 0
,, Cape	per box	7 0		18 0
Lemons	per case	6 0		15 0
Oranges, Jamaica	per case	9 0		12 0
,, Jaffa	per case	10 6		12 6
,, Valencia	per case	9 0		14 0
,, Navels	per case	9 0		12 6
,, Denia	per case	10 0		20 0
,, Tangerines	per box	0 4		1 0
Peaches, Cape	per box	4 0		6 0
Peare, Cape	per box	3 0		6 0
,, Californian	per case	10 0		15 0
,, Australian	per box	15 0		20 0
Pineapples	each	1 6		4 6
Plums, Cape	per box	3 6		7 0

Vegetables.

Greenstuffs are excellent, but the supply is shortening. Forced material sells well, and natural rhubarb is soon bought up.

		s. d.		s. d.
Artichokes, Globe	per doz.	1 6	to	2 0
Asparagus	per bun.	1 6		7 6
Beet	per bush.	1 6		2 0
Beans (Madeira)	per basket	2 6		5 0
Brussels Sprouts	per bush.	2 0		2 6
Cabbage	per tally	3 0		5 0
Carrots	per doz. bun.	2 6		3 0
Cauliflowers	per doz.	1 0		2 0
Celery	per doz. rolls	5 0		14 0
Celeriac	per doz.	1 6		2 6
Chicory	per 12lb.	2 6		3 6
Coleworts	per tally	2 0		4 0
Cucumbers	per doz.	3 6		8 0
Endive	per doz.	1 3		2 0
Horseradish	per doz. bun.	10 0		17 6
Leeks	per doz. bun.	1 6		2 0
Lettuce	per doz.	1 6		1 9
Marrows, Madeira	per doz.	10 0		16 0
Mushrooms	per doz. lb.	6 0		12 0
Mustard and Cress	per doz. pun.	0 10		1 3
Onions	per case	6 0		7 0
Parsley	per doz. bun.	1 6		2 6
Parsnips	per bag.	2 0		3 0

LONDON POTATO MARKETS.

Trade continues steady at recent rates.

		s. d.		s. d.
Bedfords	per ton	60 0	to	65 0
Blacklands	per ton	50 0		60 0
Dunbars	per ton	85 0		95 0
Evergood	per ton	55 0		60 0
Express	per ton	60 0		65 0
Kents	per ton	65 0		70 0
Lincolns	per ton	65 0		60 0
Presidents	per ton	60 0		65 0
Up-to-Date	per ton	65 0		80 0
Teneriffe	per cwt	10 0		12 0
Jerseys, new	per lb.	0 3½		0 4½

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE.	SUNSHINE.	TEMPERATURE OF THE AIR.			
1910. MARCH 13. TO MARCH 19.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Mar. 13—Sunday	8 6	38	35	46	33
,, 14—Monday	9 0	40	37	48	30
,, 15—Tuesday	6 36	34	32	50	27
,, 16—Wednesday	9 6	36	35	53	31
,, 17—Thursday	5 30	48	44	52	36
,, 18—Friday	3 6	40	37	41	37
,, 19—Saturday	2 6	40	38	45	31
Means	(total) 43 30	39	37	48	32

DATE.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
1910. MARCH 13. TO MARCH 19.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Mar. 13—Sunday	—	42	44	44	29
,, 14—Monday	—	41	44	44	24
,, 15—Tuesday	—	40	44	44	21
,, 16—Wednesday	0.08	40	43	44	26
,, 17—Thursday	0.05	43	43	44	37
,, 18—Friday	0.04	43	44	44	36
,, 19—Saturday	—	41	43	44	27
Means	(total) 0.17	41	44	44	29

FORTHCOMING ENGAGEMENTS.

MONDAY, March 28.—Easter Monday.

WEDNESDAY, March 30.—Royal Society of Arts Meeting.

TUESDAY, April 5.—Royal Horticultural Society Narcissus and Tulip Committee at 11.30; Fruit, Floral, and Orchid Committees at 12 o'clock; Lecture at 3 p.m. by Rev. Prof. G. Henslow, V.M.H., on "The Use of the Spectroscope in the Study of Plant Life"; Scientific Committee at 4 o'clock.

Scottish Horticultural Association.

Bournemouth Spring Show: Two days.

British Gardeners' Association, Council Meeting.

WEDNESDAY, April 6.—Liverpool Spring Show.

THURSDAY, April 7.—Linnean Society.

MONDAY, April 11.—United Horticultural Benefit and Provident Society.

WEDNESDAY, April 13.—Royal Caledonian Horticultural Society's Spring Show: Two days.

Cornwall Daffodil and Spring Flower Show, at Truro; Two days.

THURSDAY, April 14.—Kingsbridge Daffodil Show

British Gardeners' Association, London Branch.

WEDNESDAY, April 15.—Haarlem Second Special Bulb Show; Ten days.

TUESDAY, April 19.—Royal Horticultural Society: Narcissus and Tulip Committee at 11.30 a.m.; Fruit, Floral, and Orchid Committees, at 12 o'clock; Lecture at 3 p.m., on "The Wild Flowers of the West of Ireland," by Mr. R. Lloyd Praeger, B.E., B.A.; Scientific Committee at 4 o'clock.

Devon Daffodil Show, at Barnstaple; Two days.

Shrewsbury Spring Show.

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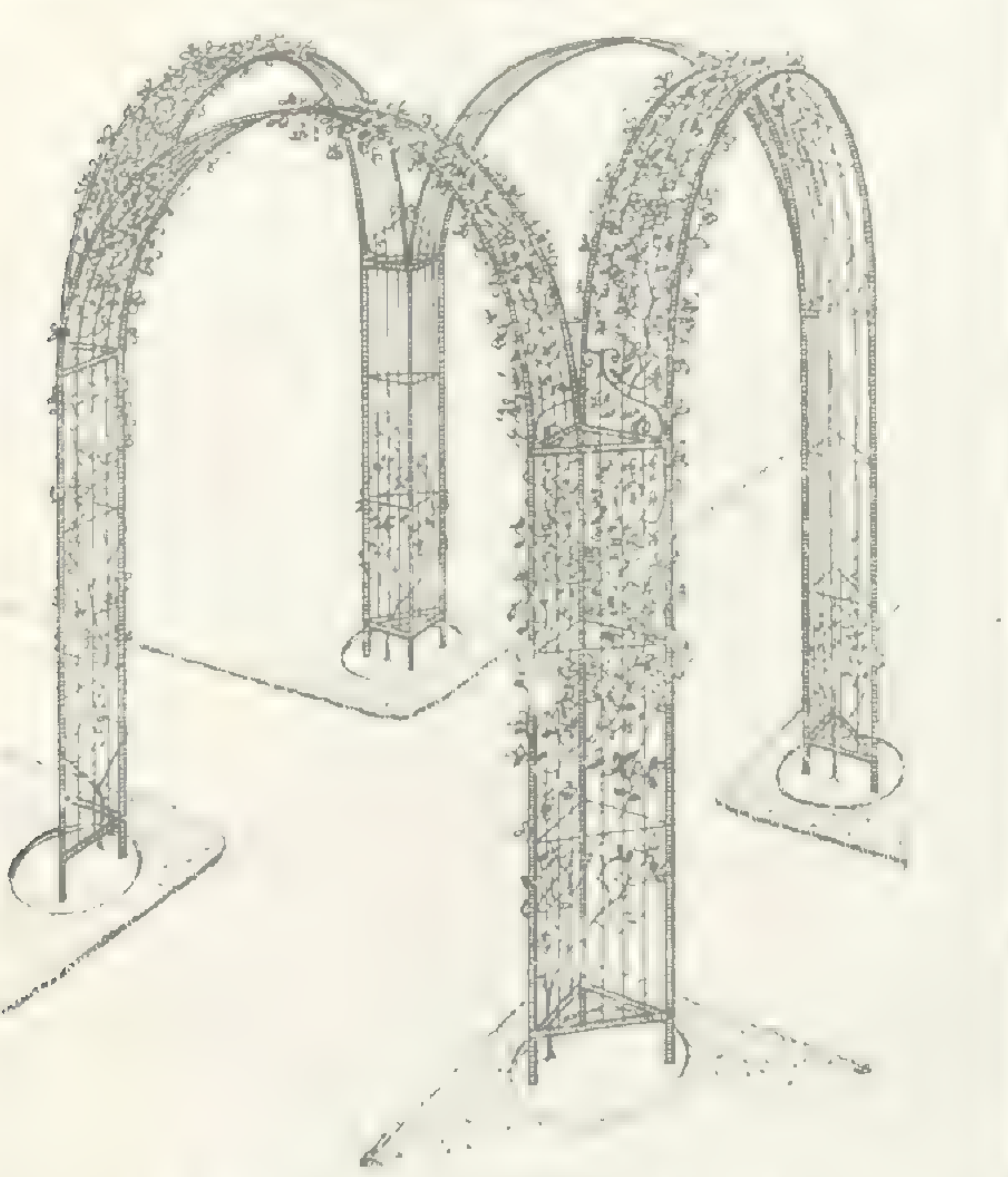

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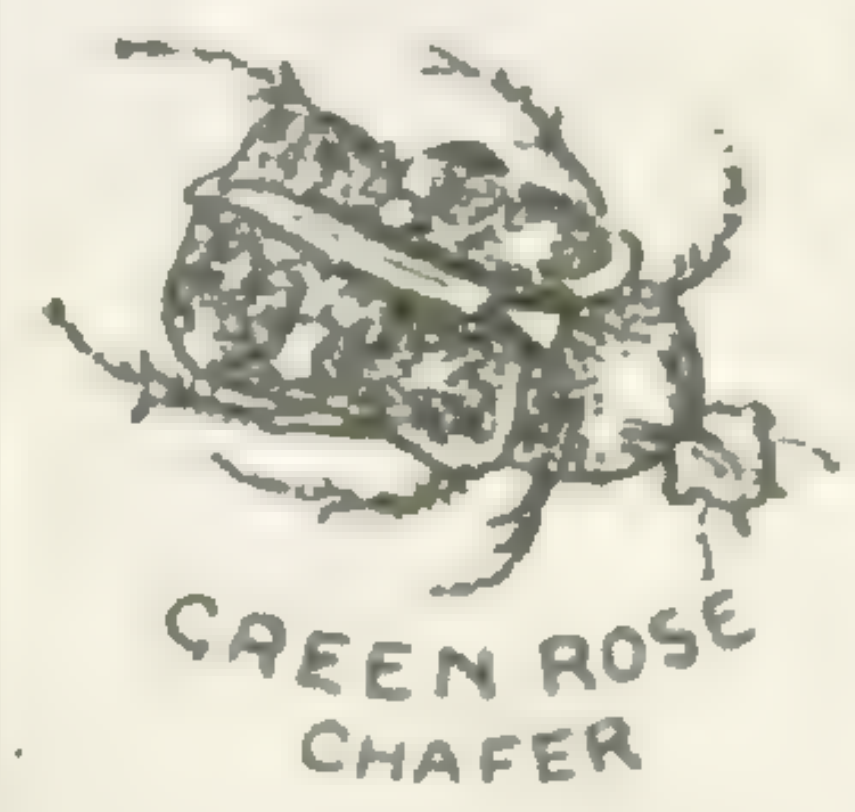

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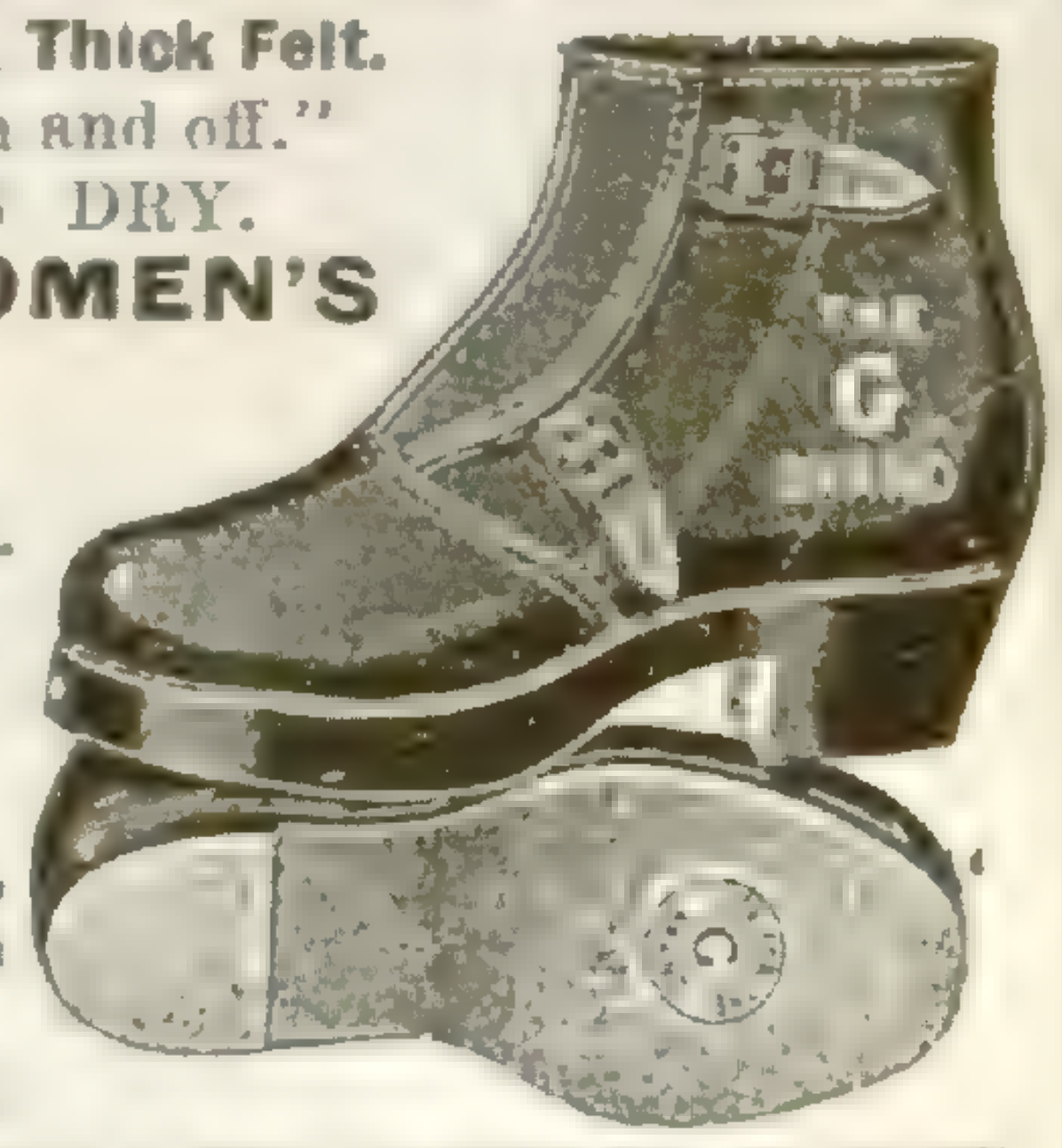

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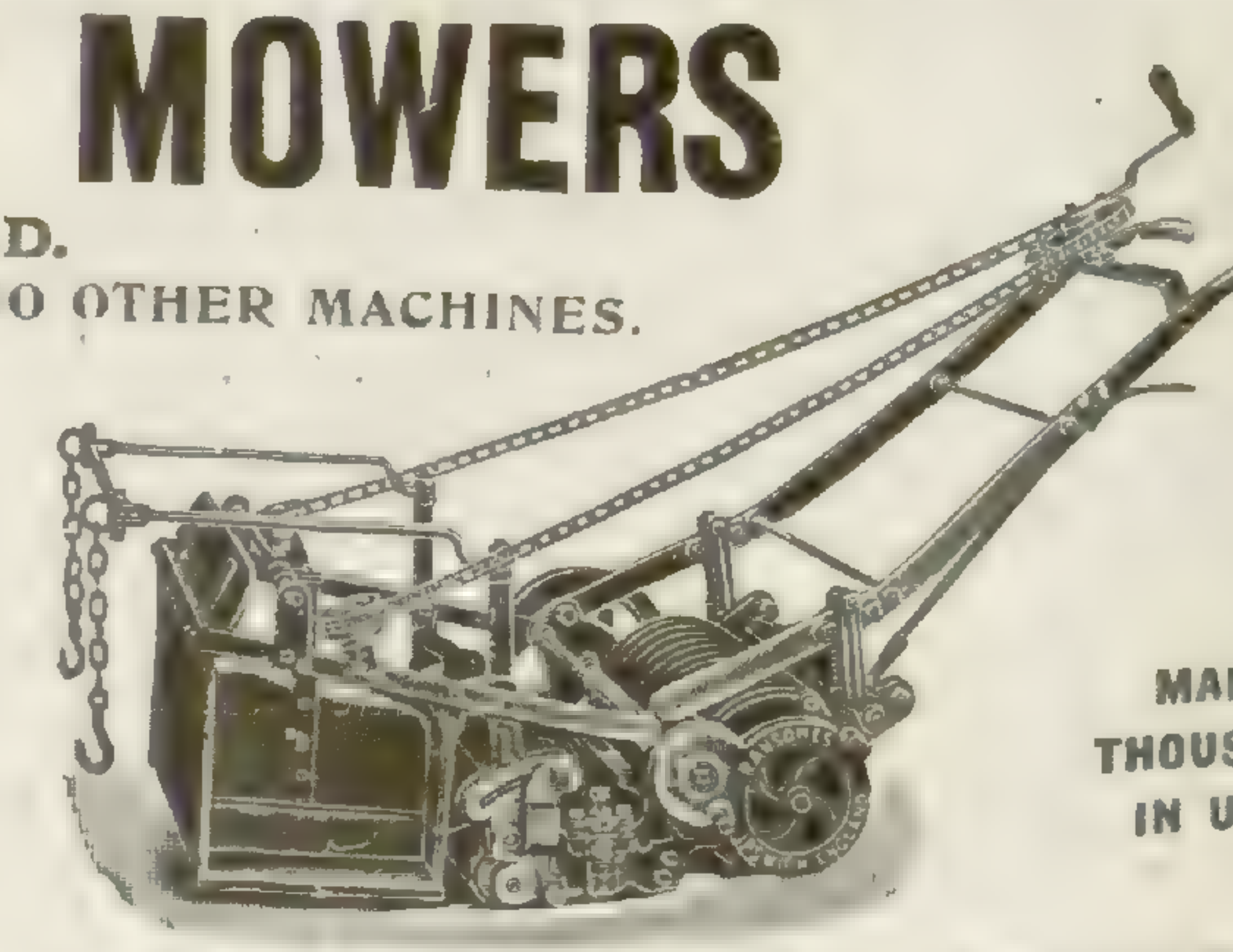

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G. W. SCOTT and SON,
The Seed Potato Specialists,
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Drums and barrels charged and returnable.

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Effectually destroys all kinds of weeds on lawns and at the same time invigorates the growth and enriches the colour of the grass.

Suitable alike for old and new lawns of every description.

1 ton, **£19**; 10 cwts., **£9 15/-**; 5 cwts., **£5**; 1 cwt., **£1 1/-**; ½ cwt., **12/-**; Tins, **5/-**, **2/6**, and **1/-** each.

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The deadliest foe of green, black and white fly! **The Insecticide** of Insecticides for hops, roses, chrysanthemums, tomatoes, wall and bush fruits, and other trees! Each gallon makes from 80 to 100 gallons of Wash, costing about ⅓d. per gallon.

20 galls., **3/6**; 10 galls., **3/7**; 5 galls., **3/8** per gallon. 1 gall., **4/2**; ½ gall., **2/6**; 1 quart, **1/6**; 1 pint, **1/-**.

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Thompson & Morgan

beg to announce that their Seed Catalogue containing many novelties in Flower and Vegetable Seeds has been published and may be had gratis and post free.

This unique work cannot fail to be of lasting value to all Amateurs, and the information freely given therein is based upon over

FIFTY YEARS' WORLD WIDE REPUTATION

for selling good seeds. Many seeds offered cannot be obtained elsewhere.

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THE ROMFORD SEED CO., ROMFORD.

THE Gardening Editor in "Exchange and Mart," Jan. 7th, and other dates, says, "Those who are wishing to run their gardens on economic lines would do well to send at once to the address above given for a catalogue." It is post free, and contains over 3,000 species and varieties of flower, fruit, and vegetable seeds. All in penny packets.

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HOLLIES, Common, 1-1½ft., **20/-** 100, **£9** per 1,000; 1½-2ft., **28/-** 100.
HOLLIES, Gold Queen, 1½-2ft., **24/-** doz.; 2 to 2½ft., **30/-** doz. Silver variegated, 2½-3ft., **24/-** doz.
HOLLIES, Green, in variety, Hodgens, Hendersonii, Atrovirens, Maderensis, 1½-2ft., **50/-** 100; 2-2½ft., **10/-** doz., **60/-** 100; 2½-3ft., **15/-** doz., **100/-** 100; 3 to 4ft., **28/-** doz.
All the above Hollies are extra stout well-rooted plants.
RHODODENDRONS PONTICUMS, 6-9in., **60/-** 1,000; 9-12in., **70/-** 1,000; 1-1½ft., **100/-** 1,000. 1½-2ft., **30/-** 100.

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Sales by Auction.

SALES NEXT WEEK.

MONDAY and FRIDAY NEXT, April 4th and 8th, at Twelve o'clock.—Choice Herbaceous and Border Plants, Perennials, Liliums, Begonias, Gloxinias, Tuberoses, Davallias, Gladiolus, etc.

At Half-past One o'clock.—1,000 Roses, Standard, Dwarf, Climbing, Tea, etc.; also Fruit Trees in variety.

WEDNESDAY NEXT, April 6th, at Twelve o'clock.—New and rare Perennials, Herbaceous and Border Plants, Shrubs, Japanese Liliums, Gladiolus, Begonias, Tuberoses, Davallias, Lily of Valley, Carnations, etc.

At Twelve o'clock.—Trade sale of Miscellaneous Plants, Bulbs, and Roots.

At Half-past One o'clock.—3.500 Roses, Standard, Dwarf, Climbing, T., H.T., and H.P.; also Fruit Trees and Bushes.

At Two o'clock. 250 c/s Japanese Liliums in cases as received.

At Five o'clock.—100 lots of Ornamental and Decorative Palms and Plants, Standard Bays, Camellias, Rhododendrons, Aspidistras, etc.; also Greenhouse Plants and Ferns.

FRIDAY NEXT, April 8th at a Quarter to One o'clock.—Choice Imported and Established Orchids in variety. Orchids in flower and bud.

MESSRS. PROTHEROE and MORRIS will SELL the above BY AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C. On view morning of sale and catalogues had.

WEST FIELD HOUSE, RICCALL.

TO BE SOLD BY AUCTION, by MESSRS. RICHARDSON and SON, at the SWAN INN, SELBY, on MONDAY, the 11th of April, 1910, at Half-past Three o'clock in the afternoon, in two Lots, and subject to the General Conditions of Sale of the Yorkshire Law Society, and to such Special Conditions of Sale as will be then read, the undermentioned valuable

FREEHOLD PROPERTY, namely.

LOT 1.

COMMODIOUS DWELLING-HOUSE AND MARKET GARDEN, containing more or less four acres and twenty perches, and now in the occupation of Mr. E. D. Lumb.

LOT 2.

Well-built COTTAGE, pleasantly situated near to Lot 1, and with a good Garden adjoining, in the occupation of Mr. G. White.

Lot 1 consists of a substantially-built Dwelling-house, with two Front Rooms, Kitchen, Dairy, Pantry, etc., four Bed-rooms, large Attic, and the necessary Out-houses. Also Stable, Cow Shed, Pig Styes, Barn, Fodder-room, Cart-shed, etc., together with the Market Garden. The Land is excellent sand, very productive, and considered one of the earliest gardens in the district. It is well stocked with young Fruit Trees of the best varieties and in full bearing, together with Rasp, Logan, and other Berry Trees.

Lot 1 will be sold to include the whole of the Fruit Trees and Market Garden Tenantright.

Lot 2 contains Front Room, two Living-rooms, Dairy, three Bed-rooms, and the necessary Out-houses. Also Loose Box, Stable for two horses, large Pigstye. There is a good Garden adjoining.

Both the Lots are within five minutes' walk from Riccall N.E.R. Station, and adjoin the high road from Riccall to Cawood.

The two Lots have a good supply of water.

Further particulars may be had from the Auctioneers, Selby; or from

Messrs. BOOTH, CLOUGH, and WADE,
Solicitors,
Central Bank Chambers, Leeds.

Selby, March 23rd, 1910.

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Etc.

Every MONDAY and WEDNESDAY, at 12.30.

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CATALOGUE OF NEW AND CHOICEST VARIETIES
From V. SLADE, Zonal Specialist,
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The Apple-scented Golden Primula, 5/- each.

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The Purple Orchid Giant Primula, 5/- each.

THE SET FOR 14/-.

Catalogue free.

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At Temple-sur-Lot (FRANCE).

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DAWES' CHALLENGE RHUBARB ROOTS, strong for immediate planting; this variety has obtained five first-class awards and medals. Catalogues and cultural directions post free. DAWES' NURSERIES, Syderstone, Norfolk.

BULBS, HALF-PRICE, HALF-PRICE.—Tremendous reductions to effect an immediate clearance of surplus bulbs. Send for my special clearance offer of reliable bulbs at half usual prices. ELLISON, 57, West Bromwich. Established 1890.

FERNS, FERNS, FERNS, Etc.—Foliage and Blooming Plants for stove, greenhouse, and garden. 100,000 large garden Ferns, 20s. 100. 5,000 cases sent off yearly. Amateur Catalogue free.—J. E. SMITH, London Fern Nursery, Loughborough Junction, S.W.

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RUSTIC FENCING IN ENGLISH LARCH.
DAHLIA RODS. GARDEN STAKES.
LISTS FREE.
PATRICK'S, Otley, Yorks.

NOTICE.—Always use PORTER'S IMPROVED COIL STAKES for Carnations, no tying required; last a lifetime. Sample doz. with price list 1s. carriage paid. A. PORTER, Stone House, Maidstone.

PEAT.

PRICES ON APPLICATION.

C. HALL, 1, Worgret, Wareham.

WE, the undersigned, H. SCOTT and SONS, of SOUTH NORWOOD, admit that we have in our Catalogue, dated 1910 and 1911, in many particulars infringed the Copyright Catalogue of Messrs. WM. WOOD and SON, LTD., HORTICULTURAL SPECIALISTS TO HIS MAJESTY THE KING, of WOOD GREEN, LONDON. We have accordingly destroyed and withdrawn our said Catalogue, and hereby apologise for the infringements, and undertake that no further infringement shall be committed.

Dated this 14th day of February, 1910.

H. SCOTT and SONS.

LISSADELL SEEDS of Hardy Primulas and other hardy plants. Send for List.

LISSADELL CLIMBING ROSES.—Dorothy Perkins, Hiawatha, and many others at 6d. each, and 4s. per doz.

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LISSADELL.—The above are only a few selections from our 1910 List.—Please write for same to J. A. COOPER, Lissadell, Sligo, Ireland, mentioning this paper.

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	56 lb.	112 lb.		56 lb.	112 lb.
RINGLEADER	7/-	12/-	TABLE TALK	2/9	5/-
DUKE OF YORK	4/-	7/-	ECLIPSE	2/9	5/-
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MAXIM	4/-	7/-	DALMENY E.	2/9	5/-
EARLY ROSE	4/-	7/-	K. EDWARD VII.	2/9	5/-
MIDLOTHIAN E.	4/-	7/-	SIM GRAY	2/9	5/-
HEBRONS	4/-	7/-	S. EXPRESS	2/9	5/-
MYATTS	4/-	7/-	LLEWELLYN	2/9	5/-
PURITANS	4/-	7/-	FLOWERBALL	2/9	5/-
Sharpe's VICTOR	4/-	7/-	NINETYFOLD	2/9	5/-
W. CASTLE	4/-	7/-	MONEYMAKER	2/9	5/-
MAY QUEEN	4/-	7/-	RADIUM	2/9	5/-
E. ASHLEAF	4/-	7/-	Duc. CORNWALL	2/9	5/-
SNOWDROP	4/-	7/-	PRESIDENT	2/9	5/-
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Situations Wanted.

GARDENER (Head Working); age 30; practical man all branches, seeks Situation as above; highest references as to character and abilities. J. HEARN, Grendon Underwood, Aylesbury, Bucks.

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GENTLEMAN highly recommends his GARDENER (Head Working); life experience; excellent characters; left owing to changes; married; age 40; no family. ALFRED PETCHEY, Blythwood, Stansted, Essex.

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GARDENER (Head or Single-handed), life experience in all branches, capable and trustworthy; excellent references from past and present employers; age 27; married when suited. W. BEEDLE, The Gardens, Stargroves, Newbury, Berks.

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THE HONBLE. MRS. YOUNG wishes to recommend W. WEBB to any Lady or Gentleman as SINGLE-HANDED or with help; 12 years' good references; two years here; left through giving up house; age 29; single. W. WEBB, The Quarter, Staplehurst, Kent.

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GARDENER (Second, Inside or Inside and Out).—Mr. ELLIS, Franks Hall Gardens, near Dartford, Kent, confidently recommends WILLIAM NORTH as above; 9½ years' experience; age 24; married when suited. Apply first, NORTH, above address.

GARDENER or SECOND, experience Inside and Out; six years' present situation as second; married; age 27; no family; abstainer; well recommended. G. RUSHEN, Pinner Hill Gardens, Pinner, Middlesex.

MR. LINTOTT, Gardens, Marden Park, Woldingham, Surrey, wishes to recommend A. WILLIAMS as SECOND (Inside and Out); 4½ years present situation; 2½ previous; age 25; single.

JOURNEYMAN (Inside), under good Foreman; good experience, Inside and Out; age 22; good references; Bothy preferred. J. WILLIS, West Cliff Hall, Hythe, Southampton.

JOURNEYMAN, age 20, in Fruit and Plant Houses under Foreman; five years' experience; good references. H. EDWARDS, Sotterley Gardens, Wangford, Suffolk.

JOURNEYMAN (Inside and out); age 22; 6½ years' experience; 2 years' present situation; good reference. J. CANTRELL, 2, Forest Villas, Peel Road, South Woodford, Essex.

JOURNEYMAN (Inside and Out), age 21; two years in last situation; well recommended; Bothy preferred; disengaged. F. HELYAR, 46, Coombe Road, Upper Sydenham, Kent.

JOURNEYMAN, age 20, seeks SITUATION, Inside; 4½ years' experience, Inside and Out; can be well recommended from present place; Bothy preferred. Apply R. GIDDEN, The Gardens, Coleshill House, Highworth, Wilts.

JOURNEYMAN (22), under Foreman; 7½ years' experience; Bothy preferred; well recommended. P. TWEED, Hinck's Row, Atherstone, Warwickshire.

JOURNEYMAN seeks SITUATION (Inside and Out, or Outside); 5½ years' experience in pleasure grounds and kitchen garden, herbaceous border, etc.; some knowledge of glass; age 21; good references, well recommended. L. BIGWOOD, Kingsbury Green, N.W.

JOURNEYMAN (First, Inside); good experience in Fruit and Plants; can be well recommended; age 22; total abstainer. G. HANN, Over Compton, Sherborne, Dorset.

F. IBBOTSON, Rolleston Hall, Leicester, wishes to recommend F. JARVIS as JOURNEYMAN (Inside or Inside and Out); age 21; strong and willing; six years' experience.

MR. H. HENLEY, Saxham Hall Gardens, Suffolk, well recommends E. GARWOOD as JOURNEYMAN in Fruit and Plant Houses; age 23; seven years' experience; three years here.

MR. R. LEWIS highly recommends E. FORSEY as JOURNEYMAN (Inside); seven years' experience; abstainer; age 22; Bothy preferred. The Gardens, Bystock, Exmouth, Devon.

MR. W. J. SHORT, Freeland Gardens, Woodstock, Oxon, wishes to recommend H. BEES, aged 23, as JOURNEYMAN, Inside or Inside and Out; 9 years' experience; two years' inside here.

MR. SWAIN, Broome Hall Gardens, Greenfield, Shrewsbury, would be pleased to recommend his Son as JOURNEYMAN, Inside or Inside and Out; age 19; good references.

MR. L. E. WALKER, Barton Hall Gardens, Bury St. Edmunds, highly recommends G. SPENCE as JOURNEYMAN (Second, Inside) in a good establishment; six years' experience; age 2 disengaged. G. SPENCE, High Street, Yoxfor Suffolk.

W. LETTS, Gardener to A. Bryans, Esq., Manor House, Woodmansterne, Surrey, will be pleased to recommend F. RABBETS as JOURNEYMAN; age 23; seven years' experience, Inside and Out.

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YOUNG MAN, age 20, requires SITUATION in gardens; 6 years' experience; good reference; Bothy preferred. Apply H. YOUNG, Exton, Oakham, Rutland.

YOUNG MAN (18) seeks SITUATION in the garden as Improver, Inside, or Inside and Out; 2 years' experience; good references; disengaged when suited; Bothy preferred. V. MEPHAM, 21, High Street, Old Town, Eastbourne.

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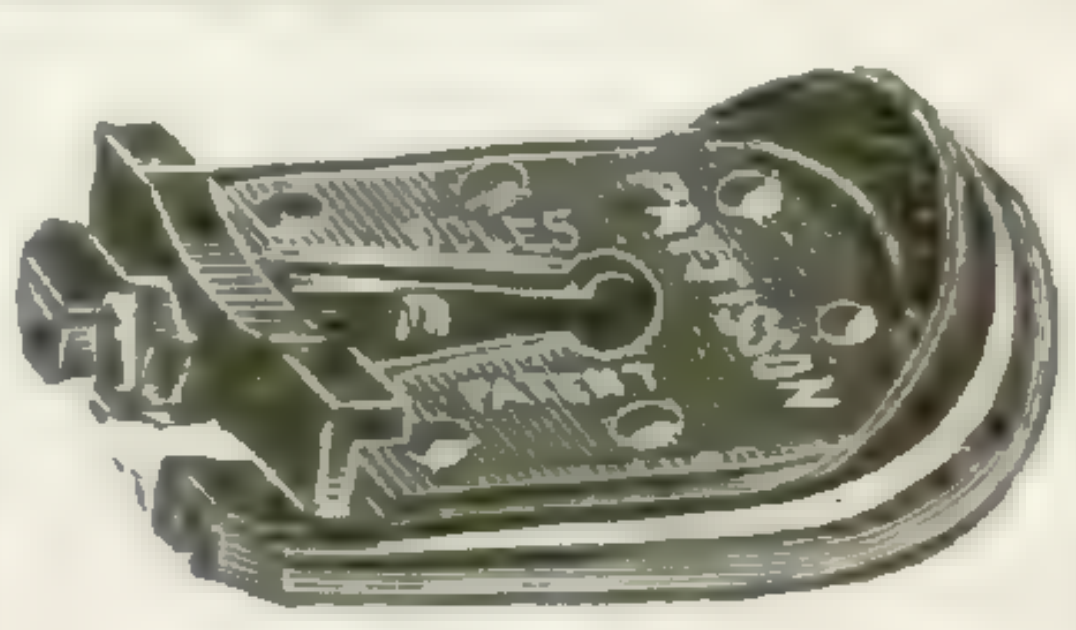

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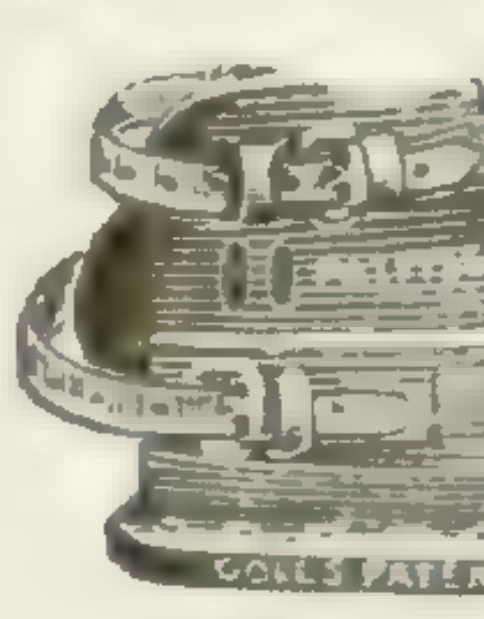

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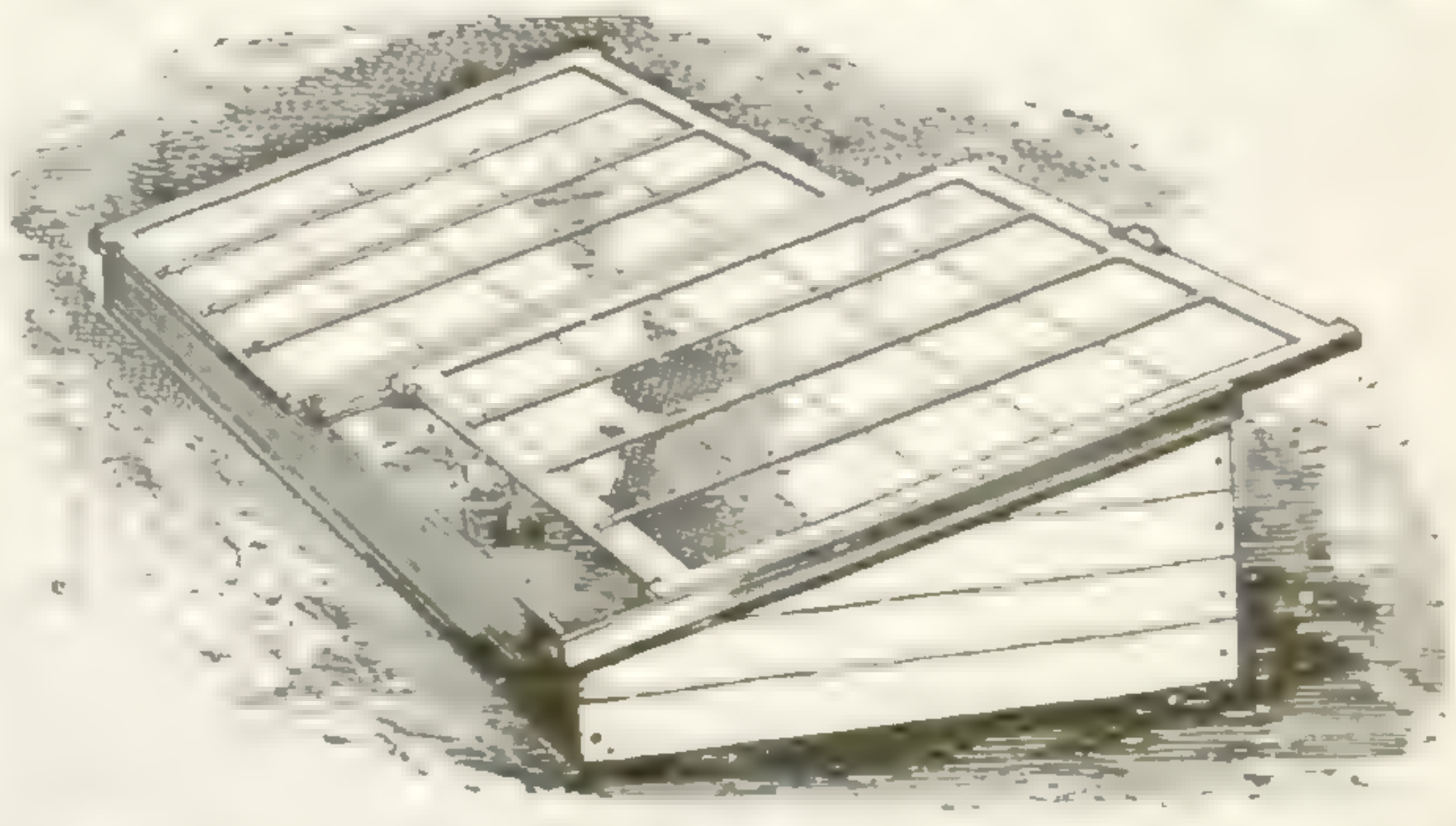

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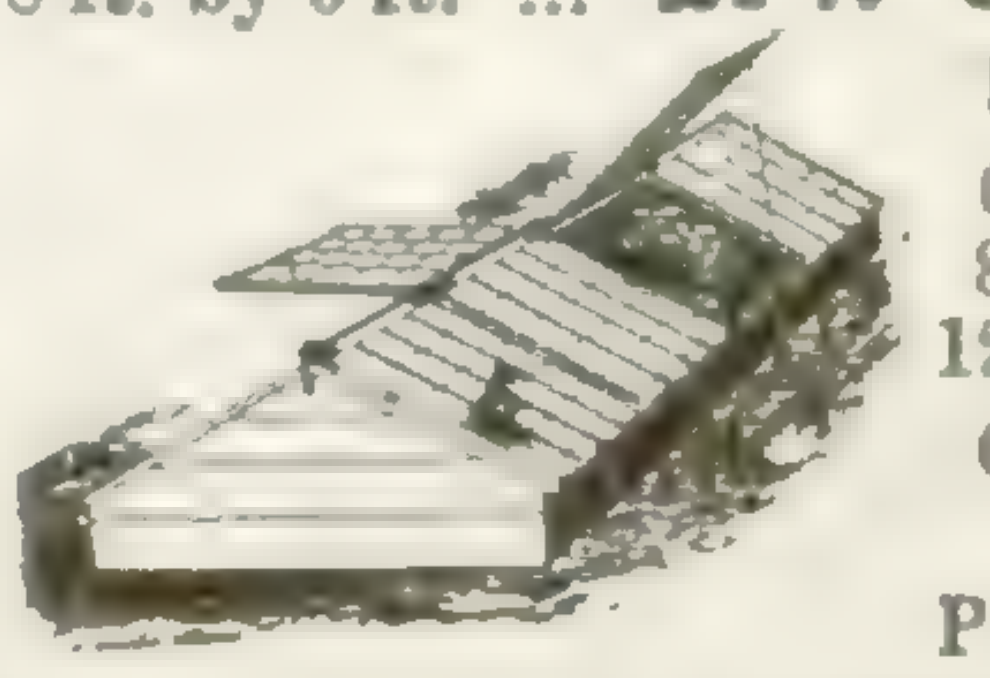

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VOL. LIII.—No. 2,944.

SATURDAY, APRIL 2, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

◆

Wind.

To the gardener generally wind is regarded far more as foe than friend, since in many cases it is necessary to take protective measures in the shape of wind screens, or selection of sheltered spots, if he desires to see his floral pets attain their full beauty. Without wind, however, that is, with a perpetual calm, not only would the horticultural and agricultural world be in a parlous plight, but the general conditions of environment, which by their own variability and diversity have led to the evolution of such innumerable types of organic life, would be entirely changed. Winds, in fact, are simply manifestations of that wonderful system of aerial currents which form one of the most vital factors of existence. By their agency inconceivably vast volumes of life-giving water are wafted from the tropics across the oceans, either in the visible form of clouds, or invisibly as uncondensed vapour. On reaching land they deposit much of their precious burden to feed our streams, and in the form of rain or snow irrigate the thirsty soil in an infinitely more perfect manner than can be done by any artificial system. Without the wind not only would the air be stagnant, but the oceans also, since it is almost entirely by wind agency that the great circulatory system of the world of waters is maintained. This being so, a little consideration will show us that as it is by the induced currents of warm water from tropical regions that our northern seas are raised in temperature, the great polar ice-cap, even though deprived of the snowfall brought by the winds, would invade an immensely larger area than it now occupies, by the freezing of all the temperate seas. The land itself, too, would be much colder deprived of the southerly air currents, and, in short, the probability would be, that the greater part of organic life would become extinct. A perfectly stagnant atmosphere would be incapable, too, of replenishing the supply of carbonic acid which is so essential to plant life. It has been demonstrated that in the lands of dense forests the carbonic acid over the wooded area would be entirely exhausted in a year or two, being locked up in the timber which it so largely contributes to form. By the wind the partially exhausted air is constantly renewed, and, without it, vegetation must cease for the reason given. Animal life, apart from its dependence upon vegetation for its support, would perish by exhaustion of the oxygen constantly inhaled and exhaled as carbonic acid by its combination with the carbon waste of the body. It is therefore abundantly obvious that the wind is an essential factor to all organic existence. Happily, however, there is no fear that such a condition of stagnancy, and consequent death, can arise. The mobile air has to yield to a thousand and one subtle influences bred from the all potent rays of the sun, and the varying conditions of the surface of the earth. The very revolution of the earth itself breeds the great air currents of the trade winds. The surface of the soil and that of water absorb the sunheat in different degrees, and as air by expansion becomes lighter the more it is warmed, upward currents are generated over warmed areas, and lateral currents are induced to compensate, these constituting winds of greater or less force. Hence quite apart from the major causes of prevalent winds across the oceans, there are innumerable local conditions which prevent stagnation. These local conditions also largely determine the rainfall, since the retention by the breezes of their precious burden of aqueous vapour is dependent upon their temperature, a lowering of which results in decreased capacity to retain, and, if lowered enough, in a fall of rain, snow, or hail, as the case may be, by simple condensation of the surplus. Thus when the warm southerly vapour-laden winds reach our shores from the Atlantic, and strike against our chilly hill or mountain tops, a portion of their load is immediately condensed as rain, and, on the same principle, we can see the reason why the strongly-heated, widespread sandy deserts of the east are comparatively rainless, not because the air is devoid of aqueous vapour, but because there is no inducing cause for deposition of that which it undoubtedly contains to a large degree, there, as everywhere else in the aerial ocean, at the bottom of which we live, and of which the winds are the tides and currents.

MR. GEORGE WYTHES, V.M.H.

Mr. George Wythes, V.M.H.—Over a long number of years Mr. George Wythes was well known to our readers through his writings in these pages, especially in our "Work for the Week" columns, and in matters dealing with fruit and vegetable culture. Latterly, however, since his retirement from the charge of the famous Syon House Gardens, Brentford, Mr. Wythes' pen has not been so busy. An eminently practical man, Mr. Wythes is recognised as one of the ablest exponents of the arts of vegetable and fruit culture, and the methods he adopted or improved upon are now followed in more gardens than we can number. Asparagus culture, strawberries as annuals, high-class potatoes, and hardy cabbages and kales are a few of the subjects to which he gave great attention, and he raised several excellent varieties of melons, French beans, cabbage, potatoes, etc. Fruit culture at Syon was no small thing, the forcing of strawberries and grapes being carried out on a very large scale, but with these, as with bush fruits, stone fruits, and apples and pears Mr. Wythes was absolutely master of his craft. Mr. Wythes has had a varied experience. He is a Worcestershire man, and was educated at the Queen Elizabeth Grammar School, at Worcester, but, losing both father and mother early in life, he was not able to take full advantage of the tuition to which he was entitled as the son of a freeman of the city, because he had to turn out and earn his living. He served his apprenticeship at Whitbourne Hall, then a large place, and extremely well kept up. He then went as journeyman in the gardens at Abernant House, Glamorgan, where Mr. Fothergill, a wealthy gentleman, had a fine garden and extensive herbaceous borders, and here he was made outside foreman at the early age of eighteen years. After a stay here Mr. Wythes went to The Hendre, Monmouth, the seat of Lord Llangattock, who was then J. A. Rolls, Esq.; here he remained as foreman for three years, and was offered the post of head gardener, but, wishing to gain further experience, he refused the offer, and went as foreman at Knole House, Sidmouth, and from thence to Woburn Abbey, where he was plant foreman for a year. After a short stay at Messrs. James Veitch and Sons' Chelsea nursery, Mr. Wythes acted as general foreman at Stourton Hall, Horncastle, for a time, and then became superintendent of the Alexandra Park, Manchester, where summer bedding was a great feature, and the decorating of the town hall was part of his duties. Here he stayed three years, and then became head gardener to H. W. Freeman, Esq., at Thurston Hall, Cheltenham, and during a period of five years he became famous in the Cheltenham district as a successful exhibitor of orchids, stove plants, fruits, and vegetables. For two years of this time Mr. Wythes was chairman of the Cheltenham Gardeners' Society, then a very flourishing institution. On the death of Mr. Freeman Mr. Wythes assumed the charge of Lord Hatherton's gardens at Teddesley Park, Staffs, remaining with him, and also with his son, who presently succeeded to the title, for three and a-half years. Lady Hatherton was sister to the Duchess of Northumberland, and when the charge of the famous Syon House gardens became vacant, on the death of Mr. Woodbridge, Mr. Wythes was recommended for the post by Lady Hatherton, and everyone knows how, for a period of nineteen years, he increased the fame of Syon, served two Dukes of Northumberland, and made a name for himself. Mr. Wythes is a member of the Royal Horticultural Society's Fruit and Vegetable Committee, a competent judge of garden produce, and he is one of the original holders of the Victoria Medal of Honour in Horticulture. He is also treasurer of the National Vegetable Society. Latterly, since his retirement from Syon, Mr. Wythes has lived in Brentford, but he is now moving to Bovingdon, near Hemel Hempstead, and the good wishes of all his friends for many years of happy and peaceful retirement will go with him.

International Horticultural Exhibition.—The Rev. W. Wilks informs us that a public meeting will be held on Tuesday, April 5, at the Royal Horticultural Hall, Vincent Square, Westminster, S.W., at 4 p.m., to consider the advisability of holding an International Horticultural Exhibition in London in 1912, and to appoint a committee of management.

Adaptation of the Plant to the Soil.—In the course of the second of the two "Masters" lectures on the adaptation of the plant to the soil, Mr. A. D. Hall, F.R.S., said the results of an inquiry into the classes of soils favoured by various cultivated crops showed the great importance of the mechanical constitution of soils, on which depended the power of the soil to hold water, and consequently also the temperature of soil and air. Referring to the peculiarities of the soil most favourable to fruit culture in Kent, Sussex, and Surrey, he said the soils found by experience most valuable for fruit culture showed remarkable similarities in the proportions of clay, silt, and sand present. So with soils best suited for potatoes, hops, and barley. With reference to the chemical factors governing plant growth, all good soils were neutral or faintly alkaline, but soil acidity was unfavourable to plants only indirectly by its influence on the development of soil bacteria and fungi. The third factor considered was the presence or absence of carbonate of lime. Some plants, such as the legumes, might be classed as definitely lime loving, but in other cases lime was negative in action.

The Spectroscope and Plant Study.—What should prove a most interesting and instructive lecture is to be given at the Royal Horticultural Hall, on Tuesday, April 5, at 3 p.m., by the Rev. Professor G. Henslow, V.M.H., whose subject is, "The Use of the Spectroscope in the Study of Plant Life."

The Late Mr. D. Thomson, V.M.H., who died in October last, did so much in the course of his long and active life for the advancement of horticulture that the proposal to perpetuate his memory can hardly fail to obtain the attention and support of horticulturists generally. As will be seen from the letter we publish on another page of this issue, it is suggested that the memorial take the form of a fund from which to grant pensions to aged and infirm gardeners and their widows, the fund to be administered by the committee of the Gardeners' Royal Benevolent Institution. No more suitable means of keeping alive the name of one of the greatest British gardeners of his day could well be conceived, and we trust the promoters of the movement will receive such liberal support that the fund will be sufficient to materially augment the number of pensioners of the Gardeners' Royal Benevolent Institution, and thereby worthily honour the memory of Mr. D. Thomson.

New Public Garden at Eastbourne.—The conversion of Motcome Garden, which was recently presented by the Duke of Devonshire to Eastbourne, into a public pleasure ground is rapidly approaching completion. This beautiful spot is in the centre of the old part of the town, and in preparing it for public use an endeavour has been made to preserve, as far as practicable, the natural features of the ground, and to avoid an over-elaboration of detail.

Pæony-flowered Dahlias at Wisley. The following prefatory note to the report on the trial of dahlias at Wisley, in 1909, which appears in the current issue of the R.H.S. "Journal," is deserving of the attention of those who grow dahlias for garden decoration: "One hundred and nine stocks of dahlias were grown for trial in the garden, the object of the trial being to ascertain the value of the plants for garden decoration. Those varieties that do not throw their flowers well above the foliage are, of course, useless for this purpose. All the stocks were planted out the first week in June, and although good plants were put out scarcely any growth was made until August, when all made excellent growth and flowered profusely late in the season. The pæony-flowered section formed a grand mass of colour, and for effect in the garden were much superior to any other section. There can be no question as to the value of this class, but to enable them to display their habit and beauty to the best advantage plenty of space should be given for each plant, not less than four or five feet apart each way. A moderate application of manure to the soil before planting, and a mulch of manure when they commence to blossom, are of great assistance to them."

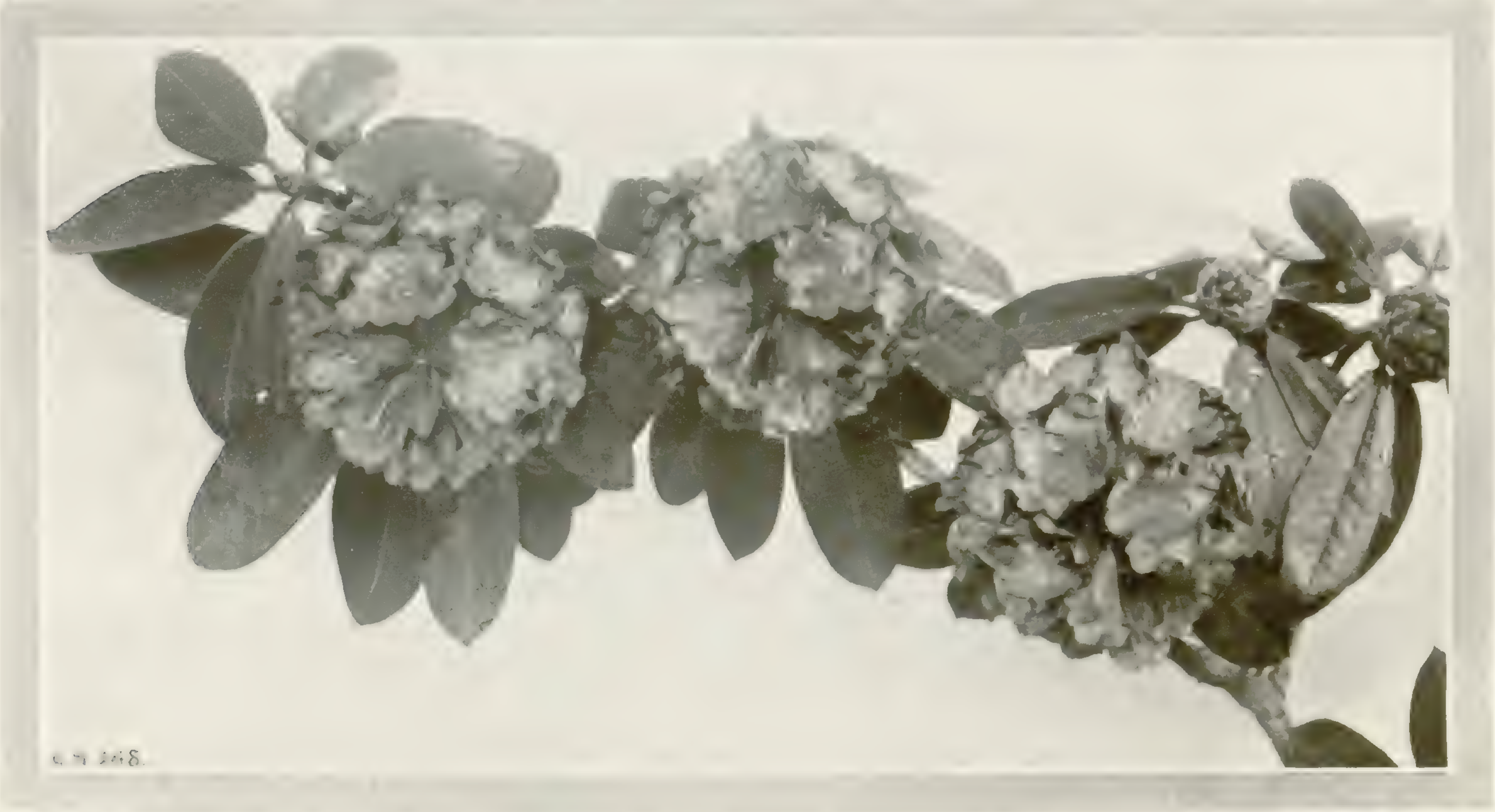
Women Gardeners.—At the annual meeting of the Horticultural College, Swanley, recently held at the Caxton Hall, a highly satisfactory report was submitted. This stated that there was a steadily increasing demand in secondary schools for "Garden Mistresses," who, in addition to practical outdoor work, should be competent to ground the pupils in one or more scientific subjects. The number of students on the books for the spring term this year was sixty-five, for the summer term seventy-nine, and for the autumn term sixty-one. Of twenty-six applications for teachers of gardening and Nature study in schools and institutions and gardeners in charge of school gardens nine had been filled by students from the college. Twenty-eight applications for head gardeners had been received, and eighteen for companion and under gardeners. The silver salver for the highest aggregate of marks in the diploma examinations was won by Sophia Hymans de Tiel. In the Royal Horticultural Society's general examination nine students entered: three were placed in the first class and six in the second class.

"**The Carnation Year Book,**" which has been received within the past few days, is the official publication of the Perpetual Flowering Carnation Society, and we congratulate the committee on their being able to give practical effect to their desire to present the members with an annual publication wholly devoted to the race of carnations with which the society is specially concerned. It contains the annual report and balance-sheet, rules, a list of members, a list of the prize-takers at the exhibitions held in 1909, and a budget of information on perpetual carnations and their cultivation, the last-named contributed by the leading cultivators.

A Hybrid Strelitzia.—There has recently flowered at Kew a hybrid strelitzia, raised by Mr. W. Dallimore, who crossed S. Reginæ with S. augusta eleven years ago. We gather from the "Kew Bulletin" that the plant is 5ft. high and has ten leaves, shaped as in S. augusta, but the petioles are 18in. long and the blades 2ft. by 15in. The peduncle is axillary, 18in. long; the spathe is horizontal as in S. Reginæ, with several vertical flowers, which expand in slow succession and are of a pale watery-yellow colour. There is a wide difference between the two parents, S. augusta having a woody stem 12ft. or more high, while S. Reginæ has no distinct stem, but the tuft of leaves spring from a fleshy root-stock. Both the parent species were also in flower in the same house. The hybrid has been named S. Kewersis. The general appearance of the flower in S. Kewensis resembles that of S. Reginæ more closely than that of S. augusta. The stamens are enclosed in the fused petal-sheath in the hybrid and in S. Reginæ, but are exposed in S. augusta. The small hooded petal of the hybrid, however, is much more like that of S. augusta, and it is also interesting to notice that the lilac-pink patches at the base of the sepals in S. augusta are also present in a similar position in the hybrid.

EARLY-FLOWERING SHRUBS.

Rhododendron præcox stands pre-eminent this season as an early flowering shrub, and is a wonderful sight. Although the blooms were frozen on the night of March 1, they took no harm. This beautiful rhododendron grows early, and the bright sunshine of May, 1909, enabled it to finish its growth before the wet summer arrived. This plant is a hybrid between R. ciliatum and R. dahuricum, and has bright mauve-pink flowers. It is an admirable plant for grouping, or as specimens among other shrubs. It is not very fastidious as to soil, and a mixture of equal parts good loam, leaf-soil, and peat will suit it well; planting should be as shallow as possible, and the soil made very firm. Care must be taken to afford moisture in hot weather, as nothing causes the plants to suffer so much as drought. R. præcox may be propagated by layers quite easily, and it is very hardy.



A FLOWERING SPRAY OF RHODODENDRON BARBATUM.

R. ciliatum is a very handsome early blooming species, and makes a grand show. Planted in good positions in front of larger specimens it makes a fine feature, and, being dwarf, it lasts in such positions some years. The flowers are delicate pink, changing to pure white. R. ciliatum sometimes suffers from spring frosts, but is well worth growing, as we do not always have enough frost to damage the blooms, and as the plants grow so close and dwarf it is a very easy matter to cover them over at night.

R. barbatum is most pleasing and fascinating from early in February until March. It is a fine species, hardy, and one that flowers in the coldest weather. It bears compact trusses of scarlet-crimson flowers, and when the sun touches them they are exceedingly brilliant. The small birds are sometimes a bother, as they pick the beautiful flowers to pieces, but this can be prevented by placing black cotton among the branches. R. barbatum does well in the partial shade of trees, which also forms a slight protection from frost. High, well-drained soil and copious supplies of water in dry weather suit it.

R. Shilsoni is a magnificent hybrid between R. barbatum and R. Thompsoni, and flowers midway between the two. It is sometimes said to be the finest hybrid yet raised. It carries beautiful trusses of large bell-shaped flowers, which are deep crimson, and perfectly lovely when lighted up by the sun. It is improved by periodical dressings of cow manure, which, however, should be kept away from the stem of the plants.

Andromeda japonica and A. floribunda are admirable plants for early blooming, and at the time of writing are making a fine display. These, like a good many more plants, benefit by liberal treatment, and delight in a dressing of cow manure occasionally; they also should be lifted now and again, especially if the roots become entangled amongst those of a coarser nature.

Erica codonodes is a fine plant at this season, and well worth the attention of all plant lovers, and a border of them is a fine sight. The plants attain large dimensions, 8ft. to 10ft. high, and as far through. This heath is easily raised from seeds, and is first-rate for cutting. E. Veitchi is a hybrid between the latter and E. arborea, and is also an early flowering variety, and a good grower. Erica carnea rosea, and E. c. alba are gems for alpine gardens or for beds on slopes, or as groundwork for plants of a taller nature. They will grow in good loam when well established, but at planting time a little fine leaf-soil or peat and sand will enable the roots to catch hold quickly, and this is an all-important point with many fine-rooted plants. Another point is they must be made very firm in the soil.

Leonardslee. W. A. Cook.

Asparagus Beds.—On heavy soils, and after the heavy rains we have experienced, these should be slightly pricked over with a fork, and given a good dressing of wood ashes, soot, and spent mushroom bed manure, followed by an application of artificial manure in April.—G. Ellwood.

ANTHOLYZA PANICULATA.

By far the finest of the antholyzas (Cape bulbs of unique appearance) is A. paniculata, whose fine foliage and panicles of curious flowers always attract the attention of the visitor to a garden in which it is grown. It has now been known to me for a considerable number of years, and its presence in a garden is always appreciated, although some people who see it for the first time do not realise the true worth of this flower. It makes broad, sword-like leaves, which are, however, prettily folded or pleated. The flowers are on tall stems, and are after the general style of those of the montbretias, but of a different formation. This may best be described by the definition of the specific name of antholyza, which is derived from the resemblance of the flowers in form to the open mouth of an infuriated animal. The likeness is not exactly apt, but it will pass as being as good as any we can suggest. They are bright scarlet, and are quite distinct in their way from any other bulbous flower of the season—late autumn. This antholyza is about three feet high.

There is a taller form, called A. p. major, but it is much later in coming into bloom, and is not at all suitable for northern gardens, as in these it sometimes fails to open ere frost destroys its leaves.

Antholyza paniculata is quite hardy when established in any save very cold parts of the kingdom, but it must be planted about six inches deep, and it is desirable to cover the place in which the bulbs are set with some cocoa fibre refuse or rough litter the first winter. Thus protected it will have a better chance of survival, the first winter generally being the most trying for non-established bulbs of its class. A group of some half-dozen corms, planted about six inches apart, will look well in the border of hardy flowers. Planting should be done as soon as the corms are received, but they need not be disturbed in after years unless they become too crowded.

S. Arnott

NOTES FROM KEW.

◆

Petræa volubilis.

Trained to a rafter in the same structure as the preceding this pretty warmhouse climber is bearing a considerable number of its pendulous racemes of bluish-violet flowers. It is a native of Central and the Northern portion of South America, from whence it was introduced as long ago as 1733. From the beauty of its inflorescence this petræa has become a popular plant in many tropical countries, the name of Purple Wreath being commonly applied to it. There is also a white-flowered variety in cultivation. In this country it was more often met with as a stove climber than it is nowadays. This is possibly owing to the fact that in a shaded structure it does not, as a rule, flower as freely, neither are the blooms so richly coloured as in the succulent house at Kew, where it has all the sunshine and light possible.

Begonia scabrida.

This is a decidedly uncommon species of begonia, and though the individual flowers are, compared with many others, quite insignificant, yet in all its features it forms a very ornamental specimen. It is of a freely-branching habit of growth, and is seen at its best when from three to five feet in height. The leaves, about six inches in length, are hairy, and yet have a glossy surface, while the blossoms, borne in many-flowered cymes, are pure white. A good bushy plant of this begonia, studded with its loose clusters of blossoms is, when at its best, a decidedly striking object. The "Dictionary of Gardening" gives its native country as Venezuela, and the date of its introduction 1857. It is not included by Mr. Watson in the best fifty begonias in his paper on these beautiful plants read at the Begonia Conference in 1893, but it seems to be now much appreciated, and deservedly so, at Kew.

Jacobinia coccinea.

This is, I believe, the oldest of the jacobinias in cultivation, and when in good condition, as it is now in the T range, is decidedly one of the showiest. There is a fine group of plants from three feet to four feet in height, each confined to a single stem and carrying a large head of flowers. In this way most of the jacobinias, and, in fact, many other acanthaceous plants, are seen at their best. The flowers, disposed in a large tapering head, are tubular in shape, the hood being pointed, and turned up at the tip. The colour is scarlet. This species is a native of Brazil, and was introduced in 1770.

Schaueria (Justicia) calycotricha.

Another Brazilian acanthad, whose flowers, like those of the preceding, are borne in comparatively large terminal heads. This, however, blooms freely when little more than a foot in height, so that it is especially valuable as an edging to the larger growers. The colour of the blossoms is clear yellow, by no means an uncommon tint among acanthaceous plants. A singular, yet at the same time pleasing, feature is furnished by the long bracts and calyx segments, which are of a good deal the same colour as the flowers, being cut up into narrow strips, thus giving to a head of blossoms a curious fluffy appearance. It is also in bloom in the T range.

Clerodendron myrmecophilum.

This is one of the more recently introduced species of clerodendron, and forms a very handsome flowering plant for a warm house. In the stove compartment of the T range it is flowering freely. Unlike many of the clerodendrons, which are of a vigorous rambling nature, this is a comparatively dwarf, erect-growing shrub. The stem is fairly stout, and clothed with long ovate-lanceolate leaves of a glaucous hue. The flowers are disposed in a terminal, pyramidal-shaped panicle, and arranged in regular whorls. Individually, they are about 1½ inches across, and of a bright orange-amber colour. As in several other species, the long and slender stamens are very noticeable, their colour in this instance being bright red.

This clerodendron is a native of Singapore, and was given a First Class Certificate by the Royal Horticultural Society in 1904. It was, however, grown at Kew previous to that time, having been sent there by its discoverer, Mr. Ridley, of the Botanic Gardens, Singapore.

Russelia sarmentosa.

A delightful subject for training to rafters or furnishing the end of an intermediate structure. In this latter position it is very effective in the begonia portion of the T range. This russelia is a loose, rambling plant, whose long and very slender shoots are clothed with small, variously-shaped leaves. The small scarlet flowers are borne in clusters in the axils of the leaves for some distance along the shoots, and when these latter are allowed to dispose themselves at will in a loose and informal manner a very pleasing effect is produced. One species, Russelia juncea, is well known, but this, though an older kind, is rarely met with.

Hard-wooded Plants.

In the greenhouse there is a fine display of this class of plants, and so attractive are many of them that one is tempted to ask the question whether our gardens are not the losers by the general neglect of hard-wooded plants? Conspicuous among those now at their best are chorizemas, with their brilliantly coloured, pea-shaped blossoms; heaths of different kinds, the bright-coloured, late-flowering Epacris longiflora; the double-flowered Epacris purpurascens flore plena, better known as Epacris onosmiæflora flore plena; Correa cardinalis, the brightest coloured of its class; Pimelia spectabilis, well known in the days of specimen plants; Boronia megastigma, whose delightful fragrance fills the air for some distance; Daphne indica rubra, of which much the same may be said; Bauera rubioides, a little twiggy shrub from Australia, with rosy-lilac coloured flowers; eriostemons in variety, all full of bloom, and all with white flowers; acacias in variety, particularly the smaller growers; and, of course, many forms of Indian azalea, whose blossoms range in colour from pure white to deep red.

Kalanchoe Dyeri.

This is well worth attention for greenhouse decoration, for although, taken individually, it might be described as leggy, yet for grouping purposes it is of considerable value, as shown by a small group in the greenhouse at Kew. This kalanchoe is a native of Nyassaland, and was first sent to Kew in 1902. It reaches a height of a yard or more, the stout erect stems being clothed with oppositely arranged leaves, broadly ovate in shape, and of a succulent character. The flowers, borne in terminal heads, are suggestive of a large bouvardia or jasmine. The colour is white. I am not aware that this species has yet been employed by the hybridist, but kalanchoes intercross so readily that no doubt in time we shall see some of its progeny.

Erlangea tomentosa.

This new composite, already described and figured in these pages, comes from British East Africa, and it has been flowering for months, and bids fair to continue for a long time yet. Messrs. J. Veitch and Sons were recently given an Award of Merit for it, but in their plants, as shown, the colour of the flowers appeared to be brighter, and the tomentose character of the leaves less pronounced than in the Kew specimens. This erlangea may be likened to an eupatorium with bluish-lilac flower heads; both classes of plants are of very easy culture.

Hippeastrums.

A fine group of these is already in flower, and a goodly show they make. The range in the colour of the flowers is so great, and many of them are of such a perfect shape, that it is by no means a matter for wonder that they have advanced considerably in favour within the last few years. It is true that the individual flowers do not last long, but if the plants are started into growth at different times the flowering season may be spread over a lengthened period. It is a pity that the botanist and the average gardener are at variance with regard to the correct name of these showy flowers, for in gardens they are amaryllis, and will doubtless long remain so.

Cytisus filipes.

This Teneriffe member of the broom family is in flower in the Temperate House, and an exceedingly graceful specimen it makes when at its best. At that time the long thread-like semi-pendulous shoots are studded with pretty white pea-shaped blossoms. The finest specimens of this broom, and also of Cytisus racemosus, that I have even seen grown in pots were in this structure about forty years ago. The plants of both species were raised from seeds, and were grown on without being stopped in any way, the leading shoot being tied securely to a stake. Grown in this way the plants formed almost perfect pyramids ten feet to twelve feet in height, and when in full bloom they were charming. Of course, C. racemosus was naturally far more dense than the other.

Grevilleas.

Some interesting species are now flowering in the Temperate House, notably G. longifolia, with long white leaves, toothed at the edges, and white underneath. The flowers, borne in clusters, are pink, each having, in common with most grevilleas, a long prominent style. In Australia this attains the dimensions of a small tree. Grevillea ornithopoda, as drooping as the weeping willow, has curious leaves, broad at the apex, where they are divided into three lobes; it has clusters of small white flowers. Grevillea punicea has heads of red flowers, and G. Thelemanniana or Preissi, one of the showiest of all, bears its roundish bunches of yellow and red blossoms at the points of the shoots, which droop with their weight.

K.

Dipladenias and Combretums.—These two beautiful stove climbing plants are not met with as often as they used to be, but they are nevertheless well worthy of a place in every plant stove where there is plenty of overhead room. These do best if potted in a compost consisting chiefly of good peat, with a little loam and sand added. The pots should be pretty liberally crocked, as, generally speaking, they do not care for much water, though, of course, after the plants begin to grow away freely they will take much more than immediately after potting. They both flower on the current season's growth.—T. S.

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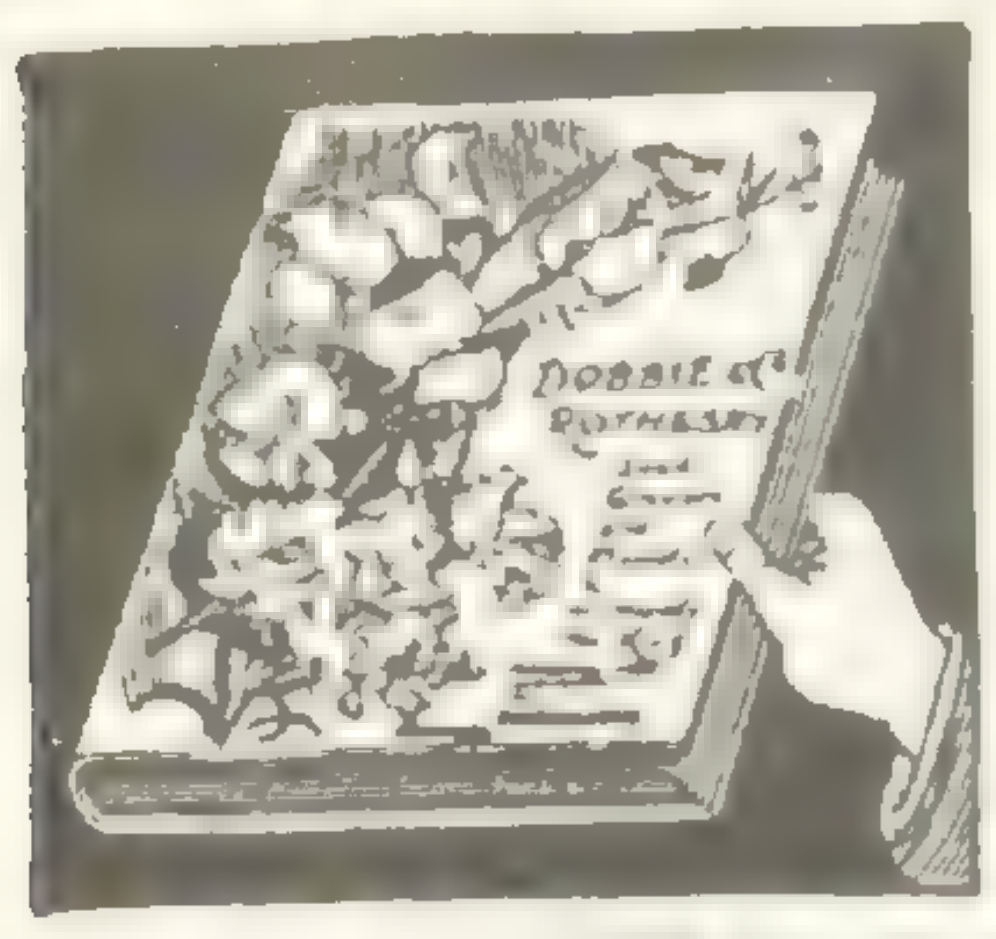

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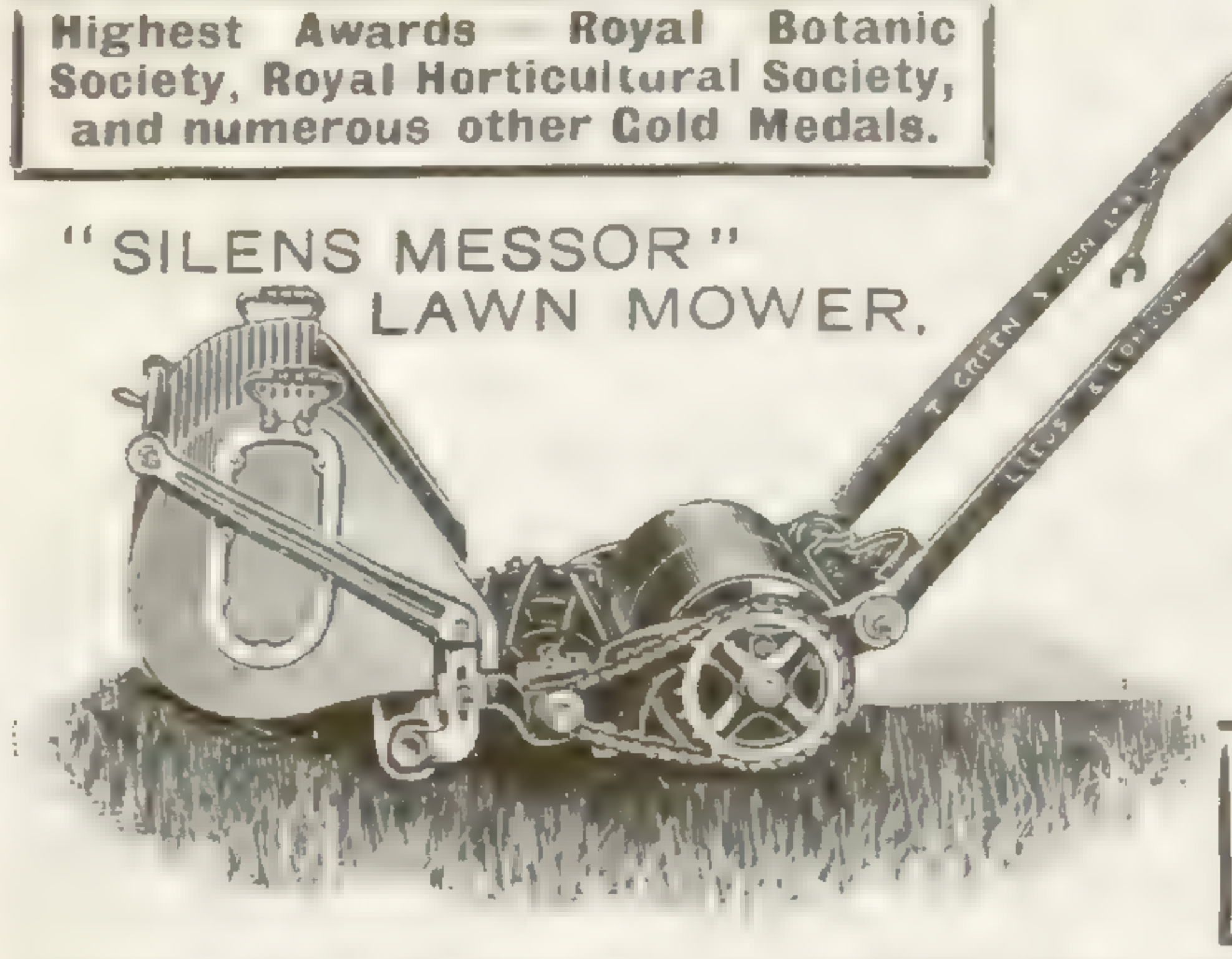

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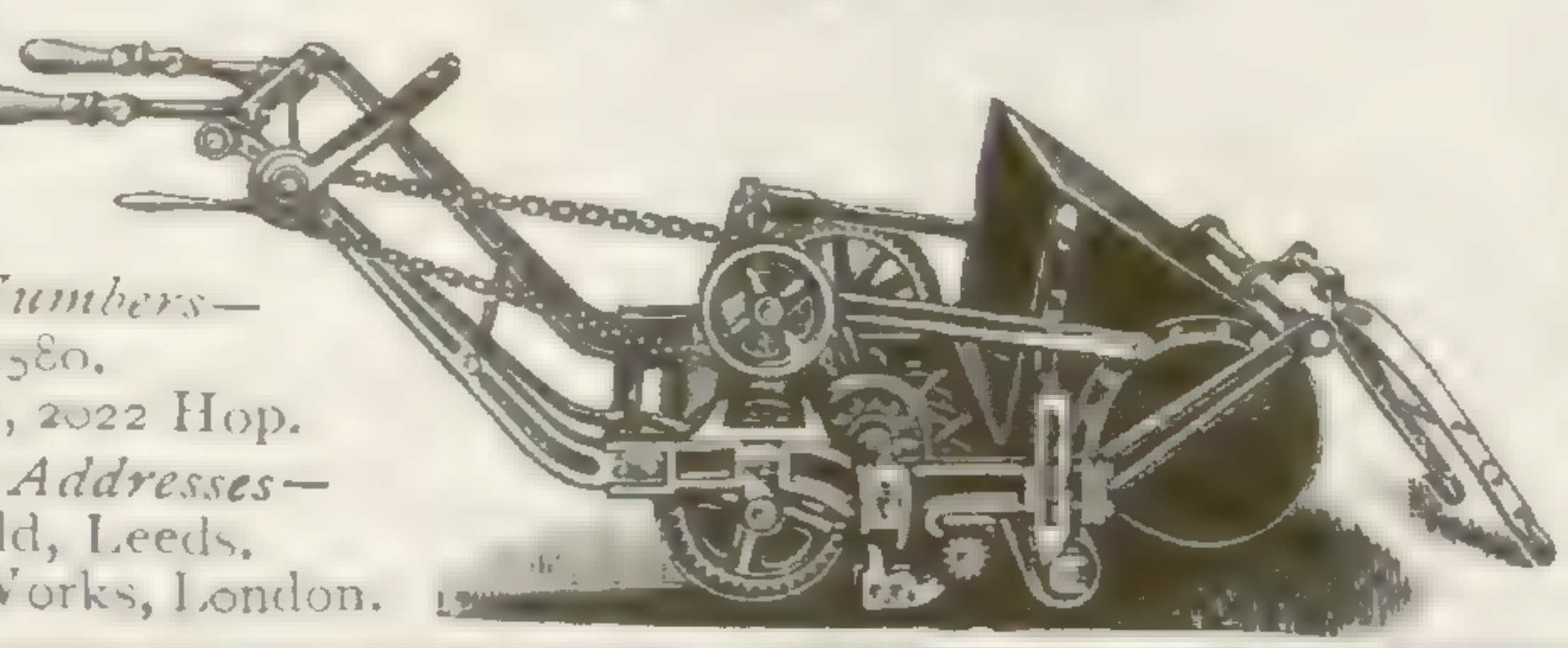

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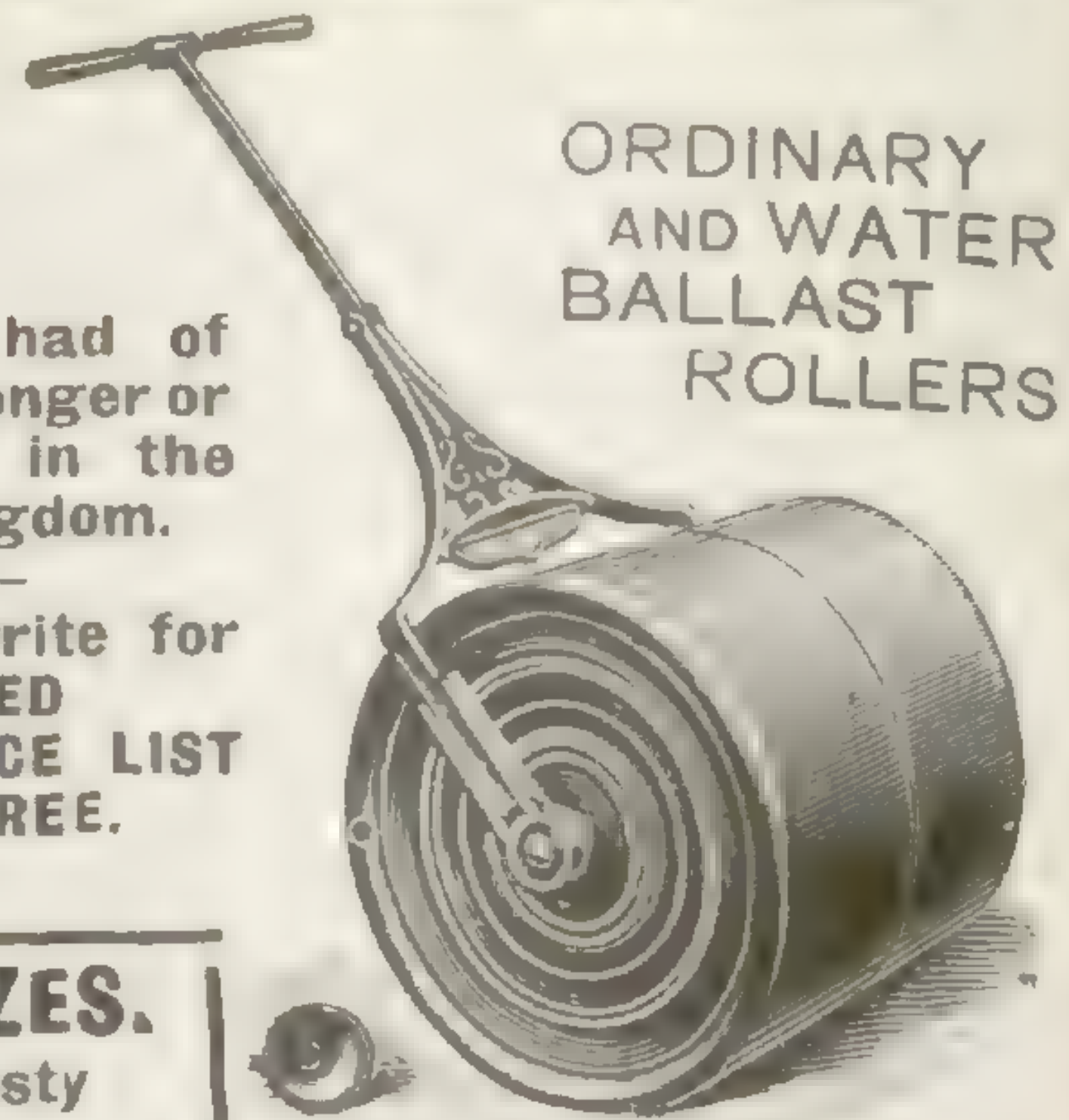

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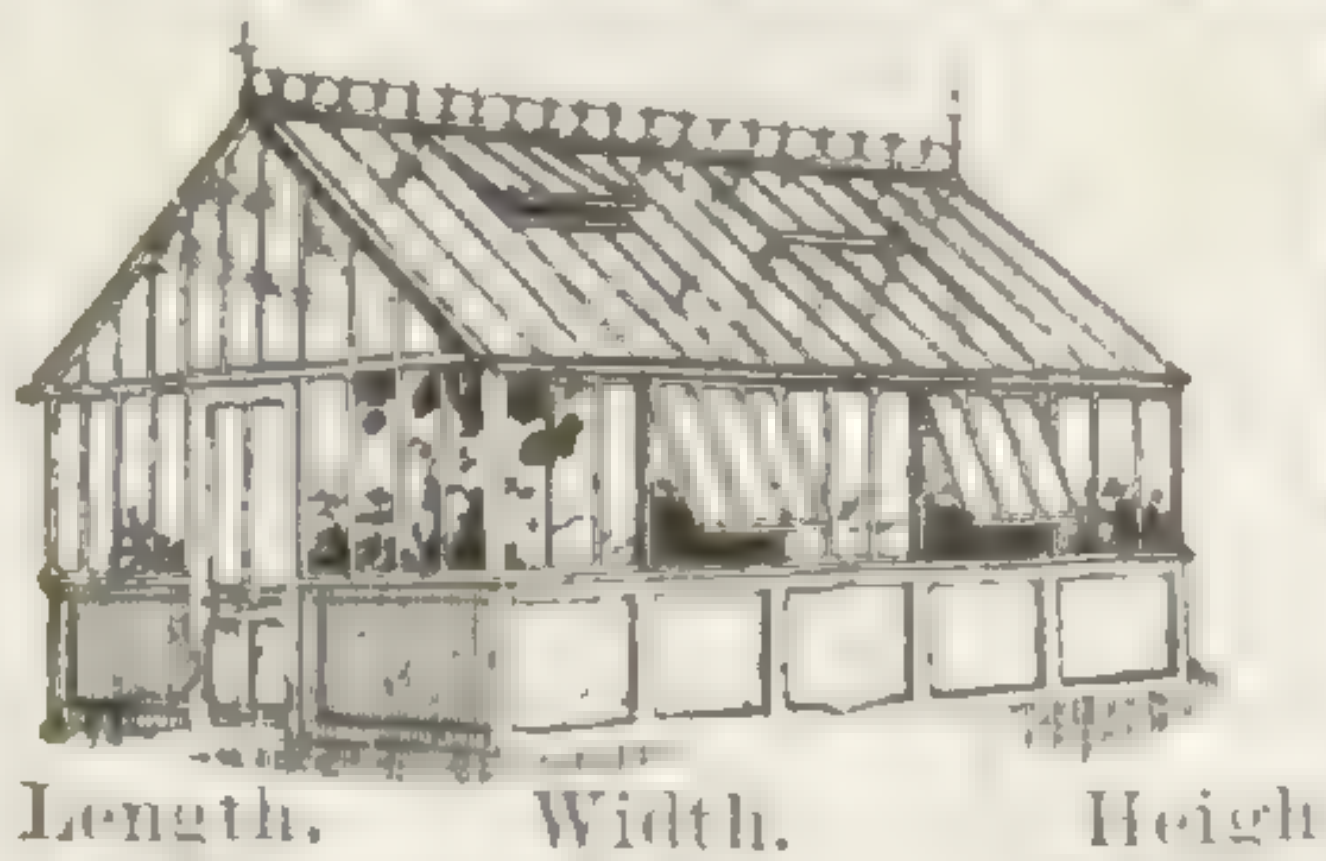

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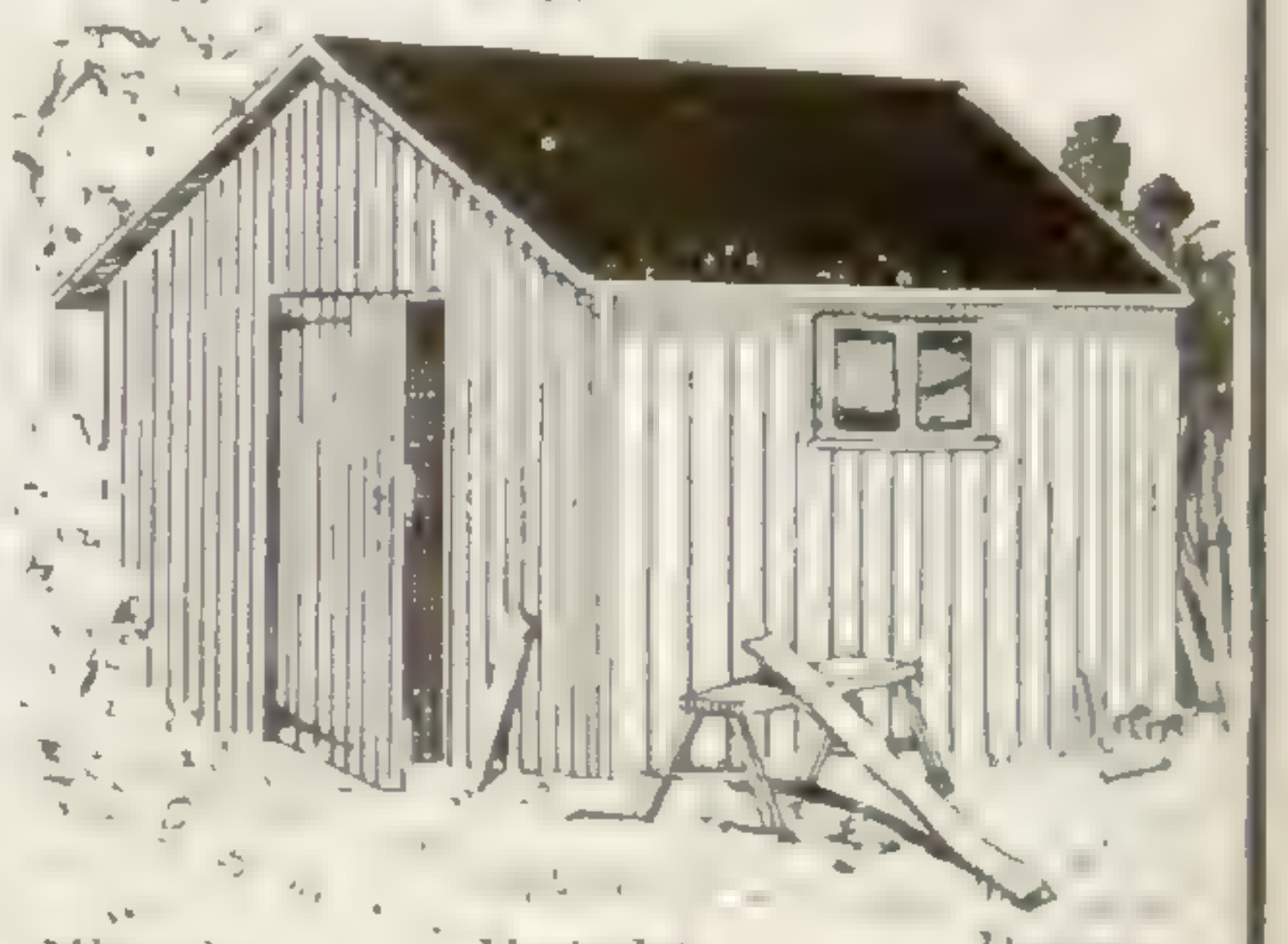

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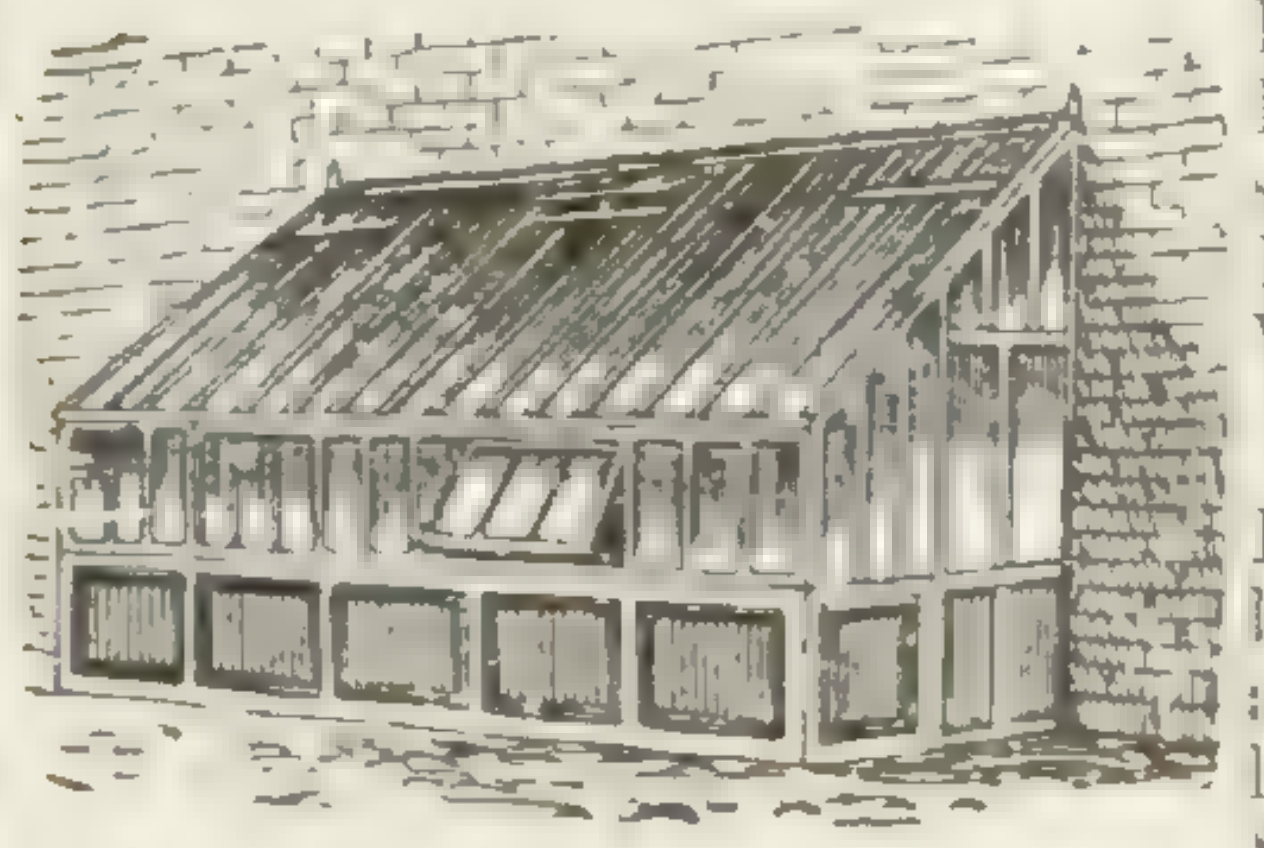

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ANNUALS.

The value of annuals in the summer garden cannot readily be overestimated. Their importance is receiving wider recognition, as not only are they reliable subjects where a large and regular supply of cut flowers is required, but the majority lend themselves to colour schemes, whether carried out on a large or small scale. Their usefulness in this latter respect extends to the smallest garden, and, in such, we have frequently noted perfection of growth and harmony of colour such as few large gardens ever dream of striving after.

In their cultivation annuals are treated more rationally than was the case some years ago, consequently their popularity must increase, as their cultural details are simple. The ground should be thoroughly dug over with the spade in autumn or winter, incorporating a light dressing of farmyard manure, leaving the surface rough to be acted upon by frost. After digging, sprinkle a dressing of basic slag and kainit upon the surface, 6lb. of the former to 3lb. of the latter per 40 square yards of ground; failing these manures, then apply 4lb. of superphosphate to the same amount of ground before seed sowing or planting in spring. The chief advantage gained in supplying potash and phosphatic manures to annuals is, that it assists the production of flowers, and the plants are not so liable to become coarse. Annuals succeed best when sown direct in their flowering positions, the ground being forked over in spring, and, when dry enough to work free, made moderately firm by treading; the surface is then levelled in order to receive the seeds. The ground may be marked off in lines, and shallow drills made, and the seeds be then sown in lines or at regular intervals.

In the first instance, the plants are easily spaced off to the required distance with the hoe after germination. Thinning is a crucial item in the culture of hardy annuals, and must be carried out as soon as the seedlings can be handled, and is best performed in two or three operations. The distance apart for flowering plants may safely be taken at two-thirds the average height of the variety, and although one may hesitate to thin Shirley poppies two feet apart, it requires but the practical test to convince impartial minds that the gain in quantity and quality of the flowers and the duration of each plant is always in favour of drastic and early thinning. It requires still further to emphasise the need for suppressing seed production, either by liberally cutting the flowers while in perfection for indoor use, or by removing all spent flowers as soon as they fade. In conjunction with this treatment, afford a liberal supply of water during periods of drought, and an occasional watering of liquid manure, to secure the maximum production from the plants. Staking is a necessary operation with many annuals, and must be performed early; the best material is bushy twigs, such as birch, beech, or hazel, and these, when applied early, are quite inconspicuous once the plants begin to flower.

While the principle of outdoor sowing is generally to be recommended for hardy annuals, excellent results can also be secured by sowing in unheated frames, and transplanting the seedlings to their flowering quarters in the open. In default of autumn sowing, this method is extremely useful in securing an early (or for prolonging a late) display of these favourite flowers. Cold frames yield much the best results with half-hardy annuals; under these conditions seed may be sown early, and strong, sturdy plants secured in time for planting out in May and June; transplanting has but a momentary effect in checking growth, as the plants take to their new quarters without apparent loss.

Tender annuals must, of necessity, be raised in heat, and are only satisfactory when grown rapidly under favourable conditions from seed sowing until they flower.

Walmsgate Gardens. Thomas Smith.

IMPERIAL TEN-WEEK STOCKS.

One of the most robust of the many strains of ten-week stocks now on the market is that sent out by Messrs. Webb and Sons, of Stourbridge, under the title of Imperial. For robustness, beauty of form and colour, continuity of the flowering season, and wonderfully small percentage of single flowers, this strain is not surpassed by any other of its section. Such ten-week stocks are invaluable for the decoration of the garden in the summer, and if seeds are sown in boxes, in frames, or even on a sheltered border during the first half of April, excellent results will follow ordinary care. Imperial ten-week stocks are fine for beds in the pleasure-grounds, and are invariably a great attraction when grown in public gardens, their bold spikes of fine blooms, and their delicious fragrance, eliciting much admiration. The accompanying view shows the possibilities of these Imperial ten-week stocks in a bold mass on large beds. The strain is supplied in no fewer than six distinct colour varieties, these being canary-yellow, crimson, purple, white, rose, and light blue. The average height of well-grown specimens is one and a-half feet.

A FINE BED OF WEBBS' IMPERIAL TEN-WEEK STOCKS.

The late Mr. C. B. Clarke's Work on Cyperaceæ.—We learn that the voluminous manuscripts on the Cyperaceæ by the late Mr. C. B. Clarke have been presented to Kew by his executors. They consist of 11,722 narrow sheets written in the well-known small neat style, often with pen-and-ink sketches in the margin. They have been bound in thirty-one volumes. There are in addition many thousands of references to Cyperaceæ written on small slips. These have been pasted down in six thick folio volumes. Two copies of the "Illustration of Cyperaceæ" have also been received, one from Mr. G. Massee and the other from the publishers.

NEW PLANTS, ETC.

CATTLEYA ROBERT DE WAVRIN WESTONBIRT VAR.

This is a superb variety of the fine hybrid from C. Schilleriana and C. Schroderæ. In form, size, and substance, it must rank as one of the finest of cattleyas, while its lovely pale rose sepals and petals, and rosy lip with bluish-purple apex and orange throat, are all that is charming in the way of colour. F.C.C., R.H.S., March 22. Lieut.-Colonel G. Holford, C.V.O. (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

LÆLIO-CATTLEYA TRIMYRA.

An erect-growing hybrid that had three medium-sized flowers on one spike. The parents are C. Trianæ and L.-c. Myra. The sepals and petals are yellow, and the lip orange-yellow, and there is practically no trace at all of the C. Trianæ colouring. A.M., R.H.S., March 22. Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

ODONTOGLOSSUM GLADYS VAR. H. W. CHEAL.

A graceful and beautiful odontoglossum obtained by crossing O. cirrhosum with O. crispo-Harryanum. The flowers are white, shaded with yellow, and heavily blotched with bright chocolate-red. See illustration on p. 253 of our issue of March 26. A.M., R.H.S., March 22. Messrs. J. and A. McBean, Cooksbridge.

ODONTOGLOSSUM THOMSONIANUM GATTON PARK VAR.

In this hybrid the parents were O. crispum Mary Colman and O. Edwardi, and the flowers differ from the original O. Thomsonianum in having a band of rose round the violet-purple colouring. A.M., R.H.S., March 22. Sir J. Colman, Bart. (gardener, Mr. Collier), Gatton Park, Reigate.

HOULLETIA SANDERI.

A very distinct, but not very attractive orchid; apparently quite new. It has erect spikes about a foot high, and these carry two or three inverted fleshy flowers that are pale creamy white with a yellow mark on the lip. A.M., R.H.S., March 22. Messrs. Charlesworth and Co., Haywards Heath.

CALATHEA CROCATA.

This very distinct and handsome stove plant is by no means new, as it was introduced as long ago as 1871, from Mexico. It is of tufted, maranta-like growth, but the slightly undulate leaves are more erect than those of most of the garden marantas; the leaves are deep green with a purple under surface. Especially attractive are the erect spikes, each crowned with a number of brilliant orange-coloured bracts, each bract sheltering a pair of tiny yellow flowers that are not very prominent. The plants shown were in 48-sized pots, and almost every one carried three inflorescences. A.M., R.H.S., March 22. Sir Trevor Lawrence, Bart. (gardener, Mr. Bain), Burford Lodge, Dorking.

CARNATION R. F. FELTON.

A splendid perpetual-flowering variety with unusually broad petals that make up a very large, full bloom. The colour is a rich and pleasing shade of pink. A.M., R.H.S., March 22. Mr. H. Burnett, Guernsey.

PARTHENOCISSUS TRICUSPIDATA.

The above is, as we have already pointed out, but another name for the popular Ampelopsis Veitchi, and the botanists tell us it is the correct one. "Bot. Mag," t. 8,287.

ASPARAGUS TETRAGONUS.

A strong growing, climbing species, with large tubers as part of its root system, cladodes in fascicles, and white flowers borne in considerable numbers in racemes from two to three inches long. "Bot. Mag.," t. 8,288.

PRUNUS MARITIMA.

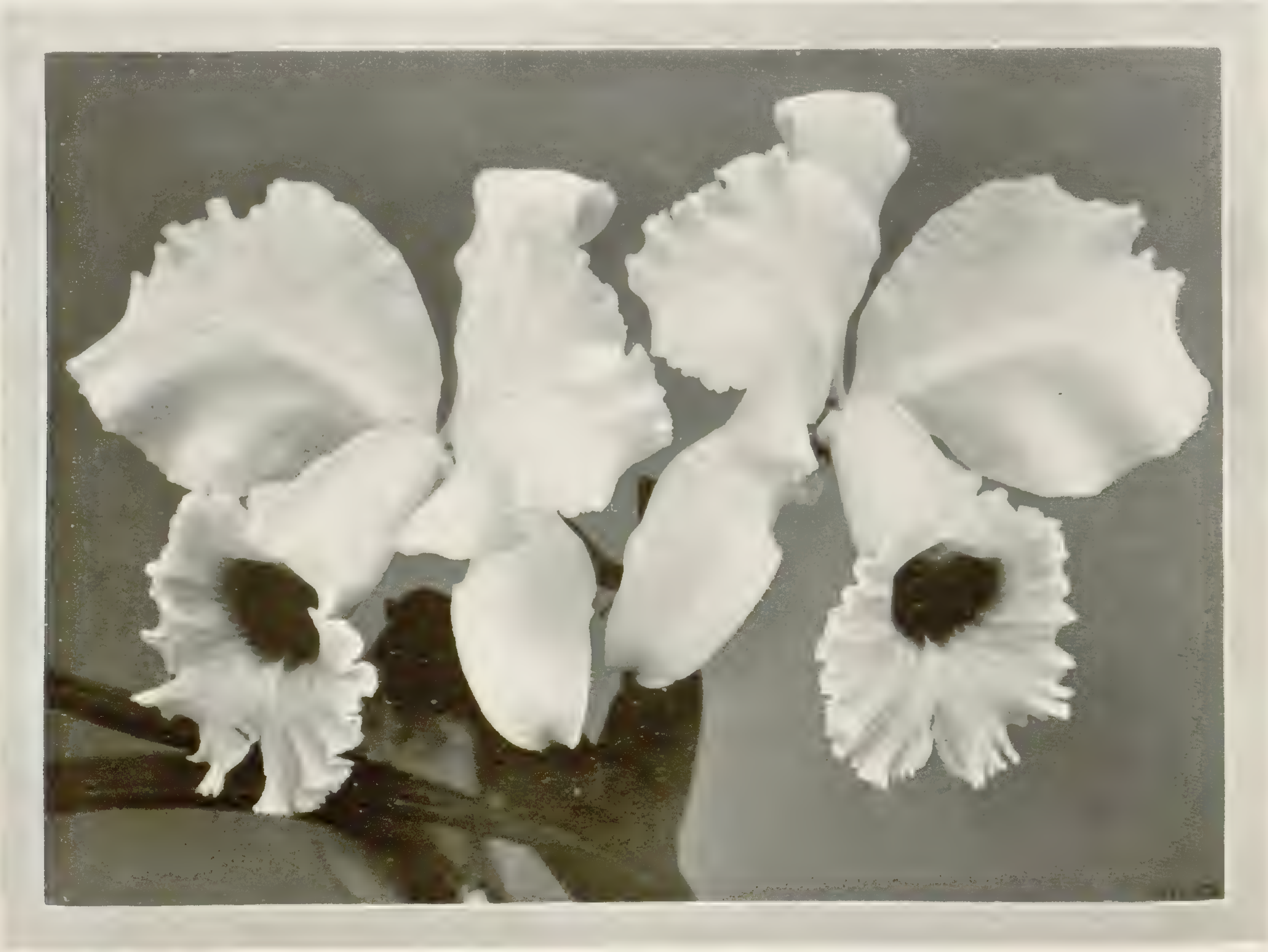
This is the Shore plum of Eastern North America. It forms a low, spreading bush, producing its white flowers in great profusion in May, that are followed by roundish red-purple fruits. The flowers last longer in perfection than those of most plums. "Bot. Mag.," t. 8,289.

OPUNTIA IMBRICATA.

An interesting succulent plant from Mexico and Arizona. It may grow to a height of 15ft., and, though easily grown, it rarely flowers under cultivation. The blooms are nearly three inches across, bright purple, with yellow anthers. "Bot. Mag," t. 8,290.

EURYOPS VIRGINEUS.

A South African composite that is only hardy at Tresco and other favoured localities in the British Isles. It is shrubby, has very small green leaves, and produces a number of deep yellow flowers at the ends of the growths. At Tresco it flowers freely in March and April. "Bot. Mag.," t. 8,291.



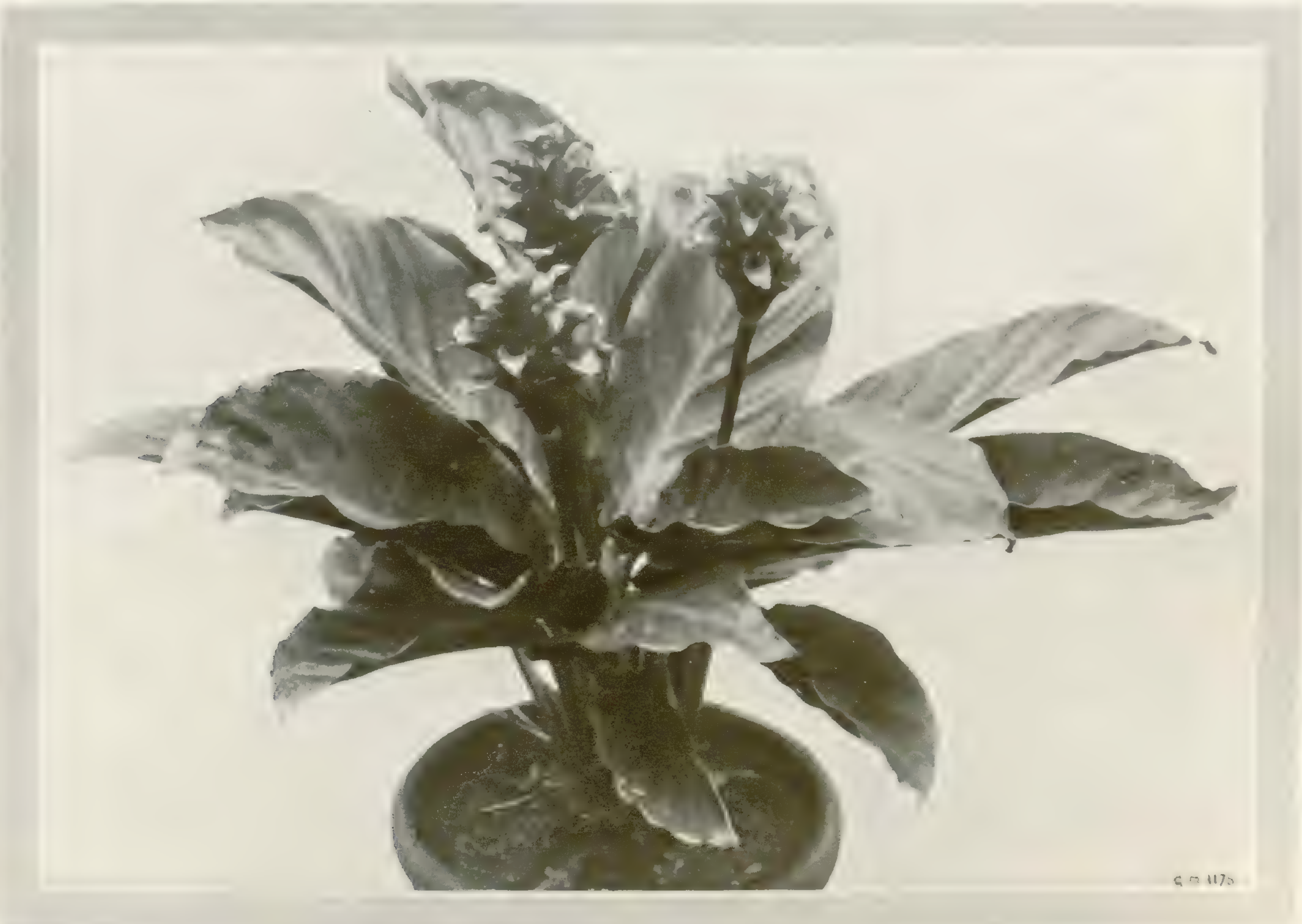
CATTLEYA ROBERT DE WAVRIN WESTONBIRT VAR.

F.C.C., R.H.S., March 22. Lt.-Col. G. Holford, C.V.O. (grower, Mr. H. Alexander), Westonbirt, Tetbury. Flowers rose, bluish-purple, and orange.

Melons.—If plants raised and bedded out as advised, or placed in fruiting pots and treated as cordons, have had their side growths near their base rubbed out as they appeared, and their principal leaves preserved, they should have made a good [illegible] As the leading growths extend secure them to the trellis, and stop them when they [illegible] the desired length; secure the laterals and [illegible] each at one leaf beyond its first fertile blossom, and remove superfluous male flowers. During the flowering time attention should be paid to setting the fruit to secure a [illegible] upon each plant from blossoms that expand nearly at one date. The setting will be accelerated by maintaining a buoyant and moderately-dry atmosphere and careful [illegible] After attending to other routine matters [illegible] the fruit commences to swell top-dress with fresh compost.—T. Coomber

THE ABUSE OF THE PRUNING KNIFE.

Any man who sets out to prune a fruit tree ought to be able to explain why he cuts off each and every shoot that is severed, and also what he expects to get as the result of doing it. I wonder how many people who prune could give these explanations if they were asked to do so, but I am perfectly sure that a number would fail, and I am also of the opinion, which has been arrived at as the result of observation, that more harm is done through too free use, or, shall I say abuse, of the pruning knife than through not using the implement at all. With a number of persons, I will not say professional gardeners who understand the principle of the thing, the idea of pruning is to cut something, and so long as they make a tree appreciably less, and leave a good litter of severed growths and branches on the ground, they flatter themselves that they have done their work efficiently.



CALATHEA CROCATA.

A.M., R.H.S., March 22. Sir Trevor Lawrence, Bart. (gardener, Mr. Bain), Burford Lodge, Dorking. Leaves green and purple; bracts orange, flowers yellow.

It is amusing to watch the gardening novice when he goes out to prune his fruit trees, as many do, just at early spring time. With secateurs in hand (the novice, by the way, rarely has a knife sharp enough to prune with), he stands and views the tree, knowing that he must cut something, which is his idea of pruning, and then he begins snipping a bit here and a bit there, getting bolder as he gets warm to the work, and by the time he has finished the tree is trimmed in, neat, shapely, and symmetrical, so far as appearance goes, but if you could make the amateur pruner realise how much fruit, and prospect of fruit, he had cut away in his pruning, he would promptly lock his secateurs away in a secret drawer, and lose the key.

The man who goes about doing odd jobs, who has had a doubtful training, but, somehow or other, has obtained a local reputation for himself as a pruner, sets about his work in a different manner, but there is no hesitation about him. His policy is to cut, and cut he does with a vengeance. He has a certain rule of thumb method of his own, or of the fraternity to which he belongs, and he would scorn to explain any reasons for his severe treatment of the trees. He will tell you with a curl of the lip that that is his way, founded on the experience of having worked in a garden for a certain period in the days gone by under a certain expert gardener, so you may take it or leave it. Why should he give explanations? The idea of such a thing is little less than an insult to his professional ability, and with a final remark, that we always do it like that, he goes on with his cutting.

It is none of my intention here to discuss different methods of pruning, because the man who knows enough about the work to have a method, that is a method, not a rule of thumb process, can always explain why he proceeds in a certain way, and if he gets good crops of fruit as the result of his process you cannot say that he is wrong, even though you may not agree with him. This may be a case of two men arriving at the same place by taking different roads, but so long as they arrive there is nothing to complain about. Among the men of method we have heavy pruners, light pruners, and moderate pruners, but it is the pruner who has no method who spoils fruit trees, and this is the individual I complain about.

Generallly speaking, it is in the early spring of the year that the bulk of the pruning is done, and it is now that one has opportunities of observing the shortcomings of pruners. We have two extremes to consider, i.e., non-pruning on the one hand, and butchery on the other. Let us consider the former first. There are hundreds of young trees in gardens and orchards to-day which want the knife. Some were planted last fall, others have been in a year, and they are furnished with the long young shoots that were made in the nursery prior to their removal. The owner of the trees does not shorten back these shoots, perhaps for the want of confidence, perhaps because he does not know what will happen if he does cut them back, and perhaps he is repelled from the operation owing to a reluctance to pay two or three shillings for his tree and commence by cutting half of it away. Be this as it may, one thing he does want, and that is knowledge, knowledge that the first business of a fruit tree is to grow, and that the initial pruning is done with the object of encouraging growth.

However, instead of being pruned the tree is left as it is, it develops fruit buds at an early stage, flowers, perhaps bears a few little apples straight away, and the owner congratulates himself on the quick fruit-bearing capacities of the tree. But wait, this early fruiting exhausts the energies of the tree, it cannot grow, and in three or four years it has a stunted appearance, and the head is scarcely any bigger than when it was planted. In other words, the tree has begun at the wrong end by fruiting first, instead of growing, and here the non-pruner may learn his lesson, i.e., that the first duty of a fruit tree is to grow, and we prune it so that it may be able to perform that duty. Let experts argue to their hearts' content as to whether a tree should be pruned at the time of planting or a year later. I disagree with the advocates of neither system, but the man we want to convert is he who never prunes his newly-planted trees at all. With the tree started into growth, however, and the head nicely formed, the system of pruning is dependent on the conditions under which the specimen is growing, but, in the name of all that is reasonable, let abuse of the knife be avoided.

It not infrequently comes about that severe pruning is the means adopted for avoiding the evils of too close planting. It happens in this way. A man lays out his garden and arranges the fruit quarter, but he overlooks the fact that the trees will grow. At first the nice little specimens, fresh from the nursery, look fine with a few feet between them, and if they could be kept at that all would be well, but Nature asserts herself, and the trees grow. They at first fill up the space allotted to them, and then begin to overcrowd each other, to the dismay of the owner, who has not bargained for this, and he prunes as a means of keeping the trees in their places, but it is all to no purpose. The natural result of pruning is growth, and the harder the trees are cut the harder they grow, with the result that eventually the nicely arranged fruit plot is a mere thicket of overcrowded trees but very little fruit. The lesson is obvious. When planting trees give them room to grow, and if severe pruning is necessary in order to keep them within certain desired limits, keep the balance level between roots and branches by periodically lifting the trees or pruning the roots.

Now let us turn to another picture. In a villa garden near at hand there is a number of fairly big trees, bushes, pyramids, and espaliers, and a week or two ago the tops of them represented so many whips, but, in the meantime, the local pruner, a rule of thumb man, has been round. He has cut every one of these young growths made last summer close back to the branches, treating the leaders just the same as the side shoots, and the trees now look something like those little toy specimens that one sees in children's Noah's arks. By July these trees will again be dense masses of young leaf-covered shoots. Next winter the bare whips will be there again, but stronger and more numerous than before, and next spring the hacking-back process will be gone through once more, just in the old sweet way, but I would not give much for the fruit that is produced in the meantime. This is abuse of the pruning knife, and if the owner of the trees would only discharge his pruner, thin out the wood in the trees, and let them grow, he would get some fruit, but he will never do this so long as the present routine process is followed up. Of course, if the owner of the garden were growing grafts for a nurserymen or stakes for a carnation grower he could not go on better lines, but he planted the apples and pears to grow fruit, and nothing is produced but wood.

This is not an imaginary picture, but a true state of affairs which exists in dozens of gardens where the pruning is done in such an ultra-severe rule of thumb way that the object of the operation, i.e., the production of fruit, which is the end and aim of planting trees, is apparently lost sight of. G. H. H.

Ideal Home Exhibition.—As most of our readers are no doubt aware, the Ideal Home Exhibition is to be opened at Olympia, Kensington, next Friday (April 8). The Gardeners' Magazine will be represented, and all readers visiting the exhibition are invited to pay our stand a visit. All our books and publications will be on view, and can be freely inspected by those desirous of making their acquaintance. The exhibition will last from April 8 to 23.

THE VALUE OF SHELTER.

Locality, soil, and climate are of immense consequence in a garden undoubtedly, but a great deal can be done to overcome any deficiencies in neighbourhood and atmospheric conditions by the establishment of sufficient shelter for various plants. This branch of the gardening art has been marvellously neglected, considering that by its study and exercise we are enabled to cultivate semi-hardy subjects to perfection, and also to foster innumerable delicate beauties of the floral world that are unfamiliar.

Our ancestors laboured more zealously than we to guard roses and other favourites from cold blasts, but we are foolishly disposed nowadays to ridicule their prim hedges of dark monotonous evergreens. It would be better if we copied their example, but employed better tools: yews and box clipped into the shapes of globes, pillars, vases, birds, and beasts may be inartistic, and only to be imitated for the production of quaint old-world effects, but the protection they afforded to portions of pleasure-grounds was in most cases probably the main object of their creation.

South walls are usually taken advantage of for enabling less hardy climbers to be grown, and the borders in front of them are used for tender bulbous and bedding plants, with a few shrubs, such as laurustinus, myrtle, and hydrangea, but there are easy and valuable ways of increasing the geniality even of these walls and borders. A south aspect means side aspects of west and east; the winds from the former often do much damage to flower and foliage during winter, accompanied as they are by violent rainfalls; the east winds of spring are dreaded for their withering propensities. Now by planting groups or short hedges of evergreen shrubs, jutting out from the wall, either only at the two ends, or at irregular intervals along its whole length, we may gain nooks that are always many degrees warmer than the unprotected border would be, and at the feet of these shrubs countless lovely dwarf plants will find a fitting home.

Where the belts of shrubs can be broad they can be so arranged that the centre mass of aucubas, euonymus, privet, rhododendron can be clustered against by shrubs that are themselves far from hardy, by which method we shall be enabled to find room for such beautiful things as Fuchsia myrtifolia, Forsythia viridissima, Cydonia or Pyrus Sargenti, Coronilla emerus, Cistus formosa, Benthamia fragifera, Ghent azaleas, Abutilon vitifolium, and Veronicas newryensis and pinguifolia. Almost beneath the shrubs' branches collections of crocus species, Dog's Tooth violets, colchicums, etc., may give welcome colour.

To prevent monotony of effect a jutting-out length of trellis may be placed in similar position: this will aid in forming yet another of the baylike recesses against the south wall, and offer a support for two or more climbing roses and clematises. If the lowest portion of the erection is of close woodwork, the shelter on the border level will be yet more perfect. Against it, on the warmer side, would be a fine position for ixias, sparaxis, babianas, crinums, amaryllis, and a whole host of other lovely bulbous flowers.

A length of low wall, made in imitation of a ruined wall, affording plentiful pockets and chinks, in which sedums, saxifrages, helianthemums, erysimums, sempervivums, androsaces, etc., would thrive would be another excellent kind of shelter. In a nook between a west wall and a conservatory, climbing the base wall facing due south, the glorious Maréchal Niel rose will flourish even in the North of England, and the blossoms gained prove finer because richer in colour, and more stable of petal, than any to be gathered from this variety under glass.

There are frequently warm sites against kitchen garden walls which, if sheltered at the sides, would enable exceptionally early fruit to be gathered in front of the trees, a position being offered suitable for the planting of Roman hyacinths, Polyanthus narcissi, and other bulbs for the supply of cut blossom for the house long before other collections of identical species would be ready. Polyanthuses, primroses, oxlips, cowslips, are amazingly early, too, in such nooks, the same plants being floriferous year after year if removed to cool borders for summer, and divided and returned to the warm quarters each autumn. Dicentra spectabilis is another plant that can be subjected to this natural sort of open-air forcing.

The backs or sides of summer-houses often are admirable shelters to the borders against them. This can be intensified, where the nature of the building permits, by the erection of a miniature verandah of bamboo poles and wooden top, around the roof ledge. Christmas roses, for example, gain from this the shelter from the elements that was needed to preserve the purity of their waxen petals, and if hepaticas, one or two of the earliest rhododendron species, Pyrus japonica in pink and blush white, as well as red, yellow jasmine, Daphne mezereum, winter-blooming irises, Anemone fulgens, yellow aconite, snowdrops, Van Thol tulips, crocuses, Lent lilies, and Lenten roses, be added as well to the border, the flower show will be a joy for many of the dreariest months of the year.

A semicircle of evergreen shrubs will most effectually shelter a large round bed on an exposed lawn enabling spring bulbs, and afterwards tea roses, to be grown in a position in which otherwise they would not be possible. A similar shrub arrangement on a larger scale in the fruit garden will ensure a supply of wondrously early green gooseberries, strawberries, French beans, parsley, mint, etc.

In the flower garden great pleasure is derived from the use of less common evergreens, flowering and fruiting ones especially. Among attractive species and varieties that are too often forgotten are Phillyrea decora, thick-leaved, dark green; Osmanthus aquifolius, somewhat resembling holly, and its purple-leaved relative, Osmanthus ilicifolius purpureus; Euonymus Bungeanus, noteworthy for its fruits; Cassinia fulvida, gold-foliaged and white blossomed; Bupleurum fruticosum, a robust yellow bloomer; the shining dark Baccharis patagonica; Thuja orientalis compacta pyramidalis, bronze-hued in winter; Cornus sibirica, the Scarlet Dogwood, and Carpentaria californica, with its fragrant white flowers.

Less complete shelter is afforded, of course, by groups or hedges of Rugosa roses, the Snowberry Tree that is so charming in spring leaf, summer bloom, and winter berry, lilacs, broom, Spiræa ariæfolia, Philadelphus coronarius, Viburnum opulus, and deutzias. M. H.

Everyone interested in a garden should obtain a copy of the Alphabet of Gardening, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price 1s. 6d. net, by post 1s. 9d.; cloth, 2s.; by post 2s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

WORK FOR THE WEEK.

CONSERVATORY AND GREENHOUSE.

PLUMBAGO ROSEA COCCINEA.—This useful variety of an old and well-known plant is not cultivated so extensively as its merits deserve, especially remembering that it will flower during the whole of the winter months. It possesses a free, branching habit, and produces long panicles or sprays of flowers admirably adapted for table decoration, and although these do not long remain fresh when in a cut state, the freedom with which they are produced ensures an abundance. Cuttings should be secured at once, and are best taken from the young growth; but if large plants are required the old plants may be repotted. In the latter case remove a portion of the old soil and cut away some of the strongest roots. The growths should be trained to stakes during the summer months, and the plants be given a position in an intermediate house.

A LARGE COLLECTION OF SPLENDIDLY GROWN HYACINTHS IN PANS, HAARLEM JUBILEE FLOWER SHOW.
Exhibited by Messrs. Ant. Roozen and Son, Overveen, Haarlem.

RICHARDIAS.—Plants that have finished flowering should, providing the weather is mild, be placed out of doors in the full sunshine, and at the same time have the supply of water at the roots gradually reduced, so as to thoroughly ripen the growth. If the plants are to be kept in their pots they should be placed on their side until growth starts again about July.

SOLANUMS.—Plants raised from seed last year should be repotted, and afterwards pruned hard back and grown in a warm house, keeping them moist while growing. When the weather is favourable remove them to a frame for the summer months, and never allow them to want for water.

ROSE HOUSE.—Established rose trees in borders will now be growing freely, and a good soaking of tepid liquid manure will be found beneficial to them. Syringe freely with clear water once or twice daily, according to the outside conditions. A slight fumigation once a week will keep down attacks of greenfly. Roses in pots should also be assisted by liquid manure. A fresh batch of roses should be brought into heat to furnish a succession, and roses will be found very useful now that forced plants are passing out of bloom. The night temperature should be 45 to 50 deg., with a proportionate rise by day, giving ventilation on all favourable occasions, but avoiding cold draughts.

BORDER CARNATIONS IN POTS.—Where a batch of these have been wintered in cool frames, and the plants have not been already shifted into 7in. or 8in. pots, let this be done without delay. Use good loam, leaf-mould, sand, and old lime rubble. Pot firmly, and after making the plants secure to stakes, place them on a bed of ashes in a sheltered position out of doors. Though border carnations are usually grown quite successfully in the open border, it is a good plan to have a batch in pots for greenhouse or conservatory decoration, and especially is this advisable if blooms of extra size and quality are wanted for exhibition, or it is desirable to test newer varieties. The plants may be removed indoors just before the buds begin to burst.

SHADING.—At this time of the year the sun is often so bright that it is dangerous to expose the plants to its full power, as the foliage of some tender plants is liable to receive injury in a short time. A thin mixture of whiting and sour milk makes a good shading for a few weeks, when it may be removed and the blinds be fixed for the summer.—W. Staward, Belford Hall Gardens.

THE ORCHID HOUSES.

CALANTHES.—In the cultivation of calanthes I am convinced that no hard and fast rule can be laid down for application to every situation in which these plants are grown. There is an orthodox method which may be applied generally, with varying success, but as in many other cases we meet with in plant cultivation, one cannot successfully grow certain plants in one place by the same methods that we have found eminently successful in another. The situations vary so much that it is absolutely necessary we should make ourselves perfectly familiar with the conditions, and so adapt ourselves to local circumstances. It is only by repeated trial we are enabled to provide the conditions and material most suitable to meet the requirements of the case.

POTTING COMPOSTS.—I am putting this plainly because I do not wish to convey that the conditions under which we have been able to successfully grow our plants must of necessity be the correct system. I have produced some of the finest calanthes I have ever grown with nothing more than turfy loam and sand, and the plants showed no sign of the dreaded spot. When I first took charge of the collection here I used what most growers would consider the proper compost, i.e., turfy loam, fibrous peat, chopped sphagnum, some dried cow manure, coarse sand, and broken crocks. For the first season or two we had a fair amount of success. It was then decided that more turfy loam should be added. The first season gave us every encouragement until the new pseudo-bulbs commenced to form. The foliage then showed tiny white specks, which in due course showed the breaking up of the tissues, and finally the plants were almost ruined by the disfiguring black spot. A portion of the plants and those that had the previous year been badly affected were selected for treatment in a lighter and more open compost of osmunda fibre, peat, and a little chopped sphagnum and broken crocks, and the result was so satisfactory that for the last two or three seasons nothing has been used but the light, open compost, and, notwithstanding the bad summer and unfa vourable autumn, our calanthes have never been so fine as they were this winter. I give these experiences as an object-lesson to those in charge of plants. As the time has now arrived when the various species and hybrids will require repotting I would certainly advise that loam should be altogether omitted from the compost where there has been any difficulty experienced from spotting, and a good open and porous one be tried on some of the plants, at least for a season.—H. J. CHAPMAN, Oakwood Gardens.

THE FLOWER GARDEN.

EARLY-FLOWERING CHRYSANTHEMUMS are quite indispensable as autumn-flowering plants, and are very effective either in masses or mixed borders. Plants that were raised in the autumn or early during the present year should be kept growing, so as to receive no check before being planted out at the end of this month or early in May. If obtainable, cuttings of these may yet be struck, and if given the benefit of a little gentle heat these will furnish small, but useful flowering plants. Remove the growing point from time to time, as the season advances, but stopping should be discontinued soon after midsummer, or early in July at the latest.

A MAGNIFICENT VASE OF LILAC MARIE LEGRAYE, HAARLEM JUBILEE FLOWER SHOW.

Exhibited by Messrs. D. and J. Keessen Bros., Aalsmeer.

PENTSTEMONS, ANTIRRHINUMS, gaillardias, coreopsis, and similar plants that were raised in the autumn may now be planted in their permanent quarters. Half-hardy annuals, such as alyssum, Bartonia aurea, calliopsis, candytuft, centaureas, clarkias, godetias, larkspurs, lupins, malvas, mignonette, poppies, etc., should soon be sown in borders or beds. The soil for these should be levelled, and raked down before sowing. Sow thinly, and then cover well with light, fine soil. Where birds are troublesome and newly-sown seeds always attract them it is safer to cover the beds or borders with mats until the seedlings are breaking through the ground. Annuals intended solely for cutting purposes are better sown in rows, as thinning and weeding can be done much more easily than when sown broadcast. Sweet peas that are coming through the ground should be protected from birds by netting or wire pea guards. If attacked by slugs dust the soil around them with soot or lime; an early mulching of half-decayed manure is advisable as a protection against hot sun or drying winds.

GLADIOLI may now be planted, providing the ground is in a suitable condition, placing the corms at a depth of three or four inches, and ten or twelve inches apart in the rows. On light, dry soils mulch the surface of the borders with leaf-soil or half-decayed manure as soon as planting is completed.

GENERAL WORK.—With the advent of April showers, or suitable atmospheric conditions, the transplanting of evergreens may take place. Most of these can be moved safely just before growth commences. Hollies, if carefully lifted, seldom fail at this season of the year, or even later. To ensure success, everything should be in readiness before lifting commences, as it is highly important to keep the roots from exposure. After the trees have been placed in position, and filling in commences, it is necessary to see that no cavities exist under or near the roots, and it is the practice of some to well water before the final filling in and levelling down of the soil takes place; this quite prevents any vacant spaces, and gives the plant a quick start. In exposed places all trees should be securely staked to prevent root disturbance during high winds. It is now getting late for laying turf unless one has a good supply of water and labour, but the present is an excellent time for sowing grass seeds, and in this way patchy or bare places on the lawns can be renewed; the seed should be lightly covered with a dressing of fine soil, and be then well rolled. Attention to watering should be given from time to time, according to the state of the weather, for at no stage of germination should the soil be allowed to become dry, or failure will be swift and sure. Where moss is prevalent, and is objectionable, a good dressing of lime, with subsequent rakings, will do much to improve the surface of the lawn.—W. HEDLEY WARREN, Aston Clinton Gardens.

HARDY FRUITS.

HOEING.—The drying winds and bright sunshine that have prevailed generally for the past ten days have been the means of bringing the surface soil in fruit plantations into a splendid condition for the use of the Dutch hoe, which should be freely used on all favourable occasions. Hoeing is not only detrimental to the growth of weeds, but it also checks rapid evaporation, and conserves the moisture in and around the roots of all fruit trees; it also materially assists the sun rays to penetrate and warm the soil. It should be borne in mind that constant hoeing is one of the great secrets of successful fruit growing.

MULCHING.—The work of mulching fruit trees in the open quarters should be deferred for some weeks yet, to allow the sun to warm the soil, which is so essential to promote healthy root action, and also to ascertain whether or not the individual trees will bear heavy crops. At this season of the year applications of wood ashes, soot, and lime, are very beneficial to all kinds of fruit trees, if it is lightly stirred in with the Dutch hoe after it has been applied. The borders of fruit trees growing on south and west walls should be mulched with long stable little, as where fruit blossoms have to be protected with netting or blinds, the litter prevents the soil from becoming too hard upon the surface when frequently walked upon. If mulching is not used, boards of a convenient length and width should be utilised for the same purpose. Where peaches, nectarines and apricots are grown on south walls, the borders should be examined, and if the soil is dry a good soaking of clean water should be given, choosing a bright, sunny day for the work.

GENERAL WORK.—Finish as soon as possible the grafting of all apple and pear trees; where clay has been used when grafting, it should be examined and kept moist, as it often happens when we experience a spell of cold, drying winds that the clay becomes cracked, and in all probability drops off, if attention is not paid to maintain that degree of moisture which makes it adhesive to both stock and scion. Where grafting wax is used this trouble is not experienced. Pay particular attention to wall trees in flower, taking care that the materials used do not produce by their warmth tender and weakly growths; hence the necessity of removing the materials upon all favourable occasions, as advised in the last calendar.

THE FRUIT ROOM.—All remaining fruits should be carefully looked over and the decayed ones removed; any specimens that show the least speck of decay should be immediately used for cooking purposes. All shelves that contain no fruit should be well cleaned and the fruit room kept as cool and sweet as possible.—HENRY FARMER, Cardiff Castle Gardens.

LAWNS.—Those who desire to make a new lawn or bowling green, or to renovate and maintain existing ones in good condition, can have no better guide than "LAWNS AND GREENS," by T. W. Sanders, price 1s. net, by post 1s. 2d.; bound in cloth 1s. 6d., by post 1s. 9d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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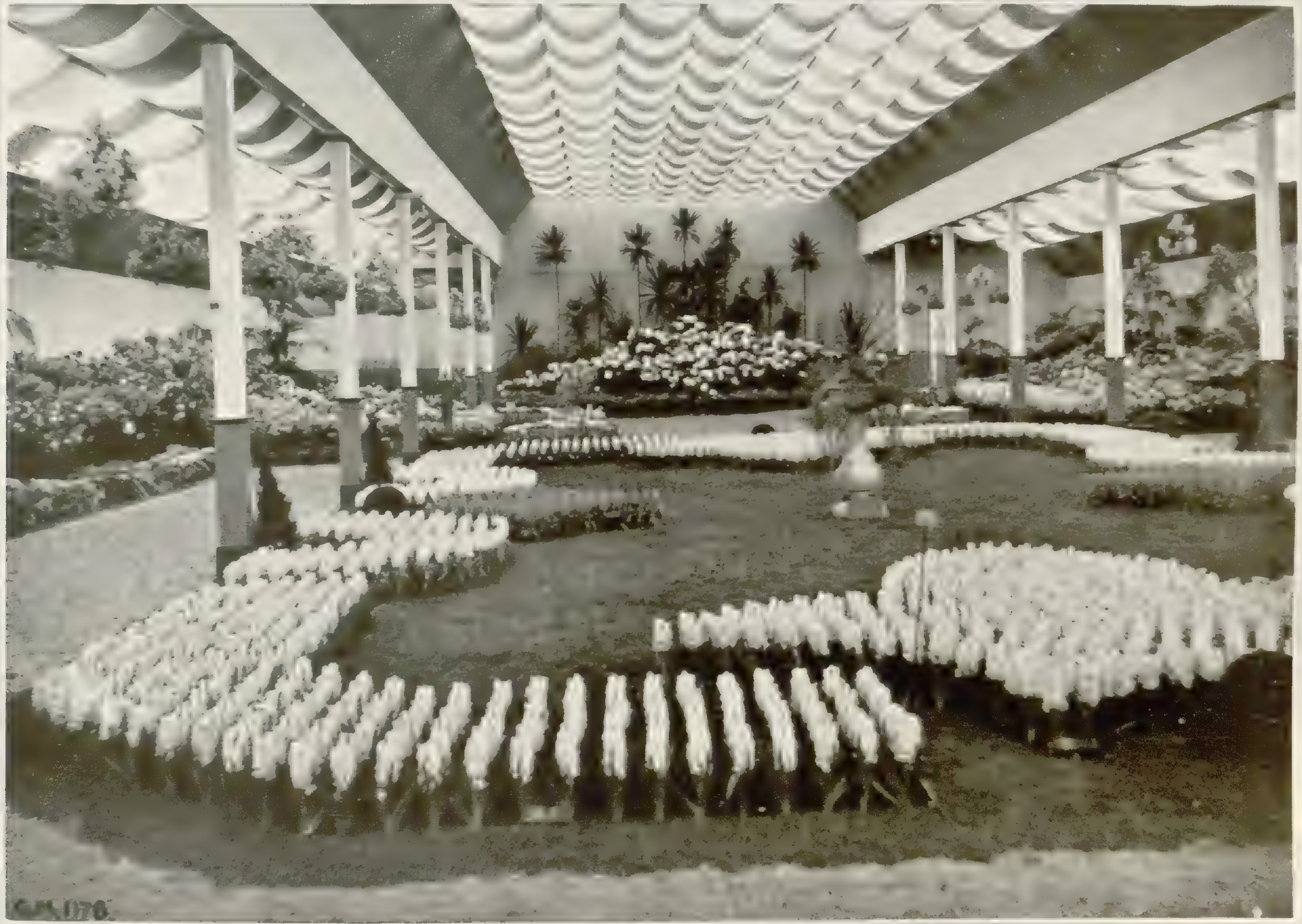
Jubilee Flower Show, Haarlem.

Flower shows of a comprehensive character, when carried out in accordance with a well-devised scheme, are invariably interesting, and seldom fail to prove more or less instructive to those engaged in horticultural pursuits. If this be true of competitive gatherings held in districts in which they are of frequent occurrence, it is doubly so in the case of the great jubilee flower show that was opened with befitting ceremony at Haarlem on March 23. This city has for at least three centuries been closely associated with the bulb-growing industry that forms so important a part of the industrial activity of Holland; and by common consent the exhibition is the most extensive, interesting, and attractive of the displays that have been produced by the endeavours of the horticulturists in the district of which Haarlem is the centre. The justification of the endeavour that has been made to surpass all previous efforts is the attainment of the jubilee of the General Bulb Growers' Society, which has exercised an immense influence for good upon the cultivation of hardy bulbous plants throughout Holland during the past fifty years. The practice of this society since its inception has been to hold an exhibition annually, and to so extend the scope of every fifth show as to make it of sufficient importance to justify the awards being made by an international jury consisting of the leading authorities from the various centres of horticultural activity in Europe. The forthcoming jubilee was much discussed at the great exhibition held by the society at Haarlem in 1905, and the immense advance shown by that gathering upon previous endeavours justified the anticipation that the jubilee celebration would be worthy of the occasion, and this we have much pleasure in stating has been fully realised, if not greatly surpassed.



AN EFFECTIVE ARRANGEMENT OF HYACINTHS, HAARLEM JUBILEE FLOWER SHOW.
Exhibited by the General Bulb Company, Overveen, Haarlem.

The society has been exceptionally fortunate in obtaining for the purpose of its jubilee show a portion of the Hertekamp Park, with an area of about twenty acres, and finely wooded, delightfully undulating, and convenient of access. The distance from the city is about a mile, and as there is a frequent service of tram cars to the park gates, it can be covered cheaply and expeditiously, and it may be added pleasantly, for the road passes for some portion of its length through a magnificent avenue of trees. This part of the park is oblong, and it has a broad vista on the western side, which extends its whole length, and a building at either end, the stately edifice known as the Museum of Art at the northern termination being the most important. In the northern part of the area have been erected the four buildings for the display of the plants contributed to the temporary exhibitions, of which this was the first. These buildings are spacious and substantially built, yet are elegant in appearance, and with the aid of fine canvas suspended from the roof, as so well shown in the accompanying illustrations, the light was so well controlled that the plants and cut flowers had light enough, and no more, to show their distinctive colouring to the best advantage. Within these structures the various subjects, for which provisions were made in the 273 classes that had a place in the schedule, were accommodated. Need it be said that hyacinths and tulips were given the prominence their importance demanded, or that they were well represented. Hardy azaleas and rhododendrons in variety were largely shown, and lilacs, both plants and cut flowers, were contributed in the most liberal manner, and were in exceptionally fine condition, the plants throughout being remarkable for the development of their spikes and the colour of the flowers; while the cut spikes were equally meritorious. The appearance of the finer specimens suggested they had enjoyed rather more light and air than is given lilacs in this country when being forced into bloom. Primula obconica was largely shown, and in some of the collections the high-coloured varieties were especially attractive.

The permanent exhibition which is being held in the open will be more attractive on the occasion of the temporary show arranged for April 15—24, as the hyacinths should then be in full bloom, and a considerable proportion of the early flowering tulips be yielding freely of their attractive colours. These are for the most part arranged in groups of beds on either side of the vista that extends from north to south, and, as the bulbs have been planted closer than is usually considered desirable in this country, the number must be enormous, and the possibilities great of the display being highly effective. Practically the greater part of the area will be a hyacinth and tulip garden, as the larger proportion of the space under the trees as well as in the open is occupied by groups of beds devoted to these flowers. There are also large numbers of beds devoted to them in the north-west part of the park. The display of tulips should be of special interest for the opportunity it will afford for determining the relative merits of varieties for garden decoration. The number of varieties is very large, and, with a few exceptions, the beds are of average size, or, in other words, range from six to nine feet in diameter when circular, beds of other shapes being proportionately large.

Crocuses have also been planted largely in the geometrical garden formed immediately in front of the Art Museum, and near the western end of the principal exhibition house; these are arranged in beds and borders, mostly the latter, on the fine breadths of turf that form so characteristic a feature of the geometric gardens, and as they were in perfection during the temporary show, they were a source of great attraction to visitors. Conspicuous among the many fine varieties represented are the rich purple Agnes Maria, the bright blue Albion, the pure white King of the Whites, which is so good as to fully justify its title, the bright lilac Maximillian, and the golden Mammoth or Large Yellow. These have mostly a place in English catalogues of bulbs, and those who are desirous to have the best of these as of other good things should take down their catalogues, mark the names, and place them where they are not likely to be forgotten when the bulb orders are made out next autumn.

The topiary art is strongly represented, as might have been expected, by those who are acquainted with the attention that has now for some years past been devoted to the production of clipped trees in Holland. These trees are not, however, overdone, and they have been so associated with other subjects as to suggest that they form part of the general scheme rather than as a demonstration of the activities of exhibitors who make a speciality of them. The trees evince a considerable diversity of form, some representing crowns of considerable proportions, teapots, jugs, vases, anchors, and birds of various kinds. The most interesting of the contributions relating to the topiary art is the group of trees representing the characters in the play of "The Chantecler," which created so much interest in Paris a short time since. Enclosed within a boundary formed with Irish yews is a farmyard, in which are representations of Le Chantecler, La Vieille Poule, La Poule Noire, La Poule Mère, Le Jeune Coq, Le Dindon, L'Oie, Le Merle, Le Canard, La Cigne, La Faisane; Buiffaut and Paton, two dogs; a wheelbarrow, and two or three structures proper to the farmyard It may here be mentioned that coniferous trees and evergreen shrubs that have been grown without the aid of shears have also been freely used in enhancing the attractions of the park, and these are mostly arranged in bold groups under the trees and on the rocky banks of the stream that intersects the park, and as a background to a considerable number of the groups of beds devoted to bulbous plants. They are all more or less attractive at the present time, but they will be especially useful as a relief to the glowing colours of the hyacinths and tulips when their flowers attain their full development.

The grounds have, for the purpose of the exhibition, been laid out by Mr. Leonard A. Springer, a landscape architect of repute resident at Haarlem. The exhibition buildings, the geometric garden, and the arrangement of the groups of beds filled with bulbs are all from his designs. Mr. Springer arranged in the Art Museum an exhibition of drawings and plans of gardens that have been famous in Holland and adjacent countries during the past three centuries.

TEMPORARY EXHIBITION.

The temporary exhibition was opened on March 23, in the "Vereeniging" building in the city, but the international jury had assembled early in the morning of the previous day, and made their awards to the various contributions to the classes provided on this occasion. The members of the jury met in the Art Museum, which was for some time the residence of Louis Napoleon, and here they were welcomed by Mr. Krelage, the president of the society. Mr. Krelage did not speak at such length as is customary on such occasions at Continental gatherings, but he welcomed the Dutch, English, German, and French members in separate speeches, a departure from the usual practice that was much appreciated. On the completion of their duties the members of the jury were entertained at luncheon in the exhibition restaurant, and at this function there were two speeches, the speakers being the President and the Burgomaster of Haarlem. In the evening of the same day the council of the Dutch Bulb Exporters' Association received the jury at a friendly gathering, and here also the speeches were but two, one by the president of the association and the other by the President of Honour of the jury. The opening ceremony, on the 23rd ult., was at a quarter to eleven, and at this H.R.H. the Prince Henry of the Netherlands was present, and of the English members of the jury, Mr. G. H. Cuthbert, Mr. George Gordon, V.M.H., and Mr. J. F. McHattie had the honour of being presented to him. The social functions were brought to a close with a banquet at Funckler's Hotel. At this, as at the luncheon, Mr. Krelage presided, and he was supported by all the leading statesmen in Holland, the Burgomaster of Haarlem and others occupying prominent positions. The banquet was a brilliant success, although probably some of our English friends may have considered the after-dinner proceedings rather too lengthy. There were twenty-one speeches, some of them occupying over twenty minutes, but they were, for the most part, of a high average, that of the President being exceptionally so. Unlike the public dinners in England, the toast lists at festive gatherings in Holland are not interspersed with either vocal or instrumental music. Mr. J. F. McHattie made an interesting speech in response to the toast of "The Jury," and Mr. Van Waveren, who has been a member of the society since its foundation fifty years ago, made a speech at once interesting and vigorous.

BULBOUS PLANTS.

As might well have been expected in the great centre of the hyacinth industry, hyacinths were splendidly shown both as regards numbers and the development of flowers and foliage. They contributed liberally to the attractions of each of the exhibition houses. In the first of these the General Bulb Company of Overveen had a magnificent display which received much attention. The flowers were arranged in a series of beds of divers forms, each bed being devoted to one variety. The bright blue Enchantress was used in filling the four corner beds. In the large beds on the lawn, one at either end, was the bright pink Lady Derby, the several hundred spikes being uniform in development and the flowers bright in colour, two of the four crescents at the sides were devoted to the richly-coloured Yellow Hammer, and two to the pure white L'Innocence, a variety that has become popular for bedding purposes. Between each pair of crescents there was a lozenge-shaped bed, and these were occupied by Sir William Mansfield, a mauve-coloured variety that has much value for the contrast it affords. As on the occasion of the great quinquennial exhibition held in 1905, Messrs. Ant. Roozen and Son, of Overveen, near Haarlem, exhibited a magnificent collection of specimens arranged in pans, ten plants in each. These were grouped in four beds, one at each corner of a lawn formed in the centre of the second of the exhibition houses, and produced a display not less remarkable for the high quality of the specimens than for its effectiveness. The space between the pans was filled with ferns of lowly growth, and these served the double purpose of hiding the pans and affording a pleasing contrast to the glowing colours of the hyacinth flowers. Prominent among the varieties were such well-known favourites as King of the Blues, La Grandesse, Yellow Hammer, Alexander Von Orange, Lord Derby, Queen of the Pinks, Enchantress, Vuurbaak, Lady Derby, General Pelliser, Baron Von Tuyll, and Solfaterre.

On the breadth of turf on which Messrs. Ant. Roozen and Son's hyacinths produced such a rich effect were rose-tinted astilbes, a group of Lilium longiflorum, belts of lily of the valley, and fine groups of Primula obconica. This primula was also well shown in several other parts of the exhibition, and while some were weak in colour, the majority were remarkable for the rich shades of rose and pink they afforded, and bold trusses in which the flowers were arranged. The contributions to the classes for collections of hyacinths were arranged on one of the side stages in the third exhibition house, which was chiefly devoted to cut lilac bloom, and formed a five-tier bank about one hundred feet in length. In the great class for one hundred plants, Mr. J. H. Gehrels, of Overveen, was successful in winning the gold medal offered as the premier award. The spikes were in all cases splendidly developed, and the leaves neat and so stout as to stand erect with the points reaching to the base of the flower spikes. Some of the finest of the varieties in the collection were King of the Reds, Queen of the Pinks, Enchantress, pale blue with light centre, a variety of much merit. Conquest, one of the brightest of the yellow varieties, Vuurbaak, Jacques, a pale pink variety with exceptionally fine spikes; Beauty, bright yet soft rose; Lord Salisbury, Cardinal Wiseman, an attractive pink variety; Corregio, and Mons. Vander Hoop, two pure white varieties, with well-developed spikes. Messrs. Eldering and Son, Overveen, occupied the second place with a well-grown collection in which Orange Queen, a brilliantly-coloured variety, was conspicuous. Very fine also was La Victoire, a deep rose-pink variety. In the principal collections in other classes there was abundant evidence of skill, but as they consisted for the most part of well-known varieties there is no occasion to speak of them in detail.

One end of the third exhibition house was filled with a collection of early tulips. These were shown in pans ten bulbs in each, and as they were finely grown, and consisted of distinct varieties, the collection possessed considerable value as an object-lesson. The single varieties included the Yellow Pottebakker, President Taft, blush feathered with crimson; Haes, crimson; Crounne d'Or. Herr Bergheim, crimson; White Joost Van Vondel, Mons. Tresor, one of the finest of the yellow single tulips; Ophir d'Or, also a fine golden-yellow variety; Coleur de Cardinal, a well-known deep crimson tulip; Hurille, a beautiful blush-coloured variety; and Rembrandt, a handsome rich crimson variety. The double varieties of special merit included Premier Gladstone, a medium-sized, finely-formed flower of a rich crimson hue. Lac Van Haarlem, rich rose, and El Toreador, crimson, with broad border of deep orange.

In the second exhibition house double and single tulips were used with remarkable judgment, and their bright colours were singularly effective. The broad borders in which lilacs and a host of subjects of some considerable height were arranged, had in front a belt of turf about four feet in width. Along these belts were beds of tulips about two feet square, and placed at a sufficient distance apart to allow a space of eighteen inches between them. Each bed contained one variety, and as they were nearly all distinct, the finest of the early-flowering varieties were represented. The most noteworthy were the varieties mentioned as having been included in the collection shown by Messrs. Van Waveren. The principal exhibitor of the small beds was Mr. G. Eggnik.

Tulips were used in a somewhat similar manner in the first exhibition house, but here the space was larger and the beds were increased to about five long by three feet wide, and a few beds of polyanthus narcissi were interspersed with the tulips.

Freesias were represented by an interesting collection contributed by Mr. C. G. Van Tubergen, of Haarlem. These consisted of new varieties, mostly raised by himself, and included Contrast, white, with orange spot; Le Phare, brilliant pink; Chapmani, an English-raised hybrid, with rich golden-yellow flowers; L'Apogèe, pale yellow; Amethyst, light blue; L'Aveim, rich rose; Rose Bonheur, white tube, with rose-coloured lower and golden blotch on the lower one; and Tubergeni, lilac, tinted rose, a very free-blooming variety, with medium-sized flowers. A collection of hippeastrums from Messrs. A. Warmenhoven and Son, Hillegom, produced a brilliant display of colour in the exhibition house, in which the lilac flowers were displayed. Several of the varieties were of excellent quality, but it would appear, from the varieties forming the collection, that less importance is attached to the form of the flowers than in England.

PLANTS.

Begonia Gloire de Lorraine and its varieties were used to good effect in the first of the exhibition houses. The specimens, all of which were more or less well flowered, were suspended between the pillars supporting the structure, and the clouds of flowers presented a charming appearance against the grey and pale fawn canvas that was elegantly suspended from the roof. In another of the exhibition houses there was an exhibit of two dozen plants, grown in six-inch pots, from Mr. D. Bardse, of Aalsmeer, that were of great excellence, even in these days, when the cultivation of Gloire de Lorraine begonia has been brought to a high degree of perfection. The plants were so freely flowered that the masses of bloom were about two feet in diameter, and so dense as to hide both pots and foliage. The large size and high quality of the blossoms were not less remarkable than their numbers. There was a second collection from another exhibitor, and these were of interest as showing how greatly the value of this begonia depends upon cultural skill. The plants in this collection carried a profusion of flowers, but they lacked breadth of petal and were pale in colour, as in the case of so many plants presented to public notice.

FLOWERING SHRUBS.

Lilacs made a great feature of the exhibition, for a large number of classes were provided in the schedule for cut flowers and for plants of various sizes, including standards and half-standards, and for bush specimens, some of the classes for the latter being for pot-grown plants, and others for those lifted from the open borders and forced. The superiority of the pot-grown specimens for decorative purposes was fully demonstrated, for in all cases the foliage was stout and fresh, and remained in the best possible condition throughout the exhibition, while the foliage of the lifted plants showed signs of distress on the opening day. When the lilacs are forced simply for the production of supplies of flowers the latter appear to be equally as useful as those which had been grown in pots.

Cut flowers of lilac were shown in immense quantities, and in magnificent condition. The collections in competition for prizes filled in one of the exhibition houses a table ten feet wide and nearly two hundred feet in length. Especially noteworthy were the six vases from Messrs. D. and J. Keessen Bros., Aalsmeer, for in them were arranged huge sheaves of flowers ranging from three to four feet high, and from thirty inches to three feet in diameter, and remarkable for the graceful disposition of the flower spikes. The principal varieties were the bright lilac-blue Charles X., the pale blue President Grevy, remarkable for the length of the flower spikes; the pure white Marie Legraye, the most popular in Holland of the white varieties; and the rich red-purple Souvenir Leon de Spâth. In the majority of the other collections the flowers were arranged in glasses of the usual trumpet shape, about twelve spikes in each. Less effective than the fine arrangements first mentioned, these vases were highly attractive, and afforded an admirable object-lesson in the use of lilac flowers in the embellishment of apartments on ordinary occasions. Messrs. D. J. Tas and Son, of Aalsmeer, who were very successful exhibitors of cut lilac, contributed a very fine set of vases of cut sprays of hardy shrubs, other than lilac, which formed a pleasing and interesting feature. Among other of the more attractive subjects were the white and lilac forms of Wistaria sinensis, double-flowered peaches, Deutzia Lemoinei, Pyrus malus Scheideckeri, Prunus triloba, Viburnum opulus sterile, and Staphylea colchica.

The two huge banks of lilacs in the second exhibition house were of much interest for the wealth of flowers they afforded; but as the large specimens were necessarily bare of foliage for some part of their height, one could have wished the dwarf plants that were clothed with leaves to the rim of the pots had been arranged along the front. This would have considerably complicated the work of judging, which was quite difficult enough owing to the little difference in the merit of some of the leading collections; the next best thing was done by planting a line each of variegated aspidistras and funkias to hide the stems, and these produced a pleasing effect. The contributions to the class for twelve plants of Marie Legraye were models of what such plants should be for the decoration of the conservatory. They were about thirty inches in height, and had seven or eight finely-branched spikes each. These were shown by Messrs. Felix and Dykhuis of Boskoop, who exhibited also a group of plants of Charles X, of a similar character.

There were several large groups of rhododendrons, all more or less well flowered, and some contained two hundred or more well-bloomed plants each. The most interesting of these contributions was that exhibited by Messrs. C. B. Van Nes and Sons, of Boskoop. This consisted of large, finely-flowered bushes of White Pearl, so well known and highly appreciated at home, and the beautiful new variety Prinses Juliana, a distinct variety of much merit. This is somewhat similar in character to the magnificent and highly popular Pink Pearl, but it differs from it in having flowers finely fringed at the margin, and of a deep brilliant pink hue during the earlier stages of development. This is said to have originated as the result of a cross between Rhododendron Aucklandi and a hybrid. This was awarded the gold medal offered for the best new plant in the exhibition.

Deutzias, pyrus, viburnums, and Mollis azaleas were largely shown, but the last-named were rather disappointing after the fine displays we have seen at the Temple Shows. The plants were mostly of small size, and not specially well flowered. The best examples were those shown by Messrs. Koster, of Boskoop, and associated with other subjects they produced a rich colour effect.

Especially attractive was the collection of forced shrubs with which the firm of Wezelenburg, of Lieden, filled a large bay near the entrance to the first exhibition house. Here were Wistaria sinensis, Mollis and Ghent azaleas, Prunus triloba, laburnum, Cytisus præcox, the double common broom, Forsythia suspensa, lilac in variety, and double peaches. In this collection also the Mollis azaleas were highly meritorious.

Having a thorough acquaintance with the splendid service of train and turbine steamers provided by the Great Eastern Railway Company for the purposes of their passenger traffic between England and the Continent via Harwich and the Hook of Holland, we suggested in our issue of March 19 that those of our readers who intended visiting Haarlem would be wise in taking advantage of the Hook of Holland route. We were pleased to find that not a few of the English visitors had acted upon our suggestion, and were highly satisfied with the result. Some of our business friends who have a difficulty in being away at this season of the year for more than a day or two, put to a practical test the possibility of visiting the show without being away from business more than one day, and they also were well satisfied. It would be difficult to imagine how it could well have been otherwise. The visitor to Haarlem leaves Liverpool Street at 8.30 p.m., and the train that connects with the steamer at the Hook of Holland reaches Haarlem at 7 a.m. He can dine between London and Harwich, and have six or seven hours' sleep between the latter place and the Hook of Holland. Returning, the visitor leaves Haarlem at 9.30 p.m., and reaches Liverpool Street at 8 a.m., having, if he so wishes, breakfast on the train. We mention this because it is anticipated that at the exhibition arranged for the middle of this month, when the deputation from the Royal Horticultural Society will be present, there will be a much larger contingent of English visitors than was the case on this occasion.

Birmingham Gardeners' Association.

The fortnightly meeting was held on March 21, and attended by an average number of members. Mr. J. Markham, gardener to H. Cartland, Esq., The Priory, King's Heath, discoursed upon "Peaches and Nectarines," and it was his initiatory address, as he is a comparatively new member. He dealt with the subject in a thoroughly practical manner, peach culture being a speciality with him. His text was the culture of peaches and nectarines under glass, and from the construction of the border to the full establishment of the tree his remarks were duly appreciated.

The chairman (Mr. T. Humphreys) when inviting a discussion among the members, gave a brief review of the lecturer's subject, and endorsed its chief points, while Messrs. T. Brown, W. Spinks, A. Cryer, W. Gardiner, and others afforded instructive details from their own practical experience, and the essay was more or less favourably criticised by them.

A hearty vote of thanks was accorded Mr. Markham for his lecture.

Beckenham Horticultural Society.

On Friday, March 18, Mr. Alex. Dean, V.M.H., gave a lecture on "Vegetables as Garden and Exhibition Products, and as Food." Mr. Sherley Price, vice-president, was in the chair. There was a very full attendance, which the lecturer thoroughly interested for upwards of an hour. For a text, an imaginary "Collection of Vegetables" was taken, such as is usually seen on the exhibition table; the lecturer touched on their arrangement, and pointed out the great strides that have been made within the past few years in the improvement of the several kinds, i.e., peas, runner beans, onions, tomatoes, etc., etc. The lecturer also dealt with the culture of vegetables from a patriotic point of view, showing how our millions of acres of idle land might be made to feed the people with wholesome vegetables, and make us, to some extent, more independent of foreign supplies, more especially so if for any reason outside supplies were cut off or diminished. The lecturer, in his capacity of judge for the Surrey County Council, had frequently seen vegetables of the value of £10 growing on a twenty-rod plot, showing what mother earth can do if properly treated.

Mr. Dean also made some allusions to the new National Vegetable Society, and its work, trials, etc. In reply to a question he urged the necessity of securing seeds of the best stocks, pointing out the extreme care and expense the leading seed-men incur to ensure pure stocks. At the close a most hearty vote of thanks was accorded Mr. Dean.

From Fairlight (Mr. Trowel) came Dendrobium nobile, and from Kelsey Park (Mr. Webster) came rhubarb, apples, pears, and various cattleyas; and from Homewood Gardens came cyclamen, mignonette, polyanthuses, etc., etc.; in each case the highest award was made.

South Shields Chrysanthemum Society.—We are sorry to learn from the report presented to the annual meeting, held the other evening, that the financial results of the work accomplished by this society during the past year was not satisfactory. Commencing the year with a credit balance of £18 7s. 7d., the society had a debit balance of £13 14s. 6d. at the close. In other words, the loss on the year was £32 2s. 1d. Mr. W. Swinney, chairman; Mr. J. T. Reed, treasurer; and Mr. J. E. Stout were re-elected. The exhibition for the current year will be held on November 9 and 10.

FORESTRY NOTES.

During November last Mr. W. Dallimore made a tour through some of the wooded country in the North of England, and the places visited were Raby Castle, Haydon Bridge, Alnwick Castle, Chatsworth, and Wortley Hall. A report on the tour is published in the current issue of the "Kew Bulletin," and to those who are interested in forestry will be found of much interest. Before proceeding to give a description of the woodlands in the estates visited he makes allusion to certain general considerations and reflections induced by similar visits to localities in various parts of the country where trees are cultivated under forest conditions. This introduction has such wide interest that we reproduce it for the benefit of our readers.

General Condition of Plantations.

Broadly speaking, woods up to twenty years of age are found to be in good condition, but many older ones are suffering from over-thinning and over-aged trees. Owners, estate agents, and foresters are enthusiastic over forestry matters, but much uphill work is necessary to counterbalance the effects of neglect and injudicious manipulation of bygone years.

Deteriorating Trees.

In many parts of the country well suited for the purpose, sentiment is allowed to interfere too much with practical forestry to admit of its being conducted on sound business principles. For instance, plantations are frequently found to be composed of trees which have arrived at, or passed, their prime, and which will never be of more value than they possess at the present moment; yet for more or less sentimental reasons these trees are allowed to remain year after year. From a practical point of view such plantations ought to be cut over by degrees, so that after a resting period of two or three years, the land could be replanted and the next generation of trees grown. If these old trees are allowed to remain, say, for another twenty years, the timber will be worth no more at the end of that period than at the present time, and may be worth less on account of natural decay; whereas, if the value of the timber were realised and the cleared areas replanted, by the end of twenty years new plantations would be nearing the end of their unproductive stage. The eventual cost of clearing some old woods may be heavy, for there must be many trees that can be of little use except for firewood.

Undoubtedly there are many instances where plantations of old trees are essential for landscape effect, and where there are fine old park-grown specimens, whose value cannot be calculated in pounds, shillings, and pence, which it would be rank vandalism to remove. These, however, are not now in question; it is to trees which are grown exclusively for timber that the present remarks are directed.

Over-thinned Woods.

Modern foresters are suffering rather severely for the sins of their forefathers, insomuch that a great number of woods, forty to eighty years of age, have been over-thinned. Far too much head room has been allowed, with the result that the trees have developed branches at the expense of the trunks; therefore, the crop of timber over a given area is often less than half what it ought to have been. In some places an attempt is being made to rectify this by underplanting, but a long period has to elapse before the planter can see the beneficial results of his labour.

Young Woods.

By the appearance of the young woods one can appreciate the work that is being done, for in the majority of instances these are in a highly creditable condition. Young plantations generally, whether in poor or in better-class ground, are making satisfactory progress, and considerable care is being exercised as regards thinning and general upkeep. In some instances diseases of various kinds are apparent, but these are receiving what practical attention is possible.

The kinds of trees planted on a large scale are surprisingly few, the chief being larch, common and Japanese, Scots pine, Corsican and Austrian pine, spruce, oak, beech, birch and sycamore, with a little ash and poplar. Very little Douglas fir has been noted, and no large plantation has been seen.

In most cases mixed plantations are preferred to pure woods, though the latter may occasionally be noticed. The value of a little shelter is apparent in the case of young trees everywhere. A natural depression in the ground, a clump of old trees, or even a low hedge results in the trees in the vicinity being more vigorous than those which are less favoured.

Whilst inspecting various plantations the thought has occurred that a great deal of valuable experimental work might be carried on at a small expense, with the co-operation of landowners, by distributing young trees of various kinds, not at present grown for timber in Britain, which are known to produce valuable timber and would be likely to thrive. These, planted in mixed woods, in different parts of an estate, could be easily compared with trees which produce less valuable timber but are known to grow well, and in a few years' time, a decision could be arrived at as to the prospects of different trees in different neighbourhoods. This sort of thing is being done with Douglas fir on one or two estates.

Estate Nurseries.

Estate nurseries are receiving attention almost everywhere, and foresters are enthusiastic over their nursery grounds. The general conclusion is that a nursery in connection with estate forestry is a valuable asset, for, in addition to its being more economical to grow young trees rather than purchase them large enough to put out, more satisfactory results are obtained from trees grown on the place than from those received from a distance. The conclusion is possibly just, for not only are the trees grown under the same climatic conditions from babyhood, but when planting, it is only necessary to lift sufficient at one time for a single day's planting, no long railway journey is necessary, and the laying in of many thousands of young trees is dispensed with. In some cases the young trees are raised from seed sown on the estate, but more frequently one-year-old seedlings are purchased. These are planted in nursery rows and taken to permanent positions when from three to four years of age.

Sale of Timber.

It is difficult to form anything like a correct idea of the average value of the different kinds of timber, since so much depends on quality and distance from railway or town. Occasionally a local demand occurs for some special kind of wood, and a good price is obtained, while, only fifty miles away, little more than firewood price has been obtained for the same kind of timber. Undoubtedly, were the supply of timber regular prices would be better; as it is, fellings are often irregular, and one year the local market may be flooded, while for several years afterwards no timber is cut. Owing to this, there is no encouragement for timber merchants to erect plant for dealing with large quantities of timber in a particular neighbourhood, and it has to be sent a long distance to a market, a circumstance which has a decidedly adverse influence on the price. Larch usually sells well, and from tenpence to one shilling and twopence a cubic foot is obtained standing. Scots pine, on the other hand, may fetch eightpence a cubic foot if of good quality, whilst in an out-of-the-way place it has been sold for twopence halfpenny. On one estate a small plantation of black poplar about sixty years old was disposed of recently at ninepence a cubic foot after deducting cost of delivery at the local station two and a-half miles distant. Oak appears to fluctuate considerably, some being down as low as one shilling while from other plantations it is sold at double the price. As a rule timber is sold standing, and the buyer sees to the cutting and removal.

Timber for estate purposes frequently forms a large item, and each estate usually runs its own saw mill and creosoting plant.

Sport and Forestry.

The rearing of game, shooting, and to some extent hunting, deserve serious consideration in connection with forestry. On most estates gamekeeping and forestry are run together, therefore the forester has to arrange his work so that there is no serious disturbance of game. This may handicap him rather considerably, for he may be precluded from work in certain woods during several of the most useful months of the year, e.g., from September until shooting parties are over, which may not be until about the end of January. Moreover, gamekeepers must have the run of the woods, and, in the event of undergrowth being scarce, branches of Scots pine and other evergreens may have to be introduced from other places and stuck in the ground. As the result of this branches brought from disease-infected trees have sometimes started an epidemic in what was previously a clean plantation. In some cases it has been noticed that some of the poorer trees had been partly chopped through and broken over so as to lie on the ground. Such a proceeding may be advantageous from the gamekeeper's point of view; it certainly is not so from that of the forester. The rearing of pheasants, however, causes but slight annoyance as compared with the damage done by hares and rabbits.

Hares and rabbits are responsible for considerable damage by the wholesale nibbling of the bark of young trees. Some plantations have been observed where almost every beech and oak had been nibbled, and it appears that it has been necessary to plant some woods three times over on this account. Many of the younger plantations are protected by wire netting. This, however, is an expensive item, and adds considerably to the upkeep of woodlands. The system of debiting the game department with the cost of wire netting has been introduced on some estates; this appears to be a proper step to take, since but for the game, wire netting would not be required. Acting on strictly business principles, the game department ought to be debited with the loss caused by nibbled trees, extra labour, and introduced insect pests.

Damage caused by hunting is usually due to thoughtlessness. In the excitement of a hot chase young plantations sometimes suffer, whilst cases are known where a huntsman and his pack of hounds have quartered themselves as calmly in a two-year-old plantation as they would have done on a meadow.

Labour.

As a rule the work on an estate is carried on by regular hands. Ordinary woodmen are drawn from the neighbourhood; head foresters and foremen from other parts of the country. A few young foresters move about from estate to estate to gain experience, and these are the men who usually obtain situations in after-life as head foresters. If extra labour be required for planting, men are preferred who have led an agricultural life, that is to say, men who have small farms in the vicinity, and their sons, or agricultural labourers. The older foresters have very decided views with regard to the training of young foresters. They maintain that a sound practical training is essential but not sufficient, and that a certain amount of theoretical knowledge, with some idea of general estate management, is desirable. On this account some foresters give those under them practical instruction, lessons on book-keeping and other subjects, while those in the vicinity of Newcastle endeavour to get their men to take the forestry course of lectures given at the Armstrong College in that city.

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FRUIT TREES AND FROST.

Those who grow fruit trees on a large scale, or those whose trees are standards, or large bushes and pyramids, must necessarily be at the mercy of a sharp frost at flowering time, or even after the fruit has set, but those who have wall trees, or restricted trees of any sort in the open, may, when they see them well set with fruit buds, look forward with a fair amount of confidence to a crop of fruit the following season if they are prepared to use some little foresight, and be prepared for that one disastrous night (and usually one only), without which either April or May seldom leaves us. The frosts of the later spring are usually on perfectly still nights, when the colder, and, therefore, heavier, air drains into the valleys and low-lying parts, a fact with which the cyclist is so familiar, who, when rushing down a hill, suddenly leaves the warm, dry air, and plunges into that which is cold and damp. Hence the increased liability of fruit trees in such low-lying situations to have their blossoms destroyed by frost, the blossom on dwarf trees often being destroyed by frost even when that on tall trees escapes. When, however, we have a frost accompanied by cutting east wind the conditions of winter obtaining in April, as was the case in 1903 and 1905—then high and low suffer pretty much alike, and it is little that we can do to any trees which are not on a wall. But such conditions at the flowering time of the later-blooming varieties of fruits are quite exceptional, and even in the Arctic weather of the latter part of April, 1908, there was scarcely any wind. I propose to give some little of my own experience in securing good crops of fruit in a low-lying part of the eastern counties, notwithstanding the trying springs of nine out of the last ten years, that one exception being 1904.

The careful observation of a minimum-recording thermometer a necessity in every garden where plants have to be protected from frost at different hours of the night and early morning, will not only show this, but will enable us to tell with a fair amount of certainty when these exceptionally frosty nights may be expected. Leaving out of consideration for a moment apricots, peaches, and nectarines, all of which flower very early, usually being out by the end of March, it is not usually more than two or three times in a season that the prospect of frost sharp enough to damage most fruit blossom after the middle of April (and plums and pears, with a few exceptions, are not generally in full bloom before this) is sufficiently likely to warrant one in protecting one's fruit trees, and if one takes a real interest in them all through the year, and not only just when the fruit is coming on, it is worth the trouble of protecting them on these two or three nights. If one finds on looking at the thermometer in the morning that one has covered up the trees unnecessarily and this is bound to happen sometimes there is always the satisfaction of knowing that the larger trees, the blossom on which has opened since the last frost, and could not be covered up, are also safe so far. The earlier-flowering stone-fruit trees certainly do need more care, for I have seen apricots in full bloom at the beginning of March, and peaches and nectarines ten days later, and in such cases there is certainly the possibility of having to protect the trees a good many nights if a crop is to be secured. But then, what magnificent fruit, when we get it! I have eaten peaches which cost a shilling each not nearly so good as those off my own garden wall at the same time of the year.

Seeing, then, that the protection of our choice fruit trees from frost can be accomplished without making an undue toil of it, let us consider some ways of doing it which are simple, and yet fairly effective in any ordinary emergency. Some put fish netting over the trees, and leave it there from flowering time till the danger of frost is over. This has the merit of simplicity, but it has also its drawbacks, as, if single, it will not secure the trees against a sharp frost, and, if double, may go a long way towards keeping the bees away from the blossoms. Moreover, if the trees are on a wall, and the netting is hung directly on the trees, it is difficult to remove it, say, in the middle of May, without also removing some valuable shoots and incipient spurs. Another method open to objection is the setting of bean sticks in front of wall trees, so as to form a sort of hedge, and leaving them there for weeks. I used to adopt this, but gave it up many years ago, because I found I had a very poor crop of fruit, doubtless largely because the bees were deterred from visiting the blossom. At any rate, I had a much better crop directly I dropped the practice. If the sticks or branches of any sort—if evergreen all the better—are set in front at night, when they are likely to be needed, and removed next morning, it is a fairly effective way of keeping off the frost, and is not more trouble than some other ways. For high walls I often use whole bundles of tall bean sticks just as they come from the woodman, or make each bundle into two if very large; such bundles set a yard or two apart keeping off all frost from the parts of the trees immediately behind the bundles, and a good deal from the parts left exposed between.

I leave out of consideration altogether the elaborate methods sometimes described, amounting almost to the erection of a glass house in front of the trees, as these notes are not for those who have to do with large gardens, and abundant labour, where such practices are in vogue. The method I adopt for the most part consists in the simple device of setting in front of the trees plain sticks of the same height as the wall after they are stuck in the ground, and then hanging light coverings of any sort over them, a brick or two laid on the top of the wall at intervals keeping them from falling down. This, in moderately still weather, is absolutely safe, and the blossom and young shoots are not damaged by contact with the coverings. If one adopts this plan, and collects suitable material for the purpose, it is surprising what an accumulation one has after a few years, assuming the coverings are taken care of, and not put away damp after a very dewy night, or even a shower of rain or snow, as will happen sometimes.

As regards trees in the open, size is a very important factor in determining which we shall protect, though, naturally, when a sharp night comes we do not like the prospect of any crop being destroyed for the sake of a little trouble, on, it may be, only one evening. I do not know of any better way of protecting such trees than throwing over them coverings of some very light material, the corners being pinned, if need be, to keep them from blowing off. The extension branches will protect the blossom from damage by the coverings—for, in addition to injury to the tender parts of the flower by pressure, it must be borne in mind that any blossom in contact with the covering will freeze through it almost as easily as if there were no covering over it. The new terminal shoots, however, will be easily rubbed off if the coverings are not very carefully removed in the morning.

A. Petts.

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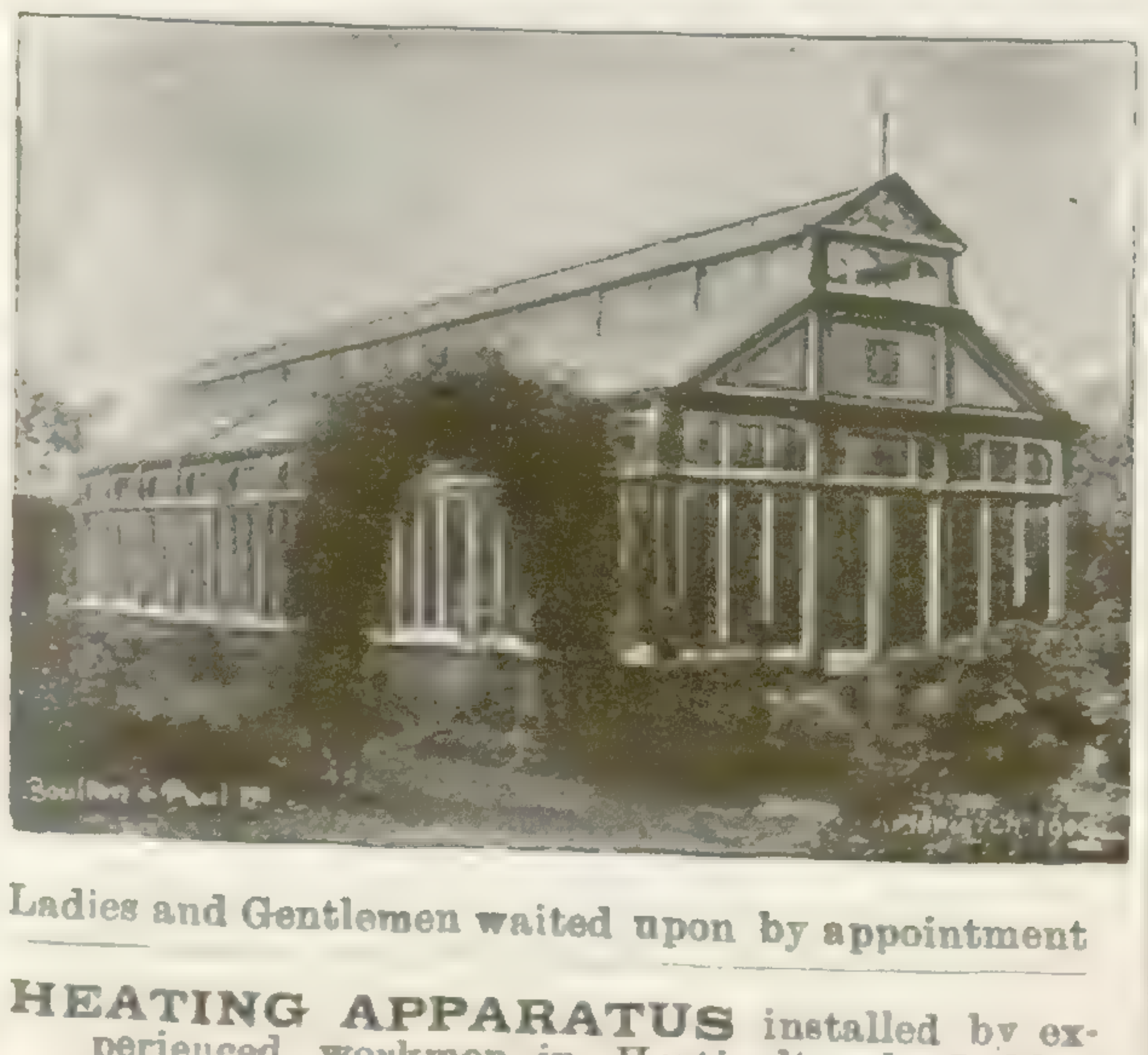

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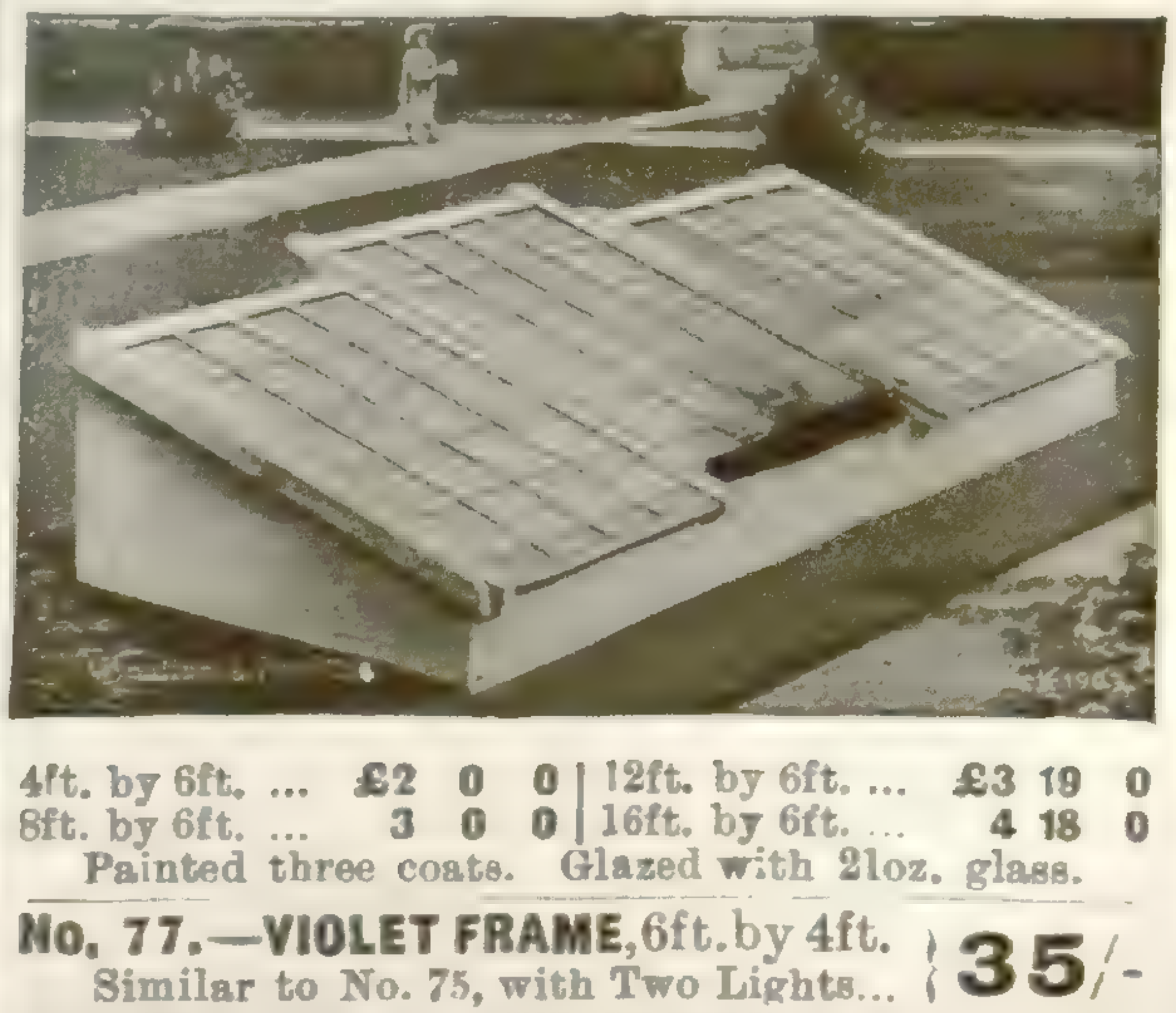

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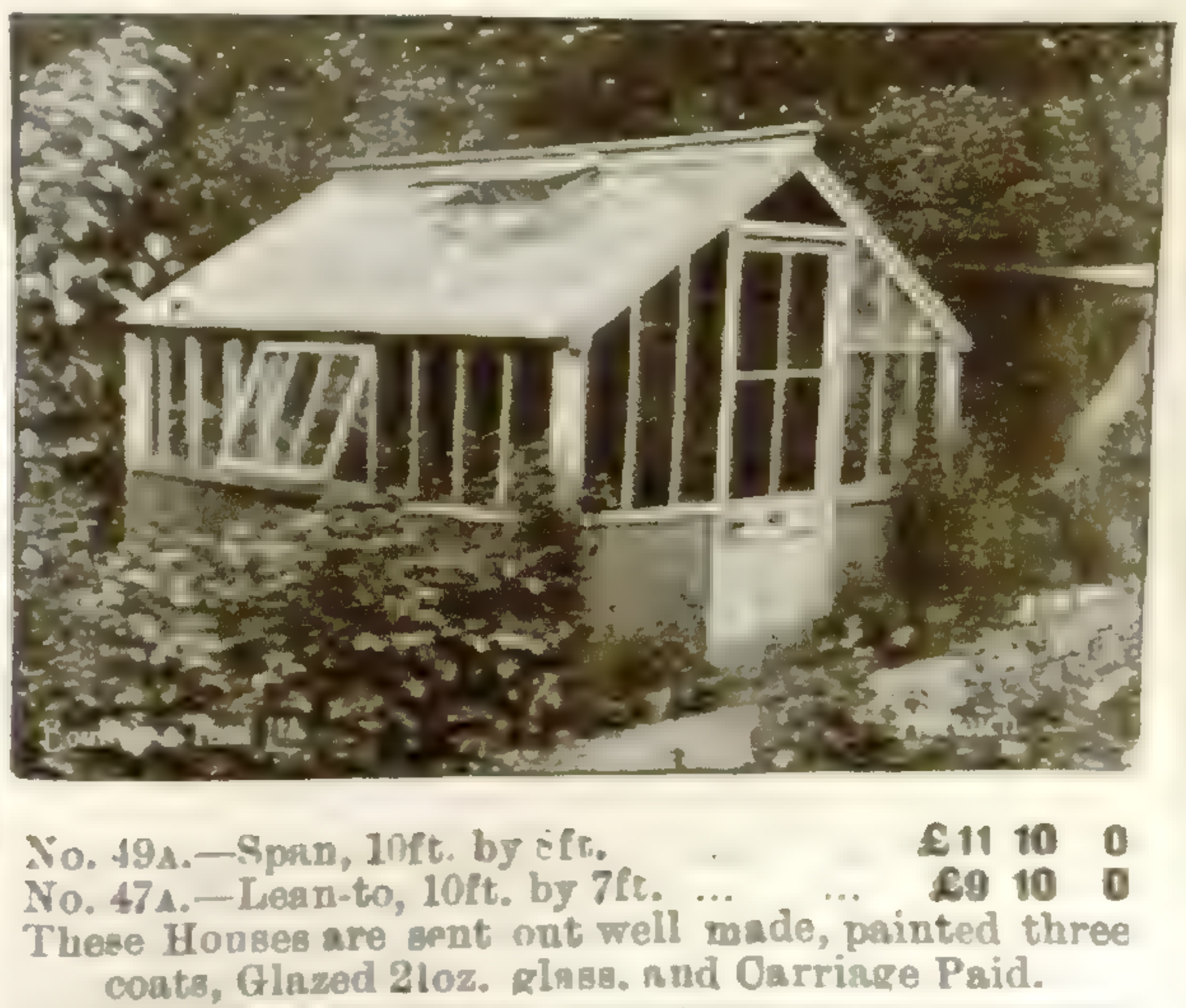

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

WARTED VINE LEAVES.—H. P. E., Warwick: The trouble is due to excess of moisture in the atmosphere and the consequent improper transpiration from the leaf. A better adjustment of ventilation in conjunction with the outside conditions will improve matters provided neither moisture nor artificial heat are used to excess. A heavy stagnant atmosphere will produce all sorts of ills in plants, therefore advantage should be taken of every favourable opportunity to change the air in the house without going to such extremes of ventilation as would cause a serious fall in temperature and severely check growth.

PRIMULA OBCONICA.—N. T. R., Croydon: This fine species may be sown almost at any time, but the present season is a very favourable one because, with careful treatment, the seedlings will make handsome specimens by the autumn and flower well right through the winter. Well drain a shallow pan and fill it to within half an inch of the rim with fine, sandy soil; press the surface firmly and evenly, and water through a very fine rose. Sow the seeds thinly and evenly over this moist surface, cover with a sheet of glass, place the pan in a warm greenhouse, and give shade until the seeds germinate. Prick off the seedlings into other pans as soon as they can be conveniently handled, and when they are large enough pot them singly in three-inch pots. A cold frame or airy greenhouse will suit them all the summer. Six-inch pots will be quite large enough for them to flower in, and a good compost for the final potting is two parts of good loam and one part of decayed and dried manure. If the loam is rather heavy add some leaf-soil. A fair amount of sand should be added.

NEW PLANTS OF 1909.—J. M., Abergavenny: The new plants, flowers, fruits, and vegetables of 1909 are described in the "Gardening Year Book for 1910" (post free 1s. 2d. from the Gardeners' Magazine Office, 148 and 149, Aldersgate Street, E.C.), and many of the principal plants are illustrated. You will find the book most interesting and useful in other directions also.

PELARGONIUM CLORINDA.—D. C. F., Leicester: We have frequently drawn attention to the great usefulness of Pelargonium Clorinda. It is the result of a cross between a scented leaved pelargonium and a show pelargonium, and, writing from memory, we believe it was raised by Dr. Bonavia, and put into commerce by Messrs. H. Cannell and Sons. Latterly it has become a popular market plant. It is fine for a greenhouse and may be grown up a rafter, as a standard or bush, or trained to a fan-shaped or other kind of screen. Every bit of new growth quickly flowers, so that it is practically a perpetual flowering variety. It can be readily propagated in the usual way. Owing to its habit of flowering so freely it is necessary to feed the plants with liquid manure when well established, otherwise the trusses and flowers will be small.

SOLANUMS.—R. E. G., Skipton: Remove all the old berries and cut back the growths to one-half or one-third of their length and then put the plants in a warm pit or greenhouse. Syringe freely on all favourable occasions and new growths will soon commence to form. At this stage shake the old soil from the roots and reduce the root system considerably, afterwards potting the plants in small pots, in loam, leaf-soil and sand. Keep the plants in a warm, light place and syringe them twice daily for awhile. Presently cooler conditions will suffice and larger pots be needed. Reject all plants that have carried few or small, dull coloured berries, and put in a few cuttings of the best varieties. It is always desirable to have young stock so that as plants grow old, or too large, their places may be filled with young, vigorous specimens.

PLANTING SWEET PEAS.—A. F. C., Andover: If the plants are sturdy and have been fully exposed for two or three weeks they may be at once planted where they are to flower. It is a great mistake to leave the plants in the pots after this date if they are hardy and the ground is ready for them. Well hardened sweet peas will stand several degrees of frost without suffering in the least. Water the plants a few hours before planting and if the ground is dry give water after planting, but use water that has been exposed to the air for several hours. A few small twigs will be needed to keep the plants erect, but staking need not be done at once. If birds are troublesome a few lines of black thread drawn tightly along the rows will scare them.

OYSTER SCALE.—M. M., Tiverton: The life history of the Oyster Scale, as recorded by the Board of Agriculture, is as follows:—The winged males appear towards the end of April or in May, according to the weather conditions. By this time the females are adult and fertilisation takes place. Eggs are laid containing larvæ ready to hatch. The tiny larvæ wander over the bark, ultimately settling down to feed by inserting their sucking mouth parts into the bark. In this larval stage there is practically no sexual distinction. A secretion is given off which covers the larva, and later the first moult takes place and the second stage is attained. The moulted skin is not thrown aside, but remains to form part of the shield or covering of the insect, this covering being greatly added to and completed by secreted matter. This second stage is a quiescent one, but the insect, anchored by its mouth parts, continues to suck up the sap. It is important, from the standpoint of treatment, to note that it is in this second immature stage, complete by the autumn, that hibernation takes place. About the beginning of the next April, the second stage males pass into the pupal condition, and, after a pupal stage of three weeks, the pupal skin is cast and, in suitable sunshiny weather, the adult males emerge. This last cast skin is to be found for a time at the hind end of the scale. Meanwhile the second stage females—not really differing much from the future adult females—accomplish their last moult and become adult. Pairing then takes place and eggs are subsequently laid, so continuing the species.

NAMES OF PLANTS.

F. L. C., Godalming.—1, Forsythia suspensa; 2, Chionodoxa Luciliæ.

O. T., Chester.—1, Ribes sanguinea; 2, Saxifraga apiculata; 3, Adonis vernalis.

P. G. B., Tenterden.—1, Odontoglossum Humeanum; 2, O. Wilckeanum; 3, Cattleya Loddegesi.

E. E., Lewes.—1, Nephrodium lepidum; 2, Nepenthes Burkei; 3, Cydonia japonica; 4, a Hemerocallis, send when in flower.

M. E. J., Leeds.—1, Coleus thyrsoideus; 2, Pinguicula caudata; 3, Cœlogyne cristata; 4, Saintpaulia ionantha; 5, Phrynium variegatum.

NAMES OF FRUIT.

F. E., Taunton; and A. W., Colchester.—It is of little use sending small and more or less shrivelled fruits for identification at this season of the year, as it is impossible to deal with them satisfactorily. Send full-sized examples in the autumn or early in winter.

PROPOSED MEMORIAL TO THE LATE MR. DAVID THOMSON, V.M.H.

A very general feeling has been expressed amongst the many friends of the late Mr. David Thomson that a memorial should be established to perpetuate the name of one of the greatest of British gardeners.

It is suggested that the memorial take the form of a fund from which to grant pensions to aged and infirm gardeners or their widows, such pensioners to be always known as "The David Thomson Memorial Pensioners," the fund to be administered by the committee of the Gardeners' Royal Benevolent Institution, of which Mr. Thomson was for so many years a very warm friend, and to which he subscribed so liberally.

When it is remembered how much Mr. Thomson did, during a long and strenuous life, for the advancement of every branch of gardening, what a noble example he always set by his uprightness of character, his great courtesy, his unostentatious character, and his readiness always to impart to others any information which could benefit them in any way, it is felt that such a proposal as that now suggested is not only due to his memory, but will be most cordially welcomed by every lover of gardening.

Mr. Thomson's great abilities were recognised during his lifetime by many honours, amongst which were his having been one of the original recipients from the Royal Horticultural Society of the Victoria Medal of Honour, and also by his having been awarded the Neill Prize by the Royal Caledonian Horticultural Society.

His many friends are very desirous that the memory of so good a man—one of the very foremost gardeners of his generation—should now be perpetuated as being not only his due, but also as an incitement for future generations of gardeners to follow so noble an example.

The undersigned will thankfully receive contributions from any who desire to further so good an object: Harry J. Veitch, V.M.H., treasurer of the Gardeners' Royal Benevolent Institution, Royal Exotic Nursery, Chelsea, S.W.; James Whytock, president of the Scottish Horticultural Association, The Gardens, Dalkeith Palace, N.B.; J. W. McHattie, vice-president of the Royal Caledonian Horticultural Society, Public Parks Office (City Chambers), Edinburgh; George Monro, V.M.H., Covent Garden Market, London, W.C.; J. H. Goodacre, V.M.H., The Gardens, Elvaston Castle, Derby; W. Henderson, The Gardens, Balbirnie, Markinch, N.B.

Strawberry Runner Experiments have been conducted by the National Fruit and Cider Institute during the past few years for the purpose of testing the relative cropping qualities of the "first" and "second" runners of strawberry plants. By the term "first" runner is meant the first runner produced from parent plant on a given stem, while the "second" runner is the next produced on the same stem. The trials were commenced in 1906, and the crops for 1907 were small, the plants for the first season not being particularly strong, although, as might be expected, the "firsts" were the larger. In 1908 the yield was fair, considering the nature of the season; and the plants of the two groups were more even in size and strength. In the two years the total yield for five varieties from the "first" runners was 713lb., and from the "second" runners 607lb. The assertion by some growers that the "second" runners produce larger crops has thus not been supported by the results for the first two seasons, although, it is suggested, possibly the third season's crop may result differently, since the "seconds" were originally the more backward plants and may, therefore, take longer to reach full vigour.

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PHLOX STELLARIA.

It is matter of regret that the pretty Phlox stellaria should have to play second fiddle to P. subulata and its varieties. Never was a plant better named than this delightful starry-flowered phlox, which is capable of such charming effects out in the rock garden. To see it in its beauty during late May and June, with its daringly free growths gemmed over with the multitudes of white blossoms (in which a tinge of blue is noted) is one of the sights of the year in the rock garden. These streaming cataracts of dainty beauty, so clearly defined against the dark rocks, should for ever popularise this plant.

It is very distinct from the P. subulata section, its light habit, thinner, and much longer foliage, and its free, roving habit, being sufficient to distinguish it from the general run of alpine phloxes. It is easily propagated from cuttings. In sandy soil, under a close frame or handlight, one can readily root whatever quantity may be required.

Varieties of stellaria are as pretty as the type, and one recalls the pretty annulata, with its blue-grey flowers with a purplish ring; and atro-lilacina, a sterling gem of a deep mauve-blue colour.

If one may express a thought, surely some of the beautiful varieties, which are usually grouped as "subulata varieties," would be more in their place as near relations of P. stellaria? What about G. F. Wilson, for instance? Its light, free growth and pale blue blossoms betoken relationship with P. stellaria rather than that with the closer, heavy tufts of P. subulata. Others might be quoted, as Newry Seedling and Eventide, as belonging in reality to the P. stellaria group, though, perhaps, after all, the great thing is, that we have these delightful phloxes available for the decoration of the rock garden.

Plenty of root room should be allowed for the development of the plants, this being a very necessary detail in determining the formation of bold masses. In making up a bed or series of beds in the rock garden plenty of rough fibrous loam, with a little sharp sand and decayed manure, will provide a satisfactory food basis for them. Lime rubble is often introduced in small quantities, and this seems no deterrent to the well-being of the plants, either in regard to growth or blossoming, while it has the advantage of assisting to sweeten the soil, and to keep it open for a prolonged period.

P. S. Hayward.

FLOWER SHOW SCHEDULES.

We shall be obliged if secretaries of societies will forward us a copy of their schedule for the present year.

Shirley and Millbrook Horticultural Society.—August 17.

Mickleover Horticultural Society.—July 30.

Bolton Chrysanthemum Society.—November 18 and 19.

CATALOGUES RECEIVED.

MANSELL AND HATCHER, LIM., RAWDON, YORKS.—A catalogue of liliums and newly imported orchids. There are two large coloured illustrations each showing one flower, life size, of Lilium sulphureum and L. nepalense respectively.

BARR AND SONS, COVENT GARDEN.—A timely, well-arranged, interesting, and useful catalogue of hardy perennials, alpines, aquatics, shrubs, etc. The catalogue is illustrated and descriptive.

BEST PLANTS FOR GREENHOUSE.—Nearly 300 pages are devoted to the description, propagation, and culture of the best flowers and plants for the greenhouse in The Amateur's Greenhouse, by T. W. Sanders, price 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

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Acacia	per doz. bun.	8	0	to	10	0
Adiantum cuneatum	per doz. bun.	6	0		9	0
Anemones	per doz.	1	0		1	6
Arums	per doz.	1	6		3	6
Asparagus	per bun.	1	0		1	6
Azalea, Ghent	per bunch	0	6		0	9
Camellias	per doz.	1	0		2	0
Carnations	per doz. blms.	1	6		6	0
,,	per doz. bun.	12	0		18	0
,, Malmaisons	per doz.	6	0		12	0
Cattleyas	per doz.	6	0		10	0
Croton leaves	per bun.	1	0		2	6
Cypripediums	per doz. blms.	2	0		3	6
Daffodils	per doz. bun.	1	3		4	0
Eucharis	per doz.	3	0		4	0
Freesias	per doz. bun.	1	6		2	0
French fern	per doz. bun.	0	6		0	9
Gardenias	per doz.	1	6		2	6
Lapagerias	per doz	1	6		3	0
Lilac, French	per bun.	3	0		4	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	2	6		3	6
,, longiflorum	per bun.	2	0		6	0
Lily of the Valley	per doz.	6	0		14	0
Marguerites	per doz. bun.	2	0		4	0
Mignonette	per doz. bun.	3	0		4	0
Narcissus	per doz. bun.	1	0		2	0
Odontoglossums	per doz. blms.	1	0		2	6
Pelargoniums	per doz. bun.	4	0		6	0
Roman hyacinths	per doz. bun.	5	0		9	0

Fruits.

Oranges and apples continue to meet a heavy demand.

		s.	d.		s.	d.
Apples, English	per bush.	3	6	to	9	0
,, Californian	per case	7	0		10	6
,, American	per barrel	12	0		26	0
,, Canadian	per barrel	14	0		28	0
,, Nova Scotian	per barrel	12	6		25	0
Apricots, Cape	per box	4	0		5	6
Bananas	per bun.	3	0		9	6
Grapes, English	per lb.	1	3		3	6
,, Belgian	per lb.	1	0		1	6
,, Guernsey	per lb.	0	8		1	3
,, Almeria	per doz. lbs.	4	0		8	0
,, Cape	per box	7	0		18	0
Lemons	per case	6	0		15	0
Oranges, Jamaica	per case	9	0		12	0
,, Jaffa	per case	10	6		12	0
,, Valencia	per case	9	0		14	0
,, Navels	per case	9	0		12	6
,, Denia	per case	10	0		20	0
,, Tangerines	per box	0	4		1	0
Peaches, Cape	per box	4	0		6	0
Pears, Cape	per box	3	0		6	0
,, Californian	per case	10	0		15	0
,, Australian	per box	15	0		20	0
Pineapples	each	1	6		4	6
Plums, Cape	per box	3	6		7	0
Radishes, French	per doz. bun.	1	3		1	6
Rhubarb	per doz. bundles	0	4		0	8
,, natural	per tally	5	0		6	0
Savoys	per tally	3	0		4	0
Seakale	per doz. pun.	9	0		12	0
Spinach	per ½-sieve	1	3		2	0
Tomatoes, English	per doz. lb.	8	0		12	6
,, Canary	per case	9	6		14	0
Turnips	per doz. bun.	2	0		3	0

Vegetables.

A steady demand continues at recent rates.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	2	0
Asparagus	per bun.	1	6		7	6
Beet	per bush.	1	6		2	0
Beans (Madeira)	per basket	2	6		5	0
Brussels Sprouts	per bush.	2	0		2	6
Cabbage	per tally	3	0		5	0
Carrots	per doz. bun.	2	6		3	0
Cauliflowers	per doz.	1	0		2	6
Celery	per doz. rolls	5	0		14	0
Celeriac	per doz.	1	6		2	6
Chicory	per 12lb.	2	6		3	6
Coleworts	per tally	2	0		4	0
Cucumbers	per doz.	3	6		8	0
Endive	per doz.	1	3		2	0
Horseradish	per doz. bun.	10	0		17	6
Leeks	per doz. bun.	1	6		2	0
Lettuce	per doz.	1	6		1	9
Marrows, Madeira	per doz.	10	0		16	0
Mushrooms	per doz. lb.	6	0		12	0
Mustard and Cress	per doz. pun.	0	10		1	3
Onions	per case	6	0		7	0
Parsley	per doz. bun.	1	6		2	6
Parsnips	per bag	2	0		3	0

LONDON POTATO MARKETS.

Moderate supplies meet a rather slow demand.

		s.	d.		s.	d.
Bedfords	per ton	60	0	to	65	0
Blacklands	per ton	50	0		60	0
Dunbars	per ton	85	0		95	0
Evergood	per ton	55	0		60	0
Express	per ton	60	0		65	0
Kents	per ton	65	0		70	0
Lincolns	per ton	65	0		60	0
Presidents	per ton	60	0		65	0
Up-to-Date	per ton	65	0		80	0
Teneriffe	per cwt	10	0		12	6
Jerseys, new	per lb.	0	3½		0	4½

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1910. March 20 to March 26.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Temperature of the Air. At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Mar. 20—Sunday	8 6	34	32	53	27
,, 21—Monday	0 54	39	39	54	30
,, 22—Tuesday	8 48	43	39	51	35
,, 23—Wednesday	6 30	37	35	54	28
,, 24—Thursday	—	41	40	50	35
,, 25—Friday	3 54	46	40	52	41
,, 26—Saturday	—	39	37	45	33
Means	(total) 28 12	40	37	51	33

Date. 1910. March 20 to March 26.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Mar. 20—Sunday	trace	39	43	44	23
,, 21—Monday	—	40	43	44	24
,, 22—Tuesday	—	43	43	44	29
,, 23—Wednesday	—	41	44	44	21
,, 24—Thursday	—	43	44	44	26
,, 25—Friday	—	44	44	44	39
,, 26—Saturday	—	43	44	44	25
Means	(total) —	42	44	44	27

FORTHCOMING ENGAGEMENTS.

TUESDAY, April 5.—Royal Horticultural Society: Narcissus and Tulip Committee at 11.30; Fruit, Floral, and Orchid Committees at 12 o'clock. Lecture at 3 p.m. by Rev. Prof. G. Henslow, V.M.H., on "The Use of the Spectroscope in the Study of Plant Life"; Scientific Committee at 4 o'clock.

Scottish Horticultural Association.

Bournemouth Spring Show: Two days.

British Gardeners' Association, Council Meeting

WEDNESDAY, April 6.—Liverpool Spring Show.

THURSDAY, April 7.—Linnean Society.

MONDAY, April 11.—United Horticultural Benefit and Provident Society.

WEDNESDAY, April 13.—Royal Caledonian Horticultural Society's Spring Show: Two days.

Cornwall Daffodil and Spring Flower Show, at Truro; Two days.

THURSDAY, April 14.—Kingsbridge Daffodil Show.

British Gardeners' Association, London Branch.

WEDNESDAY, April 15.—Haarlem Second Special Bulb Show; Ten days.

TUESDAY, April 19.—Royal Horticultural Society: Narcissus and Tulip Committee at 11.30 a.m.; Fruit, Floral, and Orchid Committees, at 12 o'clock; Lecture at 3 p.m., on "The Wild Flowers of the West of Ireland," by Mr. R. Lloyd Praeger, B.E., B.A.; Scientific Committee at 4 o'clock.

Devon Daffodil Show, at Barnstaple; Two days.

Shrewsbury Spring Show.

WEDNESDAY, April 20.—Royal Horticultural Society's General Examination in Horticulture.

Byfleet Daffodil Show.

Glamorgan Daffodil Show.

Huntingdon Daffodil Show.

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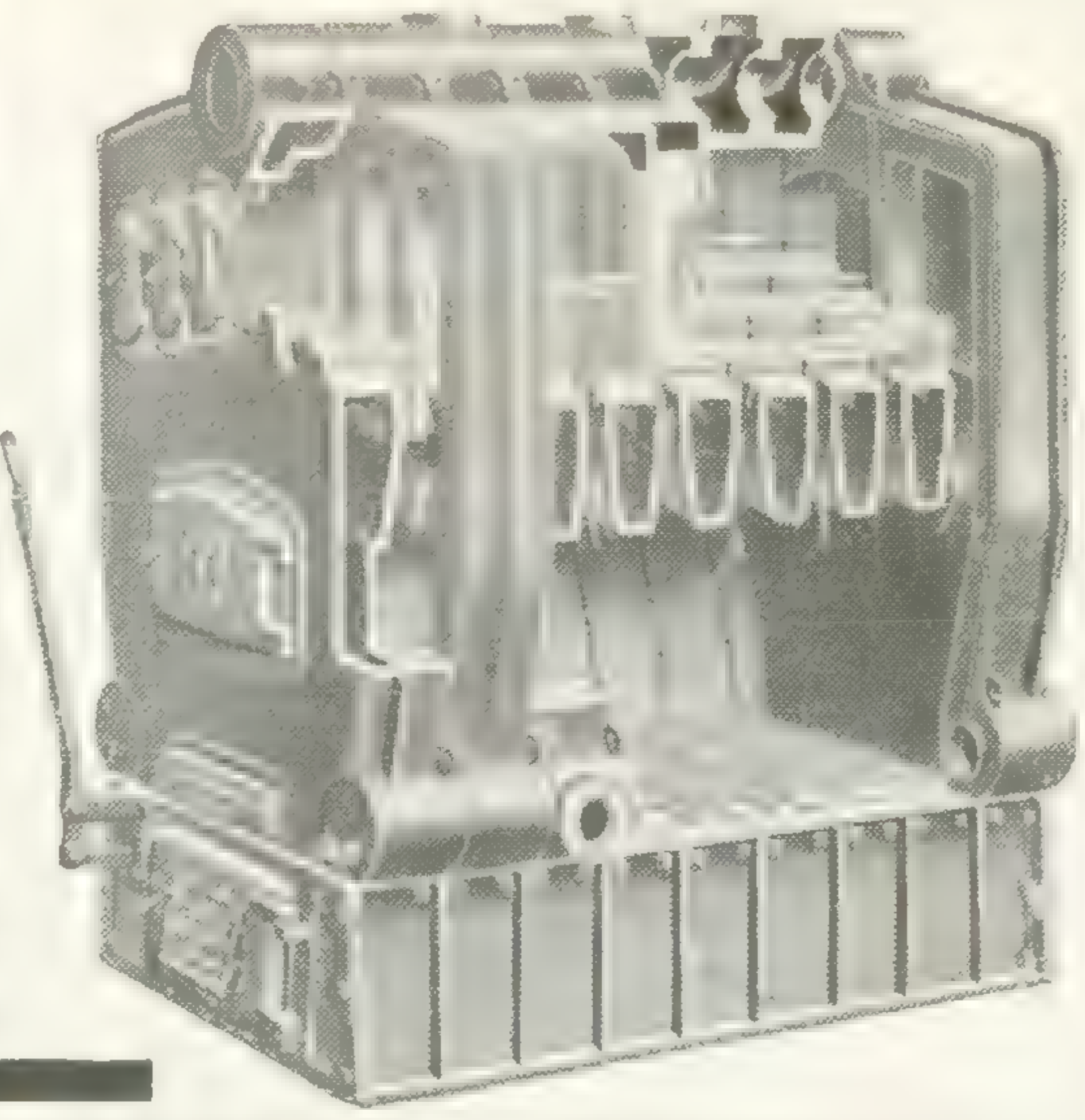

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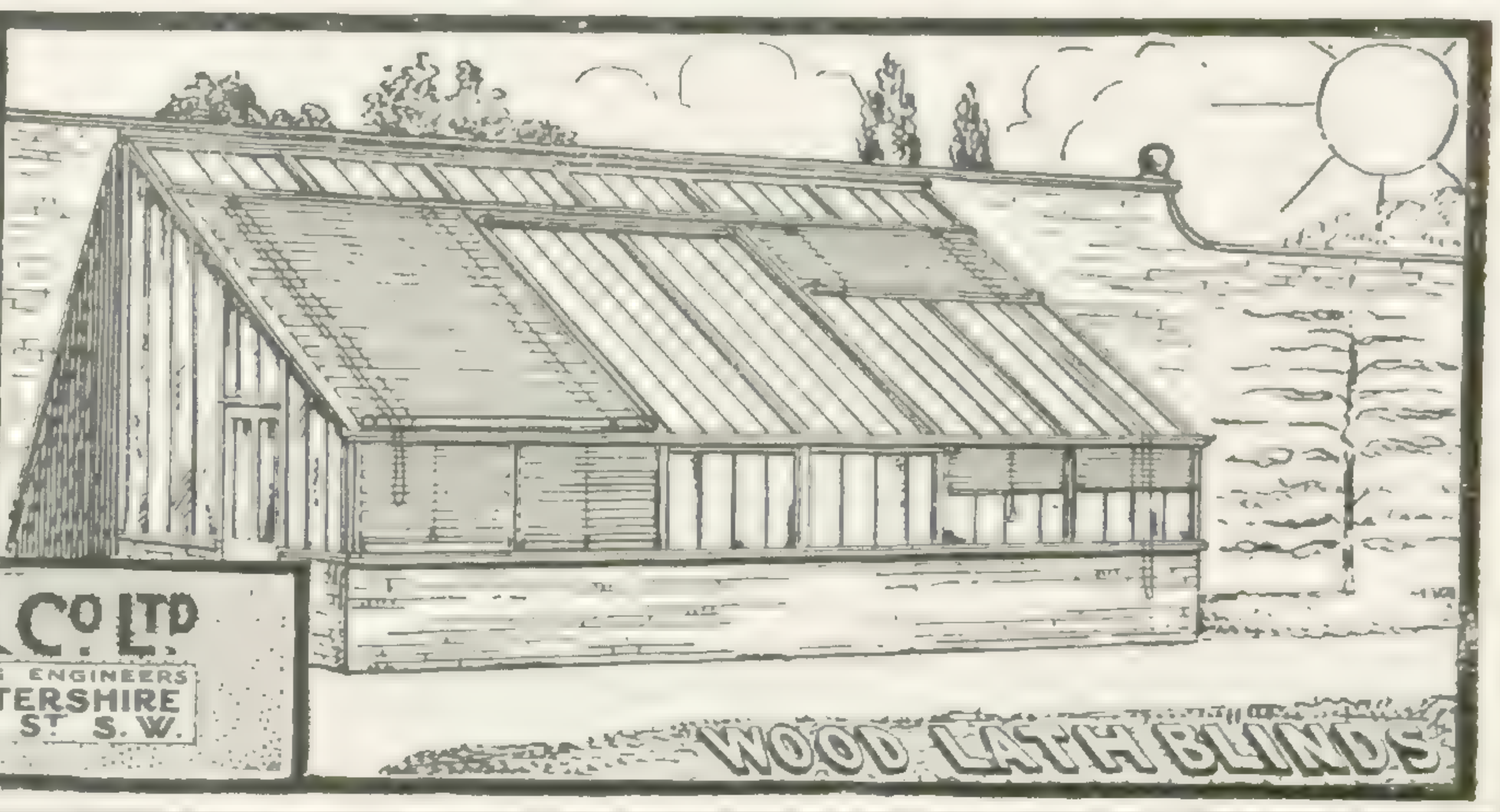

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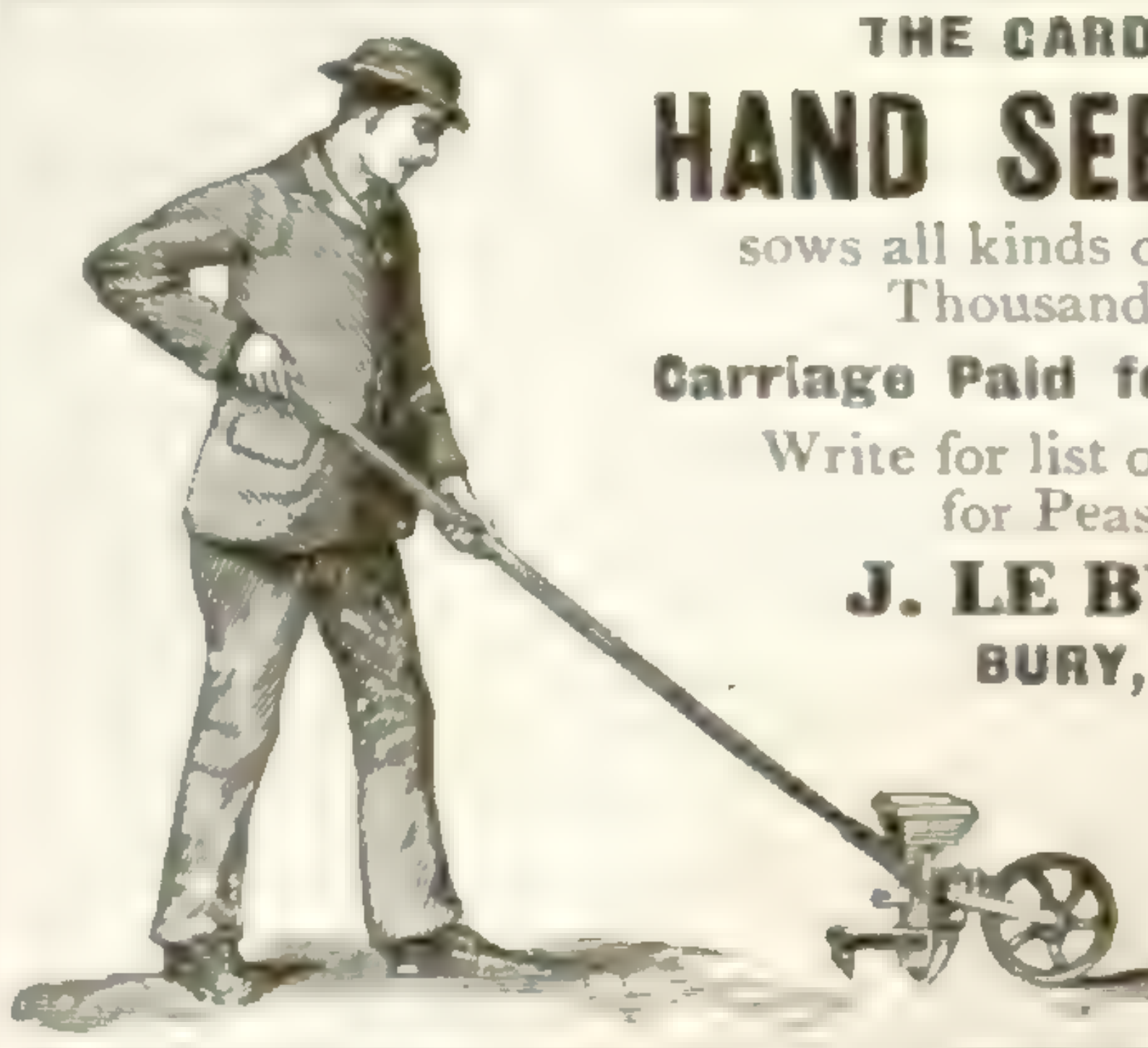

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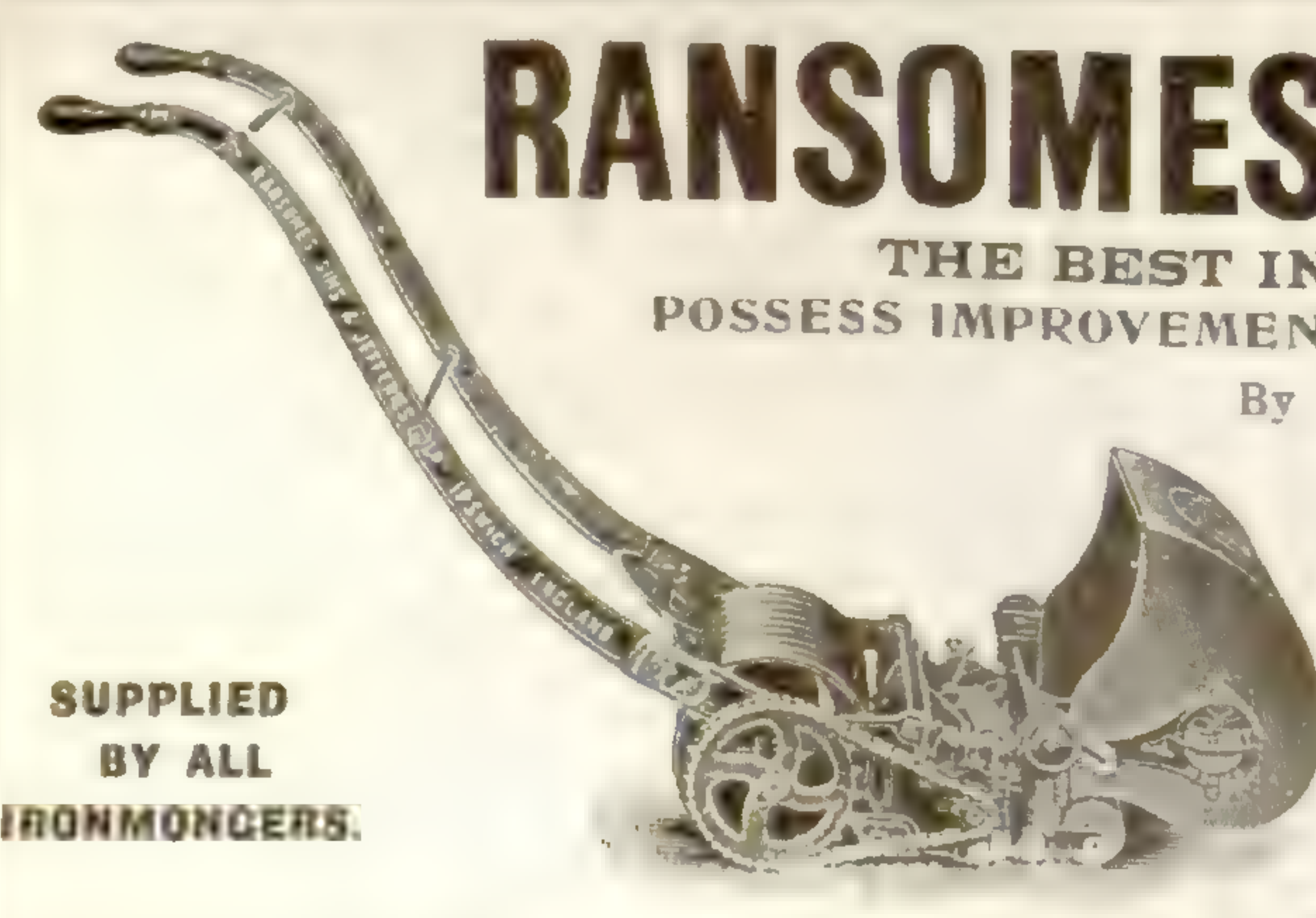

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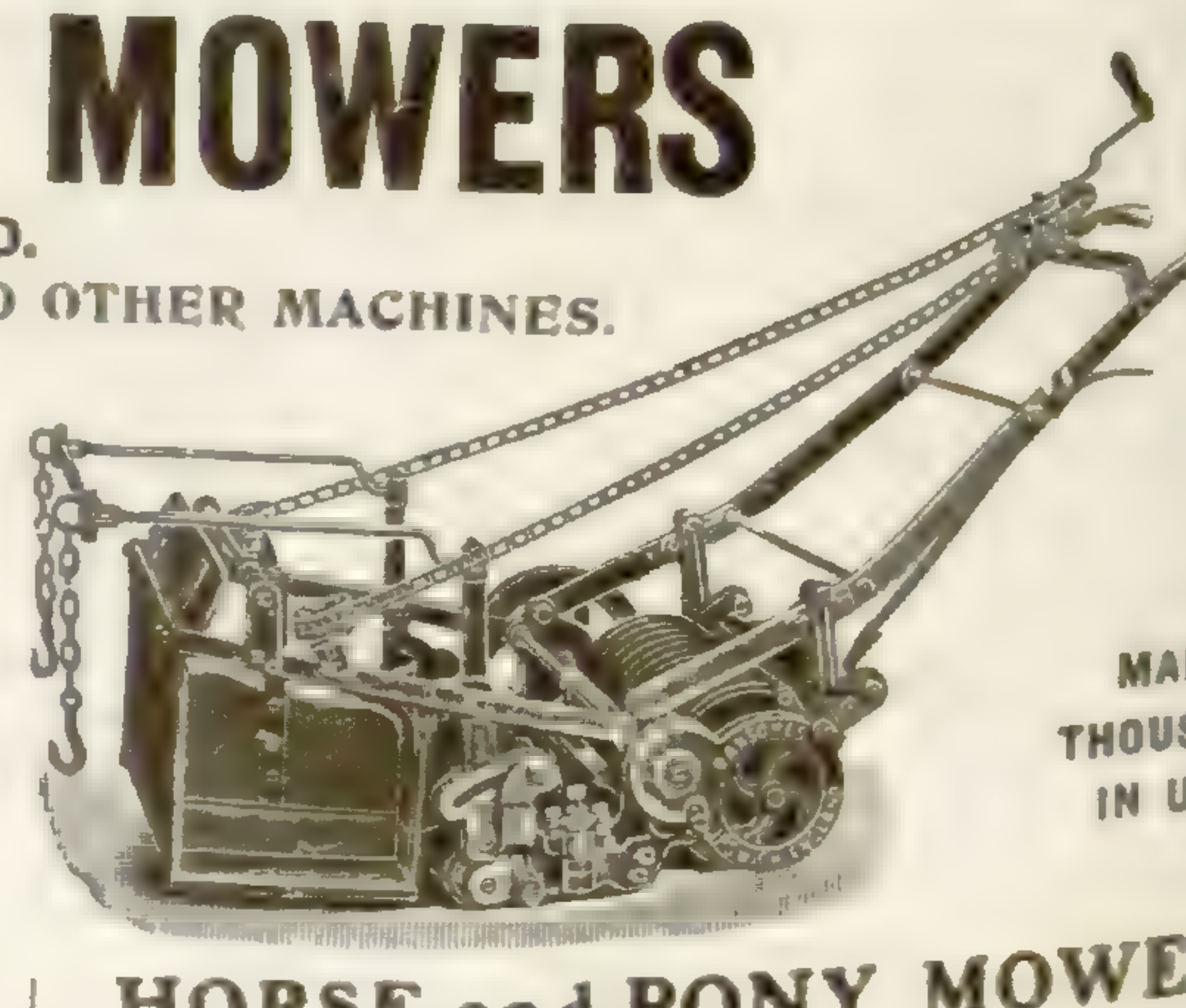

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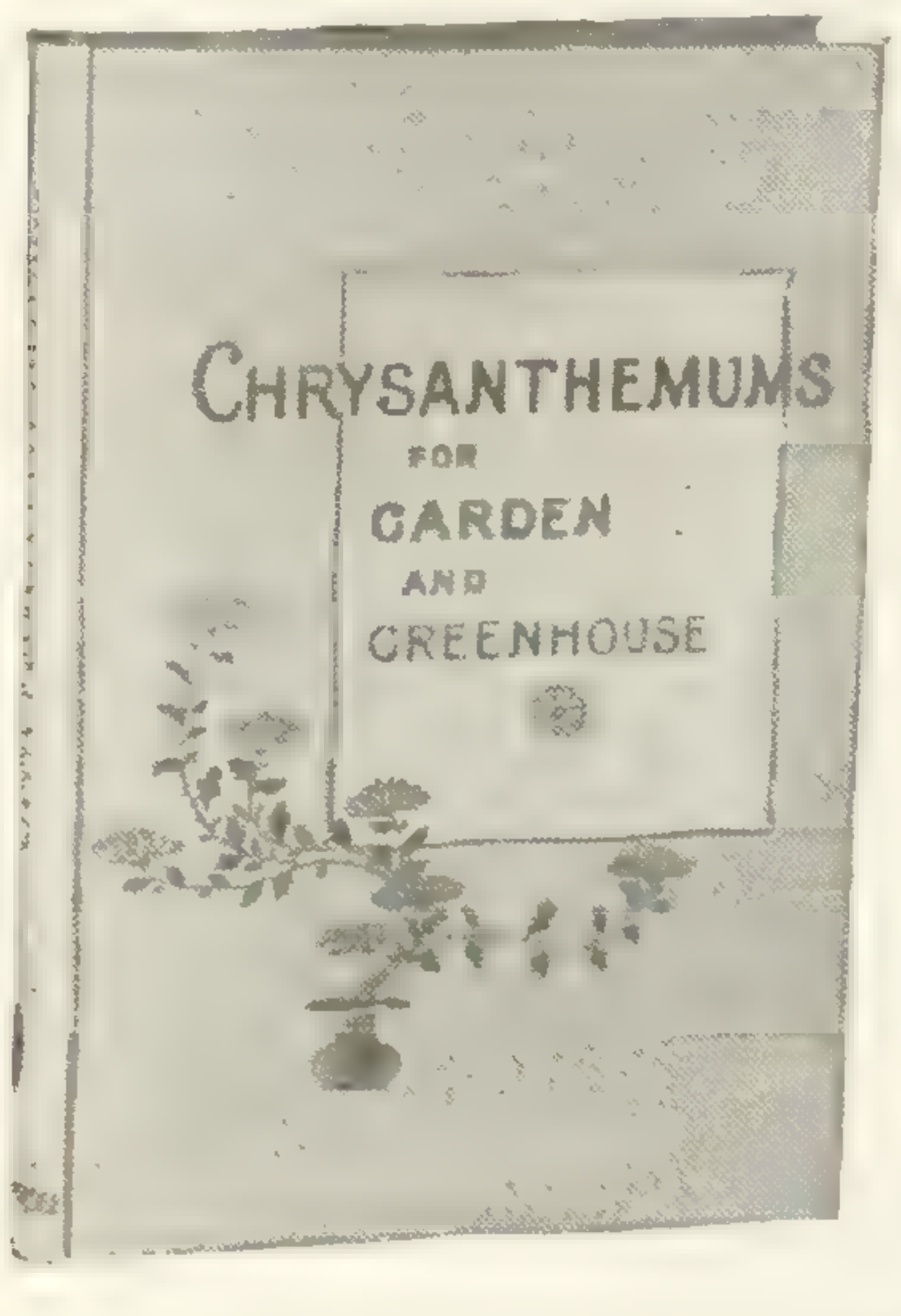

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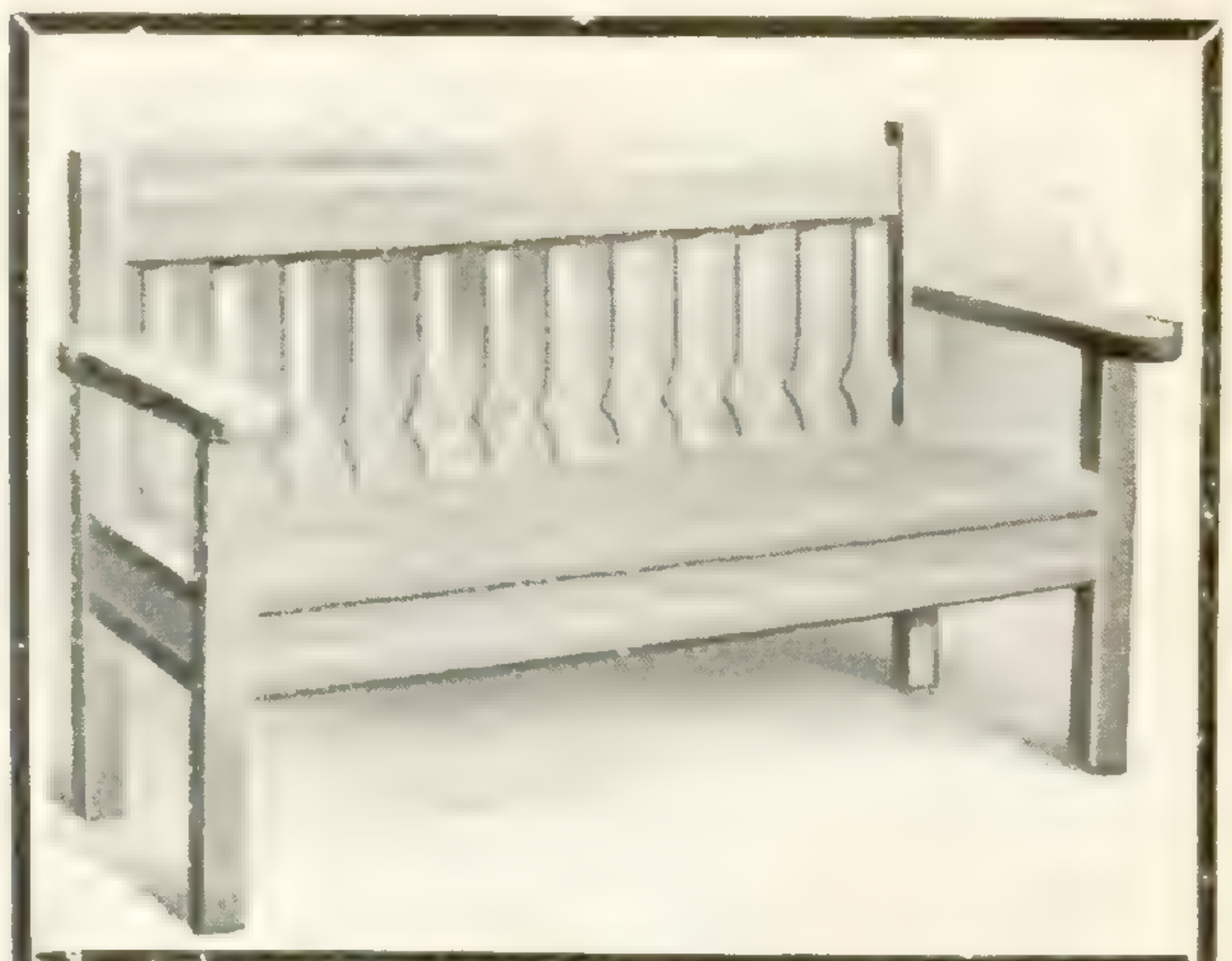

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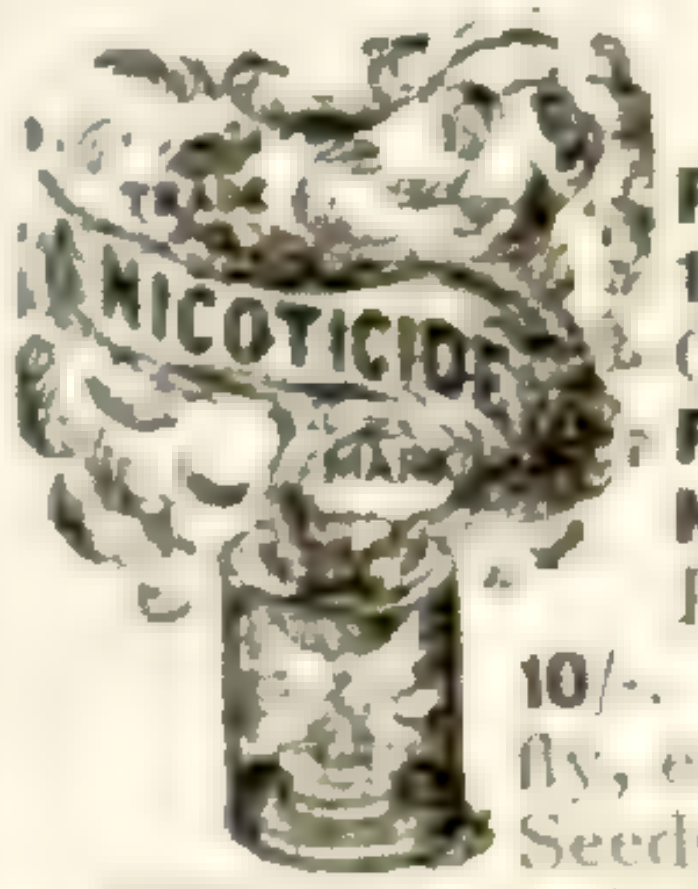

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JOURNEYMAN, age 20, seeks SITUATION, Inside; 4½ years' experience, Inside and Out; can be well recommended from present place; Bothy preferred. Apply R. GIDDEN, The Gardens, Coleshill House, Highworth, Wilts.

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F. IBBOTSON, Rolleston Hall, Leicester, wishes to recommend F. JARVIS as JOURNEYMAN (Inside or Inside and Out); age 21; strong and willing; six years' experience.

J. W. HUCKVALE, Head Gardener to F. B. Wright, Esq., Wootton Court, Warwick will be pleased to recommend A. EDWARDS as JOURNEYMAN (Inside); age 20; present situati four years as Journeyman (Second). Above address.

MR. R. LEWIS highly recommends E. FORSEY as JOURNEYMAN (Inside); seven years' experience; abstainer; age 22; Bothy preferred. The Gardens, Bystock, Exmouth, Devon.

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IMPROVER (Inside and Out), age 19; four years in present situation. SEARS, Milgate Park, Bearsted, Maidstone.

IMPROVER, age 16, seeks SITUATION in good establishment; three years' good character; can be well recommended. Apply F. TULL, Wootton Bassett Road, Purton, Wilts.

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TO GARDENERS. E. ANDREWS, Bell House, Dulwich, wishes to recommend H. HASLETT as IMPROVER, Outside; strong and willing; age 19; 3 years' present situation with me; Bothy no objection.

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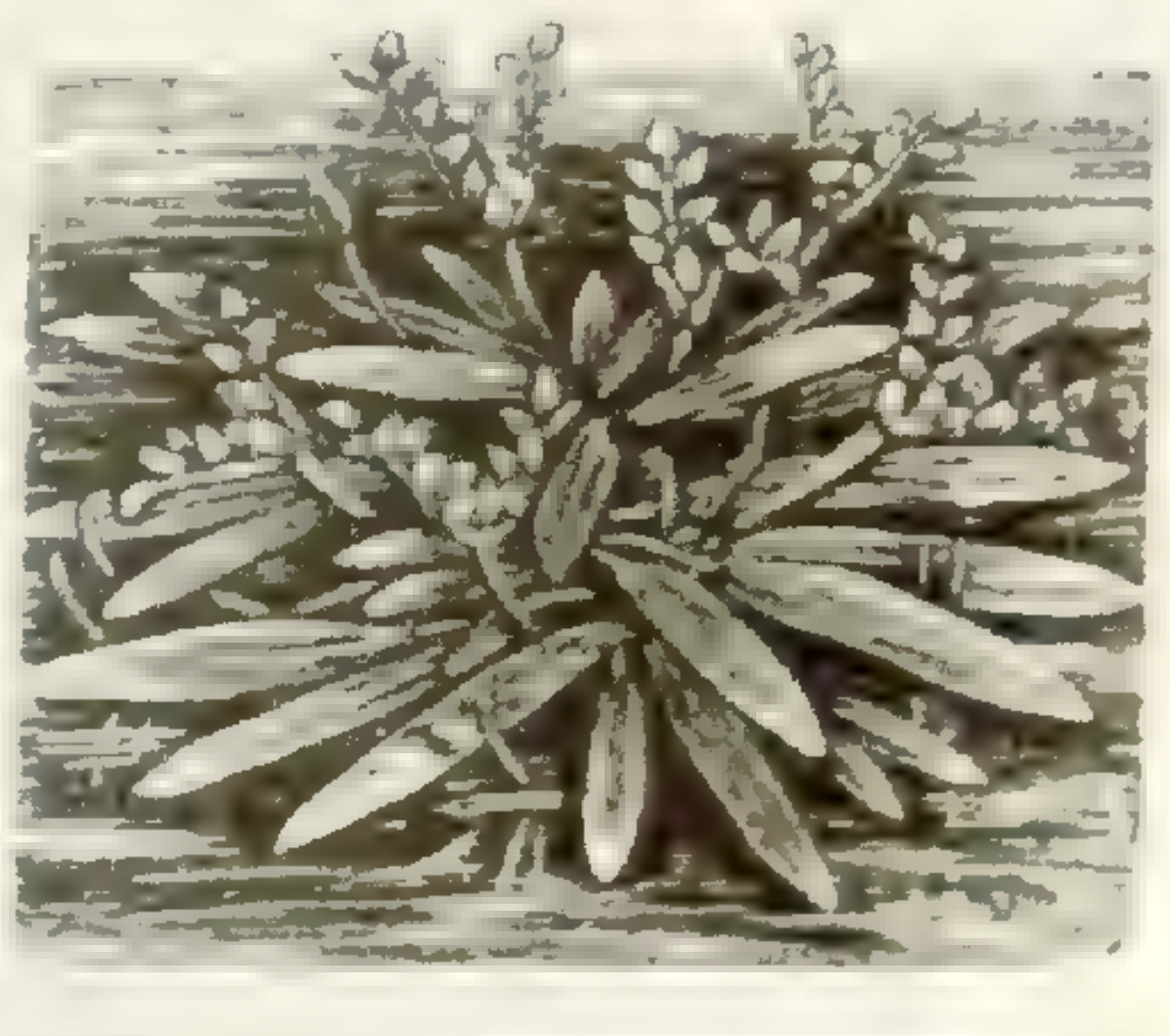

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VOL. LIII.—No. 2,945 SATURDAY, APRIL 9, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Vandalism at Camberwell.

If there be any part of London in which the utmost care should be taken of the arboreal features it is surely in the congested districts south of the Thames, where every vestige of tree life is important, provided it does not interfere with the free access of light and air to the dwelling-houses and other buildings. It therefore comes somewhat as a shock to find trees so lopped in a district such as Camberwell as to give rise to a brisk discussion, and to justify much of the criticism of the methods of procedure. In the borough of Camberwell there is an interesting thoroughfare known as Camberwell Grove, which was described in appreciative terms by Ruskin in "Præterita." The "Grove" is of considerable length, is flanked by houses of various styles of architecture and sizes, and the sides of the road were many years ago freely planted with trees. These are not less varied than the elevations of the houses, but they might, by judicious thinning at an early period, and careful management, have been converted into a grove worthy of the name. Originally planted too close together, and left pretty much to themselves, they, in conjunction with the trees in the small gardens, form, during the summer months, a mass of foliage that must seriously interfere with the access of light to the houses. Some of the trees are as high as the tallest of the houses, and a portion appears to have been cut back at a rather early stage, and then allowed to grow unchecked, while others have not been touched by the pruning knife until the present season. The general effect is consequently decidedly unsatisfactory. Some amount of pruning has been done in Camberwell Grove, and if there is not much that justifies serious complaint, there is nothing that merits praise. It is difficult, if not impossible, to understand why certain trees have been pruned while others have been untouched, and why some branches have been removed and others allowed to remain. One point is quite clear, and that is the wounds caused in sawing off the branches should have been made quite smooth, with knife or other sharp tool, and painted over with Stockholm tar to prevent spores of fungi injurious to tree life effecting a lodgment, and, in process of time, setting up a diseased condition within the tissues of the trees. That this simple, yet important, precaution was not taken is all the more surprising, because, according to the Town Clerk, the "expert" under whose orders the work has been done, was recommended by Kew. The really serious act of vandalism is that which has been done in Grove Park, where about one hundred and twenty handsome planes have been converted into objects that have a strong resemblance to clothes props, and are certainly not more attractive. Grove Park is a small residential area, with three roads and handsome houses of medium size. The roads and pathways are broad, and the houses stand well back from the boundary line, so that the planes would have to attain to a large size before unduly shading the road or interfering with the access of light to the houses. The trees were planted widely apart about fifteen years ago, and, judging from the size of their trunks and the diameter of the stumps of the branches, had pyramidal heads eight or nine feet in diameter. They could, therefore, not have interfered with either light or air, or cast otherwise than the lightest shade on a portion of the gardens, and that only for a short time of the day. A correspondent who is well acquainted with the trees, states that last summer "the plane trees afforded a beautiful and pleasant shade, and were in the most flourishing condition, the delight of all who walked in the park." Proceeding, he writes: "A large party of men in the employment of the Borough Council were set to work, and in a few days every one of these plane trees were shorn of all their branches and even the possibilities of new growth, to the disgust of the residents." No wonder the residents should have been disgusted to see the handsome trees so maltreated. The trees have had their branches cut back to within from six inches to three feet six inches of the trunk, but there appears to have been no guiding principle by which one stump should have been left longer than the others on the tree. It might have been desirable to shorten a branch here and there to preserve the contour of the trees, but the trees could not have "grown quite out of hand," so that "lopping was absolutely required," as asserted by the Town Clerk in his futile attempt to justify what has been done. This official, who describes himself as "a lover of trees," admits that "many trees look ugly now," and as they are all equally objectionable to the eye, it would be interesting to know which of them he regards as objects of beauty. Having enlightened us upon this point, he will probably explain in what respect "the result of the surgical operation will be an improvement both as regards beauty and utility." The fact that the Camberwell Borough Council has within the past few months planted 7,000 trees and shrubs in the roads and open spaces in the area under its control is no proof that the members of the body appreciate trees. It rather shows how desirable it is that ratepayers, and, indeed, all who are interested in trees in their relation to town life, should see that when large sums of public money have been expended upon trees they should be protected from mutilation. The lopping that has been done in Grove Park is by no means the only evidence of a failure to properly appreciate trees and their requirements. Some years ago wire netting was fixed round the trunks for the purpose of protecting them from injury, and on a considerable number of them this wire still

MR. SAMUEL HEATON,
Horticultural Instructor to the Oxfordshire County Council.

remains, apparently without anything having been done to allow for the expansion consequent on growth. In the trees that we examined the wire is stretched very tightly over the trunks, and in several it is becoming embedded in the wood. We learn that the Council has just appointed a new park superintendent, and we trust that, as one result, other trees in the borough will escape the fate that has unhappily befallen the planes in Grove Park.

Mr. Samuel Heaton, horticultural instructor to the Oxfordshire County Council, is a man of strong personality and determination, and one who has made his way in the horticultural world by dogged perseverance. He was born at Keighley, in Yorkshire, and served his apprenticeship in the gardens of Oakworth House, where for seven years he took a share in the work of all the departments, and devoted his leisure hours to the study of botany, chemistry, drawing, mathematics, and languages. He served as foreman at Ashley Bank, Darwen, and was head gardener successively at Dilworth House, Longridge; Clarge House, Halifax; and Elmwood House, Batley; and during this time he was a successful competitor at the northern shows. Meanwhile, Mr. Heaton carefully studied agriculture, and so, when in 1891 he became teacher of botany and agriculture at Batley Technical School, and received an appointment at the Yorkshire School of Horticulture, he was splendidly equipped for his task. Teaching was, and is, to him, a second nature, and his new appointments opened up a wide vista of opportunities. In 1893 Mr. Heaton was appointed horticultural instructor to the Isle of Wight County Council, where he served seven years, and his work and energy are held in very grateful memory in the garden isle. From the Isle of Wight Mr. Heaton went to Oxfordshire, where he now carries out his duties with a skill, tact, and energy that commands the admiration of all who have opportunities of seeing his work. He is very keen on school gardening, and has the happy knack of imparting his enthusiasm as well as knowledge to the boys and their teachers. He has also, in conjunction with Mr. Percy Elford, the secretary of the Oxfordshire Education Committee, produced an exceedingly useful book entitled "Practical School Gardening," that is of the greatest possible value to all who are interested in the instruction of school lads in the practices of horticulture. We have much pleasure in presenting Mr. Heaton's portrait to our readers in the present issue.

March Sunshine.—As our weekly records have shown, the bright sunshine registered during the month of March was above the average. At Westminster the total amount registered was 110 hours, or 41 hours in excess of the average. This record has been exceeded only three times during the past twenty-seven years. In March, 1893, the aggregate sunshine was 113 hours, and in the corresponding month of 1894 and 1907, 140 hours and 152 hours respectively. During the three months ended March 31 there were 199 hours of bright sunshine, or 77 hours in excess of the average.

Rothamsted Experimental Station. — The annual report on the work at Rothamsted during the past year is of much interest to those who are concerned with the cultivation of the land. It conclusively shows that the experimental work that was so long carried out by the late Sir John Lawes and Dr. Gilbart is being continued with exceptional success by the present director, Mr. A. D. Hall, F.R.S. Recently it has been the desire of the committee to obtain additional funds for the extension of the work of the station, and a considerable sum has been obtained for that purpose, but it falls considerably short of the necessities of the case. The field experiments which began in 1843 have on some of the plots been continued without break or alteration up to the present day. The continuance of the experimental plots at Rothamsted, without any change, is regarded as of the utmost importance, as nowhere else in the world does such data exist for studying the effect of season and manuring upon the yield and quality of the crop, and for watching the progressive changes which are going on in the soil. The maintenance of the old data throws a heavy burden upon the station. For instance, there are 210 plots, and every year 243 samples have to be taken with proper precautions and put into store for future reference. In addition there are made 486 determinations of dry matter, 243 of ash, 170 of nitrogen, 50 of phosphoric acid, and 24 of potash, also 180 determinations of nitrates, etc., in rain and drainage waters, and 17 botanical analyses of hay. This does not include examinations of soils, the complete grass separations, and other extensive series of determinations which are made at longer intervals.

National Vegetable Society.—Those who purpose taking part in the competition for the large number of prizes offered at the exhibition of the National Vegetable Society, to be held at the Royal Horticultural Hall on Wednesday, September 28, are reminded that the schedules are now ready, and may be obtained from the hon. secretary, Mr. E. G. Quick, Kelmscott, Harrow View, Wealdstone. The schedule contains fifty-nine classes, and in these ample provisions have been made for cottagers and smallholders, as well as for amateur and professional gardeners. There are fourteen classes for collections, and the first of these is for twelve kinds, with a first prize of £10 10s., given by the Duke of Portland, president of the society, and the second of £7 7s., by Lord Howard de Walden. Mr. G. Wythes, V.M.H., the treasurer of the society, wishes us to state that his address will for the future be Bovingdon, Herts.

Daffodil King Alfred.—In the arrangement of the immense display of blooms of this fine daffodil, which formed such an attractive feature of the exhibition held by the Royal Horticultural Society on Tuesday, Messrs. James Carter and Co. surpassed themselves, and set an example that will not be easy to follow. The display is described in our report of the exhibition, and we need only mention here that the whole of the several hundred blooms were splendidly developed, and that the taste evinced in their association with dark foliage and bright green grass well merits the warmest praise.

French National Chrysanthemum Society will this year hold its annual congress at Paris, the dates fixed being November 4, 5, and 6. In conjunction with the congress the National Horticultural Society of France will hold an international exhibition of chrysanthemums. The programme of the congress is as follows: 1, Consideration of a portable colour chart; 2, Influence of the time of propagation and of stopping on the time of flowering; 3, Insects and diseases that affect chrysanthemums; 4, The "damping" of chrysanthemum blooms, and the best means of prevention; 5, Organisation of systematic trials of manures in the cultivation of chrysanthemums in open borders; 6. History of the chrysanthemum; and, 7, The packing of chrysanthemum blooms.

Study of Protoplasm.—We learn from "Nature" that Professor J. W. H. Trail, F.R.S., recently offered to the council of the Linnean Society a sum of money for the purpose of encouraging the study of protoplasm by means of an award to be made periodically. This generous offer has been gratefully accepted, and a special medal has been struck in bronze for presentation with the award, bearing on the obverse a portrait of Linnæus, and on the reverse the words "Trail Award," and the name of the recipient in a wreath. It is proposed to make an award about once in every five years for original work bearing directly or indirectly upon the "physical basis of life," and, in accordance with the wishes of the donor, a wide interpretation will be given to the scope of the investigations. The first recipient of the award will be Professor E. A. Minchin, professor of protozoology in the University of London, whose researches on sponges and protozoa have done so much to advance our knowledge of protoplasmic structures, and who is also the translator of Professor Bütschli's well-known work on protoplasm

Cypresses for the German Emperor.—We are informed that the Earl of Pembroke has presented Emperor William of Germany with a dozen fine specimen Italian cypresses. These specimens have been forwarded from the famous gardens at Wilton House, Salisbury, where they were greatly admired by the Emperor during his visit when he was last in this country.

Children's Flower Show at Dunfermline.—The fifth children's flower show, held under the auspices of the Carnegie Trust, took place recently in the Dunfermline Drill Hall. There was a wonderful display of spring-flowering bulbs grown by the children of ten different schools, and the collections of drawings showing the development of the plants was exceedingly good. There were 1,057 exhibitors, and 1,988 exhibits, as against 954 and 1,798 respectively in 1909.

Elstree Horticultural Society. This society is only in its second year; but its enterprise and usefulness might well be the aim of many older societies. The society appeals to a fairly wide gardening district, and its membership includes all grades of gardeners and garden lovers of both sexes. Its meetings for the discussion of horticultural subjects during the winter are held in several places, and so local interest maintained. The society is fortunate in having the Hon. Vicary Gibbs as president, Mr. Edwin Beckett as chairman of committee, and Mr. W. J. Pritchard as one of the hon. secretaries, but there are other districts as fortunate in the possession of horticultural celebrities, but where, alas! these despise local effort. The society is holding two exhibitions this year, one in Aldenham Park, on July 13, and the other in the School Room, Elstree, on September 17, this latter being devoted to fruits and vegetables. The schedule is thoroughly well produced, and a credit to all concerned.

R.H.S. Gardens Club.—The annual meeting of the members of this club will be held at the Royal Horticultural Society's gardens, Wisley, on Saturday afternoon, June 11.

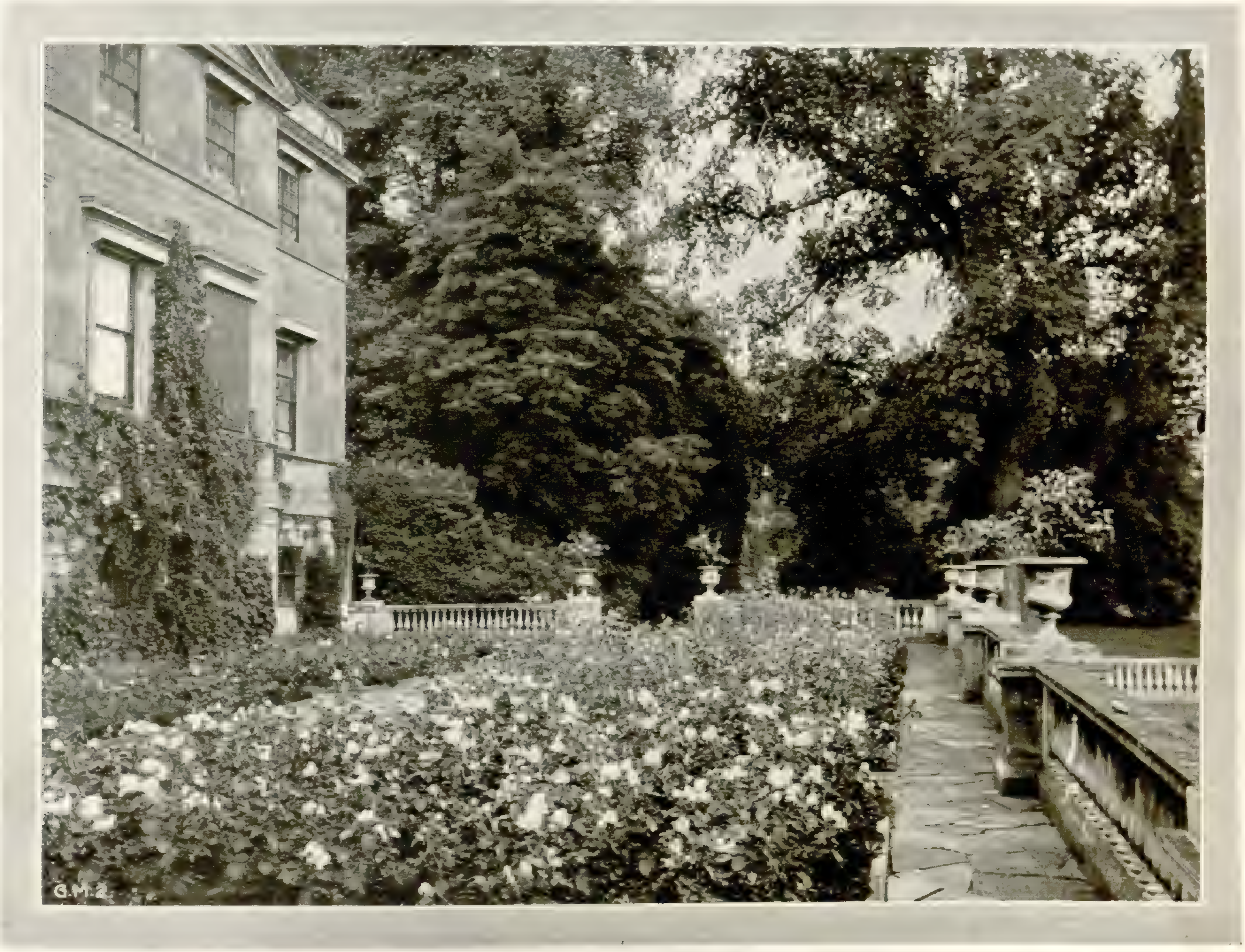
Evolution of Parasitism in Fungi.—In a paper contributed to the Linnean Society by Mr. George Massee, V.M.H., on this subject, the author stated that to understand clearly the evolution of parasitism it is important to grasp a fundamental point in the evolution of fungi generally. The most primitive forms were aquatic, and reproduced by zoospores, which necessitated the presence of water to secure their dispersion. As the fungi gradually took possession of dry land, a second asexual or conidia form of reproduction, suitable for dispersion by wind, etc., was gradually evolved. This supplementary conidial condition is always the form that has assumed a parasitic condition, the older sexual phase remaining as a saprophyte, and developing when the host is exhausted. Parasitism is mainly the outcome of opportunity, and the fact that fungi present all stages of parasitism, and that a saprophytic fungus can be educated to become a parasite, proves that parasitism is an acquired habit. Incipient or imperfectly evolved parasites promptly kill the host, and consequently curtail the period of their own existence, as Pythium De Baryanum. A higher stage of parasitism is reached by many of the rusts and smuts, Ustilago avenae, etc., where the host is attacked as a seedling, and is stimulated to an unusual condition of growth throughout its normal period of development. More advanced parasites show a tendency to arrest the production of spores and conidia, and to perpetuate themselves by perennial mycelium located in some perennial vegetative portion of the host (root, tubers, etc.) or in the seed. In the most highly evolved parasites reproductive bodies are entirely arrested, and the parasite is perpetuated by hibernating mycelium only.

Black Scab or Wart Disease of Potatoes.—During the autumn of last year the Board of Agriculture carried out an inquiry into the distribution of this disease in Great Britain. According to the "Journal" of the Board five inspectors visited suspected districts, and urged potato growers to report cases of disease. A large number of letters were received from occupiers and others reporting the presence of wart disease. From an examination of the available information it appears that wart disease is almost entirely confined to an area including Lancashire, Cheshire, Shropshire, Staffordshire, and those parishes in Warwickshire and Worcestershire which immediately adjoin Birmingham. Within this area most parishes contain one or more allotments or gardens in which diseased potatoes were found, though in only a few cases were the field crops affected. Wart disease has also spread beyond this area in patches among the parishes that lie round it. Westward of the affected area the disease has spread in patches into Wales, appearing in the counties of Brecon, Cardigan, Carmarthen, Carnarvon, Denbigh, Flint, Glamorgan, and Merioneth. Wart disease has also spread northward beyond the infected area in patches. Cases in Cumberland, east Dumfriesshire, in north-west Ayrshire, and in two small areas, one including Clackmannan, south-west Perth, east Stirling, and south-west Fife, and the other, central Fife and Kinross. It appeared also in the neighbourhood of Edinburgh. In nearly every case the disease is confined to allotments and gardens.

ROSE FRAU KARL DRUSCHKI.

If this fine rose is not perfect, because of its lack of fragrance, it has so many good qualities that there is no occasion for surprise it should have attained to a high degree of popularity and obtained by far the greater number of votes in the competition two years since for the Nickerson cup, offered for the best white rose of dwarf growth. Had it failed to obtain this distinction for its raiser, there would have been good cause for perplexity in the minds of those who are well acquainted with its characteristics, that it should have failed to be regarded with the favour that is unquestionably its due.

Except for the absence of fragrance, Frau Karl Druschki is as nearly perfect a white rose as the most sanguine of rosarians can hope to see. The growth is strong and healthy, the leafage ample and deep in colour, and the large finely-formed pure white flowers are produced freely from early in summer until the closing days of autumn. Whether for exhibition or for decorative purposes, the blooms of this variety are quite unsurpassed by those of any other white rose at present in cultivation; and they are so plentifully produced that from a moderate number of plants several dozen blooms can be cut at any time during the season. These are charac-



[Photo: W. J. Vasey.

THE BEAUTIFUL PURE WHITE H.P. ROSE FRAU KARL DRUSCHKI,
As grown at Nuneham Park, the seat of L. Harcourt, Esq.

teristics of first-rate importance, and there are others not less noteworthy. The growth is such that the plants can be grown with success as standards and dwarf bushes, and they form most effective beds when the long shoots are at the spring pruning shortened and then brought down and securely fixed in a horizontal position. Growths so brought down produce flowers throughout their length in the course of the season, and after flowering they are cut away to make room for the new growths that have risen in their midst. At Kew this rose is grown with much success under the pegging-down system. At Nuneham Park, Abingdon, the seat of L. Harcourt, Esq., Mr. Munday, the head gardener, has been highly successful in its cultivation as a bedding rose, as evidenced by the fine example that we have the pleasure of illustrating herewith.

Fourteen years have elapsed since Frau Karl Druschki was raised as a seedling by Mr. Peter Lambert, and, notwithstanding its outstanding merit, it was not until some five years later that it obtained recognition from the general body of rosarians. In the year 1900 it was staged at an exhibition held in Trier in competition for a £50 prize, but the award was made to a rose of which we have not heard, and when first sent to America it was regarded with but little favour. It was raised from seed from Merveille de Lyon, a white sport from Baroness Rothschild, the pollen-bearing parent being Caroline Testout, well known as one of the finest of the pink roses for garden decoration.

In common with other roses that are vigorous in growth and profuse in flowering, a deeply worked and well enriched soil is essential to the full development of leaf and bloom. This being the case, the bed should be deeply dug and liberally manured previous to planting, and each year subsequently a moderate dressing of manure should be applied and lightly forked in the latter part of the autumn or in February.

PRUNUS TOMENTOSA.

This shrubby prunus belongs to the apricot section of the group, and is characterised by free-flowering propensities and a naturally shapely habit. It is a native of China and Japan, and a figure of it appears in Siebold and Zuccarini's "Flora of Japan," vol. i., p. 51, t. 22. In light loamy soil it grows rapidly, and in five or six years attains a height of three to four feet, with a spread of four to five feet. A large proportion of long, twiggy branches are formed, which bear flowers from almost every bud. These flowers are white, slightly flushed with pink, and are about half an inch across. They are, however, of a rather fugutive character, and are easily damaged by heavy rain.

Given mild weather during the flowering period in mid March, and no heavy storms of rain or hail, the bush is in good condition for a couple of weeks. Fruits are borne sparingly in England, but plentifully in its native countries. They are scarlet in colour, the size of a small cherry, and shaped like an apricot. In China and Japan they are said to be eaten. The leaves are oval, and very hairy, particularly on the under surface. Like other of the dwarf prunuses, this one may be increased by means of cuttings during summer. When selecting a position for this shrub care should be taken to provide one which is well sheltered from rough winds, and a light, warm soil is preferable to ground of a heavy clayey character.

W. D.

AMONG THE ALPINE FLOWERS.

"The sap will surely quicken soon or late,
The tardiest bird will twitter to a mate;
So spring must dawn again with warmth and bloom,
. . . . .
Sing voice of spring,
Till I, too, blossom and rejoice and sing."
Christina C. Rossetti.

We have deemed this a long and dreary winter, and we have ofttimes peered out among the driving rains or have trodden the frozen paths thinking gloomily of the trials of our favourite flowers, condemned to endure the vicissitudes of our winters with all their changes, when they would have been happier far under a coverlet of snow, or in the sunlight of their native lands. Our gloom has, alas! not been misplaced, so far as some plants are concerned, and as we look around we see traces of the bitter ordeal flowers have undergone. A few are seared, as if by fire, while others show traces, more or less unmistakable, of the stress of the times. But, as a whole, our alpine flowers have risen above the sufferings of the time, and their opening buds and stretching shoots, and fresh green leaves, all preach to us the homily of peace and sober, yet glad, pleasure. From slope and pinnacle, from high terrace to the moist bed at the base of the alpine garden, there spring green shoots, with bright buds and charming blossoms, all proclaiming that spring has come, with its delights to all the lovers of Flora's fascinations. And so we look amid our plants and our flowers, seeking, not in vain, for some beauties of the time.

Narcissus minimus.

Late this season, the quaintly pretty little Narcissus minimus only came with the winds of March, and it was with pleasure that we saw these little trumpets of gold open amid the greenery of the rock garden. An envious slug, or one not yet satiated with more common fare, deprived us of some of the blooms, or disfigured their beauty by feasting upon a portion of their fabric, and so our clumps of the Tom Thumb of trumpet daffodils are not so pretty as they usually are. Yet they delight us with their neat and curiously shaped little trumpets, very miniatures of the great trumpet daffodils which gaily nod to the winds in the borders or on the grass. N. minimus is a revelation to those who see it for the first time. Compared with it N. nanus and N. minor are leviathans, and for rock gardens N. minimus is one of the indispensable flowers, especially when so placed as to be near the level of the eye.

Synthyris reniformis.

Out-pacing the latter in the race for priority among the garden flowers, yet not the first blossom of the year by a long way, comes Synthyris reniformis, giving us in its early stages a bright bit of blue in the rock garden. It passes off a little duller in tone, but is, all the same, a cheery little thing, and is one of the few non-bulbous flowers which seem to reck but little of the winter's evil ways, although its birthplace is in the mild west of the United States and the Canadian coastline mountains. With its pretty kidney-shaped leaves, all toothed and saw-like in their notched margins, and polished as if by varnishing, tucked snugly together to wait for a milder time, it sends up its little racemes of flowers, looking, in these early stages, like little grape hyacinths. Then these racemes lengthen, and the flowers expand, showing their anthers and stigmata, and the leaves gradually open up and give us a fresh feature of pleasure as we look upon the plant. A lover of the sun with me, yet this synthyris does not approve of drought, and likes plenty of moisture, and a loamy and gritty soil, with stones about it to keep it cool.

Hyacinthus lineatus.

Some years ago I procured from Asia Minor a few bulbs of what was called Hyacinthus lineatus, a near ally, in appearance, as well as in blood, of Hyacinthus azureus, and I have never regretted the investment. It has given me an ample source of pleasure, as fresh now as when the bulbs first sent up their little sky-blue spikes, or, rather, racemes, in my garden. They have increased in numbers, and now, nestling by a spreading bush of one of the sun roses, which, by the way, requires occasional pruning to keep it in bounds for the annual reappearance of the hyacinth, they afford me flowers from January until [illegible] into March. This year the synthyris will probably last into April—no brief span of beauty for a little spring flower like this. The unknowing speak with glee, as they see it, of this dainty little "grape hyacinth!" and we forgive their want of knowledge, inasmuch as the distinction between the muscari-like racemes of this little flower and those of the hyacinth are not always obvious, save to the expert. But it is a charming little flower, worth more than its room, and making a good group only some three or four inches in height, and delighting in a sunny place, in grit and loam.

Other Flowers.

But what of other flowers? Have we not many of these, late as is the season beyond what we usually anticipate?

As we roam along the paths we see Burser's saxifrages in different varieties, such as gloria and speciosa, grandiflora, and others of the clan. Elizabethæ, too, and the Boydi class, with apiculata, and some others, have opened little flowers on their beautiful spiny foliage. "Grey and green cushions decked with floral embroidery," is a cold effort of the imagination to convey a picture of these sweet little flowers.

Then, as for snowdrops, these have lingered long indeed, and well beyond the middle of March some were yet to open in a large collection. "The early herald of the infant year" has overslept himself, and a good many other flowers have formed the vanguard, and have marched on before the "herald," or side by side, as if to guard it from climatic enemies.

Snowflakes, flowers of intense beauty, have nodded to the winds, and have for long defied the weather. Some of the chionodoxas, or Glories of the Snow, have given their exquisite flowers to company the others, and the earliest scillas have come cheerily to the fanfare of this herald. Winter heaths, mezereon, primroses, polyanthuses, a few plants of Viola [illegible] and other gems of the time, have striven to sweep aside the cloud of gloom which a long winter so infallibly brings to the lover of flowers. They have not striven in vain, and we are cheered and uplifted by the vision of the flowers into a clearer and a brighter mental atmosphere, gladdened by the blossoms of the time, and filled with hope and confidence to await the full flush of vernal and summer glories.

S. Arnott.

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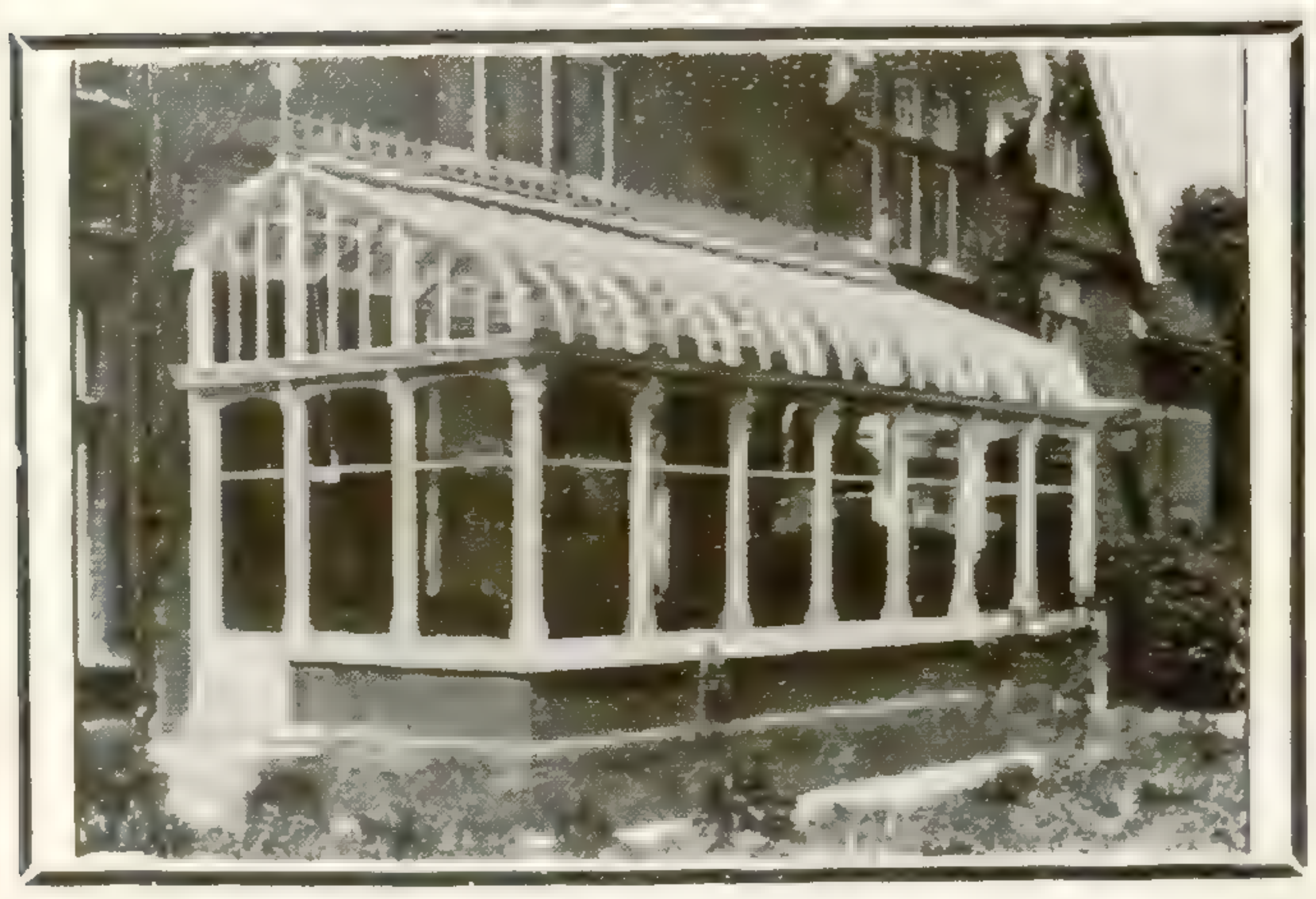

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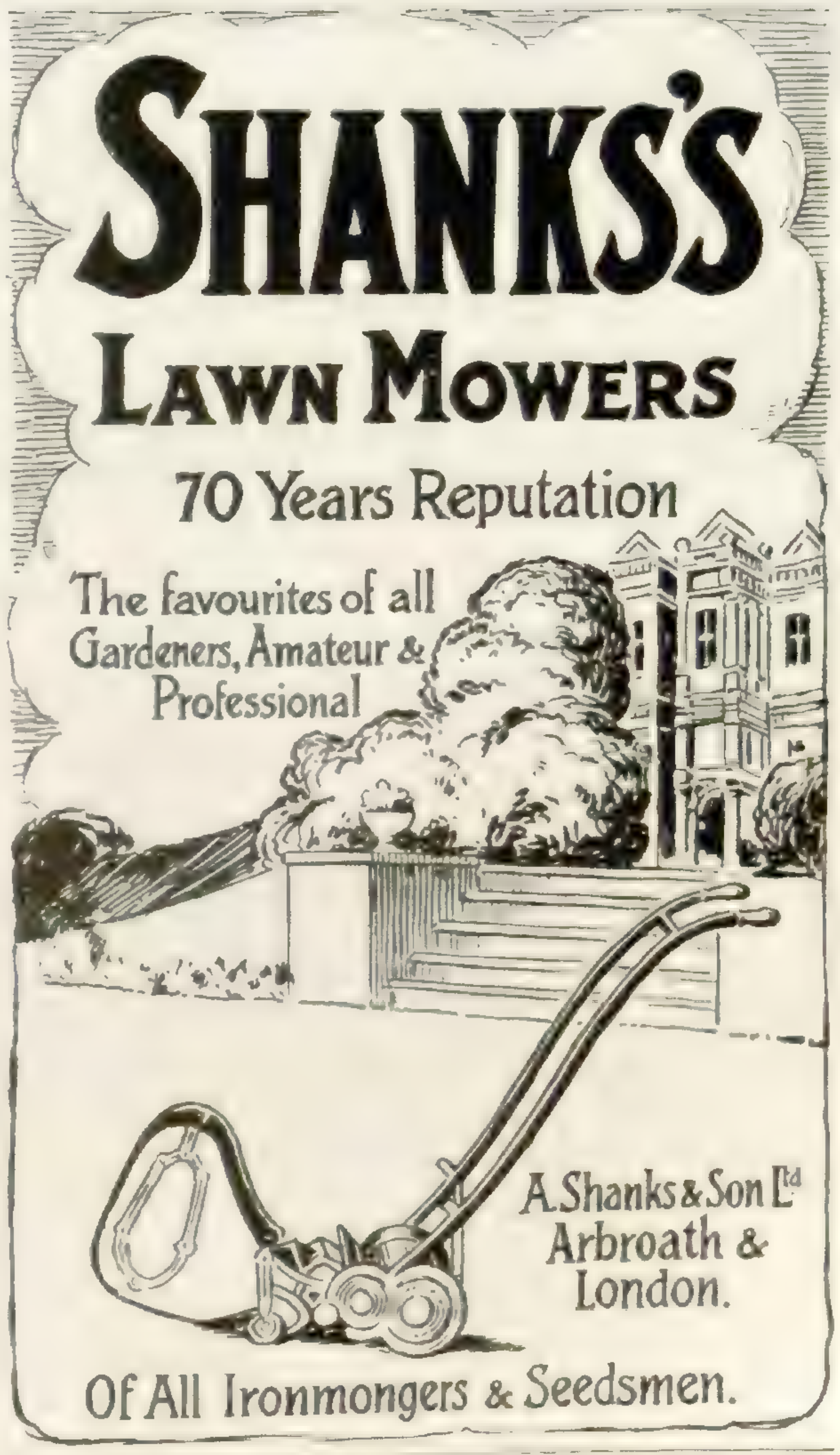
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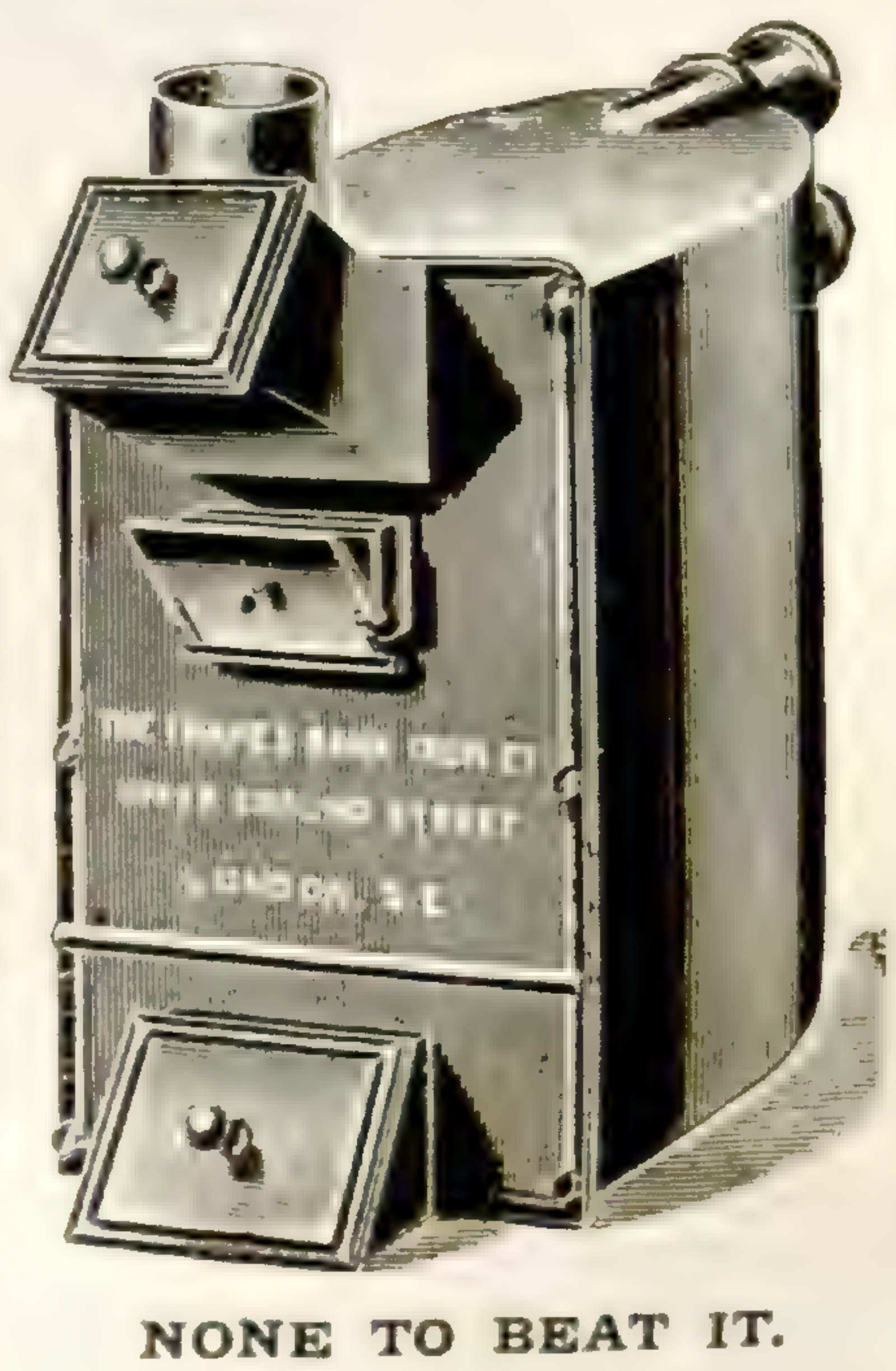

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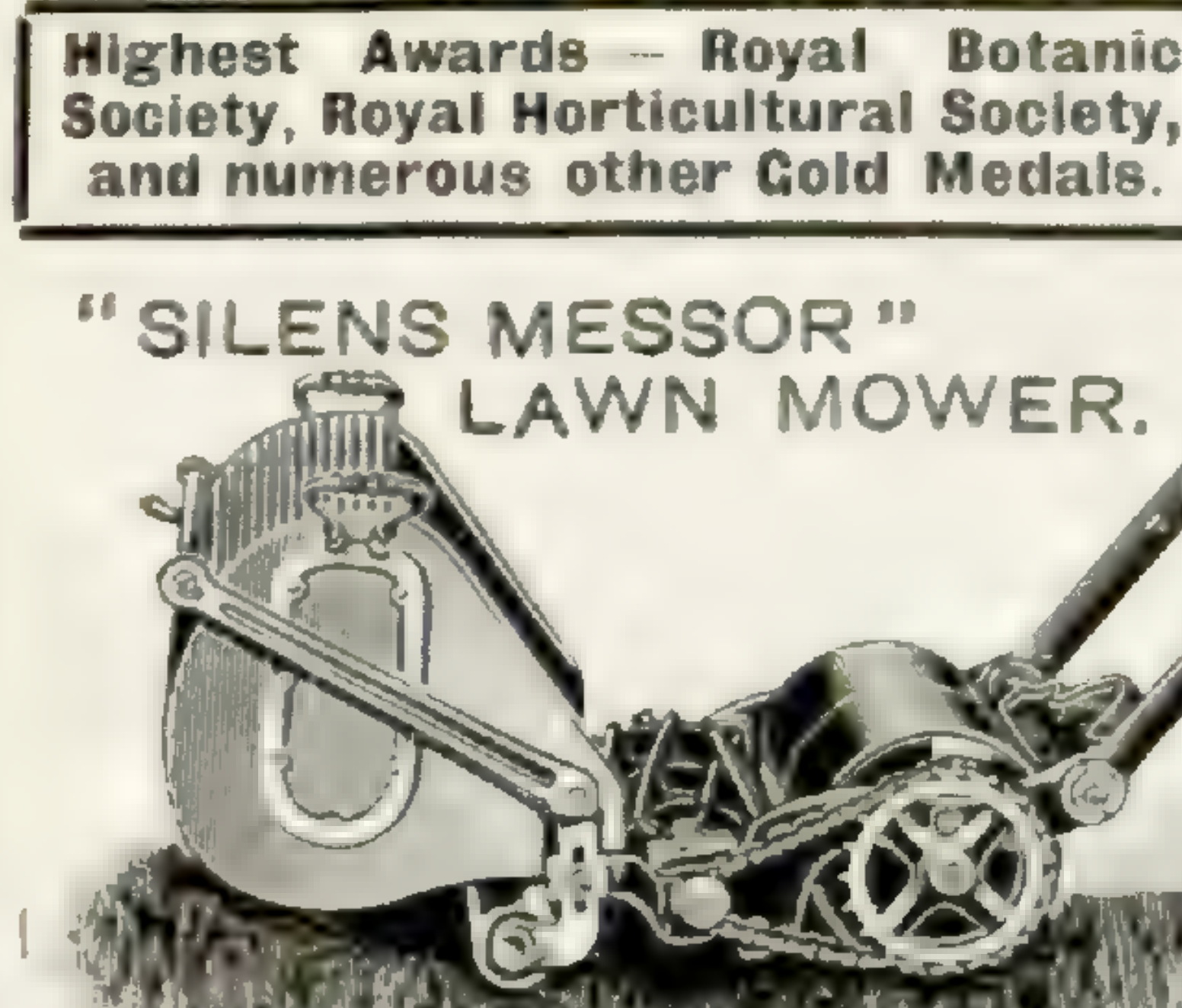

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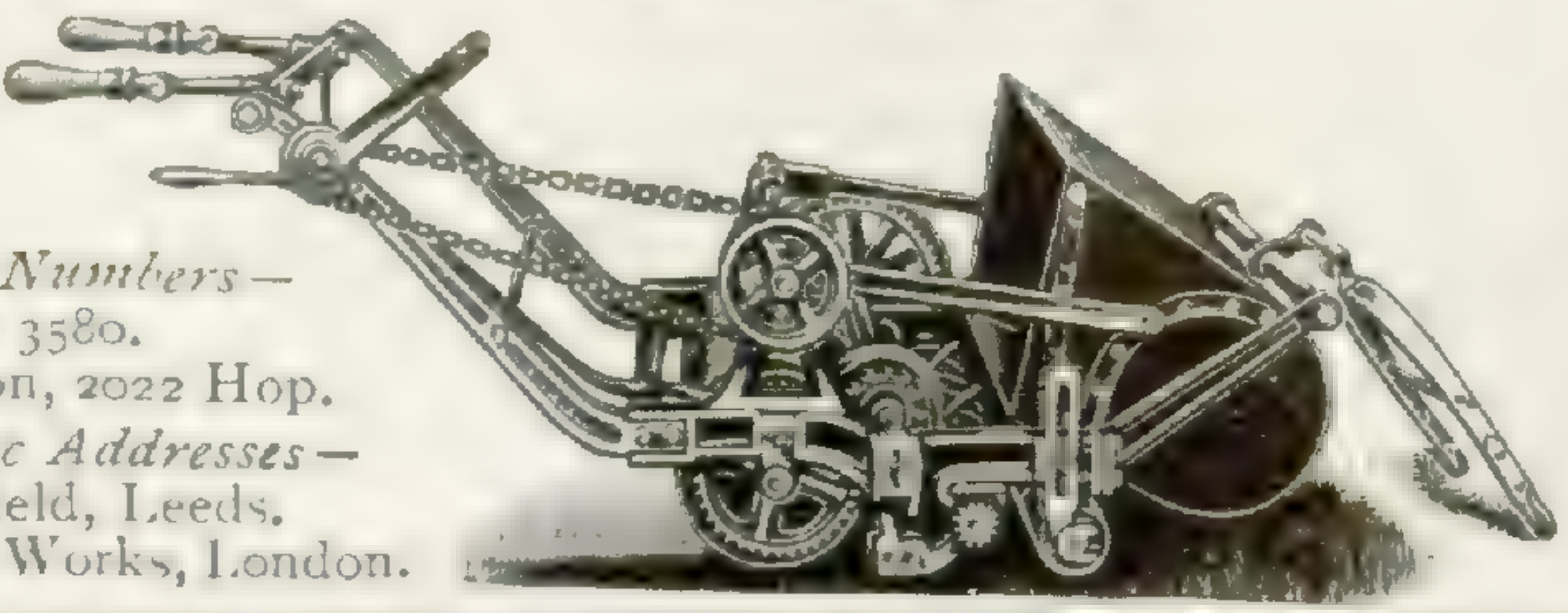

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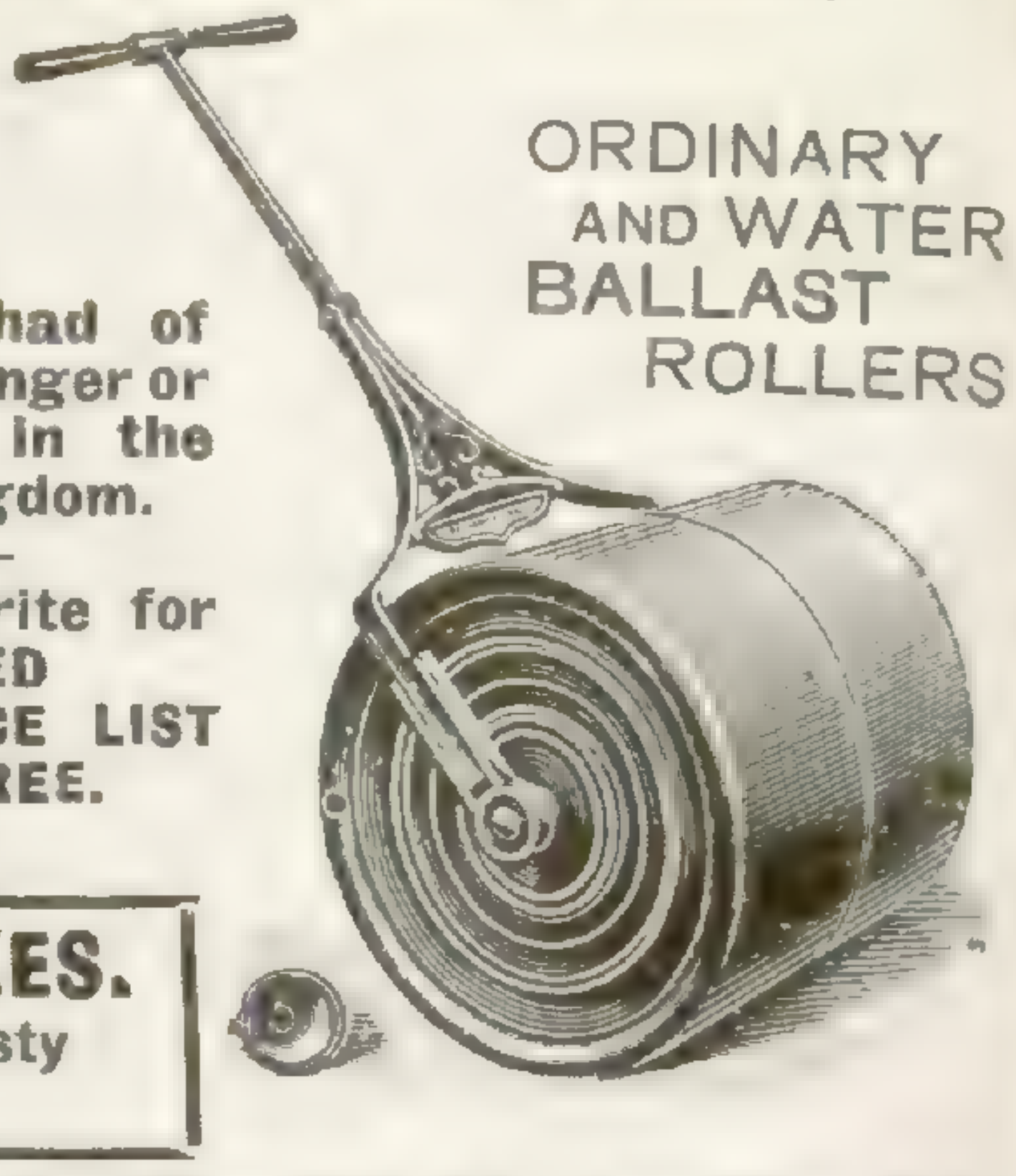

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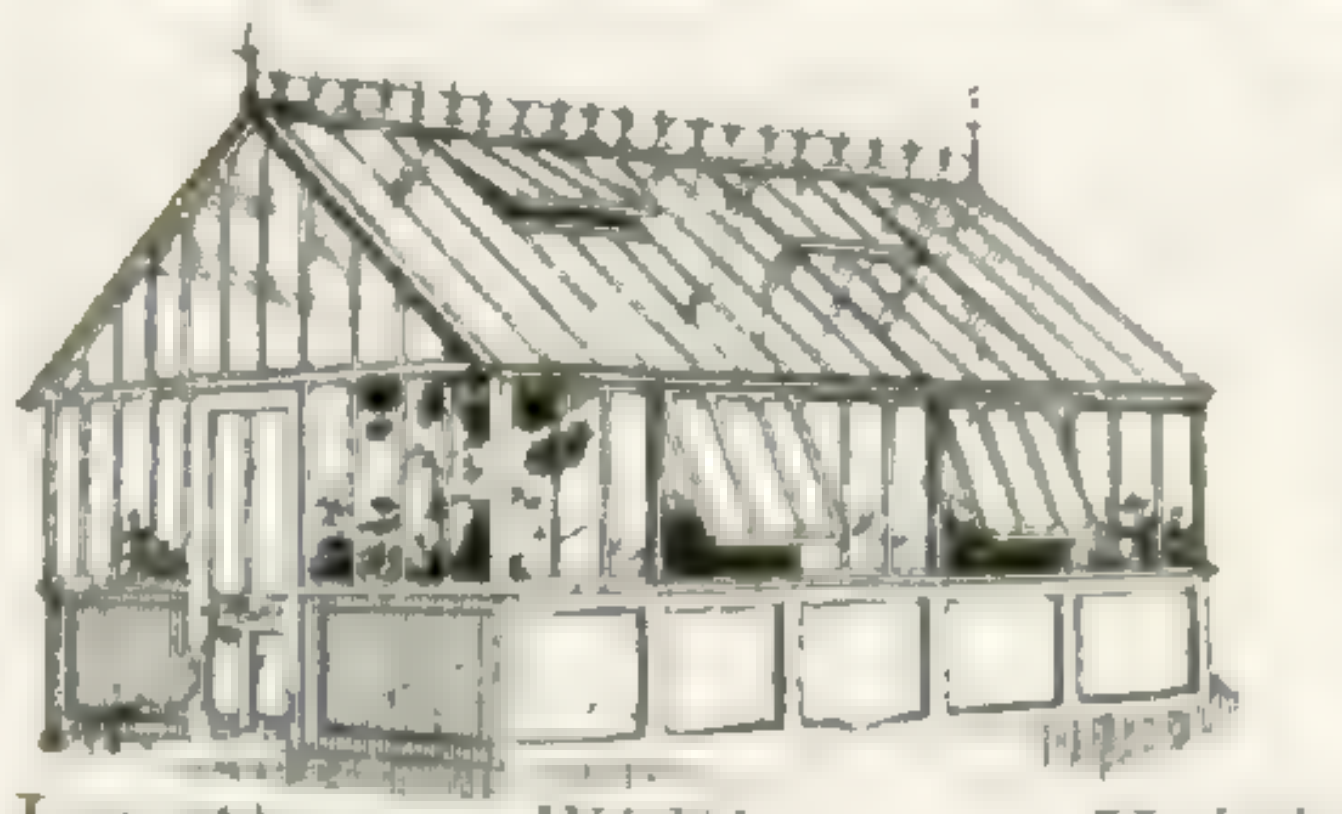

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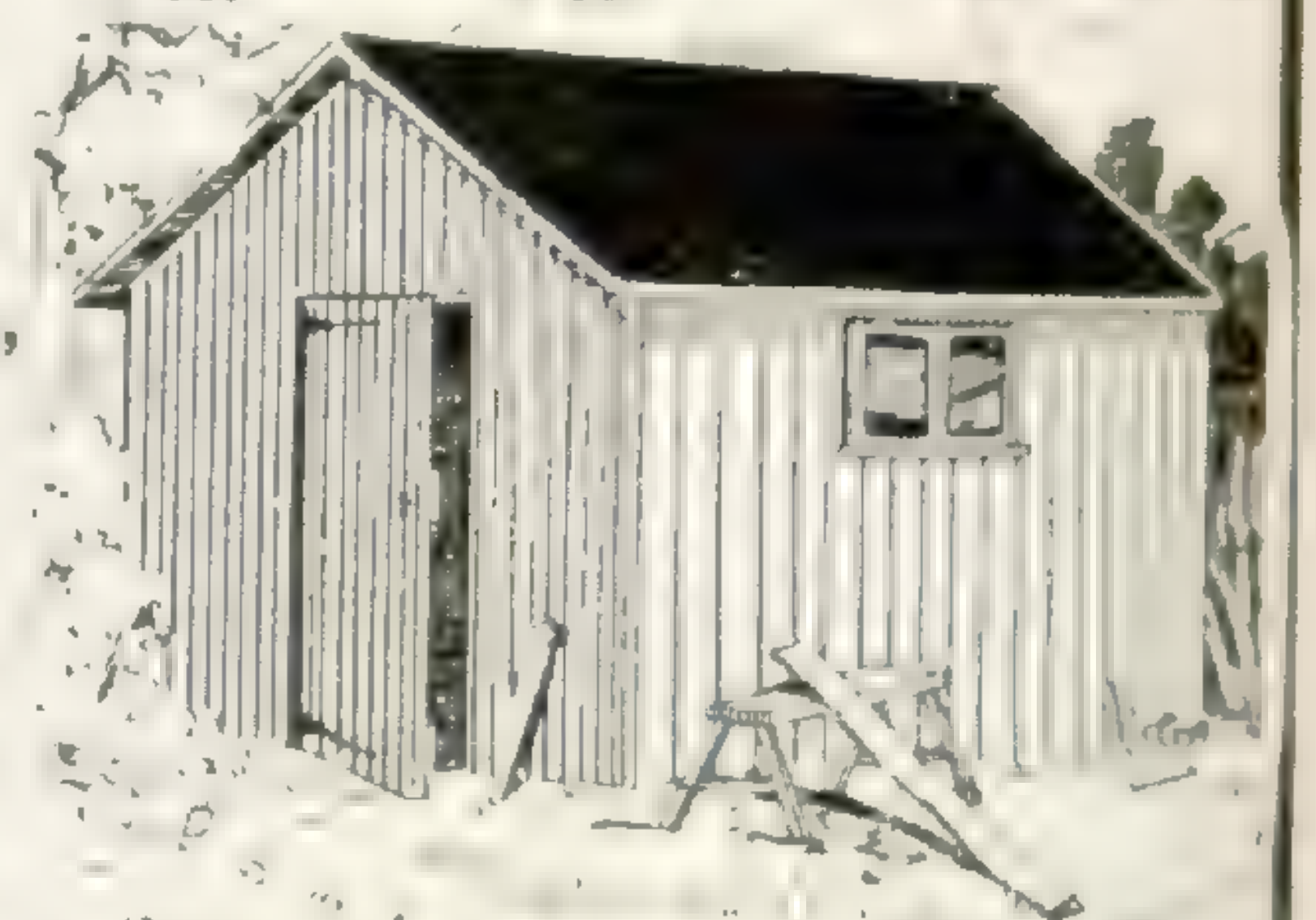

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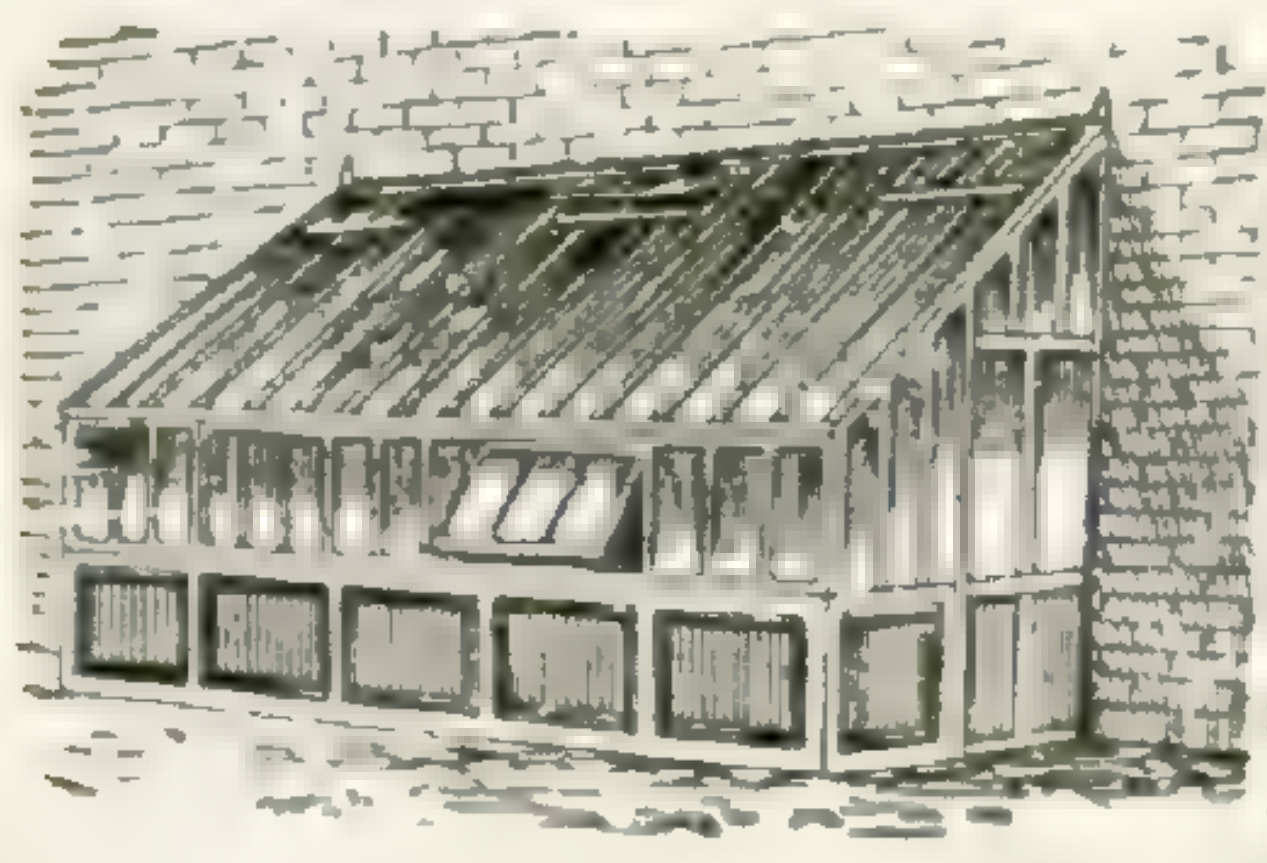

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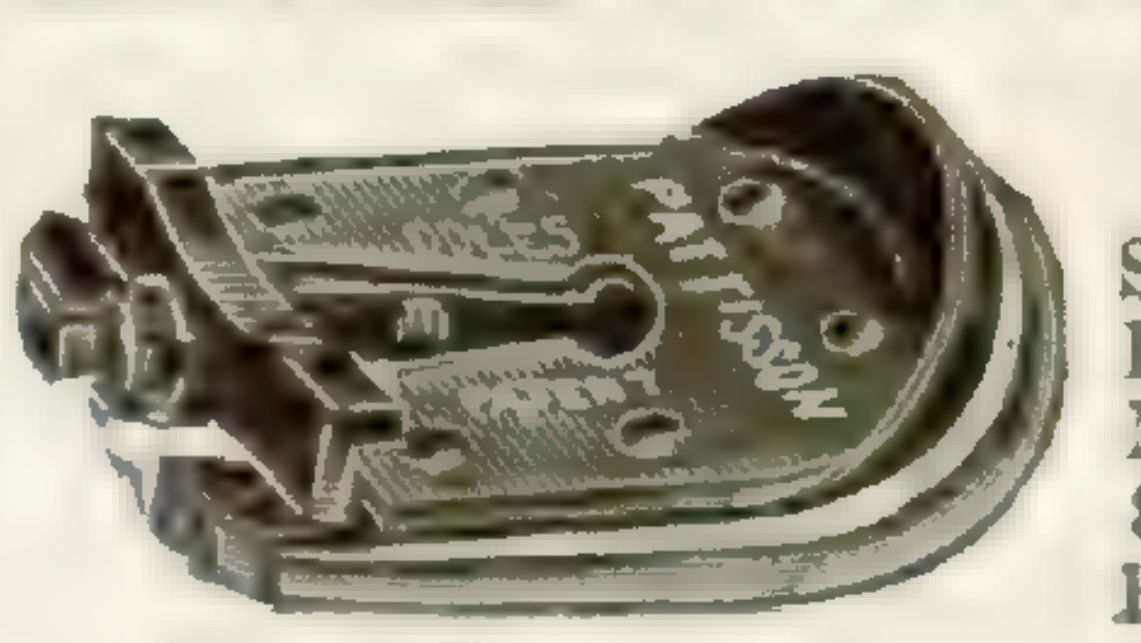

FIG. 1.

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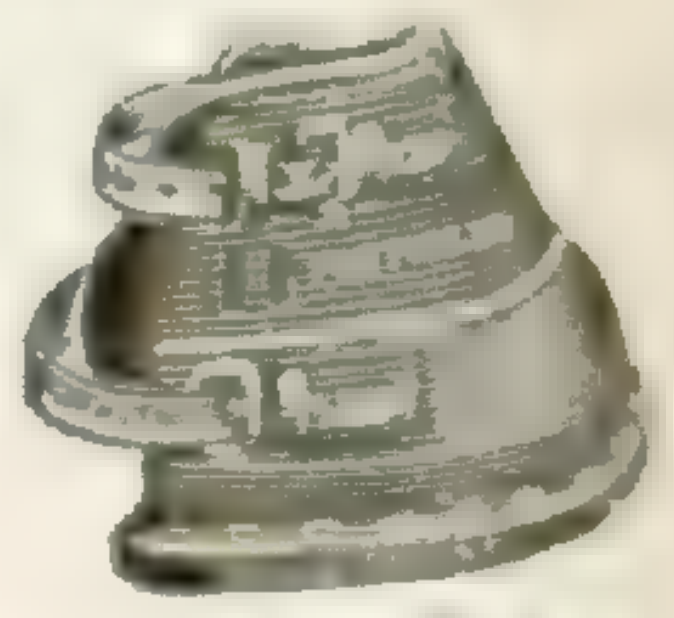

FIG. 2.

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CULINARY PEAS.

Professional gardeners require little instruction as to the cultivation of culinary peas, nevertheless there are a few points of special importance which are often lost sight of by those who have not made a speciality of the cultivation of these fine vegetables.

It is useless to attempt to grow early peas unless a really warm, sheltered aspect is obtainable, and even then special care must be taken in the preparation of the soil, so as to increase its normal temperature by thoroughly incorporating with it a dressing of short manure. To sow early peas in open situations and on cold soils is a waste of time and labour. A too common mistake with the main crop of peas is to sow them in rich soil, and frequently we find that on retentive soils heavy dressings of farmyard manure are applied previous to preparing the ground for sowing; except in seasons of drought this practice is rarely a success, as where the ground remains moist throughout the growing season an excessive growth of haulm is produced at the expense of well-filled pods. Ground manured for a previous crop, as, for example, cabbage, will usually carry a full crop of good quality peas.

I have often seen it advocated that peas should be sown in double rows, at even distances apart, not only in the rows, but from pea to pea in the rows. This method does not always answer in practice, where many enemies, such as mice, sparrows, snails, and numerous other pests are to be accounted for; therefore, it is usually found preferable to sow broadcast in a wide drill drawn with the hoe, and should the plants appear too thick before staking it is a simple matter to thin them out. There are occasions when it is necessary to cultivate peas on soils altogether unsuited for their growth, as on soils of light texture. When this is the case, it is often advisable to take out a trench and mix a good mulching of rotten cow dung and loam with the subsoil, replacing the original soil on the surface as the work proceeds; then sow the seeds, and finally give a surface mulching with a similar mixture when the plants show flower. The only aids in keeping pests from the seed is to damp them, and cover with a coating of red lead previous to sowing, after which guard with black cotton until the plants are large enough to admit of staking.

Neatly staked rows of peas are always pleasing to the eye, and usually indicate that other cultural details are being well attended to. There are no better sticks than the branches of hazel when cut from the copse in winter, as they are more or less fan-shaped and well furnished, and in woodland districts cost very little to purchase. The sticks should first be prepared and graded according to the height of the varieties for which they are intended, as this facilitates much labour when they are brought into the garden. After staking the tops should be cut off level, the twigs thus removed being used for filling up the bottoms of the rows, where the sticks are not usually so well furnished. When staking is completed the surface soil should be drawn up with a spade along the side of each row; not only does this give the rows a neat appearance, but also affords shelter.

It is a mistake to be continually watering peas, and if the soil be fairly retentive of moisture it should only be necessary to give a good soaking at the time of flowering, followed by one or two heavy waterings to carry them on through a period of drought, if such should occur when the pods are filling. If such waterings are made through a mulching so much the better. As the object of home-grown peas is to ensure quality, which, in this particular vegetable cannot be relied upon when purchased, it is important therefore that great care is taken when gathering the pods, and if this work is well performed there will be no risk of gathering old pods or those that are under-developed; further, the timely removal of fully-matured pods will assist the younger ones to mature more readily. When gathering is completed the sooner the haulm is removed and burnt the better, as too often it is left to become infested with mildew.

CHRYSANTHEMUM CAPRICE DU PRINTEMPS.

In a 48-sized pot; flowers large, rosy-pink.

There is just that tendency with all growers to cling to what we know to be a really good sort, but it so happens that in a few years what may have been our choice of former days is superseded by a variety of better quality; again, there is the question of strain, as, for example, strains of Duke of Albany pea are not uniform, and so with other varieties. Each year it is well to scan very carefully the seed lists of the seedsman we may choose to deal with, and, to a great extent, be guided by his recommendation. If convenient, several new varieties may be introduced for trial each season. What may prove good in some soils may be regarded as indifferent doers in others.

Up to the time of writing I have found the following very useful: Gradus, which rarely grows more than three feet, and produces the largest pods of any of the early varieties; Ideal, another useful early pea, being of excellent flavour, and a special favourite for early exhibition; Daisy, still worth a place as a dwarf second early, being a heavy cropper, and rarely attaining a greater height than two feet; Sutton's Prizewinner, a beautiful second early pea, the pods often measuring six inches in length and containing as many as twelve peas; it rarely exceeds three feet. Of maincrop varieties, Alderman, Autocrat, Duke of Albany, and Ne Plus Ultra are all still very useful. For exhibition, Captain Cuttle is a favourite with many, the pods being large and very handsome, and usually containing ten large deep green peas of excellent flavour. This variety has the advantage over many main crop varieties inasmuch as it resists mildew. Sutton's Exhibition is another good variety frequently exhibited; it is of the Duke of Albany type, the pods being larger, and even broader than that variety. Of late years, no pea has become more popular than Gladstone, and for late exhibitions it has no rival, and therefore takes a prominent place in all August shows; its dark green curved pods present a very handsome appearance, and the peas are usually closely packed in each pod to the number of eleven to thirteen. No grower can afford to be without this variety.

J. C. Newsham.

DECORATIVE CHRYSANTHEMUMS.

There is a great host of chrysanthemum lovers and growers who do not consider their favourites from an exhibition point of view, but regard them as charming flowers for conservatory and room decoration during the autumn. Even those who do exercise their skill in the development of big specimen blooms know full well the value of bush or decorative chrysanthemums, especially where there is much decorating to be done, and many flowers to be provided; but to the amateur who has no lofty glasshouse in which to place tall specimens, the culture of decorative varieties in bush form in small pots affords a delightful outlet for his skill and enthusiasm.

CHRYSANTHEMUM KATHLEEN THOMPSON.
In a 48-sized pot; flowers large, crimson, tipped with gold.

No special difficulties present themselves in this method of culture, and if close attention is paid to watering and feeding the rest of the practice is very simple. It is a great mistake to start early for the production of dwarf, bushy, freely-flowered pot specimens, and this must be one of the very few instances in horticultural procedure where an early start is a mistake. Old stock plants should be kept quite cool during the winter, so that there is no wastage of growth. After the large-flowered varieties have been propagated, potted, and are well on the way towards success, it will be time enough to begin propagating for bush plants in small pots. The end of March and the first half of April is an excellent time to take the cuttings, and in the genial warmth of a greenhouse or warm frame the cuttings root quickly.

Several cuttings may be placed in a 60 or 48-sized pot, and potted off singly into thumb pots, as soon as rooted, and stopped. From thumbs they should be transferred to 60's as soon as nicely rooted, and early in July they should be ready for the final shift into large 48's. The growths must be stopped two or three times, but the plants must be only once stopped after the final potting. A cold frame, with abundant ventilation, will provide sufficient shelter after the young plants are potted from the store pots, and every effort should be made to secure hardy, sturdy growth, so that when the plants are in bloom they are only about eighteen inches or two feet high, and carry from ten to eighteen blooms.

Directly after the final potting the plants will be all the better if stood out of doors in an open position, and plunged to the pot rim in a bed of ashes. They must have ample room for development, and for the admission of light and air among and around them. The potting material should not be so rich as that adopted for the production of large blooms, and sound, fertile loam should form the basis of the compost, adding a little bonemeal or dried cow manure if necessary, or sand and leaf-soil if the loam is rather heavy and adhesive.

Feeding should commence as soon as the flower buds have set, and should consist of frequent waterings with liquid manure and guano, using these in alternate weeks. Soot water occasionally is helpful, as it imparts a deeper green to the foliage and increases the purity of the floral colours. In a hot, dry summer plunging in ashes is almost essential to success, as the pots become so full of roots that if fully exposed to sun and air the root tips next the pot would be severely damaged if the soil were allowed to become at all dry. In a wet season extra care must be taken in watering, as there is then a little danger of harm resulting from an excess of root moisture.

Last autumn Messrs. James Veitch and Sons, Lim., Chelsea, exhibited large numbers of remarkably well-grown chrysanthemums at Westminster, and these attracted a great deal of notice, and were deservedly admired. All these were grown at the firm's Feltham nursery by the method already indicated, under the care of Mr. Weeks, one of those clever departmental foremen who for so many years have been with the Messrs. Veitch. The illustrations accompanying these notes represent some of the plants shown last autumn.

Disbudding is necessary in the case of all the larger-flowered varieties, and also for the larger singles, all these being restricted to one flower on each growth, but many of the singles may be allowed four flowers per growth, so that a profusion of sprays of shapely blooms results, rather than a confused mass of individually poor flowers.

Among the larger-flowered decorative varieties that prove eminently suitable for this system of culture the following is a severe selection: Soleil d'Octobre, yellow; Bronze Soleil d'Octobre, bronzy-yellow; Caprice du Printemps, rosy-pink; Kathleen Thompson, crimson, tipped with gold; White Cap, a white sport from the last-named; Parson's White, pure white; Hortus Toulousanus, apricot-yellow; Rose Poitevine, rosy-mauve; Hutchin's Pink, pink; John Shrimpton, crimson; and L. Canning, white; the two last-named are very late varieties.

A selection of the larger-flowered singles, all of proved value for bush plants in small pots, includes Edith Pagram, rose-pink; Bronze Pagram, reddish-bronze; the white and yellow sports from E. Pagram; Mersham White, white; Framfield Beauty, crimson; Pictor, blush-pink; Crown Jewel, yellow; Mrs. J. Miller, yellow, tint pink; Pollux, bright yellow; and Mensa pure white.

Single varieties that make beautiful bushes if the flowers are disbudded to form sprays are: Atair, white; Feltham W white, very free; Lily Godfrey, lavende Exmouth Yellow, golden-yellow; S Slade, rose and white; Ursa Major, pink; Norma, pink, early; Rou Beauty, red; Belle of Weybridge, ch nut-red; W. Grix, canary-yellow; Me magenta-red; Devonshire Lass, cana yellow; Miss Mary Anderson, blush; a Ladysmith, rose-pink.

C. K

"CHRYSANTHEMUMS AND HOW TO GRO THEM FOR EXHIBITION," by J. B. Wro details on timing and stopping for N Southern, and Midland growers, selections best varieties, illustrated instructions on ta buds, cuttings, staging, etc. Prices 1s. net, by 1s. 2d.; cloth, 1s. 6d., by post 1s. 8d., from W and L. Collingridge, 148 and 149, Aldersgate St London.

PLANT CULTURE UNDER CALICO.

Intensive cultivation of land is now under discussion everywhere, and how to make the best of every available inch it may be one's lot to cultivate. I hope to be able to explain in the following notes some of the uses to which calico can be put in horticulture, and at the outset I may say I have tried it for many subjects during the past eight years, and have found it very useful indeed. In the first place, it is very light and mobile, as well as being comparatively cheap compared with the cost of glass. I am prepared to admit that it is not so generally useful, nor will it take the place of glass, but some subjects will thrive so well under it that I strongly advocate its use.

I generally purchase calico at about $2\frac{7}{8}$d. to $3\frac{1}{8}$d. per yard, taking several rolls of about ninety yards each. The width is twenty-eight to thirty inches, and those pieces with strong texture and not much starchy dressing are selected. For general use I cut it into about thirty-five-yard pieces, and sew three pieces together with the machine, allowing a lap of about an inch, so, when finished, I have a sheet of thirty-five yards long by seven feet and a few inches.

For the building of one of my calico greenhouses I obtain a quantity of 2 x $\frac{3}{4}$ x 8 feet tile laths, and some of five feet in length, and these make frames five feet by eight feet, each frame containing five pieces of eight-feet lath and four of five feet lath, nailed together with $2\frac{1}{2}$inch wire nails. The eight-feet laths lie on top of the five-feet ones. It will require twenty-one of these frames on each side of our house, 42 in all. I next obtain eight pieces of timber 4 x 2 x 14 feet as a "top-rail," and lay it on the ground where the centre of the house is to be, putting the ends close together; at each end I drive into the ground securely a post of 4 x 2 inches, and about seven feet long, so that the top rails may each rest on it two inches, and be secured with one four-inch nail in each end. At the middle of the top rail I put another post of 4 x 2 inches crossways, to prevent the top-rail from tipping. We have now the centre of the house complete. For side rails a lighter timber may be used, and 4 x 1 inches is heavy enough, and posts 2 x 2 inches; the latter, instead of being six feet out of the ground should be four feet. The rail must be nailed up securely, and when completed we have three rows of posts eight feet apart, with a rail on each. In gauging be particular about having each rail exactly eight feet from the other, or the frames will not fit. The next business is to put the frames on, and secure them with one three-inch nail in each of the four corners, not driven quite home, but left so that it can be withdrawn without injury to the frames when the house has to be removed. When the frames are fastened the house looks like a greenhouse in course of construction.

Take the sheet of calico and draw it over the structure; roll one end round an eight feet 2 x $\frac{3}{4}$ rod, and secure this with two three-inch nails at one end of the building. Roll the calico round a similar piece at the other end, and nail down after pulling as tightly as possible. Do this on either side, and then stretch a single width of calico over the top of the house. Place some more lights, bottom upwards, on the house to keep the calico down, nailing them as before at the corners. The ends of the houses can be closed with calico fastened with some laths 1 x 3-16 inch. Where a house is exposed to wind it pays to put two colds on the top of the calico under the top lights. I use New Zealand two-ply, because it does not stretch unduly. The sides can be formed with wood, bags, Russian mats, tiffany, hessian, grey calico, or old calico not fit for the top put on double, and secured with sawn laths nailed on with inch wire nails.

For chrysanthemum growing I generally have three houses together, and use a spout between them. For this I ask the timber merchant to cut a fourteen-feet piece of 2 x 2 inches angleways, and then nail these angles on the top outside edges of the 4 x 2 x 14 feet.

I erect these in the same way as the top rails, and line them with roofing felt when erecting the houses. This makes them waterproof. Other adaptations of such a house will readily occur to a practical man. Frames can be made instead of houses, for instance.

CHRYSANTHEMUM LADYSMITH,

In a 48-sized pot; flowers single, rose-pink.

The great crop that is grown in these houses is chrysanthemums, and they succeed splendidly. Many growers cultivate their decorative varieties out of doors, then lift them, and either pot them, about September, or plant them under glass. I plant six rows, twelve inches apart, in the centre of the house, then leave eighteen inches as a path, then three more rows. About September, when early frosts are expected, I erect the houses, but put no calico on until really compelled to do so by wind, rain, or frost. Often it is not necessary to put the sides or ends on until late in November. The whole of the early ones will open fit for cutting with no other protection than the sheeting. If the calico is stretched tightly it carries off the water as well as a good umbrella, and when frost comes it freezes the moisture on the calico, so that it is a sheet of ice, through which no wind or air can pass, and thus it keeps out a good deal of cold. By heating such a house chrysanthemums may be grown till mid January.

For spring use calico is invaluable, when glasshouses are over full, and one does not know where to put half-hardy seedlings. A calico house is a great boon for pricking out asters, sunflowers, stocks, celery, etc.; it affords slight shade from the scorching sun, and protection from cutting winds or heavy rains, besides finding work under cover when the weather will not permit outside work being done. Chrysanthemum stools flourish all the winter, and the cuttings strike readily either in boxes or on nicely-prepared beds. In such houses a crop of winter parsley can be protected from the weather. I have sown quantities of aster and stock seeds with great success under calico, and, after taking the covering off for the growing period, put it on again when asters are in flower to keep the rain off.

Tulips and narcissi are a great success with this treatment, and for tulip, hyacinth, and narcissi forcing in quantity erect a house as already described, only lower by about two feet, and put another lot of calico on the underside of the lights. Benches of any rough wood are built, and some long litter put on them, and a very little soil; on these are placed the boxes or pots in which the bulbs are growing, and with an occasional sprinkling of water, and a day temperature of 60 degrees, flowers can be produced superior to anything under glass, both in colouring and length of stem. Under the benches rhubarb, seakale, and chicory can be grown. If bulbs are to be forced under glass it will pay to line the house with calico, as the subdued light gives a delicate colouring to the blooms that must be seen to be appreciated.

If it is not thought desirable for a house to be built, I should advise that the frames be made eight feet by five feet, and these be used as ordinary garden frames, but the calico can be stretched quite tight, and secured to each light with 3-16 x 1 inch sawn laths, so that we have lights of calico instead of glass, and under these frames cauliflower, lettuce, and parsley can be wintered, removing the lights altogether in open weather. When the lights are on more light will be admitted to the plants than when glass is used and covered with mats. When these plants are put into permanent quarters early potatoes may be planted, or annuals sown or pricked out. It may be found more convenient to fasten the calico to fifteen-feet laths, and roll it over a framework just as greenhouse shading is rolled. I have found that a bed of dahlias can be covered with the frames in September, and have sheeting thrown over them for two or three nights, and, as a result, they have been protected through the first frosts, and I have had plenty of dahlias till mid-November.

STUDLEY COLLEGE—A STUDENT AMONG THE CHRYSANTHEMUMS.

The heating of these structures, if necessary, is carried out by means of a conical independent boiler fitted with three flows and three returns, 1½ inch, screwed to take gaspipe. I have a quantity of 1½ inch, 1¼ inch, and 1 inch gas piping, with fittings of all kinds. In the autumn I put two flows and two returns in a thirty-five-yard long case, and one flow and one return, 1¼ inch in the midseason house, and when the house is cleared I take out the pipes.

After Christmas I fit up a forcing house, branching each flow pipe into two, and thus get five flows and the same number of returns in a forcing house, and a flow and return to run round a set of glass frames forty feet long, in which mint, radishes, and lettuce are growing. There is no difficulty about fitting such a boiler; the only requirements are a rise in the pipes to the air vents, and a fall back to the boiler, and that the supply cistern be higher than any other part of the system.

Terrington. W. J. Belderson.

BEAUTIFUL GATEWAYS.

It must surely have struck many thoughtful persons that we generally expend immense amounts of loving care and work upon the interior of our gardens, but leave the entrances unadorned. If there are carriage gates it is only on large estates that they are beautiful; if there is but one gate, set in wall, fence, or railing, the most we do is to plant a tree on either side of it. Now, an arched entrance is almost invariably charming, and the structure of wood or iron can support either climbers or trained trees; the usual laburnums and hawthorns take on quite a new loveliness when thus used. Of all possible adornments for an arch, or larger porch over an entrance gate, however, the most charming is probably Pyrus japonica; the vermilion blossom comes at a rather cheerless season, warms the whole landscape, and is not chary of repeating itself at later times of year.

Supposing there to be a space sufficient on the gate arch, or a series of arches, over the immediate path, it would be well to use the blush-white and the rosy varieties of the pyrus, in addition to the scarlet. In front of a white house this entrance way is seen at its best, and the walls of the dwelling should be partly climbed also by Pyrus japonica, so that the spring show may be as noteworthy as possible. So simple and cheap an arrangement as this is certain to achieve renown, it being watched for each year by neighbours and frequent passers by. A modern writer has truly said: "The things to look out for are little accidents of light and colour, little effects of chance grouping, the transfiguration of some well known and commonplace object"; but the gardener's happy task is the creation permanently of such beautiful combinations as chance may have revealed to him.

Porches or arches over entrance gates are occasionally objected to because they cause drip to fall upon the path; a glass-roofed porch will not do this much, and suits excellently with the somewhat ornate style of many verandahed modern villas; the supports should be white-painted wood or iron. Then this objection does not apply to pillars on either side of a gate, which look almost as well as an arch. The effect is best when these pillars are really tall, and especially is this necessary when the entrance is a broad one. Solidity of pillar must also be studied, and made to correspond with the size and nature of gate and fence; clumsy great poles beside delicately carved ironwork or fragile ones against massive wooden doors and fence are alike inartistic. Bamboo poles of sufficient size go well with the look of the red brick semi-detached villa; stouter larch poles are more in keeping with a house possessing a broader, more important front. Climbers should combine spring, summer, and autumn beauty whenever possible; there is the pyrus before mentioned, the various yellow jasmines, the wistarias, then Clematis montana, roses, ramblers, and those of more permanent excellence, clematises of the Jackmanni, lanuginosa, and other types, Clematis vitalba, to last right into November, and in warm places passion flowers and Solanum jasminoides. The worth of dainty kinds of ivy will be undoubted for perpetual covering.

Another method of beautifying the gateway is to have beds or borders of great width and importance about it, stretching some distance up the path, and to congregate in these shrubs and herbaceous plants, with roses and liliums, chosen so as to gather together as much constant florescence as may be. Hardy rhododendrons and Ghent azaleas, Daphne Mezereum, double herbaceous pæonies, hepaticas, double daffodils, polyanthuses, an Oriental poppy or two, delphiniums, phloxes, chrysanthemums, Japanese anemones, autumn crocuses, Cratægus pyracantha, golden privet, Berberis aquifolium, Sedum pulchellum, aubrietias, Christmas and Lenten roses, crown imperials, laurustinus, Stephenandra Tanakæ, a shrub that has fine autumn-tinted leaves and rich red stems in winter, Hydrangea hortensis, spiræas, deutzias, Erica carnea alba, the white winter heath, and hollyhocks, are a few of the ornaments that occur to memory as well fitted to take part in the groups.

It is an admirable plan to let narrow borders run alongside the path on either side, ending in these attractive shrubberies and beds; the practice of cutting a succession of small round beds, each to contain a standard rose, along the edge of the front garden turf has its merits, but the ribbon-like band of flower and foliage looks more uncommon. Only the choicest hardy plants should be used in this, and by employing great numbers of aubrietias, arabises, iberises, pinks, saxifrages, and other evergreen subjects the earth is pleasantly covered all the year round. When there have to be posts on either side of a drive to hold the staples and hooks for fastening back the gates, there is no reason why these should not be so tall as to become pillars that can be mounted by well trained roses.

M. H.

DAHLIAS TO PERFECTION.—A thorough [illegible] to the successful culture of these popular [illegible] "Dahlias and Their Cultivation," by J. B. [illegible] price 1s. net, by post 1s. 2d., bound in cloth 1s. 6d. by post, 1s. 8d., from W. H. and L. Collingridge 148, Aldersgate Street, London.

THE STUDLEY HORTICULTURAL COLLEGE.

A scheme, having for its object the training of women to teach and practise the lighter branches of agriculture, viz., horticulture, market gardening, fruit growing and preserving, dairy work, poultry farming, beekeeping, and the marketing of produce, was established by the Countess of Warwick in 1898. A house was taken at Reading in September of that year, where the work was carried on till September, 1903, when the school was removed to Studley Castle, in the county of Warwick.

Studley Castle, which was acquired for the purpose of the college in 1903, consists of a mansion and about 340 acres of land, of which about 24 acres is laid out as gardens and pleasure grounds. It is situate about two miles from Studley, a village with a station on the Midland Railway, between Evesham (the great Midland fruit-growing district) and Birmingham, and is distant from Birmingham about thirteen miles, and Stratford eleven miles.

The buildings consist of the mansion, containing accommodation for 51 resident students, the warden, and a portion of the resident staff (accommodation for the remainder of the resident staff being provided in a house on the premises), and the servants. The main building contains a large dining hall, drawing or recreation-room, two lecture halls, class-rooms, warden's and staff rooms, offices, etc.

There are in the grounds close to the castle a fully-equipped laboratory, a dairy with all modern machinery and appliances, a cheese factory and storage, a marmalade and jam factory, poultry manager's office, rearing, feeding, and trussing houses and sheds, a carpenter's shop, stabling, coach-house, and a bicycle house to accommodate fifty to sixty bicycles. There is a large walled-in fruit and vegetable garden, large orchards, ranges of greenhouses containing 12,200 square yards of glass, rose gardens, ornamental flower gardens and ferneries, potting sheds, tool houses, fruit stores, students' gardens, and a large vegetable garden, and gardener's residence. In the grounds there is an apiary and a pheasantry. In the park are two large lakes affording boating, a hockey ground of two acres, cricket pitch, and tennis courts. The grounds are studded with fine forest and ornamental trees, including many rare and valuable specimens.

There is also a farmhouse, with some farm buildings. Before the college was removed to Studley the mansion was thoroughly overhauled and redecorated. An entirely new system of drainage was installed, and the water was laid on from the mains of the East Worcestershire Water Company. The castle and other buildings are lighted by electric light, which is supplied from a plant on the premises, the plant and wiring having been recently entirely overhauled and a new engine added, which is also used for sawing wood, pumping water, and working machinery in the dairy.

It will be gathered from this that there are splendid opportunities at Studley Castle for obtaining an excellent training in horticulture and allied pursuits. The course of instruction includes: (a) Horticulture and beekeeping; (b) Dairy and poultry work and beekeeping. The full course takes two years. The working year is of forty weeks' duration, and consists of three terms, of about thirteen weeks each, beginning, respectively, in September, January, and May.

Short courses of instruction, lasting from six to ten weeks, are also given at the college.

The college grants diplomas and certificates to those students who have completed their training and passed the necessary examinations.

Students are prepared for the examinations of: (a) The Royal Horticultural Society; (b) The Royal Agricultural Society N.D.D.; (c) The British Dairy Farmers' Association; (d) The Studley College Certificate and Diploma in Dairying; (e) The special examinations in poultry work held at the college each year in July; (f) The first, second, and third class experts' examination of the British Beekeepers' Association. They are also instructed in fruit bottling and preserving, marmalade making, marketing produce, business training, manual training, and woodwork, and the principles of co-operation.

The students pay fees ranging from £80 to £120 a year, according to the bedroom accommodation required, those at £80 sleeping in cubicles, and those who are prepared to pay from £100 to £120 a year having study bedrooms. The sleeping accommodation is the only difference made between students. The fees are inclusive of board, lodging, and tuition, except some few extras, such as instruction in beekeeping, carpentry, and cooking, and also for laundry, and for fires in bedrooms if they are required.

There are also a few Bursary students paying £60 a year.

Up to the present the college has not farmed any of its land (outside the gardens, etc.), but the farm has been let to a tenant.

The students have been in the habit of attending at the farm for instruction in milking, and have also received some instruction in general agriculture by lectures and demonstrations.

STUDLEY COLLEGE—STUDENTS PACKING CHRYSANTHEMUM BLOOMS.

JOTTINGS: CRITICAL AND OTHERWISE.

I have just finished reading Mr. J. B. Riding's paper on "Methods of Exhibiting Dahlias," and I beg to propose a vote of thanks to him for the same, in the first place, for the originality of the text, and, secondly, for the boldness of his suggestions. Perhaps Mr. Riding is living just a little bit before his time, and the idea of making a bonfire of show boards and boxes that are such an essential part of the paraphernalia of every dahlia grower will not be received with approbation in every quarter. Old customs die hard; there is an unwritten law that dahlias shall be exhibited squat-like on ugly boards, and that law can only be altered by being attacked in the outspoken manner adopted by Mr. Riding. I hope that his arguments will not be accepted as the vapourings of a crank, because it is the way of the world to treat everybody as a crank who suggests drastic reforms, but when the reforms have come about people wonder why on earth they were not adopted before.

It is a curious coincidence that only the other day, I met, and had a long chat with, an old florist who grew and exhibited dahlias in the early sixties, when the show and fancy varieties were in the zenith of their popularity. A light of enthusiasm shone in his eyes as he recalled the names of the exhibitors of those days, few of whom now remain, and described the different varieties which were pitted against each other on the show board. It was no good me singing the praises of the modern dahlias, the cactus, pompon cactus, pæony-flowered, and the rest, they might be all very well, but the old man knew them not, except in a general way, and could talk of none but the old varieties of the show and fancy types. Methods and tastes have changed in passing years, but there was an enthusiasm about the florists of old which has never been surpassed, and the veteran referred to, who feels now that he is quite out of it, still has a loving regard for the flowers he grew, and finds pleasure in recalling his victories and fighting his exhibition battles over again.

The development of the sweet pea has probably done more than anything towards effecting an improvement in the methods of exhibiting flowers. Fortunately for this popular flower, it never would lend itself to being dumped down on a flat show board, or it would probably have had to suffer this ill-usage, but it must also be remembered that the sweet pea came to the front in exhibitions at a time when there was an obvious desire to have done with the show board. Even at village shows one sees honest attempts made at exhibiting sweet peas in a tasteful manner, even though the receptacles at the command of the cottager are not always the best for the purpose, and what is done for sweet peas could also be done with other things. But in the majority of village shows attempts at tasteful arrangement can be said to begin and end with sweet peas, and the way in which dahlias, roses, pansies, zinnias, asters, stocks, marigolds, etc., are displayed on the show table reflects no credit on either the management or the exhibitors.

STUDLEY COLLEGE—GRAPE THINNING BY STUDENTS.

I have often wondered why competitions of skill in manual processes should not be encouraged more by horticultural societies than is the case at present. We have local agricultural societies all over the country holding competitions in ploughing, hedging and ditching, thatching, etc., but in horticulture competitions of this kind are almost unknown. Not quite, however, for a short time ago the Newport (Mon.) Society held a competition for pruning, open to young gardeners, and the other day I noticed that a Kentish Cottage Gardening Society had a digging competition among its members. This struck me as being a capital idea, for though everybody agrees how very important good digging is, there are a good many people calling themselves gardeners who are by no means expert in the use of the spade. A competition in this process serves a double purpose, for it gives opportunities for men to pit their skill against each other, and spectators may learn by example. Perhaps if digging had not been such a commonplace task the idea would have been thought of before.

At the moment of writing a big conference of teachers is going on at Plymouth, and members of the profession are gathered together there for the purpose of discussing matters connected with their calling. It is not for me to say the amount of good that is the outcome of these annual conferences, but the vigour of the N.U.T. is a matter of common knowledge, and where teachers tread may not gardeners venture to follow? There is a movement on foot for holding a conference of gardeners in London in July, and gardeners who are in sympathy with the idea are asked to send their names and addresses to the secretary of the British Gardeners' Association, the Executive Council of which will be willing to co-operate, and defray the expenses. It does not seem to be quite clear what the co-operation of the B.G.A. means, but would it not be better for this institution to arrange the conference and invite gardeners to attend it? Perhaps this is what is proposed, and the idea of the invitations is to ascertain the feelings of gardeners in the matter.

Since the National Union of Farmers was formed we have heard more than ever about the desirability of farmers being represented more directly in the House of Commons, and it is not unlikely that members representing the union will be found at Westminster in the future. There is nothing to be said against this, but if agriculture is worthy of direct representation, why not horticulture as well? The different phases of horticulture, including market gardening, nursery work, and commercial fruit growing, all combine to make up an industry of importance, which comes a close second to that of agriculture, and yet one never hears much about horticulture being represented in Parliament. There is some agitation on foot about the desirability of a horticultural department instead of horticultural concerns being under the wing of the Board of Agriculture, but this is hardly likely to come about while horticulture remains unrepresented in the House of Commons, and market gardeners, fruit growers, and nurserymen have nobody to voice their wants in Parliament.

The interesting leader in the issue for March 26th dealing with meetings of gardening societies and lectures in connection with the same, reminds one of the position of many purely local societies in the provinces in regard to these matters. Round about London travelling facilities are easy, and there are plenty of experts who are always ready to help societies by giving their services as lecturers at monthly meetings, but in the country this is not so easy. Many small societies in the provinces are by no means rich in the way of funds, and though they are anxious to make their monthly meetings bright, educational, interesting, and useful, the lecturers available in the locality are limited to a few, and it is not the easiest of matters to introduce novelty and maintain the interest of members. I write this with some knowledge of gardening societies in the provinces, and think it would be a good thing if some kind of union of societies could be formed in different counties, by which they might be of more mutual assistance to each other.

H.

POPPIES IN THE ROCK GARDEN.

Several types and species of the poppy family occasionally find a home in different alpine and rock gardens throughout the country, but none surpass either in beauty or freedom of flowering the dainty Papaver nudicaule and P. alpinus.

The former, which is largely grown for cut flowers and border decoration, is nowhere more delightful than when gemming the nooks and crevices of the rock garden. Self-sown plants appear in the clefts and fissures, enjoying a health and vigour which is often lacking when they are growing in the borders. The cool (if somewhat confined) root run between the rocks seems to suit them to perfection, while the rich green foliage, and the hosts of gay blossoms, bear witness to their adaptability for the rock garden. As is well known, the colouring is delightful, the deep orange, yellow, and white varieties are great favourites, while the newer intermediate shadings extend the range of colourings in a pleasing manner.

As for the dainty little forms of P. alpinus, with their small grey leafage, and the miniature, delicate-petalled flowers, one can fully advocate their merits. Wherever there is a tiny bit of soil, on the ledges, in the crevices, and ofttimes on the scarred face of the boulders, there our tiny alpine poppies will thrive and flourish, sowing themselves freely, and thereby ensuring the future of the race.

Often when P. nudicaule and P. alpinus are grouped in close proximity to each other, it will be found that they hybridise freely, and one can count upon obtaining a selection of intermediate forms as the natural result. Seed of both types may be readily obtained, and the easy germination will more than repay any initial trouble of sowing.

P. S. Hayward.

SOOT.

For those who have gardens on heavy soil, especially if they are in damp positions, a store of soot is a very great convenience, if not a necessity, and, as it is so easy to procure, it should be included among the things to be kept in stock. Its uses are numerous, but they fall naturally into two divisions, as a manure and as a destroyer of or protection against garden pests. We will deal first with its use as a manure.

Ordinary domestic soot contains about three per cent. of nitrogen, chiefly in the form of sulphate of ammonia, and thus, judged by the standard of nitrogen content, seven pounds of it should be equivalent to one pound of sulphate of ammonia, assuming the whole of the nitrogen to be in as valuable a form as that article, which, however, is not the case. It also contains small quantities of potash and phosphates, so that altogether it is a valuable manure. Its use gives a dark green colour to leaves, and heightens the colour of fruit. As a general manure, it should be applied at the rate of a bushel to the hundred square yards, taking care that it is fairly fresh, as loss of nitrogen occurs in storage. Its freshness, or otherwise, can generally be determined by inspection, a loss of that impalpable powdery form being a sign of long storage, rendering it less unpleasant to spread, but at the same time less valuable. Dusting it in the trenches as digging proceeds is a better way of applying it than scattering it on the surface before digging. As a top-dressing it should be dusted on the ground till the latter is quite black and then hoed in.

It has a most beneficial effect upon the texture of the soil, especially upon the surface when hoed in, rendering it light and friable. The crop for which the efficacy of soot is most generally known is that of onions, for which it is undoubtedly very valuable, fulfilling as it does the threefold purpose of manuring the crop, lightening the soil, and warding off to a great extent the attacks of the onion fly. As a liquid manure soot is one of the best, the least objectionable way of using it being to put a peck or so in an old chemical manure bag of loose texture and suspend it in a butt of water for a day or two. It is a useful fertiliser for mixing with potting soil, using it at the rate of a ten-inch pot to a barrow-load of soil.

We must next consider its use as an insecticide in the largest meaning of the term. As everyone knows, it is an excellent remedy for slugs, and when a slug infested soil is top-dressed with soot it serves a double purpose. A ring of soot round a plant is a pretty certain preserver except in wet weather, and even then it prevents slugs hiding in the soil about the crown or stem. After a heavy rain fresh soot may be applied, or the surface of the old dressing lightly stirred if it is still thick enough on the ground. A good way of applying soot for other purposes than as a manure is by means of tins with perforated tops, a supply of which—generally procurable from the domestic side of the house—should always be kept filled and ready for use, so that any plant or plants may have the benefit of it at a moment's notice with the minimum of trouble. Soot should not be carelessly scattered on plants when they are damp as sufficient will adhere to the leaves in that case to scorch them, but when the leaves are dry no damage will result if the leaves are brushed or lightly shaken immediately afterwards.

Celery should always be well sprinkled before being moulded up so as to make the plants unpleasant dwelling places for slugs, worms, etc. Young carrots may often be saved in this way. A good sprinkling of soot in the drills before sowing peas, beans, etc., may keep away a good many enemies, while a sprinkling on the soil over the drills when they have been filled up and raked over will not only keep the seedlings from being attacked as soon as they are up, if the weather is not too wet, but will prevent slugs and grubs of various sorts hiding in the soil among the seedlings.

A dusting of the currant and gooseberry bushes on foggy days in the winter will act as a deterrent to the birds attacking the buds, and later on a similar application will help to ward off the gooseberry sawfly. For the celery fly, too, there is nothing better than keeping the plants lightly dusted with soot, especially in their young stages, and this should be done when the leaves are damp, so that the particles may adhere to the leaves, but not in sufficient quantity to damage them, thus making the leaves distasteful to the fly, which would otherwise deposit its eggs upon them.

Alger Petts.

Seakale.—If the thong cuttings have made good headway in the formation of crowns, as advised, in boxes, they should now be put into permanent quarters in the open ground, providing they have been exposed and well hardened off. The rows should be eighteen inches apart, and a distance of one foot allowed from set to set. Dibble them in firmly, and scatter sifted cinder ashes over them if slugs are troublesome. If lime is lacking in the soil give a good dressing of it.—George Ellwood.

THE GARDENERS' MAGAZINE
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WORK FOR THE WEEK.

THE ORCHID HOUSES.

COOL HOUSE ORCHIDS.—Many of the species and hybrids growing in the cool house will either be in flower or developing their flower buds. There are no orchids more useful for house decorations, the supply of cut flowers, and for exhibition purposes. There is no section that has been more fashionable, or is likely to remain more popular than the various species and hybrids found among the odontoglossums. Plants that are serviceable for all purposes, as these undoubtedly are, are the most worthy of general cultivation. There are many who are fascinated by the charming tints of the cattleyas and others, and are impressed by the usefulness of the winter-flowering cypripediums and their tractability to cultivation, but giving credit to everything that might be claimed on their behalf, I do not consider them equal to the odontoglossums. In the latter we have plants that are grown under practically greenhouse conditions, and where a house can be devoted to their culture that is capable of holding a few hundreds of plants, we have something in bloom at all seasons of the year. Moreover, the flowers are not only durable, but are the most serviceable of all orchids. I am referring to this point at some length, but recently I have received communications asking for my opinion on the question as to the most serviceable orchids for general cultivation. I must therefore ask to be excused for departing from the usual lines of an orchid calendar. I have in past numbers of the Gardeners' Magazine dealt so fully with the different methods of culture that there is no need for me to refer to them in detail at the present time. I hope, however, to have the opportunity of referring to them at their proper season. It will now suffice to observe that they are among the easiest of subjects to grow, and if they are given the same attention as that necessary in the successful cultivation of other genera, satisfactory results will be obtained.

EXHIBITION SPECIMENS. — Now that the great summer exhibitions are looming in the distance, those who are interested in showing must commence to consider the timing of the plants for particular dates of the shows at which they intend to compete. Those in an advanced state will need retarding by placing them under as cool conditions as may safely be done without injury to their health. Careful shading is necessary. There is nothing that advances growth more rapidly in flower buds than strong light. Moonlight also hastens the growth of flower buds, and it is advisable to shade by night as well as by day, where the plants are too forward. Those in a backward state will require the necessary encouragement. In dealing with cool orchids, accelerating the development of the flowers must be done with discretion, or the result will be a loss of texture, as well as of colour. An important point is to see that the flower spikes are properly and neatly staked before the flowers expand, so that they may be displayed to the best advantage.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

GENERAL.—The occupants of the stove generally will now be making rapid growth, and care must be taken not to allow the plants to become crowded. Many of the younger plants, as soon as hard enough, should be placed on shelves near the glass, putting the crotons, aralias, and pandanus on a shelf where there is plenty of sun; while dracænas, begonias, etc., will be best suited if placed where they have some shade at least during the hottest part of the day.

TABLE PLANTS.—Where neat plants of crotons, dracænas, pandanus, panax, etc., are required in 48's for table plants, either for use at home or for exhibition, they must have special care from the outset, and must be shifted on from 60's before they by any chance become pot-bound, or checked in any other way, and as these are cultivated as near the glass as possible to keep them stocky and of good colour, a sharp look-out must be kept for red-spider, as this is especially troublesome on plants kept on shelves. It is a good plan to have them taken down at least once a week, and thoroughly syringe the upper sides of the leaves, this being the part of the plant most difficult to get at properly when on the shelves. Do not use strong insecticide for this purpose, as the young foliage is easily injured; but a weak solution of paraffin emulsion applied regularly will keep them clean without any damage being done. Plants nicely established in 48's, that may be too tall for the shelves, may be hung here and there from the roof by wires, which may be obtained from any of the horticultural sundriesmen: in this way they keep a good shape and are not likely to be damaged; but bear in mind that, hung in mid-air, they require more water than when on a cool gravel or ash bed.

CALADIUMS.—These, if potted, as advised, early in March, will be growing very freely, and those that were not put straight into large pots right away should be potted on forthwith, as they must not have a check now. Spread the plants out as they require it, giving each room to develop its leaves properly, as if once the leaf stalk becomes attenuated all the beauty is gone and the leaves begin to flop about. Shade when really necessary, but do not overdo this, as by keeping them fairly hard a little later in the season they make beautiful specimen plants for putting in the house just for the week-end, or even longer if necessary.

BEGONIA GLOIRE DE LORRAINE.—Further batches of cuttings should be put in as required, and the earliest batch should be potted off into 60's as soon as well rooted, using a very light compost for the purpose. Keep the sprayer going to prevent flagging, and as they make roots do not stint the water supply, particularly if it is found that the soil keeps sweet.

SEEDLINGS of asparagus, smilax, Clerodendron fallax, torenias, etc., must be potted off into thumb pots as soon as large enough to handle, and before they become crowded in the seed pans; these also must be kept sprayed, and have a little shade for a time, after which most of them will do with less shade and a rather lower temperature; in fact, many of these seedling plants will do well from now onward if grown in a well-heated pit, and just now shelves, etc., in the stove are pretty well crowded, and one is glad to shift a few things as the opportunity occurs to make room for others that really require a very high temperature.

POINSETTIAS AND EUPHORBIAS.—If good sized early plants are required, it will be as well to partially cut down some of the old stock plants and place them in a moderately warm house. Keep these well syringed, but do not give any water at the roots for a few days—at least, not until the eyes begin to plump up and show signs of breaking; then they should be watered, but I do not like to give much, or one is apt to get long-jointed cuttings which are very sappy, and not nearly so easy to strike as are the sturdier ones. Keep the syringe going well amongst all the plants on all favourable occasions, not forgetting a good damping of the floors and stages of the houses during the evening, at least when the temperature outside warrants it.—T. Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

YOUNG VINES that have been cut back and newly planted, and others that have not yet reached their full length, should each have the leading growth carefully trained as it lengthens, and stopped (in order to strengthen it) when it has reached four feet in length. Subsequently train the leading growth from each vine to the top of the trellis, and stop sublaterals at one leaf. With respect to atmospheric moisture, temperature and other cultural details, the ordinary treatment recommended for fruit-bearing vines during their early stages of growth will suffice. The leaves should be kept clean by being carefully syringed.

LATE VINERIES. — Vines started in houses of this description in a natural kind of way, as previously advised, should not be hastened by artificial warmth during their early stages of growth; 50 to 55 deg. at night should not be exceeded, and in sunny weather the valves of the hot-water pipes should be closed during the greater part of the day. At such times slightly ventilate the house early, increase the ventilation carefully as the sun gains power, and close the house early in the afternoon with a temperature of 80 deg. Insure a moist atmosphere by damping suitable surfaces several times daily, and, should the border require water, which can be ascertained without doubt by means of Kirk's border tester, give an efficient supply of tepid water. Commence to disbud the vines by rubbing out the weak growths as soon as they can be distinguished, and on completing this work leave upon each spur its best shoot.

CHERRIES.—As soon as the fruit is set syringe the trees in the morning of bright days, and again as soon as the house is closed. Careful attention must be paid to watering, especially to trees in pots, and occasionally give manurial assistance in a weak form. The cherry is very impatient of high temperature promoted by fire heat, and until its fruits have formed stones the artificial temperature should not exceed 45 deg. at night and 50 deg. by day. Open the ventilators a little when this degree is reached, and when necessary increase the ventilation to prevent a high temperature being attained from sun-heat. Disbud undesirable growths, stop others to form fruit-bearing spurs, and, where necessary, allow others to extend to improve the tree.

MELONS.—Plants either growing in pots, or planted out, and that are swelling their fruit should have their sublaterals persistently stopped at one leaf, and be kept carefully nourished with timely supplies of diluted liquid manure, or light top-dressings of suitable artificial compounds. At no time allow them to suffer from want of root moisture. Keep the leaves clean and free from red-spider by syringing the plants early in the morning, and again at the time the house is closed on fine days. Maintain a night temperature of 70 deg. As soon as the fruit commences to ripen, discontinue syringing, and diminish in every other way the supplies of moisture; keep up as outside circumstances dictate, a circulation of air through the house. Successional crops when in blossom should have tolerably dry and warm airy atmospheric surroundings; pay daily attention to pollination, and stop the laterals at one leaf beyond the fruit.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

MAINCROP POTATOES.—It will now be time to take this important crop in hand. If the plots were treated as previously advised, and the surface freely stirred, there need be little delay in planting the sets. The potatoes should be properly sprouted, with two or three strong, sturdy shoots. Drills should be drawn four to five inches deep, and the sets placed in them twelve to fifteen inches apart, according to the variety; cover very carefully to avoid damaging the young shoots. Decayed leaf-soil can be used to advantage, scattering a little along each drill. The drills should be from two feet to two feet six inches apart, according to the haulm of the variety. To procure good exhibition specimens, take out a trench six inches deep and fill with three parts loam, two parts leaf-mould, and one part finely sifted burnt garden refuse; plant the sets as advised, and finish off by drawing the old soil over the whole of the prepared compost. Snowdrop, Windsor Castle, Superlative, and Up-to-Date are first-rate for crop and flavour.

WINTER GREENS, BROCCOLI, AND CAULIFLOWERS.—The chief sowing should now be made in an open position, choosing ground that contains no fresh manure. Give a surface dressing of burnt garden refuse, soot, and lime, and well work it in with a fork, bringing the surface into a very fine tilth. Sow thinly broadcast, or in drills nine inches apart. If drills are used, frequent hoeings can be given as soon as the seedlings appear, which to a great measure wards off the dreaded turnip fly, a persistent pest on some soils. Equal parts of lime and sulphur is perhaps the best remedy to apply for this pest. When sowing, choose, with others, well-tried varieties that succeed in one's locality, particularly of broccoli. Do not omit a sowing of leeks for use twelve months hence. Protect the seed bed from birds at the time of sowing.

PARSLEY.—The early batch that was pricked off in boxes and is now hardening off, can forthwith be planted out in rich soil at one foot apart; water in if dry, and place a ring of cinder ashes around each plant as the work proceeds. Occasional dustings of soot are very beneficial to this crop. Make another sowing in the open ground.

CAULIFLOWERS. — Both autumn and spring sown varieties can now be safely planted in any position. It is a great advantage to plant breadths on various aspects to prolong the season. Well water them in, and endeavour to prevent a check of any kind by planting firmly on well manured ground.

ONIONS.—Plants that were raised in heat, pricked off, and hardened in cold frames, should be planted out about the 20th of the present month if the weather conditions are favourable. An open site which has been well prepared previously should have the surface lightly forked over, working in as this proceeds a dressing of soot; when the surface has become nicely dry, tread it firmly, rake down finely, and proceed to plant very carefully fifteen inches apart in rows the same distance apart; water in, and syringe regularly till established.—George Ellwood, Swanmore Park Gardens.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

On Tuesday, April 5, there was once more a large exhibition at the Royal Horticultural Hall, but in a large number of the displays there was little of special interest. Daffodils were well represented, and the new seedlings from Mr. Wilson were particularly pleasing. Orchids were much in evidence, and there were some splendid groups, and also some fine novelties, notably the odontoglossum from Mrs. Cookson. There was a good attendance.

FLORAL COMMITTEE.

Several new and beautiful Ghent and mollis azaleas were submitted by Messrs. Paul and Son, Cheshunt, who also showed the graceful Cytisus Handsworthiensis, Osmanthus Delavayi, and the graceful Lonicera pileata (A.M.), with small greenish flowers and evergreen shining leaves. Dwarf polyantha roses, in pots, formed the bulk of Messrs. H. B. May and Son's exhibit, and they were very well grown. The effective pink-flowered Begonia Saturne was very finely shown by Messrs. H. Cannell and Sons, Swanley, who had several dozen plants, some carrying as many as thirty flower spikes. The same firm had some beautiful zonal pelargoniums.

In Messrs. R. Wallace and Co.'s group from Colchester Primula Mrs. J. H. Wilson was charming, and the fritillarias, aubrietias, and freesias were other good things. The yellow Rhododendron Smithi aurea was a feature of the collection of shrubs and alpines staged by Messrs. W. Cutbush and Son, Highgate; their double and single hepaticas were also delightful. Mr. P. Ladds, Swanley, contributed a group of well-grown and fragrant stocks; Messrs. Bakers, Wolverhampton, brought up hardy primulas and violas.

Roses were delightfully shown by Mr. George Prince, Longworth, who had grand blooms of The Lyon, Fortune's Yellow, White Killarney, Richmond, and Lady Roberts. Acacias, cytisuses, Andromeda speciosa cassinaefolia, Veronica Hulkeana, and standards of Viburnum opulus made up a fine group from Messrs. Jas. Veitch and Sons, Lim., Chelsea. Dracæna atropurpurea, from this firm, was a striking plant. Cinerarias were also finely shown by Messrs. Jas. Veitch and Sons, who had the brilliant, almost scarlet-hued Matador, a great novelty; Antique Rose, the graceful Feltham Beauty (A.M.), in six shades of colour, and a grand lot of fine florist's forms.

Very gorgeous and attractive were the trusses of Himalayan rhododendrons shown by Messrs. R. Gill and Sons, Penryn, Truro; R. barbatum, R. Thompsoni, and numerous seedlings were charming, while Camellia reticulata was splendid.

Some very pretty auriculas were exhibited by Mr. Jas. Douglas, Great Bookham; Phyllis Douglas (A.M.), Moonstone, Dr. Hardy, Martin Smith, and Admiration were all superb varieties. Messrs. Wm. Paul and Son, Waltham Cross, showed a small group of their delightful new, glowing, and fragrant rose, named Juliet—a fine novelty. Messrs. S. Low and Co., Enfield, had a bold exhibit of perpetual carnations, roses, and some fine flowering plants of various acacias.

Perpetual carnations were again finely shown by Messrs. W. Cutbush and Son, Highgate; Mr. C. Engelmann, Saffron Walden; Mr. H. Burnett, Guernsey; and Mr. W. H. Page, Tangley Nurseries, Hampton, the latter showing splendid liliums with the carnations.

Numerous nurserymen showed small groups of hardy flowers. Messrs. T. S. Ware, Feltham, whose hardy primulas were lovely; Messrs. Gilbert and Son, Dyke, who showed anemones; Messrs. G. Jackman and Son, Woking, who had Lithospermum prostratum, primulas, and squills; Messrs. J. Peed and Son, Norwood, who showed primulas and cacti; Mr. C. Elliott, Stevenage, who had a Clarke, Dover, whose polyanthuses and Viola small alpine garden; Messrs. G. and A. Bridal Morn were very attractive; and Messrs. Heath and Son, Cheltenham, who showed alpines.

DAFFODIL COMMITTEE.

A marvellously beautiful group of choice and new seedling daffodils was set up by Mr. Alex. M. Wilson, Shovell, Bridgwater. The large number of varieties were unnamed seedlings of the greatest beauty and refinement. Of those named, Conqueror, Sunflower, Pilgrim, Bedouin, Ibis, Ivorine, Inglescombe (double), Cossack, Victory, and Gadfly were delightful. Mr. F. Lilley, Guernsey, brought over a few daffodils, representing popular varieties. Messrs. Barr and Sons, Covent Garden, showed good Darwin tulips, and a collection of daffodils, in which Jasper, Gadfly, Cœur de Lion, Michael, Lycidas, Homer, and White Slave were conspicuous.

In Messrs. Cartwright and Goodwin's exhibit of daffodils Marigold, Blackwell, Ayacanova, Target, Sailor (the result of crossing Minnie Hume with Stella superba), Northern Light, and Homespun, were a few of the finer varieties. Daffodils, tulips, and squills were prettily grouped by Messrs. R. H. Bath, Lim., Wisbech. Mr. J. Pope, King's Norton, Birmingham, had a few daffodils, the most prominent being King's Norton, Estelle, Lady M. Boscawen, Goldfish, and Torch. Mr. J. A. Cooper brought over a fine group of daffodils from Lissadell, Sligo, and showed good flowers of Sir Watkin, Sir Horace Plunkett, King Alfred, Mrs. R. Sydenham, Incognita, Flambeau, and Mdme. de Graaff.

LYCASTE SKINNERI HELLEMME'S VARIETY.

Flowers rich vinous rose. F.C.C., R.H.S., April 5. Lieut.-Colonel Holford.

Messrs. Jas. Carter and Co., High Holborn, had a delightful grouping of King Alfred daffodil, this fine variety being represented by 450 flowers, grouped among rocks and around a pool of water, with a foreground of grass and a background of deodars; tulips and hyacinths flanked the daffodils.

ORCHID COMMITTEE.

The most wonderful orchid shown was Odontoglossum ardentissimum Norman Cookson (F.C.C.), brilliantly coloured with bright chocolate red on a white ground; this was from Mrs. N. Cookson (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne. Mr. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Reigate, brought up Phaius Norman, Odontioda Bradshawiæ, and Zygopetalum Wendlandi. Superbly-grown plants of Odontoglossum ardentissimum Westonbirt var., O. Pescatorei Westonbirt var., O. amabile Westonbirt var., Lycaste Skinneri Hellemmes var. (F.C.C.), grandly coloured, and Cattleya Apelles, with three glorious purple flowers, were shown by Mr. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester.

A very fine group of orchids, staged by Messrs. Armstrong and Brown, Tunbridge Wells, contained a large number of well-grown dendrobiums, notably D. splendidissimum, D. Wiganæ, D. Artemis, D. nobile, and many other good things, finely flowered. These were grouped at either end of a long table, and in the centre of the group was a mound of odontoglossums and cymbidiums, the arching spikes producing a charming effect. In between these groups were cypripediums, lycastes, lælio-cattleyas, and sophronites. Mr. White, orchid grower to Sir Trevor Lawrence, Bart., Dorking, exhibited

Odontoglossum Rossi roseum, and a fine specimen of Cirrhopetalum Cumingi.

A large and bold display of orchids from H. S. Goodson, Esq., Putney, staged by his gardener, Mr. G. Day, was greatly admired. Ferns and palms were pleasingly associated with the flowers, and among the most striking plants were Odontoglossum percultum Fairlawn var., O. Ceres Goodson's var. (A.M.), O. Loochristiense, Odontioda Bradshawiæ Goodson's var., O. Goodsoniæ (A.M.), O. Vuylstekeæ, Brasso-cattleya Maroniæ, Cattleya intermedia, Phaius Norman, and numerous cypripediums and dendrobiums, and other odontoglossums than those named.

Messrs. Sander and Sons, St. Albans, had a fine specimen of Vanda casta superbissima (F.C.C.), and excellent examples of Cattleya citrina, C. Schroderæ The Dawn, Odontioda Cooksoniæ sanguinea, and several oncidiums, odontoglossums, phalænopsis, and masdevallias.

The yellow Dendrobium Thwaitesiæ was remarkably well shown by Mr. Balmforth, gardener to F. Menteith Ogilvie, Esq., The Shrubbery, Oxford, but the group would have been much improved had a few ferns been placed under the plants.

Mr. E. V. Low, Haywards Heath, showed a fine set of Dendrobium nobile virginale, D. rubens grandiflora, Cattleya Luddemanniana Stanleyi, Brasso-cattleya Digbyano-Schroderæ, and a fine white form of the fragrant Cattleya Schroderæ. Mr. A. W. Jensen, Haywards Heath, had some fine odontoglossums and cattleyas. Dendrobium crassinode figured largely in the group of orchids shown by Messrs. Stuart Low and Co., Bush Hill Park, Enfield: other good things were D. Jamesianum, Lælio-cattleya Golden Crest, and various odontoglossums. Messrs. Charlesworth and Co., Haywards Heath, presented some fine odontoglossums, Odontioda Bradshawiæ, Zygopetalum Perrenondi, Souhro-cat-lælia Hon. Mrs. Barbara Wilson (A.M.), Lycaste Skinneri alba, and Lycaste gigantea, etc.

FRUIT AND VEGETABLE COMMITTEE.

Some fine cabbage lettuces, from seed sown on January 12 last, and grown in a cold frame, were contributed by Mr. C. Harris, gardener to the Earl of Clarendon, The Grove, Watford; and Mr. C. Foster, Guildford, showed excellent chicory. Messrs. Sutton and Sons, Reading, exhibited a number of small succulent cabbages, the varieties being Sutton's April, and Harbinger, both of which were excellent.

CERTIFICATES AND AWARDS.

First-class Certificate.—To Odontoglossum ardentissimum var. Norman Cookson, from Mrs. Norman Cookson (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne; to Lycaste Skinneri Hellemme's var., from Lieut.-Colonel Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury; and to Phalænopsis casta superbissima, from Messrs. Sander and Sons, St. Albans.

Award of Merit.—To Odontoglossum Ceres Goodson's var., from H. S. Goodson, Esq. (gardener, Mr. G. Day), Fairlawn, Putney; to Odontioda Goodsoniæ, from H. S. Goodson, Esq.; to Sophro-lælio-cattleya Hon. Barbara Wilson, from Messrs. Charlesworth and Co., Haywards Heath; to Auricula Phyllis Douglas, from Mr. Jas. Douglas, Great Bookham; to Cineraria Feltham Beauty, from Messrs. Jas. Veitch and Sons, Lim., Chelsea; and to Lonicera pileata, from Messrs. Paul and Son, Cheshunt.

MEDALS.

Gold.—To Mr. Alex. M. Wilson, Shovell, Bridgwater, for seedling daffodils; to H. S. Goodson, Esq. (gardener, Mr. G. Day), Fairlawn, Putney, for orchids.

Silver-Gilt Flora.—To Messrs. Armstrong and Brown, Tunbridge Wells, for orchids; to Messrs. Jas. Veitch and Sons, Lim., Chelsea, for cinerarias and shrubs.

Silver-Gilt Banksian.—To Messrs. W. Cutbush and Son, Highgate, for carnations, etc.; to Mr. G. Prince, Longworth, Berks, for roses; and to Mr. L. R. Russell, Richmond, for flowering shrubs.

Silver Flora.—To Mr. H. Burnett, Guernsey, for carnations; to Messrs. Stuart Low and Co., Enfield, for carnations, acacias, etc.; to Messrs. H. B. May and Sons, Edmonton, for roses; to Mr. W. H. Page, Hampton, for lilies and carnations; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to Messrs. Cartwright and Goodwin, Kidderminster, for daffodils; to Mr. J. A. Cooper, Lissadell Bulb Farm, Sligo, for daffodils; to Messrs. Barr and Sons, Covent Garden, for daffodils and tulips.

Silver Banksian.—To Messrs. J. Carter and Co., High Holborn, for daffodils; to Messrs. Stuart Low and Co., Enfield, for orchids; to Mr. E. V. Low, Haywards Heath, for orchids; to Messrs. H. Cannell and Sons, Swanley, for begonias and pelargoniums; to Messrs. R. Gill and Son, Penryn, Falmouth, for rhododendrons; to Messrs. G. Mount and Sons, Canterbury, for roses; to Mr. G. Reuthe, Keston, for hardy plants; to Messrs. R. Wallace and Co., Colchester, for hardy flowers; and to Mr. C. Engelmann, Saffron Walden, for carnations.

Bronze Banksian.—To Messrs. R. H. Bath, Lim., Wisbech, for daffodils and tulips; and to Mr. F. Lilley, Guernsey, for daffodils.

SCIENTIFIC COMMITTEE, March 22.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S., Sir George Watt, Sir John Llewelyn, Messrs. A. Worsley, F. du Cane Godman, R. Hooper Pearson, W. Cuthbertson, J. Fraser, W. Hales, J. W. Odell, J. T. Bennett Poë, H. J. Elwes, J. Douglas, F. J. Baker, E. M. Holmes, Dr. Voelcker, and F. J. Chittenden (hon. secretary).

ALGÆ IN WATER TROUGH.—Dr. Voelcker reported that the alga which he showed at the last meeting had been identified at Kew as Phormedium laminosum, and that treatment with copper sulphate at the rate of one part to 5,000,000 of water had proved effective in killing it.

DOUBLE-SPATHED RICHARDIA.—From Dr. Biggar, of Streatham Common, came a very vigorous plant of Richardia æthiopica, with a double, instead of a single, spathe.

CYCLAMEN LATIFOLIUM.—Mr. A. W. Sutton, V.M.H., sent two plants of Cyclamen latifolium for comparison with others recently shown, grown from corms collected by him in Palestine. He remarked that young corms were very difficult to obtain, because they are almost always deeply embedded in the crevices of the rocks, and it is only the large and overgrown roots that one is able to get without much trouble, and the result is that the flowers then are not so large as they would be on younger plants. The majority of the cyclamen he had seen in Syria are white with red base, but he had also seen self-coloured reds of various shades and often considerably larger than those shown.

BRANCHING OF MID-RIBS.—Mr. E. A. Bowles showed, on behalf of Canon Ellacombe, a leaf of Carpenteria californica having the mid-rib forking at about one-third from the base. He also showed a flower of Iris reticulata from his own garden exhibiting a similar phenomenon.

PRIMULA MAXIMOWICZII.—Messrs. J. Veitch and Sons sent Primula Maximowiczii, which had been obtained from W. China at an altitude of 9,000 feet, and was now seen for the first time in cultivation. It belongs to the section Nivales. The elliptic, oblong leaves, with small teeth along their edges, are about two to three inches long, quite glabrous and without farina, and form a rosette. The scape, about ten inches tall, bears many flowers, arranged verticillately as in P. japonica, having long, narrow, triangular bracts. The calyx is campanulate and about half the length of the corolla tube. The corolla is dark, clear purple, and has the lobes reflexed. On the motion of Sir J. Llewelyn, seconded by Mr. J. Douglas, a botanical certificate was unanimously recommended for the plant.

MONŒCIOUS SALIX.—Mr. E. A. Bowles showed branches of Salix cinerea from Myddleton House, Waltham Cross, bearing both male and female catkins. Mr. Fraser said the pistils appeared to be metamorphosed stamens. He had met with a somewhat similar thing before in S. aurita, and the plant had produced similar variations in several successive years. He took some specimens for further examination.

SEEDLING VIOLAS.—A number of flowers of a seedling of Viola hirta from Devon, sent by W. P. Stark, Esq., of Hillstead, Basingstoke, were shown. Their appearance suggested the probability of their being hybrids with one of the garden forms.

PRITZEL'S INDEX ICONUM BOTANICARUM.—Mr. H. J. Elwes brought forward the question of the republication with amplification of Pritzel's "Index Completissimum Iconum Botanicarum," which had been referred to in the annual report of the council. He suggested that it was a matter that the society might itself undertake with great benefit to horticulture, and a resolution embodying that idea was sent from the committee to the council.

International Horticultural Exhibition, 1912.

The lecture room at the Royal Horticultural Hall was well filled when the chair was taken at the public meeting, which was held on Tuesday afternoon, for the purpose of considering the advisability of holding an International Horticultural Exhibition in London two years hence. The meeting was perhaps a little less enthusiastic than might have been expected by those of a sanguine temperament, but there was a remarkable unanimity throughout the proceedings, and there is full justification for anticipating that the project will be brought to a successful conclusion. Sir Trevor Lawrence, Bart., president of the Royal Horticultural Society, occupied the chair, and he was supported by Sir Albert Rollit, Mr. Gurney Fowler, Mr. H. J. Veitch, V.M.H., Mr. J. Hudson, V.M.H., Rev. W. Wilks, Mr. H. B. May, and Lieut.-Colonel Holford. Among the members of the trade present in the room we noticed Mr. Leonard Sutton, Mr. G. Bunyard, V.M.H., Mr. A. W. Paul, Mr. G. Paul, V.M.H., Mr. E. Laxton, and Mr. J. Green.

The Chairman, in opening the proceedings, said the public meeting had been called for the purpose of considering the desirability of holding an international horticultural exhibition in 1912, with the object of showing the immense advance that had been made in all that relates to horticulture, and to return in some measure the hospitality that had been shown British horticulturists by the great horticultural organisations on the Continent. During the forty-four years that had elapsed since the great international exhibition at South Kensington was held, the centres of horticultural activity in France, Germany, Belgium, and Italy had held international gatherings and British horticulturists had been invited to participate in the pleasure associated with them, and had received the warmest welcome, and at some of the centres this had not been limited to one occasion, but had been repeated several times. It should be remembered that there had been an immense increase in the love for horticulture during this long period, and the improvement in methods of procedure had been not less remarkable. It should also be borne in mind that the spread of a taste for gardening and the work of improvement had not been confined to this country. We had fully maintained the position in gardening matters that we have so long occupied, but other countries had also made great advances. There could be no question that the time had come when we should hold an exhibition of an international character, and it was equally certain that the time was eminently favourable to the work of organising the exhibition with the full assurance of successful results.

The international exhibition held in 1866 was described by the gardening papers as a magnificent success, and the dinner held at the Guildhall in association with it was not less successful. Under the original arrangements the show was to have been limited to three or four days; but it was subsequently decided to extend it by an additional three or four days, and during this extension there were between 70,000 and 80,000 visitors. With a love of gardening extending in all directions, and the prodigious strides being made there appeared no good reason why the success of the exhibition in 1912 should not far surpass that of 1866. The first step would be to obtain the co-operation of those who are known to be taking a keen interest in gardening. It was proposed to form a large general committee, comprising noblemen, gentlemen, and ladies, specially interested in horticulture, members of the nursery and seed trade, and others engaged in horticultural activities.

The question of finance was one that would require careful consideration. Broadly speaking, the receipts of the exhibition held in 1866 were £16,000, and the expenditure £12,500. The surplus was therefore £3,500, and of this amount the sum of £1,000 was contributed to the Gardeners' Royal Benevolent Institution, and the remainder was paid to the Royal Horticultural Society. In view of the large expenditure necessary in carrying out an exhibition of an international character, it was advisable that a guarantee fund should be formed. The Royal Horticultural Society would make a liberal contribution to such fund, and he did not anticipate that the guarantors would be called upon to pay. He fully believed that whatever the prosperity of the exhibition in 1866 that of 1912 would be more pleasant and profitable. The Royal Horticultural Society would do all it possibly could to assist in making the exhibition successful, but it was considered advisable that the arrangements should be carried out by a specially appointed committee. Sir Trevor Lawrence then moved a resolution to the effect that this public meeting is of the opinion that an international horticultural exhibition should be held in 1912.

Sir Albert Rollit, in briefly seconding the resolution, expressed the opinion that such an exhibition would have a good commercial effect, and be of advantage in other respects, inasmuch as it would help to break down the barriers that stand in the way of friendship between nations. The resolution on being put to the meeting, was carried unanimously.

Sir Trevor Lawrence next proposed that the gentlemen and ladies whose names had been read should be invited to act on the general committee, with power to add to their number. This resolution was seconded by Mr. Gurney Fowler, and carried. The proposition that Mr. E. White be invited to provisionally act as secretary was also unanimously accepted. Mr. H. J. Veitch, in proposing a vote of thanks to Sir Trevor Lawrence for presiding, mentioned that he was the only survivor of the executive of the 1866 exhibition, and said that the proposed exhibition would have his heartiest support.

Bristol Gardeners' Association.

The annual official visit of the Bristol amateur gardeners was paid to the above society on March 24. The meeting was held at St. John's Parish Rooms, and was presided over by the president, Colonel Carey Batten; there was a large attendance. Mr. White gave a paper entitled "An Amateur's Orchid Notes." Mr. White referred to the good feeling existing between the two societies and hoped it would continue. In speaking of the attractiveness of flowers, the lecturer said there was no class of plants to be compared with orchids, especially when taking into consideration their lasting qualities and cheapness. Cattleyas, odontoglossums, oncidiums, dendrobiums, and cœlogynes, were recommended for a small collection, while the cypripediums were much the best for a town. Colonel Carey Batten opened the discussion, and at the close votes of thanks were accorded to lecturer and chairman, and Mrs. Carey Batten.

The latter replied, and was received most enthusiastically.

For two cinerarias Messrs. Shelton, Young, and Candy won in the order given. Messrs. Gostling and Woodward received two points each, the former for an odontoglossum, the latter for a dish of Sutton's Forcing bean.

Reading Gardeners' Association.

At the fortnightly meeting held in the Abbey Hall on Monday, April 4, there was, notwithstanding unfavourable weather, a good attendance of members. Mr. T. Judd presided.

The subject for the evening was "Rhododenrons," introduced by Mr. A. F. Bailey, The Gardens, Leopold House, Reading. In a brief, but most practical, paper Mr. Bailey dealt with these, the most magnificent of flowering shrubs, in their various stages from seedlings to fully-matured plants, giving much instructive information on the treatment of both hardy and tender varieties, also on planting for effect, colour combinations, massing, etc.

In the discussion which followed the paper Mr. Bailey was at his best, and his practical demonstrations on the grafting, layering, packing, etc., of rhododendrons were eagerly followed by an appreciative audience, and a hearty vote of thanks was accorded him at the close of the meeting.

At the next meeting, to be held on April 18, Mr. T. J. Powell, of Park Place Gardens, will give one of his well-known demonstrations, "The Arrangement of Cut Flowers in Vases, etc." On this occasion ladies will be admitted, and members are invited to bring bunches of flowers, which will afterwards be sent to the Royal Berkshire Hospital. A collection on behalf of the funds of this noble institution will be made, as usual, in the hall.

THE IDEAL HOME EXHIBITION.

Yesterday (April 8) was opened at the Olympia, Kensington, an exhibition which has for its object the practical demonstration of the views which obtain among builders, manufacturers, furniture dealers, and others on the all-important question of the "Ideal Home." The exhibition is extensive, varied, and attractive, and will be found of much interest by those who devote any considerable share of attention to the home and its surroundings. It will be readily conceded that a home without a garden would be far from approaching the ideal; and it therefore follows that chief among the more interesting of the contributions to the exhibition are those associated with the garden in its relation to the house. To those of our readers who visit the exhibition the gardening features will be of quite exceptional interest, and we are fully assured that they will not like to miss the Gardeners' Magazine Stand, No. 200, where they will be heartily welcomed, and find much that is interesting and instructive. The central feature of "Our Stand" is a garden pavilion or shelter. On the walls are displayed many of the beautiful illustrations of gardens that have appeared in these pages, and, by reason of their suggestiveness, proved of great educational value. There are also many coloured plates, illustrative of noteworthy plants and flowers, and attractive garden scenes, and copies of all the books issued from this office. The books should prove of much interest to those engaged in horticultural activities, for they are now so numerous as to form an excellent garden library, which our readers can depend upon for practical information.

Everyone interested in a garden should obtain a copy of the Alphabet of Gardening, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price, bound in cloth, 1s. 6d. net, post 1s. 9d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

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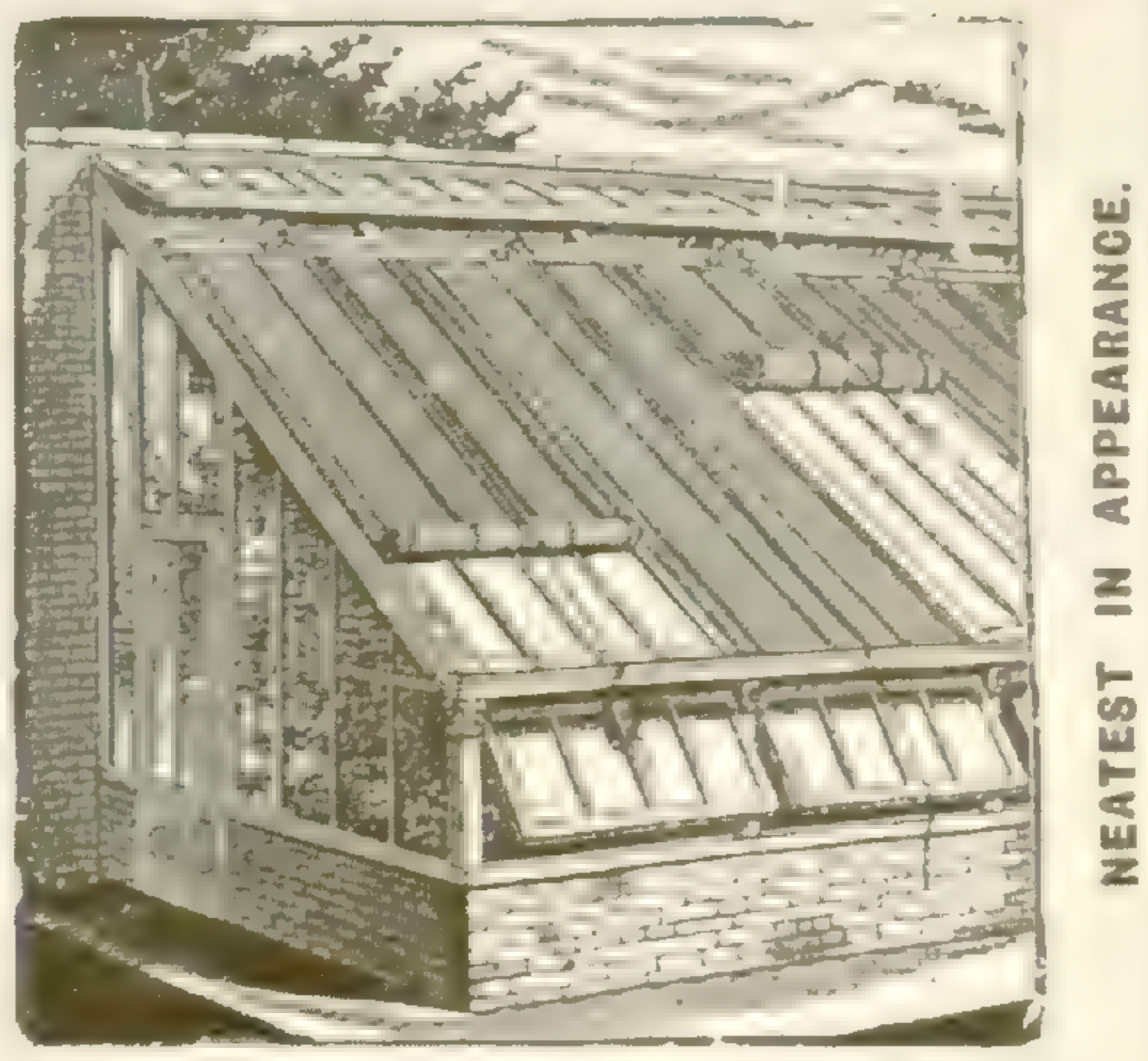

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to **send early notification of forthcoming exhibitions** and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. **All parcels must be sufficiently prepaid.**

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending **early intimation of interesting local events relating** to horticulture. In sending newspapers containing **matter to which they wish to draw attention,** correspondents are requested to distinctly mark the **paragraph.**

BUDDLEIA MADAGASCARIENSIS. — P. S. O., Ross: Buddleia madagascariensis is, as its name implies, a native of Madagascar, and it has long been in cultivation, though its merits have not been sufficient to bring it into popularity. Seeds were sent to this country from Calcutta by Dr. Wallich, long ago, and the resulting plants flowered at Kew, Edinburgh, and Glasgow in the autumn of 1827. Through whom Dr. Wallich received seeds does not appear, but it is on record that Sonnerat first found it in Madagascar, and named it Vigne de Malgache. The species is of little horticultural value, and suffers by comparison with B. variabilis and B. asiatica, while, like these latter, it has a compound raceme of flowers, and not a rounded head of bloom as in B. globosa. The colour of B. madagascariensis is reddish or orange. The accompanying illustration shows the style of inflorescence. B. madagascariensis requires a warm greenhouse or cool stove temperature.

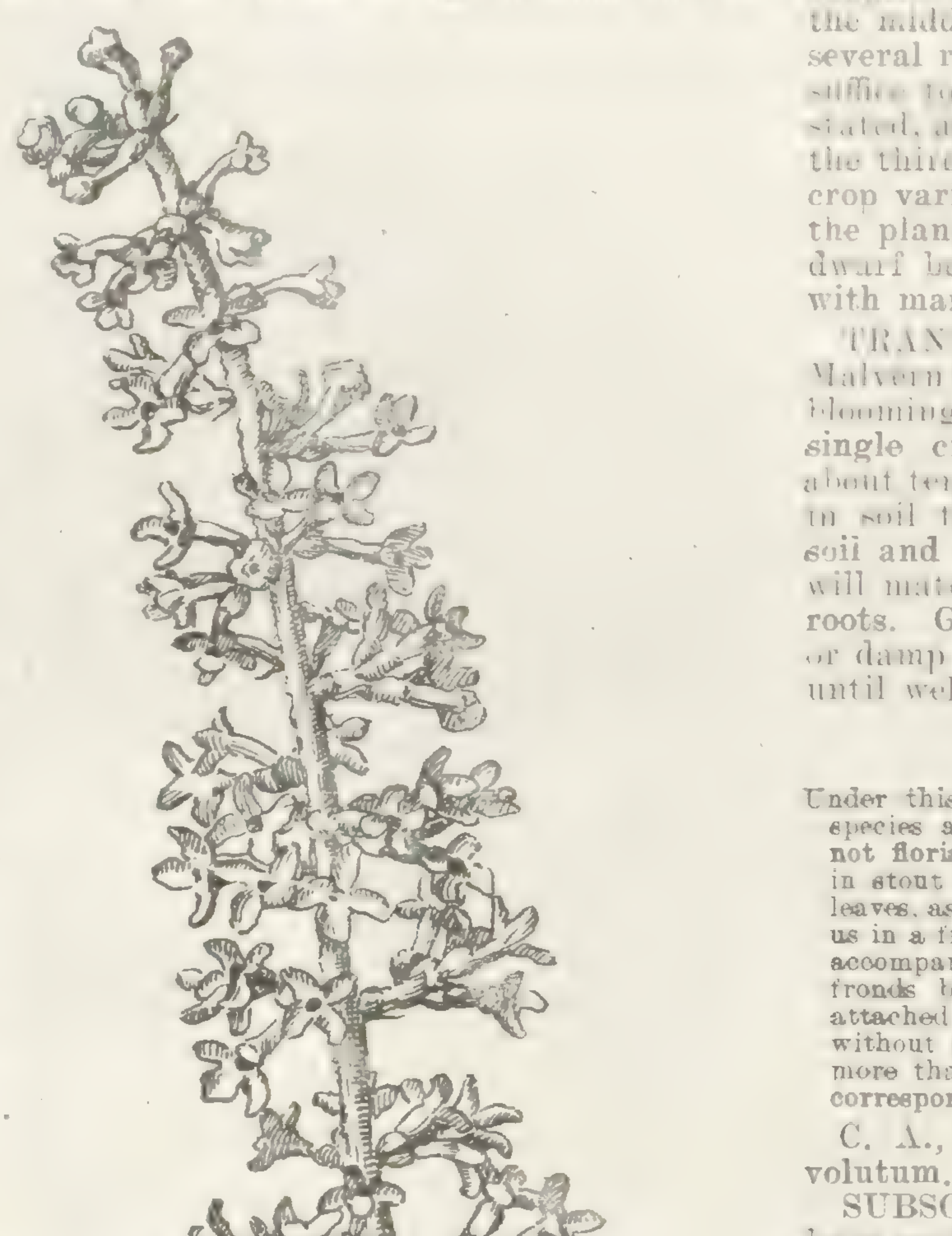
BLUMENBACHIA CORONATA.—N.T.W., Dorking: This is a biennial species of a South American genus of herbaceous plants. It is not altogether hardy but, no doubt, it would be cultivated were it not for the stinging hairs that render all the members of the genus more or less objectionable under cultivation. It has white flowers, two inches across, but these are not so effective as they would be were they raised well above the foliage. The plant grows about 1½ft. high, and was introduced in 1872. The annual B. insignis is a hardy trailing plant with whitish flowers, while B. chaquitensis is a half-hardy perennial climber with red flowers. The blumenbachias are closely allied to the loasas.

WITCHES' BROOMS.—S.S., Woking: The dense tufts of small branches that form the popular "Witches' Brooms" or "Birds' Nests" in the silver birch, are due to the presence of a fungus named Exoascus turgidus. Very similar species sometimes attack the cherry, and the female catkins of the alder. Some people rather pride themselves upon having one or more specimens of the silver birch with a large number of these "Witches' Brooms" in their garden, but it is a dangerous proceeding to allow these developments to remain if there are clean trees in neighbouring gardens. The branches on which these curiously-deformed clusters of branches appear should be cut well back and burned, as the mycelium of the fungus is perennial in and round the affected part, and may extend.

REIDIA GLAUCESCENS. — L. L. G., Hastings: This is more correctly Phyllanthus glaucescens. It makes an elegant, interesting, and useful table plant, and succeeds under the same treatment as Aralia Veitchi and A. elegantissima.

STRAWBERRIES.—R. E. J., Prescot: At the first convenient occasion proceed to clean the strawberry beds, removing weeds and decayed leaves. Give a good dressing of soot, and hoe this in. Then put down a good layer of long stable litter between the rows and the plants, making this as tidy as possible. The rains will wash the litter clean, and the straw will prevent the fruits from becoming splashed with dirt. Have some dry hay or bracken kept handy, so that when the strawberries begin to bloom a little of this material may be lightly shaken over the plants, if frost is imminent, to protect the flowers, and thus save the early part of the crop.

SORREL.—S. M., Cromer: The best sorrel for cultivation is the Broad-leaved French variety, and it is easily raised from seeds sown thinly in deep, rich soil, in drills about a foot apart. Thin out the seedlings to eight or nine inches apart. The plant is perennial, and may be increased by division in the spring. When the crop is fit for use pick the fully-developed leaves singly, instead of cutting down several plants with a sharp knife.



BUDDLEIA MADAGASCARIENSIS.

DWARF BEANS.—E. S., Bletchingley: It is a good plan to raise some dwarf beans in boxes under glass, and plant these out at the end of May or early in June, but failing this method, a commencement should be made out of doors as early as possible, as the earliest supplies are extremely useful, and very highly appreciated. The first sowing should be made at the end of April, or the beginning of May, and if the young plants make their appearance above the surface before all danger from frost is past, they must receive protection when frost is expected. This may be given by means of small sprays of spruce, fir, or evergreens, or even by pieces of newspaper laid over the rows, and so secured as to prevent their being blown away. A warm sunny border should be set apart for the first sowing. The rows should be eighteen inches apart, and the plants be six inches apart in the rows. For the maincrop sow a good breadth in an open quarter about the second week of May, and for successional supplies sow at intervals of three weeks until the middle of July. In small gardens where several rows of runners are provided, it will suffice to make four sowings, two as already stated, and one at the end of May, and one in the third week of July. The rows for maincrop varieties should be two feet apart, and the plants be six inches apart. The soil for dwarf beans should be moderately enriched with manure, and be deeply stirred.

TRANSPLANTING VIOLETS. — F. D., Malvern: When the plants have finished blooming lift and carefully divide them into single crowns. Plant these single crowns about ten inches apart in a semi-shaded place, in soil that is in good condition. Old leaf soil and wood ashes forked into the surface will materially assist the plants to form new roots. Give water as necessary, and syringe or damp the plants overhead in fine weather until well established.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and **not florists' flowers.** Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one **correspondent.**

C. A., Moreton.—Probably Jasminum revolutum.

SUBSCRIBER.—The tree of which you have sent specimens is Eucalyptus cordata.

NEW SNOWDROP.—T. J. N., Aylesford: Take every care of the plants, and endeavour to work up a little stock of bulbs. We should like to see a flower early next spring.

O., Sheffield.—1, Dendrobium superbum; 2, Cypripedium barbatum; 3, Oncidium sphacelatum; 4, Lonicera sempervirens; 5, Cypripedium villosum; 6, Pulmonaria officinalis.

FLOWER SHOW SCHEDULES.

We shall be obliged if secretaries of societies will forward us a copy of their schedule for the present year.

National Auricula and Primula Society (Midland Section), May 4 and 5, at Birmingham Botanical Gardens.

Elstree and Boreham Wood Horticultural Society.—July 13 at Aldenham Park, and September 17 at Elstree.

Huntingdon Spring Flower Society.—April 20, in the Corn Exchange.

Oxfordshire Horticultural Society.—June 2, Trinity College Gardens, Oxford.

Oxfordshire Chrysanthemum Society.—November 8, in the Town Hall, Oxford.

Southampton Horticultural Society.—Rose Show, July 5 and 6, at the County Cricket Ground; Carnation Show, July 27, on the Royal Pier; Chrysanthemum Show, November 8 and 9, place yet to be fixed.

TRADE NOTE.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, have sent us a very pretty and distinct cyclamen. It is one of the crested varieties, of deep rose-red colour, but the great attraction is the fine white edge that runs round each petal and crest. The Messrs. Low state that this peculiarity is now fixed, as the second generation comes quite true from seed.

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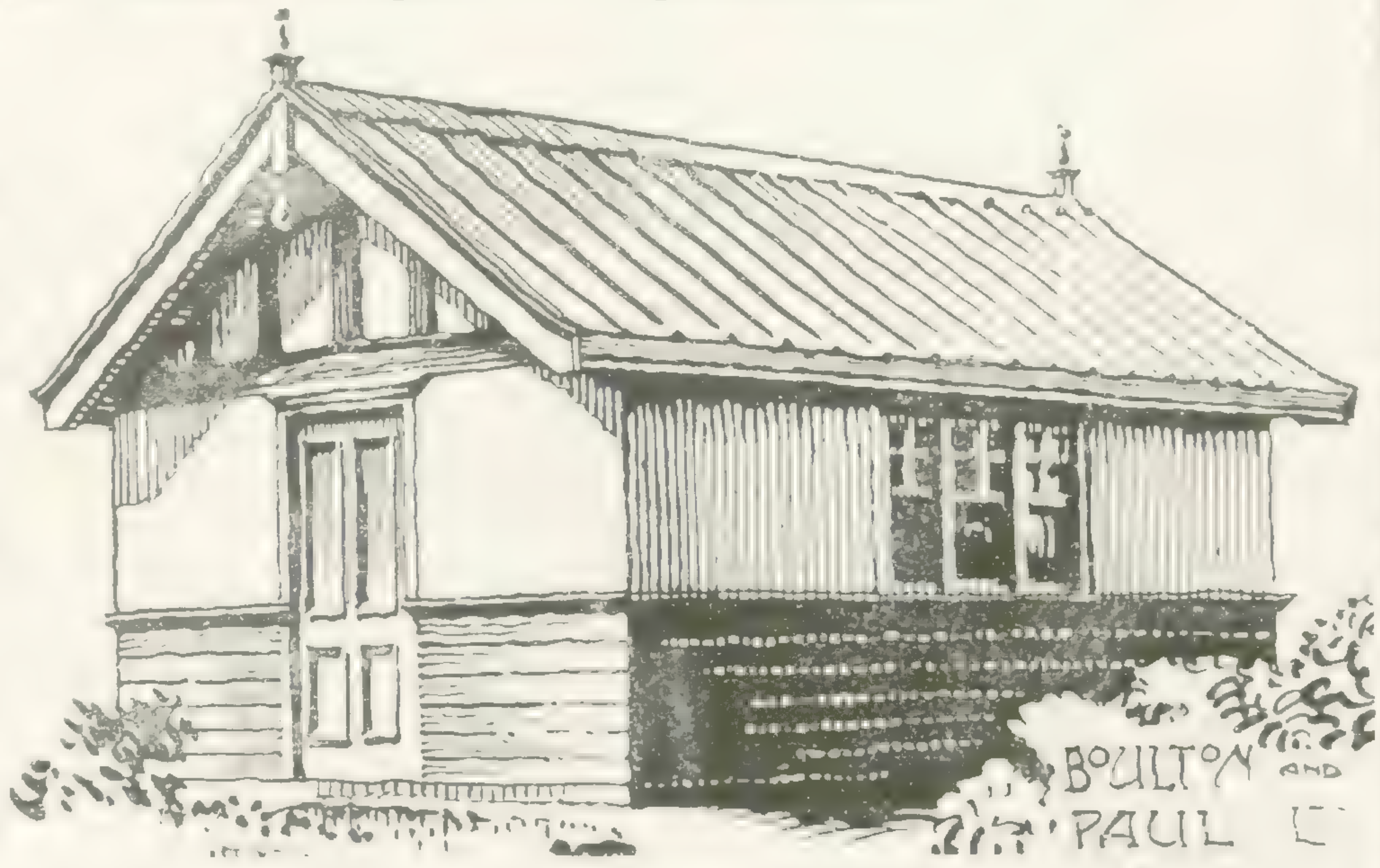

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Price **£3 10s.** per ton in bags. Lots under 10 cwt. **4s.** per cwt. at works; or **5s.** per cwt., carriage paid to any station in England.

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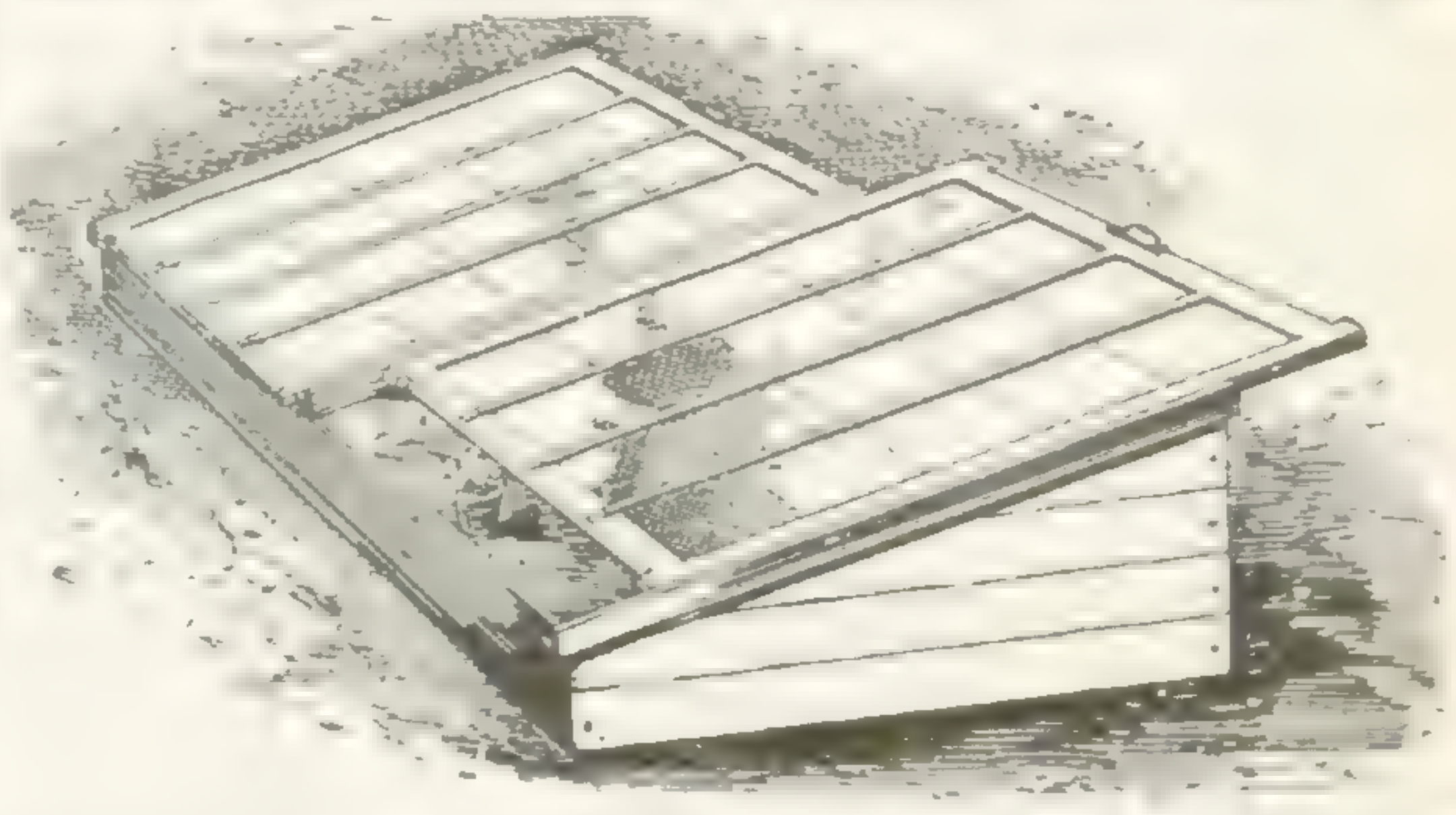
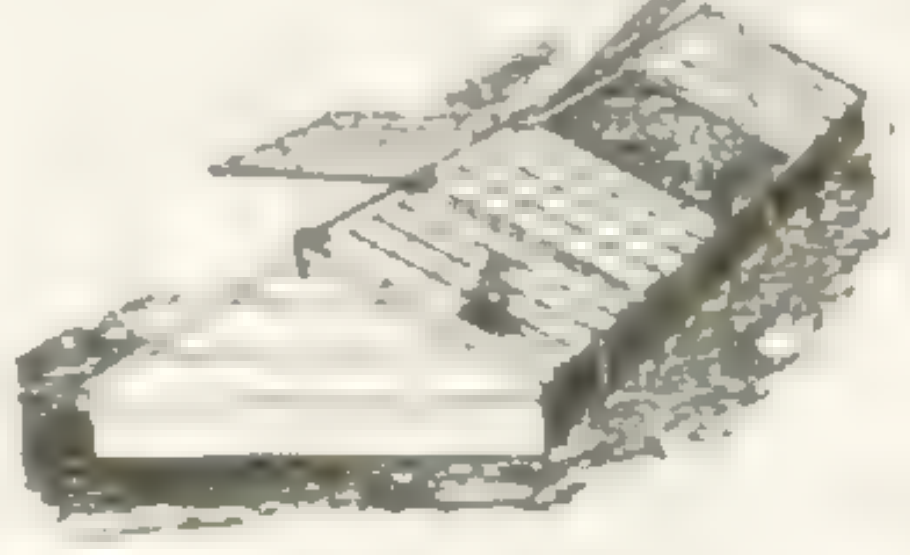


	£	s.	d.
6 ft. by 4 ft. ...	£1	14	0
8 ft. by 6 ft. ...	£2	14	0
12 ft. by 6 ft. ...	£3	14	0
16 ft. by 6 ft. ...	£4	14	0



PLANT PRESERVER. No. 37.

	£	s.	d.
6 ft. by 4 ft.	£2	3	0
8 ft. by 6 ft.	£3	18	0
12 ft. by 6 ft.	£5	5	0

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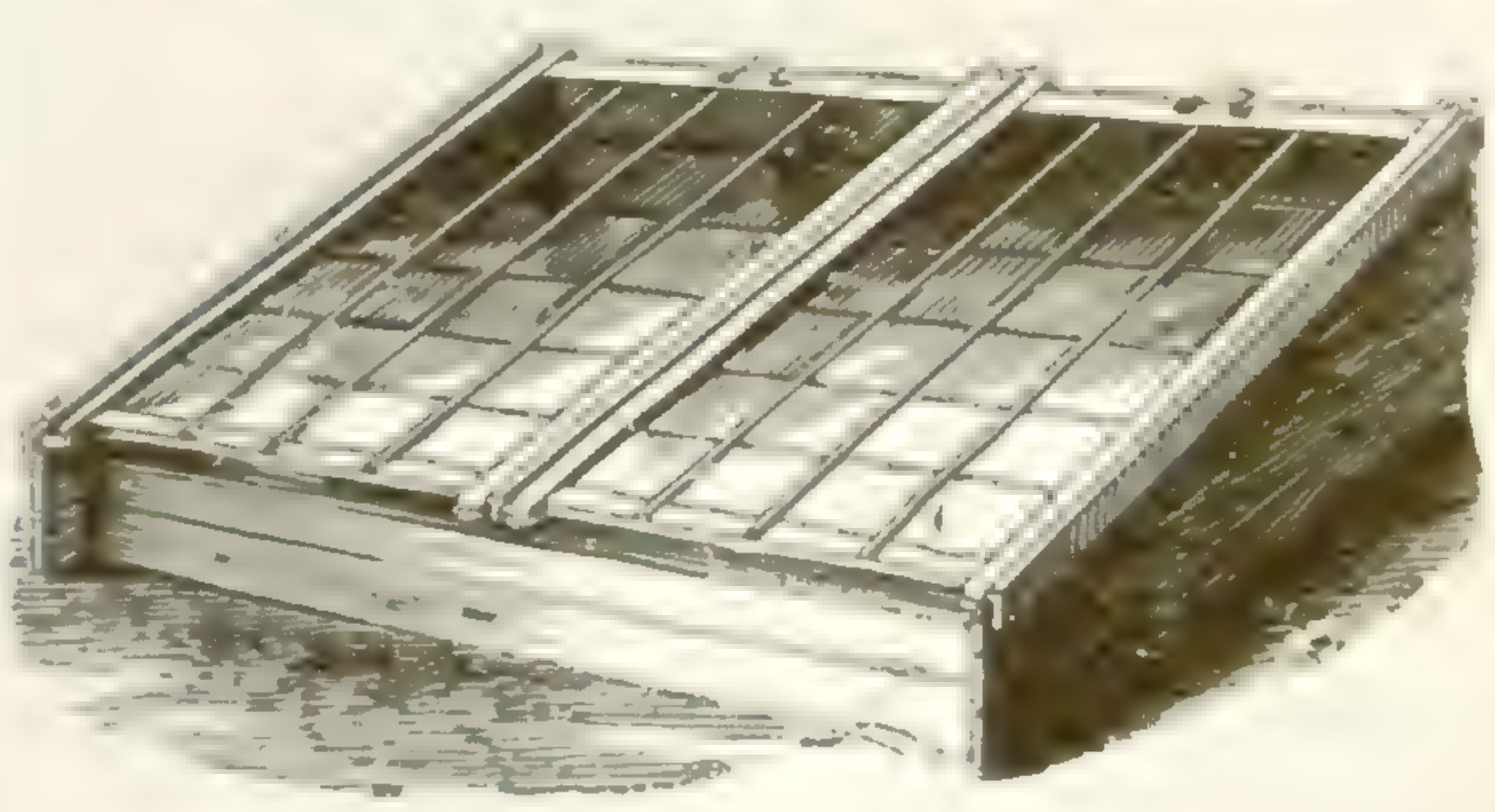

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1-light 4 ft. by 6 ft.	2	0	0
2-light 8 ft. by 6 ft.	3	0	0
3-light 12 ft. by 6 ft.	4	2	6
4-light 16 ft. by 6 ft.	5	5	0
5-light 20 ft. by 6 ft.	6	7	6
6-light 24 ft. by 6 ft.	7	10	0

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CARNATION CULTURE IN AMERICA.

The following paper was read at the recent convention of the American Carnation Society, at Pittsburg, by Mr. Joseph H. Hill, of Richmond, Indiana, under the title of "A Calendar of the Carnation." We reproduce it from the "Weekly Florists' Review":—

Many a member of this society was successfully growing carnations before I was born; others, comparatively young men, are already acknowledged authorities on the divine flower; and there are others here present who might, if they so desired, retire on their well-earned laurels and enjoy for the rest of their lives their well-filled coffers, the result of hard work, close application, and an unceasing attention to the demands of their chosen flower. In some portions of my discourse will readily be recognised the teachings of such men as William Nicholson and the Dailledouze Bros., to all of whom I am deeply indebted for kindly interest and instruction and unfailing response to any inquiry propounded. Other portions of this paper are records of my own observations and experiences, many of the lessons being quite expensive, as every grower has at times cause to confess as he sums up his columns of success and failure.

First Steps.

The middle of November witnesses the first steps looking toward the production of the millions of carnation plants required for the annual planting in this and other countries. At this time the grower puts into the sand those varieties which fail to make good plants from later-struck cuttings, and also those required by those of his customers who insist on "late December or early January delivery." While large numbers are taken in November and December, the bulk of the propagating is done considerably after the holidays, and often quite up to the first part of May. It is generally conceded that cuttings taken during January, February, and March will give the best results to the average grower, though most of us have seen grand blooms produced in quantity from good April cuttings.

Too much importance cannot attach to the careful selection of cuttings, which must be strong and healthy and from clean and vigorous plants. The old axiom quoted in Mr. Ward's book, that "like begets like," must never be lost sight of in this part of our programme.

In the Sand.

The cutting bench should have a brick or tile bottom, filled with three to four inches of absolutely clean sand, and so constructed that a bottom temperature of 60 degrees can be maintained. No draughts should be allowed to strike the cuttings, and they should also be protected from the direct rays of the sun by a perfectly clean and lightweight curtain of muslin.

The cuttings should receive a thorough watering when put into the sand, and the detrimental habit of using the hose whenever they show signs of flagging should be avoided, as this wilting invariably shows that overhead conditions are wrong, and these must be corrected rather than that water should be added to the already saturated sand. The less the amount of water used, if the cuttings are still kept fresh and plump, the better will be the root formation, and it requires a nice discrimination to properly adjust this matter.

Varieties differ greatly in the fibre of the first roots, the Enchantress family being notable for producing good, tenacious roots quickly; while Afterglow, the sturdiest, toughest stemmed variety in existence, must be handled with great care to prevent the loss of roots when taking from the sand, and must be allowed a longer time to mature.

Dibbled or Potted?

Then arises the question: Shall the cutting be dibbled into the soil, or potted? The former procedure is the easiest and the quickest, but I feel sure that the extra work of potting and repotting is doubly repaid.

The young carnation that is planted in the field or in the flowering bench from a pot, with its firm ball of earth, enwrapped with a network of roots, will show no ill effect from the shift, and will start right off into growth without a day's hesitation, while the lifted plant, in handling and resetting, loses most of the soil from around the roots, and receives a severe check from loss of moisture from its tissues. Especially is this the case if not revived by frequent showers soon after planting. Another strong point in favour of the young pot-grown carnation is exemplified when the plant is lifted from the field either for shipping or for immediate benching; the small pot ball of the spring-time will still be found intact, greatly protecting the roots from serious injury. One might be led to suspect that the speaker was interested in the pottery business, for if all the carnation men decide to pot all their cuttings before planting, it means millions of pots, but such is not the case; nevertheless, if any of the pot men present want to "fix it" with the speaker, he will be glad to meet them after we adjourn.

We endeavour to get our young stock up into three-inch pots before planting out, but often in the spring rush some lots have to remain in two and a-half-inch pots and grow on nicely, provided they have not become badly potbound.

In the Field.

When the first warm days come on, about mid-April, the inclination is to rush the stock out into the field, but I feel sure that it is a serious mistake to do so. In the house it has grown up in a temperature of from 45 to 50 deg., and with moisture judiciously supplied, so that it cannot but suffer and be seriously checked when subjected often to cold, severe frosts, and, worst of all, to wet weather and a falling thermometer.

In an ordinary season, if the planting is fully finished by the first part of June, good, big, healthy stock is assured, providing your soil has been properly prepared and possesses full quantities of plant food.

We have come to the conclusion that cross-checking the plants in the field, so as to cultivate them both ways with a hand cultivator, is not so good as to give them more room between the rows and draw the plants closer together in the rows. By spacing the rows twenty-eight to thirty inches, a horse and spiked-tooth cultivator can be used, greatly lessening the hand labour, besides loosening the soil to a greater depth. The inclination of the hand cultivator is upward rather than downward, thus failing of the intent to a certain degree.

About July 1 we begin to condemn the benches that are not producing a paying quantity of flowers, emptying the worn-out soil, and making them ready for our next year's hopes.

It is now a recognised fact that the returns from carnations cut in June and July come nearer being "real velvet" than those cut at any other time in the year, providing the plants have had the proper care and have not been neglected during the late spring rush.

(To be continued.)

FORTHCOMING ENGAGEMENTS.

MONDAY, April 11.—United Horticultural Benefit and Provident Society.

WEDNESDAY, April 13.—Royal Caledonian Horticultural Society's Spring Show: Two days.

Cornwall Daffodil and Spring Flower Show, at Truro; Two days.

THURSDAY, April 14.—Kingsbridge Daffodil Show.

British Gardeners' Association, London Branch.

WEDNESDAY, April 15.—Haarlem Second Special Bulb Show; Ten days.

TUESDAY, April 19.—Royal Horticultural Society: Narcissus and Tulip Committee at 11.30 a.m.; Fruit, Floral and Orchid Committees, at 12 o'clock. Lecture at 3 p.m. on "The Wild Flowers of the West of Ireland," by Mr. R. Lloyd Praeger, B.E., B.A.; Scientific Committee at 4 o'clock.

Devon Daffodil Show, at Barnstaple; Two days.

Shrewsbury Spring Show.

WEDNESDAY, April 20.—Royal Horticultural Society's General Examination in Horticulture.

Byfleet Daffodil Show.

Glamorgan Daffodil Show.

Huntingdon Daffodil Show.

THE BROWN ROT OF THE TOMATO.

The Board of Agriculture recently received, and published in its "Journal," the following note from Mr. C. K. Bancroft, B.A., on certain investigations on which he is engaged at the Jodrell Laboratory, Kew:

Brown rot disease is well-known to growers of tomatoes in this country, and during the past two or three years many have suffered considerable loss owing to the destructive nature of the pest. The fungus appears to attack the fruits only, the other parts of the plant show no external signs of infection. A fruit which is infected first shows discoloured patches on its surface; these usually run together, so that the whole, or almost the whole, surface of the fruit becomes discoloured. The pulp inside becomes reduced to a dark-coloured mass.

The seeds of infected fruits are of a darker colour than those of healthy ones, and a microscopic examination shows that, whereas the testa of the dark-coloured seeds is intact, the tissues of the endosperm and embryo contain fungal hyphæ, which from their characters appear to be hyphæ of Phytophthora omnivora. In spite of the occurrence of the hyphæ, the cells of the endosperm and embryo appear to be healthy.

This infected seed or "brown seed," as it is sometimes called, is known among the growers to be capable of germinating, and is reported to produce plants which always bear infected fruits. These facts, coupled with the results of microscopic examination of the seed, suggest that the hyphæ may be capable of existing in the seed in a resting condition, becoming active when the seed germinates, and keeping pace with the growth of the plant until the fruit is formed.

Whereas it is clear that "brown seed" always contains fungal hyphæ, the hyphæ cannot be regarded as being in a resting condition in the seed until they have been shown to be capable of activity when the seed germinates. Attempts are being made to ascertain whether this is so, that is, to trace the growth of the hyphæ in the seedling, and to demonstrate their presence in the mature plant.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
		At 9 a.m.		Day	Night
1910. March 27 to April 2.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Mar. 27—Sunday	6 36	36	36	58	27
„ 28—Monday......	5 18	43	42	56	31
„ 29—Tuesday	6 36	38	37	50	34
„ 30—Wednesday .	5 48	37	36	56	26
„ 31—Thursday ...	9 42	39	34	45	35
April 1—Friday........	9 18	41	37	48	[illegible]
„ 2—Saturday ...	7 42	42	40	50	[illegible]
Means	(total) 51 0	39	37	52	[illegible]1

Date.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
1910. March 27 to April 2.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Mar. 27—Sunday	—	42	44	44	24
„ 28—Monday......	—	43	44	44	26
„ 29—Tuesday......	—	45	45	44	26
„ 30—Wednesday .	—	42	45	44	23
„ 31—Thursday ...	—	43	45	44	30
April 1—Friday........	—	40	44	44	25
„ 2—Saturday ...	—	41	43	44	24
Means ...	(total) —	42	44	44	25

MARKETS.

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COVENT GARDEN.

Flowers.

There is a good demand and excellent supplies to meet it.

		s.	d.		s.	d.
Acacia	per doz. bun.	8	0	to	10	0
Adiantum cuneatum	per doz. bun.	6	0		8	0
Anemones	per doz.	1	0		1	6
Arums	per doz.	1	6		3	6
Asparagus	per bun.	1	0		1	6
Azalea, Ghent	per bun.	0	6		0	9
Carnations	per doz. blms.	1	6		5	0
,,	per doz. bun.	12	0		18	0
Cattleyas	per doz.	6	0		10	0
Croton leaves	per bun.	1	0		2	6
Cypripediums	per doz. blms.	2	0		3	0
Daffodils	per doz. bun.	1	3		4	0
Eucharis	per doz.	3	0		4	0
Freesias	per doz. bun.	1	0		1	6
French fern	per doz. bun.	0	6		0	9
Gardenias	per doz.	1	6		2	6
Lapagerias	per doz.	1	6		2	0
Lilac, French	per bun.	3	0		4	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	2	6		3	6
,, longiflorum	per bun.	2	0		6	0
Lily of the Valley	per doz.	6	0		14	0
Marguerites	per doz. bun.	2	0		3	0
Mignonette	per doz. bun.	3	0		4	0
Narcissus	per doz. bun.	1	0		2	6
Odontoglossums	per doz. blms.	1	0		2	6
Pelargoniums	per doz. bun.	4	0		6	0
Roses	per doz.	1	0		6	0
Smilax	per doz. trails	3	0		4	0
Stocks	per doz. bun.	2	0		4	0
Sweet Peas	per doz. bun.	2	0		4	0
Tuberoses	per doz. blms.	0	4		0	5
Violets	per doz. bun.	1	0		2	6

Fruits.

The request for oranges is excellent and prices are firm, business generally is steady.

		s.	d.		s.	d.
Apples, English	per bush.	3	6	to	9	0
,, Californian	per case	6	0		10	0
,, American	per barrel	10	0		25	0
,, Canadian	per barrel	10	6		25	0
,, Nova Scotian	per barrel	10	6		25	0
Apricots, Cape	per box	4	6		5	6
Bananas	per bun.	3	6		10	0
Grapes, English	per lb.	1	3		3	0
,, Belgian	per lb.	1	0		2	0
,, Almeria	per doz. lbs.	4	0		7	6
,, Cape	per box	7	0		18	0
Lemons	per case	6	0		21	0
Oranges, Jamaica	per case	9	6		12	0
,, Jaffa	per case	10	0		12	0
,, Valencia	per case	9	6		15	0
,, Navels	per case	9	0		12	6
,, Denia	per case	10	0		22	0
Peaches, Cape	per box	6	0		12	0
Pears, Cape	per box	2	6		6	0
,, Australian	per box	15	0		26	0
Pineapples	each	1	6		4	6
Plums, Cape	per box	4	0		14	6
Strawberries	per lb.	3	0		6	6

Vegetables.

Prices are firm and there is an excellent demand and good supplies.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	[illegible]	to	2	6
Asparagus	per bun.	1	4		7	0
Beet	per bush.	1	6		2	0
Beans (Madeira)	per basket	2	6		5	0
Cabbage	per tally	3	0		5	0
Carrots (new)	per doz. bun.	7	0		9	0
Cauliflowers	per tally	6	0		8	6
Celeriac	per doz.	1	6		2	6
Chicory	per 12lb.	2	6		3	6
Coleworts	per tally	2	0		4	0
Cucumbers	per flat	3	6		6	0
Endive	per doz.	1	3		2	0
Horseradish	per doz. bun.	10	0		17	6
Leeks	per doz. bun.	1	6		2	0
Lettuce	per doz.	1	6		1	9
Marrows, Madeira	per doz.	10	0		16	0
Mushrooms	per doz. lb.	6	0		10	0
Mustard and Cress	per doz. pun.	0	10		1	3
Onions	per case	6	0		7	0
Parsley	per doz. bun.	1	6		2	6
Parsnips	per bag	2	0		3	0
Radishes, French	per doz. bun.	1	3		1	6
Rhubarb	per doz. bundles	0	4		0	8
,, natural	per tally	4	0		6	0
Savoys	per tally	3	0		4	6
Seakale	per doz. pun.	9	6		12	0
Spinach	per ½-sieve	1	3		2	0
Tomatoes, English	per doz. lb.	8	0		12	0
,, Canary	per case	9	6		12	0
Turnips, new	per doz. bun.	6	0		8	6

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Evergood	per ton	55	0		60	0
Express	per ton	60	0		65	0
Kents	per ton	65	0		70	0
Lincolns	per ton	55	0		60	0
Presidents	per ton	[illegible]	0		[illegible]	0
[illegible]	per ton	[illegible]	0		[illegible]	0
[illegible]	per cwt	10	0		15	0
Jerseys, new	per lb.	0	3½		0	4½

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YOUNG AND CO., HATHERLEY, CHELTENHAM.—A catalogue devoted entirely to perpetual carnations; it is descriptive, well-arranged, and admirably illustrated.

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At Half-past One o'clock.—Roses, Standard, Dwarf, Climbing, etc.; also Ferns and Greenhouse Plants.

WEDNESDAY NEXT, April 20th, at Twelve o'clock.—200 lots of choice herbaceous plants for immediate planting, Japanese Lilies, Carnations, Dahlias, Gladiolus, Begonias, Tuberoses, etc.

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FRIDAY NEXT, April 22nd, at Quarter to One o'clock.—Imported and Established Orchids, in variety. Orchids in flower and bud.

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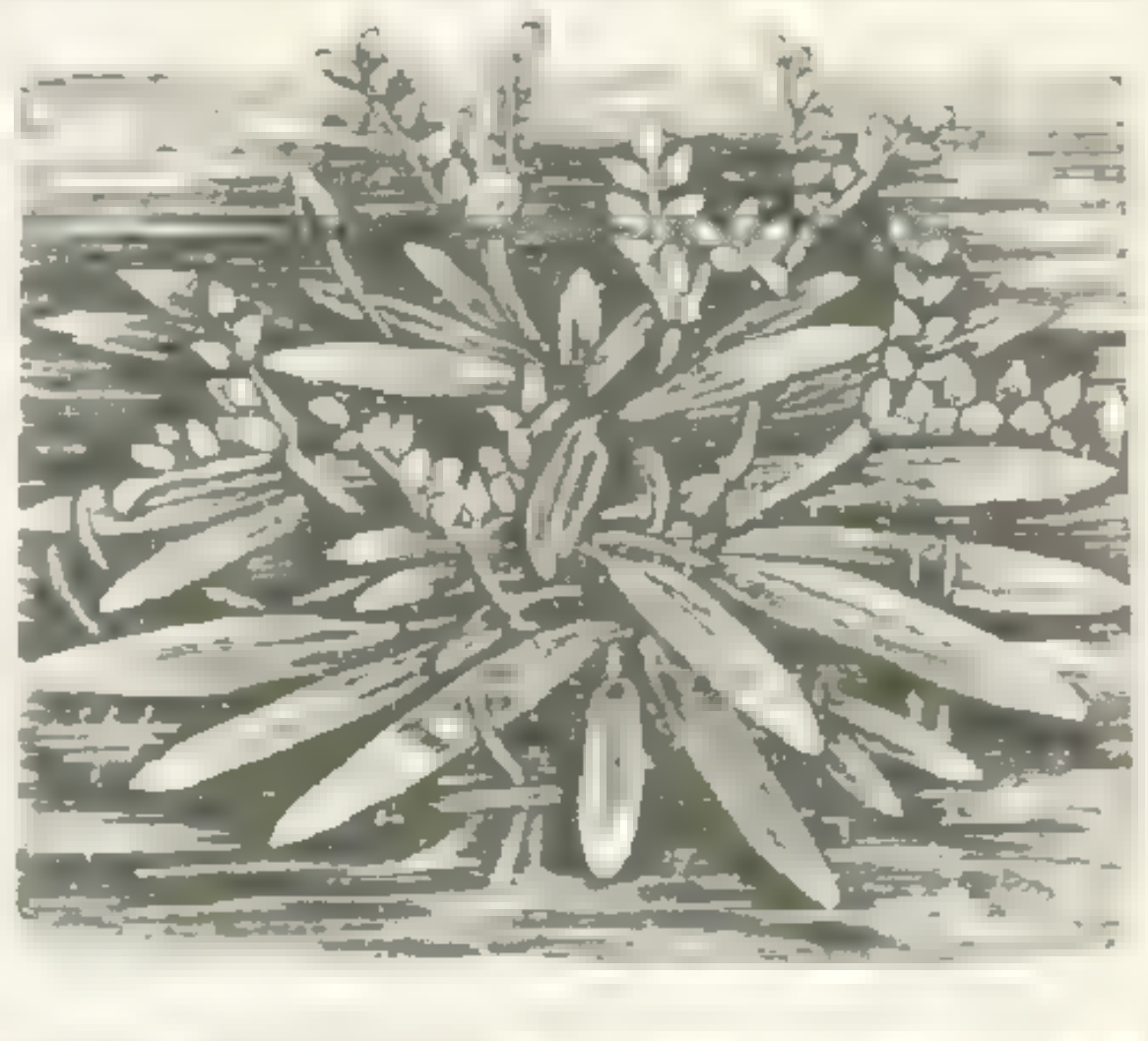

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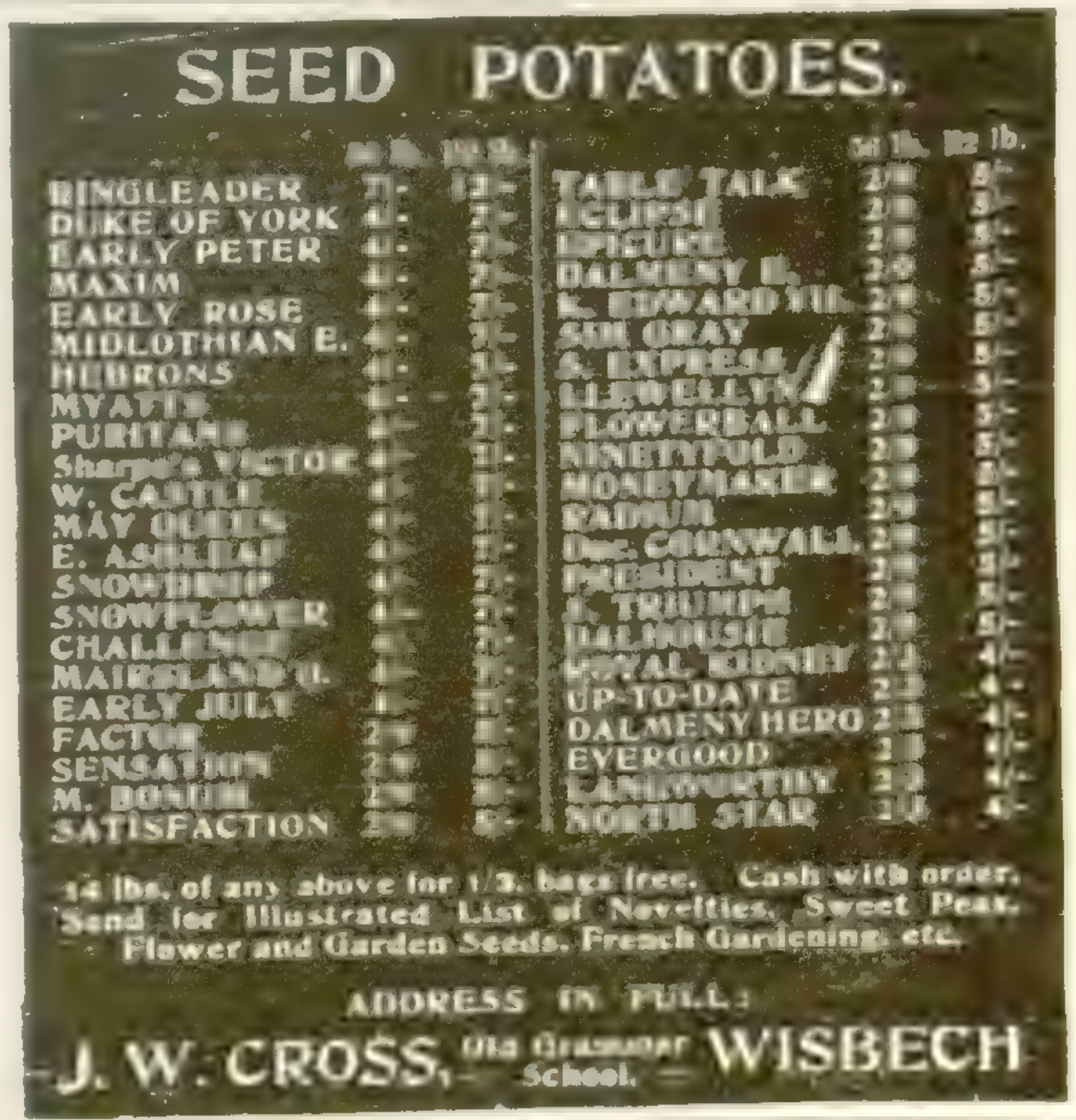

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VOL. LIII.—No. 2,946. SATURDAY, APRIL 16, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Proposed International Horticultural Exhibition.

Although those who attended the public meeting held at the Royal Horticultural Hall for the purpose of considering the advisability of holding a horticultural exhibition of an international character in London two years hence appeared much less enthusiastic than might have been expected, they were much impressed by the importance of the occasion, and readily gave their support to the preliminary proposals made by the Royal Horticultural Society. We have, since the meeting, had ample proof of the favour with which the proposed exhibition is regarded by all sections of the horticultural community, and from what has come to our notice we feel fully justified in anticipating a ready and generous response when an appeal is made for the necessary funds. Some horticulturists, whose opinions are deserving of the greatest respect, consider that it would have been an advantage had the Royal Horticultural Society undertaken the whole of the responsibilities of carrying out the exhibition, but we are of a different opinion, and consider that the course of procedure suggested is the best that could be followed. The splendid achievements of the past twenty-two years are sufficient proofs that the council would do all that was necessary, both in formulating the scheme and in carrying out the details, to ensure a great success. But by taking such a course as will enable all who are interested in horticulture to participate in the pleasure of bringing the project to a successful conclusion, the interest will be greatly extended, and the risk of any serious financial loss to the society be avoided. The financial responsibilities associated with an exhibition on the scale contemplated are heavy, as proved by the memorable gathering in 1866. At that exhibition the expenses were about £12,000, and one two years hence that would adequately represent British and Continental horticulture would not cost less. Then a guarantee fund equal to the requirements of the case was raised, and the same course will be taken now, the Council of the Royal Horticultural Society, intimating their willingness to contribute £5,000. The work that is being done at the present time is the formation of the general committee, in accordance with the resolution passed at the public meeting. No exception could well be taken to the names submitted by Sir Trevor Lawrence to the meeting, but we shall hope to see the committee materially strengthened when the "power to add to their number" is exercised. It is evident there should be a fuller representation of the nursery and seed trades, and that the names of some of the leaders in other branches of commercial horticulture be included. Not less desirable does it appear that the leading provincial horticultural societies and some of the more important of the national floricultural societies should be invited to nominate one of their principal officers as a member of the committee. The duties would be more or less nominal, but the inclusion of the names would show that the movement was having the support of the horticultural and floricultural societies throughout the United Kingdom. Whether the precedent of 1866 will be followed, and local committees formed in various parts of the United Kingdom, will not, of course, be known until after the committee has been formed and commenced work. The point will, we have no doubt, have full consideration in due course, for the amount raised by these bodies was considerable. The Glasgow committee, for instance, contributed £127, Chelmsford £50, Doncaster £50, and Belfast £35, and a number of the committees in the smaller centres contributed sums of £10 each. In this connection it may be mentioned that subscriptions were invited, as well as contributions to the guarantee fund: and that by the middle of November of the year previous to the show being held, the sum of about £3,000 was promised. The committee, in order to enable exhibitors to make their preparations for the exhibition, issued the schedule well in advance, the prizes aggregating £2,500. Large as was this sum it was no more than equal to requirements, and it is interesting to find that while in the GARDENERS' MAGAZINE and elsewhere there was some criticism of the manner in which the money was apportioned, the schedule gave general satisfaction. It may be assumed that the exhibition of 1912 will differ materially from that of 1866, but if the schedule is so arranged as to encourage exhibitors to give the best possible evidence of their cultural skill, the difference will be less than many horticulturists anticipate. We do not expect to see the huge specimens of stove and greenhouse plants, the giant roses, or the huge show and fancy pelargoniums, that were veritable surprises to visitors not well acquainted with plants and their cultivation. On the other hand, we may anticipate displays of orchids of great magnitude and surpassing beauty, groups of hardy trees and shrubs not less remarkable, roses in variety, and highly attractive collections of hardy rhododendrons and azaleas that far surpass the best of those shown four decades ago, so great is the improvement that has been effected. Alpine and herbaceous plants had classes provided for them in 1866, but they were then sparingly grown in private gardens, and the number of nurseries in which they formed strong features was not large. Exhibitors in those days had no conception of the beautiful effects they are capable of producing when arranged in a natural manner, and, while of interest, they did not contribute materially to the attractions of the show. Two years hence we shall expect to find hardy perennials in immense numbers, and so tastefully arranged as to form a feature of surpassing beauty. There are other aspects of the proposed exhibition to which reference might be made, but we shall not now do more than express the

MR. J. JENNINGS.

hope that the financial support will be such as to enable the executive not only to organise a show that will surpass that of 1866, but to return to foreign visitors the generous hospitality invariably shown to British horticulturists when taking part in the international gatherings on the Continent.

Mr. J. Jennings, head gardener to Leopold de Rothschild, Esq., at Ascott, Leighton Buzzard, comes from a good old gardening stock, for his grandfather was head gardener for thirty years at Haywood Hall, Alderley, Cheshire, and his father occupied a similar position for the succeeding thirty years. It was at Haywood Hall that the subject of the present notice had a good grounding in horticultural practice under his father, and passed on to Ingestre Hall, where, under Mr. Phipps, he stayed four years, and then, after a short stay with Messrs. James Veitch and Sons, Chelsea, he took up the position of foreman at Mentmore, under Mr. Slow. Five years were spent at Mentmore, and then Mr. Jennings proceeded to Ascott, where there was as yet no garden at all. This was in 1874, and Mr. Jennings has had the pleasure of seeing the gardens develop under his own hand until they have become famous throughout the country. It was Mr. Leopold de Rothschild's wish that Mr. Jennings should take up the culture of Malmaison carnations, and consequently he was one of the first to show the possibilities of these beautiful flowers. Starting with a stock of twelve plants of the Old Blush variety, Mr. Jennings increased the stock rapidly, and in 1885 exhibited two hundred flowering plants at South Kensington, and in the following year staged large groups at Liverpool, Manchester, Trentham, York, and he had a fine display at the first Temple Show. About a thousand Malmaison and tree carnations, flowering specimens, are grown each year at Ascott. Mr. Jennings was also one of the first to grow and show Begonia Gloire de Sceaux and B. Gloire de Lorraine, both of which are grown in large numbers at Ascott, together with many other winter-flowering plants, because Mr. Leopold de Rothschild and his family usually reside at Ascott from November until May. For this reason also a great feature is made of spring bedding, all kinds of early flowers and bulbous plants being used to produce a wonderful display of grace and colour. Mr. Jennings and the Ascott Gardens have grown up together, so to speak, and so it comes about that he has charge of departments that do not always come under the control of the head gardener; drainage, water supply, woodlands, electric light, dairy farm, and poultry, and the splendid golf course, are, with the extensive and beautiful gardens, all under his care. Not everyone has for employer such a genial and liberal patron of horticulture as Mr. Leopold de Rothschild, and naturally, under such a gentleman one does not have to "make bricks without straw," but all the same Mr. Jennings's position is no sinecure, and could only be filled by a skilful cultivator and clever organiser.

Daffodils at Kew.—Kew is well worth a visit just now, because there are so many beautiful spring flowers in bloom. The daffodils are splendid everywhere throughout the famous gardens, in beds and in borders, but especially where they have become naturalised as around the Cumberland Mound, along under the big Corsican Pine, near the main entrance, among the trees by the side of the Pagoda vista, and in the woodlands. The long border by the Duchess' Walk is planted with big breadths of the finer popular daffodils, while on the wall are Cydonia japonica and Prunus triloba in great beauty. The forsythias are a fine feature in the gardens, and the almonds, ornamental peaches, prunuses, etc., are in bloom, while Magnolia stellata is a mass of silvery white bloom in many parts of the garden. The beautiful green of the grass, and the fast-expanding leafage of deciduous trees and shrubs, all add to the many and varied attractions of Kew, and, in addition, there are the many interesting and beautiful occupants of the numerous plant houses.

Denorobium Dalhousianum at Woolton Court.—This handsome species, which was introduced to British gardens seventy-three years ago, is not so frequently met with in collections as might be wished, and, for some reason or other, it is not always seen at its best. Hence the specimens at Woolton Court, Warwick, of which Mr. J. W. Huckvale has kindly sent us a photograph, are of much interest. The average height of the pseudo-bulbs is six feet six inches, and the tallest of them is seven feet high. These specimens not only grow vigorously, but bloom freely, and this year they have produced nineteen racemes of the attractive flowers, and of these five have thirteen blooms each, with an average diameter of four inches. It would be interesting to know the conditions under which the plants are grown, and we shall be much obliged to Mr. Huckvale if he will send us for publication an outline of the method of procedure by which he has obtained such satisfactory results.

Metropolitan Gardens Association.—The annual report of this association shows that the members of the executive were remarkably active during the past year, and that they were successful in accomplishing much useful work. Not only have they been active in the converting of disused churchyards into gardens, the planting and pruning of trees in the public streets within the Metropolitan area, the laying out of West Square, Southwark, but they have kept a close watch over the measures introduced to Parliament, and vigorously opposed, with the assistance of several members of Parliament, important public Bills containing clauses which, it was feared, endangered existing open space legislation. During the summer of 1909 the association offered prizes for window gardens in twenty-five centres, and the competition was remarkably good throughout, as indicated by the fact that there were 825 entries. The number of prizes awarded was 199, and the value £28 3s. 6d.

Horticultural Club.—The monthly house dinner of the Club will take place on Tuesday next, April 19, at 6 p.m., at the Hotel Windsor, when Mr. C. Harman Payne will give a lecture on "Old Garden Books."

Scottish Horticultural Association.—The annual exhibition of chrysanthemums and fruits under the auspices of this society will be held in the Waverley Market, Edinburgh, on Wednesday, November 16 and two following days. As in previous years the most important of the several classes for chrysanthemums are those for fifteen vases of Japanese, three blooms in each, and eight vases of Japanese, three blooms in each. In the first of those classes the City of Edinburgh Cup and £12 are offered as the premier award, and the competition is open, and in the second Scottish gardeners and amateurs can alone exhibit, and the first prize consists of the Scottish Challenge Cup and £6. With the schedule we have received the "transactions" of the association, which include summaries of the papers that were read at the monthly meetings. These were, as in previous years, of a high order of merit, and afford reading at once interesting and instructive.

Delicate Roses, 1908-1909.—It may be of interest, observes one of the contributors of "Commonplace Notes" to the current issue of the R.H.S. "Journal," to note that the following varieties of roses proved delicate at Wisley, and, if not killed, were very severely injured. Each variety is planted in clumps of twelve, and the plants had stood were they were for three years. It should be said that the frost at Wisley was very severe, zero being registered by the grass thermometer. Mrs. Edward Mawley was one of the worst; practically all the plants were killed; Marquise de Salisbury was another that was severely affected; Niphetos, well known as a tender variety, maintained its bad reputation; Papa Gontier had always succeeded well, and stood the winter well, but 32 degrees of frost proved too much for it at Wisley. Safrano has always been a favourite of ours, because of its charming buds, but about half the plants were killed. William Allen Richardson was killed entirely; and almost the same may be said of Exquisite, only one plant being alive out of twelve. Both Perle des Jardins and its climbing form suffered badly, and Grace Darling, which is generally so hardy and vigorous, lost half its number. Madame Cadeau Ramey, Gottfried Keller, Princess Beatrice, and Princesse de Sagen, were nearly all killed; and even of La France 25 per cent. died. It seems to us that the last-named is not so satisfactory as it used to be. It is the first to be attacked by "rust," and a very large proportion of the buds never expand, but rot on the plants, not only at Wisley, but in many other places it behaves in the same way, and, as there are so many perfectly hardy and lovely varieties that are thoroughly satisfactory, we are seriously thinking of discarding this old favourite. It should be stated that all the roses named above were dwarfs on the briar stock.

Fertilising Effect of Soil Sterilisation.—In a communication to "Nature," Dr. Bernard Dyer writes with reference to this question: "Some of the large growers of cucumbers, tomatoes, etc., under glass for the London market have for some little time adopted the plan of injecting jets of steam into their soil before planting, not with any view of increasing its fertility, but with the view of destroying slugs, insects, etc. In the experience of some growers the productivity of the soil after steaming has become so greatly increased that, if anything like the usual quantity of stable manure is mixed with the soil, the plants grow with such rank luxuriance as to spoil their bearing capacity, exhibiting all the symptoms that would be expected as the result of a heavy overdose of nitrogen. This experience has been communicated to me by growers who were previously unaware of the Rothamsted work. At the moment they were feeling in somewhat of a dilemma; if they did not steam the soil they suffered from insect pests; if they did steam it they were obliged to curtail the supply of stable manure, at the expense of lowering the subsequent soil temperature, which is normally maintained at a high level by the fermentation of the manure. No doubt means may be found of adjusting the various conditions satisfactorily, but meantime the observation appears to afford striking independent confirmation on a practical scale of the indirect fertilising effect of partial sterilisation in killing off the phagocytes or protozoa which normally keep down the numbers of those bacteria the task of which is to turn organic nitrogen into plant food.

Studley Castle Horticultural College.—With reference to our recent notice of the Horticultural College for Women at Studley Castle, we would mention that the college now contains accommodation for sixty-five resident students, and that the number next term is expected to be between fifty and sixty, this being the largest number of students that have been in residence. The fees range from £60 to £80 for cubicles, and from £100 to £150 for study bedrooms.

Luther Burbank and the Carnegie Institute.—The reports that the Carnegie Institute had withdrawn its grant of ten thousand dollars a year to Mr. Luther Burbank, the American hybridist, appear to be founded on fact. But Mr. Burbank does not seem to worry about this withdrawal, and is quoted as saying: "The grant brought with it cares, responsibilities, correspondence, and visitors, and envious criticism. But for the advice of friends I should have dissolved my connection with the institute last year. I am now past sixty years of age, have done good work, and no one is dependent on my efforts Personally I have no desire for wealth or fame. My ambition has been to leave the world the better for having passed this way."

Fruit Congress and Show at Hexham.—The arrangements for the Fruit Congress and Show to be held at Hexham on October 20 and two following days are now complete, and there is every promise that both the congress and the exhibition will be successful. Owing to the manner in which the programme of the congress is arranged, it is not quite so clear as could be wished, but as we understand the entries, the subjects that will be discussed are as follows: Thursday, October 20, 3.15 to 5.15 p.m.: "Fruit Storage and the Bottling of Fruit," the speakers being Mr. G. Berry and Mr. W. B. Little, the latter taking "Storage"; 6 to 9 p.m.: "The Best Hardy Fruits for the North of England, the Best Varieties, and the Best Stocks," the speakers, Mr. H. Somers Rivers ("Stocks for Fruit Trees Historically Considered"), Mr. G. Bunyard, V.M.H. ("Manners and Culture of Fruit Trees"), Mr. J. S. Chisholm, Mr. W. B. Little, Mr. G. O. Rimington, and Mr. J. W. Robson. Friday, October 21, 11 a.m. to 1 p.m.: Demonstrations of Spraying and Smudge Fires; 3.15 to 5.15 p.m.: "Enemies to Fruit Culture," "Fruit Pests and their Treatment," and "Orchard Heating," the speakers, Mr. F. V. Theobald, M.A. ("Fruit Pests and their Treatment"), Mr. H. Hogbin ("Smudge Fires in the United States and Elsewhere"), Mr. F. J. Chittenden, and Mr. R. A. H. Gray, M.A.; 6 to 9 p.m.: "Intensive Culture," and "Bees as a Factor in Fruit Culture," speakers Rev. H. Purefoy Fitzgerald, Mr. C. H. Hooper ("Small Holdings"), Mr. G. W. Avery ("Bees as a Factor in Fruit Culture"). Saturday, October 22: 10 a.m. to 1 p.m.: "Co-operation in the Marketing of Produce," speaker Mr. W. H. Press; 2.30 p.m. and 3 p.m.: lectures on "Fruit Bottling," Mr. J. S. Chisholm. The National Fruit Growers' Federation will hold a meeting on the 22nd inst., at 4 p.m. A deputation from the Royal Horticultural Society will attend and award medals and other prizes to deserving exhibits, and the Scottish Horticultural Association are sending representatives. The general secretary is the Rev J. Bernard Hall, Dalston, Cumberland.

RUBBER YIELDING PLANTS.

The remarkable development within recent years of the motor industry has so largely increased the use of rubber that the demand for this product has outstripped the supply, and prices have gone up by leaps and bounds, and created an immense amount of interest among all classes of the community. As the prices are likely to maintain their present high level, for some years, at all events, there is a probability of the rubber industry continuing profitable, a fact that has attracted the attention of capitalists, with the result that a large number of rubber companies have been recently formed. The financial aspect of the industry is not within the scope of these notes, which have been written simply in compliance with the requests of several correspondents, who have asked for information relating to the plants from which rubber is obtained.

In the first place, it should be stated that the number of plants producing rubber is considerable, and that they differ very materially in their relative value in the production of rubber for commercial purposes. The most important of these is Hevea brasiliensis, a tree attaining to a considerable height, and belonging to the natural order Euphorbiaceæ. This is the source of Para rubber, which has long held a commanding position in British markets. Ranking next in importance is the well known Ficus elastica, which belongs to the natural order Urticaceæ, and produces the Assam rubber. Landolphias, woody climbers, belonging to the natural order Apocynaceæ, yield the African rubbers, and Sapium biglandulosum, belonging to Euphorbiaceæ, produces the Columbian rubber. Kickxia africana is the source of the Lagos rubber.

Hevea brasiliensis.

Para rubber is obtained from several species of hevea, but by far the most important of them is H. brasiliensis. This species is widely distributed in South America, and, with other members of the genus, is strongly represented in the region drained by the mighty Amazon and its tributaries. Hevea brasiliensis is called by the Portuguese "Pao de Serringa," and is a rather slender-growing tree, attaining a height ranging from fifty to sixty feet. The leaves are digitate-trifoliate, and the flowers are borne in panicles. The tree is by no means attractive, and with reference to its appearance Consul W. A. Churchill, in one of his reports on the trade of Para, writes: "The hevea tree is not conspicuous, and resembles many other forest trees. People have travelled thousands of miles through the rubber region, and have lived for years in the centres of the industry without ever noticing it. The newcomer invariably expects to see the glossy, dark green leaves of the ficus, and is disappointed with the insignificant appearance of the hevea. In habit it is more like the English ash than anything else. The localities where rubber trees thrive the best are on islands and low grounds, where the banks are periodically inundated. Ground that is above the water or that has no drainage is not so suitable to the tree."

The history of the rubber industry on the Amazon extends over about sixty years. With reference to its early days, R. Spruce states, in Hooker's "Journal of Botany," vol. vii., that when he ascended the Rio Negro in 1851 he pointed out to the inhabitants the abundance of hevea trees they possessed in their forests, and tried to induce them to extract the latex. Yet they shook their heads, and said it would be no good. By 1854 the demand had become so great that the price had risen to what Spruce describes as the "extravagant sum of 2s. 9d. per pound." This woke up the people from their apathy, and "Mechanics threw aside their tools, sugar makers deserted their engenhos, and Indians their roças, so that sugar, rum, and even farinha, were not produced in sufficient quantity for the consumption of the province." This state of things has practically continued until the present time.

The town of Para, the centre of the rubber industry of the Amazon, is on the River Guama, about 100 miles from the sea, and is in south latitude 1 degree; but the Para district extends over a large region to the south and west. Throughout this, and the forests of Central and Northern Brazil, rubber trees are abundant. The temperature is uniform, and usually ranges from 87 degrees at midday to 74 degrees at night. The rainy period extends over the first six months of the year; the heaviest fall is in April, when the average is 15 inches. The country is flat, and intersected by rivers, and the dense moist forests in which the rubber trees are the most abundant are damp and unhealthy. The soil is deep, comparatively heavy, and very fertile.

Rather more than thirty years ago the suitability of Hevea brasiliensis for cultivation in India was recognised, and strenuous efforts were made to introduce the tree to Ceylon and other parts of our Eastern possessions in sufficient numbers to carry out experiments on a large scale. The difficulties were considerable, but they were eventually surmounted, and there are now large areas of rubber trees that are giving an ample return. The most suitable areas for the cultivation of this tree in Ceylon has been found to be sites that are rather flat, just above the sea level, and with a good alluvial soil. Eight or ten feet apart each way is considered a good distance at which to plant the trees, and then to thin to twelve or fifteen feet, as may be considered advisable. By this course of procedure the less satisfactory trees can be removed at a comparatively early period; and those remaining are encouraged to produce straight trunks, with but few branches low down, a point of importance, as the work of tapping the trees is greatly facilitated. Under favourable conditions the trees grow with great rapidity, and it is recorded that rubber trees planted at the Henaratgoda Garden, Ceylon, have attained a height of fifty feet, and a girth of two feet from the surface of the ground, in six years. Trees of this size may be tapped with very good results, but it is considered an advantage to allow them to remain untouched one or two years longer.

Briefly stated, the best method of tapping the trees is to lightly shave the trunk with a knife from a height of about six feet to the base, the object being to obtain a smooth surface over which the milk can flow. Then with chisel and mallet V-shaped incisions are made on the shaved portions, care being taken not to cut deeper than the bark close to the cambium layer. These cuts are made on all sides of the tree, and at a distance of about twelve inches below each other down to the base. The usual practice is to have four vertical rows of incisions on each tree. Channels are formed with clay at the base of the trees to catch the milk as it trickles down the stems, and to conduct it by two or more spouts into clean cocoanut shells so cut as to form two small basins. When the milk ceases to flow the cocoanut shells are removed to a warm place, and in a few hours it becomes coagulated, and can be removed as solid cakes of rubber. The remainder of the milk coagulates on the trees, and can be removed as strings of rubber. Trees in a vigorous state will yield from 1lb. to 1½lb. of rubber annually.

Ficus elastica.

This tree, the "indiarubber plant" of gardens, and the source of Assam rubber, is so well known as to render description unnecessary. When growing in its native habitat, and under cultivation where it has sufficient space for its full development, presents a very different appearance to the largest of the specimens that may be met with under glass in this country. It, indeed, spreads so freely in cultivated plantations in Burma and elsewhere that eighteen plants to the acre are considered quite sufficient. It is found growing wild in moist forests from the base of the Sikkim Himalaya, eastward to Assam and Arracan, and in Upper Burma it is so plentiful as to form large forests in the valley of Hookhoom. The development of the seedlings when growing naturally in the forests is very interesting, as will be gathered from the following extract from the report on the tree by the Conservator of Forests, Assam.

"The seed of Ficus elastica, where the tree grows naturally in the forests, germinates almost invariably in the forks of trees thirty to forty feet and more above the surface of the ground, and the young trees grow, in consequence, for some six or ten years as epiphytes, after which the aerial roots reach the ground and increase rapidly in size until some of them reach a girth of from four to six feet; they are very numerous, and it is not uncommon at a later age that they are thrown out also from the upper branches sixty to eighty feet from the ground, being first as thin as whipcords, but very soon increasing in size after they have reached the ground; it thus frequently happens that the tree on which the young rubber seedling first germinated is killed by the more vigorous-growing Ficus elastica, which in this respect resembles the well known banyan tree, and is one of the largest growing members of our mixed forests in Assam. It requires an exceedingly damp atmosphere to do well, and, therefore, thrives best at the foot of the mountains or on the mountains themselves up to an elevation of 2,000 feet. It is met with also at a higher elevation, but not so vigorous, and at 5,000 feet it is liable to be injured, or killed by frost.

Under cultivation the seedlings are raised in beds, boxes, or pots, the seeds being sown on the surface of the soil, and as the seedlings are very small at first they have to be treated with great care. In planting them out they are put on mounds three or four feet high, formed with soil, cut wood, and any rubbish that may be at hand.

With regard to the yield of rubber, it is estimated that eighteen trees, occupying one acre, will annually produce 40lb. One man is able to tap three trees, or collect the rubber from two trees in a day, and, consequently, the cost of tapping the trees and collecting the rubber is not great.

In Upper Burma the rubber industry appears to have undergone considerable development since rubber was first exported forty years ago. Ficus elastica is described as occurring throughout a district extending several miles north of Mogoung, and eastward beyond the Chinese border. The largest and most regular supplies of rubber have been obtained from forests a few days' journey north of Kamein, but the supplies from the Endaw and Laetsun districts are largely increasing. The Kachins are careful in tapping their trees, and in collecting their rubber, and avoid the mistake that is made in some rubber-producing districts, of over-tapping.

Other Rubber-producing Plants.

The rubber industry has undergone considerable development in Lagos within recent years, and the value of the exports of this product is now considerable. There are a considerable number of rubber-bearing trees in the forests, but by far the most important of these is Kickxia africana, a tall tree belonging to the natural order Apocynaceæ, which yields an abundance of latex. It is described as one of the most beautiful trees in the Lagos forests, as attaining a height of between sixty and seventy feet, and having an average girth of about forty inches. In tapping the trees the bark is cut in a vertical direction for a considerable length of the trunk, the cut being about half an inch wide, and of a sufficient depth to reach the cambium layer. On each side of this line oblique grooves are cut, each connecting with the main channel; these oblique cuts being made about two feet apart. A vessel is placed at the bottom of the main channel to catch the latex, or milk.

Manihot Glaziovi, the source of what is known as Ceara rubber, is a moderate-sized tree belonging to the natural order Euphorbiaceæ. It is described as ranging from forty to fifty feet high, and as having a stem ranging from ten to twenty inches in diameter. The tree when fully grown somewhat resembles the birch, and the leaves are palmate. The tree is a native of the mountains some thirty or forty miles from Ceara, and here the climate is dry for a considerable part of the year. It has been introduced to various parts of India, but the yield of rubber was not considered sufficient to justify its cultivation. With the high prices now obtaining it appears well deserving of a trial on commercial lines in such of the British Colonies within the tropics as possess a dry climate and poor stony soil.

Castilloa elastica is one of the chief sources of Central America rubber, and is of much importance. It extends over an immense area in Central America, and in the forests the trees suffered much for a long period from the injury done by excessive tapping. The tree is tall and handsome, and has smooth white bark. It requires a deep, moist soil, a high temperature, and in the formation of plantations the trees should be put from eight to ten feet apart each way. In collecting the latex long vertical cuts, about three-quarters of an inch wide, are made, and in making these care is taken that one-third of the trunk remains intact. As in other cases, the flow of latex is conducted to a vessel placed at the base of the tree.

FORESTRY IN THE NORTH.

A distinguished company of Scottish landowners, which included the Earl of Dalkeith, Lord Lovat, Lord Richard Cavendish, Sir John Stirling Maxwell, Captain Stirling of Keir, Mr. Macdonald of Largie Castle, Mr. Novar Ferguson of Novar, M.P., Mr. Sydney J. Gammell of Drumtochty, recently visited several extensive forests in Aberdeenshire. Some time ago a scheme for the afforestation of a large area in Aberdeenshire for demonstration purposes was brought forward, and it was in connection with this question that the large party came for information. Mr. William Dawson, lecturer in forestry in the University of Aberdeen, carried out in an admirable manner all the arrangements for the tour.

Early on the first day the party left Aberdeen in motors, the destination being the famous Durris Woods, some 12 miles up Deeside, and owned by Mr. Baird. There the party was met by Mr. Lees, factor, and Mr. Crozier, head forester on the estate, who acted as guide. For the past 12 or 15 years the progress of plantations of the Douglas fir at Durris has been watched with considerable interest, their remarkable growth being the subject of comment by all who have seen them. There is also a fine forest of Sitka pines growing at an elevation of 1,000 feet on the estate. In addition there are excellent plantations of Japanese larch and other trees, all of them showing how trees may be grown to great advantage on Deeside.

After inspecting the nursery, and the large stocks of Douglas fir there, the party proceeded to the wood upon the slope of Strathgyle, where was inculcated one of the finest lessons in forestry the Durris estate affords. This wood is about 60 years of age, and consists of various species of conifers. Among these the Menzies spruces attracted special attention, as their success on the exposed hillside at about 900 feet above sea level is quite remarkable. Some of these trees are about 50 feet high, with an average diameter at breast height of 9 inches. As a tree for hill planting Menzie's spruce has proved its superiority over the larch, Scots pine, and Norway spruce in a marked degree, its power of resistance to high winds, and its general reliability on exposed heights being notable. The timber is light, straight grained, and easily dressed. The whole party expressed admiration at the size and healthiness of the spruces. In the Sawmill, Sunnyside, and Balladeam Woods some fine specimens of the Douglas firs were seen. In the latter wood there are 74 acres of continuous Douglas firs—an area believed to be the largest yet planted. In every case the growth was of a superior kind, and earned the warm encomiums of the party. At Northbrae Wood—an oak wood—between 60 and 70 years of age, was seen underplanting with Douglas firs. This has been done in the expectation of improving the growth of the oaks. On the upper part of Northbrae, a Scots pine plantation was seen. Laid down in 1882-1885, it has not yet been thinned. The result of this has been to draw up the stems with a minimum of side branches, thereby producing the best quality of timber. The party expressed their great admiration of all they had seen, and, having warmly thanked their hosts, proceeded a few miles further up Deeside to the woods of Ballogie, owned by Mr. Nic[illegible] where they received valuable information.

The party reached Ballater at night, where they put up at the Invercauld Arms Hotel. Next morning accompanied by Mr. John Michie, M.V.O., His Majesty's Commissioner at Balmoral Castle, but previously head forester on the Royal estate, the party proceeded to inspect the Royal forests. The first visited was Birkhall, but most interest was taken in the old forest of Ballochbuie, where the whole afternoon was spent. The weather was superb, and there being much of interest in the fine old Scots pines, much information was gleaned. Than Mr. Michie no better and no more qualified cicerone could have been wished, for he has practically been brought up in the Royal forests. Here great interest was taken in the Douglas firs, and the various systems of management, as explained by Mr. Michie. Thereafter they proceeded to the Duke of Fife's Mar estates—what Scotsman has not heard of "The Standard on the Braes o' Mar"?—where they were met by Mr. Lawson, his Grace's factor. Here, also, the party found much to admire and inform. Having spent a considerable time here, the party returned to Ballater, and stayed [illegible] the night at the Invercauld Arms.

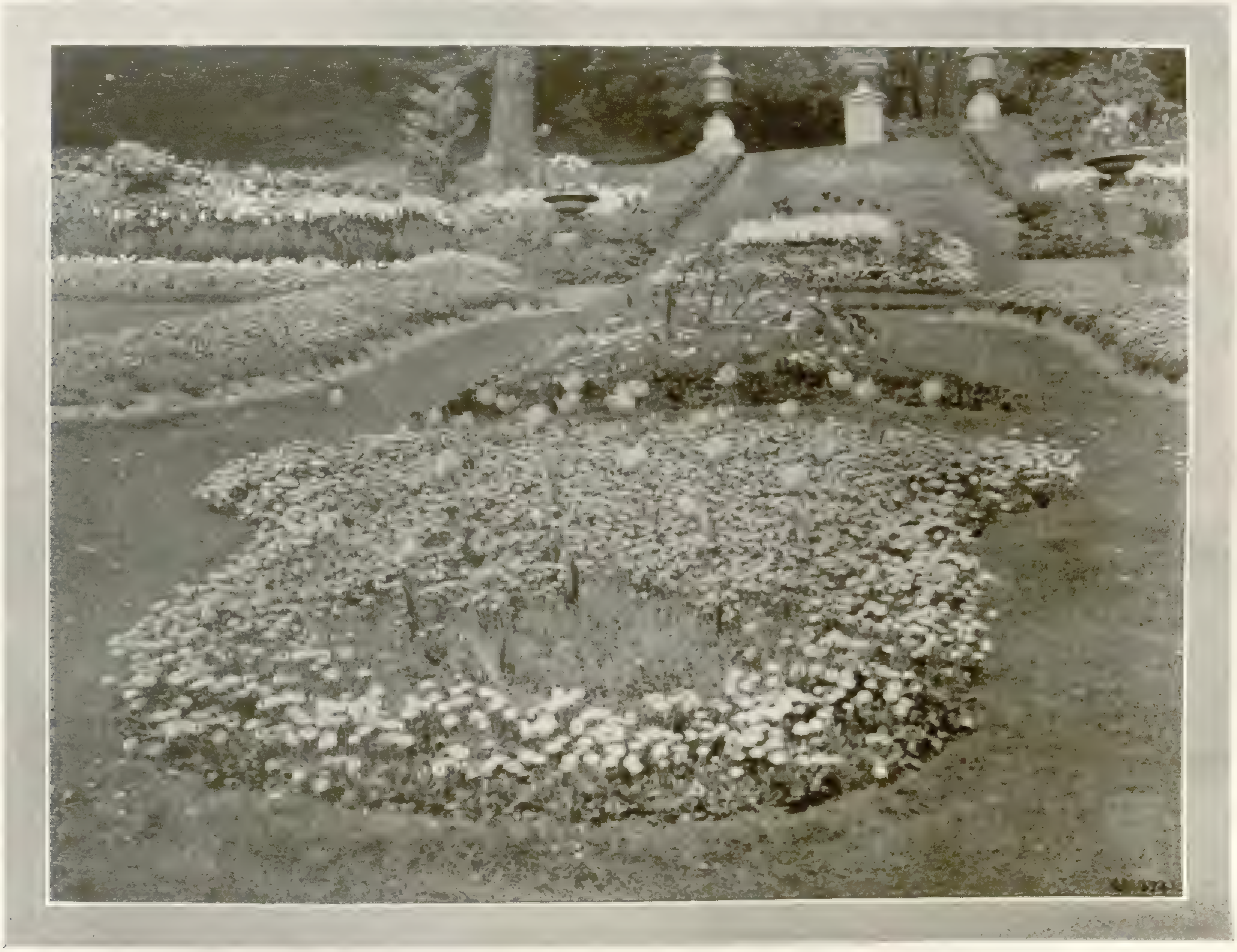
On the forenoon of the third day the members motored into Aberdeen, where they found awaiting their inspection in the Forestry and Botanical Departments of Aberdeen University an excellent exhibition of forestry products, arranged by Mr. Dawson. A large section of the exhibition demonstrated the damage done to forests by deer, squirrels, robbits, insects, and fungi. The effects of the various diseases trees are subject to were admirably demonstrated. Another section showed to fine purpose the economic uses of wood, including numerous articles of commerce, and showed how by mechanical processes—steaming or otherwise—wood may be put in any shape desired, even to a perfect circle. Numerous other exhibits were also on view, with all of which the visitors declared themselves greatly pleased.

After dining together in the Palace Hotel, Aberdeen, the members of the party left for their various destinations highly delighted with their tour.

Great Orchid Show in America.—On May 26, and four following days, the Massachusetts Horticultural Society is to hold a grand exhibition of orchids in Boston. There are thirty classes for orchids and six for other plants, and the first prize in many cases is a gold medal, with, in the more prominent classes, the addition of from a hundred to a thousand dollars in cash. The last amount is for the best display of flowering orchids, embracing at least twenty genera, and arranged on a space of 400 square feet. An interesting class is one for a group of botanical orchids, not less than twenty [illegible] plants, representing not less than [illegible] genera.

SPRING FLOWERS AT BELVOIR CASTLE.

The gardens of Belvoir Castle, the stately seat of the Duke of Rutland, have long been famous for their annual displays of spring flowers, and long are they likely to sustain their fame, for their noble owners take a warm interest in them, and Mr. W. H. Divers has entered so thoroughly into the spirit of the place that he was not many years in charge before he surpassed the efforts that brought the gardens into prominence. Having accomplished this, he has year by year effected such improvements on his previous successes as to suggest that he has now reached a point in the use of hardy plants beyond which it is hardly possible to go. We carefully guard ourselves against saying that he has done so, because to a gardener of Mr. Divers' ability finality in a matter of this kind is practically unknown, and to so keen an observer there is, we apprehend, no difficulty in finding in some of the numerous arrangements that form part of the general scheme, room for still further improvement. However that may be, Mr. Divers is not less successful in the arrangement of the several subjects than he is in their cultivation, and the charming effects that are annually produced are veritable surprises to visitors.



VIEW IN DUCHESS' GARDEN, BELVOIR CASTLE.
Showing the successful use of aubrietias and daisies.

We have on several occasions described the Belvoir Castle gardens at some length, and therefore we do not intend on this occasion to more than briefly refer to the aubrietias which are used with so much success in the Duchess' garden. This garden, which is so popular with visitors, is situate about half a mile from the castle, has an area of about eight acres, and occupies a naturally-formed hollow on the side of a hill. Sheltered on all sides by large trees, the garden is much warmer than might have been expected so far north as Grantham, and a large number of trees and shrubs thrive that are not often seen at their best except in the western and southern counties. In this garden is a fine specimen of the rare Cunninghamia sinensis approaching a height of forty feet; Daphniphyllum glaucescens, a specimen of the handsome Japanese maple Acer palmatum septemlobum, between eighteen and nineteen feet high, and with a head of a proportionate diameter; a large group of camellias that is gay with colour early in the spring; Eucryphia pinnatifida, over thirteen feet high, and producing a wealth of the exquisitely beautiful white flowers annually; Styrax japonica, rhododendrons, and hardy azaleas in variety, and a host of other good things.

Within this garden are numerous beds, varying in form and size, in which two distinct displays of flowers are produced annually, the first comprising aubrietias and other subjects blooming during the spring months, and the other tender and hardy plants that, by suitable preparation, yield of their charms during the summer months.

In common with violas, wallflowers, arabis, ,myosotis, and polyanthuses, aubrietias are very largely grown, and used with much taste in the production of large masses of colour, and also for carpeting beds that are planted with tulips. At one time it was the practice in the Belvoir Castle gardens to raise the stocks of these flowers from seed. But Mr. Divers has an objection to the practice because none of the forms come true from seed, and there is in consequence a difficulty in producing satisfactory effects. The aubrietias most largely used are the purple Hendersoni, the blue græca, the crimson Leichtlini, the pink Moerheimi, and the purple Dr. Mules. About seven thousand plants are annually required for filling the beds, and to raise so large a number is not an easy matter when the ordinary course of procedure is followed. Mr. Divers has under preparation two sets of plants each year. When the aubrietias are taken from the beds at the end of May they are planted on a shady border, and the soil trodden firmly about them. They remain in the border until the following March, when they are furnished with an abundance of young growths. They are then lifted and pulled into small pieces with roots attached and planted twelve inches apart each way in rich soil. By the autumn the plants will be nine or ten inches in diameter, and in the best possible condition for filling the beds. Daisies, as will be seen in the accompanying illustration of one of the beds in the Duchess' garden are largely used, and these are raised from seed because of the heavy losses that occur among choice varieties raised by means of division.

Strelitzia Reginæ.—Planted out in the warmer part of an intermediate house, this striking feature of South African vegetation is highly effective. From the quaintness of its flowers and their marked contrasts in colour, it is a subject that at once appeals strongly to the uninitiated. The leaves are something like those of a canna, but of a stout leathery texture, and the flower scape, which well overtops the foliage, will reach a height of 4 to 5 feet. The flowers are in shape suggestive of a bird's head, the sepals being of the richest orange colour, while the petals are of bluish purple. —K.

CROP-SICK SOILS.

When we speak of a soil being exhausted, or crop sick, it is not meant that there has been a complete deprivation of crop-producing power, but simply a reduction of this power below a profitable point.

Many persons imagine that all that is required is for a chemist to make an analysis of the soil to determine which are the plant-food elements lacking therein in order that these may be supplied, and productiveness established. But recent experience too often shows that what is called an exhausted soil may be well supplied with all needful plant food, and yet the crop fail to make satisfactory growth.

For example, at the Rothamsted Experimental Station an experiment was conducted for twenty-six years on the growth of potatoes on the same land. There were ten plots, one received no manure at all, the others received either farmyard manure, or various artificial manures, both nitrogenous and mineral, either alone or in combination. The manures were applied every year.

At the end of the twenty-six years the experiment had to be abandoned because the land absolutely refused to grow potatoes. It mattered not what the description of the manure applied was, farmyard manure or artificial fertilisers, the crop equally failed. What, we may ask, was the cause?

It could not be lack of plant food, for in the following year (1902), after the experiment with potatoes was stopped, the land was sown with barley, without manure. The yield on some of the plots was 72 bushels of grain per acre, and the plot which had received no manure of any kind for twenty-seven years gave 33 bushels of barley per acre.

In the following year (1903) barley was sown again without any manure, and the results were 9½ bushels per acre, on the permanently unmanured plot, rising to 47 bushels per acre on a plot which had previously received farmyard manure. In 1904 oats were sown, and in 1905 and each year since barley has been grown without manure, and produced last year 24¾ bushels per acre, showing that even after eight years of corn cropping without manure this potato-exhausted land yielded a fair barley crop.

Of what, then, does soil exhaustion and crop-sick soils consist? It usually means that plant food materials, which may still exist in the soil, no longer occur in that condition in which a particular crop can make use of them, but another crop of a different food requirement, and having a different root range, may be able to appropriate what was unassimilable to the former crop. Thus the acid and other toxin accretions given off by the roots of one particular crop may become by conversion, through the aid of the various bacteria of the soil, available food for a crop of another kind, hence one great value of a rotation of crops.

Hitherto cultivators of the soil have, with few exceptions, given no thought to the invisible bacterial life that plays such an important part below the surface of the ground, and through whose agency crops and individual plants are enabled to respond to the fertilisers added to a well-tilled soil.

Yet this rational conception of the fundamental causes of productiveness will in future have to be taken into account by horticulturists and gardeners in every department of their work, if they wish to progress with the times, and aim at deriving the greatest benefit from capital and labour invested in their establishments.

As it is now known that the fertility of a soil is largely determined by the activity and number of its ammonia-producing bacteria, it becomes a point of much interest to find out what is the special microbe or class of microbes that are most beneficial to the particular crop we wish to grow. It is recognised that after about twenty-five years of continuous growth of cucumbers or tomatoes in a glasshouse, even although the surface soil may be renewed from time to time, these crops become a failure. They either refuse to grow, or they get attacked by injurious insects or fungoid growths.

The only known remedy appears to be either a rotation of crops or the incorporation into the soil of some antiseptic which will help the bacteria we wish to encourage, and destroy or render harmless those microbes which are detrimental to the crop grown.

It has been found at Rothamsted that partial sterilisation of the soil by heating to 100 degrees for two hours, or treatment with antiseptics kills off certain organisms, but leaves unhurt some spores of the ammonia-producing bacteria, which afterwards can develop to a much greater extent, because they are freed from the normal checks.

This subject is now receiving most careful investigation at the Rothamsted Experimental Station, both in the laboratory and in the field.

J. J. Willis.

Harpenden.

STOPPING PERPETUAL CARNATIONS.

Space will not permit me to deal with this subject beyond the first stop given to the young plants.

The two difficulties which confront the average grower, who may have had more experience in the several other branches of this wide field of horticulture than in actually growing perpetual carnations, are, the correct conditions in which to have the young plants for stopping, and where to stop them.

It is a matter of the most vital importance that the young plants should be in a vigorous, healthy condition when stopped, and this state can only be promoted and maintained by a free root action. If the young plants receive a check for want of potting, the growth becomes too woody and hard, so that instead of making some four to six strong breaks, only two or three are produced at the top of the young plant. These are fed through a hard stem, which naturally means an impeded or reduced food supply.

Again, if the young plants have been shaded, or grown in a poor light, the growth will be too soft and sappy, which, in turn, will not produce the full crop of breaks, whilst plants which have received a reasonable amount of care and attention, being grown in an airy position, with full sunlight, and potted as required, will have a matured growth, which will break at every eye, thus laying the foundation to a good plant.

We, here in England, have certain hereditary rules, which we are tempted to apply by force of habit to all classes of plants. Above all things, the Britisher loves a compact, bushy plant, with breaks close to the surface of the soil, and while I agree that such is, as a rule, a token of good craftsmanship, yet, in the interest of the perpetual carnation, I maintain an exception should be made in its case.

The fact is obvious to all that the natural breaks, or side growths, produced in the middle of a branch or growth, are much stronger and quicker growing than unnatural ones produced at the base of the growth. Our American friends, who, all the world will admit, are the greatest exponents of the cultivation of the "divine flower," stop all the varieties which can be so treated when the young plant commences to elongate for flower. Naturally, there are two or three inches of stem at the base of the plant, but this they do not mind, so long as they get the strong natural breaks which produce the finest flowers.

What I mean is this. Take a young plant established in a four-inch pot. If it was stopped about two inches above the surface of the soil that would be termed hard stopping. The plant would be compelled to produce unnatural breaks. To stop the plant, say, four inches from the soil is medium stopping, but to allow it to elongate for flower before stopping the growth is long stopping, and this, if cultivating, as the market growers do, purely and solely for quality of flower, and with no thought as to the shape and appearance of the plant, is the best method.

However, I recommend the ordinary grower, who must consider the appearance of his plants to a degree, to treat the groups of varieties as follows: Such long, loose-habited varieties as White Perfection, Winona, Pink Delight, etc., should be stopped hard in the first place, otherwise the plants become spindly and quite unruly, whereas Enchantress, Afterglow, Beacon, May Day, Winsor, etc., enjoy medium stopping. Such varieties, however, as Britannia, Black Chief, Mrs. Burnett, Rose Dore, Rival, etc., which naturally make large plants, must not be stopped at all late for winter bloom. These should be treated by long stopping. It is also well to note that this last group of varieties thrive best if potted into their flowering pots early, say, in May or June, so as to be well-established before the autumn. I think that nearly all growers are agreed that a seven-inch pot is sufficiently large for the last-named group of varieties, and that they produce more and better flowers if so treated.

Regarding the actual stopping (or topping) itself. There is only one correct way of doing it, and that is to break the end out with a sideward bend. This is best done in the early morning, when the growth is stiff and brittle. Let me not be misunderstood. I do not mean just to break or pull out the point of the growth, but to remove the entire top of the plant with a set of developed leaves intact, so that the remaining eyes are in an equal state of maturity, and all break evenly, and thus we commence with an evenly-balanced plant.

Some growers advocate using a knife for removing the tops, but personally I have always found the growths snap off readily, yet, sooner than pinch them off with the thumb and finger, I should most certainly use a knife.

Montagu C. Allwood.

Rose La France.—There are few varieties that give a better return for a substantial top-dressing of fibrous loam and rotten manure than this. My plan is to carefully remove old surface soil at this season (after removing the winter mulch) down to the roots, and then put on the mixture referred to above. I believe it better to prune lightly than severely, as better results follow. I have never been able to find out what the origin of this rose was, and should be glad if any reader of the Gardeners' Magazine could enlighten me.—Geo. Garner.

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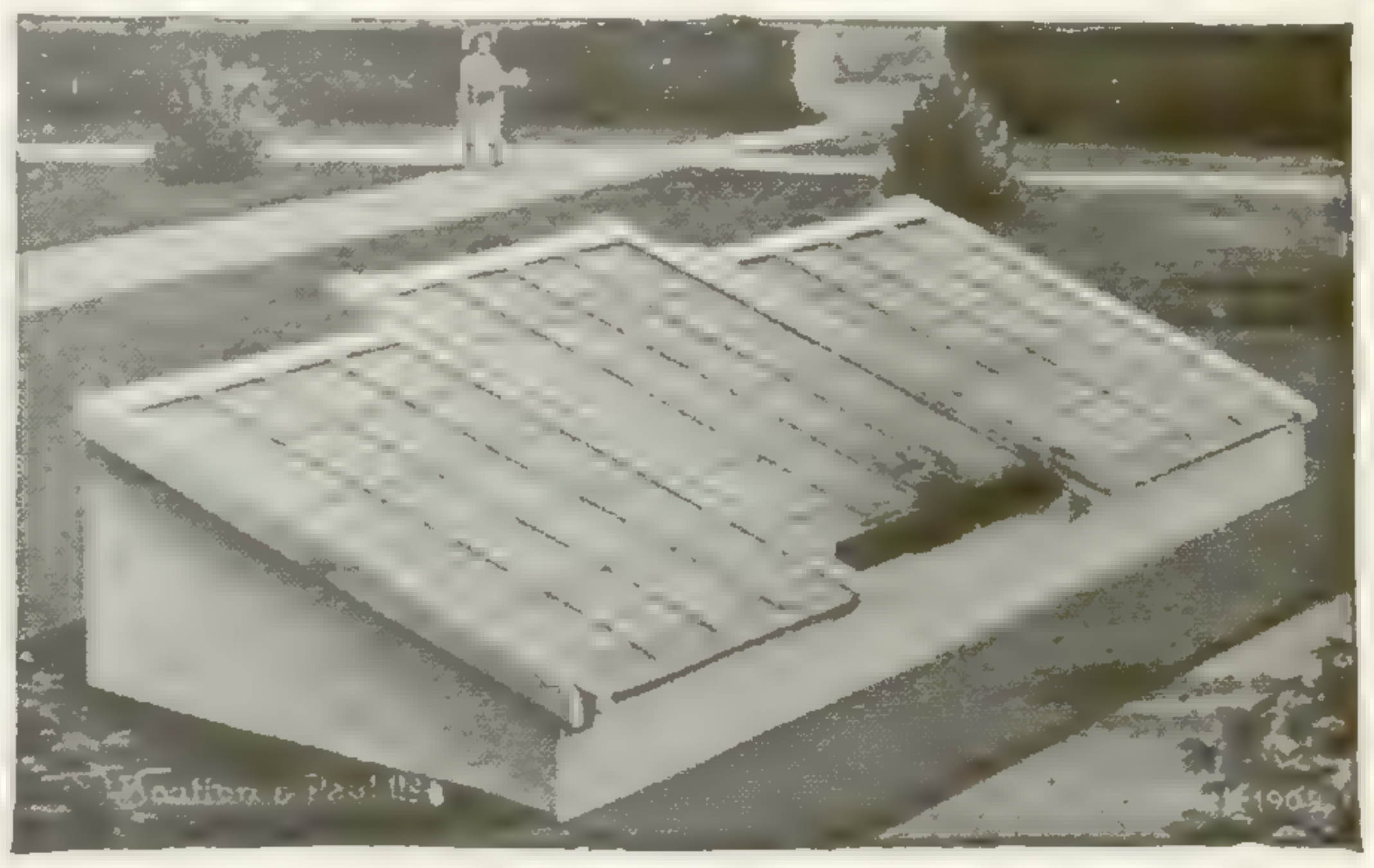

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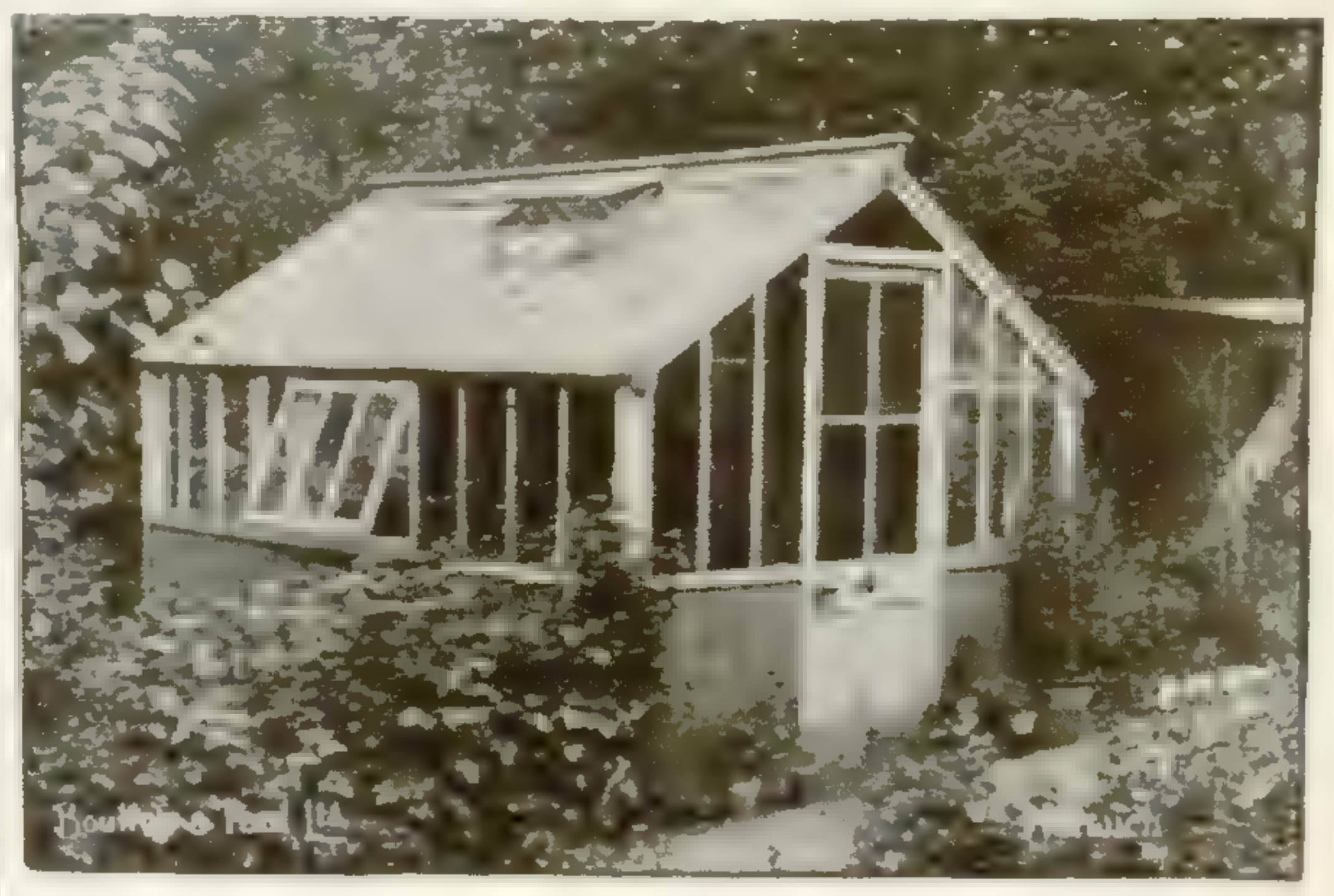

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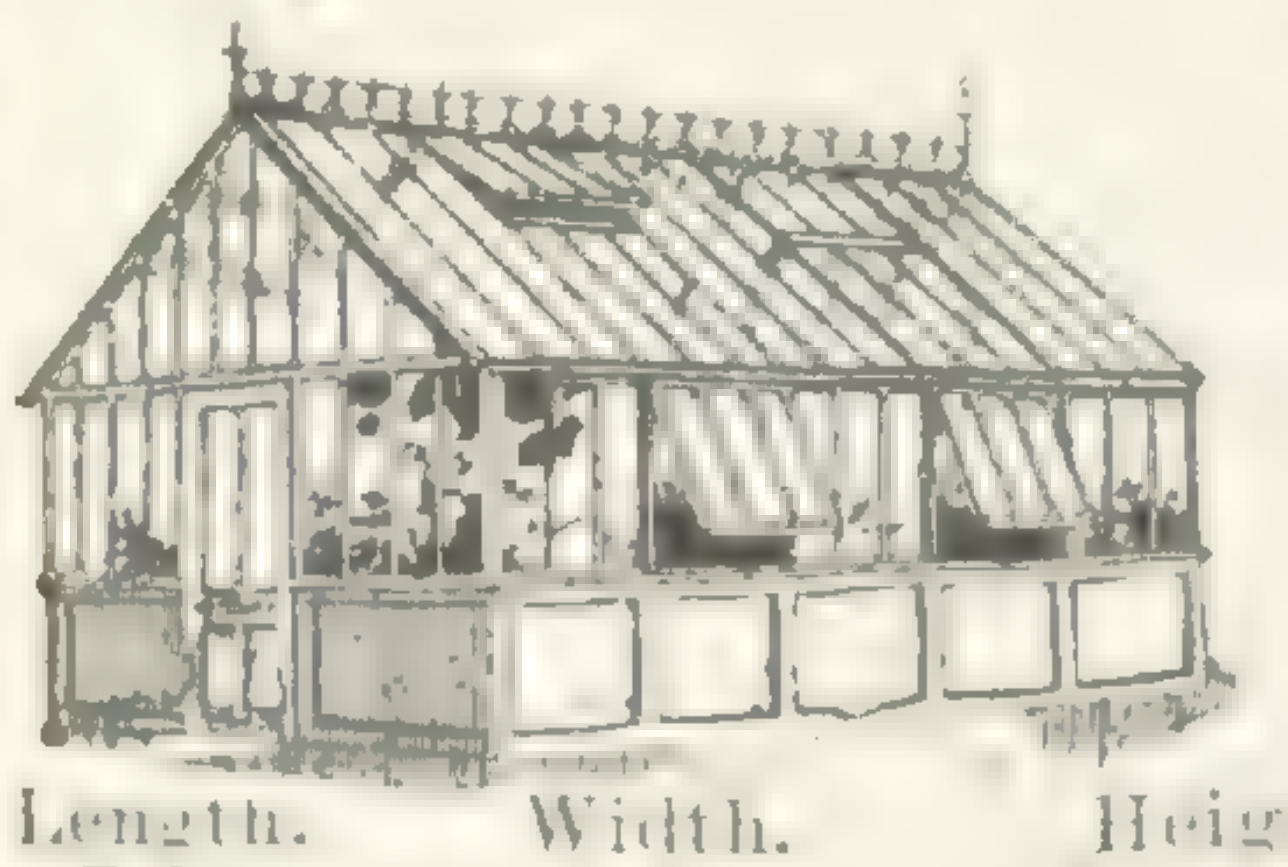

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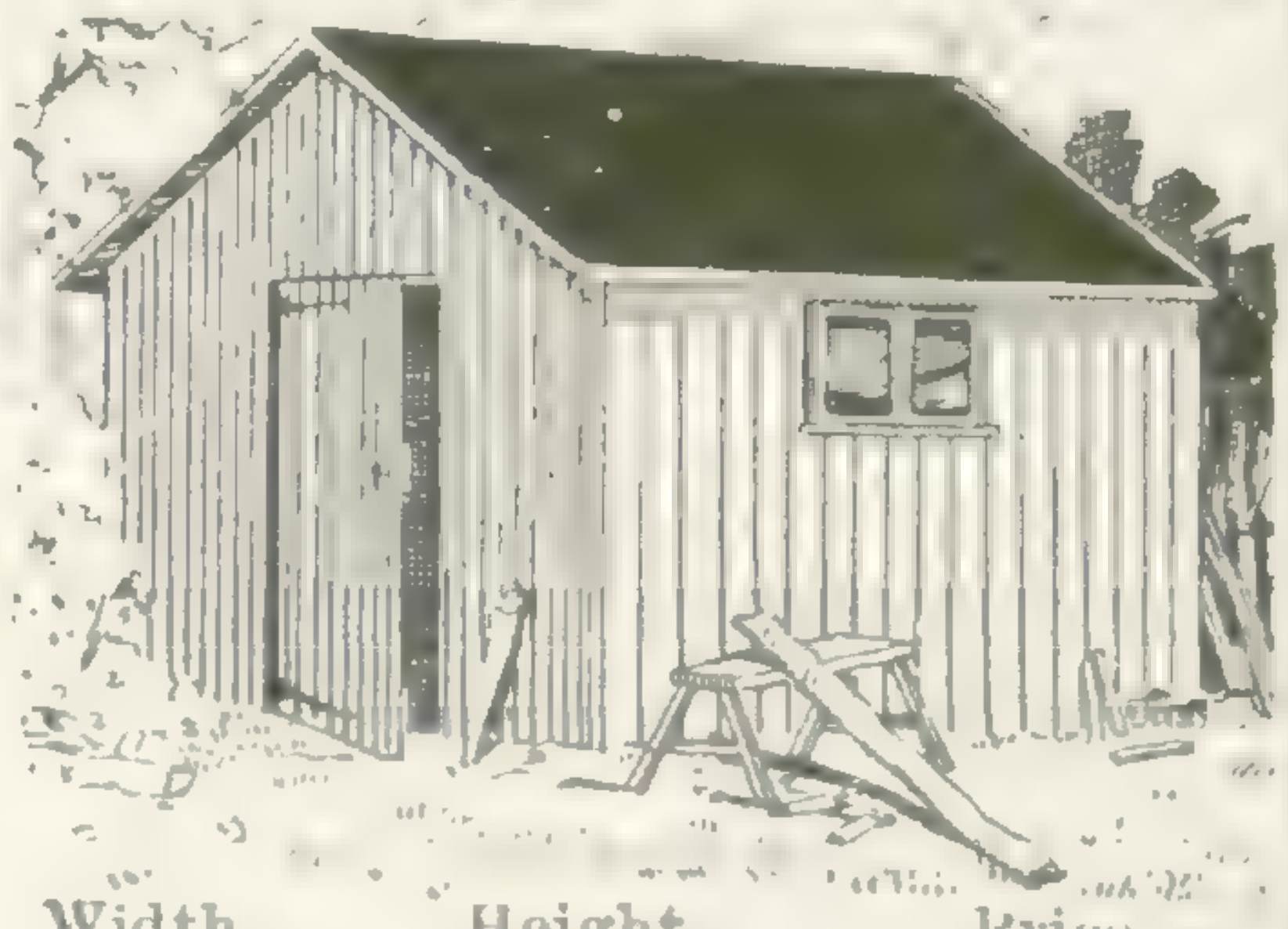

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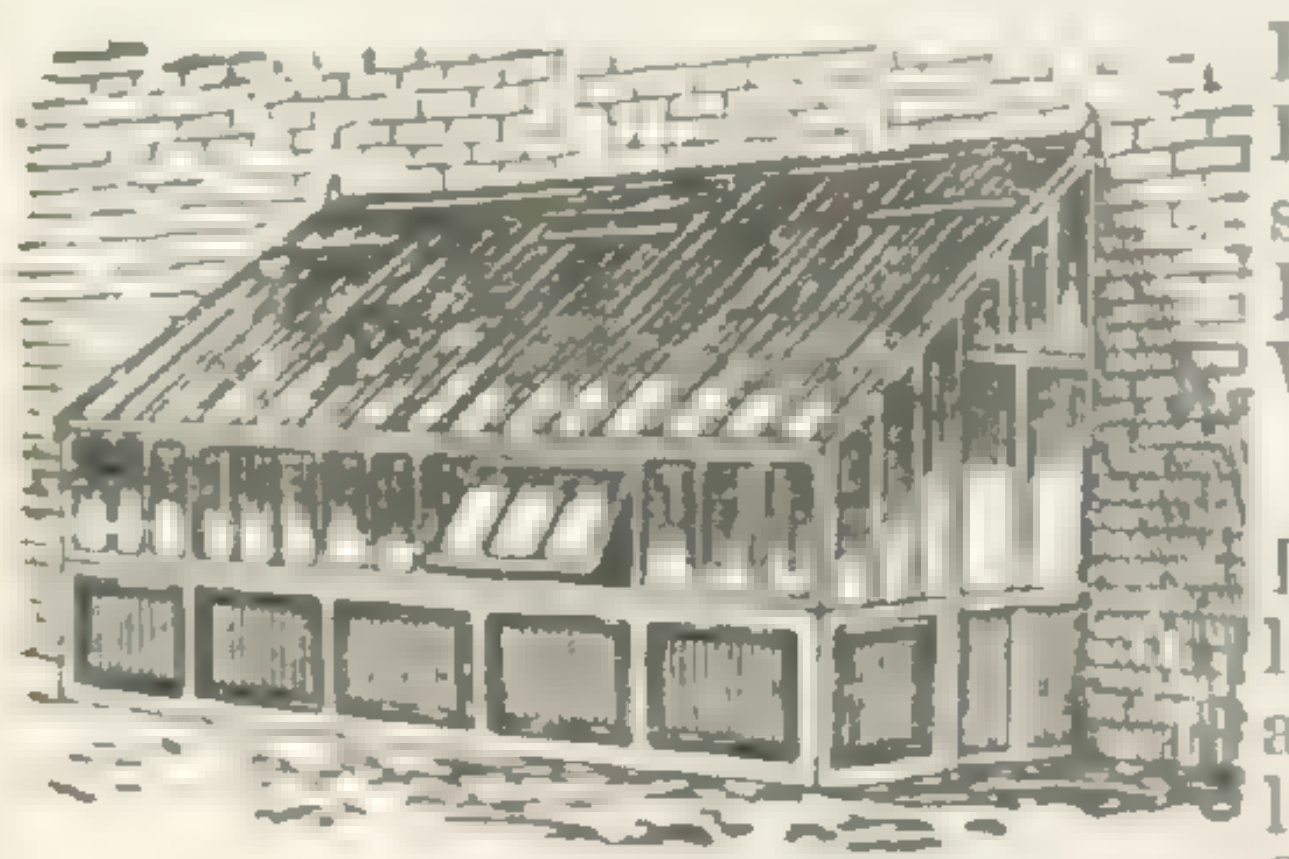

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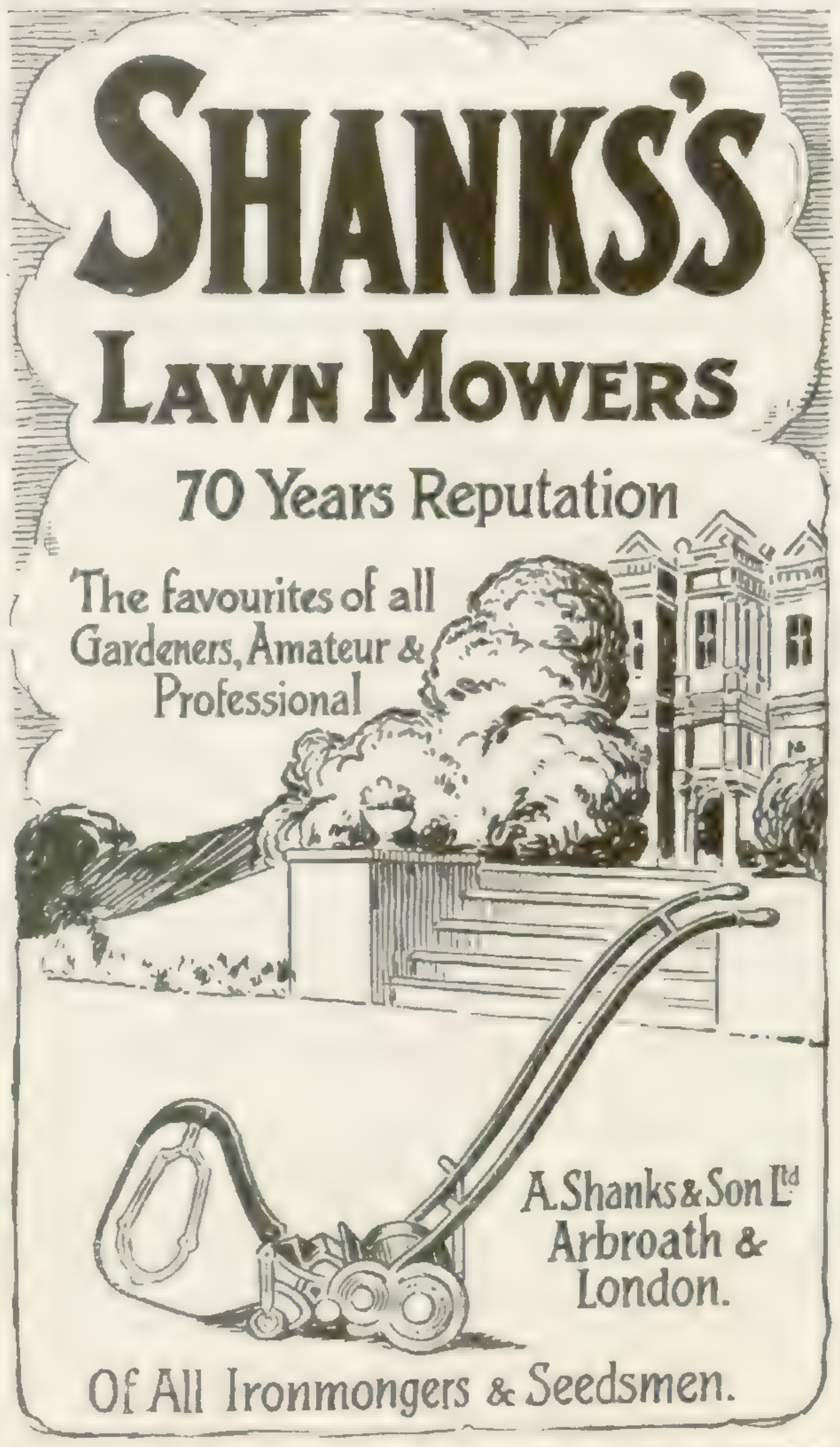
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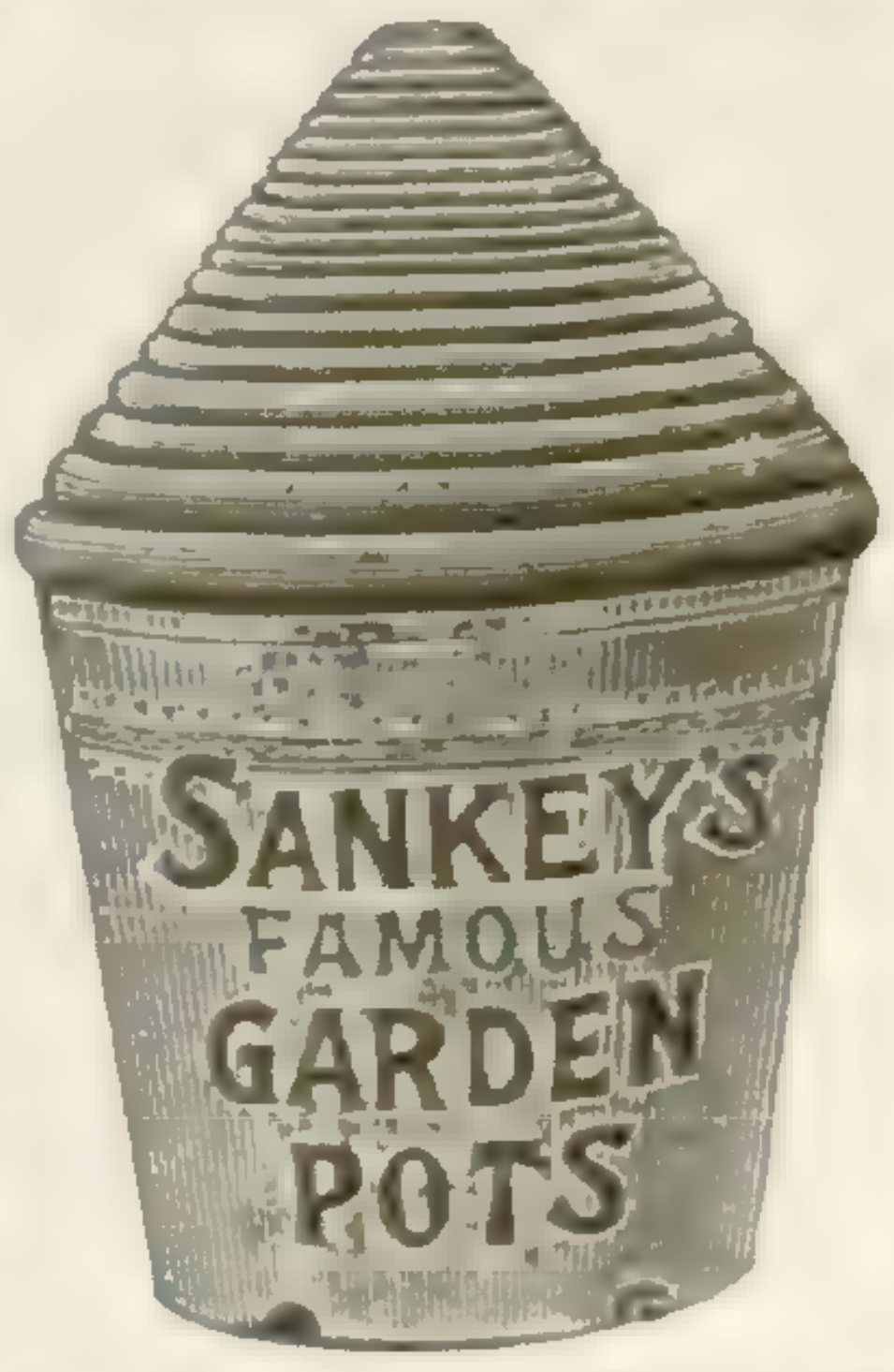

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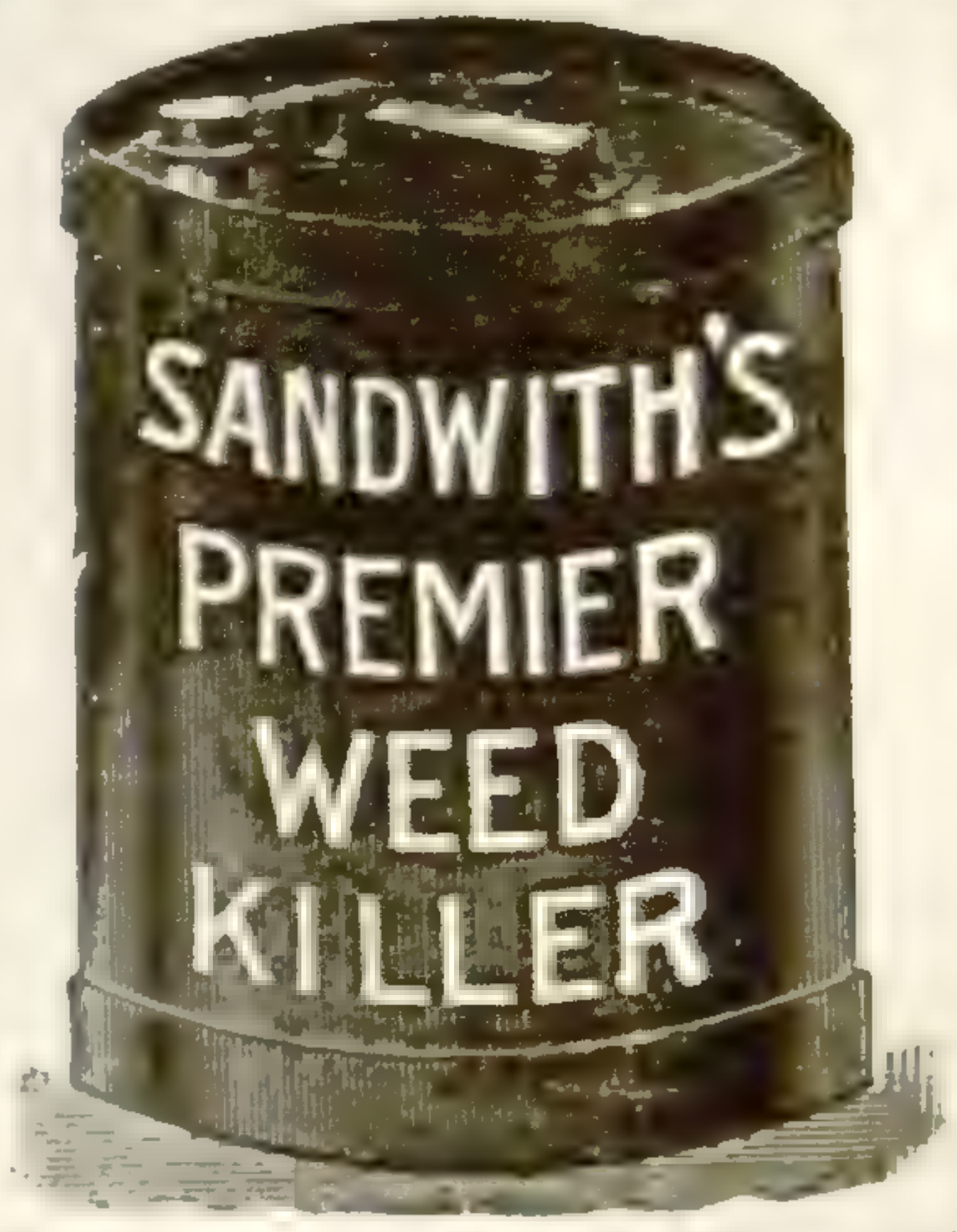

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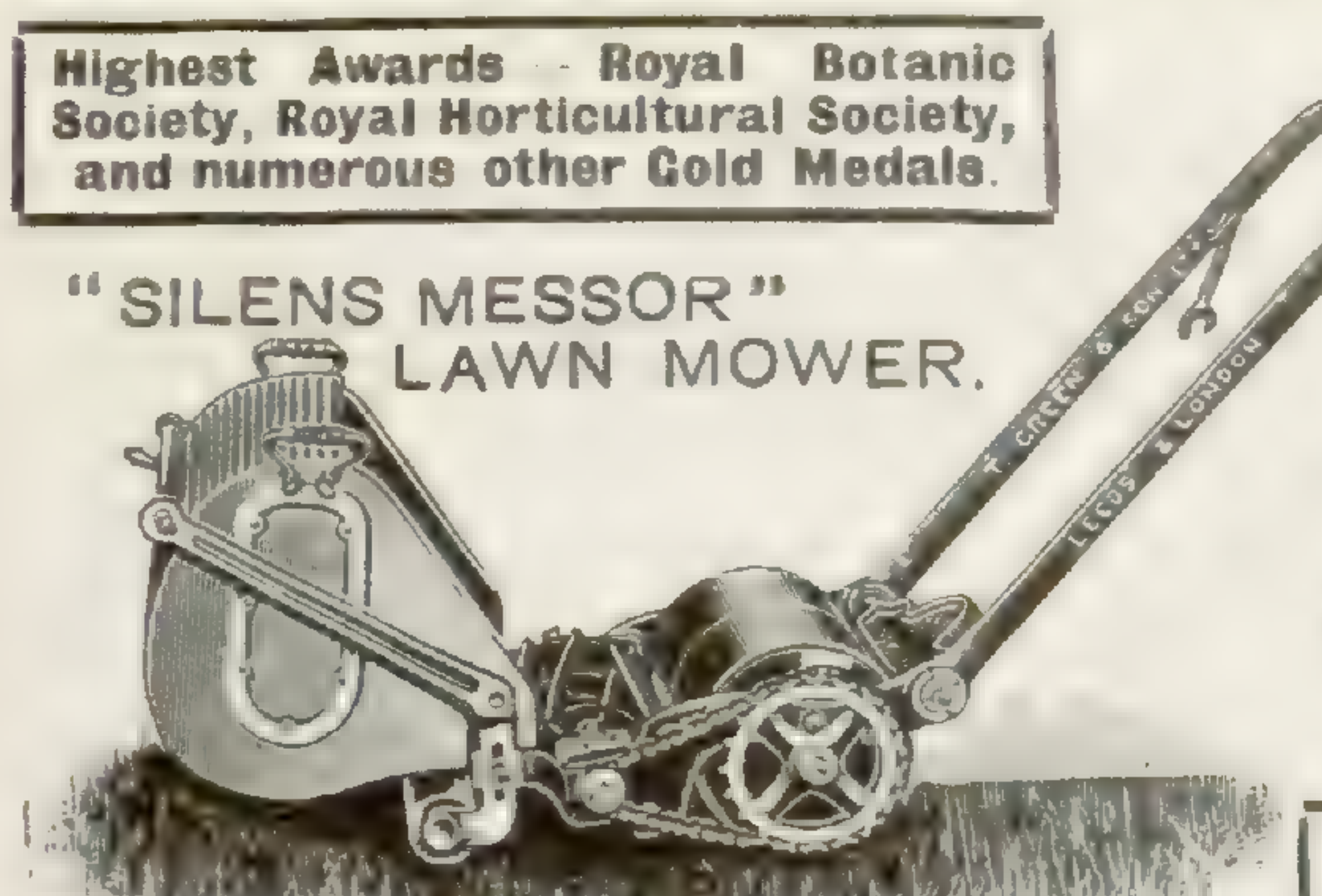

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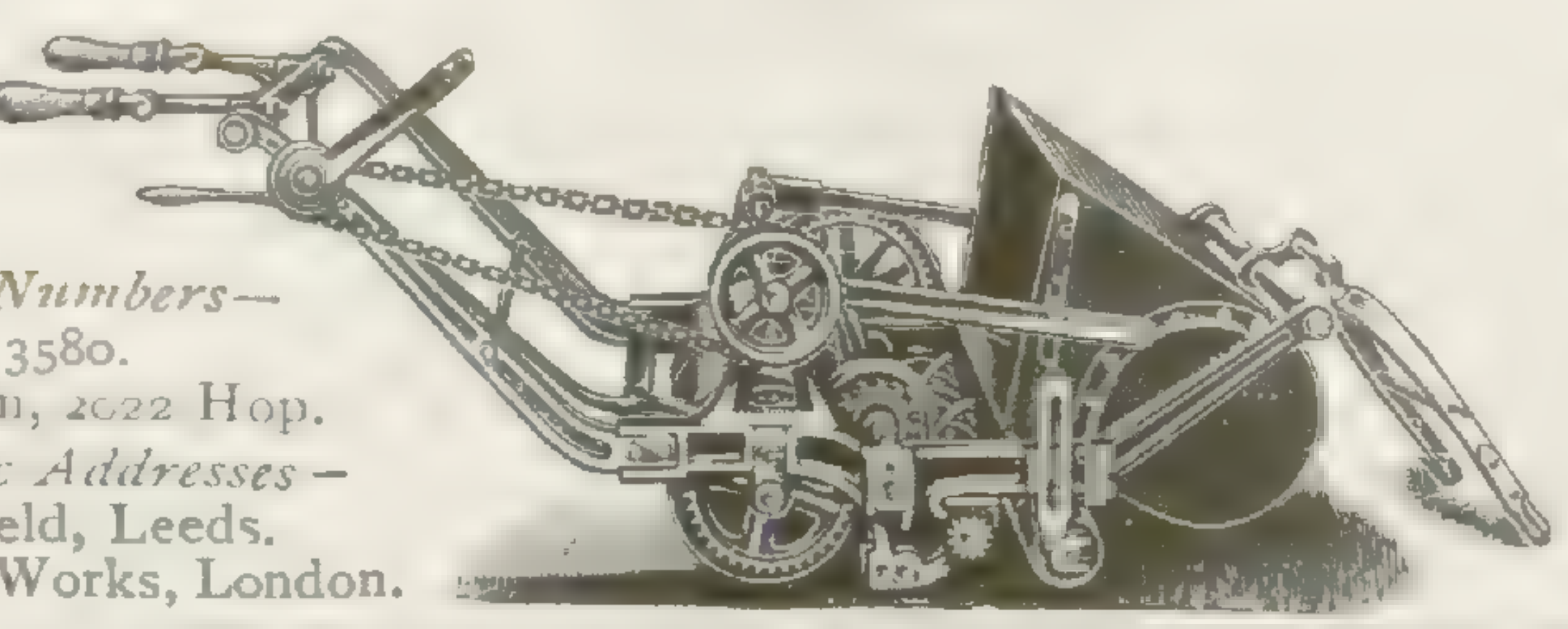

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THE HART'S-TONGUE FERN.

The Hart's-tongue Fern or Scolopendrium vulgare, is very abundant in many parts of the country, especially in the western counties, where I have met with it in shady Devonian lanes with fronds a yard long, while in the roadside hedges, in company with the Soft Shield Fern (Polystichum angulare), its strongly contrasted translucent green fronds peep out by the thousand on a somewhat smaller scale.

The Hart's-tongue cannot be confounded with any other British fern, since, with the exception of the small and very different looking Adder's-tongue (Ophioglossum vulgatum), it is the only one with quite undivided strap-like fronds. These consist of a stalk carrying a frond usually about two to three inches wide, commencing with two rounded lobes, so as to be heart-shaped at the base, whence it continues as a strap of even width until near the tip, when it gradually narrows to a blunt point. Its colour is dark green, its surface smooth and somewhat shiny, its texture fairly leathery, and its edges quite even.

At the back of the fronds the peculiar fructification of the species is very manifest in the shape of long sausage-shaped spore heaps, an inch or more in length, distributed herring-bone fashion on both sides of the midrib. On close examination these heaps are found to be twin ones, each consisting of two dense rows of spore capsules arranged on forked veins, and in their immature state with a thin transparent skin springing from the outer side of each row and turning inwards as a sort of cover to the spore cases. It is this twinship which distinguishes the Scolopendrium genus from the Aspleniums or Spleenworts, since if we examine the spore heaps of the extremely similar Asplenium nidus, or Bird's Nest Fern, apparently a merely giant form of Hart's-tongue, we see thinner lines arranged in the same manner, but all single and with a cover always on the same side and not on opposite ones.

In districts where this fern is abundant examples are frequently found in which the frond divides at the end into several tips, forming a sort of tassel (Scol. v. lobatum), but this faculty gives a faint, very faint, idea of the sportiveness of the Hart's-tongue. It is, indeed, quite safe to say that no other fern in the world has varied spontaneously into so many diverse forms as this one, even when we consider how some of the other species native to Great Britain have "sported" under wild conditions. Every one of the particular characters we have mentioned has varied not only in one but in many ways. The incipient forking or tasselling of the tip has been exaggerated into broad branching fronds, each branch bearing heavy much-divided tassels, fan-shaped, bunched, lax, rigid, finely divided, roundly lobed, wide, narrow, and, in short, in all conceivable lines of variation culminating in one form which resembles a small, compact ball of moss (S. v. densum Kelway). The normally wide frond has been contracted, and the narrowed portion frilled and fringed, which involves a cutting into segments of the normal smooth edge, or it has been widened and deeply frilled as in the beautiful section of the crispums, of which there are at least a dozen distinct ones, some of them beautifully fringed as well. The heart-shaped basal lobes have been lengthened into pointed barbs, and these again have been expanded into tassels, so that the best forms of this, the sagittate section, resemble a tasselled trident, the lobes being expanded into fronds. The smooth surface has been ridged and roughened and grooved in many ways, both on the upper and under sides. The tip has been abruptly terminated, the midrib projecting as a thorn from a sort of pocket in front or behind according to the variety concerned. Then there are numerous dwarfs spirally twisted and varied in other ways.

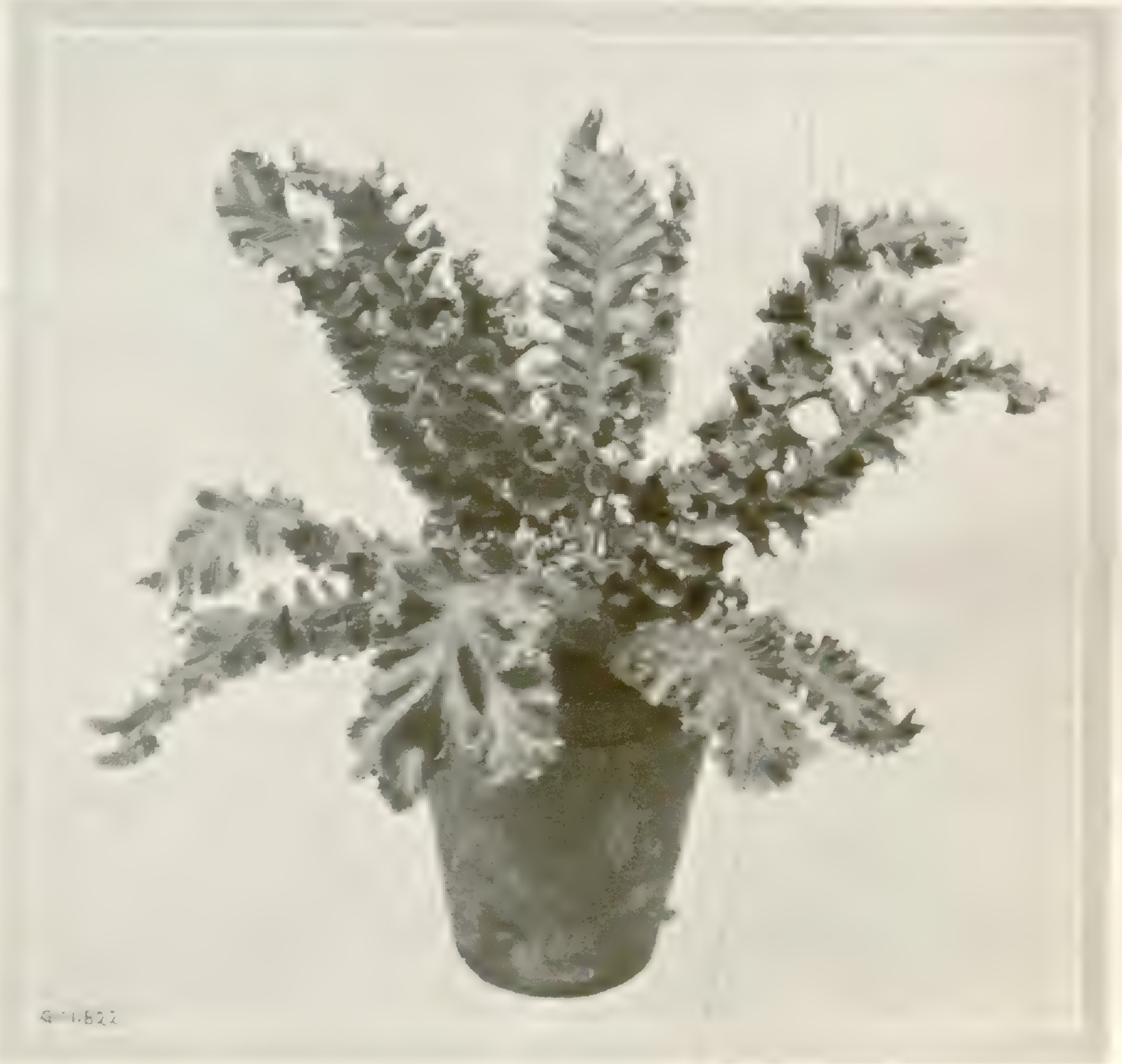
Now, of all these varieties, the types have occurred as spontaneous "sports" among the wild ones. The fern hunter, in his quest examines all he can find, and now and again, perhaps, hidden in a cosy nook in a hedgebank, and only discovered by opening out the enveloping bushes with his stick, or it may be as a diminutive plant on an old wall, a prize of this kind is discovered, usually all alone, and being discovered it is carefully tended, its spores are sown, and in all probability not only is its own particular form multiplied, but variants and improvements, i.e., extensions of type, are obtained. By working on these lines, too, crossing has been found practicable, and many combinations of type have thus been acquired to increase the number, great as it is, which have originated as perfectly wild "sports."

As the Hart's-tongue is quite evergreen, and is not particularly dainty as to soil, doing well in good garden mould, but liking shade and moisture, it is clear that these varieties are well worth growing, and that a collection of Hart's-tongues alone would form a hobby. Beyond a doubt the beautiful frilled or crispum forms are the handsomest. In these the strap-like frond expands on each side of the midrib to such an extent that a regular series of deep folds forms a double frill, which in some forms bears fringed edges as well and even tassels at the tips in addition, with very handsome effect.

Rockwork suits the species well if the compost be fairly free. In this respect, however, the Hart's-tongue is peculiar; it is, indeed, the only British fern which is equally at home under the stunted conditions of a chink in an old stone wall or in a wood in deep leaf-mould on the ground. It is, however, only under the latter conditions that it can develop its full beauty as large robust varieties, but the dwarf forms alluded to would be more at home in chinks of rock work or even in a well-lighted Wardian case.

Having said so much regarding this remarkable fern, remarkable, that is, as regards its varieties, one cannot too strongly counsel readers who only know and grow the common type to obtain a few of those described, and instal them instead, or make pet pot plants of them in cool conservatories, for which they are admirably adapted.

Chas. T. Druery, V.M.H., F.L.S.



SCOLOPENDRIUM VULGARE CRISPUM MURICATO-FIMBRIATUM.

A beautiful hart's-tongue fern recently exhibited by Messrs. H. B. May and Sons, Edmonton (A.M., R.H.S., June 8, 1909), and one that shows how vastly superior the selected varietal forms are over the type.

Peas.—The various sowings that were made in boxes, etc., will be ready for planting out in prepared trenches; plant firmly and evenly, giving each plant ample room. If the weather is dry, give a good watering in, and at the same time stake and protect from cold winds and frosts (that usually occur at this time of the year) with spruce boughs, nets, or other projecting material. To maintain a constant supply, sow weekly in quantity according to the demand.—G. E.

Forsythias.—These shrubs form very striking objects in the garden during the spring months, when they are properly grown. Well-established bushes should be pruned somewhat hard back directly the flowers have faded. A result of the cutting away of the flowering branches will be the early growth of young shoots, which will attain to a good length, be strong, and well matured by the time autumn comes. Such shoots usually bear flower buds nearly their whole length, and, consequently, flower profusely the next spring.—G. B.

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This remarkably fine odontoglossum was shown in splendid condition, and greatly admired. The flowers are about four inches across, of fine form and substance. The colouring is very rich and bright, reddish-maroon, with a border and small markings of white. The crest is golden-yellow, so that the whole flower is very effective. F.C.C., R.H.S., April 5. Mrs. Norman Cookson (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne.

ODONTOGLOSSUM CERES GOODSON'S VAR.

An interesting hybrid between O. Rolfæ and O. Rossi majus. It mostly resembles the latter parent, but has taller spikes and larger flowers, with red-brown markings on a white ground. A.M., R.H.S., April 5. H. S. Goodson, Esq. (gardener, Mr. G. Day), Fairlawn, Putney.

ODONTIODA GOODSONIÆ.
Flowers soft scarlet, edged and marked with buff. A.M., R.H.S., April 5. H. S. Goodson, Esq. (gardener, Mr. G. Day), Fairlawn, Putney.

ODONTIODA GOODSONIÆ.

A charming bigeneric hybrid, obtained by crossing Odontoglossum ardentissimum with Cochlioda Noetzliana. The flowers are produced on a small branching spike; they are of medium size, soft scarlet, edged and veined with buff. There were fifteen blooms on the spike shown. A.M., R.H.S. H. S. Goodson, Esq., Fairlawn, Putney.

PHALÆNOPSIS CASTA SUPERBISSIMA.

A fine natural hybrid with bold light pink flowers shaded with mauve purple; lip white and bronzy purple. The parentage is presumed to be P. Schilleriana and P. amabilis, and so the first of these the plant bears the most resemblance. A.M., R.H.S., April 5. Messrs. Sander and Sons, St. Albans.

LONICERA PILEATA.

A very interesting Chinese shrub, apparently of lowly growth. It is perfectly hardy and evergreen. It does not climb as do so many of the honeysuckles, but has a spreading habit, and carries its bright shining green leaves and two regular rows on its branches. The flowers are by no means conspicuous, being small, greenish-yellow, axillary, and pendant, so that the leaves hide them. They are pleasantly fragrant. A.M., R.H.S., April 5. Messrs. Paul and Son, Cheshunt.

CINERARIA FELTHAM BEAUTY.

This particularly elegant cineraria is of dwarf habit, with stellate and yet shapely blooms, borne with the greatest freedom. It is now represented by six distinct shades of colour; i.e., white, pink, light blue, deep blue, carmine, and maroon-purple. A.M., R.H.S., April 5, for the strain. Messrs. Jas. Veitch and Sons, Lim., Chelsea.

CŒLOGYNE MOOREANA.

A beautiful species found by Micholitz in Annam, and introduced by Messrs. Sander and Sons, St. Albans. It flowered in December, 1906, at St. Albans, and in the Glasnevin Botanic Gardens, and was named after the superintendent of the latter establishment, Mr. F. W. Moore. It is closely allied to the beautiful and popular C. cristata, and thrives under conditions that prove successful for the latter. The flowers are large for the genus, pure white, with the interior of the lip almost wholly yellow. Eight is the largest number of flowers yet seen on a spike. "Bot. Mag.," t. 8,297.

LYCASTE SKINNERI HELLEMME'S VAR.

A splendid variety, and of such wonderful colour as to suggest the possibility of it being a natural hybrid. It is of fine size and substance, rich rosy carmine sepals, and brighter and purplish petals, and a lip that is heavily marked with red-purple on a whitish ground. An illustration of this fine lycaste was given in our issue of May 9, page 289. F.C.C., R.H.S., April 5. Lieut.-Colonel G. L. Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury.

IRIS MINUTA.

A dainty little Japanese iris, with creeping root stock and fibrous roots that develop tiny tubers. The flowerless growths carry leaves eighteen inches long and very narrow. The flowering shoots are only about four or five inches high, and each bears one yellow flower, the falls having deep purple marks. The species flowers in May, and is only known in a cultivated state. "Bot. Mag.," t. 8,293.

AURICULA PHYLLIS DOUGLAS.

One of the finest auriculas ever raised. It has flowers of the largest size and fine form, rich velvety maroon-purple, white, well-defined paste, and bright yellow tube. A.M., R.H.S., April 5. Mr. Jas. Douglas, Great Bookham.

DIPELTA VENTRICOSA.

An interesting hardy shrub from Western China, where it was found by Mr. E. H. Wilson. The flowers bear a resemblance to those of the weigelia, to which genus it is closely allied. The tubular flowers are deep rose-red, the spreading lobes of the mouth being whitish, and the throat orange. A promising addition to flowering shrubs. "Bot. Mag.," t. 8,294.

SYRINGA BRETSCHNEIDERI.

A beautiful lilac that produces splendid panicles of rosy-lilac flowers early in June, after most of the lilacs have passed out of bloom. It is perfectly hardy, and should have a great future among hardy flowering shrubs. It comes from Northern China, and was introduced about 1880. It has been described as a variety of S. Emodi, and also as a variety of S. Josikæa, but is now regarded as a quite distinct species. "Bot. Mag.," t. 8,292.

OURISIA MACROPHYLLA.

A herbaceous perennial from New Zealand. It grows about a foot high, and carries its white flowers in whorls, primula fashion. Probably hardy in the warmer parts of the country. "Bot. Mag.," t. 8,295.

RHODODENDRON KEISKEI.

A densely-branched species from Japan, probably quite hardy, but at present too r to be planted in the open. It has medium-sized flowers in clusters of from three to five, and as these are yellow, the species is of great interest and prospective garden value. "Bot. Mag.," t. 8,300.

CAMPANULA BEAUVERDIANA.

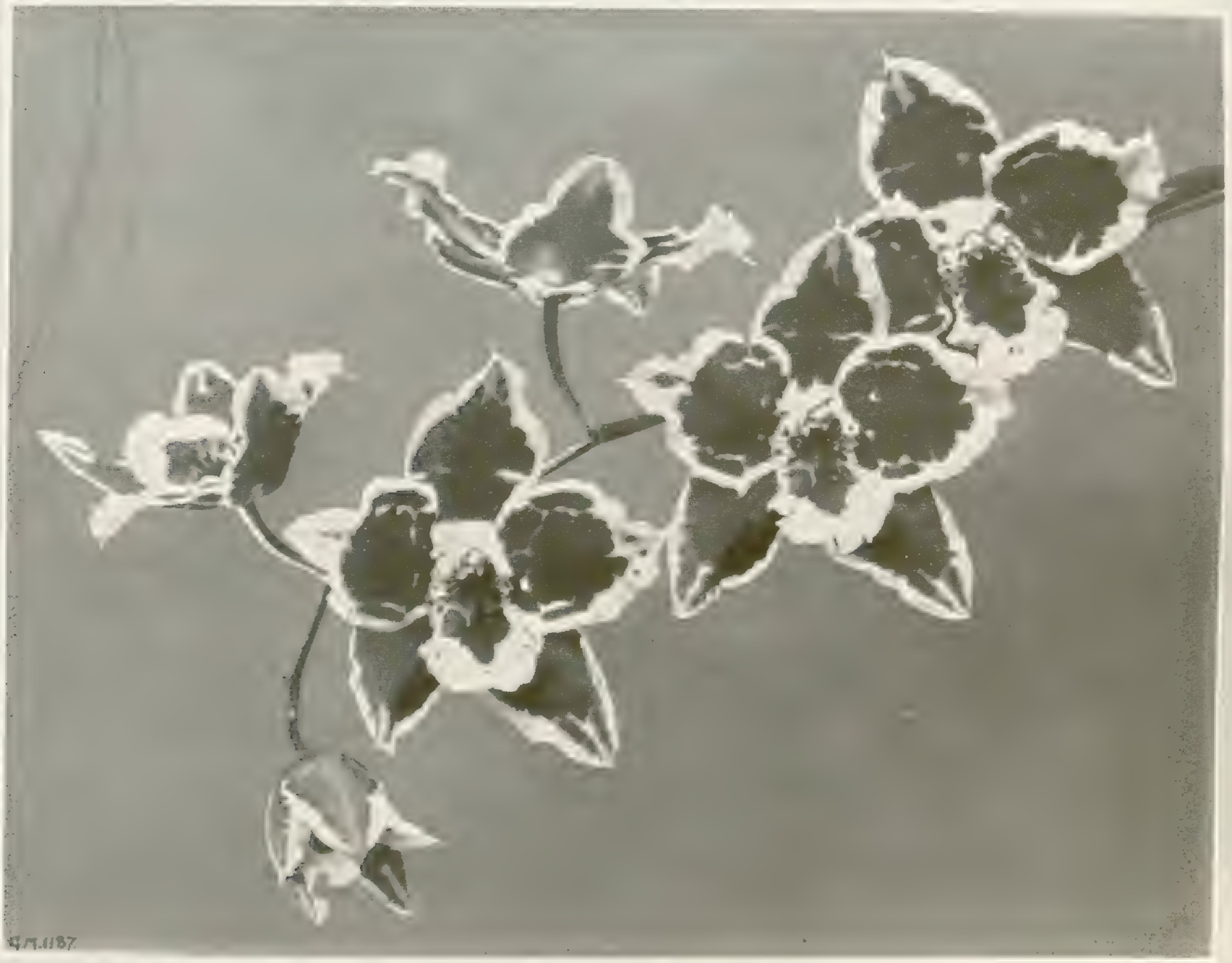
A perennial, hardy species from Northern Persia, with slender erect stems, rising about two feet high. It appears not to be very free-flowering. The bells are about an inch and a quarter across, light blue, and carried on long pedicels. The flowering period is May and June. "Bot. Mag.," t. 8,299.

ERIA RHODOPTERA.

A curious orchid with erect many-flowered racemes of straw-coloured flowers, each having small crimson petals and side lobes to the lip. It is from the Philippine Islands. "Bot. Mag.," t. 8,296.

AGONIS MARGINATA.

This beautiful little shrub from Western Australia is closely allied to the leptospermums, but, unfortunately, it is only hardy in the most favoured parts of the country. It succeeds admirably at Tresco, in the Scilly Isles, where it makes a fair-sized shrub. The leaves are about an inch long, obovate, and greyish green. The tiny, sessile flowers are red-purple, margined with white, and are carried in round clusters in the axils of the leaves, and, as these clusters are very freely produced, the shrub presents a very pretty appearance when in bloom. "Bot. Mag.," t. 8,301.



ODONTOGLOSSUM ARDENTISSIMUM NORMAN COOKSON.

Flowers rich and bright reddish maroon, margined with white. F.C.C., R.H.S., April 5. Mrs. Norman Cookson (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne.

POPULUS NIGRA BETULIFOLIA.

The downy Black Poplar is of uncertain origin, but it is a well-known park tree with a shapely head. It grows up to 85ft. high, has a rugged stem, pubescent twigs, broad rhomboid leaves, and two-inch-long catkins of male flowers, in which the crimson anthers are conspicuous. "Bot. Mag.," t. 8,298.

SOME CONVOLVULUSES.

The name colvolvulus is used amongst gardeners rather to denote flowers of a certain class than as a botanical name, for plants belonging to at least three different genera are included in the term. All are beautiful, and none more so than the Small Bindweed (Convolvulus arvensis), of our cornfields, a thick patch of which emits such a delicious perfume, and Convolvulus sepium (Calystegia sepium) of our hedges, which produces the largest, or nearly the largest, blossom of any wild flower in this country. The name calystegia in Greek denotes a beautiful covering, and well the plant deserves it, and from this point of view it might be applied to the whole class, for there can be few flowers of more perfect shape. Botanically, the main distinction between the convolvulus, and the calystegia consists in the two large green bracts which almost enclose the unopened flowers of the latter, but are totally absent from the former.

The great white bindweed is a beautiful adornment to our hedges, but we cannot admit it into the garden for reasons known to everyone. The plant we will first consider is the great single pink flower sometimes called Calystegia rosea, and sometimes C. sepium rosea. There is scarcely any limit to its growth, either above or below ground, though it is very much easier to get rid of than the wild form. I have grown it in the garden for many years, and should be sorry to be without it, the clusters of its large flowers, on an arch, fence, arbour, or what not, being well worth the little trouble of keeping it in bounds. It should not be planted within reach of cultivated ground, but in odd corners or places where it is bounded by walls or gravel paths, so that it cannot spread unduly. Then it is a valuable garden climber, and when it can be said that it is quite hardy, never dies out or needs replanting, flowers from June to September, and is beautiful withal, that surely should be enough to atone for the rampancy of root which has made it so many enemies.

A plant which is generally included in nurserymen's catalogues, while the last-named is omitted as a pestilent weed, is Calystegia pubescens (syn. hederacea) flore pleno, the double Chinese bindweed. It is useful for covering trellis or rustic work of any sort, growing to the height of six feet or so, and producing a profusion of double pink flowers from June to September, while in general growth and appearance it bears some resemblance to the single pink one above referred to, except that to lovers of the form of the single flower these double flowers are less beautiful. It spreads at the root, but is not likely to become a nuisance, unless amid very favourable surroundings, as it requires a warm soil and situation to do really well, being rather weedy in appearance in a cold wet soil. Well grown it is not without beauty, which is enhanced, however, when it is a little distance from the observer.

Leaving these perennial forms, there are two annual ones which most have grown at some time or other. One is the Morning Glory, known as Convolvulus major, or Ipomœa purpurea. It will grow in any ordinary garden soil if not too dry, and in any aspect, but it pays for pretty good conditions, as it is never rampant, rarely exceeding six feet in height. It is best grown where the sun does not reach it much before midday, for if it gets the early morning sun its flowers may be beginning to fade by breakfast time. It is a tender plant, coming from Tropical America, and, though in light soils and warm situations it may be sown in the open late in April or early in May, it is, as a rule, best sown in sixties, a half-dozen in a pot, and turned out whole, when all danger of frost is over. It may be used for a variety of purposes—running over perennials like delphiniums, tall thalictrums, and other subjects which flower early in the summer, small-leaved shrubs, or tall sticks, in the flower borders, or elsewhere. There is an ivy-leaved form of it known as C. hederacea.

The last to be mentioned here—though there are many more—is Convolvulus tricolor, more often known as C. minor, a showy annual for beds and borders, growing a foot or more in height. It needs pretty good cultivation, and full sunshine, if it is to do really well, when it lasts in flower for a long time, the colours being somewhat similar to those of C. major. It is, however, one of those annuals which are sometimes ruined for the season by a July thunderstorm, and unless its growth is pretty sturdy is apt to go down in an ordinary rain when in flower. Still, it makes a very gorgeous patch of colour.

Alger Petts.

COLOUR IN PEACHES.

A highly-coloured peach is certainly more attractive than one with a dull or pale-coloured skin, although some varieties have naturally rather pale-coloured skins, and yet their flesh is delicious and melting.

I am not, however, specially referring to the latter in this note, but to those varieties that have a very rich colour naturally, when well grown, such, for instance, as Royal George. Now, I am well aware that some inexperienced cultivators think that they need only expose the fruits to the full light and sunshine a few weeks prior to their ripening. I have seen this done with disastrous results. The fruits, being nearly hidden under a mass of leaves were suddenly exposed to the full light and sunshine, and in a few days the exposed sides were scalded and the fruits spoiled. This does not always happen in such circumstances, but it is the wrong way to secure richly-coloured peaches.

I believe in the full exposure of all fruits to the light and sunshine, if possible, from the moment they are "set," and I do not hesitate to remove odd leaves with that object in view. The young fruits, when about the size of ordinary marbles, should be quite brown in colour; and, owing to the long exposure, I find that such specimens are generally well coloured on all sides by the time they are ripe enough to gather. Owing to the early and prolonged exposure there is not the slightest risk of the skins being scalded, and the richness of the colouring when the peaches are ripe is vastly superior to that resulting from late and sudden exposure.

Of course, the way in which the trees are trained has a bearing upon the facility with which full exposure can be accomplished; but, as a rule, there is not much difficulty in the matter, and if the exposure of the fruits be done thus early, the work can be more easily carried out than later in the season.

George Garner.

SOME GOOD OLD ROSES.

Eulogies of roses of recent introduction are numerous, but there are many grand old varieties that have stood the test and competition of years, and are so well known that little fresh can be recorded of them.

It occurs to me, however, that a few words upon some varieties that have been in cultivation for forty years and upwards may be of interest, and they deserve a little notice after so many years, as well as the unknown and too often disappointing newcomers.

To take the class or section of hybrid perpetuals first, can we find better crimson roses than Alfred Colomb, Camille Bernardin, Comte Raimbaud, Doctor Andry, Duke of Edinburgh, General Jacqueminot, Duke of Wellington, Madame Victor Verdier, Maurice Bernardin, Senateur Vaisse, Marie Baumann, and Marechal Vaillant? Really good deep crimson and maroon varieties can be had in Charles Lefebvre, Fisher Holmes, Xavier Olibo, Louis Van Houtte, and Monsieur Boncenne. Prince Camille de Rohan is one of the darkest and most reliable roses even after forty-nine years, and surely deserves attention drawn to it as much as many of the doubtful newcomers.

Then we have few more reliable roses than Dupuy Jamain, Baroness Rothschild, Beauty of Waltham, and Countess of Oxford; while if one requires size, Paul Neyron would be difficult to beat. Both General Jacqueminot and Jules Margottin have been with us for fifty-seven years. How many hundreds of varieties of the same colours, and reputed improvements upon these old friends, have flashed for a time, and are now utterly lost!

Turning to the teas and noisettes, we still cannot dispense with Safrano (1839), or its two offshoots in Madame Falcot (1858), and Madame Charles (1864). Devoniensis (1838), Niphetos (1844), and Aimée Vibert (1828), are still among the best whites in this class. Gloire de Dijon, still one of the most useful roses in the open, came out in 1853, and the unapproachable yellow in Maréchal Niel is but a decade younger. Catherine Mermet, Souvenir d'un Ami, Souvenir d'Elise Vardon, Madame Bravy, Rubens, and Rêve d'Or are all tried varieties of more than forty years' standing. The hybrid tea class is too new to have many examples, but we can claim La France (1867).

If we want hardy roses they are very naturally found among these ancients, and have stood the test of many seasons. Félicité Perpétue (1828), Souvenir de la Malmaison (1843), Amadis (1829), Madame Plantier (1835), and Homere (1859), are only a few that cross my mind. But, of course, most of them are naturally hardy, or they would not have stood so long. Fortune's Yellow, Maréchal Niel, Niphetos, Lamarque, and the two Banksians are certainly tender, but none the less indispensable in their peculiar and happy spots.

The damasks, mosses, and Chinas have very old representatives, but to name more varieties might prove tedious. What I wished was to pay a little well-deserved praise to tried favourites, and not give all the attention to newer roses.

A. P.

Roses may be grown to perfection by following the instructions given in Roses and their Cultivation, by T. W. Sanders. A selection is given with description of all the best varieties, and full details for culture outdoor and under glass. Price 2s. 6d. net, by post in box 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

CARNATION CULTURE IN AMERICA.

(Concluded from page 294.)

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Wanted—A Soil Carrier.

If there is any time in the year when the greenhouse labourer approaches mutiny, it is when the task of wheeling out and wheeling in presents itself. If, at this particular period of carnation culture, the lady who strolls through the houses in the winter, remarking on the delights of "cultivating the fragrant blossoms," comes around once more, she certainly finds herself rudely disillusioned, for it is as hard, hot, and disagreeable as working in a quarry or in the moulding room of an iron mill. The man who perfects a practical mechanical soil carrier, not only has a fortune assured, but the added blessing of every man relieved of this arduous and exhausting work.

A word as to soil: The old prescription, "Three parts of soil to one of well-rotted manure, together with a generous sprinkling of bone, chopped fine and put on the benches," is sure to be superseded by more modern methods of soil preparation. There are a number of eminently successful firms in this country that take as long as five years in the preparation of their soil for indoor culture.

The one vital principle to be observed is to have the manure and other fertilisers so thoroughly assimilated by the soil, by means of leguminous crops and clovers, that the food is immediately available to the plant.

Back to the House.

So much has been written concerning the careful lifting and quick resetting of the plants from the field, that I pass this item of culture, but wish to emphasise the necessity of the use of the Bordeaux mixture promptly on the establishment of the plants. Generously applied, and given once thereafter every three or four weeks, it not only acts as a preventive of spot, rust, and other minor diseases, but of stem-rot as well.

By beginning in August with a weekly spray of Nicoticide and continuing throughout the year, we keep down aphis and also rid our plants of thrips. Red spider is controlled by an occasional application of salt water, together with syringing under high pressure on bright days.

The antiquated proceeding of mulching heavily in late summer or autumn has given way to light top-dressings, through which the surface of the soil is always pliable and open to the free air, thus preventing any tendency towards souring.

Lime, wood ashes, sheep manure, and pulverised cattle manure, always applied sparingly, constitute the menu for our plants after they are "up and doing."

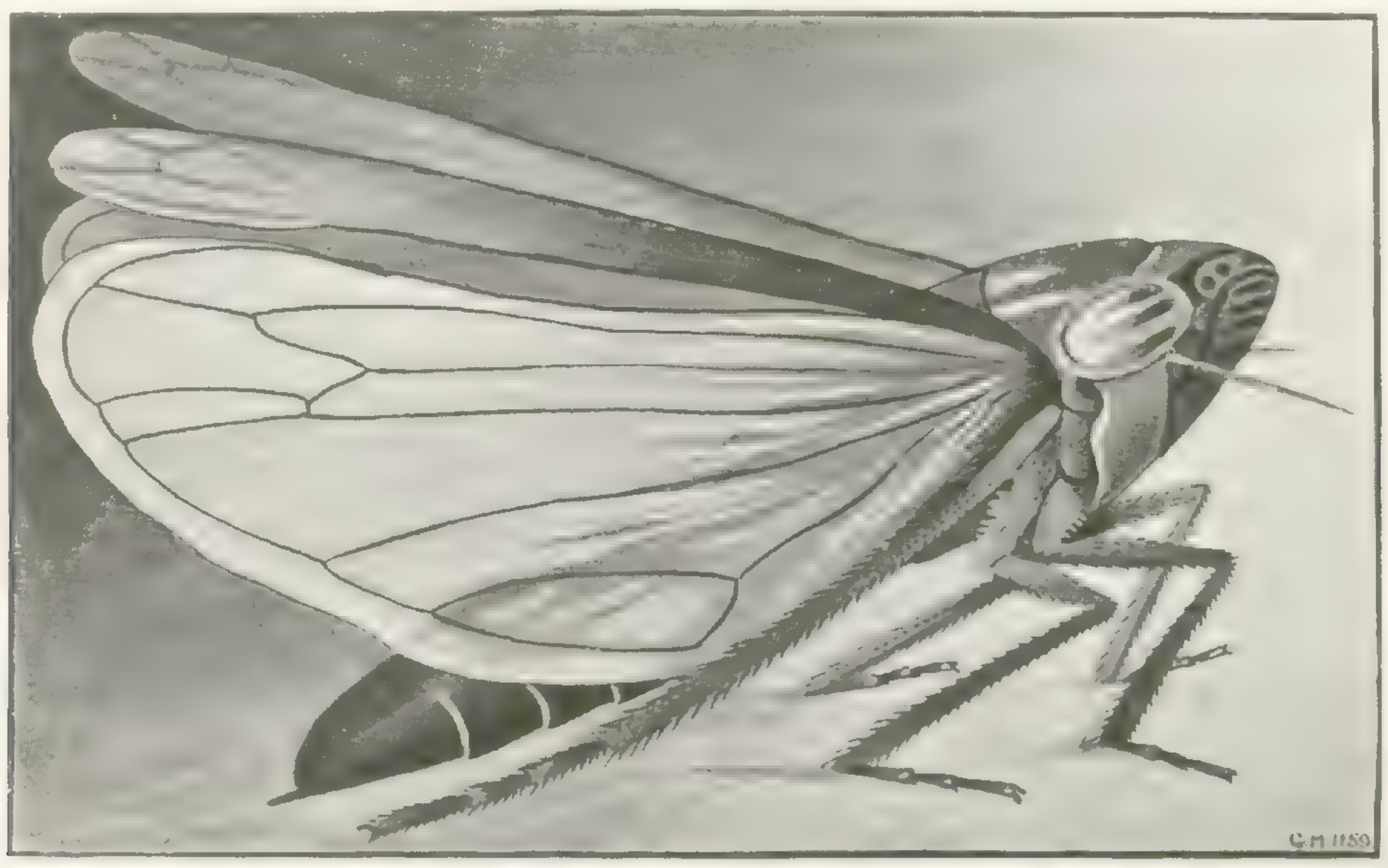
Plenty of fresh air, whenever it is possible to admit it, insures a healthy, free-growing plant.

Not until October and November do the plants throw characteristic blooms, but if by January 1 each plant does not show several blooms cut, something is decidedly wrong either with the variety or with the culture given.

In regard to new varieties: We need them and they are interesting, and we must not forget that every variety that we grow was once an untried novelty; but it behoves every general grower to ascertain, as far as possible, the exact value of a new one before displacing an old one to make room for it in quantity. This national meeting is of inestimable value to carnation growers, in that it shows just how well the standard varieties are holding their early vitality and positions, and just what new sorts are surpassing their seniors in brilliance of colour, perfection of form and in size. Only the finest and most productive sorts can in this day and time pay for standing room in the modern, up-to-date greenhouse.

THE CUCKOO SPIT AND FROGHOPPER.

The cuckoo spit is one of those obstinate insects which have succeeded fairly well in defying the attacks of the gardener, whose intended remedies do not appear to inflict sufficiently drastic punishment upon it. But even enemies may sometimes prove interesting, when studied in a proper spirit, and I therefore propose to acquaint the reader with a few curious facts concerning this one, and add some suggestions for its destruction.


FROGHOPPER OR CUCKOO SPIT.
Perfect insect, with the covers raised edgeways and the wings expanded.

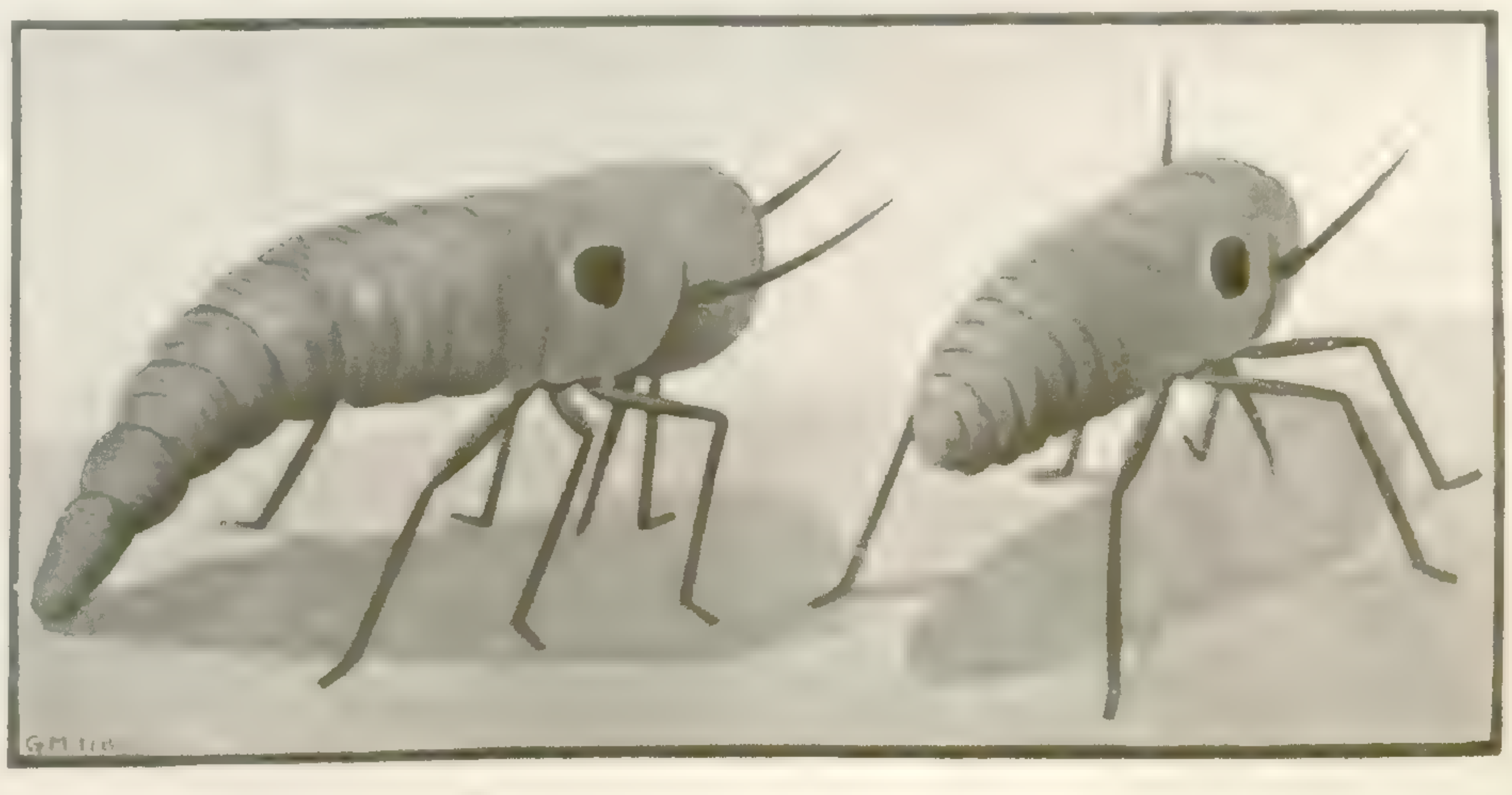
The most unobservant person cannot fail to have been struck with the frequent presence on many plants of a frothy substance resembling saliva. The remarkable likeness to that product has been responsible for leading many people to regard it as the exuvia of some large creature. Anyone who will trouble to probe into a mass of the froth will soon become aware of the presence therein of a tiny pale green creature of very quaint shape, as may be readily conceived by referring to the illustration, where a couple of magnified specimens are depicted in different phases of contortion. Most gardeners are, I am sure, familiar with this tiresome pest, much to their chagrin and disgust.

In my repeated examinations, covering a long period, of both plants procured from gardens and from fields and hedgerows, I have been made aware that the pests abound to a greater extent in uncultivated spaces.

Exactly the means by which the peculiar and really sickly-looking stuff in which they are nearly always embedded is produced, was a matter savouring more of conjecture than certainty (resembling other features of insect life in this respect), but I may mention that my observations reveal the fact that during its production the tail portion of the insect is thrust in and out violently, and waved about meanwhile, with an obvious deliberation. I will return to this point later on. Beneath the microscope the substance, as it lies on leaves, appears to be a collection of bubbles, and it undoubtedly serves as an effectual protection for its occupant, both in the direction of concealment and as a deterrent against the carnivorous attacks of larger foes. It is also permissible to surmise that it secures the creature against the scorching effects of the sun's rays and the rain.

I daresay that my readers will be aware that the quaint beings are called cuckoo spits, in allusion to a most outrageous belief that the particular bird mentioned is responsible for their appearance.

In pursuit of the remarkble truth concerning the production of the mysterious substance in which the insects willingly bury themselves, I have watched numbers of cuckoo spits which I have freed from the contact of their exuvia. After my examinations I arrive at the conclusion that the evolution of the material is analogous to the creation of honeydew by aphides, and of silk threads by spiders. My captives have wobbled about indecisively for awhile, as though bewildered by their nakedness and exposure, until at last they have displayed an anxiety for concealment. I have observed that preparatory to entire seclusion they secrete from the hinder portion of their bodies a soft jellified substance, in the form of threads, very greatly resembling those of a spider, which, however, increases in thickness until it may be called a stream. The insect thrusts out its telescopic and flexible tail until it touches some adjacent spot, and then withdraws it, a slender thread issuing therefrom as an immediate result of the action. Repetitions of the movements produce, as I have stated, thick streams of matter, the creature meanwhile shifting its position. After awhile so much of it accumulates as to afford a safe retreat into which the insect may penetrate until no part of its body is visible, and the matter gradually assumes the form already described, viz., that of a mass of bubbles. The production of soap lather may be taken as a somewhat similar process, except for the fact that the insect's material is at first drawn forth as threads of slime. Just as stirring a mass of soapy water will cause it to become a heap of bubbles, so the exertions of the secreting insect gives rise to a similar effect. The illustration will considerably facilitate a proper comprehension of these facts, since the contortions practised by the creatures during the performance are there pictured.


IMMATURE FROGHOPPERS OR CUCKOO SPITS.
The frothy white substance on the leaves of plants is produced by the insect in its immature stage.

It is destined to undergo a curious transformation when fully grown, developing into that insect known as the froghopper, which looks ludicrously like a miniature frog, both in regard to general contour and attitude, though it has six legs, which possess no possible analogy to those of its namesake, except that of permitting their owner to spring.

The commonest and most conspicuous kinds of froghoppers are dark brown, bright green, and yellow respectively, and it is the former which I have selected for illustration and mention. There is, however, very little difference between them. Apart from colour and trivialities of structure, which would appeal exclusively to the student, each is furnished with a pair of strongly ribbed wing cases, clasping the body like the sloping covers of a book, and beneath them are folded a pair of transparent and very delicate wings, which it would be excusable to suppose were hardly suitable for flight. Yet such is not the case.

It will be seen from an inspection of the second illustration that the forepart of a froghopper has the aspect of a fish-head, its peculiarly striped large eyes tending to accelerate the grotesque likeness. This creature is not provided, however, with a true mouth, but has, instead, a piercer (not dissimilar to those belonging to the bug and the aphis), which is normally pressed against its breast, and becomes, as a consequence, an inconspicuous feature unless deliberately shifted by the observer.

In the drawings the hind legs are shown contracted as they would be preparatory to the insect taking a leap, so that although the portions exhibited are very long (extending from just behind the eye), there still remains much of each limb out of sight, as it were. The extremity of the froghopper's body is supplied with a remarkable contrivance which it is not alone in possessing, viz., a set of saws, by the use of which it is enabled to neatly gash the tissues of a plant, afterwards laying its eggs into the severed portions for security. The saws are embraced by a couple of similar, though coarser adjuncts, and the whole four together comprise the extremely serviceable tool which is protrusible from the abdomen. It can be thrust in and out with incredible alacrity, often requiring a keenness of vision to observe its movements.

In cutting a leaf the froghopper protrudes its contrivance, and so disposes of it that the toothed edges of the saws are free from all direct contact with the remaining portions. Then the saws travel quickly backwards and forwards, being held meanwhile securely along their top ridges within corresponding grooves on the claspers. When a suitable cut has been accomplished, the whole four blades are so arranged as to form a tube, and along this the eggs travel successively, falling into the cavity, or cavities, provided for their reception, whence, in a short time, under favourable conditions, will issue the funny little living things portrayed.

It is necessary to state that when a cuckoo spit is freed from the confinement of its exuvia it rambles along with its collapsible tail elevated high in the air, presenting meanwhile a most grotesque appearance, and it is only when seeking to prepare its concealing slime that it lowers that part in the manner illustrated.

The appellation cuckoo spit must have been gained from an interesting and inexplicable misapprehension. The term so common among country folk, who, when they refer to the likeness a child bears to either of its parents, often remark that it is the "spit" of the father or mother—as the case may be—seems to point to the supposition that saliva has creative properties, or, at any rate, contains a germ capable of giving rise to a living creature. I am not aware of the origin of the expression, but I mention it because it must have been responsible for the existence of the name applied to this curious insect. Early observers, who possessed no means of making a proper acquaintance with the features of the natural history of minute forms of life, must have been puzzled concerning the production of the saliva as they wrongly considered it and so comfortably and conveniently asserted that that deservedly abused bird, the cuckoo, discharged it from its mouth, and that the queer creature embedded in the substance would, in due course, become converted into a young cuckoo! The fact that the cuckoo never built a nest, while young birds of this species certainly did appear in the right season, undoubtedly aided the supposition.

The spraying of insecticides does not effect much result upon the cuckoo spits, unless they happen to be free from their exuvia, as sometimes happens, and the only remedy applicable is to pinch the substance and its contents, thus destroying the objectionable intruder. This, of course, would entail a large amount of trouble in making examination of plants, but as the pests are never so numerous as aphides, this process must not be grumbled at. I have found that a puff or two of tobacco smoke from a pipe will render the creature helpless, and frequently destroy it when removed from its shelter. There again the difficulty is to apply the remedy. Encourage ladybirds and spiders in infested gardens. These should never be destroyed unless their numbers are intolerable. They do not injure plants in any way. You must not confound mites with spiders in bearing these notes in mind, since they are decidedly destructive, and are sometimes misnamed "spiders." The "red spider" is an instance. It is really a mite.

With regard to the extermination of the adults, or froghoppers, undried tarred boards should be placed around or underneath the infested plants, and the insects disturbed, if possible, by the liberal use of a dusting brush. As they favour hopping more frequently than flying, such a process will result in the deposition of many of them upon the boards, when they can be easily destroyed. Even where no signs of insect presence is observable, it is a useful pursuit to allow newly-tarred boards to remain out on the ground, or propped up in corners, all night.

Remember that for every froghopper there may afterwards appear a very large number of cuckoo spits.

James Scott.

ORNAMENTAL GOURDS.

Climbers of annual duration add considerably to the interest and enjoyment of a garden during summer, and although the principal feature of interest lies in the majority of instances in the flowers, there are a notable few which are employed for their attractive foliage, and yet another section is admired for the ornamental character of its fruits.

To this latter class belong the ornamental gourds, whose vigorous growth proclaims them as being pre-eminently adapted for producing a screen or for quickly covering undesirable features, while the bold outline of the leaves forming as they do a pleasing contrast to the brightly-coloured and quaintly formed fruits, makes them novel features for covering such structures as pergolas, or light trellis work. The rapidity of gourd growth is proverbial, and the month of June being generally considered quite soon enough for planting in the open with safety, it is therefore a wise policy not to start the seed too early, otherwise the plants are starved before planting out. The end of April is a suitable time for making a start, and the seeds should be put singly in small pots containing light, rich soil, and in a gentle heat. Germination takes place in a few days, and as the plants rapidly fill their pots with roots, care must be taken to give a shift into larger pots before they become root bound, and by encouraging free and uninterrupted growth and with subsequent care in hardening off, they readily take to their summer quarters without any appreciable check.

Trained to vertical poles they are the most effective for the display of their fruits, but in this system all laterals require stopping beyond the first fruit formed, as the minimum crop is thus secured. When employed as a screen upon trellis work, it is generally necessary to encourage a definite number of these lateral shoots, and to this end, the lead should have the point pinched out when the main shoot has attained the desired height.

Gourds delight in a light, rich soil, consisting of equal parts of loam, leaf-soil, and well-decayed manure, and during the summer months frequent supplies of water with the drainings of the cow-house, or some approved fertiliser, applied at frequent intervals, promotes luxuriant growth and materially assists in the development of the fruits, while it often prevents the plants from an attack of mildew to which the foliage is very susceptible in periods of drought.

English trade growers supply seeds of these ornamental gourds in mixture, though a few offer them in collections of distinct varieties; on the whole, it is immaterial how purchased as a sufficient number of varieties are ensured by either system, and as the English names are nearly always descriptive it is unnecessary to detail a list here.

Thomas Smith.

Walmsgate Gardens.

WATERSIDE LOBELIAS.

The rapid spread of waterside gardening has brought many sterling groups of plants into greater prominence, and among these one notes the tall, moisture-loving lobelias. In the past lobelia culture has hinged chiefly upon L. erinus and its varieties, which have enjoyed a high degree of popularity as dwarf bedding plants.

But now it is the tall lobelias that call for notice, and with the prevailing taste in garden adornment, which one may aptly characterise as "natural," there certainly opens up a wide field for such decorative subjects as these. The situation "par excellence" for them is the bog garden or the waterside, where they can revel in the necessary moisture, and at the same time have the benefit of an open, sunny exposure. The same conditions which one associates with the Japanese and other moisture-loving iris will be found equally suitable for these lobelias, and, despite their character of not being quite hardy, they can be widely utilised for beautifying the water margins, and for naturalising in boggy situations.

Some very charming scenic effects have been created by planting these lobelias extensively by the sides of lily pools, and whether grouped alone, or in conjunction with astilbes, lythrums, epilobiums, lysimachias, spiræas, bog primulas, etc., they are certainly capable of producing very satisfactory results. Culture is not difficult in the case of these subjects, but with L. cardinalis, L. fulgens, and several of the finer hybrid forms, I would advise lifting them, and wintering them in a cold frame, but L. syphilitica and its varieties may be trusted to take good care of themselves during the cold season, though a light mulching of littery manure or a little bracken would do no harm.

Of the various species and varieties which are suited for the purpose in view, none are better known than L. cardinalis, a sterling gem, with scarlet blossoms and greenish foliage, which usually grows, in moisture, about three feet in height. A useful variety of this is Nanseniana, a dwarf, sturdier form, possessing a good habit, with rich crimson flowers, and foliage of a more bronzy hue. L. fulgens, with its intense crimson-purple leafage and stems, and its rich crimson-scarlet blossoms is of great value for the waterside. It is usually taller and stronger than L. cardinalis, and with its rich colouring makes a fine contrast to green-foliaged plants. Its variety "gigantea" is even grander than the type. It is moulded on nobler lines, the tall, massive spikes of large brilliant-hued blossoms giving a blaze of colour.

In L. syphilitica we have a species which has not only good qualities of its own, but has also assisted in the production of many of the finest hybrid forms. The type ranges in height from two to three feet, two and a-half feet being a good average. The foliage is deep green, rough, and covered with fine hairs, and the flowers are light blue, freely produced upon leafy spikes. Its principal varieties are violacea, a rich deep violet gem; rosea, a bright rosy-carmine; alba, a pure white, useful as a contrasting colour; and superba, a strong-growing, rich blue of decided merit. A good companion to the preceding is the sessile-leaved species from Northern China, L. sessilifolia. It is a strong, hardy species, about the same height as L. syphilitica, with leafy spikes and violet-purple blossoms.

Some of the new world lobelias are very worthy of notice, but are not sufficiently hardy to winter outside in many places. Chief among these is L. Cavanillesi, a Chilian species, with yellow flowers, which in good soil attains a height of three feet. Others worthy of culture are L. laxiflora, a pretty Mexican species, with handsomely foliaged spikes of red and yellow flowers, which is probably related to the previous species; and L. Tupa, a tall rarity from South America, with leafless spikes of deep red blossoms. The hybrid varieties are many, and some of the best-defined forms call for notice. It is interesting to note that the majority are the progeny of L. syphilitica, crossed with L. cardinalis and L. fulgens.

A small but representative collection of these hybrids would include Miller, a rich purple, with grand habit; Papillon, a good pure white; Gerardi, a fine soft rosy violet; Rivorei, a pretty blush-pink, with rich bronzy foliage; Carmine Gem, a rich, bright carmine; rosea (or Rosea Ardens), a gloriously distinct gem, brilliant rose in colour; Distinction, a strong-growing, rich crimson with purplish shading; Firefly, a glowing vivid fiery-red, and Ibis, rosy-scarlet, with a suffusion of salmon.

The ease with which these lobelias can be raised from seed, places them at the service of all classes of garden-lovers, and there is no reason why these plants should not rise greatly in public favour during the next few years. In conclusion, may I add, Plant boldly. It is the bold, free groups of these lobelias that produce telling effects. Do not be too sparing of the number of plants you put out; make large groups, which will give a distinctive feature to the scene, and do not let them lack manure, for they are gross feeders.

P. S. Hayward.

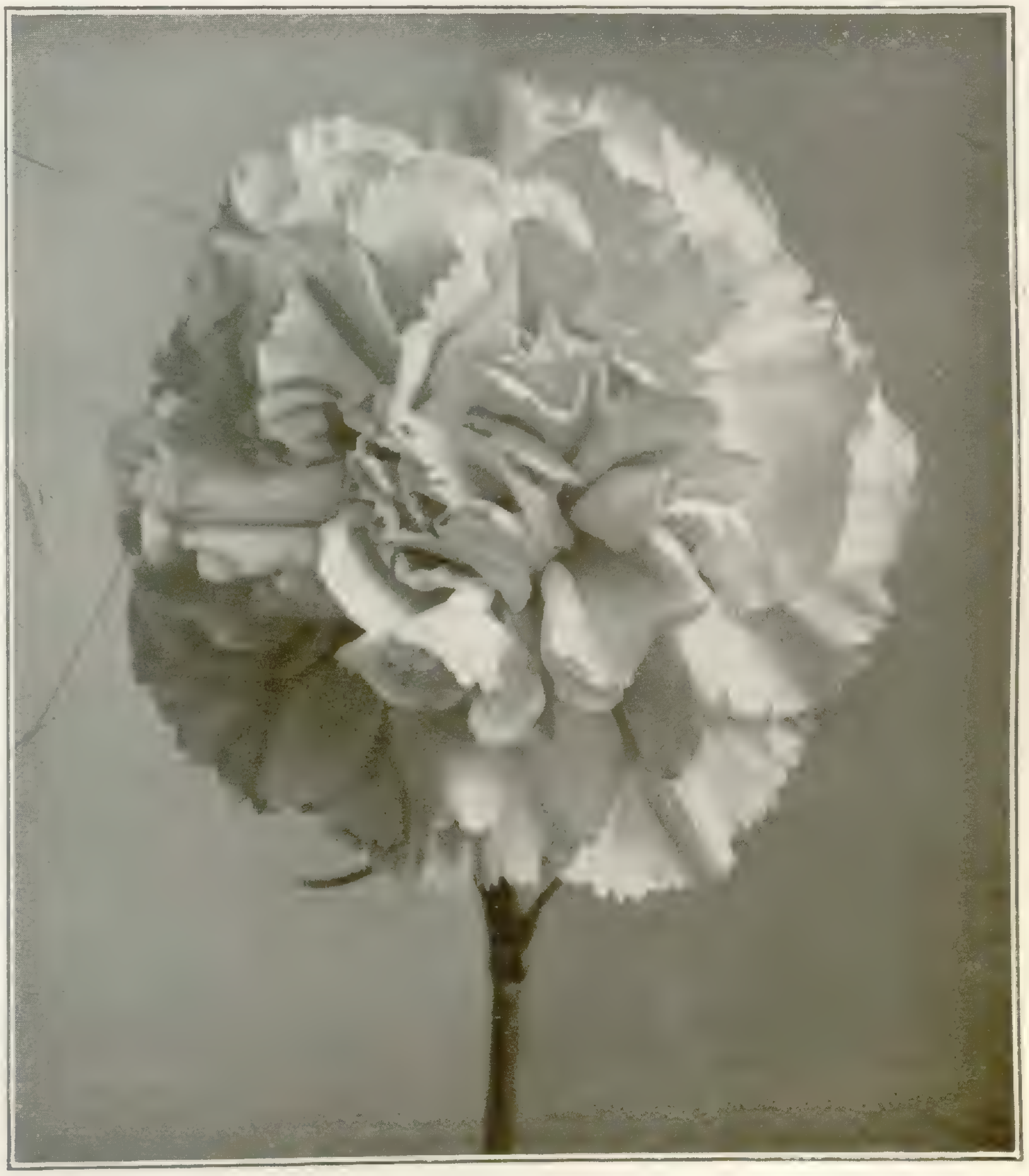
NEW CARNATION ADMIRATION.

Great advances are still being made in the production of perpetual-flowering carnations, and though latterly the home raisers have been very busy in this respect, and have distributed some very fine novelties, the florists of the United States are continuing their work with unabated energy. The new varieties of each season are imported from the States by our leading nurserymen, and the progress of these varieties as soon as they have been propagated and grown in this country is very carefully watched. One of the newer introductions is named Admiration, a rosy-pink variety that has become very highly esteemed already in America, and promises to take a leading place here. The flowers are about the same size as those of the popular Enchantress, but in both form and colour it is regarded as distinctly superior to that variety. It is a quick and free grower, of excellent habit, and comes very early into bloom, so that it combines those fine qualities that go to make up a first-rate perpetual carnation. We are indebted to Messrs. Stuart Low and Co., Bush Hill Park, Enfield, for the opportunity of illustrating this new variety.

Jasminum primulinum is by no means reliable as a hardy shrub, even when protected against walls, but as a greenhouse subject it is very welcome. The flowers open kindly with the minimum amount of artificial heat. It succeeds best under glass when grown in pots that have become well filled with roots the previous year, as the tendency of freshly-potted plants is to develop wood growths, the consequence being that few flowers reach their full development. Cuttings of this jasmine root readily in a propagating bed early in the year, and if potted up, and grown under glass till July,and then exposed to the sun in the open, they form useful plants for the decoration of the greenhouse the following year.—Thomas Smith, Louth.

ARISTOLOCHIA SIPHO.

Although three or four species of Birthwort (or aristolochia) are hardy in many parts of the British Isles, A. Sipho is the only one which people who do not require a full collection need trouble about, for it is the best-known kind, and the most satisfactory one for general use. It is a native of the United States, and is valuable for its rapid growth and large heart-shaped, ornamental leaves, which make it an ideal plant to place against a trellis, rough old tree, pergola, or other support, for given freedom of growth, and moderately good soil, it is quite capable of covering a support twenty-five to thirty feet high, but may, of course, be kept much dwarfer by repeated pruning.



NEW PERPETUAL CARNATION ADMIRATION.
Flower large, rosy pink, supplied by Messrs. Stuart Low and Co., Bush Hill Park, Enfield.

The leaves may be anything between six and eight inches across, while the branches are thin and wiry, and if they cannot find anything to cling to quickly become entangled, forming quite a rope. The flowers are not worth considering, from an ornamental standpoint, but are exceedingly interesting structurally. They are tubular, the tube being curiously bent, and the mouth of the flower very wide in comparison with the tube. This peculiarity of shape has been likened to a pipe, and from that the common name of Dutchman's Pipe, which is applied to the plant, has arisen. As previously stated, moderately good soil is essential for the best results; it can, however, be cultivated in that of inferior quality, and good results have been observed from plants growing in sandy material.

D.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

LYCASTES.—Lycaste Skinneri, L. plana, L. Deppei, and other early species and hybrids will now be advancing their growths, and any repotting necessary should be attended to as soon as the new roots make their appearance. Before potting see that the leaves and pseudo-bulbs are free from scale or other insect pests, as the plants are more easily cleansed at this season than is the case when the young growths have become advanced. When potting lycastes the fact of their being vigorous feeders should not be overlooked; afford ample root space to all plants in vigorous health. In the case of small or weakly plants large pots should not be given. It is better to have to repot a small plant returning to its normal vigour than to destroy it by placing a great bulk of potting compost about its roots. The pots used should be clean, and filled to about one-half their depth with clean broken crocks. The compost should be two parts turfy loam to one part of fibrous peat and chopped sphagnum moss, with sufficient sand and finely broken crocks intermixed to render the compost porous.

PREPARING LOAM.—There is one item I would like to mention here, and it is the desirability of having the loam used for orchids prepared some time before it is required for use. Even where only a small quantity is required it is desirable to have it picked over and prepared beforehand. The turf must at all times be colder than the temperature of the house in which the plants have been grown, unless some steps are taken to prepare and place it in a warm position for some time before use. I find it a very good plan to have a few bushels of loam picked and placed in boxes either on or immediately below the pipes in one of the warm houses, so that a supply is always at hand.

ANGULOAS.—These orchids, in most cases, advance their flowers with the new growths, and it is not a good plan to treat them liberally when they first show signs of renewed vitality by the production of new growths from the base of last season's pseudo-bulbs. If treated too liberally they develop growth rapidly, and consequently do not flower satisfactorily. It is quite time enough to give a liberal watering when the flower buds can be seen at the sides of the new growths. Warmer treatment may also then be afforded. Any repotting necessary may be attended to as soon as the plants have passed out of flower. They require a compost similar to that used for lycastes. To increase the stock, where there are several pseudo-bulbs the rhizome between them may be severed. These old bulbs are of no advantage to the plant unless they can be induced to produce back growths, and the only way to secure this is to sever the rhizome, and then the dormant buds will break, and we obtain better specimens or increase the stock as desired.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CHRYSANTHEMUMS.—Plants that are cultivated for the supply of large blooms should now be ready for shifting into six-inch pots. Employ a heavier compost than that which was used at the last potting; it may be formed of good fibrous loam, leaf-mould, wood ashes, lime rubble, and sand, with a sprinkling of bonemeal added. Care should be taken to see that the plants have formed plenty of roots, which reach the sides of the pots before they are potted. After the potting has been done place the plants in an unheated frame on a hard ash bottom. Pay careful attention to ventilation after, keeping the frame close for a few days until the roots are running freely in the new soil. When admitting air avoid cold draughts. Syringing may be done morning and evening in bright weather. If the presence of green-fly can be detected let the plants be dipped in quassia extract. During the present month attention should be given to pinching and stopping the shoots for securing second crown buds, but no definite date can be given for doing this work. When a plant has been stopped by pinching rather less water should be given at the roots until growth recommences. Pinching and potting should not be carried out at the same time, as each operation causes a check.

GERBERA JAMESONI.—It is only in very sheltered spots that the Transvaal daisy does well out of doors, but in every district it is an admirable plant for pot culture in the greenhouse, or it may be planted in frames along the front of glass-houses. Seeds may now be sown in moderate heat, and a good many of the seedlings will bloom in their second year. Pot plants now flowering should be kept in an extra cool house, and when finished flowering they may be placed out of doors on a bed of ashes, where they may remain all the summer and part of the autumn. Gerbera flowers when cut are good subjects for vase decoration, and they last fresh for a considerable time.

BALSAMS.—Seeds may be sown thinly in well-drained pans of light porous soil, and placed in a warm house. Prick off the seedlings into small pots as soon as they are large enough to be handled. Do not allow them to become potbound until after the final potting, and do not pinch the leading growths, but keep the surroundings always moist, and branching will come quite naturally.

CLIMBERS.—These will be growing freely and should have attention to thinning, as they flower much better when not overcrowded, as well as look neater.

STREPTOSOLEN JAMESONI.—This is a most useful plant for flowering in the greenhouse or conservatory in the early spring and summer months. It succeeds well if trained to a wall or on the roof, and continues to flower freely if kept growing in an upright position. If it is required for forming a specimen plant on a balloon-shaped trellis, the shoots should be started from the base, and trained spirally, but always upwards, for if allowed to hang downwards the shoots cease to flower, and sometimes die back to an upright joint. It suceeds well in a compost consisting of loam, peat, and sand in equal parts; provide liberal drainage, and make the soil moderately firm.

STANDARD HELIOTROPES.—A batch of cuttings should be put in, and as soon as rooted pot them off singly, and grow them to a height of two or three feet, when the top may be pinched out. Remove all buds from the stem from the base up to six inches from the top; pinch all the top shoots as they grow to induce a round head. Use five to six-inch pots, and when the weather is favourable remove out of doors for the summer. Give shelter in the winter in a peach house or vinery, keeping the roots rather dry. —W. Staward, Belford Hall Gardens.

THE FLOWER GARDEN.

ALTERNANTHERAS, iresines, and coleuses should now be propagated with all possible speed, and bottom heat is absolutely essential if rapid propagation is desired. Pits or frames just cleared of violets or cauliflowers are suitable structures for this purpose, that is, if no propagating pit or house is available. Remove a portion of the soil, and put in sufficient fermenting material to form a shallow hotbed; then cover with three or four inches of light sandy soil, and face this with sharp sand. When the soil is well warmed through, and all danger of overheating is past, dibble in the cuttings about two inches apart each way, keep the frame close, shade from bright sunshine, and in a few days the cuttings will have rooted, soon to develop into useful plants for potting or boxing off. Hardening off should not be commenced too early, or there may be serious loss of foliage; ten days prior to planting out is quite sufficient, and this should not be commenced before the first week in June.

VARIEGATED ACERS AND ELDERS are very useful and accommodating plants for the flower garden, if grown in pots and plunged in the borders or beds as dot plants, or as groups, their pretty variegated foliage forming an agreeable contrast with the surroundings. By judicious annual pruning and potting these may be kept in good condition for a number of years. Lilies of many types might be grown for a similar purpose; these give a wealth of bloom late in the season, and are most accommodating. Any of the speciosum or trigrinum varieties may be so used. Plenty of room should be given these, so that each spike of bloom has room for development.

MIMULUS, Harrison's musk, and the common sweet-scented musk can all be used, and are useful as bedders. If only for their perfume these should find a place in every garden. Their flower production is continuous, and they succeed either in full sun or partial shade. All these are hardy, and are easily propagated from cuttings, divisions of the root, or from seeds. Plants raised from cuttings are perhaps the best, being more sturdy and compact than those raised from seeds or root divisions.

BEDDING CALCEOLARIAS, being half-hardy, may soon be planted out in the beds or borders; as they are moisture-loving the best way to grow them well is to provide a good depth of soil. The soil should be deeply dug, and a liberal quantity of well-rotted manure added to it at the same time. On light soils a good mulching of leaf-soil, old hotbed manure, or cocoanut fibre refuse should be given, and at no time during the season must the plants suffer from drought.

VIOLETS that have been growing and flowering in frames during the winter should now be planted on a north border for the summer. All the best and strongest runners that are sufficiently rooted should be first of all used, making up, if need be, the number of plants required for next season by dividing the healthiest and best of the old roots. Before planting, the ground should have been well dug, and leaf-mould, old hotbed manure (usually a mixture of manure and leaves) should be added. Like calceolarias, violets revel in moisture during the hot summer season, a point in their successful cultivation that should not be lost sight of.—W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

DISBUDDING.—The disbudding of peach, nectarine, and apricot trees should be proceeded with as soon as the shoots have pushed far enough to be easily handled. The work of disbudding should be done gradually, and sparingly at first. It often happens that the flow of sap is checked during a spell of cold weather, which we all experience at this season of the year. It is then advisable to discontinue disbudding for a few days until the weather is more congenial and the circulation of the sap has become more active. Commence disbudding by removing the shoots that spring from the underside and in front of the branches, these can be removed by the thumb and finger, or a better method to adopt is to use a pair of grape scissors. This work should be extended over a period of a few weeks before the final disbudding is accomplished, to allow the sap to become equally distributed in the remaining young shoots. Strict attention should be paid to the method of disbudding adopted; it should be done to maintain an abundance of young fruiting wood in the centre, as well as at the extremities of the trees; too much emphasis cannot be placed upon the importance of the proper training and the successful cultivation of these fruits.

GENERAL WORK.—Grafting may still be done on late varieties of apples and pears, taking care to use scions that have been kept in a dormant condition. Examine trees that have already been grafted, and see that all the scions are secured firmly to the stock, or failure is sure to follow. Continue to use the Dutch hoe in fruit plantations upon all favourable occasions, for obvious reasons, as advised in the last calendar. Where the blossoms of fruit trees growing on walls have been protected, and the petals have dropped off, the protecting material should be gradually removed. It is a good plan to remove it altogether on bright warm days, to be replaced at night only if there are any indications of frost, or cold, cutting winds, after this has been done for a week or ten days the material may be dispensed with altogether.

HARDY VINES.—Vines growing on south or warm walls will soon require attention in the matter of disbudding, and the training of young shoots required for extension to fill up any vacant places on the walls. All weakly and misplaced shoots which grow laterally from the main rods should be removed, allowing the strongest and best-placed shoots to remain. It is advisable at this season of the year to dust the young shoots over with flowers of sulphur, choosing a day when there is no wind, and, if possible, a time immediately after a shower of rain. This is one of the finest preventives of the attacks of red spider and mildew.—Henry R. Farmer, Cardiff Castle Gardens.

GREENHOUSE MANAGEMENT.—The Amateur's Greenhouse, the popular book by T. W. Sanders, not only treats of the selection and cultivation of greenhouse plants and flowers, but gives full [illegible] how to build a greenhouse and how to heat it, as well as every detail as to the management of the plants and flowers grown in it. The price of this book of 416 pages is 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Ideal Homes Exhibition.

One of the most interesting exhibitions held in London for a long time is the Ideal Homes Exhibition that was opened at Olympia, Addison Road, London, on Friday, April 8, and continues for another week hence. Not only is the exhibition interesting; it is very instructive, and no visitor can fail to be struck by the many useful inventions displayed for the purpose of making homes brighter and more convenient, and keeping them as clean as the proverbial "new pin"; indeed, it would seem that the lady members of the household will soon have all the work of the home done by handy machines.

A BEAUTIFUL WATER GARDEN WITH WATERFALL.
Arranged by Messrs. Pulham and Son, at the Ideal Home Exhibition.

Of course, we all have our own ideas of what an ideal home should be like, and at this exhibition every taste is catered for in the matter of furniture, decoration, and sanitation, but however well and conveniently the home is furnished, it is certainly not ideal unless the surroundings are as beautiful as the interior. Flowers and plants—the garden, in short, is absolutely essential if we are to attain to anything approaching the ideal.

The promoters of the exhibition have felt the need of the garden, hence the garden-lover may spend a long time in inspecting the gardening features. The Tudor Village, outside the main hall, is a charming idea, with its irregular ring of quaint old tiled houses arranged around the village green, with a few ideal cottages dotting the green. Here is the village smithy, the village inn, and the carver, the rope-maker, the potter, the printer, and other tradesmen are all busy plying their trade under ideal conditions, their quaint and bright costumes lending colour to the scene. But what a vast amount of work was necessary to produce this green and provide the cottages with gardens. Yes, and the design and planting of nearly all of it has been carried out in a most admirable manner by Messrs. Joseph Cheal and Sons, Crawley. In one place they have a cottage garden idealised; it has its sheltering yew hedge and its cosy garden seat, its green lawn, and beds of spring flowers, its rose-clad trellises, and its little fruit garden with the cordon, pyramid, and bush trees just bursting into blossom. In another place, near the inn, the bowling green is inviting, and along one side of the village some local dignitary has commissioned the Messrs. Cheal to fashion a dainty garden, with its necessary tea house, inviting seats, and shady pergola, and well has the commission been carried out.

The Tudor Village is fortunate in having an excellent water supply, so that pleasure as well as profit may be obtained from it. Messrs. Pulham and Son, 71, Newman Street, W., have arranged a splendid waterfall, pool, and water garden. The rocks are set up in the most natural manner possible, and it looks as though water has been tumbling over them for hundreds of years. Low and creeping shrubs occupy positions in the rock niches, while around the pool below moisture-loving plants seem to have found an ideal home, and they may be closely inspected from the stepping stones across the water. Altogether it is a fine bit of work by this skilful firm.

In other parts of the exhibition garden furniture to suit all tastes and pockets is displayed. Messrs. B. Maggs and Co., Bristol, have provided an abundance of comfortable, artistic, and durable teak wood garden seats and tables. In the centre of the main hall Messrs. J. Cheal and Sons, Crawley, have set out a charming garden around the central "ideal home." Even the walls of the house are clothed with ivy and other creepers, and the flower beds are gay with spring flowers. The Messrs. Cheal laid out and planted the gardens and greens in the Tudor village and this ideal garden within a fortnight. Near the main entrance Messrs. Pulham and Son have a fine lot of garden pottery, their flower vases being of particularly elegant design.

Of course, "he who loves a garden loves a greenhouse, too," and so for the greenhouse lover Messrs. Duncan Tucker and Sons, Lim., 27, Cannon Street, E.C., have on view a "Caloricult" structure for forcing fruits, etc., with bottom heat, and a sharp-pitched roof to catch all the sunshine; serviceable garden frames in variety, a capital "general utility" span-roofed greenhouse, a neat little garden tea house, strongly and cosily built, and a side of an ornamental conservatory. Then for heating purposes Messrs. Toope and Son, Stepney, have a number of the most interesting and useful apparatus, suitable for the amateur's propagating frame, or the larger greenhouse and conservatory, and whether gas, or coal, or coke be the heating medium, every apparatus is designed to secure the greatest economy of fuel with the highest possible heating capacity. Messrs. Fenion and Sons have their specialities in hot-water heating apparatus for greenhouses, chiefly designed for the use of gas, and so designed that gas fumes cannot enter the house and kill the plants.

Alas! that it should be so, but insect and fungoid enemies cannot be kept from the ideal garden unless some pains are taken to keep them out, or to exterminate them once they get in. To combat and cure pests and diseases Messrs. Walter Voss and Co., Millwall, have on view a number of their specialities, and in their stand is quite an array of spraying machines, special syringes, insecticides, and fungicides, and, to help the plants themselves to defy enemies, the firm has skilfully concocted manures suitable for special crops, and arranged for use in various kinds of soils.

Messrs. E. A. White, Lim., Paddock Wood, Sussex, display their Abol insecticide, and show how it can be sprayed on to the crops by means of their Abol syringe. Most of our readers are aware that these syringes are among the very best on the market, and we have proved the Abol insecticides to be highly effective and satisfactory. Not far away Mr. Fred G. Wood, 161, Walworth Road, S.E., has garden sundries in great variety, and a really wonderful display of flower vases, fern pots, rose bowls, rustic table decorations, and a whole host of things to delight the ladies who use flowers in the adornment of their homes.

The fragrance of sweet peas is wafted all around this horticultural side of the hall, and it comes from the stall of Mr. Henry Eckford, Wem, the famous sweet pea raiser. The scent—put up in dainty bottles—is delicious and refreshing, and should there be any who prefer other floral odours to that of the sweet pea, many others are provided for them—but the speciality is the Eckford Essence of Sweet Peas. And now, since a rest "in a nook, with a book," comes welcome after a tour of the exhibition, the inspection may well finish at the neat garden house, kindly lent by Messrs. Boulton and Paul, of Norwich; here spread out seductively on tables and benches are guides to the culture of all kinds of popular flowers and garden crops, neat, concise, practical, and illustrated handbooks by well-known authors, and all published by Messrs. W. H. and L. Collingridge, 148, 149, Aldersgate Street, E.C. The outer walls of this garden house are brilliant with climbing roses (natural, not artificial), and the varieties used are Delight—a glorified Hiawatha—Mrs. W. Flight, and Crimson Rambler, while the inner walls are bright with selections of the illustrations of plants and garden scenes that have appeared in the Gardeners' Magazine, and with a few of the more striking of the coloured plates that have appeared in our contemporary, "Amateur Gardening." If you are visiting the exhibition, don't forget to look up the "G. M." stall, with its roses and its gardening literature.

Birmingham Gardeners' Association.

One of the most interesting meetings of the society's spring session was held on the 4th inst., when the essays upon "Hardy Bulbs for the Open and Indoors" were read. The donor of the prizes was Mr. Robert Sydenham. It was an open competition, but the five contestants were journeymen gardeners. Messrs. Alfred Cryer, Thomas Burns, and William Gardiner were delegated to adjudicate upon the essays prior to the meeting day. Each paper was read by its writer. The comparative merits of the essays were so uniformly good that the adjudication was of no perfunctory character. A strict observance of the text, i.e., "Hardy Bulbs," was departed from by the essayists, inasmuch as tuberous, rhizomatous, and cormous plants were laid under contribution to swell a list of especially useful spring-flowering hardy plants. These discrepancies were allowed to pass muster, and the successful aspirants were placed in the following order: Messrs. P. Catt, Albert Wright, and Edward Wybrow, with Mr. Frank Harvey "highly commended." The first and third prizewinners are students in the Botanical Gardens, Edgbaston. The chairman warmly congratulated them for the really excellent essays, and his remarks were heartily endorsed by the audience.

In the animated discussion that followed the essays several of the members gave interesting and instructive particulars pertaining to the subjects.

Prizes for "three pots of hardy bulbs, not more than one variety in a pot," offered by the society, and open to all members, brought forth a remarkably good display of narcissi, hyacinths, and tulips, the winners being Messrs. Robert Usher, P. Catt, H. Keats, and R. Baynham.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, April 12.

Present: Mr. E. A. Bowles, M.A., F.E.S., F.L.S. (in the chair), Professor G. S. Boulger, F.L.S., Dr. A. B. Rendle, M.A., F.R.S., Messrs. J. Fraser, F.L.S., J. W. Odell, L. Crawshay, W. Arkwright, D.L., J. T. Bennett-Poë, M.A., E. M. Holmes, F.L.S., A. Worsley, A. Rolfe, A.L.S., and F. J. Chittenden (hon. secretary).

MONŒCIOUS WILLOW.—Mr. J. Fraser reported as follows on the specimen of Salix cinerea, bearing both male and female catkins, shown at the last meeting. In the female catkins the normally two stamens of the flowers were represented by two imperfect ovaries, the pedicels of which were 7 mm. to 8 mm. long, and corresponded with the two filaments, and the ovaries 3.5 mm. long, and corresponded with the anthers. The pistil was open on one side, so as to expose the two ovules, and was separable into two carpels, with a short style and undivided stigma to each. The ovule, without the funiculus, measured 184 u., and appeared perfect, except that the coma or parachute was absent. Each of the two carpels had a short placenta near the base, each bearing one ovule, the placenta and ovule being marginal and exposed. Below the middle of the ovary were the two contiguous cells of the anther, about the normal length, but without pollen. In the abnormal male catkins, which also occurred, the filaments were hairy at the base only, and were normal; the anthers cells sometimes three instead of four; the connective dilated between the cells and elongated above the anther, often separated into two and terminating in a stigma each, partly papillose, and capable of retaining pollen. The pollen was 20 u. to 28 u. long, normal, but often 4 u. to 8 u. below the usual size, and in very small quantity. Mr. Crawshay exhibited drawings illustrating the aberrations, and pointed out that the branches usually bore flowers of one kind only; but in one case he found the flowers in some catkins on a branch differed from these in others.

MONŒCIOUS POPULUS TREMULA. — Mr. J. Fraser also showed catkins of Populus tremula containing both pistils and stamens, these being the last formed by the tree.

MANY-FLOWERED TULIPS. — Rev. J. Jacob showed, on behalf of M. Bony, of Clermont-Ferrand, some pots of tulip M. S. Mottet, bearing several flowers from a bulb and branching inflorescences. This character had been found to breed true in the seedlings, and the committee recommended that a Certificate of Appreciation should be awarded to M. Bony in recognition of his work in proving this transmission.

CALLICOMA SERRATIFOLIA. — Sir Daniel Morris, K.C.V.O., sent a dried specimen of this handsome tree, which he had seen growing in the Azores. It has serrate leaves, about three inches long, woolly below, and almost globular heads of flowers. It is particularly remarkable as a tree, growing 50 feet to 60 feet high, and a member of the family saxifragaceæ. It is a native of Australia, where the early settlers called it "Black Wattle," a name usually associated with Acacia decurrens — quite a different thing; and another native name is "Native Beech." Its wood is said to have a reddish tint.

CHINESE PLANTS.—Mr. G. Paul sent plants of Ilex Perneyi in bloom (the flowers of this beautiful Chinese species prove to be hermaphrodite), Osmanthus Delavayi, with flowers about four times the size of those of O. ilicifolius, and reminding one of an escallonia, and Canierea calycina, figured in Rev. Hort., 1896, p. 498.

OPUNTIA IN QUEENSLAND.—Professor Henslow sent the following communication which he had received from Surgeon-General Geo. Henderson, M.D., F.L.S., formerly Director of the Royal Botanic Gardens, Calcutta: "In a communication to the Royal Horticultural Society's "Journal" for March, 1910, at p. 350, I see you notice the Prickly Pear in Queensland. In the Punjab, India, before annexation, about 1849, this plant was a pest, and covered many miles of country. Ringret Singh is said to have had out some of his regiments to cut it down but that did no good, unless it was burned, for every bit of it rooted and produced more plants; but about 1845 the wild cochineal insect was introduced (by mistake, it is supposed, for the cultivated or domesticated one), and, as it by magic, it spread all over the province and destroyed the Prickly Pear, which has never given any trouble since. I can find few references to this matter in any books, but I find one letter from Sir Donald McLeod, then Mr. McLeod, Commissioner of Lucknow, at p. 265 of "Select Papers" of Agri-Horticultural Society of Punjab, 1868. The letter is dated December, 1852, and merely mentions the fact that 'an extraordinary influx of this insect (cochineal) almost exterminated the plant.' I lately wrote to Sir William MacGregor, Governor of Queensland, and told him about this. The cochineal would be easily introduced, for I took two pieces of Prickly Pear covered with the insect from Teneriffe to New Zealand in 1883, simply stuck on to two nails in my cabin wall, and delivered them to Dr. Hector when I arrived. I find in the book referred to a few casual references to the disappearance of the plant from the Punjab, but nothing very definite. I know for certain that the plant had never given any trouble up to 1889, for I lived much in the Punjab."

Liverpool Horticultural Association.

APRIL 6 and 7.

The Liverpool Association did not hold a spring show in 1909, but with somewhat improved circumstances it has again reverted to three shows, to be held in the Corn Exchange, and it is hoped that a wider interest may be created so that the finances may be placed on a firmer footing.

The entries for the spring show on April 6 and 7 were satisfactory, and the exhibits of a very high character. Cymbidium Lowianum and exotic ferns staged by Mr. G. Eaton, the dendrobiums from Mr. W. Hignett, the rhododendrons, azaleas, and palms from Mr. B. Cromwell, and the cyclamen and roses staged by Mr. T. Hitchman and Mr. E. R. Finch, were all evidence of great skill in culture, and were greatly appreciated by the visitors. Only a few of the more important classes can be dealt with here, but it may be stated that the competitive classes throughout were filled with exhibits of more than average beauty and interest.

Mr. B. Cromwell, gardener to T. S. Timmis, Esq., Allerton, contributed excellent kentias in the class for two palms; he led for azaleas with finely flowered plants; his Rhododendron Pink Pearl was excellent, while the Ghent azalea, the first in its class, was delightful in colour and profuse in bloom; his Clivia princeps was also excellent as a greenhouse plant in flower.

Mr. G. Eaton, gardener to W. Tod, Esq., contributed a fine Cymbidium Lowianum with 15 strong spikes, while his Davallia fijiensis, and D. Mooreana, in the exotic fern class, were notably good. Mr. T. Hitchman, gardener to A. Earle, Esq., staged Rambler roses, in which W. A. Richardson and Dorothy Perkins were prominent; his white cyclamen were charming, and his hyacinths were in excellent form. Mr. E. R. Finch, gardener to W. J. Lockett, Esq., had excellent hardy herbaceous plants, liliums, spiræas, etc., and among his hardy forced plants were large lilacs and rhododendrons.

Mr. J. V. Thompson, gardener to Mrs. W. P. Sinclair, had the leading hyacinths and tulips, and these were good for the late season. Mr. Thomas Rigg, gardener to Miss

Mackean, was a prize winner with amaryllis. Mr. W. Hignett, gardener to C. W. Carver, Esq., scored with his dendrobiums, three feet in diameter, and flowered down to the pot. Mr. J. Frith, gardener to T. Hignett, Esq., led in the class for odontoglossums. Mr. G. Osborne had some excellent palms in small pots, and a good dozen vases of cut narcissus. Mr. F. Atken, gardener to T. W. Wright, Esq., staged a fine single specimen palm.

Sixteen firms contributed non-competitive displays. Messrs. Mansell and Hatcher, Rawdon, were awarded a gold medal for a group of well-grown orchids of much merit. Other medals were awarded to Messrs. R. P. Ker and Sons, Aigburth, for amaryllis; Mr. C. A. Young, Hatherley, for carnations; Mr. W. Rowlands, for roses; Messrs. Barr and Sons, Covent Garden, for daffodils; Messrs. Cartwright and Goodwin, Kidderminster, for daffodils; Messrs. Hogg and Robertson, Dublin, and Mr. J. Cooper, Lissadell Farm, Sligo, for displays of daffodils.

Elstree Horticultural Society.

Mr. E. Beckett, V.M.H., of Aldenham House Gardens, was the lecturer on Tuesday evening, the 5th inst., and his subject was "Choice Flowering and other Shrubs." In his opening remarks he referred to the beauty and utility of many of these plants, and urged a more extended use of them in preference to common things of less merit. Planting and pruning were important items, and were thoroughly dealt with, and the paper was brimful of useful information.

A splendid series of lantern slides lent additional interest to the lecture and were fully appreciated by the large assembly of members and others present. A hearty vote of thanks was accorded the lecturer. Several new members were enrolled.

Dundee Horticultural Association.

The ordinary monthly meeting, held in the Technical Institute on the 4th inst., took the form of a "Cineraria conference." Mr. George Petrie, president of the Stirling Horticultural Association, opened the proceedings by reading an excellent paper on the history and cultivation of this indispensable winter and spring flower. There was a good turnout of members, but the exhibits were not so numerous nor so meritorious as was expected. The paper proved very interesting, and in the lively discussions which ensued many practical points were enlarged upon which will prove helpful to those who have not hitherto been successful with cinerarias.

Two new members were added, and Mr. William Christeson was elected president for the remainder of this session.

Bristol Gardeners' Association.

At the fortnightly meeting held at St. John's Parish Rooms, on Thursday, April 7, there was a good attendance of members, Mr. E. T. Parker presiding.

The subject for the evening was "Border Carnations," introduced by Mr. C. Wall, Bath, a well-known carnation-raiser and prizewinner. He gave a most practical paper and advised planting early for outdoor bloom, and observed that some varieties should be potted up and wintered in frames, giving them abundance of air at all times. He advocated showing carnations in vases, and did not approve of the style of flattening them out on boards. Mr. Wall gave practical hints on layering, planting out in beds, disbudding, shading, and preparing for shows. He also advised sowing seeds, but at the same time said that there was scarcely one champion flower in a 1,000 seedlings. Mr. Wall said many people wrote him for seed, and expected it to come up true to the variety from which it was gathered.

For three cool house orchids, prize given by Dr. R. Eager, Messrs. Gestling, Curtis, and Woodward won in the order given. For two vases of daffodils, prize given by Mr. Binfield, for under-gardeners only, Messrs. Coombs, Dainton, and Newman won.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

HORTICULTURAL EXHIBITION AT LIVERPOOL. — T. H. K., Wavertree: Schedules may be obtained from Mr. Thos. McRow, secretary, Royal Agricultural Society, 16, Bedford Square, London, W.C.

GARDENERS' ORPHAN FUND. — S., Hexham: Full particulars of the Gardeners' Orphan Fund can be obtained on application to the secretary, Mr. Brian Wynne, Milton House, Surrey Street, Strand, W.C. The next annual dinner will be held at the Hotel Cecil, on May 19.

DOUBLE-SPATHED ARUMS. — R. W., West Drayton: Arum lilies are very freakish, and often produce twin spathes, though it is very seldom two spadices are produced from one stem. In the examples sent there is one perfect spathe and central spadix, but the secondary and outer spathe in each case is greener and more nearly like a leaf in shape and texture. The spathe is really a white leaf, produced in such a way as to shelter the flowers on the spadix, and advertise to the insect world that here is nectar and also, incidentally, flowers to fertilise. Cultivation has improved the spathe, but now and then Nature shows us that spathe and petal are but coloured leaves, somewhat altered in form for a special purpose in view, i.e., the continuity of the species.

DAMAGE TO PRIMULA LEAVES AND PTERIS FRONDS.—W. P., Newcastle: We can find no insects either on the leaves of Primula obconica or the Pteris fronds, but the appearance of the specimens suggests that a tiny mite, like the Begonia mite, has been at work. Probably the means you have adopted have exterminated the pest, but should the trouble again arise dust with tobacco powder, or dip the plants occasionally in a nicotine solution.

MILDEW ON ROSES.—W. W., Gloucester: An error in ventilation is often responsible for mildew on roses under glass, but mildew can be cured by spraying the affected parts with a solution of sulphide of potassium at the rate of half an ounce to a gallon of water. Dissolve the potassium sulphide (liver of sulphur) in hot water, and then add the necessary amount of tepid water. Spray at intervals of ten days as a preventive.

MALFORMED CŒLOGYNE. — A. J. C., Hendon: The plant seems to have been caught between two minds, and so failed in both directions. The pseudo-bulbs are made after the flowers have faded, but in this instance the plant has tried to make a pseudo-bulb and flower at the same time. It is a very unusual occurrence, and suggests a check of some kind. Probably the plant was kept too dry during its period of rest. The weakness of the growth accounts for the lack of petals and other malformations in the flower.

PLANTING SWEET PEAS.—E. R. P., Saffron Walden: If the ground is ready then proceed at once to plant cut the sweet peas, first taking care that the soil in the pots is not dry. It is always a good plan to carefully examine any plants in pots a few hours before they are to be planted, watering all that need such attention. Place some foot-high twigs (old birch broom heads provide splendid material) around the plants after planting, and give sufficient tepid water to settle the soil about the roots. We have come to the conclusion that the plants may be separated and planted singly, after having been grown four or five together in a pot, without suffering any real injury, provided they were well watered a short time previously, and are shaken from the soil with great care. The success of this operation is in the hands of the planter. Even in the case of autumn-sown sweet peas the roots may be disentangled with scarcely a break, and these may be planted by means of a trowel, and careful fingers without harm. Two lines of thread over the rows of plants to scare the birds, and a dusting of soot to keep slugs away, are other matters of importance. You cannot do better than obtain "Sweet Peas and Their Cultivation," by Charles H. Curtis, post free for 1s. 2d., or 1s. 8d. (cloth), from the Gardeners' Magazine Office, 148, 149, Aldersgate Street, E.C.

DIVIDING AND REPLANTING HARDY FERNS.—M. M. G., St. Neots: April is an excellent time in which to divide and replant hardy ferns, and the earlier the work is done the better. Where it is necessary to lift a number of plants every care should be taken of them while they are out of the soil. Put them in a shady place, and cover with a wet mat. Ordinary garden soil will suit the ferns if the position is a shaded one, but if leaf-mould and peat can be provided these may be advantageously added to the soil. If the work is left much later a number of the new roots will be damaged, and the unfolding fronds may also suffer.

GLADIOLUS BRENCHLEYENSIS.—T. C., Bridlington: The advice you have received is excellent; we heartily endorse it. As your soil is rather heavy place a handful of sand under and around each corm, when planting. Gladiolus Brenchleyensis should be planted a foot or fifteen inches apart in groups of a dozen or more, as they are then much more effective than when planted singly or in threes.

NAMES OF PLANTS.

H. R., no address.—Eucalyptus cordata.

R. B. P., Louth.—1, Cattleya Schroderæ; 2, Abies Douglasi.

M. E. J., Surbiton.—1, Forsythia suspensa; 2, Prunus triloba; 3, Synthyris reniformis.

D. F. H., Loughborough.—1, Cyrtomium falcatum; 2, Helxine Solieroli; 3, Pilea muscosa.

S. W., Windsor.—1, Iris stylosa; 2, Ribes sanguinea; 3, Anemone hepatica; 4, Saxifraga Burseriana; 5, S. apiculata; 6, Prunus triloba.

C. G. T., Bideford.—1, Helleborus colchicus; 2, Rhododendron barbatum; 3, Sophronitis grandiflora; 4, Epidendrum variegatum.

NAMES OF FRUITS.

We cannot guarantee the correctness of the following names, as fruits are so much out of character at this season, owing to shrivelling. We shall be glad to assist our correspondents if they will send full-sized fruits late in the autumn.

H. S., Aylesbury. — Bedfordshire Foundling.

W. C. and T. C., Taunton.—1, Catshead, 2, Margil.

T. H., Kingston.—1, Not recognised; 2, Hawthornden; 3, King of Tompkins County; 4, Schoolmaster.

FLOWER SHOW SCHEDULES.

We shall be obliged if secretaries of societies will forward us a copy of their schedule for the present year.

Dulwich Chrysanthemum and Horticultural Society.—Summer Show in the Imperial Hall, East Dulwich, on July 21; Chrysanthemum Show at the Baths, Goose Green, on November 9 and 10.

Penarth Rose Society.—The Second Annual Show will be held in the Cricket Field, Penarth, on July 6.

Massachusetts Horticultural Society.—Great Exhibition of Orchids, to be held on May 26-30, in the Horticultural Hall, Boston, Mass., U.S.A.

OBITUARY.

◆

MR. WILLIAM DENNING.

On March 2, after a brief illness, one of the old school of gardeners passed away at Hampton, in the person of Mr. Wm. Denning His gardening career was begun at Grimston Park, Tadcaster, and from here he went to Tortworth Court, Patshull, and Kew; he left Kew as far back as 1856. He was appointed head gardener to Lord Bolton at Bolton Hall, and then occupied a similar position for Lord Londesborough at Grimston Park, and subsequently at Kingston Hill. Mr. Denning was a splendid plantsman, and grew orchids well. In 1887 Mr. Denning commenced the cultivation of plants, flowers, and fruits for market at Hampton, and was particularly successful in forcing flowers. He took a keen interest in local affairs, sat on the Urban District Council for fifteen years, and was chairman about three years ago. Both the gardening charities had his wide and practical sympathy, and he was present at the last annual meeting of the Royal Gardeners' Benevolent Institution. Mr. Denning had just completed his 73rd year.

TRADE NOTE.

Messrs. Stuart Low and Co. write: "With reference to the cyclamen flower we sent you last week, we omitted to mention we are calling this Eileen Low." This refers to the red cyclamen with silvery-white crest and edges.

FORTHCOMING ENGAGEMENTS.

TUESDAY, April 19—Royal Horticultural Society: Narcissus and Tulip Committee at 11.30 a.m.; Fruit, Floral, and Orchid Committees, at 12 o'clock; Lecture at 3 p.m., on "The Wild Flowers of the West of Ireland," by Mr. R. Lloyd Praeger, B.E., B.A.; Scientific Committee at 4 o'clock.
Devon Daffodil Show, at Barnstaple; Two days.
Shrewsbury Spring Show.
WEDNESDAY, April 20.—Royal Horticultural Society's General Examination in Horticulture.
Byfleet Daffodil Show.
Glamorgan Daffodil Show.
Huntingdon Daffodil Show.
Kent Spring Flower Show, at Tunbridge Wells.
THURSDAY, April 21.—Ipswich Spring Show; two days.
Falmouth Spring Show; two days.
Newent Spring Show.
Linnean Society Meeting.
FRIDAY, April 22.—Exeter Spring Show.

CATALOGUES RECEIVED.

BOULTON AND PAUL, NORWICH.—As the time will soon be here when we shall be able to live a great deal in the garden, the question of suitable garden seats, at once comfortable, durable, and artistic, arises, and there seems to be no end to the designs, judging from Messrs. Boulton and Paul's catalogue. Arbors, bowers, tea tables, etc., are also illustrated, and one catalogue is devoted to seats suitable for public parks, parades, etc., and yet another list deals with garden stairways, tables, water troughs, well heads, sun-dials, plant boxes, and other useful items of garden furniture

JOSEPH BENTLEY, LIM., BARROW-ON-HUMBER, HULL.—A handy pocket list of specialities for the improvement of lawns and the eradication of weeds on tennis courts, bowling greens, etc.

J. BURRELL AND CO., HOWE HOUSE NURSERIES, CAMBRIDGE.—An up-to-date list of cactus, paeony, and pompon dahlias, including seven new cactus and two new miniature cactus varieties raised by the firm.

CHARLESWORTH AND CO., HAYWARDS HEATH, SUSSEX.—A very complete descriptive catalogue of orchids in stock at this firm's new nursery at Hayward's Heath. Great prominence is given to hybrids, and there are beautiful coloured illustrations of Cattleya Venus, Cypripedium Charlesworthi var. Bromilowæ, Odontoglossum eximium Charlesworth's var., and Zygocolax [illegible] [illegible].

GEORGE BUNYARD AND CO., LIM., MAIDSTONE.—Hardy herbaceous plants are well described and figured in this new catalogue, but the great features are the new, beautiful and graceful Michaelmas Daisies raised by Mr. E. Beckett; the "Shakespeare" delphiniums, all named after Shakespearian characters; and the primrose coloured delphiniums, raised by Mr. F. Smith at Weybridge.

F. BEDDAWAY AND CO., LIM., 212, SHAFTESBURY AVENUE, W.C.—Although we are now in the month of showers the time will soon be upon us when artificial watering out of doors will be imperative, hence the need of considering garden watering apparatus such as provided by the above firm. Their catalogue of hose, fittings, sprinklers, engines, etc., is well worth perusal.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1910. April 3 to April 9.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
April 3—Sunday	8 18	38	34	51	25
„ 4—Monday	4 24	41	39	50	34
„ 5—Tuesday	1 30	42	40	51	39
„ 6—Wednesday	—	35	35	49	30
„ 7—Thursday	—	47	42	46	35
„ 8—Friday	4 54	41	39	49	37
„ 9—Saturday	6 42	45	41	55	33
Means	(total) 25 48	42	38	50	33

Date. 1910. April 3 to April 9.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
April 3—Sunday	—	40	43	44	18
„ 4—Monday	0·15	42	43	44	26
„ 5—Tuesday	0·09	44	44	44	37
„ 6—Wednesday	0·07	42	44	44	25
„ 7—Thursday	—	43	44	44	40
„ 8—Friday	—	42	44	44	33
„ 9—Saturday	—	43	44	44	26
Means	(total) 0·31	42	44	44	29

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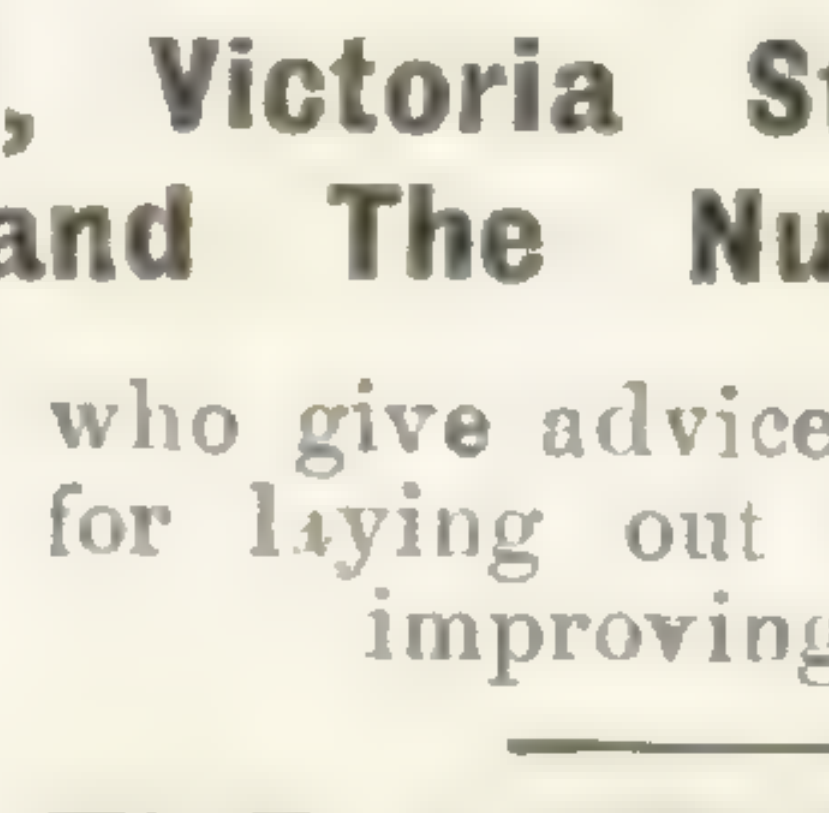

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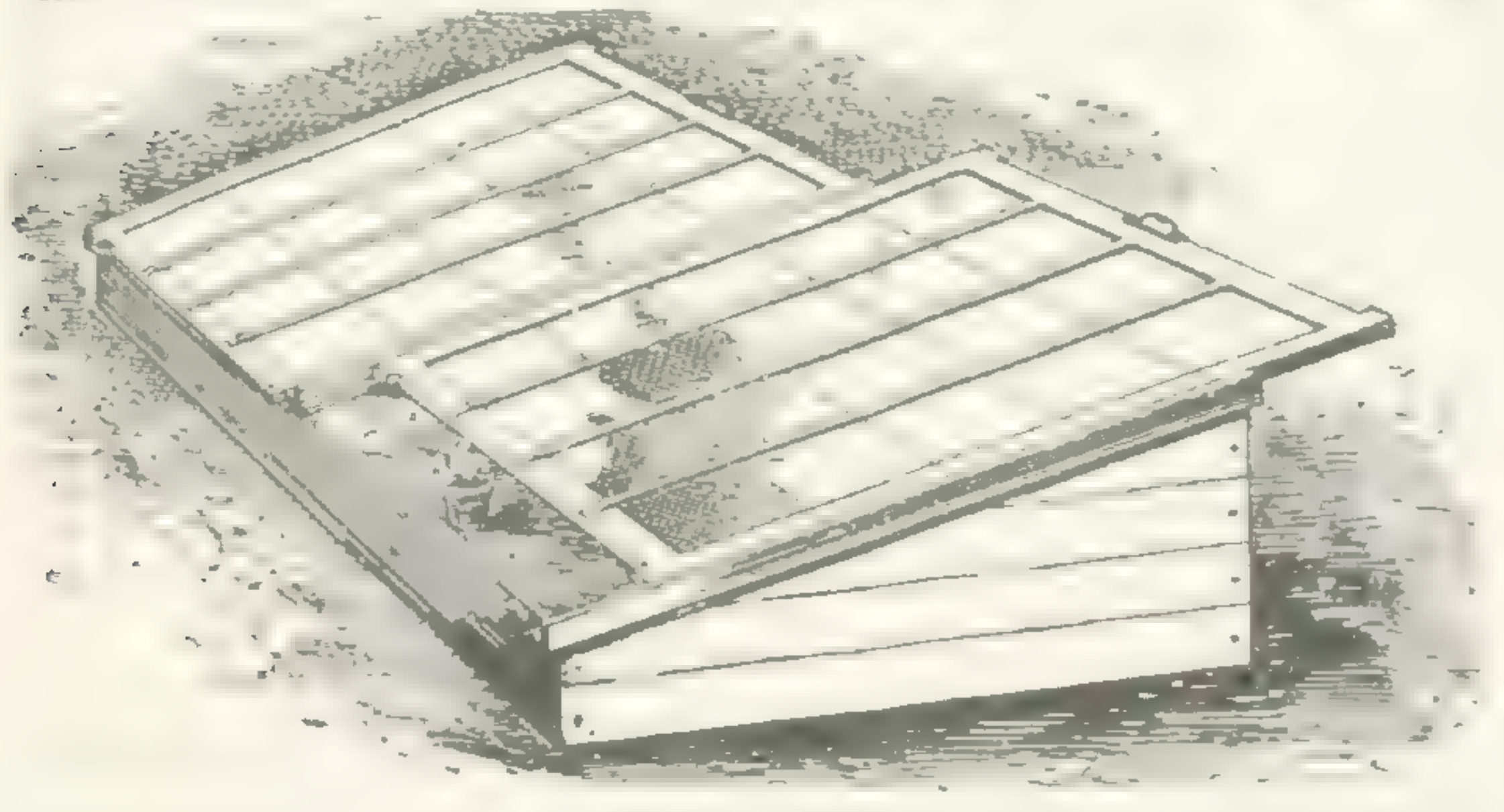

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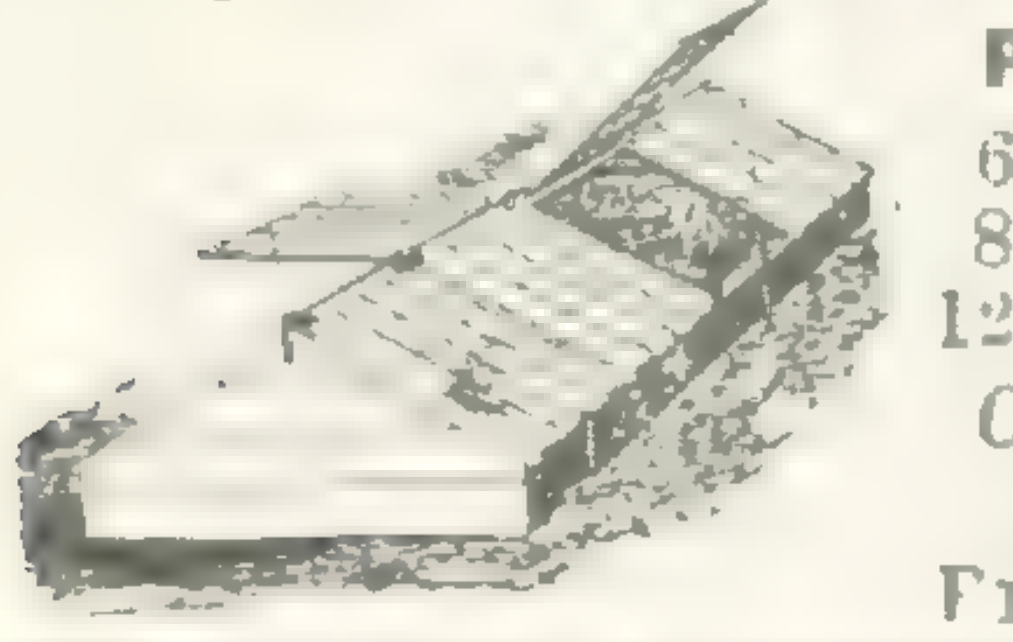
8 ft. by 6 ft. ...	£2 14 0	16 ft. by 6 ft. ...	£4 14 0



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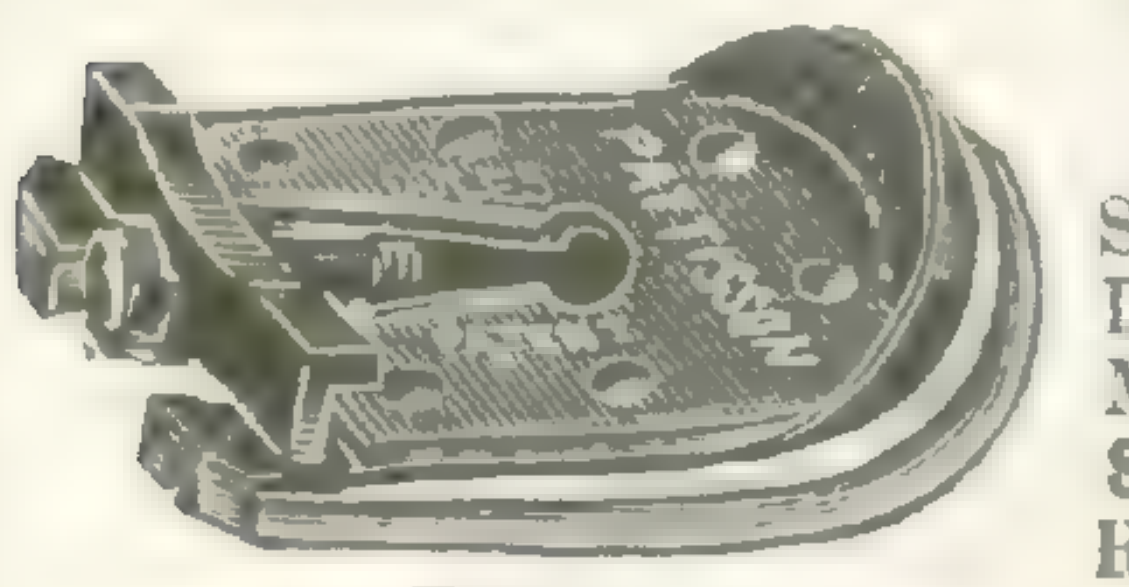

Fig. 1.

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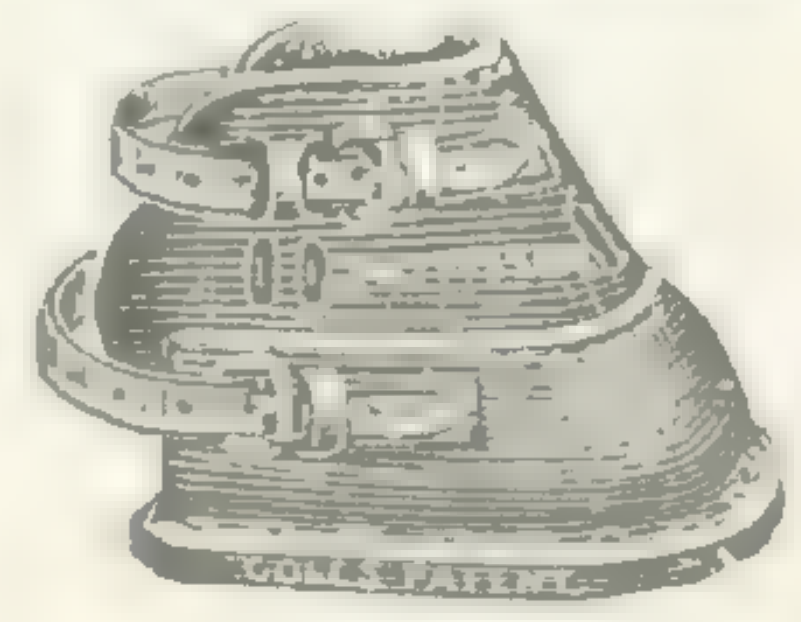


Fig. 2.

H. PATTISSON & CO., 4, GREYHOUND LANE, STREATHAM, S.W.

VELVETY LAWNS

ARE PRODUCED BY USING

READE'S LAWN SAND

which destroys daisies, plantains, dandelions, moss, and other weeds on lawns, and at the same time nourishes and promotes the growth of the fine grasses. Excellent for lawns, golf greens, etc.

Price **20/-** per cwt.; 3cwt. **19/-**, 5cwt. **18/-** per cwt. Carriage paid.

READE BROTHERS and CO., Ltd.,
Manufacturing Chemists, **WOLVERHAMPTON**

NETTING I DO NOT REQUIRE PAYMENT until you have seen and approved of netting. Others may try to copy me, but my netting is similar to that supplied by us to the Royal Gardens, being extra quality small mesh, will not rot. 50 yds. by 1 yd. 2s., by 2 yds. 4s. Any width or length supplied. Orders over 5s. carr. paid. Commoner netting, 50 sq. yds. for 1s. List and samples free. H. J. GASSON, Net Works, Rye. Est. 126 years.

LOOK! TO GARDENERS.—Tanned Garden Netting, small mesh, 36 yards long, 2 yards wide, 2s.; by 3, 3s.; by 4, 4s.; by 5, 5s.; by 6, 6s. Any other width, any length, kept in stock. HENRY ROBINSON, Net Works, Rye, Sussex.

EIGHT GOLD MEDALS.

WILLESDEN GREEN SHADING

THE BEST MATERIAL FOR PROTECTING PLANTS FROM THE SUN.

Admits light and supplied 36 in. and 60 in. wide, from 7½d. per yard. BLINDS promptly made. Used at principal Gardens and Estates for many years. Unsolicited testimonials. NON-ARSENICAL and THREE TIMES MORE DURABLE than ordinary scrim.

GENUINE WILLESDEN CANVAS,

For LAWN TENTS, GARDEN APRONS, AWNINGS, WIND SCREENS, ROOFING ON BOARDS, and all purposes requiring inodorous, flexible, clean and rot-proof materials.

SHOP SOILED TENTS, 6 ft. square, complete 35s. each—Few left.

WILLESDEN PAPER, 8 ply, 4 ply, 2 ply and 1 ply, waterproof and rot-proof. Roofing sheds (without boards), underslating, lining damp floors and to keep back dust, damp walls, cupboards, insulating cold stores. Stencils, waterproof wrapping etc.

Contractors to H.M. Government. Samples Free.

ESTABLISHED 1870.

WILLESDEN PAPER & CANVAS WORKS, Ltd.,
Willesden Junction, London, N.W.

Telegrams: "IMPERMEABLE, LONDON."

BENTLEY'S WEED DESTROYER.

(Liquid-Poison).

CONSPICUOUSLY AND INCONTROVERTIBLY AHEAD OF ALL OTHERS!
MOST POWERFUL! MOST LASTING IN EFFECTS!
BEST REPUTATION AND BIGGEST SALE!

Special Concentrated Strength (1 to 80)—3 gall. drums, **14/6**; 6 gall. drums, **27/-**; 12 galls. (in 2 6 gall. drums), **£2 6/-**; 24 galls. (in 4 6 gall. drums), **£4 10/-**.

Double Strength (1 to 50)—3 gall. drums, **10/-**; 6 gall. drums, **18/-**; 12 gall. barrels, **£1 13/-**; 20 gall. barrels, **£2 7/6**; 40 gall. barrels, **£4 12/6**.

Drums and barrels charged and returnable.

BENTLEY'S DAISY KILLER

(Lawn Sand).

Effectually destroys all kinds of weeds on lawns and at the same time invigorates the growth and enriches the colour of the grass.

1 ton, **£19**; 10 cwts., **£9 15/-**; 5 cwts., **£5**; 1 cwt., **£1 1/-**; ½ cwt., **12/-**; Tins, **5/-**, **2/6**, and **1/-** each.

BENTLEY'S COMPOUND LIQUID QUASSIA EXTRACT (The Original).

FIRST YESTERDAY! FIRST TO-DAY! FIRST TO-MORROW!

The Deadliest Foe of GREEN, BLACK & WHITE FLY!

Each gallon makes from 80 to 100 gallons of Wash, costing about ⅓d. per gallon.

20 galls., **3/6**; 10 galls., **3/7**; 5 galls., **3/8** per gallon. 1 gall., **4/2**; ½ gall., **2/6**; 1 quart, **1/6**; 1 pint, **1/-**.

Carriage Paid on **7/6** orders and upwards to any railway station. Write for descriptive catalogue of Horticultural Specialities and Sundries.

WHOLESALE MANUFACTURERS:

JOSEPH BENTLEY, LTD.,
Chemical Works, Barrow-on-Humber, HULL.

NATIVE GUANO

BEST and CHEAPEST MANURE for VEGETABLES, FRUITS and FLOWERS.

Price **£3 10s.** per ton in bags. Lots under 10 cwt. **4s.** per cwt. at works; or **5s.** per cwt., carriage paid to any station in England.

Extracts from 32nd annual collection of reports:—

NATIVE GUANO for POTATOES, VEGETABLES, etc.

J. Haydon, Hampton: "Potatoes, excellent crop; none diseased. Grand for keeping away slugs."

G. Perry, Westcliffe: "Peas and onions splendid."

NATIVE GUANO for FRUIT, ROSES, TOMATOES, etc.

A. W. Brinkham, Hull: "Cucumbers, tomatoes, and chrysanthemums highly satisfactory." G. Accleton, Carlisle: "Finest manure ever used for vines, peaches, roses, carnations, etc." W. Cooper, Shoeburyness: "Most excellent for roses."

Orders to the **NATIVE GUANO CO., LIMITED**, 29, New Bridge Street, London, E.C., where 32nd year's testimonials, etc., may be obtained. Agents Wanted.

WATSON'S LAWN SAND.

(The Only Original.)

Destroys Daisies, Plantains, Dandelions, &c., and at same time invigorates the Grass.

34/- per cwt.; 56lb. Kegs, **18/-**; 28lb. Tins, **9/6**. Canisters, **5/6**, **2/6**, and **1/-**.

Please see that you get the genuine article.

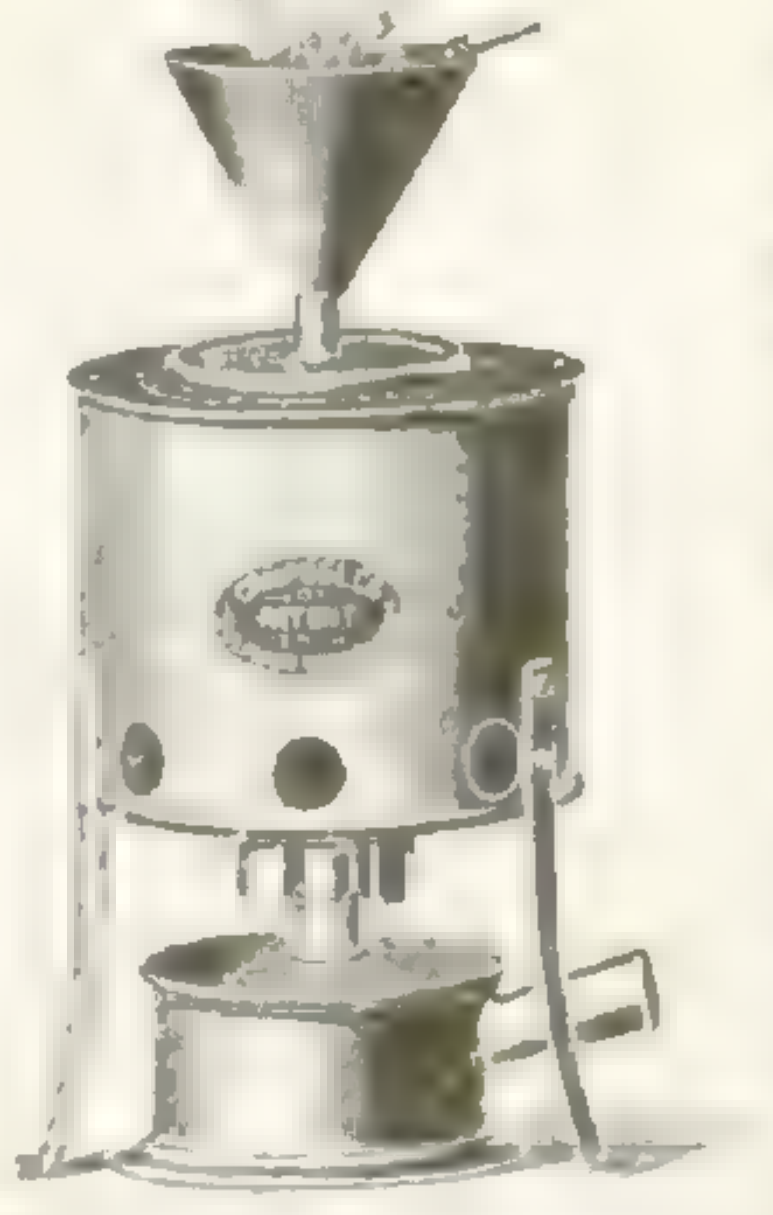
Sold by Seedsmen and Nurserymen.

A. J. BARBOUR, 8, Upper Fountaine Street, LEEDS.

PEA PROTECTORS, strong, ¾in. mesh, yard long, 3 doz., 6s. 9d.; 6 doz., 12s.; 12 doz., 22s. 6d., all carr. paid. GARDEN ROLLERS, exquisitely finished, solid ends, double cylinders, rounded edges, 14-inch, 1¾cwt., 22s. 9d.; all sizes equally cheap. Ballast Rollers, 19in., 4¼cwt., 44s. 6d. Complete catalogue. Golf, Cricket, and Field Rollers. 10-inch Lawn Mowers, guaranteed; on approval, 13s., all carr. paid. REEVE, Desk 29, Stony Stratford.

CAMPBELL'S PATENT

SULPHUR VAPORISER.

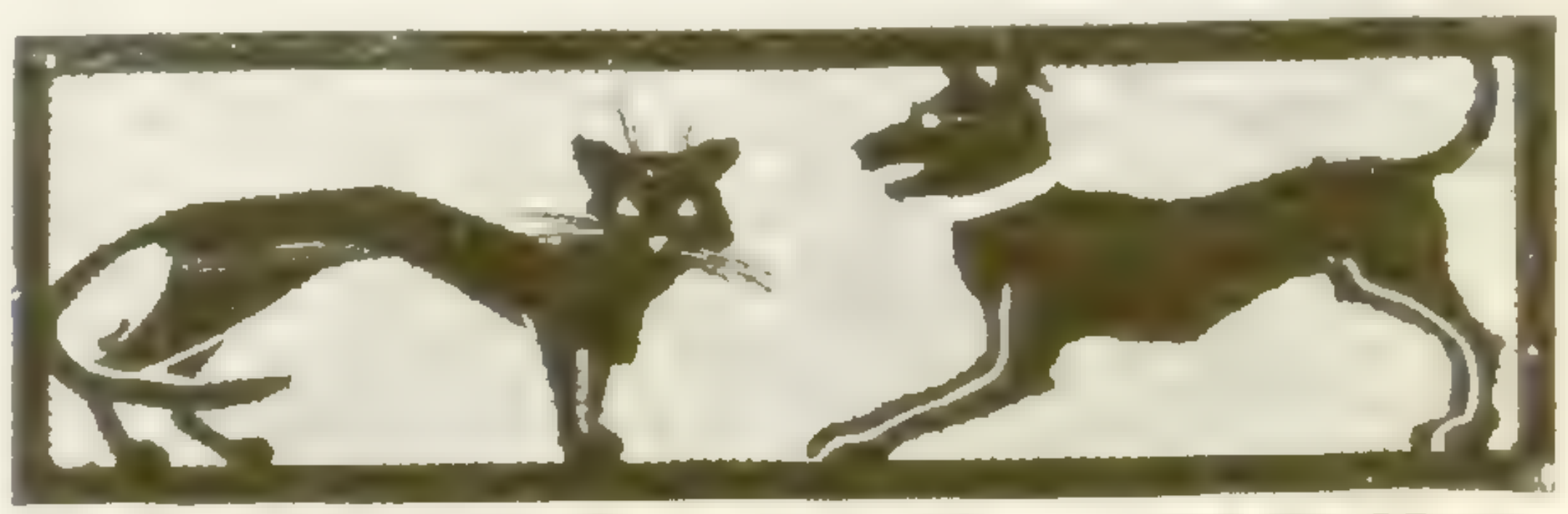


An apparatus for **Vaporising Sulphur in Greenhouses to destroy Mildews and other Diseases affecting Roses, Vines, Tomatoes, Cucumbers, Peaches, etc.; also for checking Red Spider.**

The apparatus is one of the grandest inventions ever introduced for the benefit of cultivators under glass, and hundreds of Testimonials from all parts of the world confirm this. It lasts for years, and costs retail, for small amateurs' size, **12s.**; large size, **16s.**

Copies of testimonials and further particulars from Seedsmen, or—

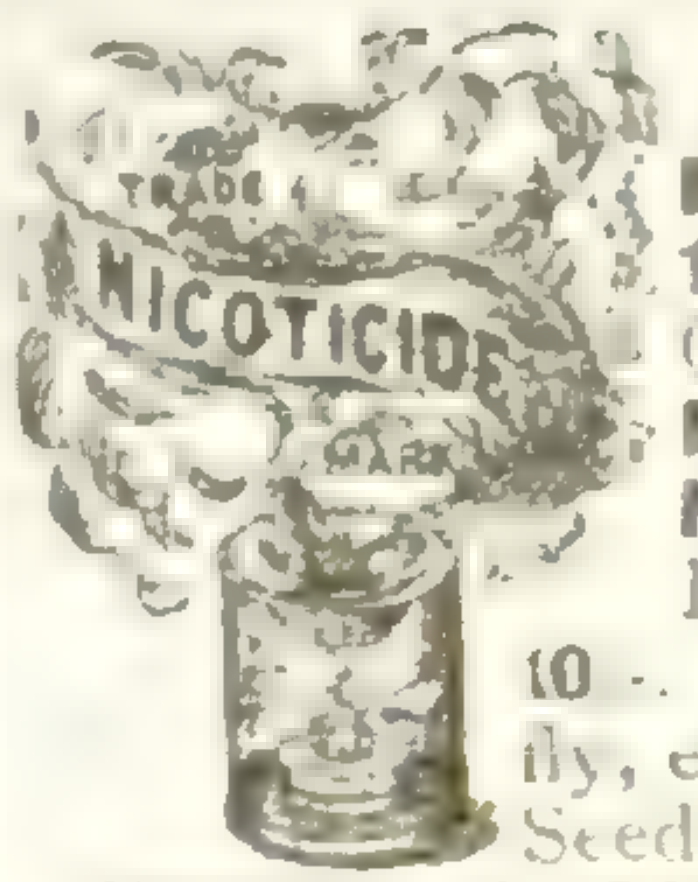
EXORS. ROBERT CAMPBELL,
WATER STREET, MANCHESTER,
Manufacturers of Nicotine in Bond, Insecticides, and Weed-killers.



"LIVERPOOL" VIRUS

in tins. Ready prepared with the Bait. Harmless to all animals except Rats and Mice. No smell from dead bodies. Virus for Rats, **2/6** and **6/-**. Virus for Mice, **1/6**

Prepared in England by English Scientists. Of all Chemists. Full particulars from Sole Wholesale Agents:—
Evans, Sons,
Lescher & Webb
Ltd, 56, Hanover St.
Liverpool and London.



NICOTICIDE,

FUMIGANT for GREENHOUSES.—Pint, **15/-**; ½ Pint, **7/6**; **4/6**, **3/-**, **1/8** and **10d.** Cost of fumigating **4½d.** 1,000 cubic feet. **Fumigators, 1/-** each, for 5,000 cubic feet. **NICOTICIDE PLANT SPRAY.**—½ Pint, **1/2**; Pint, **2/-**; Quart, **3/6**; ½ Gal., **5/-**; Gal., **10/-**. Use 1 part to 40 parts of water for Green fly, etc. All goods carriage paid. Ask your Seedsman, and insist on having same.

HUNTER & GOW, 46, Thomas Street, LIVERPOOL.

GARDEN AND TENNIS NETS (best tanned only, small mesh).—50 x 8yds., 17s.; 25 x 8yds., 50 x 4yds., 100 x 2yds., 8s. each; 100 x 1yd., 50 x 2yds., 25 x 4yds., 4s. each. Any size to order. Tennis Netting (corded) 25 x 2, 6s. 6d.; 25 x 3, 7s. 6d.; 25 x 4yd., 8s. 6d. Write for Price List. L. WREN and SON, Net Merchants, 139, High Street, Lowestoft.

NOTICE.—Always use PORTER'S IMPROVED COIL STAKES for Carnations, no tying required; last a lifetime. Sample doz. with price list 1s. carriage paid. A. PORTER, Stone House, Maidstone.

DISTINCTIVE GREENHOUSES designed and built. Specification, plans, free. May we call and discuss? CARTER and HOWARD, 4, Fife House, Kingston-on-Thames.

Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

FRENCH GARDENER (Head), leaving the late King of Belgians' Riviera Gardens at Cap Ferrat, seeks Situation as GARDENER (Head) in France or neighbourhood; advertiser, who has had thorough experience in all branches of Gardening, is 33 years old, speaks English, and can give most satisfactory references. All communications addressed to Mr. G. SCHNEIDER, President of the French Horticultural Society in London, 17, Ifield Road, Fulham Road, London, S.W.

GARDENER (Head Working).—Gardener's Son seeks SITUATION where two or three are kept; life experience, including 5½ years at Londesborough Park and over two years in present situation as Foreman; age 27; good references. HODGSON, Kirklees Gardens, Brighouse.

GARDENER (Head Working), life experience Inside and Out, in good establishment; vines, flowers, vegetables, hard fruit, stove and greenhouse plants; capable and trustworthy; good references; married; no family; age 39. R. GRIFFITHS, 8, Pitt Road, Farnboro', Kent.

GARDENER (Head Working); 17 years' practical experience gained in good establishments; age 32; married; good references. G. WYNNE, Gardens, Burn Hall, Easingwold, York.

GARDENER (Head Working).—W. HULBERT, The Gardens, Clarefield, Maidenhead, highly recommends his Foreman, F. BOOKER, to take charge of small place and Electric Plant if required; life experience Inside and Out; age 27.

GARDENER (Head Working, where more are kept), age 28; life experience Inside and Out in good places with Vines, Fruit, Plants, House Decorations, Forcing, etc.; good references previous places. MIDDLETON, Exbury House, Exbury, Southampton.

GARDENER (Head Working, where two or three are kept); age 32; good all-round practical experience Inside and Out; good references; life abstainer. A. NEWMAN, Orchard Cottage, Ardingly, Sussex.

GARDENER (Head Working, where more are kept), thoroughly experienced in fruit, flowers, and plants under glass; also vegetables; well recommended; capable, trustworthy; excellent manager; age 28; married when suited. HEXTALL, Stoke D'Abernon, Pebham, Surrey.

GARDENER (Head Working), age 30.—Mr. WATSON, Gardener, The Lodge, Bushey Down, Tooting Common, can highly recommend his Foreman; life experience in all branches; married when suited.

GARDENER (Head Working or good single-handed), experienced Inside and Out; vines, peaches, plants, etc.; good references; age 30; single; disengaged April 16. J. ASTON, Grenadier Cottage, Ash Vale, Surrey.

GARDENER (Head or good Second), 12 years' experience, Inside and Out; married, no family; age 26; excellent references. H. CROUCH, 8, Laburnum Road, Chertsey, Surrey.

C. H. PASTEUR, Esq., highly recommends his GARDENER as Head Working, where 2 or more are kept; 7 years present place; leaving for no fault; thoroughly experienced in all branches; married; age 37. BLAKE, Barrowfield, Hadham, Herts.

MAJOR HOLROYD, Ropley Manor, Alresford, Hants, wishes to highly recommend his late GARDENER (Head); life experience in all branches of Gardening, Inside and Out; age 31; single. SCREEN, West Street, Marlow, Bucks.

MR. E. R. BEVAN, 6, Chelsea Embankment, highly recommends his late GARDENER (Head Working); 13 years in his service; life experience; extremely intelligent and trustworthy; 39; married, one child. H. KING, Rempstone, Corfe Castle.

SIR E. CORNWALL, M.P., wishes to recommend his GARDENER (Head Working, where three or more kept); 22 years' experience; good references; age 37; married, no family. C. DOMAN, Oaklands, Horley, Surrey.

GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

GARDENER seeks SITUATION (Head Working, or Single-handed); near London preferred; age 40, married, no family; thoroughly experienced; 17 years' good reference. DIXON, The Lodge, Great Horkesley Park, Nayland, Suffolk.

GARDENER (Single-handed, or with help); life experience Inside and Out; single; age 25. E. G. FRY, c/o Mrs. H. Osborn, 322, Latimer Road, North Kensington, London, W.

GARDENER (Single-handed or otherwise); good experience of Inside and Out; excellent references; disengaged; single; age 39. JESSE SCADDING, 13, Prospect Road, St. Albans, Herts.

GARDENER (Single-handed), good all-round, understands cows; can be highly recommended from present employer; over five years; married, no family. T. GORRINGE, Larne Villa, Lindfield, Sussex.

MR. J. DOUGLAS, V.M.H., can highly recommend W. MUTTER to any Lady or Gentleman requiring a Head or Single-handed Gardener; 15 years' experience Inside and Out; married; aged 28. Address Elm Road, Leatherhead.

FOREMAN (Inside).—Mr. MILES, Caversham Park, Reading, confidently recommends his late Foreman; 12 years' good experience Fruit and Plants, including Carnations, some Orchids, House and Table Decorations; abstainer; age 27; disengaged. Address TURK, 9, Grosvenor Road, Bedford.

FOREMAN (Inside).—Mr. DYE, Tring Park Gardens, Tring, Herts, wishes to recommend C. BALCHIN as above, 12 years' experience in Fruit, Plants, Carnations, and Malmaisons, House and Table Decorations; age 26; good references.

W. I. SHARD, Esq., 2, Connaught Place, S.W., confidently recommends his late Foreman and good Second, where several are kept; house and table decorations; age 29, 16 years' experience; holder of R.H.S. Certificate; south preferred; excellent refs. G. ADLAM, Old Netley, Bursledon, Southampton.

MR. L. E. WALKER, Barton Hall Gardens, Bury St. Edmunds, highly recommends G. SPENCE as JOURNEYMAN (Second, Inside) in a good establishment; six years' experience; age 21, disengaged. G. SPENCE, High Street, Yoxford, Suffolk.

JOURNEYMAN (Inside), under good Foreman; good experience, Inside and Out; age 22; good references; Bothy preferred. J. WILLIS, West Cliff Hall, Hythe, Southampton.

JOURNEYMAN, age 20, seeks SITUATION, Inside; 4½ years' experience, Inside and Out; can be well recommended from present place; Bothy preferred. Apply R. GIDDEN, The Gardens, Coleshill House, Highworth, Wilts.

JOURNEYMAN (Inside or Inside and Out); nine years' general experience; age 23; good references.—C. ANDERSON, 3, Waterworks Road, Otterbourne, nr. Winchester.

JOURNEYMAN (Inside) seeks SITUATION where four or five are kept; eight years' experience in good establishments, including Bury Hill, Dorking, and Goodwood, Chichester; good references. W. TYLER, 38, Falkland Road, Dorking, Surrey.

JOURNEYMAN (First) in Fruit and Plant Houses; nine years' experience, five under present Gardener; age 22; abstainer; Bothy preferred. R. RYE, Gardens, North Frith, Tonbridge, Kent.

JOURNEYMAN; 4½ years' present situation; good character. T. W. FORD, The Gardens, Donnington Grove, Newbury.

JOURNEYMAN (Inside) seeks SITUATION; seven years' experience; three years in last situation; age 21; disengaged; good references. G. PEACH, Sudbrook, Grantham, Lincolnshire.

JOURNEYMAN or IMPROVER (Inside).—Rev. G. H. COLVILE, Weston Rectory, Shifnal, Salop, wishes to recommend L. GIBBS as above; four years' experience; age 19; Bothy preferred.

JOURNEYMAN-IMPROVER (Inside); six years' experience in Plants, Kitchen and Flower Gardening; good character; age 20. C. WOODWARD, Water Newton, Wansford, Northants.

F. IBBOTSON, Rolleston Hall, Leicester, wishes to recommend F. JARVIS as JOURNEYMAN (Inside or Inside and Out); age 21, strong and willing; six years' experience.

W. LETTS, Gardener to A. Bryars, Esq., Manor House, Woodmansterne, Surrey, will be pleased to recommend F. RABBETS as JOURNEYMAN; age 23; seven years' experience Inside and Out.

GARDENER (Second); life experience in first-class establishments; well versed Inside and Out; good references; married when suited; age 29. PRITCHARD, 5, Southbourne Terrace, Emsworth, Sussex.

MR. GAY, Pasture Wood, Dorking, [illegible] recommends W. BENTLEY as good Second, Inside; 11 years' practical experience in chrysanthemums, fruit, stove and greenhouse plants; three years in above situation; age 28; excellent references; disengaged. 38, White Horse Hill, Chislehurst, Kent.

GARDENER (Under, Inside and Out, or Single-handed); 9½ years' experience, all-round work; good character; age 23. FUDGE, 2, Wycliffe Road, Winton, Bournemouth.

SITUATION COUPON

To the Advertisement Manager of "The Gardeners' Magazine, *148 & 149, Aldersgate Street, London, E.C.*

For APRIL 23, 1910.

Please Repeat my Advertisement.

Name..

Address..

....

Date................................

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

GARDENER (Under) seeks SITUATION in good establishment, Inside, or Inside and Out; age 25; good references. E. DOW, care Mr. Humphery, Franklynns Lodge, Franklynns, Haywards Heath, Sussex.

GENTLEMAN wishes to recommend his UNDER-GARDENER, leaving to improve himself; good references; age 20; abstainer. Apply A. QUENNELL, Field Place, Compton, nr. Guildford, Surrey.

SITUATION wanted as UNDER GARDENER, age 25; good reference; abstainer. W. PENFOLD, Beresford Road, Goudhurst, Kent.

YOUNG MAN (19); GARDENER (Under); five years' experience Outside; good character; strong, willing, obliging. A. W. DINNAGE, 43, West Street, Crawley, Sussex.

ADVERTISER (31) seeks SITUATION; could take entire charge of a small Market or Retail Nursery, chiefly Inside; good references. B. C., care of E. TAYLOR, Beckley, near Christchurch, Hants.

EXPERIENCED SALESMAN requires SITUATION in Covent Garden; Flowers or Fruit. J. W., 323, Hanworth Road, Hounslow.

E. ANDREWS, Bell House Gardens, Dulwich, wishes to recommend F. CURD, age 24, for Inside and Out, willing and hard working; 2 years here; 8 years' general experience.

GARDENER (30), single, seeks SITUATION in kitchen garden and pleasure grounds; or as all-round man; used to scythe and machines; good refs., can be well recommended; [illegible] years' experience, abstainer. H. DAVIS, 42, West Street, Lilley, Luton, Beds.

GARDENER (Young) seeks SITUATION; six years' good reference; Private or Nursery; used to Inside or Inside and Out; abstainer. W. THORN, 105, Millbank Street, Southampton.

HANDY MAN; married, one child; good plain Gardener; well used to Horses and house work; very willing; good references. E. DRAYTON, Mallands, Holt, Trowbridge.

IMPROVER (Inside and Out), age 20; five years' good character; Bothy preferred. W. DAVEY, 8, Downs View Cottages, West Ewell, Surrey.

IMPROVER, age 18; three years inside and Out. Mr. LEWIS, Tythrop Gardens, Thame, will be pleased to recommend a strong Youth as above; Bothy preferred.

IMPROVER, age 18, two years' Nursery experience Inside, seeks Situation in Private Place; strong and willing; excellent references. SPALDING, Newton Solney, Burton-on-Trent.

IMPROVER seeks SITUATION in Floral and Seed Business; age 19; good reference; disengaged May 1st. H. C. L., 50, Lyndhurst Road, Chichester.

LEADING HAND, Kitchen Garden. YOUNG MAN seeks SITUATION as above; 11 years' experience; 3 years' present; excellent characters and previous. E. ADAMS, 2, Mount Pleasant, Ewell, Surrey.

MR. J. ALLSOP, The Gardens, Red Rice, Andover, Hants, wishes to recommend E. WEEKS as IMPROVER (Inside or Inside and Out); age 18; four years' good experience; Bothy preferred.

SITUATION required as Inside and Outside; age 19½; 3 years' experience. HARMER, Milgate Park, Maidstone.

TO GARDENERS. E. ANDREWS, Bell House, Dulwich, wishes to recommend H. HASLETT as IMPROVER, Outside; strong and willing; age 19; 3 years' present situation with me; Bothy no objection.

WANTED, SITUATION as IMPROVER in market gardens; 3 years' experience with market florists; age 21; live in preferred. A. LITHGOW, c/o Mrs. Allner, Sturminster Newton, Dorset.

WANTED, SITUATION as GARDEN LABOURER, age 40; married, no family; good character and good experience; scythe and machine and spade work, etc; willing to be useful; disengaged. W. L., Grove Yard, Daybrook, Nottingham.

YOUNG MAN as GROOM-GARDENER or UNDER; age 22; wiling to learn; can milk; good character. Apply S. BICKER, W[illegible] Cottage, Pulham St. Mary, Norfolk.

YOUNG MAN (20) seeks SITUATION as Under Gardener, 5 years' experience, Inside and out; good reference. H. DRAKE, 156, Payne's Road, Freemantle, Southampton.

YOUNG MAN, age 21, wants SITUATION in garden; 6 years' experience; kitchen garden and pleasure grounds; good character; Bothy preferred. Address W. BRIDGEMAN, 38, Union Street, Rugby.

YOUNG MAN (22) seeks SITUATION Inside under Foreman; excellent references; can be highly recommended. H. HAZELL, The Gardens, Beachborough Park, Folkestone, Kent.

YOUNG MAN (22) seeks SITUATION Inside or Inside and Out; good references; Bothy. H. MITCHELL, Trap Lane, Walliswood, Ockley, Dorking, Surrey.

YOUNG MAN ([illegible]) seeks SITUATION in Gardens, Market Nursery, or Market Garden as Improver; tall, strong and willing; good character. C. B., 45, Windsor Road, Holloway, London, N.

YOUNG MAN, age 20, requires SITUATION in gardens; 6 years' experience; good reference; Bothy preferred. Apply H. YOUNG, Exton, Oakham, Rutland.

YOUNG MAN, age 18, as IMPROVER; excellent character and references. L. MONK, care of County Gardens, Chelmsford.

YOUNG MAN (16) seeks SITUATION in the garden as Improver, Inside, or Inside and out; 2 years' experience; good references; tall, strong, and willing; Bothy preferred. V. MEPHAM, 21, High Street, Old Town, Eastbourne.

AN ADVERTISER WRITES:

"My son has just obtained a situation from the advertisement in your paper. From two other papers I did not have a reply. . . . The best 6d. I ever spent on advertisement."—(March 26, 1910).

ANOTHER SAYS:

"I am pleased to say I have secured a situation. I wish to thank you for putting my advertisement in the 'Gardeners' Magazine' "—(March 19, 1910).

WOOD LATH BLINDS

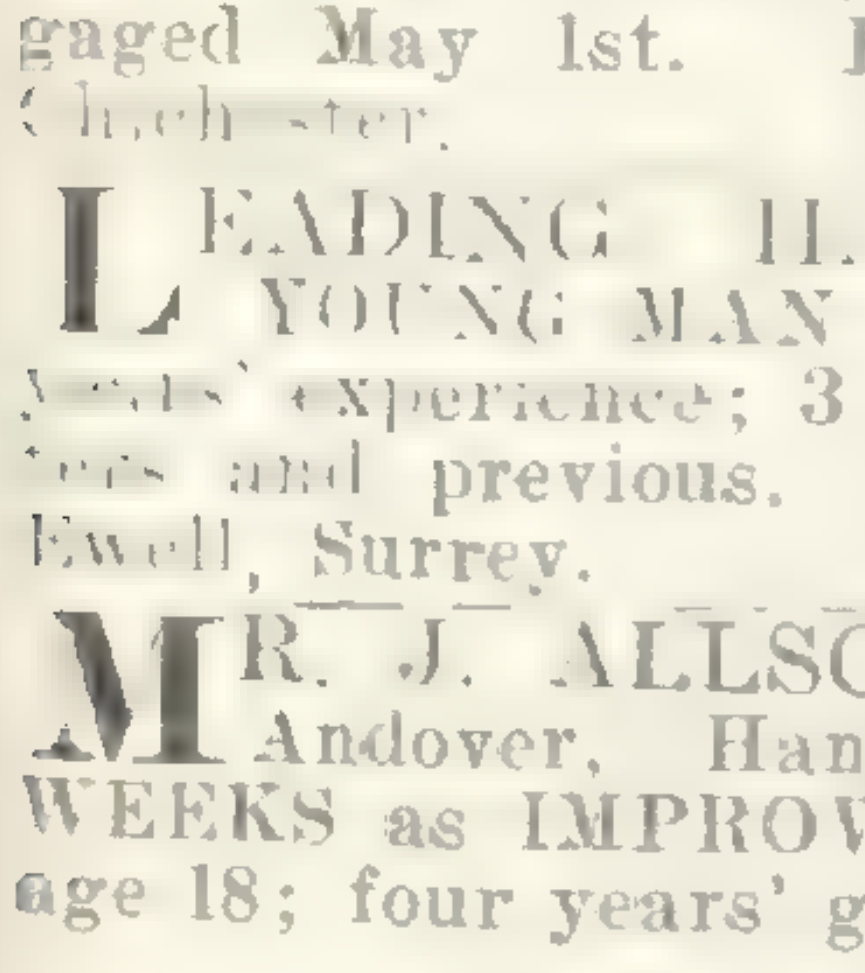
WOOD LATH BLINDS

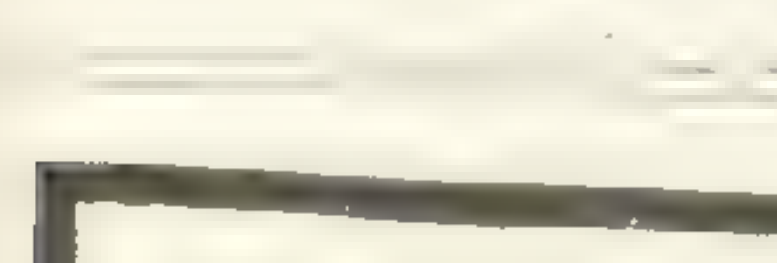
ADMIT SUFFICIENT SUNLIGHT, SO NECESSARY FOR GROWING PURPOSES.

Send for Special Illustrated Catalogue.

MESSENGER & Co LTD
HORTICULTURAL BUILDERS & HEATING ENGINEERS
LOUGHBOROUGH LEICESTERSHIRE
London Office: 122 VICTORIA ST S.W.

FLOWER POT.





SAUCER.

.. CELEBRATED ..

READING FLOWER POTS,

1″ to 24″ diam.

Also SEED PANS, round and square, RHUBARB and SEAKALE POTS, ORCHID PANS,
A varied Assortment of VASES and ORNAMENTAL POTTERY for the GARDEN, TABLE, and NURSERY, RED EDGING TILES, POULTRY FOUNTAINS and BIRD DISHES, &c., &c.

PRICES ON APPLICATION.

S. & E. COLLIER, LTD., READING.

Dr. J. COLLIS BROWNE'S

THE ORIGINAL AND ONLY GENUINE

Chlorodyne

ADMITTED BY THE PROFESSION TO BE THE MOST VALUABLE REMEDY EVER DISCOVERED.

Convincing Medical Testimony with each bottle.
Of all Chemists, 1/1½, 2/9, 4/6.

Acts like a Charm in DIARRHŒA, DYSENTERY and CHOLERA.

Cuts short all attacks of SPASMS, HYSTERIA and PALPITATION.

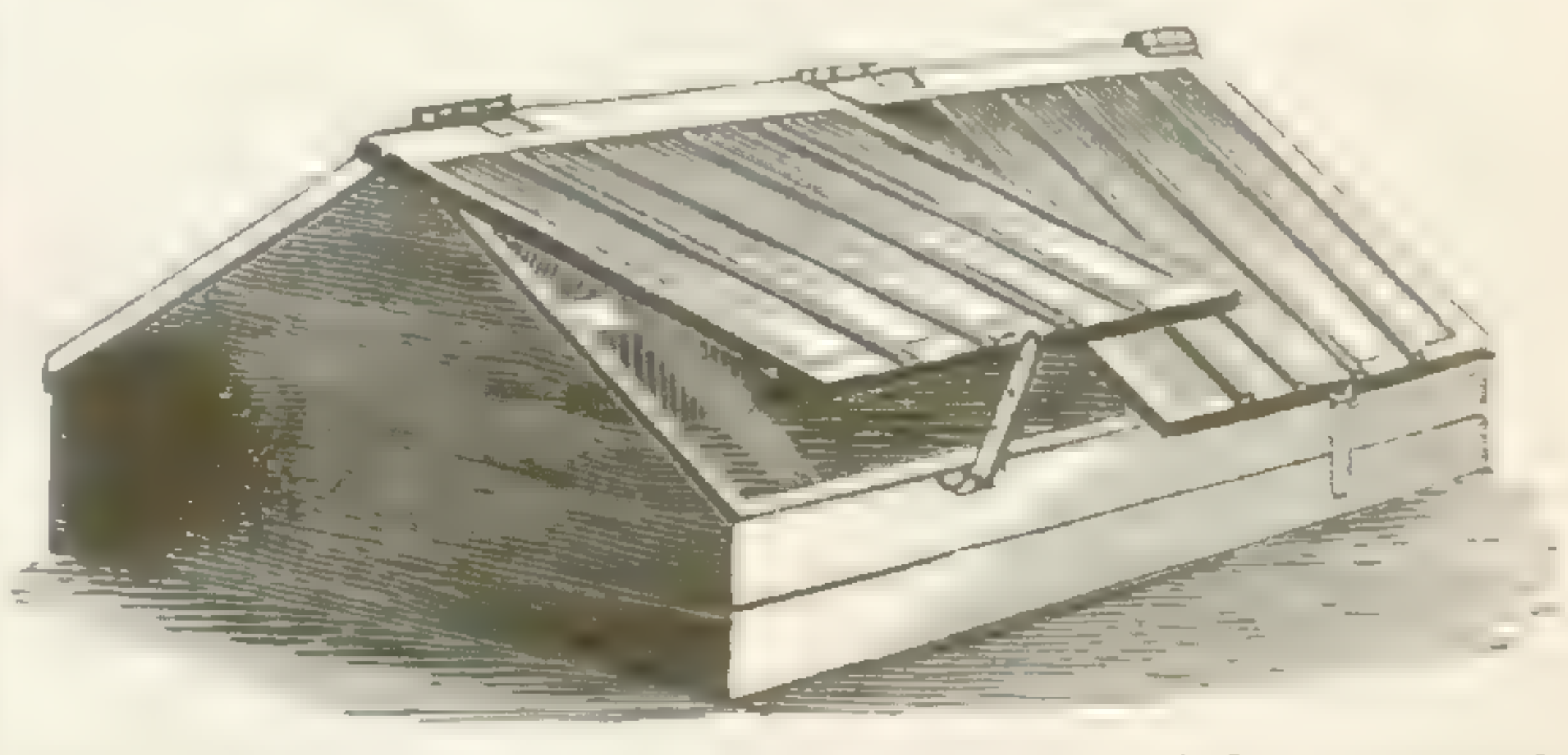
The only Palliative in NEURALGIA, GOUT, RHEUMATISM, TOOTHACHE.

The Best Remedy known for

COUGHS, COLDS,
ASTHMA, BRONCHITIS.

PORTABLE PLANT FRAMES

OUR WELL-KNOWN MAKE.



These Frames are made of the best materials and can be put together and taken apart in a few minutes by anyone.

Sizes and Prices. Glazed and Painted.		£	s.	d.
6ft. long by 3ft. wide	Cash Prices. Carriage Paid.	2	0	0
6ft. ,, 4ft. ,,		2	5	0
6ft. ,, 5ft. ,,		2	15	0
12ft. ,, 4ft. ,,		4	0	0
12ft. ,, 5ft. ,,		4	15	0
12ft. ,, 6ft. ,,		5	12	6

Larger sizes at proportionate prices.

R. HALLIDAY & CO.,
ROYAL HORTICULTURAL WORKS,
MIDDLETON, MANCHESTER.

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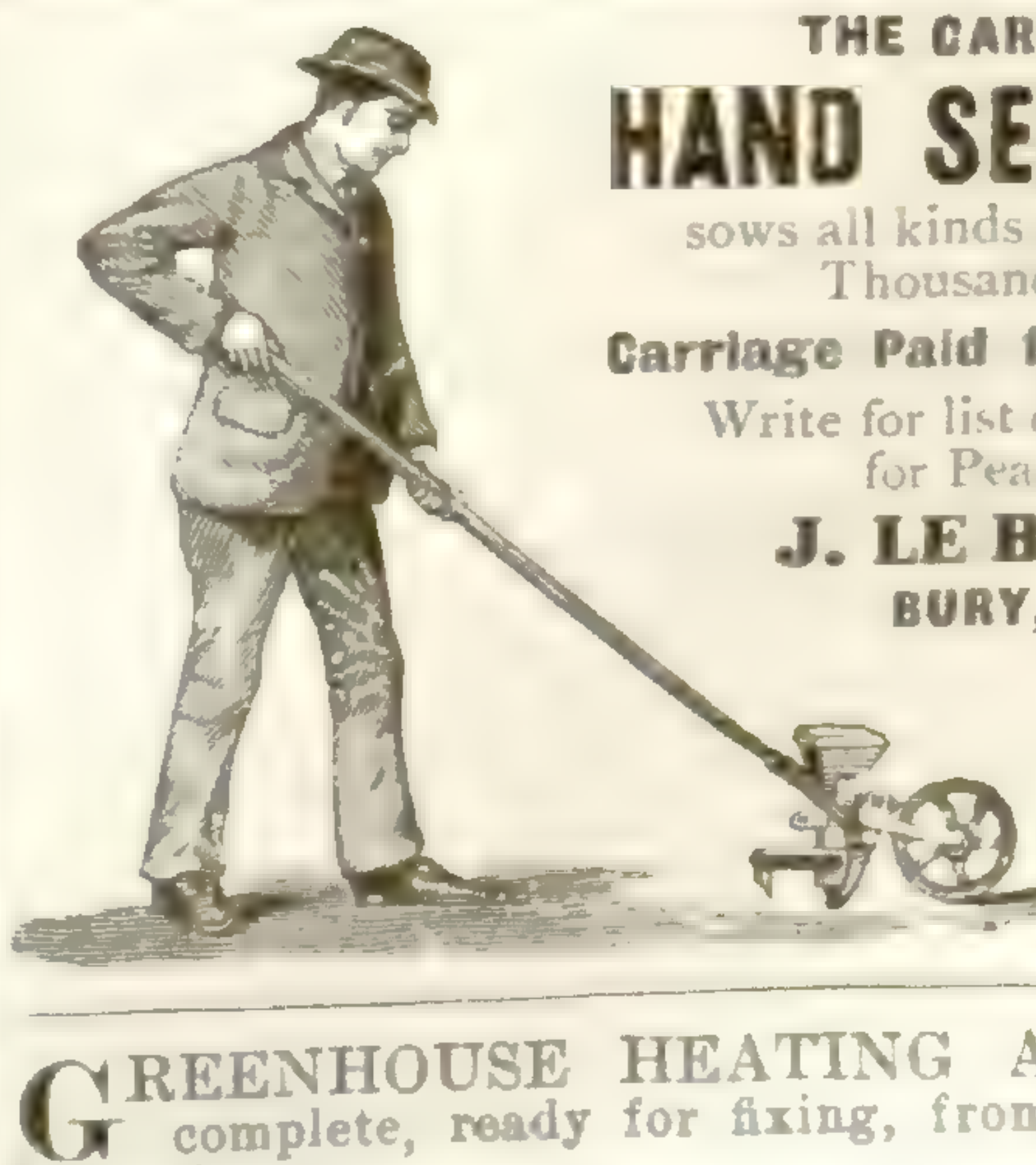

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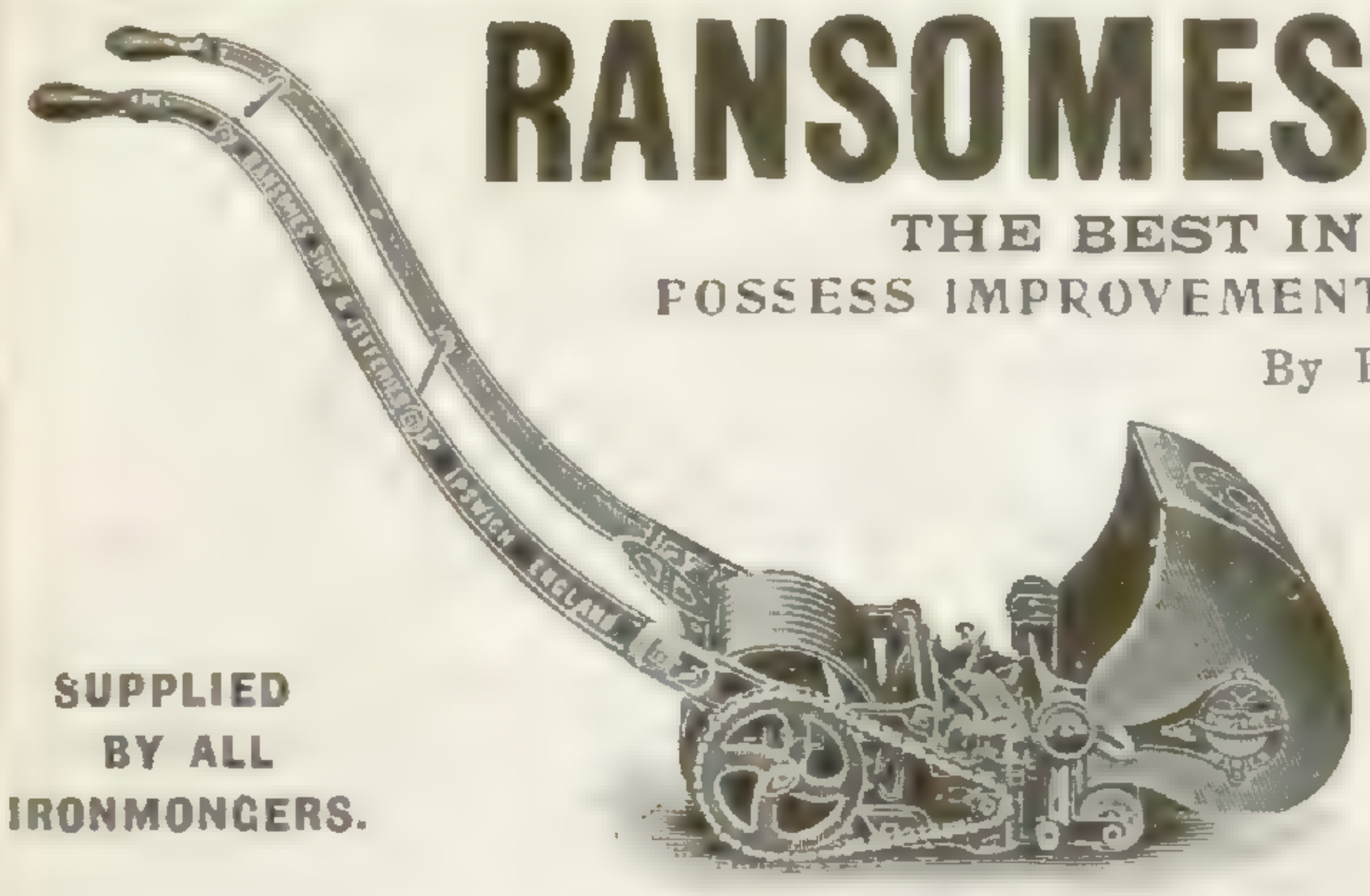

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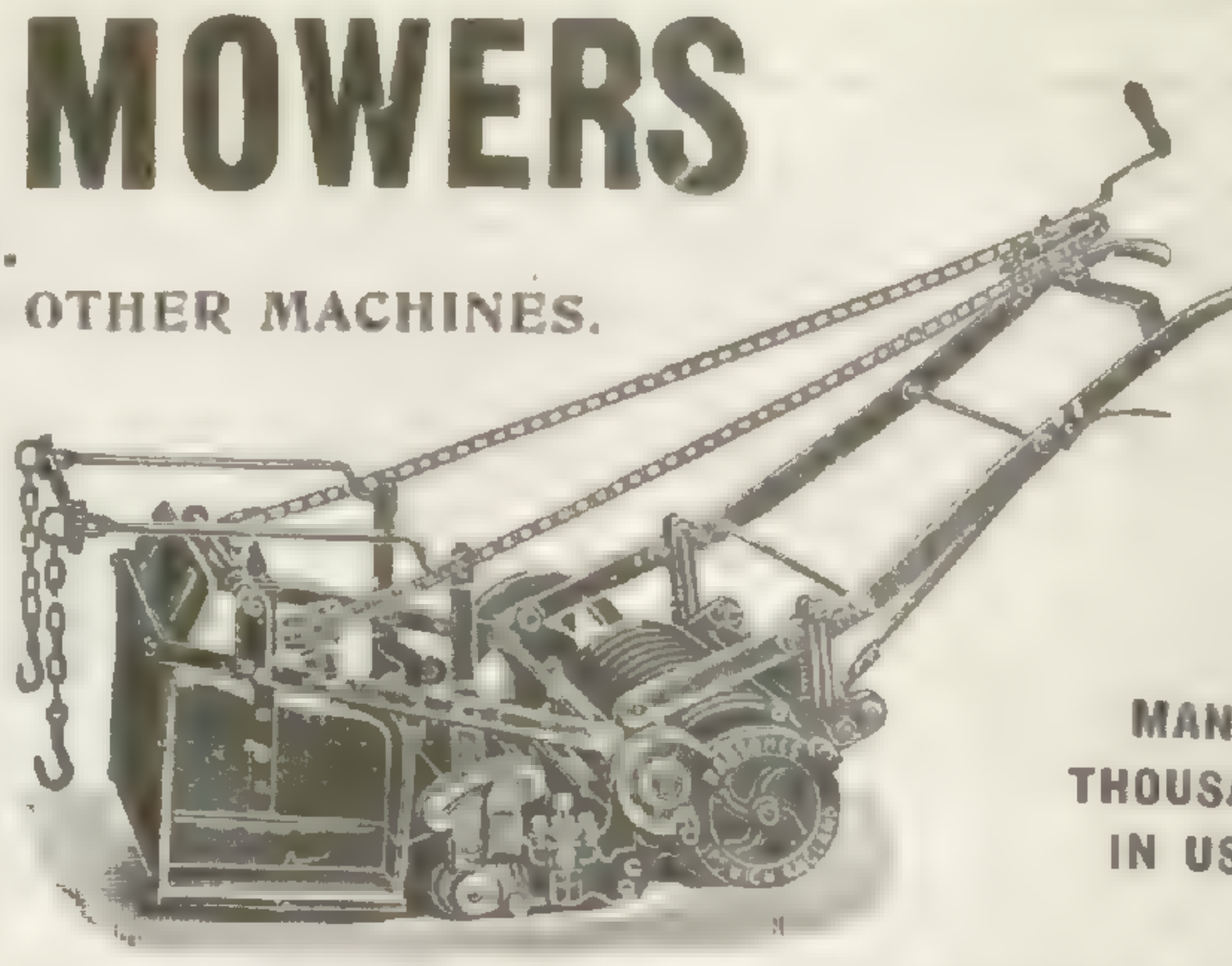

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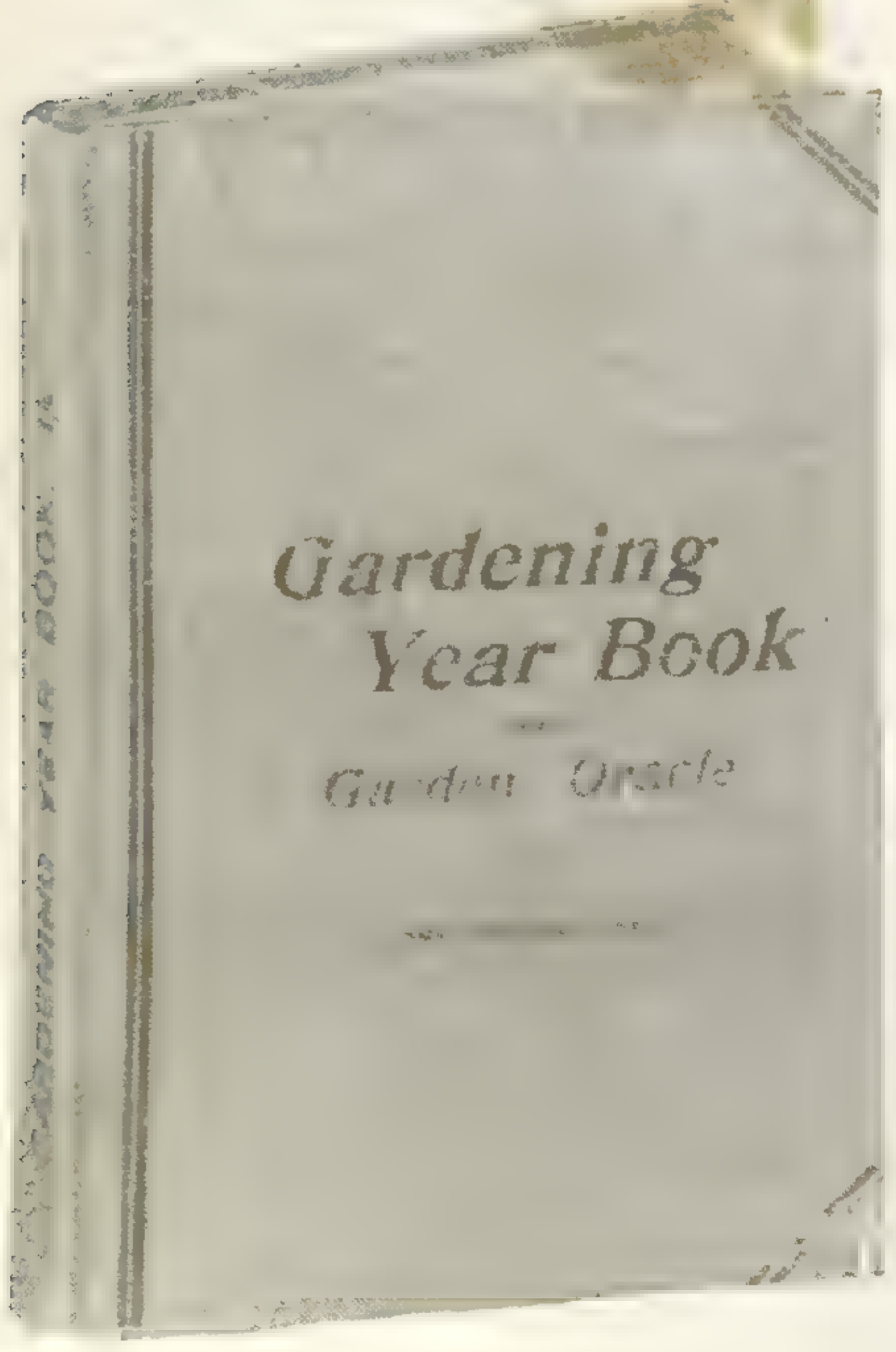

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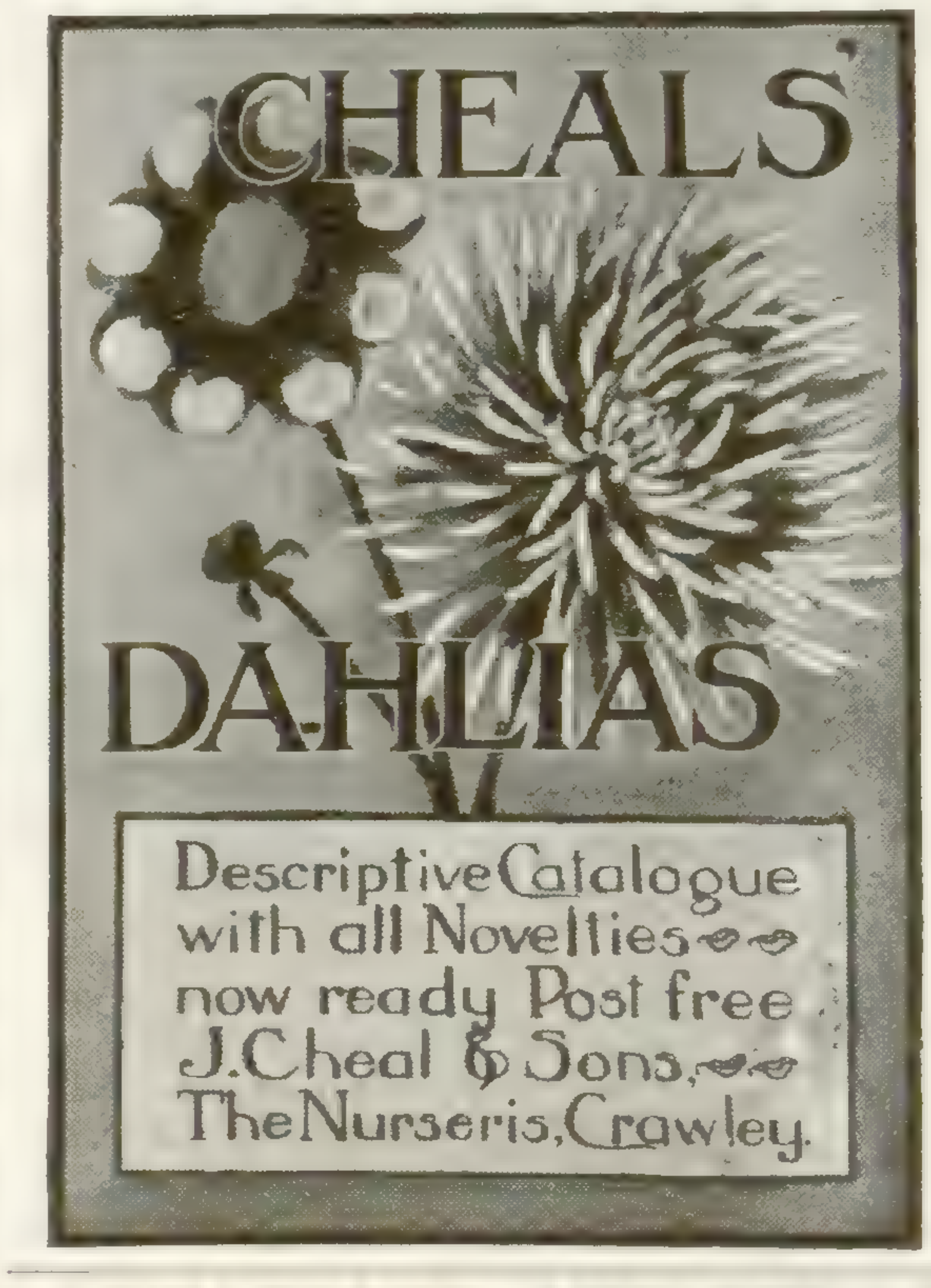

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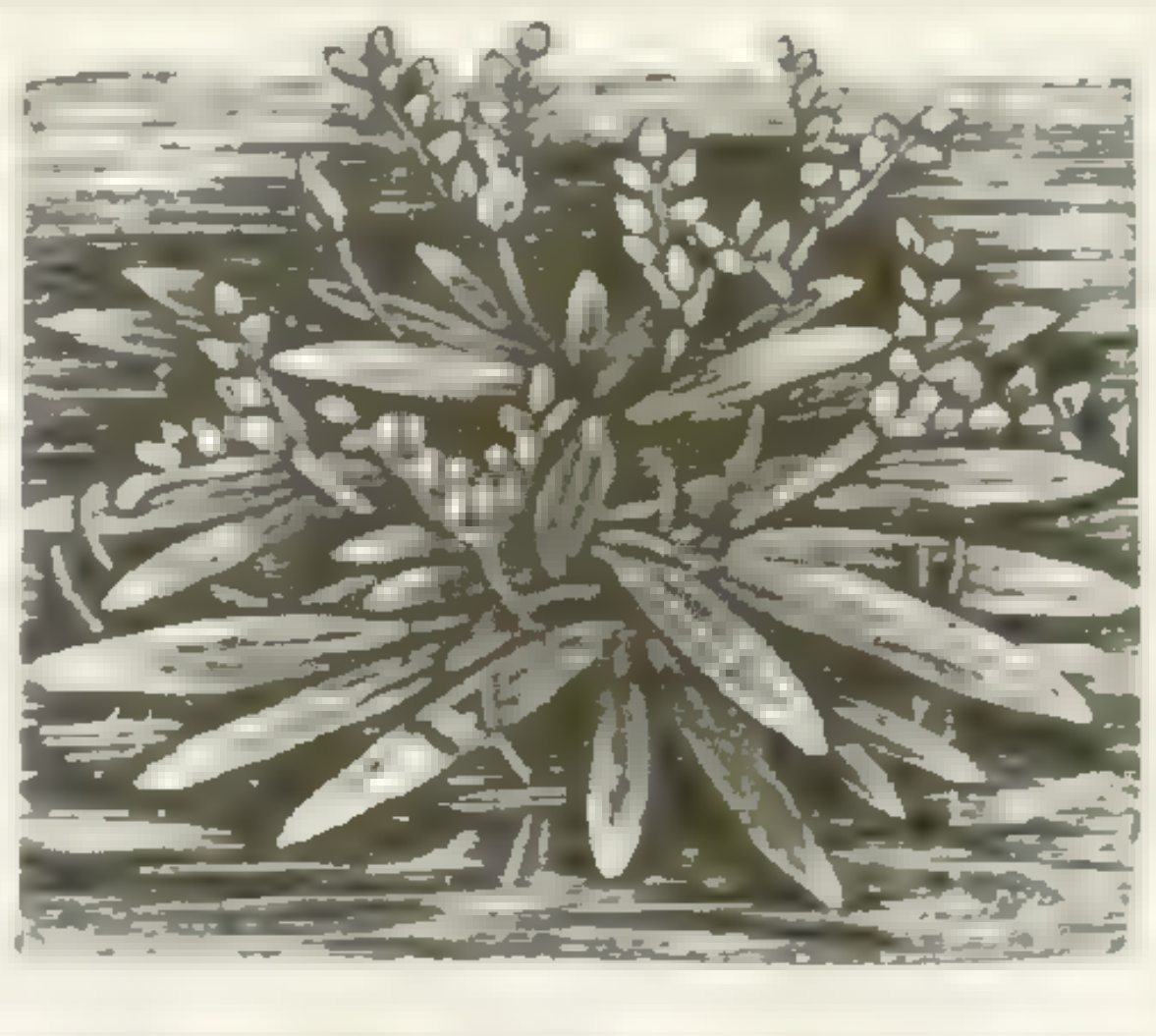

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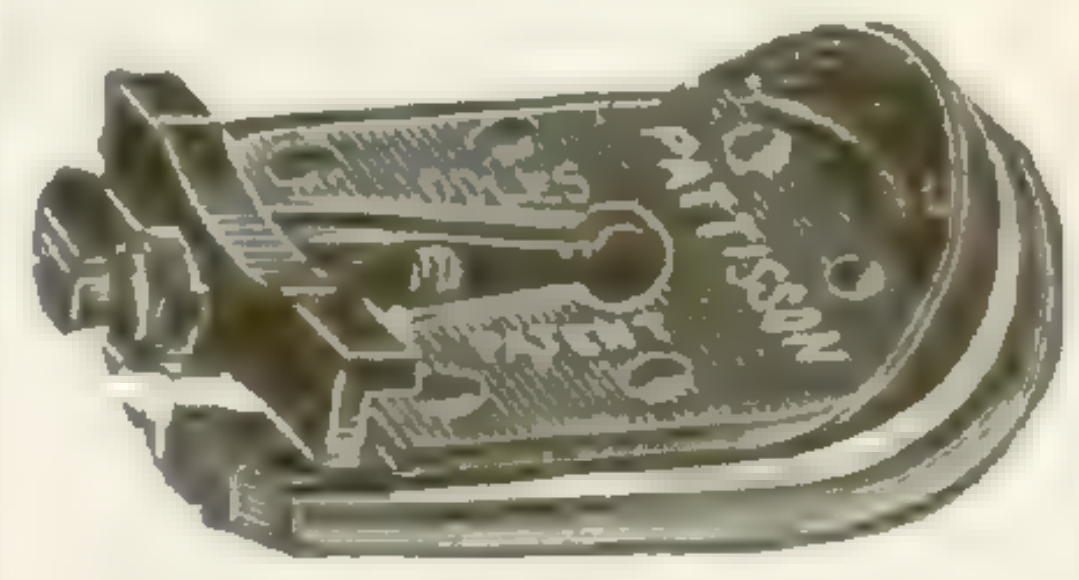

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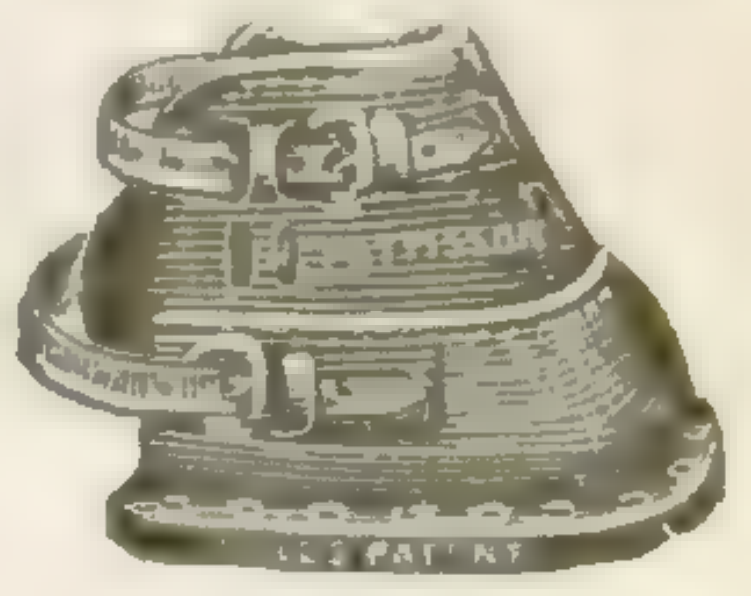

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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

FRENCH GARDENER (Head), leaving the late King of Belgians' Riviera Gardens at Cap Ferrat, seeks Situation as GARDENER (Head) in France or neighbourhood; advertiser, who has had thorough experience in all branches of Gardening, is 33 years old, speaks English, and can give most satisfactory references. All communications addressed to Mr. G. SCHNEIDER, President of the French Horticultural Society in London, 17, Ifield Road, Fulham Road, London, S.W.

LADY recommends thoroughly good GARDENER (Head); age 48; life experience of Glass, Fruit, Flowers, Vegetables, etc.; leaving through death; prefers three or four under him; Church of England. Miss CROWLEY, Ashdell, Alton, Hants.

MR. E. R. BEVAN, 6, Chelsea Embankment, highly recommends his late GARDENER (Head Working); 13 years in his service; life experience; extremely intelligent and trustworthy; 39; married, one child. H. KING, Rempstone, Corfe Castle.

GARDENER (Head Working); experienced in the cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, etc.; also Hardy Fruit culture; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working).—Gardener's Son seeks SITUATION where two or three are kept; life experience, including 5½ years at Londesborough Park and over two years in present situation as Foreman; age 27; good references. HODGSON, Kirklees Gardens, Brighouse.

GARDENER (Head Working), life experience Inside and Out, in good establishment; vines, flowers, vegetables, hard fruit, stove and greenhouse plants; capable and trustworthy; good references; married; no family; age 39. R. GRIFFITHS, 8, Pitt Road, Farnboro', Kent.

GARDENER (Head Working, where more are kept), thoroughly experienced in fruit, flowers, and plants under glass; also vegetables; well recommended; capable, trustworthy; excellent manager; age 28; married when suited. HEXTALL, Stoke D'Abernon, Pebham, Surrey.

GARDENER (Head Working, where two or three are kept); age 32; good all-round practical experience Inside and Out; good references; life abstainer. A. NEWMAN, Orchard Cottage, Ardingly, Sussex.

GARDENER (Head or good Second), 12 years' experience, Inside and Out; married, no family; age 26; excellent references. H. CROUCH, 8, Laburnum Road, Chertsey, Surrey.

GARDENER (Head Working).—W. HULBERT, The Gardens, Clarefield, Maidenhead, highly recommends his Foreman, F. BOOKER, to take charge of small place and Electric Plant if required; life experience Inside and Out; age 27.

GARDENER (Head Working, where more are kept), age 28; life experience Inside and Out in good places with Vines, Fruit, Plants, House Decorations, Forcing, etc.; good references previous places. MIDDLETON, Exbury House, Exbury, Southampton.

GARDENER (Head Working), age 30.—Mr. WATSON, Gardener, The Lodge, Bushey Down, Tooting Common, can highly recommend his Foreman; life experience in all branches; married when suited.

GARDENER (Head Working or good single-handed), experienced Inside and Out; vines, peaches, plants, etc.; good references; age 30; single; disengaged. J. ASTON, Grenadier Cottage, Ash Vale, Surrey.

GARDENER seeks SITUATION, Head Working; life experience Inside and Out, Vines, Fruit, Greenhouses, Orchids, Land and Stock, Poultry; wife help; no family; disengaged. E. W. SURMAN, 55, Ellora Road, Streatham.

C. H. PASTEUR, Esq., highly recommends his GARDENER as Head Working, where 2 or more are kept; 7 years present place; leaving for no fault; thoroughly experienced in all branches; married; age 37. BLAKE, Barrowfield, Hadham, Herts.

SIR E. CORNWALL, M.P., wishes to recommend his GARDENER (Head Working, where three or more kept); 22 years' experience; good references; age 37; married, no family. C. DOMAN, Oaklands, Horley, Surrey.

GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

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GARDENER (Single-handed), good all-round, understands cows; can be highly recommended from present employer; over five years; married, no family. T. GORRINGE, Larne Villa, Lindfield, Sussex.

GARDENER (Single-handed or with help), good all-round experience Inside and Out; age 25; single; good reference. J. LAMPARD, 5, Camden Grove, Chislehurst, Kent.

GARDENER seeks SITUATION (Head Working, or Single-handed); near London preferred; age 40, married, no family; thoroughly experienced; 17 years' good reference. DIXON, The Lodge, Great Horkesley Park, Nayland, Suffolk.

MR. J. DOUGLAS, V.M.H., can highly recommend W. MUTTER to any Lady or Gentleman requiring a Head or Single-handed Gardener; 15 years' experience Inside and Out; married; aged 28. Address Elm Road, Leatherhead.

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FOREMAN (Inside).—Mr. DYE, Tring Park Gardens, Tring, Herts, wishes to recommend C. BALCHIN as above, 12 years' experience in Fruit, Plants, Carnations, and Malmaisons, House and Table Decorations; age 26; good references.

FOREMAN (Inside), aged 28; life experience; Decorative, Stove and Greenhouse Plants, Chrysanthemums, Carnations; total abstainer; North London preferred. E. H., 18, Aberdeen Road, Upper Edmonton.

MR. G. WHITE, The Gardens, Oving House, Aylesbury, can thoroughly recommend F. BUCKINGHAM as FOREMAN (Inside or General); good experience in Fruit, Stove, and Greenhouse Plants, Kitchen Garden work; age 26; excellent references.

MR. GAY, Pasture Wood, Dorking, highly recommends W. BENTLEY as good SECOND, Inside; 11 years' practical experience in chrysanthemums, fruit, stove and greenhouse plants; three years in above situation; age 28; excellent references; disengaged. 38, White Horse Hill, Chislehurst, Kent.

GARDENER (Second); life experience in first-class establishments; well versed Inside and Out; good references; married when suited; age 29. PRITCHARD, 5, Southbourne Terrace, Emsworth, Sussex.

GARDENER, where assistance is given; life experience in all branches; 10 years in present situation; excellent references; total abstainer. Address JNO. MAEERS, The Gardens, Sharpham, Totnes, S. Devon.

GARDENER (Young) seeks SITUATION; six years' good reference; Private or Nursery; used to Inside or Inside and Out; abstainer. W. THORN, 105, Millbank Street, Southampton.

GARDENER, single, seeks SITUATION as all-round Man or Garden Labourer; used to scythe and machines; 10 years' experience Inside and Out; abstainer; good character; age 30. H. DAVIS, 42, West Street, Lilley, Luton, Beds.

MR. L. E. WALKER, Barton Hall Gardens, Bury St. Edmunds, highly recommends G. SPENCE as JOURNEYMAN (Second, Inside) in a good establishment; six years' experience; age 20; disengaged. G. SPENCE, High Street, Yoxford, Suffolk.

F. IBBOTSON, Rolleston Hall, Leicester, wishes to recommend F. JARVIS as JOURNEYMAN (Inside or Inside and Out); age 21; strong and willing; six years' experience.

JOURNEYMAN (Inside), under good Foreman; good experience, Inside and Out; age 22; good references; Bothy preferred. J. WILLIS, West Cliff Hall, Hythe, Southampton.

JOURNEYMAN (Inside or Inside and Out); nine years' general experience; age 23; good references.—C. ANDERSON, 3, Waterworks Road, Otterbourne, nr. Winchester.

JOURNEYMAN (Inside) seeks SITUATION where four or five are kept; eight years' experience in good establishments, including Bury Hill, Dorking, and Goodwood, Chichester; good references. W. TYLER, 38, Falkland Road, Dorking, Surrey.

JOURNEYMAN (First, Inside), age 22; seven years' experience in Fruit and Plant Houses; highly recommended; Bothy preferred. W. BOORMAN, Whiteland Cottages, Bicester, Oxon.

JOURNEYMAN or SECOND of three, age 25; general experience of Garden work, including Orchids; good characters; 3½ years present situation; leaving through death. FRANK MEAGER, Bell Lane, Northchurch, Great Berkhamsted, Herts.

JOURNEYMAN or SECOND (Inside or Inside and Out); 4½ years present situation; age 27; good character. T. W. FORD, The Gardens, Donnington Grove, Newbury.

JOURNEYMAN or IMPROVER (Inside).—Rev. G. H. COLVILE, Weston Rectory, Shifnal, Salop, wishes to recommend L. GIBBS as above; four years' experience; age 19; Bothy preferred.

SITUATION COUPON

To the Advertisement Manager of "The Gardeners' Magazine, *148 & 149, Aldersgate Street, London, E.C.*

For APRIL 30, 1910.

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MR. PAXTON, Branches Park, Newmarket, can thoroughly recommend G. WOOLLARD to any gardener requiring a good Lad as JOURNEYMAN under Foreman; age 19; good worker; 4 years' experience. Bothy preferred.

MR. A. J. CHOLMLEY wishes to recommend his GARDENER, who is leaving owing to reduction in the Gardens; five years' good character; age about 35; married, two young children. Address D. JENKINS, Wintringham, York.

GARDENER (Under) or JOURNEYMAN; age 23; 9 years' experience, Inside and Out; can be well recommended; disengaged. H. BEES, Newton St. Loe, nr. Bristol.

GARDENER, age 22, seeks SITUATION; over 6 years' experience on Borders, Rosery, and Flower Garden; highly recommended. Address, 26, Smallbrook Road, Whitchurch, Salop.

GARDENER (Under) seeks SITUATION, Inside or Inside and Out, under foreman; age 25; good ref. E. DOW, care Mr. Humphery, Franklynns Lodge, Haywards Heath, Sussex.

GARDENER (Under), or Single-handed; age 24, single; 8 years' good experience. W., c/o T. Spurling, Rushmere Street, Ipswich.

GENTLEMAN wishes to recommend his UNDER-GARDENER, leaving to improve himself; good references; age 20; abstainer. Apply A. QUENNELL, Field Place, Compton, nr. Guildford, Surrey.

TO GARDENERS.—E. ANDREWS, Bell House, Dulwich, wishes to recommend H. HASLETT as IMPROVER, Outside; strong and willing; age 19; 3 years' present situation with me; Bothy no objection.

IMPROVER seeks SITUATION in Floral and Seed Business; age 19; good reference; disengaged May 1st. H. C. L., 50, Lyndhurst Road, Chichester.

IMPROVER (Inside), age 18.—JNO. MASTERTON wishes to recommend ARTHUR SIMPKINS as above; four years in present place. Address, Weston House Gardens, Shipston-on-Stour.

MR. J. ALLSOP, The Gardens, Red Rice, Andover, Hants, wishes to recommend E. WEEKS as IMPROVER (Inside or Inside and Out); age 18; four years' good experience; Bothy preferred.

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WANTED, SITUATION as CHRYSANTHEMUM GROWER and general nursery work (Inside). Address, G. F. EVANS, 6, Dale Street, Craven Arms, Shropshire.

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YOUNG MAN, age 21, wants SITUATION in garden; 6 years' experience; kitchen garden and pleasure grounds; good character; Bothy preferred. Address W. BRIDGEMAN, 38, Union Street, Rugby.

YOUNG MAN, age 20, requires SITUATION in gardens; 6 years' experience; good reference; Bothy preferred. Apply H. YOUNG, Exton, Oakham, Rutland.

YOUNG MAN, age 18, as IMPROVER; excellent character and references. L. MONK, care of County Gardens, Chelmsford.

YOUNG MAN, 22, seeks SITUATION, Inside Under Foreman; 7 years' experience; Inside and Out; excellent references; highly recommended. H. HAZELL, The Gardens, Beachboro' Park, Folkestone, Kent.

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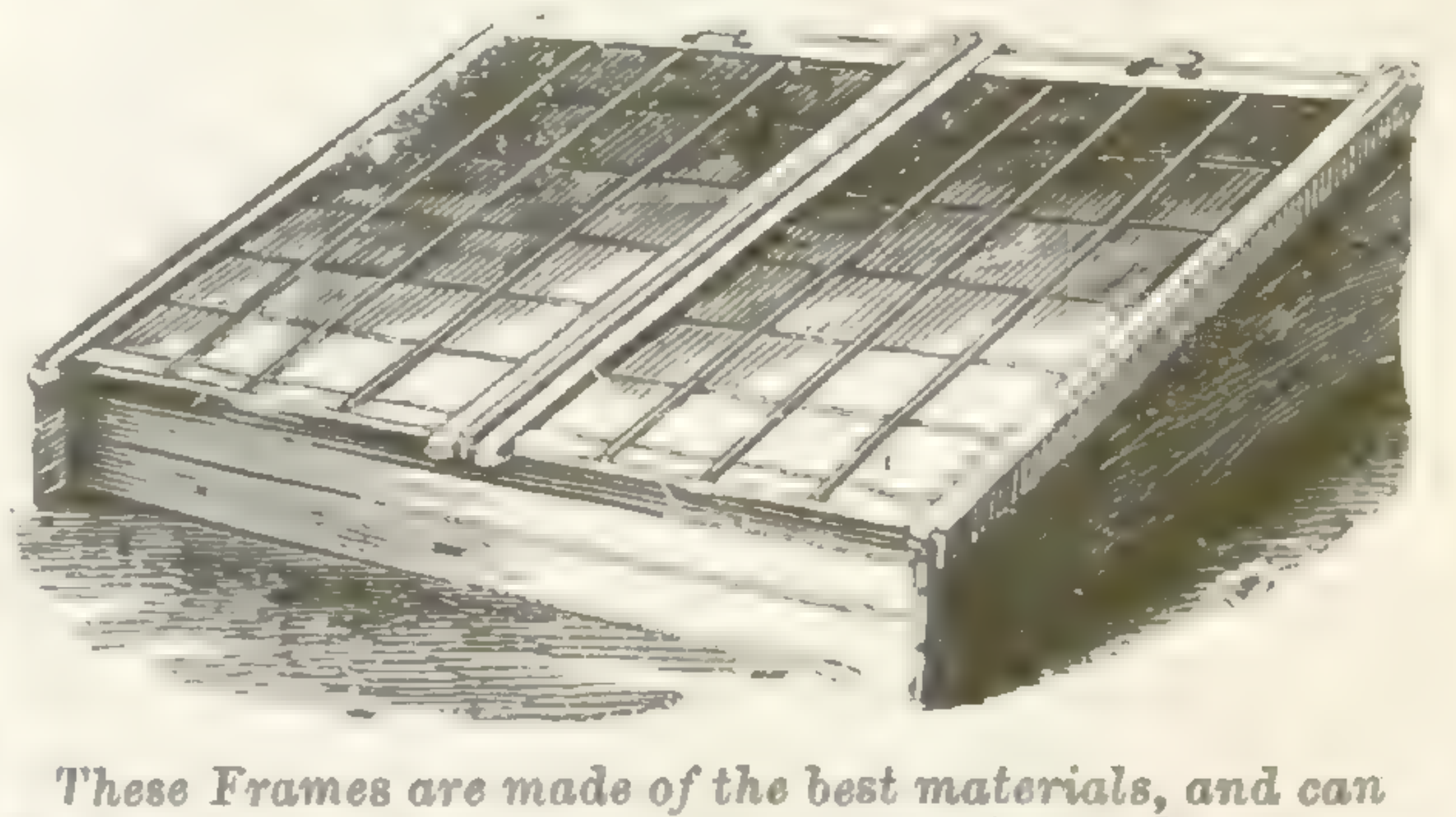

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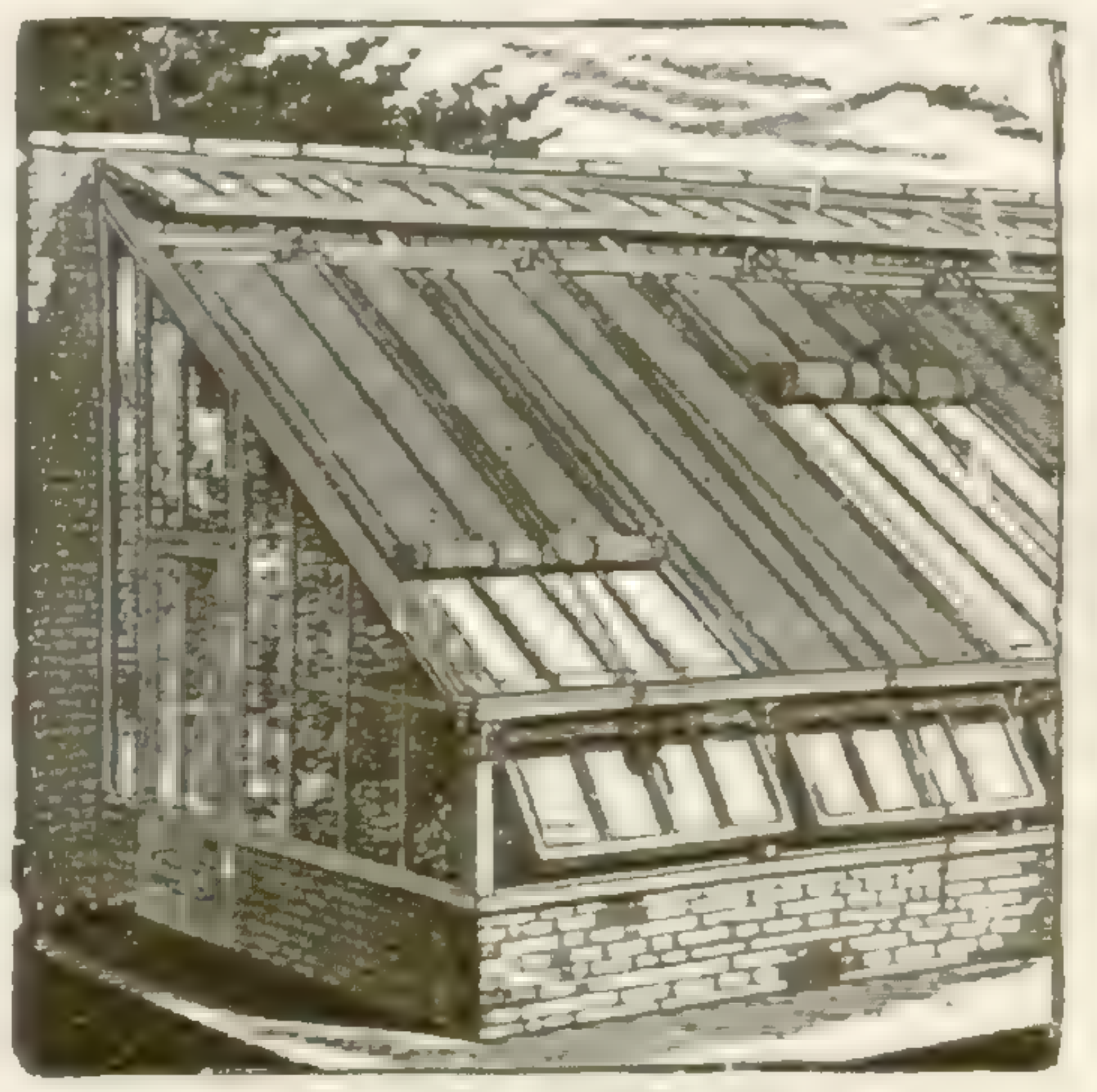

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THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Weeds.

Just as dirt has been pronounced to be "matter in the wrong place," so may weeds be characterised as plants in the wrong place, since it is impossible to draw a hard-and-fast line between them and what may be termed garden plants proper. There are, for instance, many exotics grown in our conservatories which in their native habitats would be classed as weeds, so rankly and abundantly do they grow, and even one and the same species common to widely separated habitats may be regarded as well worthy of cultivation in one country and as a pestilential weed in another. Our pretty native fern Blechnum spicant, for instance, is reported in British Columbia as such an invader of cultivated ground that it persistently chokes out and destroys plantations of young rhododendrons, etc., unless kept under by drastic measures. The beautiful Water Hyacinth (Eichornia), here a choice aquatic, has, in some of the warm rivers of the world, spread to such an extent as to impede navigation, and thus constitute a noxious weed despite its intrinsic beauty. Many hardy flowers of great beauty seem endowed with such reproductive vigour and invading powers as to practically render them weeds in the sense that they must be largely eradicated to give other flowers a chance of survival. We may instance the harpaliums and Anemone japonica as terrible sinners in this respect. The former when once introduced, sends out from the base of every flowering stem a radiating mass of roots a foot or two long, each tipped with a bud. These penetrate the soil in all directions, undermining all the neighbouring plants and robbing them of nourishment, and in a season or two absolutely monopolise the soil for yards around. If an attempt be made to pull them up, the roots break off, and every tip or piece becomes a plant the following season, forming a dense thicket. Anemone japonica, a charming flower in its various types, is nearly as bad, producing long underground stolons, literally encrusted with buds, from which plants are generated in all directions entirely irrespective of the claims of adjacent plants either to light and air or root room. In conflict with these robust invaders, even the common or true weeds of the garden have no chance in most cases. One of the general characteristics of a "weed" is indeed its extra reproductive powers, either in the way of abundant seed dispersion and the capacity of its seeds to germinate freely, or in the way of burrowing budding roots by which it propagates itself still more insidiously, and which are less easily eradicated than mere seedlings. Abundance of seed, however, may prove a great nuisance, the Evening Primrose (Œnothera) and the Michaelmas Daisy (Aster) tribes are far too generous in this respect, their seedlings often invading a garden so pertinaciously as to repay temporary neglect by a perfect jungle of youngsters. From these facts and innumerable others which might be cited, it is clear that the definition of a weed can hardly be confined to the chickweeds, groundsels, dandelions, thistles, milkworts, etc., etc., etc., which assert themselves purely spontaneously in our gardens, and do their very best to monopolise the soil and oust the choicer plants installed therein. The question that often strikes us when studying even these waifs and strays is, how many of them would respond to selective culture and take their place among the élite if given the chance. Weeds, adopting the term for wild plants generally, native and exotic, are the raw material from which many of our choicest horticultural gems have been evolved. To cite one instance alone, the chrysanthemum itself in its original form is but a weed which the intrusive daisy of our lawns can rival in size and beauty, while in the more prosaic domain of culinary vegetables what must we say of the cabbage, a mere seaside weed, which has given us all the wonderful array of cabbages, cauliflowers, Brussels sprouts, kales, and savoys, etc., one and all the outcome of selection as differentially applied to the foliage, the flower, and the stem. Verily, there is more in weeds than meets the eye.

MR. H. SOMERS RIVERS.

Mr. H. Somers Rivers, as so well known, is a member of the firm of Messrs. T. Rivers and Son, and, in conjunction with his brother, has rendered splendid service in the cause of fruit culture, and fully maintained the high reputation the Sawbridgeworth nurseries have enjoyed for three-quarters of a century or so. Although comparatively young, a very considerable period has elapsed since we first had the pleasure of meeting Mr. Somers Rivers in one of the orchard houses which form so notable a feature of the firm's establishment, and we were then much impressed by the keen interest he evinced both in the raising of new fruits and the making of fruit trees, and the thorough acquaintance he had with all that relates to the production of new and improved fruits, and to the efficient conduct of an extensive nursery establishment of the highest class. We mention this as showing that, while quite young, Mr. Somers Rivers greatly interested himself in the work that was then being so successfully accomplished by his father, the late Mr. T. Francis Rivers, in the improvement of choice fruits, and thereby obtained the fullest benefit from his training in the art of fruit culture. This interest has been fully maintained until the present time, and as one result he has obtained, and deservedly so, a foremost position among the pomologists of the present day. As a proof of this we would mention that Mr. Somers Rivers has been invited to read a paper on stocks for fruit trees at the fruit congress to be held at Hexham in October next. It is a matter of common knowledge that Messrs. T. Rivers and Son have raised many varieties of peaches, nectarines, pears, and plums that are of immense value; the most recent of the peaches with which they have enriched our gardens being Thomas Rivers, a late variety of much merit, and Duchess of Cornwall and Duke of York, two early varieties that by reason of their earliness and high quality are rapidly acquiring popularity.

Vandalism at Camberwell.—A short time since we directed attention to the manner in which the trees in Camberwell Grove and Grove Park had been pruned this season, and we invited the Town Clerk of Camberwell, who admitted in his defence of what had been done in Grove Park that some of the lopped trees were ugly, to point out those which were handsome. This he has not done, but at the recent meeting of the Works Committee of the Camberwell Borough Council, he reported that he had invited an eminent authority upon the management of trees to inspect and report on the pruned trees. In his report this eminent authority stated that the art of pruning trees was not generally understood. Many of the older trees in the Camberwell streets were either crippled or deformed, and to prune them so as to get them to grow shapely required both courage and judgment. The operation had left some of the trees bare and skeleton-like, but it was the only remedy short of cutting them down; and in a year or two, providing they received proper attention, the improvement would be evident. So far as he could see, what was needed had been done to set them on the way to restoration, and the council need have no fear as to this. The younger trees, he considered, had also been pruned on correct lines, and those recently planted required to be pruned at once, so as to lay the foundation of a well-balanced tree. All young trees, and especially those planted in streets, required to be watched, and any irregular growth corrected in time. When the right kind of trees were planted and properly controlled from the start by judicious pruning, etc., difficulties such as those they were now experiencing in Camberwell with the old trees never arose. At Kew many old and misshapen trees had been restored by treatment quite as drastic as anything they had done at Camberwell. We should like to know the name of this eminent authority, and we are not a little surprised it has not been given. We should further like to have some instances of trees at Kew having been lopped in a manner similar to those in Grove Park, for mere generalisation is of no value in a case of this kind.

Birmingham Flower Show.—Encouraged by the great success of the orchid and rose shows held last year at the Botanical Gardens, Edgbaston, the committee of the Birmingham Botanical and Horticultural Society have decided to hold two shows during the present year. The dates are June 8 for orchids and summer flowers, and July 20 for roses and midsummer flowers. Exhibits not for competition are invited, and schedules may be obtained from the honorary secretaries, Messrs. Humphreys and Whitelock.

Encourage the Young Men.—We have on so many occasions impressed upon the officers of horticultural societies the great desirability and usefulness of encouraging the young members to read papers and discuss subjects brought forward, that we are delighted to find Professor L. H. Bailey, of Cornell University, giving utterance to the same views. Speaking at the annual meeting of the Western New York Horticultural Society, he said: It is a great satisfaction when I come to this Western New York Horticultural Society to see so many young faces in the audience. The most hopeful thing in the society is this; when the older ones of us pass away, there are younger ones to take our places; and I hope the older men will never discontinue attending because the young men come, because the young men need their counsel, their encouragement, and their guidance. I have not understood until late years how much it means to a young man to have persons ripe in the experience of life sit quietly and hear him talk and give him now and then wise words of advice. The hope of all our future lies in the young men and young women. I am anxious to send these young people out into the world whirling hot with enthusiasm, full of good ideas and practical abilities, in order that the rural affairs of the nation may feel their galvanic touch and that the agricultural communities may take their places where they belong, with the great commercial, intellectual, and, aye, spiritual interests of the country.

Garden Huts on the Sheffield Allotments have hitherto been erected as shelters and workshops, without any regard for appearance, and this state of affairs has offended the artistic taste of many good folk. For the purpose of removing the offence the city fathers propose to make all new allotment holders who desire to erect a hut construct it upon the lines of one designed by the City Engineer, or, at least, one not less substantial. If this proposal is carried out the structures made up of old boiler iron, enamelled kitchen ware, a few bricks, pitch and tar, with an old bucket for a chimney, will gradually disappear.

Popular American Apples for England.—In a wonderfully well-prepared report upon the exportations of American apples, by Mr. S. Fraser, of Geneseo, New Jersey, and presented to the Western New York Horticultural Society, the statement is made that the popular apples for the English markets are Baldwin, Greening, Spy, King, Newtown Pippin, Golden Russet. Jonathan sells well in London in boxes, but is too soft to go into barrels. Most fall apples are too soft and do not ship well. Twenty Ounce sells moderately in London. Gravenstein comes mostly from Nova Scotia. Sweet apples are not wanted. Liverpool, Manchester, Glasgow, and London are well established markets. Bristol is coming up; it is in the heart of an apple-growing district, and nothing should be sent there before November 1. Cardiff is rapidly rising in prominence, since it is surrounded by a large working population, and can take large quantities of apples. Hull has an export trade with the continent of Europe and for this requires Baldwin, King, Ben Davis, Golden Russet, and Newtown in boxes. The salesmen of this port can frequently handle 2in. and 2¼in. apples better than some other places, since apples in Europe are sold by weight. The important factor in their trade is that the fruit must be capable of long shipment. There is considerable demand for Seek-no-Further by some of the trade in London, Manchester, and other markets. This variety will always sell well if any size and clear.

Mr. George Woodgate, who has occupied the position of head gardener at Rolleston Hall, Burton-on-Trent, the seat of Sir Oswald Mosley, Bart., during the past sixteen years, is, we regret to learn, retiring from that position owing to indifferent health, and, as announced on another page, he is succeeded by Mr. H. Collier, who has been foreman in the Rolleston Hall Gardens during the past three years.

Weather at Glasgow in 1909.—The meteorological notes and remarks on the weather experienced at Glasgow during 1909 by Mr. James Whitton, are, as usual, of much interest, this being greatly enhanced by observations on the effect of the weather on vegetation. The rainfall was heavier than in the previous year, the total amount registered (38.26 inches) having been 4.68 inches more, but the amount is about the average for the district. With reference to the temperature, Mr. Whitton states that, owing to the prevalence of cold easterly winds, heavier rainfall, and severer frosts, along with an absence of bright sunshine, the average temperature was lower. Frost was registered on 58 days to the extent of 349 deg., and occurred in all the months excepting June, July, August, and September. The coldest month was November, which had 120 deg. of frost to its credit, occurring on 17 days, the next coldest being December with 87 deg. on 10 days, and March with 74 deg. on 10 days. The lowest readings for the year were on March 3 and 4, when 16 deg. frost were registered. Throughout the year the temperature fell to freezing point (32deg. Fahr.) on 78 days, while on three occasions it did not rise above that point. The highest reading for the year of the thermometer in the shade was 77 deg. on May 6. Only on three occasions was the thermometer above 70 deg., and at or above 60 deg. on 88 days.

Encouragement of Gardening at Arbroath.—To encourage gardening the Gas Committee at Arbroath has offered its employees the use of a piece of vacant ground around a new gasholder, for gardening purposes. A number have accepted the offer, and the ground will be divided among them. This is another of the many instances where vacant land attached to gas works has been lent to those employees having a love for gardening.

Coning of Sequoia gigantea.—Although cones have frequently been recorded on specimens of Sequoia gigantea, and in some places coning is practically of annual occurrence, in many gardens cones have never been produced, though trees of considerable proportions are found. A fine lot of cones were noted quite recently on the Ashridge estate of Earl Brownlow. On this estate an avenue of sequoias exists, and the trees are in the best of health, being vigorous, of a good colour, and evenly branched from base to summit. The cones on different trees vary considerably in size, those on some examples being a couple of inches long and rather more than an inch through, whilst on other trees they are scarcely more than an inch in length, and almost round. The trees in this avenue also exhibit some difference in habit; one of the small-coned trees being specially noticeable by the pendulous character of the branches, and their finer character than those of neighbouring trees, whilst size of leaves and colour also appear somewhat different. Young cones, both male and female, may be looked for on the sequoia at the present time; the female ones, which are found near the apex of the branches are brownish in colour, whilst the male flowers are quite easily distinguished by their yellowish colour and dustlike pollen. For a tree which is acknowledged to be one of the largest-growing trees in the world, both cones and seeds are small, the latter being thin and scarcely an eighth of an inch across.

Value of Potato Crop, 1909.—According to the official returns recently issued, the total value of the potato crop of 1909 was £9,921,000.

Importation of Potatoes.—The Department of Agriculture for Ireland have issued an order prohibiting the landing of any potatoes brought from the Continent of Europe. We note also that the Swedish Board of Agriculture have recommended the total prohibition of the importation of potatoes into Sweden.

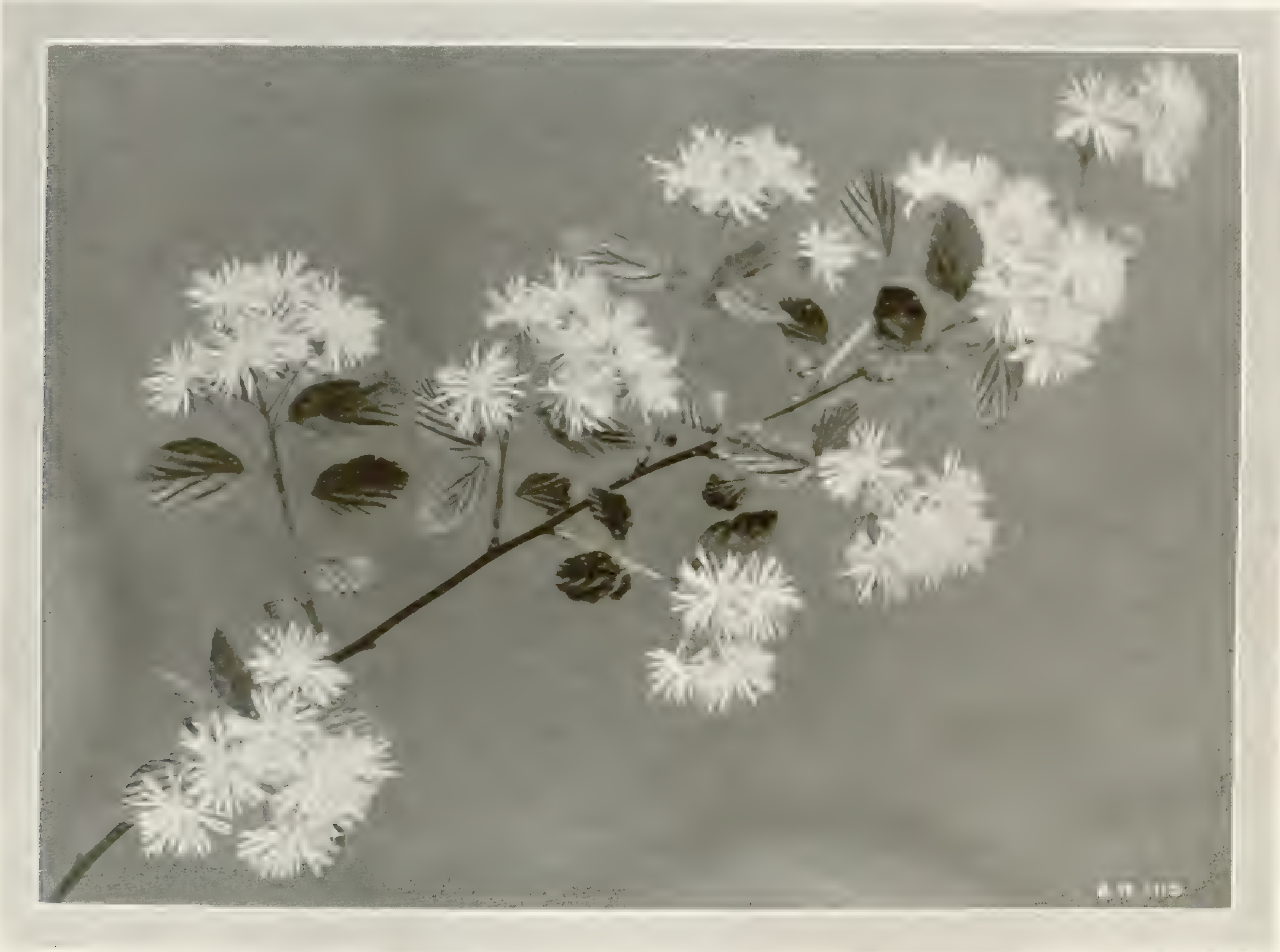
FORCED SHRUBS AT KEW.

The value of forced shrubs for conservatory decoration in early spring has been, and still is, well exemplified in the Temperate House at Kew, where a variety of showy subjects are stood about among the permanent plants, the evergreen foliage of the latter forming an admirable setting for the various red, yellow, white, or mauve flowered shrubs. Some of the subjects which appealed to one more particularly on a recent visit were Prunus pseudo-cerasus and P. serrulata, with rose-flushed and white flowers respectively; Neviusia alabamensis, a charming and uncommon American shrub, with white, fine-petaled flowers, which in America is called "Snow in Summer," Wistaria chinensis grown as stunted-looking pot plants covered with racemes of lovely mauve flowers; Rhododendron sinense, various deutzias, and spiraeas, etc.

A large structure, such as the one under notice, affords a fine opportunity of introducing good sized bushes, and at one time or another very large well-flowered specimens of Forsythia suspensa, spiraeas of various kinds, double-flowered peaches, diervillas, lilacs, viburnums, and other showy subjects have been noted. Forced shrubs are, however, not relied on to furnish the whole of the floral display, for there are large camellias and many acacias. Of the former a fine example of C. reticulata was a mass of bloom, while many of the latter were at their best when these notes were made.

In one section of the building are many fine Himalayan rhododendrons, which are in flower, whilst for the person who is interested in plants which are almost hardy or suitable for outdoor culture in the southwest counties, no place better repays a visit, for in the structure a very large selection of such plants is to be found.

R. K.



NEVIUSIA ALABAMENSIS. [Photo: C. P. Raffil.

An elegant hardy shrub, with clusters of snow-white flowers.

USEFUL PLANTS FOR THE CONSERVATORY.

The following subjects are of much value for conservatory decoration, and can be readily raised from seed:

Exacum affine is a showy perennial, producing clusters of small lilac-coloured, sweetly-scented flowers. This is best suited for the conservatory or greenhouse, but in suitable localities, and on warm soils, it may be used as a bedding plant. Cultural treatment should be similar to that recommended for Diascia Barberæ.

Lobelia tenuior is an attractive perennial species, and as a pot plant is very graceful in habit, and for a long period during the summer months it produces a profusion of blue, white, or rose-coloured flowers. The seeds may be sown any time during April or May for summer flowering; greenhouse or cool treatment is all they require.

Petunias have long been attractive favourites, and few plants give better results than these in return for the care bestowed upon them. To obtain strong, healthy plants the seeds should be sown in gentle heat—on a hotbed for preference—during March or April, and the plants kept growing in a temperature of 55 or 60 degrees. Many of the strains now in commerce produce flowers of exquisite beauty, with a remarkably wide range of colours.

Primula sinensis (Chinese primula) and P. s. stellata are of undoubted merit for the conservatory. Seeds of these should be sown in very gentle heat from April to July for autumn and spring flowering. The soil should be made up of loam, leaf-mould, and sand, in about equal parts; some growers add a little peat. Pass the whole through a fine sieve. The pans or pots must be well drained, the soil made moderately firm, and the whole well watered before the seeds are sown; after sowing the seeds should be very lightly covered with fine soil, or clean silver sand, afterwards covering with a square of glass, over which might with advantage be placed a layer of damp moss, as this greatly assists in maintaining an equable degree of moisture, which is a matter of the greatest importance for the successful germination of the seeds, for the slightest error in this respect is absolutely fatal.

Torenias are exceedingly pretty tender perennials, which, if sown and grown in gentle heat, will yield a profusion of purple, yellow, and blue flowers for a long period during the summer and autumn months. Three or five plants should be allowed for a 48-sized pot. An occasional stopping will keep the plants dwarf and compact in habit, and quite dispense with the usual custom of staking.

W. Hedley Warren.

Aston Clinton Gardens.

Quality of Potatoes.—In connection with the trials of potatoes carried out last year under the auspices of the Oxfordshire Education Committee, about fifty varieties were submitted to a cooking test, with a view to determine their relative merits on the table. Of these the following ten varieties were given three marks: Duchess of Cornwall, Evergood, Flourball, Gospetry Red, Ideal, Up-to-Date, Satisfaction, Scotch Champion, The Factor, and White Elephant.

CELERY CULTIVATION.

Few gardens of the present day are without their rows of celery, and even cottagers and allotment cultivators revel in its cultivation; this is not to be wondered at, for there are few other vegetables more relished alike by all classes of society. While the tender and blanched sticks serve as food in an uncooked condition, the green or outer stems, when cleansed, constitute a delicious vegetable when cooked, and one which can be particularly recommended to those who suffer from rheumatism. Celery delights in a light, rich, and somewhat moist soil, and where this is procurable little difficulty is experienced in its cultivation.

Celery is easily raised in heat during the early months of the year, according to whether the heads are required for early use or for exhibition purposes. But as celery does not come into general use until late autumn and winter, there is little necessity for very early sowings, and for general purposes March will be found sufficiently early, while sowings may be made during April on soil which has been specially prepared over decomposed, warm manure. A common mistake is to sow too thickly; if the seed is of the previous year's saving, 90 per cent. can usually be depended upon to germinate. When this mistake is made, the roots of the seedling plants are torn apart, and considerably damaged at the time of pricking out into boxes or in the open ground.

Luckily, the seedling plants withstand a great many hardships, and even when their growth is stunted for some time they will often recover, and go ahead.

The commonest mistake made in the cultivation of celery is that of planting out in deep trenches, the folly of which I have proved by repeated experiments. The practice followed by many who adopt this system is to remove the top soil, and place it on either side of the trench, after which a dressing of manure is forked in to the remaining soil in the trench, and into it, at a later stage, the plants are transplanted. Should this subsoil be of a heavy retentive character, it will not afford that encouragement to root action that would be derived by the plants growing in the top soil. Further, the surface soil has been thoroughly exposed to the atmosphere for some considerable time, and it contains just that amount of available plant food which is essential to the progress of the young plant; to say that the subsoil can afford equal facilities is unreasonable. Should the subsoil be poor, or not mechanically adapted to the encouragement of root action, leave it undisturbed, or, at any rate, prevent it from coming into contact with the seedlings.

In gardens that have been well cultivated for a number of years, and wherein the soil has been trenched from time to time, a trench may be taken out twelve inches wide, and from six to ten inches deep. I have frequently taken out trenches fifteen inches in depth, but have experienced no advantage in doing so, it being much preferable to give width rather than depth in the trenches; further, where double rows of celery are planted, the width of the trench should be increased to eighteen inches. If dwarf varieties of celery are grown this will admit of a treble row. As celery is a somewhat gross feeding plant, it must be provided with a fair amount of nourishment, and this cannot be better done than by incorporating a substantial dressing of well-decomposed farmyard manure with the soil in the bottom of the trench a fortnight previous to planting.

Lift the plants carefully from the nursery bed or from boxes, preserving as much soil around the roots as possible; plant by means of a trowel, and, if in single rows, allow from eight to nine inches between the plants. If in double rows, arrange alternately, as by so doing each plant will have a better leaf area. Place the soil firmly around the roots, and if it has any tendency to hollowness as a result of the use of light manure, tread it firmly during the planting process. A good watering will complete the operation, except for very tender plants; for the latter it will be advisable to shade for a day or two.

The after-cultivation of celery consists of feeding with manurial stimulants, and carefully earthing up with soil, or in some other manner blanching the stems until they are in a fit condition for cutting. If grown in a cold, heavy, and clammy soil, the plants will not make a good start, and no amount of manurial stimulant will induce them to do so; this is where many crops growing in a bad subsoil are ruined. Liquid manure must be given judiciously, and in keeping with the progress that is made throughout the growing season; it should never be given in strong doses. If drainings from a farmyard or pigstye are available, these may be given with advantage twice a week, but during wet weather it should be withheld, as its application to soil that is already waterlogged tends to increase sourness. If the surface of the soil in the trench shows signs of becoming caked over, due either to the running together of the soil particles, owing to heavy rains, or to the application of liquid manurial stimulants, it must be forked over in order that it may admit abundance of air to the roots, otherwise the growth will not be strong.

In soils that are naturally dry celery can never be grown profitably, and the plants are very subject to bolting, while on the other hand, if cultivated in swampy soils containing a rich deposit of humus, it invariably grows too rank, the stems becoming soft and pithy.

It sometimes happens in growing celery for exhibition that the feeding is continued after the earthing up has been done; this is accomplished by placing pipes through the soil. Through these pipes the liquid stimulant is poured. Where drainings from farmyards cannot be obtained, a very suitable liquid manure for celery may be obtained by soaking farmyard manure in water, or by using guano in a similar manner. Soot water given in moderate doses is also valuable.

As the season advances and good growth has been made, blanching should commence. First remove any side growths which may have been developed, then tie up the stems with string, bass, or other soft material, and earth up only when the soil is dry, taking care that as little of it as possible is allowed to enter the heart of the plant. As a considerable amount of growth has to be made, the foliage and upper parts of the stems must be well exposed to light and air. At a later stage a second tying nearer the top should be made, and the soil worked still higher, until finally, when the foliage is no longer fitted to carry on the work of the plant, earthing up is completed, nothing remaining above the soil except a few of the more prominent leaves. In performing this work, the soil must be thrown up so that water which falls upon it may pass easily through, and is drained below the stem of the plant. If heavy soil is thrown up againts the stems, the water which passes through it has no means of draining away from them, and, as a consequence, the heart soon commences to rot. The crop should be ready for the first earthing up about three months after planting, and the soil should not reach more than halfway up the stems. In all three earthings should prove sufficient, and these will usually follow at intervals of from two to three weeks.

In some seasons celery is seriously injured by the maggots of the celery fly, as indicated by white greyish-coloured patches on the leaves; on closer examination these patches reveal the insect embedded between the upper and lower surfaces of the leaves. These should be at once removed by nipping out the foliage so affected, placing same in a pail, and burning. If the rows are systematically picked over in this way attacks can often be checked to a considerable extent, especially if afterwards the plants are given an occasional sprinkling of fresh soot. This, however, is best performed in the month of June, when the flies commence to deposit their eggs. The fly, which is found present in large numbers in May and throughout June, is only about an eighth of an inch in length, and infested leaves may be found from the time the celery is planted out until Christmas. In about fourteen days the larvæ changes to pupæ, and remain in the soil in that state during winter; if the soil is then turned up these pupæ may be found in considerable numbers. It is therefore advisable to skim off and burn some of the surface soil, or, as an alternative, to trench it deeply in winter after the celery has been consumed. Gas lime is also effective when the ground is not required for cultivation for several months after its application.

Old Basing. J. C. Newsham.

BEGONIA GLOIRE DE SCEAUX

This beautiful begonia has much to recommend it to the notice of cultivators. Its large rich bronze foliage alone is sufficient to secure for it many admirers, but, when in winter and early spring it is laden with its showy pink flowers, its decorative value is more fully demonstrated. Nice plants may be grown in comparatively small pots. I have found those grown in 5in. and 6in. pots to be the most serviceable, while for larger specimens 7in. or even 8in. pots are not too large.

A mixture consisting of two parts turfy loam and one part leaf-soil and peat in equal proportions, with a good sprinkling of sand, will form a suitable compost. Cuttings should be taken from the old plants immediately after flowering, and inserted in pots or pans of sandy soil, and placed in a close, but not a specially moist, propagating case. When rooted put them singly in 3in. pots, and place them in a light position in a structure in which a temperature ranging between 65 and 70 degrees is maintained; repot before they become pot-bound, and if bushy plants are required pinch out the point of the growth about a week or ten days previous to potting, but for plants in 5in. pots no pinching is needed. Shade from bright sunshine is required, and the space between the pots should be syringed on all bright days, but overhead syringing must be avoided. The flowering period may be considerably lengthened by removing the plants to a slightly cooler house as soon as the flowers expand.

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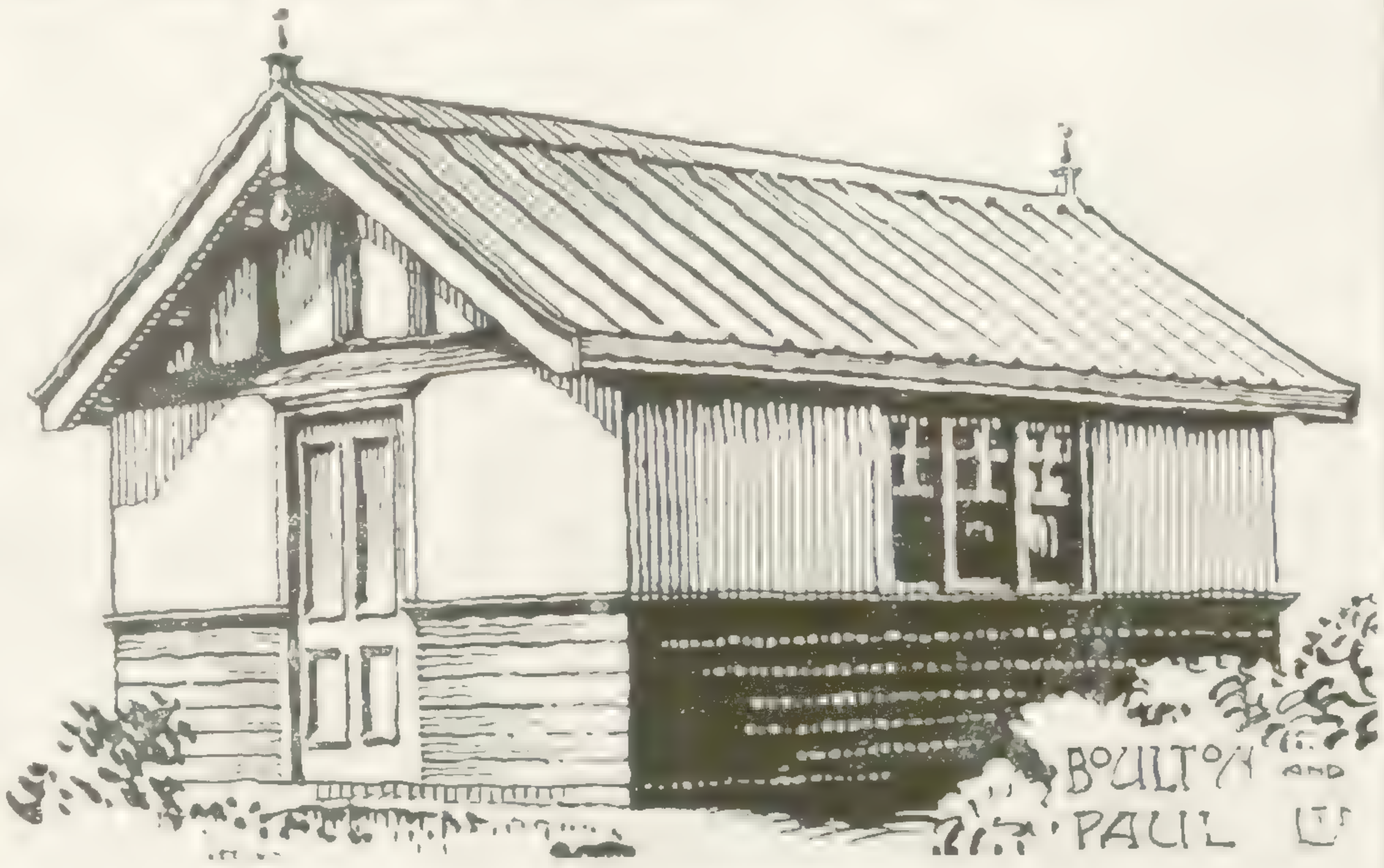

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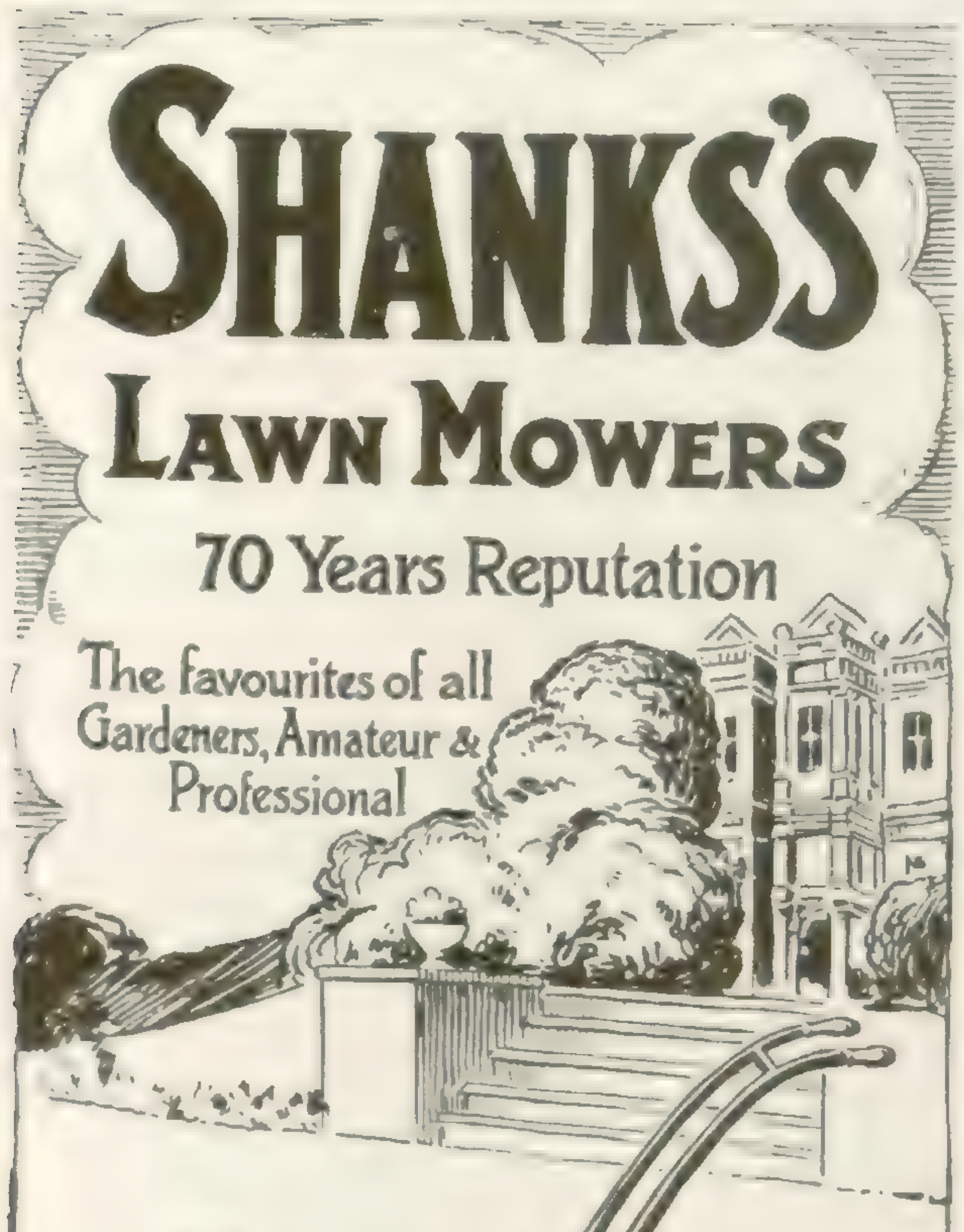

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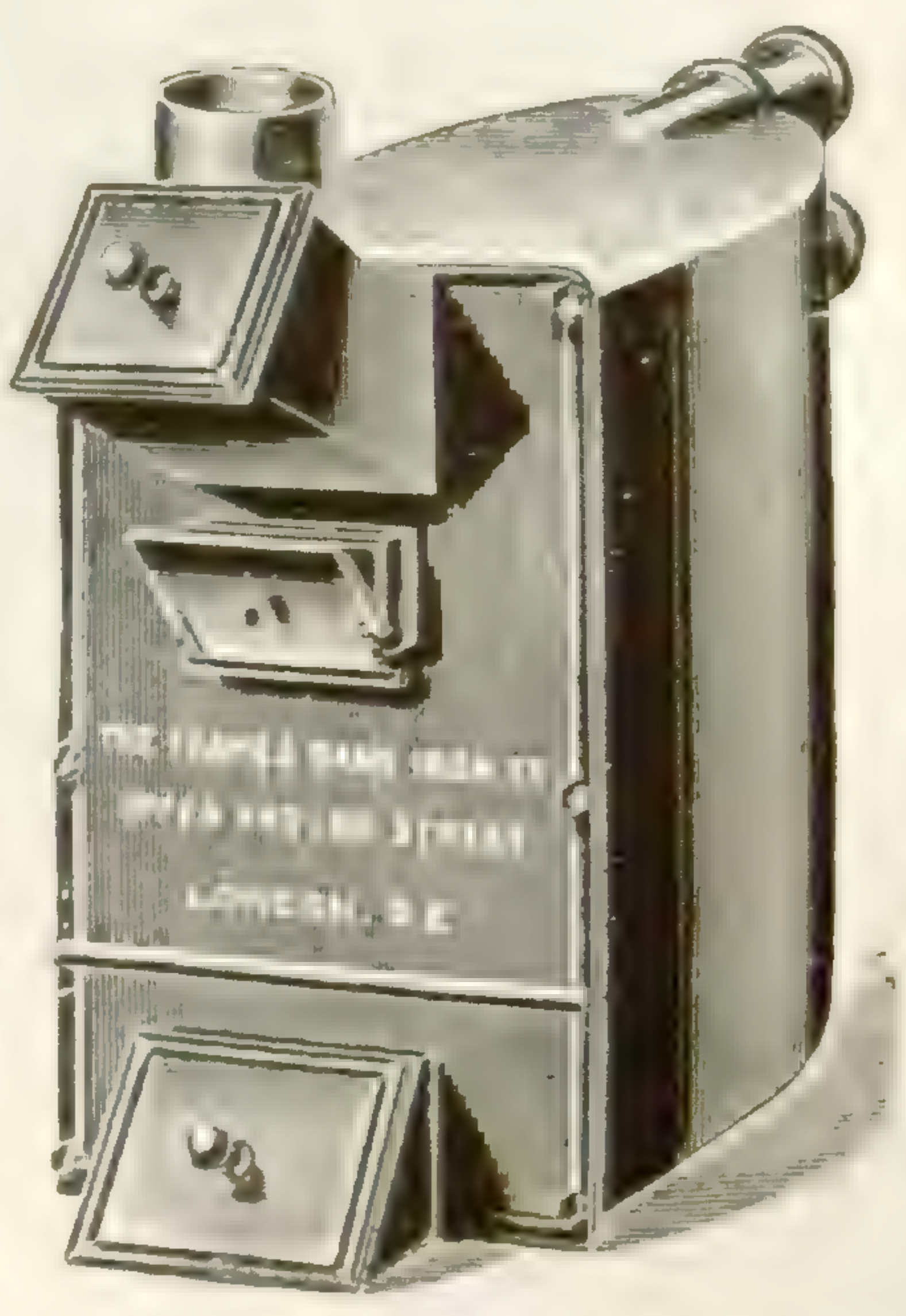

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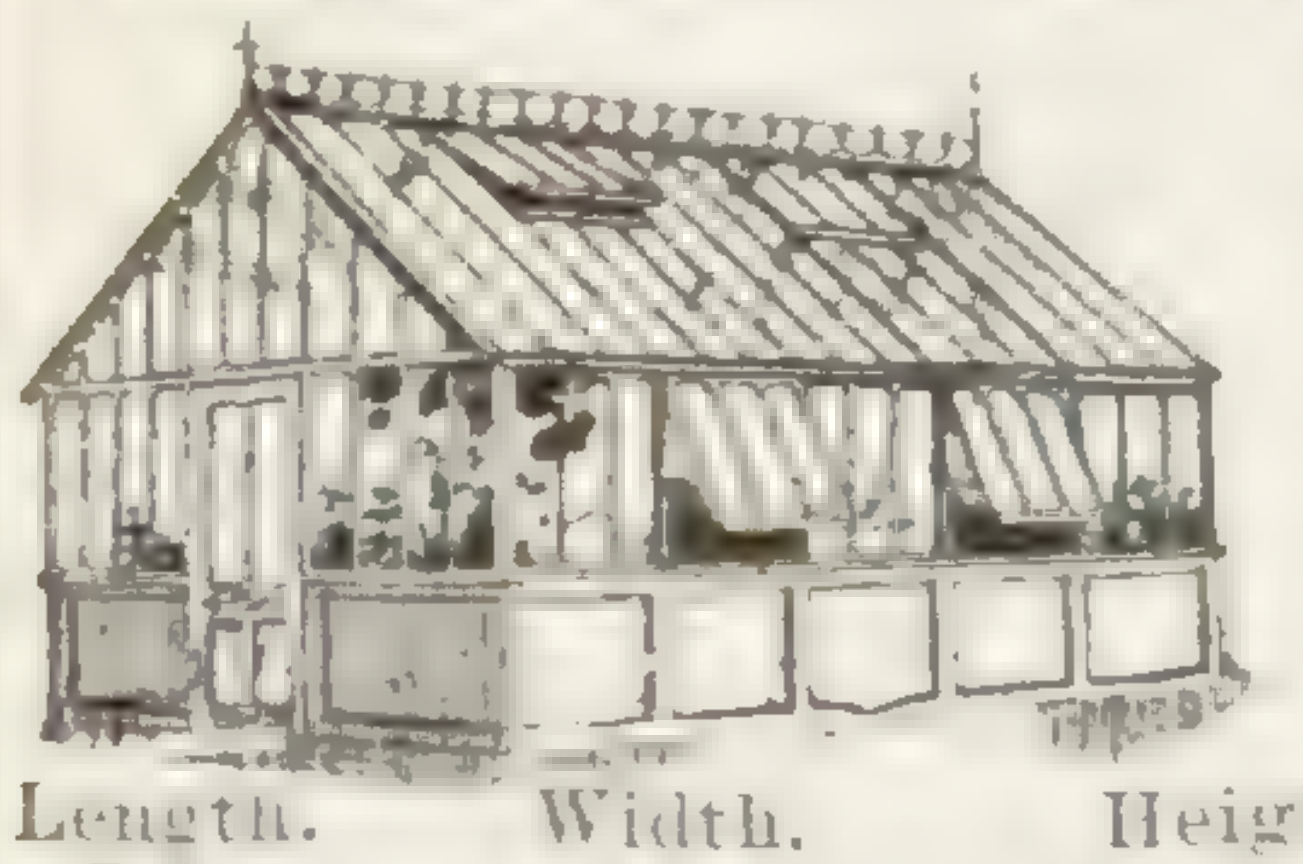

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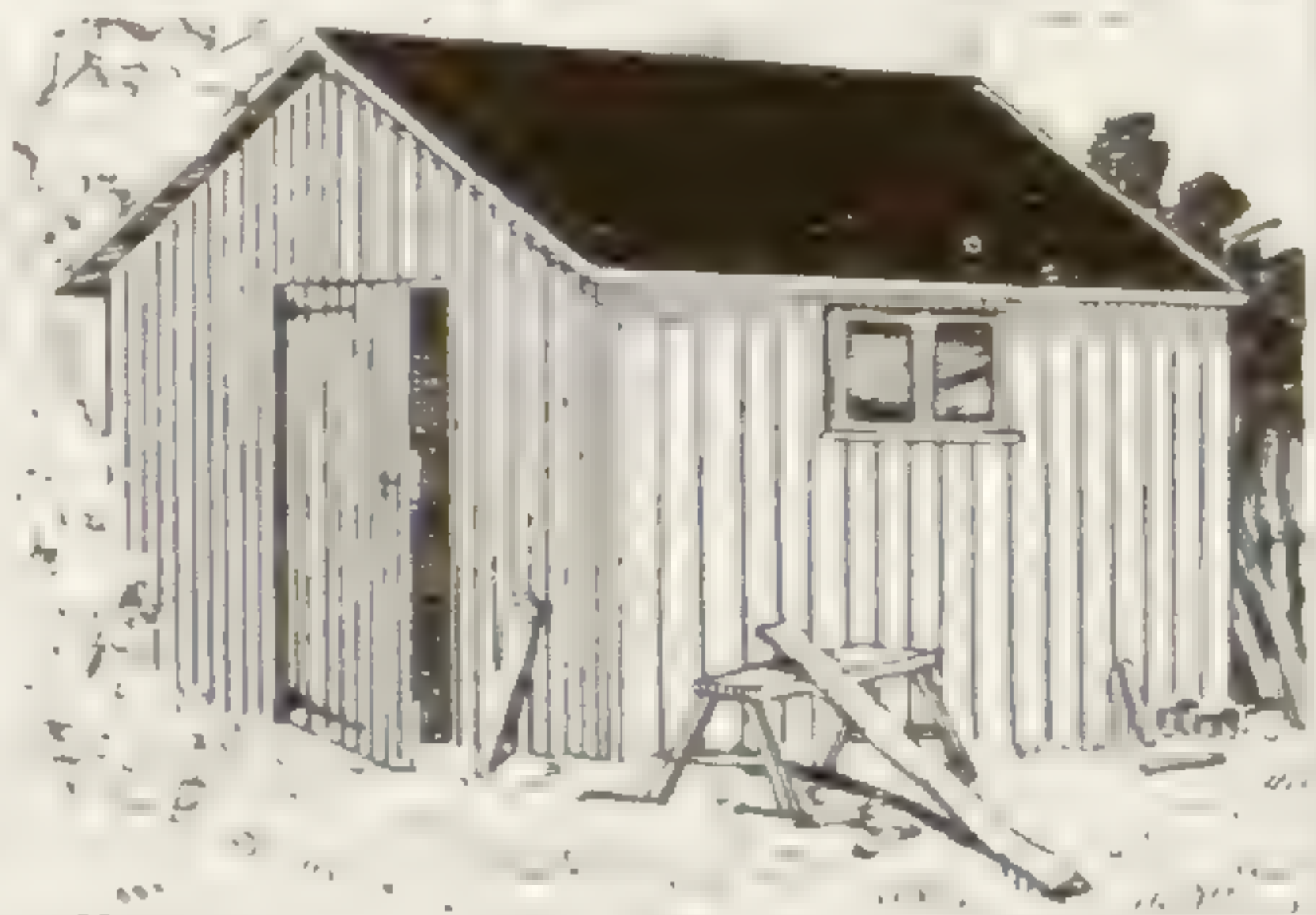

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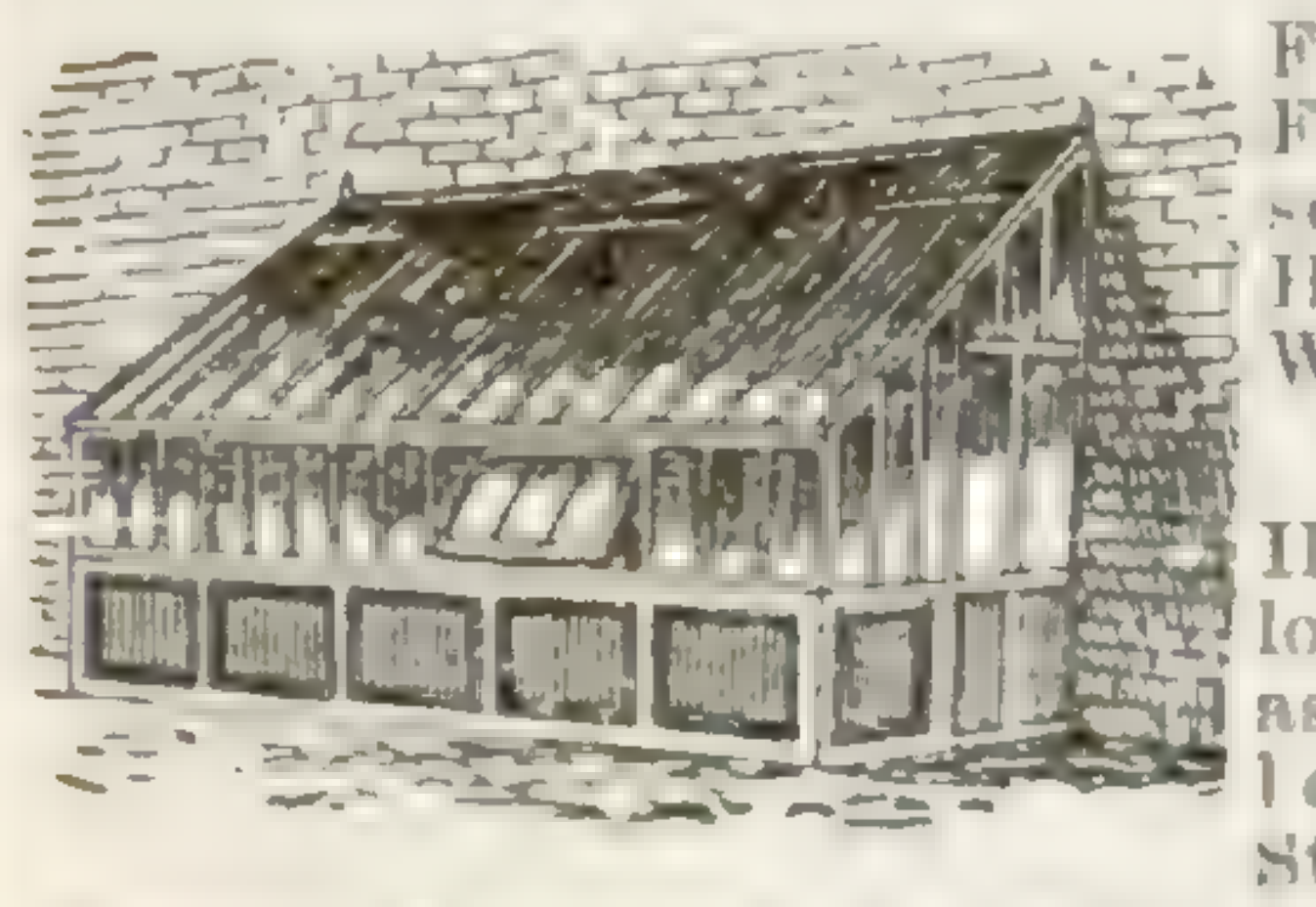

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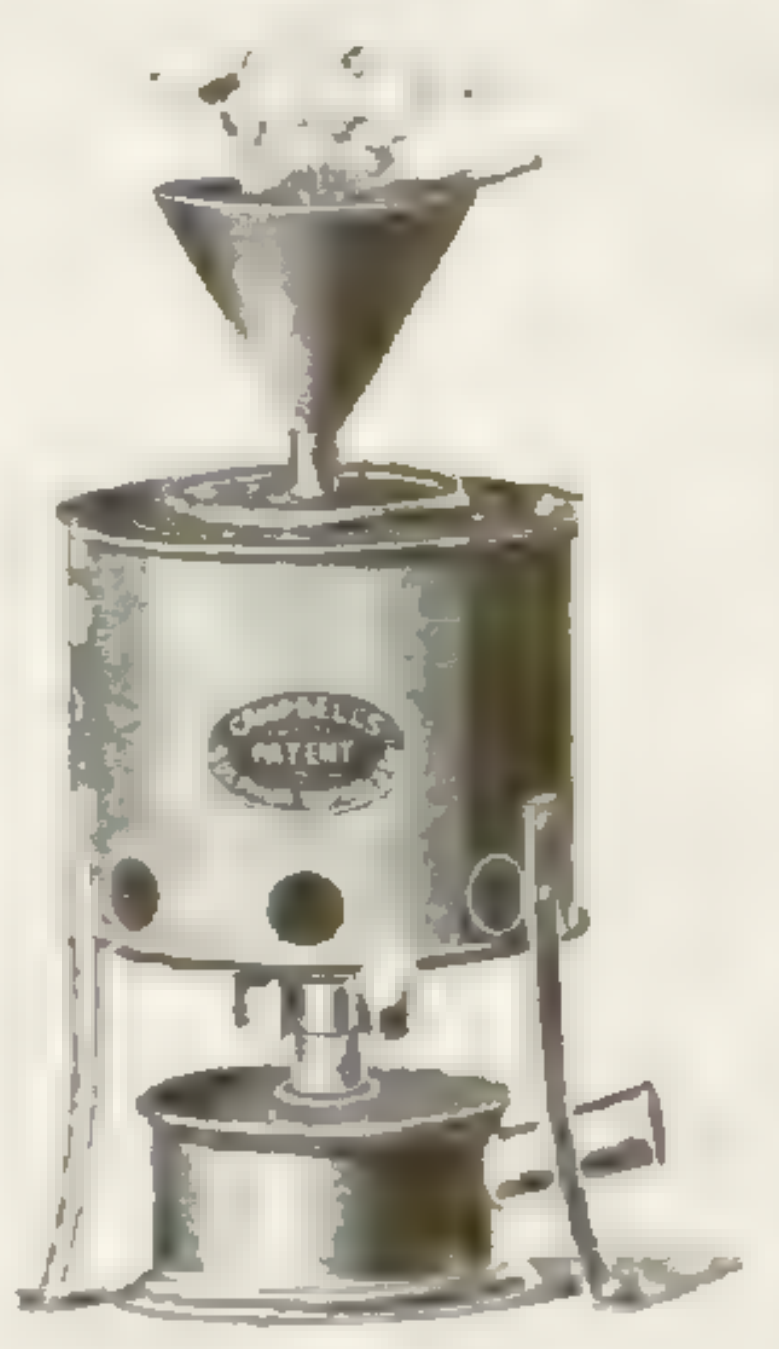

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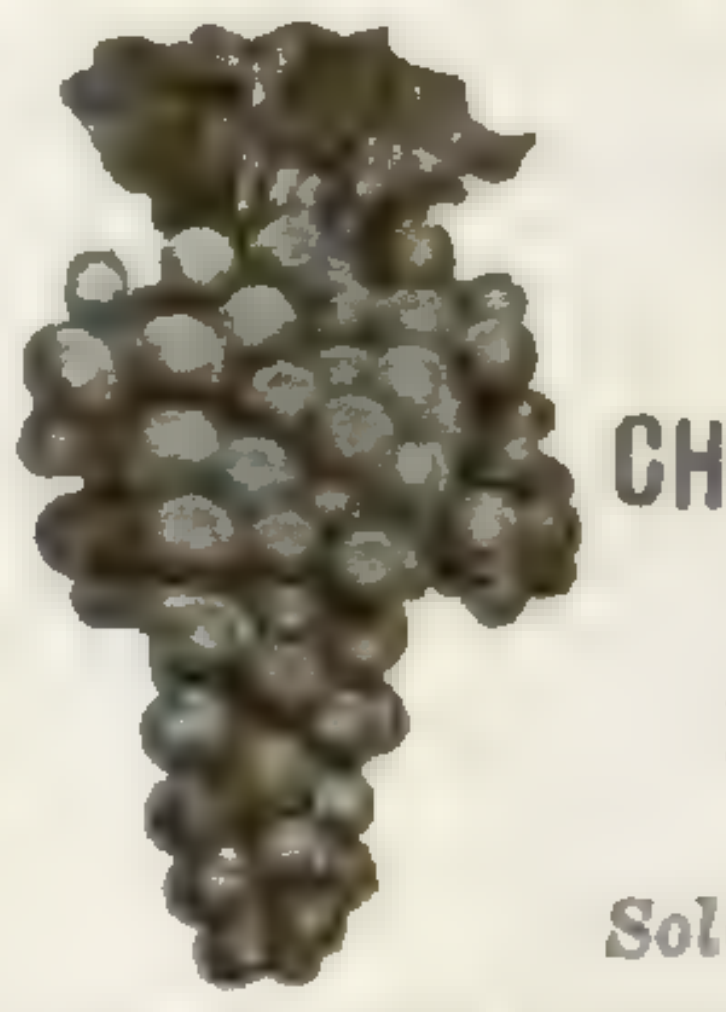

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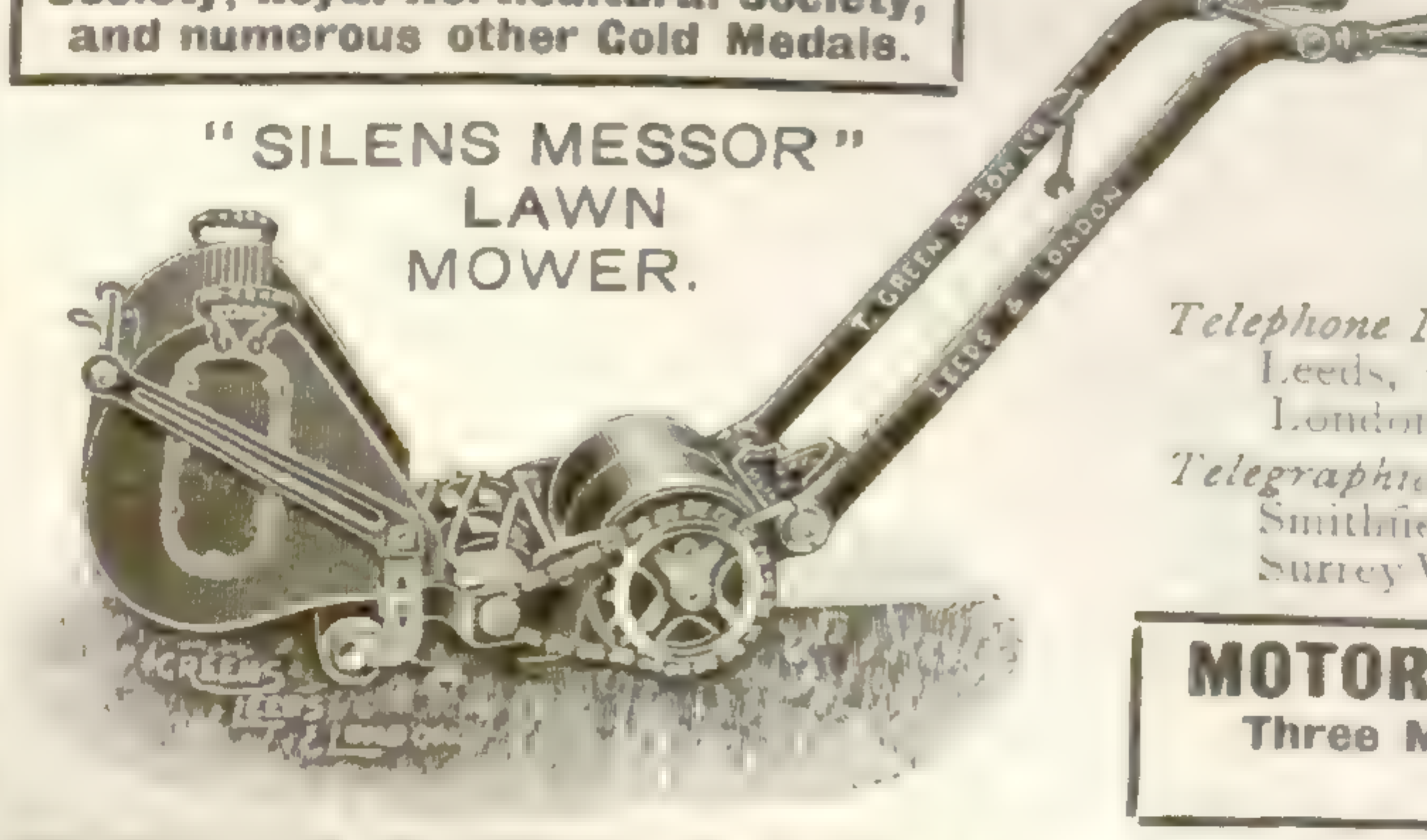

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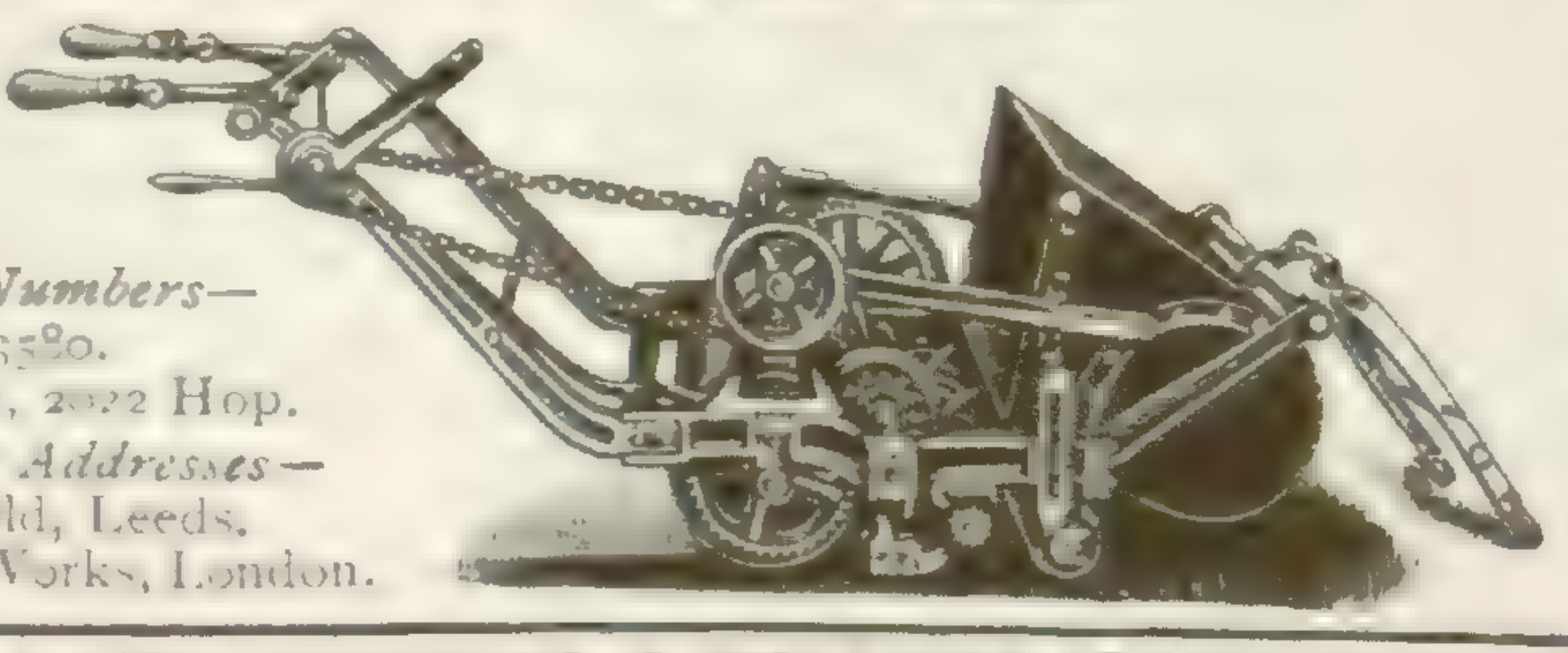

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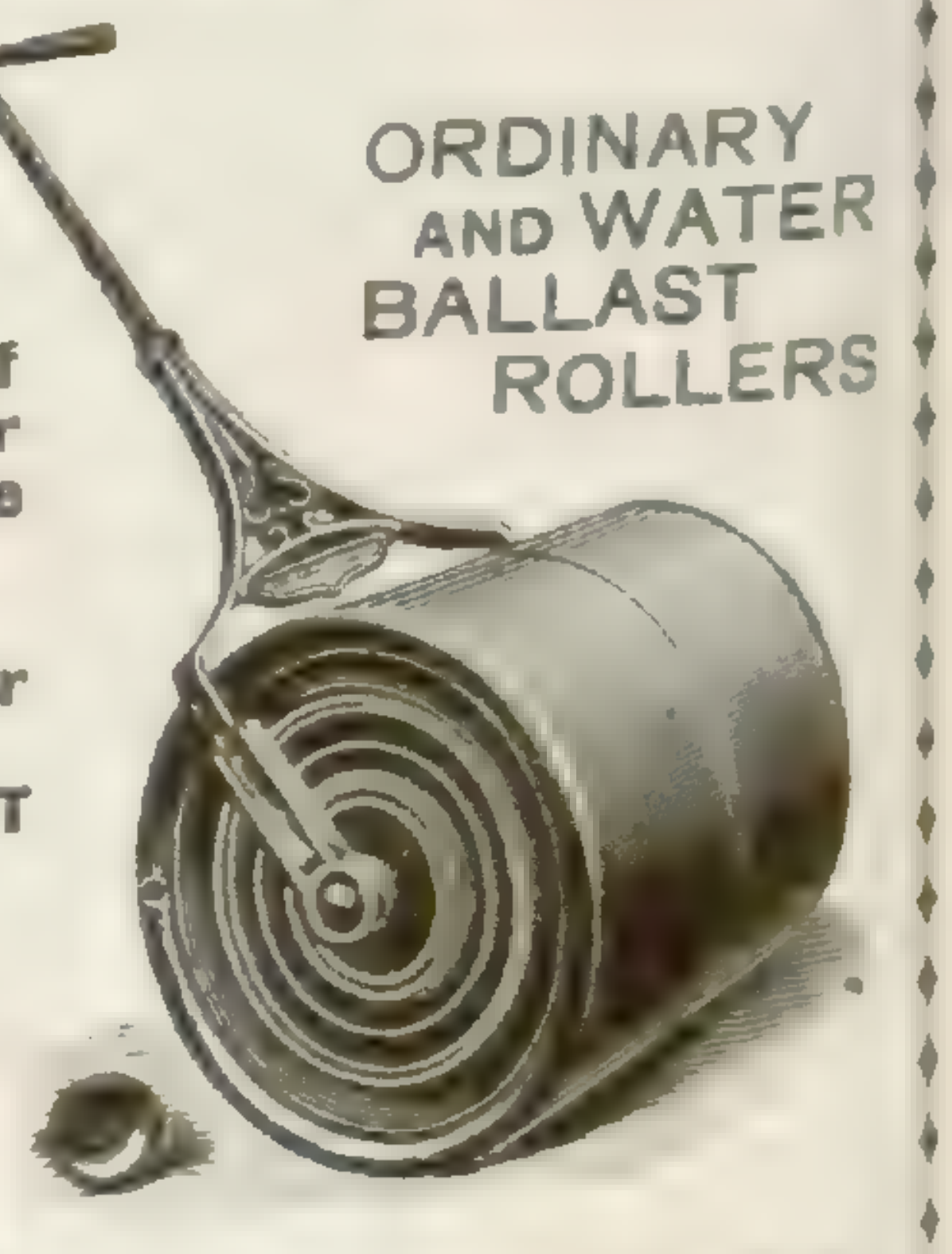

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APPLE SUCKER.

All who have apple trees in their charge must now be up and doing to combat the dreaded apple sucker, which, in many cases, is doing far more damage than any spring frost.

The writer has been examining the eggs on the apple twigs almost daily for the past ten days or so, and at last the first of them has started to hatch. By some mysterious working of the laws of Nature the eggs seem to hatch first on those trees which are most forward in their development towards bursting into bloom. The first observed were upon Frogmore Prolific, and a day or so after upon Ecklinville Seedling, but not one has at present been found hatched out on such late-flowering varieties as Jubilee.

The flat, dark brown larvæ are already making their way up to the opening buds, and, where the latter are sufficiently open, working their way into them to feed on the tender green leaves. A keen watch must be kept, examining the twigs and spurs with a pocket lens in order to select the precise moment when a good proportion of the insects are hatched, in order to give a thoroughly good spraying before the bloom opens. Any of the summer sprays intended for sucking insects will make a clean sweep of them, a good soft soap and quassia wash even being sufficient, provided enough force is used, combined with skill in directing the spray to reach the insect. The task of killing them is very much easier during the first few days of their life, if it can be accomplished then, before the peculiar oily globule appears, which materially assists the insect by throwing off the spray fluid, and so protecting it from destruction. In cases of very bad infection the truss of bloom is quite glued up together with this sticky mess, so that it quite fails to split up into its separate flowers, each with its clean stalk, as the grower would wish, but remains a stunted mass, of which no single flower can be expected to set and produce a fruit. Even with those which do apparently open properly, in cases of bad sucker attack, the effect of many of the insects sucking at the flower stalk seems to wither it away completely, and it drops off, though apparently healthy in all other respects.

Spraying with the various summer spray fluids may be continued till the bloom opens, but only one, as far as the writer's experience goes, can be used with absolute safety after the tree is in full bloom, namely, tobacco extract. This has been used for two seasons now on thousands of trees in full bloom, without the slightest trace of any harmful effects. The chief drawback to this latter procedure is that the petals, particularly of the bolder-flowered varieties, such as Warner's King and Stirling Castle, prevent the fluid going just where one wants it, namely, into the junction of the flower stalks, where the sucker delights to take up its abode and entrench itself.

I have refrained from giving the life history of this pest, because it has already been given in these columns, only giving these few notes to urge all who are trying to grow apples, whether in a large or small way, in private gardens or in market orchards, to be very energetic now before it is too late, and use every endeavour to save and safeguard their crops.

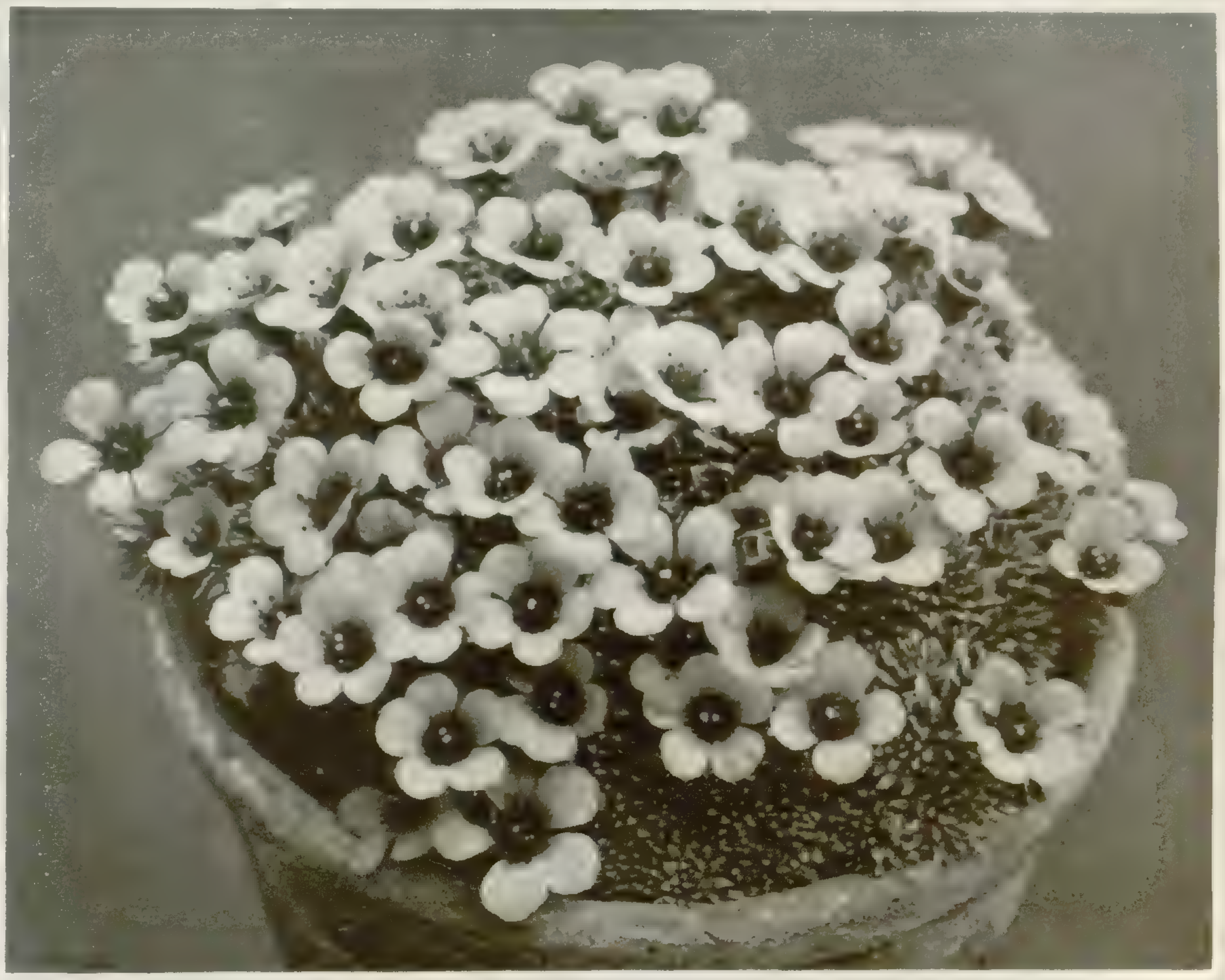
Above all should those be on their guard who grow Ecklinville Seedling, which is one of the varieties most likely to be infested by this terrible little insect. Such a spraying given now will also destroy numbers of the apple aphis, whose dark green larvæ are to be seen, in many cases, in the same buds as the sucker, and so prevent the trees being infested with the countless hordes of progeny which these first apterous viviparous females produce.

F. W. Hammond.

Pilgrims Hatch.

BOYD'S SAXIFRAGE.

The finely-flowered example of Saxifraga Boydi that we have the pleasure of illustrating herewith is one of the many beautiful alpine plants that are grown with so much success by Mr. J. Grandfield, the able gardener at Hayes Place, Beckenham, the residence of Sir Everard Hambro. Under any circumstances, the illustration would be of interest, as evidence of the beauty of this charming hybrid; but in this case it is especially interesting because the plant is what is known in the technicalities of horticulture as a poor doer. As Mr. Arnott has pointed out in these pages on several occasions, it grows much more vigorously under the influence of the cool summers of the north than it does in the south, hence the production of so fine an example at Hayes Place does much credit to Mr. Grandfield's cultural skill. Saxifraga Boydi was raised some years ago by Mr. James Boyd, Cherrytrees, Roxburghshire, from a cross effected between S. Burseriana and S. aretioides primulina, and the flowers are soft yellow. It requires a cool situation, and to be carefully top-dressed, the peat and sand being worked among the rosettes to prevent the plants becoming brown.



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ALYSSUM SAXATILE COMPACTUM.

This now well-known plant differs little from the older Alyssum saxatile, its varietal name denoting such difference as exists. It is as essential to the garden in spring as arabis and aubrietia, with the latter of which it makes a specially fine combination. Though primarily a rock plant, it will grow anywhere, but the soft growth induced on a rich damp soil sometimes succumbs to a severe or excessively damp winter, especially if it is in a shady place. Next to rockwork, which most nearly approaches the native habitat of the species, it does best in fairly dry places, where it gets plenty of sun. It comes true from seed, which, if sown in April or May, produces fine plants by the autumn, and these will flower well in the spring following. Being tap-rooted it resents moving more than most spring flowers, and it is better to put it in its flowering quarters in the autumn. Cuttings may be taken about flowering time, or soon after, though they do not strike so readily as many things, and they will make smaller and more compact flowering plants than the seedlings.

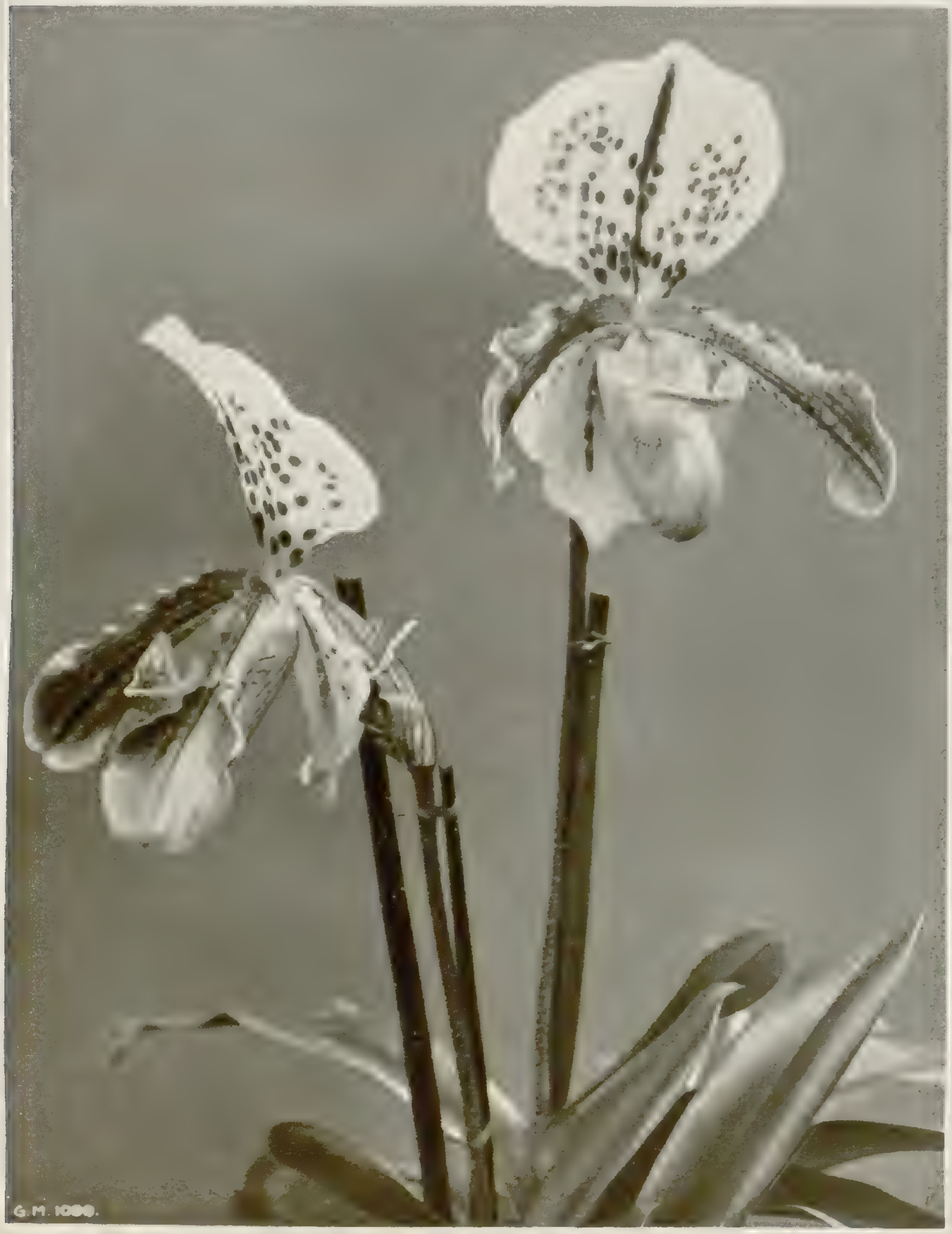
The main thing against this alyssum is the short duration of its flowering time, rarely so long as three weeks. It may be used either as an edging for mixed borders, or for spring bedding in any form, either with other plants, like aubrietia, myosotis, silene, etc., on equal terms, or as a surfacing plant for the taller and later-flowering tulips, the effect of tall scarlet and gold tulips rising out of a sea of this golden alyssum being very fine, the growth, when flowering, being sufficiently high to prevent its being unduly smothered by the broad leaves of the tulips. When used for spring bedding it is not worth while keeping the plants for another year, as new seedlings are much better for the purpose.

Alger Petts

MILTONIA VEXILLARIA.

Introduced to this country about the year 1867 from South America, this lovely orchid was for many years classed as an odontoglossum. The name vexillaria is from vexillum, literally a standard or flag, and I suppose it was applied because of the very large and flat flowers. A better name could not have been found, for the flowers resemble a series of flags unfolded.

Though it is such a very beautiful orchid—indeed, even a small collection would not be anything like complete unless it comprised several examples—its successful culture is not at present thoroughly understood, if we must judge by the very miserable specimens we often see even in gardens in which there is an endeavour to grow orchids.



CYPRIPEDIUM HERA VAR. EURYADES.
Flowers white and purple, green and brown.

To the beginner I say do not be dismayed if your miltonias are not very vigorous, even if they grow less instead of larger. Others have had the same experience before, and they undoubtedly will again. In our case, we have given, perhaps, more serious thought and consideration to this orchid than to any other we grow. Thirty years ago it was our aim and object to grow all the orchids we could into large specimens; immense pans of Cœlogyne cristata, great masses of Dendrobium nobile, very large examples of Cattleya Mossiæ, giant examples of Cymbidium Lowianum, etc., etc., and in these cases much success followed our efforts, but with Miltonia vexillaria this system ended in disaster. Up to certain limits of size, all went well, and we had splendid examples in 7in. pots. So well did these that the flowers cut from them in 1886 were lovely, and made that year quite memorable, as they provided such grand additions to boxes of orchids we sent away and also for decorative purposes at home. We transferred some of the plants to 9in. and 10in. pots, and they began to decline, but we noticed the plants in small pots continued healthy and strong.

We clung tenaciously to the plan of trying to grow a few into large examples, but as years have rolled on we have found from continued experience that small examples succeed best. We have very few now in 7in. pots, as we find very good examples can be grown in the 5in. and 6in. size.

I am strengthened in this opinion by the advice I recently had from a very large grower of this orchid, and the advice was to grow each growth separately, and be content with small, vigorous plants. With regard to the time of division and repotting we find that after a period of resting, extending through June and July, about the first week in August is a good time to divide and repot, as then the plants become fairly established before winter sets in.

The compost should be good fibrous peat, with all fine particles sifted out, good large-headed sphagnum moss, well chopped up, very finely broken bricks, crocks, and charcoal. We are now feeling our way with a little osmunda fibre, and a small quantity of polypodium fibre intermixed with the peat and moss, but we cannot give a very decided opinion yet as to whether the addition is beneficial or otherwise.

The safest way is to repot into a light, porous compost, and cover the top with about half an inch of live sphagnum moss, which encourages the surface roots, and the condition of the moss will indicate when water is required. The importance of the healthy surface of live sphagnum cannot be overestimated, as I have found that all the roots of bought specimens of Mitonia Bleuana have been in this top layer of sphagnum; these were evidently potted on the Continent as they were not in English-made pots, and the pots were three parts filled with a sandy mixture of leaf-mould, but this mixture had not one root in it.

We find the best place to grow Miltonia vexillaria is the cool end of a cattleya house, as it is an orchid that will not succeed in a low temperature. With regard especially to this orchid, my advice is to keep every specimen well within the line of vision, do not put them in remote corners, out of the way. If neglected yellow thrips will almost devour them, or they will be damping off or be scorched before we know it. We suspend some plants from the roof and we grow some on the stages; they do equally well in either position, but they are all well in view. We have several times experimented with single specimens in cooler houses, but after much observation we find the temperature of a cattleya house suits them best.

Cheshire. W. M.

CYPRIPEDIUM HERA VAR. EURYADES.

The fine old Cypripedium Boxalli crossed with the hybrid C. Leeanum has produced a hybrid that is unusually variable, but which, in its finer forms is a remarkably useful and handsome plant. It flowers during the winter months, and quite frequently produces two flowers on one stem. The clear white of the upper part of the dorsal sepal is a feature, while the rich purple spots and shading and the burnished brown and green of the petals and lip help to make up a most attractive flower. The original hybrid was raised by Messrs. James Veitch and Sons, Chelsea, and first flowered in 1892, and described as C. Hera. The variety Euryades appeared a year later, and, as a general rule, it is finer than C. Hera, and in more recent times, owing to the use of very fine forms of C. Leeanum as one parent, the seedlings have more nearly approximated to C. Euryades than to C. Hera, so that the latter title has largely fallen into disuse. The accompanying illustration represents a very fine form of C. Hera var. Euryades exhibited a month or two ago by Messrs. James Veitch and Sons, Chelsea. In this form, the white dorsal sepal had a medium band and distinct spots of deep and rich purple, and a greenish base; the petals and lip were yellowish-green, veined with brown, and shaded with purple, and had a beautifully polished or highly glazed appearance. The hybrid is easily grown with C. Leeanum and other cool cypripediums, and should be cultivated wherever winter flowers are in demand. C. Adrastus is another varietal form of C. Hera, and is the result of a reverse cross.

THINNING HARDY FRUITS.

I dare say many readers of the Gardeners' Magazine have noticed certain apple and pear trees in their gardens have borne heavy crops in alternate years, and not any in intervening ones. Furthermore, no doubt, it has been observed that the trees in question did not make much growth.

In the gardens of which I first took charge there were two apple trees which fruited well in alternate years. The weather conditions could not have had any influence upon them, as while one specimen was bearing freely the other was barren. This went on for seven years, and at the end of that time there was not any perceptible increase in the size of the trees. Pruning was not necessary, as young wood was produced only in very small quantity. I purposely refrained from interfering with the trees as I wished to see how they would behave. This watching first commenced nearly twenty-five years ago; but I left to take charge of larger gardens at the end of seven years. However, I lately saw the two trees, and, after such a long time, found them not much bigger, and, I am told, they continue to yield fruit in alternate years.

When I took charge of the larger gardens referred to, I found in one part of the garden a long row of pyramid-shaped pear trees. Some were twenty-five feet high, others were about six feet, though all had been planted at the same time, I believe. Of course, I suspected the reason of the stunted appearance of these dwarfs, and found that they were overloaded with pears every other year, and had only a few in intervening seasons. The bark of the main branches was extremely hard, and cracked in all directions; in fact, the bark resembled dry chips.

I removed every flower from the trees in their full bearing season, as well as in the intervening ones, for two or three years, and fed the trees liberally. In this way a fair amount of new wood was made, but after so many years the trees seemed to be too old to make satisfactory growth. No doubt there was something wrong with the stock, too, as all were grown on the quince.

My main point in this note is this, that the timely thinning out of the small fruits on young trees should be very carefully attended to. The free-growing condition, or otherwise, of the trees must be taken into due consideration as a guide to the amount of thinning necessary, so as to build up fruitful and remunerative specimens. Small, unduly stunted trees cannot be very remunerative. Of course, some varieties are much more free in growth than others, and it is a difficult matter to bring them into a good fruit-bearing state while young.

I commend these points to inexperienced cultivators, and I would much like to have the views of others on them.

George Garner.

Asparagus.—Sow seeds at the present time in rows at one foot apart on a well-prepared border, as this is far preferable to sowing on the permanent bed, and plants of uniform size and vigour can be selected for planting into permanent quarters 12 months hence. Another plan which recommends itself is to sow seeds single in 60-sized pots in cold frames; if well attended to during their growing season, occasionally supplied with liquid manure water, and finally plunged in ashes for the winter, very fine planting crowns will be the result.—G. Ellwood.

A PLANTATION OF GIANT YELLOW POLYANTHUSES IN THE SEMI-WILD GARDEN.

POLYANTHUSES.

When grown under conditions favourable to their full development, the polyanthuses bloom so profusely as to produce colour effects of such richness and beauty as to justify their charms being referred to at some length. But these notes are intended to be of an essentially practical character, and therefore all that will be said in their praise will be to suggest that many gardens, both great and small, would have their attractions in spring greatly increased were these delightful flowers more largely and systematically cultivated.

In the case of polyanthuses, as of so many other classes of plants used in beautifying the flower garden, it is of importance to begin well; and to begin well with the polyanthuses or bunch primroses is to obtain seed that has been saved from a good strain. There is no difficulty in doing this, for seed that will produce plants of a high degree of excellence is plentiful. The purchaser has simply to refer to the seed catalogue of one of the many good firms that advertise in the Gardeners' Magazine, and order the best seed that the firm offers. Those who require polyanthuses for massing in beds and borders or for the formation of large breadths in semi-wild gardens, should order the seed in separate colours, as these are far more effective than mixtures. The best types for these purposes are those generally known as the Giant Crimson, Giant Yellow, and Giant White. When a few plants only are required for planting along the front of the mixed border, a strain of fancies will afford much pleasure to those who have a taste for mixed colours. There will be some variation in the colours of the flowers of plants raised from seed sold in selected colours, as it is practically impossible to ensure every one true to colour, but the variation will not be sufficient to appreciably detract from the general effect.

A rather long season of growth is necessary to ensure strong plants by the autumn, and therefore it is necessary to sow the seeds not later than the end of April. An excellent method of procedure is to sow the seeds thinly in shallow boxes that are filled with a mixture consisting of light loam, leaf-mould, and sand. This should be made rather firm and quite level previous to sowing, and when the seeds have been regularly distributed over the surface they should be thinly covered with fine soil. The boxes should then be removed to an unheated pit or frame, and have paper laid over them to prevent the surface drying quickly. If this is done, and the lights kept closed until the seedlings are making their appearance above the surface, the seeds will germinate quickly, and the seedlings commence to grow away freely. It need hardly be said that the soil must be maintained in a moderately moist state, and that the papers should be removed when watering is being done. Gradually harden off as soon as the seedlings are so far advanced as to show signs of crowding, plant them out on a shady border, one on the north side of a wall being preferable. In its preparation, the border should receive a liberal addition of leaf-mould or other decayed vegetable matter, and the plants be put in four inches apart in rows, with ten-inch spaces between them. Well watering them in will follow as a matter of course; but it may be useful to point out that overhead waterings in the evening during periods of dry weather will be of immense assistance in promoting a vigorous growth.

Polyanthuses can be readily increased by division, which should be done late in spring, when the plants are removed from the beds and borders in which they have bloomed. Promptitude when taking them from the beds is essential to success, and immediately they are lifted pull the plants to pieces, each piece having two or three crowns, and plant in a shady border. From this stage give them the attention suggested for seedlings, being particularly careful to avoid neglect in watering or overhead sprinklings. October is the best month in which to transfer polyanthuses to the beds and borders in which they are to bloom, and also to form plantations in the semi-wild garden, such, for example, as the one herewith illustrated.

W.

Forestry Exhibition at Liverpool.—In addition to the great flower show that will be held in conjunction with the Royal Agricultural Society's exhibition from June 21 to 25, there will be a forestry exhibition. There will be fourteen sections, and silver and bronze medals will be offered in them. There will be classes for specimens showing the beneficial effects of pruning when well done, and its injurious effects when badly done. There will be classes for different descriptions of gates for farm and estate use and a new class for fencing open to all tradesmen and estate workmen, professional and amateur. The competition instituted last year for plantations will be continued, the area this year being Lancashire, Cheshire, and N. Wales. Gold, silver, and bronze medals are offered for the best plantations, and prizes will also be offered for home nurseries. The entries for the plantation and home nurseries competitions will close on Saturday, April 30, and the entries for the Forestry Exhibition in the showyard at Liverpool on May 20.

MONTBRETIAS.

It frequently happens in the planting of montbretias that the culturist confines himself to one or two varieties, which are made to do service for the whole garden. This idea is well enough if one has to make big colour sweeps, or a massed display. The free use of the ever-popular Crocosmiæflora has tended to keep other varieties in the background, but with the introduction of the Westwick varieties, raised by Mr. Davison, a fillip has been given to montbretia culture in general, and novelties of recent years will soon share in the bestowal of favour.

Treated as hardy perennials, and dividing the masses of bulbs as frequently as may be required, the montbretias are of great service for garden decoration and for cutting. One can include them in so many schemes of garden adornment, in the borders, in especial beds upon the grass, grouped near the streams in the water garden, and upon the slopes and banks of the wild garden; indeed, there are many situations where the montbretias are desirable, and, as a rule, little or no difficulty is experienced in their culture.

A well worked, fairly rich, retentive soil is necessary for good results; poor and dry land giving but poor returns. A good dressing of farmyard manure should be given to the ground some time before planting, and thoroughly incorporated with the soil, and if the latter is inclined to clay, then sand or road grit can be added with benefit. It must be borne in mind that annual lifting and transplanting of existing clumps of montbretias will materially assist in the production of splendid growth and blossom. I have noted grand results from late autumn transplantings, and would advocate this measure whenever possible, though I admit that spring planting, from the end of March and in April, is not without advantage in many cases.

The newer montbretias show marked advances upon the older varieties. The Westwick novelties are becoming pretty well known, and some of them, such as Prometheus, George Davison, etc., should by now be enjoying a wide range of culture. Prometheus is of grand size, but I care little for the colouring, and the rich orange-scarlet of Lord Nelson, or the golden-yellow of King Edmund, are, to my mind, far more attractive. Hereward is of much value, owing to its lateness and freedom. Its blossoms partake of the character of Martagon (a Continental form with recurving petals), but do not possess quite so deep a colour as that variety. Lady Hamilton and St. Botolph are both deserving of note, giving shades of golden-yellow, while Norvic, with its free habit, and red-stained blossoms, and Pageant, are deserving of special attention. Westwick is useful, and its orange-red and yellow colouring and maroon markings, give it quite a distinct appearance.

Continental varieties lack something in size, compared with some of the foregoing, but in the matter of colouring they are exceedingly noteworthy. Germania is, of course, still popular, and gives a fine bit of colour, and a quite desirable tone, which combines warmth and richness. Pleasing, too, is Messidor, a delightful pale creamy-yellow, of good size, and wonderful freedom, while Lutetia gives a bright effective display of rich red blossoms. Aureole is good for a yellow, and its clear colour is heightened by the ring of bronzy-purple near the centre of the blossoms. Vulcan, again, is good, being a deep red, with a yellow centre and purplish spots. Vesuvé and Etna speak of fire, and are fine new bright yellow forms. Fire King is exceedingly floriferous, and grandly coloured with rich crimson: it is a notable telling variety. Duchess of Mecklenburg, with its tall growth and bright orange blossoms, may be preferred to the old favourite Crocosmiæflora, while America, a dark orange-yellow with a red centre, and Fantasie, a good vermilion with a yellow centre, are worthy of a place in most gardens.

Others worthy of note are the bright red and yellow Oriflamme; the vigorous yellow Gold Mine, with its reddish flushings; Eclatante, carmine-red, with yellow base; the yellow-throated vermilion Transcendant; the pretty pink Rosea, the double orange flore-pleno, and the blood-red and yellow, with purple tips, of Etincelante. Tragedie may appeal to some flower lovers, but to me this aptly-named variety, though finely formed, represents a combination of colour which cannot well be placed against clearer-coloured forms.

Montbretias, by their richness of colouring, intense freedom, and graceful beauty are essentially fitted for garden adornment, and should be fully utilised.

P. S. HAYWARD.

ASPARAGUS.

Asparagus is one of the choicest of vegetables, but, unfortunately, it is often regarded as the most difficult one to produce. In some localities this doubtless is so, especially if some extra provision is not made in the preparation of the beds, and necessary care, especially for the first few years, is not bestowed upon them.

Asparagus is held in such high esteem that its season should be prolonged as much as possible, and luckily it responds to forcing very well. Some establishments possess a house built for the purpose of forcing asparagus, but a frame will produce equally as good results, providing the hotbed is properly formed and attended to. A mixture of oak or beech leaves and long stable litter should be built up firmly, and when this has settled and the fierce heat declined, a little covering of three or four inches of fine light soil should be placed thereon.

Strong crowns must be procured, and if these are not available from the open beds, it is good policy to procure them from a reliable grower who caters for the purpose. Just cover these with similar soil, and water in with tepid water. A warm, humid atmosphere is required, and a temperature of about 60 or 65 degrees will do admirably. If frames are employed effective means must be taken to keep frost out.

In the earliest days of winter steps may be taken to produce supplies of this vegetable, and if beds are made at varying intervals and replanted as soon as exhausted, a succession may be maintained. New linings of manure, if added occasionally to the hotbeds, will promote greater warmth. The spent roots are of no further use, and should be thrown away.

When the formation of outdoor plantations is under consideration it should be remembered that these will probably remain for a long number of years if properly made, therefore this work should not be hurried over or done in a slipshod manner. The ideal soil for asparagus is good loam well drained, and in a warm position. Therefore choose an open space, well away from large trees, and work the ground in the winter months by thoroughly trenching it, and adding liberal supplies of good farmyard manure, lime rubble, wood-ashes, etc. About the end of March, but when the ground is in a convenient state for working, it should be well forked over, and the beds marked out four feet wide and two feet apart. Take out the alleys, and throw the soil up on to the beds, which, especially on heavy retentive soils, are best if raised above the normal level. Mark each corner of the beds with a neat but stout oak post.

The more quickly the roots of asparagus are transferred from one position to another, especially young plants, the better, as nothing is more harmful than to let the roots become dry through exposure, therefore have all in readiness, and for preference choose dull or showery weather for the work. Young plants of a good variety may be purchased for planting, but I prefer raising my own plants from seeds. If seeds are sown early in April in drills a foot apart, on a light rich soil, and the seedlings are subsequently thinned out to a foot apart, they will make excellent material for planting out the following spring. I much prefer this method to sowing the seeds on the permanent beds. Each bed will accommodate three rows, with the plants about fifteen inches apart. Spread the roots out evenly near the surface, covering them with fine soil (taken from the alleys) about three inches deep. Endeavour to promote a good growth through the summer months by copious waterings in dry weather, and by an occasional application of an approved fertiliser, and keep the beds free from weeds if possible. No other crop should be allowed to occupy the beds, but, of course, advantage may be taken of the alleys for early supplies of cauliflowers, lettuces, etc.

No succulent young growths should be taken from the bed until the second year from planting, however well the plants may seem to flourish. Support the outer growth if there is any fear of damage from wind. Cut down the stems when thoroughly ripened, with a pair of short shears, hand weed the beds, and cover with three inches of well-decayed farmyard manure. Then edge up the beds and level the alleys for appearance sake. The beds will thus remain until the spring, when they may be raked down and given a dressing of salt, which is very useful for asparagus. When in bearing the beds should be examined every morning and the growths removed with an asparagus knife.

A good dish of asparagus is a telling item in a collection of vegetables, especially if even specimens are selected and tied up in a bundle, with broad strands of raffia, and presented in a beautifully fresh and clean condition, with a garnishing of parsley.

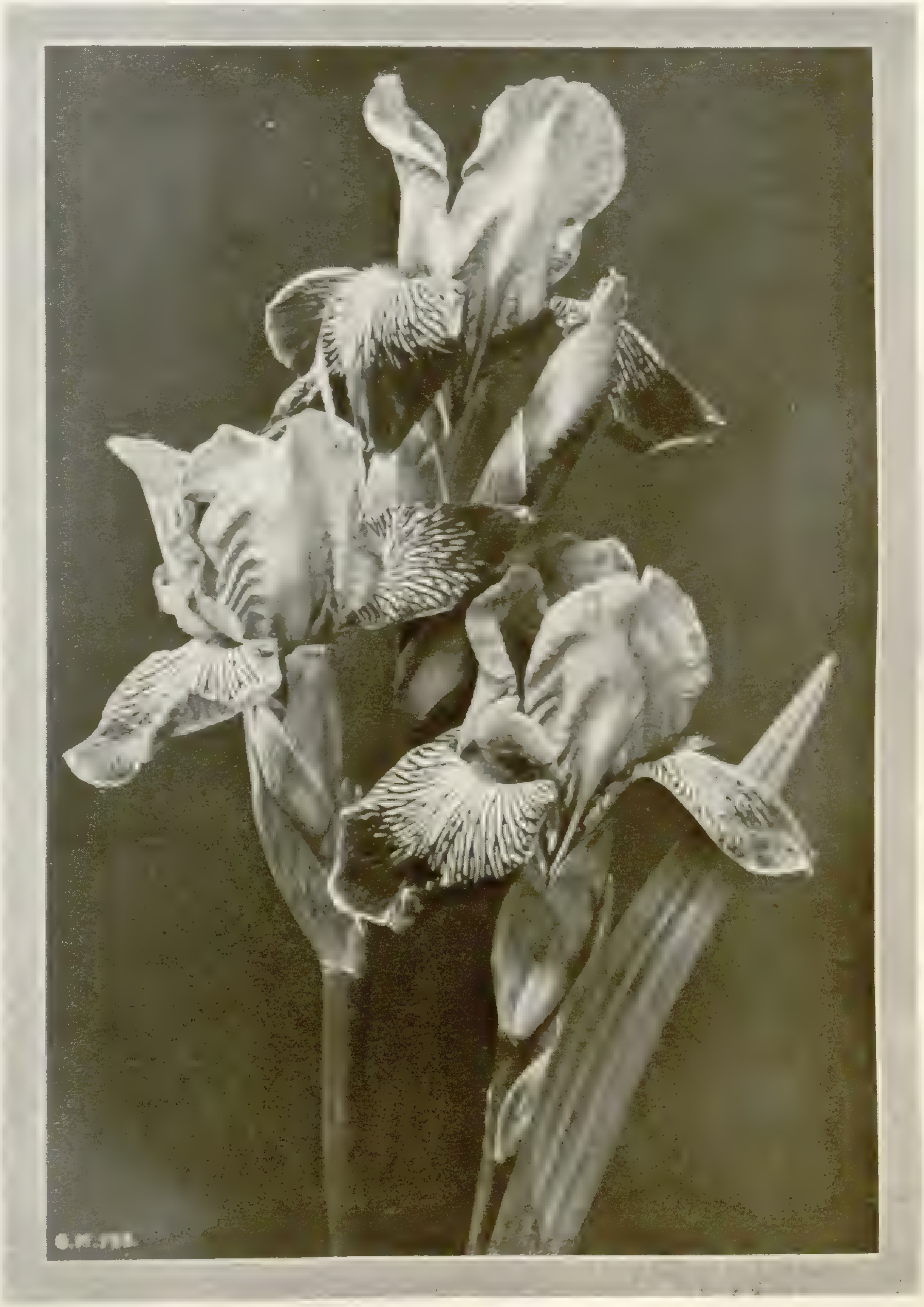
Many varieties are listed in catalogues, and these are no doubt of high merit, but if one variety only is recommended it must be Connover's Colossal, which is difficult to surpass.

E. BECKETT.

Aldenham House Gardens.

IRIS MAORI KING.

No garden is complete without groups of German irises, but in far too many instances insufficient attention is paid to the selection of varieties, and this is a matter for regret, when we remember the many splendid named varieties that are obtainable at small cost. One of the most brilliant of the varieties in which golden yellow colouring is conspicuous is named Maori King. The illustration serves to show its fine form and markings, but cannot convey the bright golden hue of the standards, and the rich deep crimson falls with their yellow base exquisitely veined with purple. It is a variety that ought to be included in the smallest selection of these useful and intensely hardy flowers.



IRIS GERMANICA MAORI KING.

Standards, golden-yellow; falls, crimson, with purple veins on a golden base.

AMONG THE ALPINE FLOWERS.

> "Gardens just now have more of promise than performance. The rose shows only her green leaf, the lily not even suggests the glory of her grace that is to come. But all sorts of bronze spear-heads and little lance-like points of green are piercing the earth, and with imagination's help, one may revel in visions now, in April's early days." HUBERT BLAND.

However true the above quotation may be of the ordinary garden it is certainly not an apt description of the alpine garden in even early April, although now, as this is written, when the month has not yet passed its half-way house, it is still less according to fact. There are many flowers in blow; flowers which not only give us foretastes of those which are yet to come, but in themselves give us feasts of beauty which will come back to us in the later months as among our many garden treasures of the memory. Are there not turquoise forget-me-nots, with their dainty little flowers set thickly together and lighting up one's eyes with their beauty and with the joy which appears to radiate from these gladdening little blooms? Are there not violets and violas, which give us sweet fragrance and lovely blossoms as they meet us in the garden? Have we not spiraeas just ready to open their buds and to delight us with the sight of their dainty white flowers on the twiggy branches of the shrubs?

Yes! there are these, and many more of choicest grace, and nowhere do they seem more visible than among the bulbous plants which await our welcoming glance.

Tulipa Kaufmanniana.

One wonders if there is anyone so lost to all sense of appreciation of floral beauty as to despise the lovely Tulipa Kaufmanniana. Its beauty is such as to almost make one envious of the doughty general whose name is enshrined in our memories by association with so lovely a flower. It is not one which absolutely requires the rock garden to show its charms properly, but it looks nowhere better than on a low flat spot on the rockery. There when it opens its dainty flowers flat to the sun, like some beautiful water lily, its beauty is unquestioned, and, surely, unquestionable. Variable as it is, there is hardly a poor form among the varieties which have come our way, and we annually look forward to its reappearance and to the opening of it-flowers. When in bud it is lovely, with its long, elegantly-formed segments, but when open it is if possible, more lovely still. As for its colouring, it is elusive when we attempt to describe it, especially as the flowers are not all alike. "A groundwork of cream, flushed or marked with carmine and yellow," is all one dare attempt to say, and this falls far short of the reality. Then this tulip is dwarf, growing with me little more than six inches in height.

One must, one supposes, now condescend to matter of fact notes regarding its requirements, and these appear to be a free soil, with a little sand about the bulbs, which are planted about October, and with the crowns about two inches deep. A moot question is that of occasional lifting and drying off. One does not care to practise this in the rock garden, as being rather a mar on the genius of the place, but one has learned that several of these Turkestan tulips are all the better for occasional lifting and drying off before replanting. Much depends upon the season, and a dry district where the soil is well drained, will happily obviate the necessity for annual lifting and replanting.

Primula marginata.

Many alpine growers are only too ready to fall victims to the fascination of the primula. It is little wonder that this is so, for the genus is a charming one, embracing in its sisterhood many flowers fit to be included in the most select list of the choicest alpine plants. But—what a pity one has to use the "but"—there are many of the members of the genus which call for more care and attention at our hands than they can well receive. There are some which, while hardy in the ordinary sense, generally require some protection from our winters' hardships, and fail to live for any length of time when exposed to their vicissitudes; and there are others which call for little attentions which may be likened to those readily paid by the lover to his mistress, but which are not expected of the man in the street.

There are some eminent growers of these primulas who do not hesitate to urge upon the cultivator the need of growing them under frames in winter, and of affording them some special marks of care. But this cannot be done by the ordinary grower of alpine flowers, who has, as a rule, too many pets to enable him to give the primulas special petting and coddling. To him there are many which may be looked upon as forbidden beauties, and he will do well to limit himself to some of the easiest to grow. Such is Primula marginata: not to be confounded with P. auricula marginata—a very beautiful little plant, whose greyish leaves are prettily margined with silver and which gives dainty little trusses of small purplish flowers. The taste of those who have had their appetites for size pampered by the great blooms and huge trusses of some of our modern primulas will not appreciate those of P. marginata, but those who love nature's primitive flowers will admire this beautiful little plant, which is, moreover, an easy one to cultivate. It thrives well perched up on the rockwork and is never happier than when it stands boldly out of the rocks on an elevated part of the garden and in full sun for the most of the day. Like others of its class, it should be occasionally lifted and replanted a little deeper, if its position will not lend itself to top-dressing. It is a pretty little flower, of which there are several varieties not always easy to procure, such as Dr. Douglas's one, grandiflora, and cærulea. It is not particular as to soil.

Other Flowers.

One has possibly spoken with undue length of these two flowers of the time, but there are many others which would call for a note in their praise. The earliest of the chionodoxas have come and gone, but the later ones and those planted in shadier places are still bright as of old. The more one knows of these flowers the more does one bless the day of their introduction. They seem to reck not either sun or shade, but flourish and bloom cheerily away. In their varying notes of blue, lilac, and lavender, with excursions into white and rose, they are lovely things. Then there are muscaris, with their crowded heads of blue and deep black-blue, white, flesh, or pearly-blue. They are good rock garden plants indeed. Then there are daffodils, many of which, especially the dwarfer ones, such as Narcissus cyclamineus, are among the daintiest things for the rock garden in early April.

Aubrietias begin to gladden us with their sheets of colour. Their value is so great as to be unappraisable, and we cannot dispense with their masses of bright flowers. Even the arabis, or rock cress, despised as it is by many, because it is a "common" thing, has not a rival of its kind, even though we covet the looked-for white aubrietias to take its place. We cannot afford to neglect its use on the rougher parts of the garden at least. Then there are choice saxifrages now; with little cyclamens; anemones of several kinds, such as choice varieties of nemorosa, ranunculoides pallida, intermedia, blanda, apennina, and others of the race in plenty now. But the sheets of paper call for a halt, just when we see other flowers appealing for a reminder from the pen.

S. Arnott.

BOLD PLANTING.

The great opportunity of the year comes in May and June, the former month chiefly, when the garden can be transformed for the floral season by the creation of grand groups of colour. Only by bold planting can the finest effects be gained; the same plants that would look tame if dotted about beds and borders will arrest attention and capture memory if clustered together just where needed, or in situations that show them off to perfection.

The angle of housewall, between bay window and porch, is one position that should be given up to a pronounced colour scheme; if the building is of red brick the general idea would be to use white flowers near, but if a salmon-pink mass can be arranged the display will prove equally harmonious, and far more original. It may be said that salmon flowers for summer planting are not numerous, but we can have ivy-leaved pelargoniums trained high up a trellis of bamboo canes against the wall, and other plants of the same kind growing in wall pockets just above. Salmon verbenas also will trail down to mingle with those below. There are tall asters to mingle with double and single pelargoniums, also the annual Clarkia Double Salmon Queen, and the salmon dianthus. Phlox Drummondi is most successful in this shade for covering the soil. If a yard or two of ground, of good quality, is given up to the above plants, there should be no lack of the desired hue during many months.

Against a white or grey house orange is the most advantageous colour, possessing the warmth of red without its crudeness, and being easy to obtain in concentrated form. A background of climbing tropæoleums should not be despised, and against this tall African marigolds can rise, zinnias of the right hue grow nearly as high; begonias, gazanias, and Tagetes signata pumila will give the needed carpet. Cream walls, such as those of roughcast buildings, are an admirable background for vivid violet; wire netting, painted the same cream, should be nailed across to support Cobæa scandens, then heliotrope of dark hues, ten-week stocks, and tall and dwarf asters, with violas, will suffice below.

Shrubbery foregrounds are too often neglected when the width of ground is deemed insufficient for large plants, but we should realise that often the greatest brilliance is yielded by stretches of small-growing plants. If the near shrubs are silver foliaged or variegated green and yellow, then ultramarine blue cannot be excelled for contrast, and, fortunately, we have hardy plants that give blossoms of this tone in extraordinary profusion, notably, dwarf cornflowers, Phacelia campanularia, and lobelia; all these show little leafage when well cultivated, and in full summer bearing.

It is well to observe in gardens that we visit which are the masses and combinations that can be seen best from a distance; one fine display I recall was made by Madonna lilies against a hedge of glossy laurel, and, though it is too late for lilium planting, much the same tall graceful florescence will be yielded by nicotianas; the white can be repeated as a lower level foreground in many ways, but ten-week stocks and double white petunias, carpeted by a viola, can be recommended as giving the most snowy bloom.

Banks, being raised above the ground level, give a special opportunity for bold planting; a large sunny bankside, visible across lawns and parkland can be given three big groups of Chilian beet, and a further covering of rose-pink which dwarf asters between Silene pendula compacta gives untiringly until late autumn. If the soil of a bank is very poor and dry it affords a chance for gaining a vermilion blaze by the close planting of a Tom Thumb tropæolum, while single scarlet pelargoniums also will produce more blossom than leaf. Nicotiana Sanderæ, though varying in shade, has a colour note all its own, only shared by some varieties of [illegible] and zinnia; upon turf the rose hue looks brighter, so also it does against bright green shrubs, while I once saw quite a remarkable contrast afforded it by the emerald green tiffany blinds stretched along the side windows of a conservatory. To carpet these tobacco plants with white flowers is rather a mistake, for there is a rose Tom Thumb nasturtium that matches them admirably.

Ultramarine blue and lemon-yellow in a large bed will be seen farther away than scarlet and gold, because the contrast is more startling. Wherever delphiniums are largely massed yellow violas should be the wide edging belt, but if a row of golden calceolarias can be introduced behind the the result will be improved. A tall yellow flower, such as the sunflower, may be banked up, as it were, by tall blue cornflowers, Phacelia campanularia, and lobelia.

Magenta has great value near a grey stone house, terrace, fountain, or where urns and statuary are much used. Beds of the carmine petunia are fine, but even brighter are the stocks and asters of that shade.

M. H.

Lawns.—Those who desire to make a new [illegible] bowling green, or to renovate and maintain [illegible] ones in good condition, can have no better [illegible] "Lawns and Greens," by T. W. Sanders, [illegible] net, by post 1s. 2d.; bound in cloth 1s. 6d., by post 1s. 9d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

NEW BOOKS.

THE CULTURE OF VEGETABLES AND FLOWERS.

By Messrs. Sutton and Sons. (Simpkin, Marshall, Hamilton, Kent, and Co., Lim., London.) Price, 5s. net.

Although this highly popular work is limited to such ornamental plants and useful crops as can be raised from seeds and roots, it forms a portly volume that is remarkable for its comprehensiveness. It is of value for its usefulness, and of much interest as evidence of the large number of ornamental plants that can now be raised in quantities from seed, as compared with what could be accomplished in that way some forty or fifty years ago. At the present time a very considerable number of perennials that in bygone days were raised from cuttings, can now, as the result of the splendid work that has been accomplished by careful selection, be raised from seed without any material deviation from the types. The verbena may be mentioned as a noteworthy example, and those only who have had experience in the propagation of these plants by means of cuttings, and raising stocks from seed, can fully appreciate the latter, or more modern, method. The saving of space at certain seasons of the year, and of time also, is very considerable, and what is true of verbenas is true also of gloxinias, and a number of other subjects. In view of the importance of the many plants required for beautifying the flower garden, and the conservatory and greenhouse, that can be readily raised from seed, it has become a necessity that cultivators should be fully acquainted with the best methods of raising stocks of the several kinds.

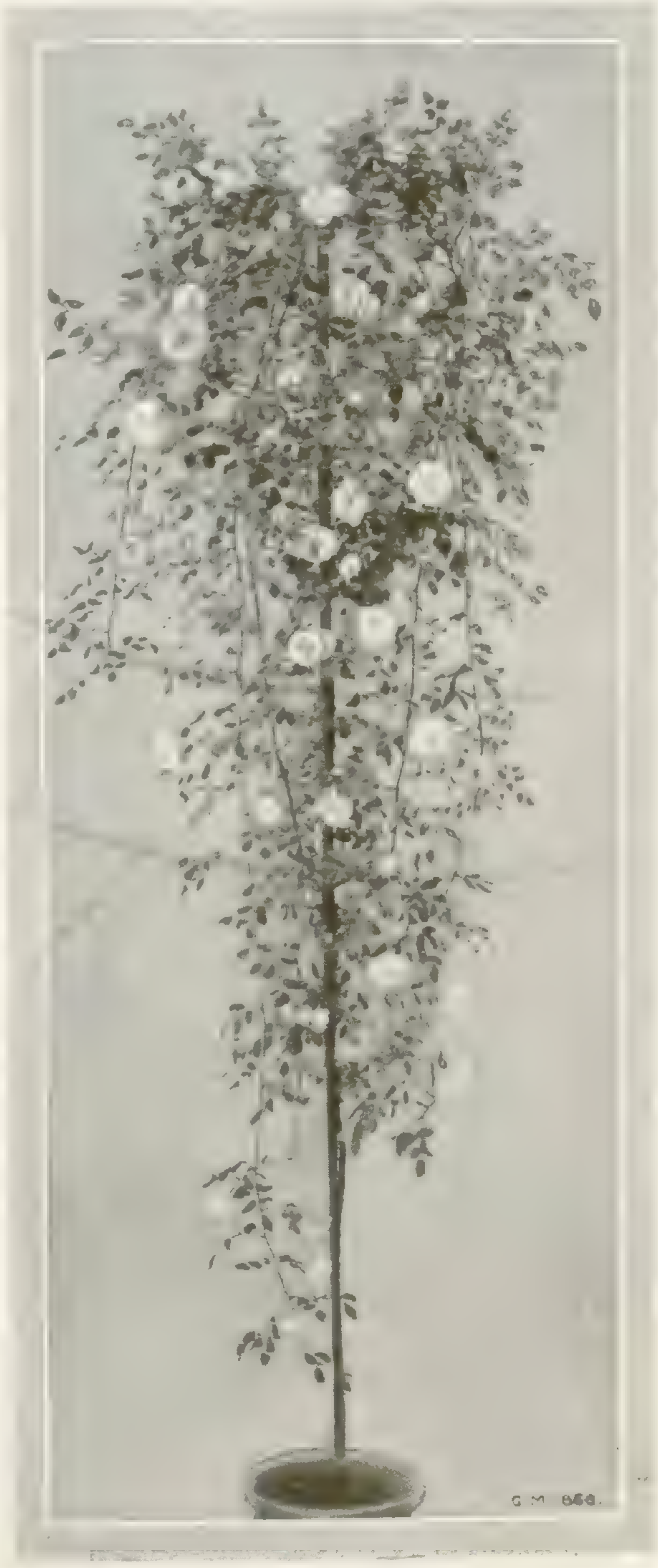
These are described in the work before us with remarkable clearness, and with sufficient fulness to enable even the tyro to understand the course of procedure that should in each case be followed. The work is not less remarkable for the information it contains relating to the cultivation of vegetables, than of ornamental plants, and possibly some readers may regard it as of the greatest value as a guide to the kitchen garden. We are not disposed to institute such comparison, but rather to regard each section of equal value as guides to good cultivation. Each useful crop is dealt with at some length, and there is a carefully prepared calendar of work in the kitchen garden, and an admirably written chapter on the chemistry of garden crops. There is also a calendar of work in the flower garden, and chapters on lawns and pests of garden plants, which add much to the usefulness of the work, which, we would add, has reached its fourteenth edition.

TOMATOES.

By R. F. Castle. (W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.). Price, 1s. net.

Tomatoes have acquired such an important position in both private and market gardens that it is a matter of much importance their cultural requirements should be thoroughly understood by all who are engaged in gardening. This book, which has been edited by Mr. T. W. Sanders, deals with both indoor and outdoor culture, and the cultural requirements of the plants are so fully and clearly explained that with its aid there should be no difficulty in obtaining heavy crops of fruit of high quality.

In the section devoted to tomato culture under glass the most suitable houses and the best methods of construction receive attention, and we are glad to find the author advising the fitting of houses with heating apparatus that are sufficiently powerful to maintain the requisite temperature without having to drive the fires when the outside temperature is comparatively low, as that involves much anxiety and considerable waste. The various methods of propagation occupy the second chapter, and in addition to explicit instructions for carrying out the details the relative merits of the several methods are made quite clear. In the succeeding chapters in the first section the treatment of seedlings, composts, permanent quarters, general management, manures, removal of foliage, exhibition fruits, winter tomatoes, culture in frames, and varieties for indoor culture are fully described. The section devoted to the production of crops of tomatoes in the open will appeal to a large number of owners of gardens, and it should afford gratification to many who have no glass houses at their command to find that the production of outdoor crops is a really simple matter, provided the cultural details are carried out in a proper manner, and at the right time. In other words, provided the advice here given is followed. There are chapters on the pests and diseases that attack the tomato plant and its fruit, from the pen of the Editor, who also contributes some interesting historical notes.



ROSE LEONTINE GERVAIS.

A distinct and beautiful Wichuraiana variety, grown by Messrs. Paul and Son. Flowers, bright red, salmon, and yellow.

THE SCHOOL GARDEN.

By J. E. Hennesey. (Blackie and Son, Lim., 50, Old Bailey, E.C.). Price, 1s.

An admirably arranged book, in which the making and management of school gardens are dealt with in a manner at once clear and concise. The author, who is evidently equally well acquainted with teaching in schools and gardening operations, has succeeded in producing a book that will be of much value to teachers who are preparing themselves for taking classes in gardening, as well as to scholars who are attending day or evening classes in gardening. The book has the additional advantage of being strongly bound.

THE ROYAL ORDERING OF GARDENS.

By Major R. Rankin. (Thomas Nelson and Son, Edinburgh.)

An instructive and pleasantly written essay on the planting of gardens with a view to the production of natural effects, and rendering them more or less attractive throughout the year. A comprehensive list of trees, shrubs, and flowering plants has been prepared for the guidance of the reader, and to afford him the fullest possible assistance they have been arranged according to their colours and the seasons in which they are the most attractive. The book contains a plan of a garden planted in accordance with the author's views.

ROSE LEONTINE GERVAIS.

Although this beautiful rose has not obtained attention so quickly as have some other of the Wichuraiana varieties, it possesses much merit, and is especially deserving of consideration in gardens where weeping standards obtain favour, whether for flowering under glass or growing in the open. It is not according to the observations that we have been able to make so free in blooming as Lady Gay and other popular varieties belonging to the Wichuraiana section, and consequently does not produce such effective displays of colour. But it is free enough in blooming to enable it to contribute appreciably to the attractions of the conservatory and flower garden, and its elegant habit is such as to justify it having a full share of attention. Habit should count for much in the selection of varieties for weeping standards, especially those to be grown in pots for beautifying glass structures, and, as will be seen from the accompanying illustration, the variety is especially favoured in this respect. This specimen was probably not more than a year old when the photograph was taken, yet it had slender growths many feet in length, and all depending in the most graceful manner imaginable. The height was between eight and nine feet, and in glancing at the illustration, it is not difficult to see that in a comparatively short period specimens of considerable size and of much elegance may be obtained. The flowers are produced in clusters ranging from three to ten in each, and these are attractively coloured bright red, salmon, and rich yellow, the colouring being quite distinct from that of other varieties belonging to the same group. We would add that the specimen illustrated was grown by Messrs. Paul and Son, Cheshunt.

Daffodils at Eaton Hall.—The display of daffodils in the gardens of Eaton Hall, Chester, is, as usual, remarkable for its magnitude and beauty, and to enable his neighbours to enjoy the feast of flowers, the Duke of Westminster generously opened the gardens to the public on Wednesday and Thursday last. The large number of visitors testified in no uncertain manner to the public appreciation of his kindness.

"Journal" of the Board of Agriculture. The issue of this publication for the current month is of quite exceptional interest. Chief among the matters especially deserving the attention of horticulturists are the "Notes on the Time of Blossoming of Fruit Trees" by Mr. Cecil Hooper; "The Sclerotina Disease of the Gooseberry or Die-Back," by Mr. E. S. Salmon; and "Overhead Electrical Discharges and Plant Growth." by J. H. Priestley.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CYPRIPEDIUMS.—Many of the late winter and early spring flowering cypripediums will now need repotting. In many respects these require similar conditions of culture to that usually afforded the winter-flowering section, but, being later in blooming, the growth is naturally more backward, and they are thus some weeks later in completing their growth in the fall of the year. To keep these plants in the most vigorous condition I find it desirable to prevent an accumulation of back growths. Where the plants are in a robust state the last flowered growth is ample to sustain the coming season's new growth. There is no advantage derived from retaining the growths behind, but by severing the rhizome between the back growths the latter are induced to produce breaks that may be used either to increase the size of the specimen or provide new stock.

C. ROTHSCHILDIANUM, C. STONEI, and others of this section which are now coming into flower must have every encouragement that humidity and warmth can give them until their flowers are expanded. Plants that will need repotting should be examined, and have their rhizomes severed, so that new growths may be produced from the base of back growths by the time that the plants pass out of flower and are ready for repotting. These differ very materially from other cypripediums from the fact that they take from two to three years to develop a flowering growth, and it is absolutely essential that they should have one or more growths in front of those flowering if we are to obtain flowers each year. This fact is often overlooked, and the species are thus often credited with being shy flowering. It is only after the plants of C. Rothschildianum have grown into good specimens that we secure a satisfactory annual crop of flowers.

THE HYBRIDS, such as C. Youngianum, C. Morganiæ, C. Youngiano-superbum, and C. W. R. Lee forms, are all worthy of consideration for exhibition purposes during the summer months. They should be afforded as much light as may safely be given without damage to foliage at the present season. A position well up to the glass suits them at all seasons, as it is only when grown under excessive shade that soft growths are produced, which are often too succulent to properly mature and so start into new growth at the expense of flowering.

ALL CYPRIPEDIUMS should be carefully examined for eggs of black thrips, which may have been deposited on the leaves at the end of last season, and where found these must be carefully sponged off; a little soft soap in the water will assist their removal. It is desirable that fumigation or vaporising should be done about once a month, and spraying with some safe insecticide at intervals of a fortnight, and where this work is done systematically throughout the whole year very little difficulty is found in keeping insect pests in check.—H. J. Chapman, Oakwood Gardens.

FRUITS UNDER GLASS.

EARLY PEACHES.—As soon as the fruits pass the "stoning" stage, which can be ascertained by their free swelling, the night temperature may be raised to 65 deg., but this degree cannot be exceeded without in some way sacrificing the size of the fruit. The warmth by day should be correspondingly higher. Carefully ventilate the house, and in favourable weather entrap the sun's warmth by closing early in the afternoon, at which time the trees should be forcibly syringed, by which means they can be kept clear of red spider. Thoughtful attention should be given to supplying the trees with water and manures, and in doing this the formation of the borders and general conditions of the trees should be considered. Healthy established trees carrying full crops of fruit and having their roots confined to small borders require in this respect frequent attention, while, as is obvious, in some other cases different treatment must be followed, or stone-splitting and other difficulties may arise. By raising the fruits upon pieces of smooth lath to the surface and keeping them clear of leaves colour will be the more highly developed.

EARLY MUSCAT VINES.—Vines carrying healthy leaves, and sufficiently advanced to have fruit freely swelling, will be making active root growth, and should have liberal supplies of water, and suitable ready-acting manures. Especially will these be needful in the case of old vines that have not for some years had their borders renovated. Keep the sublaterals regularly stopped, and other ordinary details of management closely attended to. As the sun's power increases it may be desirable, at any rate in cases of badly constructed houses (in order to prevent the scalding of leaves), to minimise its power by clouding the glass with a thin coating of lime water.

MUSCAT GRAPES.—Vines in Muscat houses will soon be in blossom, and should, before they reach that stage, receive necessary attention in the way of supplies of root moisture, stopping of laterals, and relieving each of its duplicate bunches, and thus avoid the necessity of attention to these matters during the flowering season. Being uncertain setters these grapes require special treatment while in blossom, and should at that time be given a warm, tolerably dry, and buoyant atmosphere, regulated by careful ventilation and attention to the heating apparatus. A night temperature of 65 to 70 degs., from 5 to 10 deg. higher on dull days, and an increase of about 10 deg. from sun heat, will be suitable. To assist the fertilisation of the flowers, distribute the pollen by gently shaking the vines several times daily, and at midday, by carefully drawing a rabbit's tail over the bunches; and, moreover, to enhance the prospect of success, should Black Hamburgh or other free-setting varieties be in blossom, carry some of their pollen upon a sheet of paper into the Muscat house and apply it to the Muscat flowers by means of a rabbit's tail. There should be no final thinning of bunches and no thinning of berries until it can be clearly seen which are the most perfect bunches, and when this is done the weight of the crop should be decided from the state of the vines and the means at command of nourishing them. After the thinning is completed the borders should be examined, and thoroughly moistened with tepid diluted liquid manure if necessary, or be top-dressed with a suitable artificial manure, and subsequently watered with tepid water. Should red spider appear carefully sponge the leaves with warm soapy water; the best way of dealing with mealy bug while vines are in growth is to apply spirits of wine by the aid of a strong feather or small brush. —T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

LEEKS.—Seedlings from the first sowings will soon be ready for planting in well-prepared trenches; place them in single lines. The trench should be prepared as for celery, filling in to within four inches of the surface. To the soil chopped from the side of the trench add old potting soil, soot, and burnt garden refuse in plenty; rake and level down, tread firmly, then plant at fifteen inches apart, well water in, and in dry weather syringe daily. Within a week to ten days afterwards blanching should be proceeded with, using for this purpose ordinary brown paper rolled up to form a tube an inch in diameter, and five inches in depth; gradually draw the bands up as the leeks grow, filling in below with ordinary finely sifted soil, until the desired length of blanched stem is attained, when the collars must be drawn off altogether, and light strawy manure placed around each leek at this juncture to prevent heavy rains splashing the soil into the axils of the leaves. Leeks delight in copious supplies of weak liquid manure, and an occasional application of artificial manure. Prick off the later batches into boxes, and any remaining plants of the old crop should be dug up and laid in thickly under a wall or hedge facing north, where they will remain in good condition for some weeks.

SALSIFY AND SCORZONERA.—These two most useful vegetables are not grown half as freely as they deserve, and yet they are very much appreciated when served. Sown at the present time on ground which was manured for the previous crop, good roots will be the result. Give the surface a good dressing of burnt garden refuse, well harrowing it in, and draw drills eighteen inches apart, and an inch deep, sow thinly, and eventually thin the plants to six inches apart. Soot sown broadcast is very beneficial to this crop.

CARDOONS.—Sow at the present time in trenches prepared as for celery, filling them in to within six inches of the surrounding level. Give the surface a good dressing of old cucumber bed material, adding lime or broken lime rubble to it. Sow groups of two or three seeds eighteen inches apart, thinning the seedlings to the best plant in each group. Apply water regularly, and when blanching commences use strong brown paper collars nine inches deep, covering these with old strips of sacking, or even haybands, to the same depth; continue this process to a height of two feet.

VEGETABLE MARROWS. — Sow for the main crop in small pots, one seed in each pot; place them in a warm pit or intermediate house until germination takes place, and then gradually harden off the plants in cold frames ready for planting out. Attend to those that are growing and fruiting under glass, keeping them well supplied with water, and regularly syringed. Fertilise the fruiting flowers, and stop the leading growths.

CUCUMBERS.—It is now an excellent time to sow good frame or pit varieties in heat, as many lights will be vacant by the time the plants are ready for planting out. Attend to those fruiting in the cucumber house, by regularly stopping and feeding them, and thinning the leaves, growths, and fruit.

MAKE SOWINGS of chicory, borage, chervil, marjoram, purslane, plenty of spinach, and turnips.—Geo. Ellwood, Swanmore Park Gardens.

BUSH PEACH TREES UNDER GLASS.

There are various ways of training peach and nectarine trees in glass structures. I have had to deal with them in several forms, and the most satisfactory in every way was the following method of growing them.

The houses were high, lean-to, but slightly ridged at the top from the lower to the higher edge of the ventilators. This arrangement caused the sash bars in front to be placed at a sharp angle, and this permitted of the planting of a row of bush-shaped trees in front, with fan-trained ones on the back wall, although the houses did not exceed a width of twelve feet.

By paying close attention to the disbudding of the trees in the spring, the latter were not allowed to become too large for the space available, and I secured more fruits from the front portion of the structure than in other cases where the trees were fan-trained on wires. Moreover, the trees on the back wall received more light and air, as the base of each was well exposed, because the bushes were grown nine feet apart in front of them. All cultivators will not agree with the bush system of growing peaches under glass, but in my own case I found it to answer the purpose well.

G. B.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

On Tuesday, April 19, there was a splendid exhibition at the Royal Horticultural Hall, and the place was again packed with exhibits and Fellows and their friends. The amaryllis and the auriculas were fine features, and daffodils were delightful.

FLORAL COMMITTEE.

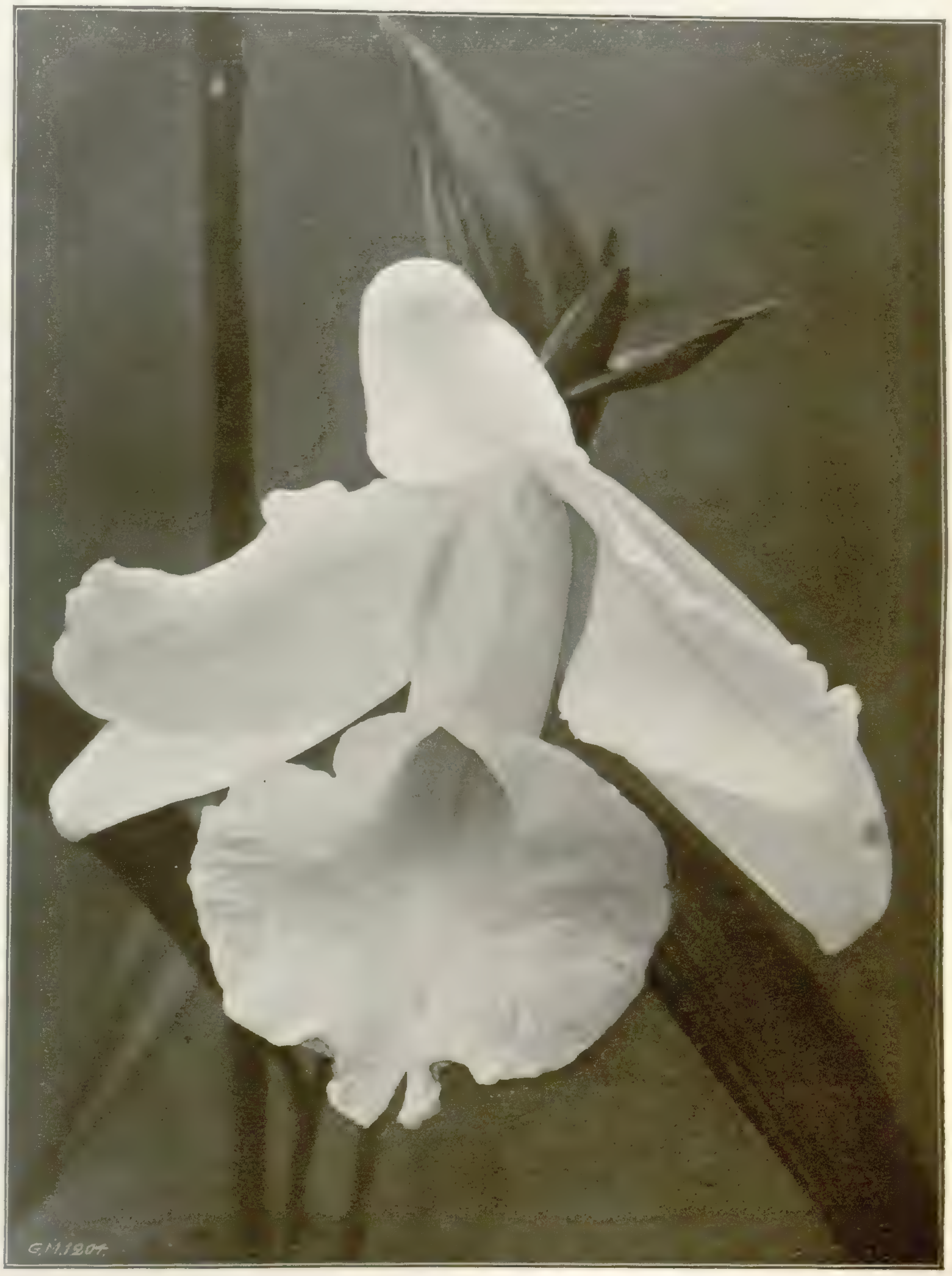
Conspicuously good was the display of amaryllis, finely staged at the top end of the hall by Mr. Chapman, gardener to Lieut.-Colonel G. Holford, Westonbirt, Tetbury, Gloucester. Mr. Chapman has for many years persistently worked at the improvement of these gorgeous flowers, and he has produced fine form and size, a wonderful refinement in the flowers, and has greatly added to the colour range by producing lovely shades of pink and deep rose. The exhibit was in every way a magnificent one—culture, form, colour were all represented in a very high degree, and many were the congratulations received by the gallant Colonel and his able gardener. Beside the scarlet, orange, and crimson varieties, there were a few of superior excellence, such as Calypso (A.M.), red shaded on a white ground; Rose du Barri, deep old rose, lovely colour; Cassandra, deep pink with white base; Lucretia, deep red; Gereant (A.M.), clear deep orange-scarlet, perfect form; Menander, rosy red; Cardinal Wolsey, intense and rich rose-red; Avalanche, pure white; and Comus, deep rose-pink.

A magnificent lot of auriculas—magnificent is the only word that will serve, even for these lowly flowers—was staged by Mr. James Douglas, Great Bookham, Surrey, this florist filling a long table with delightfully-grown and beautifully-flowered examples of show and alpine varieties, backed by a row of splendid polyanthuses. A few of the finer sorts were: Warley (A.M.), a new mauve-pink variety; Roxburgh (A.M.), a splendid large purple and maroon flower; Victor (A.M.), intense maroon-crimson, very effective; and such lovely alpine varieties as Chieftain, Janet, Goldfinch, Mrs. Markham, Ziska, Bluebelle, and Coral Strand.

The cactus-flowered cinerarias brought up by Messrs. Sutton and Sons, Reading, were charmingly elegant, and represented by a wide range of colouring, and great taste was displayed in their arrangement. The scarlet-flowered Matador figured in the centre of the group. A colony of the dwarf Primula viscosa var. Mrs. J. H. Wilson, arranged by Messrs. R. Wallace and Co., Colchester, was the attractive feature of their rock garden. The deep mauve-purple flowers freely borne by the dwarf plants, were greatly admired. Messrs. Felton and Son, Hanover Square, displayed a delightfully harmonious colour scheme by associating gerberas of many shades of colour with Madame Abel Chatenay and Lyon roses—the ladies could hardly get away from the exhibit. Roses were finely shown by several firms; Messrs. B. Cant and Sons, Colchester, had the large semi-double Rose du Barri in good form; Messrs. Wm. Paul and Son, Waltham Cross, displayed the "blue" Veilchenblau rose, and the semi-double rambling variety named Bordeaux, of somewhat similar colour; Mr. G. Prince, Oxford, showed grand flowers of the popular Frau Karl Druschki; Messrs. G. Mount and Sons, Canterbury, set up fine flowers of popular market varieties, and Messrs. Frank Cant and Co., Colchester, exhibited their lovely yellowish Lady Roberts in excellent condition.

Perpetual carnations were again very much to the fore, staged by Mr. H. Burnett, Guernsey; and Mr. W. H. Page, Hampton, and it is doubtful whether finer flowers of Rose Pink Enchantress have ever been staged than those set up by Mr. Page. The finest exhibit of forced shrubs was from Messrs. R. and G. Cuthbert, Southgate, whose mollis azaleas were again fine, and served to show up the specimens of Magnolia Soulangeana nigra.

Messrs. Storrie and Storrie, of Dundee, delighted everyone with their beautiful border auriculas and the range of colour in their giant free-flowering polyanthuses; the latter were grand, especially the deep yellow shades. Pelargonium Clorinda is becoming fashionable, and on this occasion good standards of it were exhibited by Mr. Scott, gardener to Mrs. Bischoffsheim, Stanmore, but they were not yet fully in bloom. Saxifragas of the decipiens group were well shown by Messrs. Bakers, Wolverhampton, the varieties Red Admiral and Mrs. R. C. Hudson, both carrying large flattish deep red flowers; fine for rock gardens.



SOBRALIA CLIFTONIÆ.

A beautiful species with white flowers, A.M., R.H.S., April 19. Messrs. Sander and Sons, St. Albans.

Collections of shrubs, hardy flowers, etc., were also contributed by Messrs. T. S. Ware, Lim., Feltham, who had a delightful colony of Androsace Chumbyi; Mr. C. Elliott, Six Hills, Stevenage; Messrs. H. B. May and Sons, Edmonton; Mrs. Lloyd Edwards, Bryn Dereg, Llangollen, who sent up a basket of the bright Saxifraga rosea superba; Mr. T. Kitley, Oldfield Nursery, Bath, whose chief exhibit was of the red-flowered Saxifraga decipiens grandiflora Bathoniensis— a terrible name for a pretty flower; Messrs G. Jackman and Son, Woking; and Messrs. Gilbert and Son, Dyke, Bourne, whose fulgent anemones were very effective.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, displayed a number of fine new seedling pelargoniums; three of the finest were Mrs. W. Pascoe, salmon-scarlet; R. C. Pulling, a huge salmon variety; and Bertram Cunningham, a beautiful orange shade—all single varieties. In Messrs. H. Cannell and Sons' display of cut pelargoniums the double rose-pink variety named Comte H. de Brettes stood out as remarkable in colour, size, and truss.

Messrs. James Veitch and Sons, Chelsea, showed the new Primula Maximowiczi, collected at Wutai-Shan, in China, by Mr. Purdom, at an elevation of 9,000ft.; it has rather small pendant flowers, of a deep-red colour. The Chelsea firm showed gerberas of many colours; a flowering plant of the curious stove climber, Aristolochia Sturtevanti, anything but sweetly scented; and a large-flowered pure white strain of Primula obconica that is very beautiful and useful. Camellias from out of doors are not uncommon in the South of England, but it is doubtful whether anyone so near London has such a fine outdoor collection as Lady Tress-Barry, of St. Leonard's Hill, Windsor, and her gardener, Mr. R. Brown, showed dozens of vases of blooms of these old-fashioned flowers, all culled from the open garden. Messrs. Dobbie and Co., brought brilliant violas from Rothesay, and we noted Maggie Clunas, Redbrae's Yellow, Moseley Perfection, Mrs. J. H. Rowland, and G. G. Murray, as eminently desirable varieties. In addition to roses and carnations Messrs. Stuart Low and Co., Enfield, showed neat bushes of Azalea elegantissima odorata, smothered with tiny pure white and delightfully fragrant flowers—just the sort of shrub for a sheltered rock garden.

ORCHID COMMITTEE.

Although no fewer than seven awards of merit were granted by the very largely attended Orchid Committee, there were few things of wonderful merit or interest. Very beautiful, however, was the new white Sobralia Cliftoni (A.M.) exhibited by Messrs. Sander and Sons, St. Albans; it has a few mauve markings in the throat, but is otherwise white. The same firm had Chysis bractescens and Miltonia St. Andre in fine form. The handsome Cattleya Empress Frederick was conspicuous in the group set up by Messrs. Charlesworth and Co., Haywards Heath, while amid many fine odontoglossums and dendrobiums their beautiful deep coloured Miltonia vexillaria Moensi was very prominent. The pretty and somewhat rare Miltonia Phalænopsis was shown by Messrs. J. and A. McBean, of Cooksbridge, their brightly marked form being named McBean's var. (A.M.) A wealth of dendrobiums came from Messrs. Stuart Low and Co., Enfield, with fine spikes of Oncidium Marshallianum above; and odontiodas and odontoglossums below. A fine plant of Odontoglossum nævium, and a good form of Cypripedium Helen II., were brought from Tunbridge Wells by Messrs. Armstrong and Brown. The rounded yellow-marked flowers of Odontoglossum Lawrenceanum Cobb's var., gained an A.M. for Mr. W. Cobb; it has rounded flowers of great beauty and distinction.

Mr. G. Day, gardener to H. S. Goodson, Esq., submitted Odontoglossum eximium var. Clarksoni, a superb red and purple beauty; and a grand spike of O. amabile var. Lord Carnarvon. Numerous interesting odontoglossums were shown by Mr. Stables, gardener to De Barri Crawshay, Esq., Sevenoaks, including O. regale Rosefield var. (A.M.), with deep brown purple markings, and the handsome O. Crawshayanum. Mr. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, showed Cymbidium Lowianum Pitt's var., with a spike of thirteen fine flowers. Odontoglossum Rossianæ var. rubens (A.M.), from M. Henri Graire, St. Fuscien, Amiens, is a lovely light purple flower, with chocolate spots; O. crispum St. Fuscien (A.M.), from the same source, was also fine.

DAFFODIL COMMITTEE.

The daffodil lovers had a field day on this occasion, and feasted their eyes on the many beautiful new seedlings shown. The old method of naming the seedlings of one's own raising appears to have largely died out, and the newer method is to display the one or two flowers, as the case may be, under number, and sell it to some one who is willing to pay an enhanced price for the privilege of naming the variety after purchase.

The Rev. G. H. Engleheart, Dinton, Salisbury, displayed a superb lot of seedling daffodils, but as none of these were named it is useless to refer to them individually. Some of the new golden trumpets were beautifully refined flowers; Triandrus hybrids were delightful, and the orange-eyed and flat cupped varieties were superb.

Mr. A. Wilson, Bridgwater, had a set of exquisitely beautiful seedlings, chiefly under number, and his flowers of Draco, Crœsus, pale yellow, with orange cup; Gold Eye, Potent, and Horatius were very fine. Mr. Robert Sydenham, Birmingham, had a good bunch of the Golden Homespun. Mr. Watts, St. Asaph, showed unnamed seedlings, many of them with white trumpets. From the Lissadell Bulb Farm, Sligo, came lovely flowers of Incognita, Queen Maeve, White Queen, etc., and Messrs. Hogg and Robertson's exhibit, from Dublin, contained splendid blooms of Great Warley, Evangeline, Mrs. F. W. Moore, and King's Norton.

Messrs. Barr and Sons, Surbiton, had an unusually fine display of daffodils, etc., and among the former there were delightful flowers of Diana, Mrs. G. H. Barr, Furnace, Seraphim, Blazing Star—a very bright flower—Great Warley, and Eoster. A well set-up exhibit from Miss F. W. Currey, Lismore, contained fine vases of King Alfred, Lady of the Snows, Great Warley, Firebrand, and The Geraldine. Mr. H. F. Chapman, had a dainty display in which the poeticus varieties Horace and Ibis were good, while in the neighbouring exhibit from Messrs. Cartwright and Goodwin, Kidderminster, the bunch of Matthew Arnold (A.M.), a shapely solid white poeticus variety, was the centre of attraction.

In the competition for the Barr Daffodil Cup the Rev. G. P. Haydon, Westbere, Canterbury, easily outdistanced the Rev. Canon Fowler, Reading, with fine flowers, well set up, and representing the newer varieties, and some splendid new seedling forms with very shapely golden trumpets. Of course, everyone knows that Mr. Haydon has raised some of the best varieties now in commerce.

FRUIT AND VEGETABLE COMMITTEE.

There was little of special interest before this body. A few apples and pears were shown by Mr. Nicholls, gardener to Sir Mark Collett, St. Clere, Kemsing, Sevenoaks, and Messrs. J. Veitch and Sons, Chelsea, submitted early lettuces, radishes, cabbages, etc.

AWARDS OF MERIT.

No certificates were granted, but Awards of Merit were made as follows:—

To Odontoglossum Regale, from De Barri Crawshay, Esq., Rosefield, Sevenoaks. To Odontoglossum crispum St. Fuscien, from Mons. H. Graire, Amiens, France. To Sobralia Cliftonæ, from Messrs. Sander and Sons, St. Albans. To Miltonia Phalænopsis McBean's var., from Messrs. J. and A. McBean, Cooksbridge. To Odontoglossum Lawrenceanum Cobb's var., from Mr. W. Cobb, Rusper. To Odontoglossum Arnoldianum, from Messrs. Sander and Sons, St. Albans. To Odontoglossum Rossianæ var. rubens, from Mons. H. Graire, Amiens, France. To Narcissus poeticus var. Matthew Arnold, from Messrs. Cartwright and Goodwin, Kidderminster. To Hippeastrums Gereant, Calypso and Cardinal Wolsey, from Lieut.-Colonel Holford, Westonbirt, Tetbury. To Auriculas Warley and Roxburgh, from Mr. James Douglas, Great Bookham. To Primula ciliata, var. General Stewart, from Mr. Cranfield, Enfield.

MEDALS.

Gold.—To Lieut.-Colonel Holford (gardener, Mr. Chapman), Westonbirt, Tetbury, for hippeastrums; to Mr. James Douglas, Great Bookham, for auriculas.

Silver Gilt Flora.—To Messrs. R. and G. Cuthbert, Southgate, for flowering shrubs; to Miss F. W. Currey, Lismore, Ireland, for daffodils; to Messrs. Barr and Sons, Covent Garden, for daffodils and tulips; to Messrs. Stuart Low and Co., Enfield, for orchids.

Silver-Gilt Banksian. — To Rev. G. H. Engleheart, Dinton, for daffodils; to Mr. A. Wilson, Bridgwater, for daffodils.

Silver Flora.—To Mr. F. H. Chapman, Rye, for daffodils; to Mr. J. Cooper, Lissadell Bulb Farm, Sligo, for daffodils; to Messrs. Sander and Sons, St. Albans, for orchids; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. B. R. Cant and Sons, Colchester, for roses; to Messrs. Wm. Cutbush and Sons, Highgate, for carnations and flowering shrubs; to Messrs. S. Low and Co., Enfield, for roses and carnations; to Mr. W. H. Page, Hampton, for carnations; to Messrs. Storrie and Storrie, Dundee, for polyanthuses and auriculas; to Messrs. James Veitch and Sons, Chelsea, for greenhouse plants; to Messrs. Sutton and Sons, Reading, for cinerarias; and to Messrs. R. Felton and Son, Hanover Square, for gerberas and roses.

Silver Banksian.—To Messrs. R. H. Bath, Lim., Wisbech, for daffodils; to Messrs. Hogg and Robertson, Dublin, for daffodils; to Mrs. Bischoffsheim, Stanmore, for pelargoniums; to Lady Tress Barry, Windsor, for camellias; to Mr. H. Burnett, Guernsey; for carnations; to Messrs. H. B. May and Sons, Edmonton, for ferns and flowering plants; to Messrs. G. Mount and Sons, Canterbury, for cut roses; to Messrs. J. Peed and Son, West Norwood, for caladiums; to Mr. G. Prince, Longworth, for roses; to Mr. L. R. Russell, Richmond, for flowering shrubs; to Messrs. R. Wallace and Co., Colchester, for hardy plants; to Messrs. T. S. Ware, Lim., Feltham, for hardy flowers; and to Messrs. Frank Cant and Co., Colchester, for roses.

Cornwall Daffodil and Spring Flower Society.

This society, which was incorporated fifteen years ago, has the honour of distinguished patronage, for its patroness is Her Majesty Queen Alexandra, while Her Royal Highness the Princess of Wales is president, and among the vice-presidents are to be found the names of the Earl of Mount Edgcumbe, the Viscountess Falmouth, and Sir A. P. Vivian, K.C.B., while T. A. Dorrien-Smith, Esq., the King of the Isles of Scilly, is the chairman of committee. From its inception the spring shows of this society at Truro have been of a high order of merit, but there is no doubt that the show lately held has eclipsed all that have preceded it. The entries were larger than any that had been previously received, and the competition in all classes was exceedingly keen, while the exhibits were conspicuous for their excellence. The Hon. John Boscawen has been hon. secretary since the formation of the society, and under his skilful management all the arrangements have invariably been carried out without a hitch, and there has never been as much as a complaint. The show was held in the great Market Hall at Truro on April 12, and was an eminently successful one. The band of the Royal Marines from Plymouth discoursed sweet music during the afternoon, and this year, being partitioned off, their audience did not incommode the viewers of the flowers. Soon after midday the hall rapidly filled, and visitors from all parts of the kingdom were present, though, naturally, the county provided the largest contingent.

The seedling narcissi in the premier class were exceedingly beautiful flowers, though it is a pity that they were only numbered and not named. Cornwall is a county where the rare and tender shrubs from the warmer portions of the globe may be grown in the open without protection, and the collection of these to be seen at the spring show is a revelation to dwellers in the colder districts. This year the show of hard-wooded flowering shrubs was better than at any previous exhibition. Mr. J. D. Enys, who cultivates the New Zealand forget-me-not, Myosotidium nobile, better at Enys than it is grown anywhere else, sent two splendid specimens in tubs to the show, which were universally admired, and were awarded a Cultural Commendation. Miss Gundry was given a First-class Certificate for a collection of water-colour sketches of flowers and garden scenes, which had before received a gold medal from the Royal Horticultural Society.

DAFFODILS.

Thirty varieties of daffodils in commerce: First prize, Mr. E. H. Williams. Thirty varieties of daffodils in commerce, or not in commerce: First prize, Mr. J. C. Williams. This was a splendid stand, entirely composed of seedlings raised by their owner. There were many lovely flowers, the Parvi-coronati being especially excellent. For one of these, No. 244, Mr. Williams received a First-class Certificate, and for No. 288 and 11F, Awards of Merit. In the stand there was a splendid golden trumpet, larger than King Alfred, a very beautiful drooping white trumpet, and an immense medio with light yellow perianth and pale-orange cup. Some of the Parvi-coronati with brilliant spreading orange-scarlet cups, were very handsome. Mr. P. S. Williams's second prize stand was little behind the winner, and he received an Award of Merit for his golden daffodil Sunflower. In the next nine classes the price of the bulbs was limited to 10s. Six Magni-coronati: First prize, Miss Clarice Vivian. Eight Medio-coronati: First prize, Miss Clarice Vivian. Three Leedsi: First prize, Mrs. Soltan-Symons. Six Parvi-coronati: First prize, Miss Clarice Vivian. Fifteen any section: First prize, Miss Rhoda Williams. Finest bloom Magni-coronati: First prize, Miss Nowell-Usticke with King Alfred. Finest bloom Medio-coronati: First prize, Mrs. Soltan-Symons with White Lady. Finest bloom Parvi-coronati: First prize, Miss Mabel Williams with Beacon. Finest bloom poeticus: First prize, Mrs. Soltan-Symons with Horace.

Six Magni-coronati: First prize, Mr. E. H. Williams. Six Medio-coronati: First prize, Lady Margaret Boscawen. Six Leedsi: First prize, Mr. E. H. Williams. Six Parvi-coronati: First prize, Mr. E. H. Williams. Three doubles: First prize, Miss Clarice Vivian. Fifteen any section: First prize, Miss Clarice Vivian. Finest bloom Magni-coronati: First prize, Mr. P. D. Williams with Lord Roberts. Finest bloom Medio-coronati: First prize, Mr. E. H. Williams with Homespun. Finest bloom Parvi-coronati: First prize, Miss L. Williams with Lavender, a very pretty little white flower with flat white crown edged with pale orange. Finest bloom English-raised Magni-coronati not in commerce: First prize, Mr. E. M. Crosfield with Gyrfalcon, a superb white trumpet, certainly the finest flower in the show.

Finest bloom English-raised Medio-coronati not in commerce: First prize, Mr. P. D. Williams with an unnamed white. Finest bloom, English-raised Parvi-coronati, not in commerce: First prize, Mr. E. M. Crosfield with No. 143, cream-white perianth, flat yellow cup, edged with broad border of orange-scarlet. Finest bloom English-raised poeticus not in commerce: First prize, Mr. P. D. Williams with a good white crimson-eyed flower. Group of daffodil seedlings that have not been in commerce four years: First prize, Mr. E. M. Crosfield, with an excellent stand, containing Bedouine, sulphur-white perianth, deep yellow cup, edged with bright orange; Spot, red, pale sulphur perianth, brilliant orange-scarlet flat cup; Gaybird, pale primrose, yellow flattened cup edged with orange; Vasco, white trumpet; No. 139, white with golden, flattened cup, margined with wide border of orange-scarlet; No. 134, a poeticus with yellow, crimson-margined eye.

Three bunches anemones: First prize, Mr. R. Fox. One bunch Anemone fulgens: First prize, Miss E. Vivian. Three polyanthus plants: First prize, Miss Catherine Boscawen. Three primrose plants: First prize, Mrs. Paull. Three double primrose plants: First prize, Miss J. E. Lord. Twelve varieties spring flowers: First prize, Mr. P. D. Williams with Muscari Heavenly Blue, Primula rosea, P. denticulata, Viola papilio, Anemone pulsatilla, Muscari azureum amphibolus, Caltha platypetala, Ourisia macrophylla, Tulipa odorata major, T. præstans, Iris bucharica, pink Anemone blanda.

Six varieties spring flowers: First prize, Rev. A. T. Boscawen with superb flowers of Iris tingitana, which received cultural commendation: Tulipa Clusiana, T. saxatilis, Fritillaria verticillata, Muscari conicum, and Erythronium revolutum Pink Beauty. Collection of spring flowers, arranged as a rockery, 3ft. 6in. square: First prize, Mrs. Powys Rogers with a charming little rock garden, in which were Gentiana acaulis, Viola alba, Aubrietia Dr. Mules, Anemone ranunculoides, Primula rosea, P. cashmeriana, Sanguinaria canadensis, Viola gracilis, Primula Sieboldi, Phlox amœna, Corydalis cheilanthifolia, Dentaria enneaphylla, Ornithogalum nutans, and blue and hose-in-hose primroses.

Finest plant of rhododendon in flower: First prize, Mr. J. C. Danbuz. The best group of rhododendron blooms: First prize, Mr. D. H. Shilson. Six trusses of rhododendrons: First prize, Mr. R. Fox. Three trusses of rhododendrons: First prize, Mr. D. H. Shilson. Finest truss of outdoor rhododendron: First prize, Mr. T. B. Bolitho with R. grande. Finest truss of Sikkim rhododendron: First prize, Mr. J. C. Williams. Finest truss of rhododendron under glass: First prize, Mr. D. H. Shilson with R. Nuttalli. Three large jars of outdoor rhododendron sprays: First prize, Mr. D. H. Shilson. Six blooms camellias out of doors: First prize, Mr. J. C. Williams. Six blooms camellias under glass: First prize, Mr. J. C. Danbuz. Finest bloom camellia: First prize, Mrs. J. Williams. Three vases acacia: First prize, Mr. C. Hext.

Twenty varieties hardwooded flowering shrubs: First prize, Mr. T. B. Bolitho with Sutherlandia frutescens, Magnolia Soulangeana, Grevillea Thelemanniana, Cerasus Watereri, Boronia heterophylla, Skimmia Fortunei, Cydonia Simoni, Acacia Riceana, Viburnum Carlesi, Clianthus puniceus, Pernettya ciliaris, Polygala opposititolia, Jasminum primulinum, Embothrium coccineum, Barosma betulina, Prunus pendula, Lopesia miniata, Enkianthus japonicus, Camellia reticulata, Andromeda formosa. The competition in this class was very close, and there were good things in the other stands, such as Acacia ulicina, A. leprosa, A. obliqua, A. diffusa, Staphylea colchica, Boronia megastigma, Calceolaria violacea, Clematis indivisa lobata, and Lapageria rosea. In the well-filled class for six varieties of hardwooded shrubs the first prize was awarded to Mr. P. D. Williams, who showed Cytisus racemosus, C. proliferus, Exochorda grandiflora, Cydonia Knap Hill, Erica australis (cultural commendation), and Viburnum Carlesi.

NURSERYMEN'S CONTRIBUTIONS.

Nurserymen's exhibits did much to brighten the show. Messrs. R. Veitch and Son, Exeter, received an Award of Merit and First-class Certificates for Saxifraga bathoniensis and Nephrolepis magnifica. Among other plants on their stand were Diosma capitata, Grevillea alpina, Correa ventricosa, Saxifraga Clibrani, Valeriana arizonica, Cytisus Beani, Acacia cultriformis, Rhododendron racemosum, R. Dr. Stocker, Viburnum Sieboldi, Azalea Yodogame, Gerbera Jamesoni, and Eriostemon neriifolius. The Devon Rosery, Torquay, who received an Award of Merit, staged a fine specimen of Petræa volubilis and a number of pot roses in full bloom, amongst these being Lady Moyra Beauclerc, Hon. Ina Bingham, Countess of Derby, Prince de Bulgarie, Mrs. W. J. Grant, Madame Pere Cochet, Mrs. G. W. Kershaw, Celia, Dr. Felix Guyon, and Maharajah. Mr. G. Reuthe, Keston, had an Award of Merit for a number of choice subjects. Messrs. Barr and Sons, King Street, Covent Garden, had an Award of Merit made in their favour for a splendid collection of daffodils, amongst which were Flamingo, Ibis, Mrs. G. H. Barr, Peter Barr, Bedouin, Ethelbert, Beacon, Epic, Homespun, Mermaid, Incognita, Lucifer, White Queen, Fire Flame, Cœur de Lion, Waterwitch, and others. Messrs Heath and Son, Cheltenham, received an Award of Merit for Saxifraga muscoides Gloria, a fine hybrid, deep crimson in colour, Sempervivum arachnoideum, Alopecurus lanatus, Omphalodes Luciliæ, Stylophorum diphyllum, Sedum ternatum, Primula muscanioides, and other rock plants. Messrs. G. Bunyard and Co. Maidstone, who had an Award of Merit made in their favour, displayed a splendid collection of apples and pears.

Bournemouth Horticultural Society.

The third annual exhibition of spring flowers was, as usual, held in the Winter Garden Pavilion, and attracted a very large number of visitors. The pavilion is an ideal building for an exhibition of this kind, being an immense glass structure resembling a huge conservatory, in which it is possible to arrange the exhibits in a very pleasing manner. The executive committee did not fail to do justice to the exhibits on this occasion, with the result that the public, when the show was opened by the Mayoress of Bournemouth (Mrs. G. E. Walker Bridge) found a veritable feast of flowers awaiting them. In springtime one expects to have fresh flowers, though they naturally fade at this season as well as at others; but the freshness of all flowers staged at this show was so marked as to impress the looker-on very much, as well as the high quality of the flowers and plants did.

SOME PROMINENT EXHIBITORS.

Messrs. G. Watts and Sons, Palace Nurseries, Bournemouth; Mr. T. K. Ingram, Parkstone, Dorset; Mr. Usher, of sweet pea fame, gardener to Sir R. Baker, Bart., Blandford; Mr. W. Shave, gardener to the Dowager Lady de Tabley, Berry Court, Bournemouth; Mr. Heath, gardener to G. G. Russell, Esq., Bournemouth; Mr. C. Pearce, gardener to Mrs. Ormond, Bournemouth; and Mr. Slark, gardener to G. J. Fenwick, Esq., Crag Head, Bournemouth, were prominent exhibitors and successful prize-winners.

COMPETITIVE EXHIBITS.

The chief class was for a group of miscellaneous plants arranged for effect, to occupy a space of 12ft. by 8ft. Messrs. G. Watts and Sons were the winners with a good group, the one fault being the overcrowding, which was somewhat apparent. A fine palm and climbing roses filled the centre, and were surrounded by liliums, fuchsias, hippeastrums, azaleas, dielytras, lilac, and hydrangeas; an exquisite edging was formed with tiny azaleas and ferns. Mr. Slark was a good second also with a fine group of splendidly-grown plants. With a palm in the centre, bamboos at each of the four corners, grasses and ferns as an edging, with the centre filled in with carnations, narcissi, deutzias, and cinerarias. The third award went to Mr. Ingram, who put up an extremely light, pleasing group, of which liliums formed the principal feature.

Mr. Usher had the best table decoration. Only narcissi flowers were allowed, but any foliage. With the narcissi, asparagus sprays and the crimson leaves of roses were agreeably associated. Mr. Shave was a very close second. Miss Taylor, of Salisbury, had a pretty table, and was awarded third place, her Panicum variegatum and Narcissus poeticus looked lovely.

Mr. T. K. Ingram won premier honours for six Azalea mollis, six Azalea indica, six pots of polyanthus narcissi, and twelve pots of tulips. Messrs. G. Watts and Sons were second in the first three classes, and Mr. C. Pearce in the last one. For twelve pots of narcissi Mr. Usher won, followed by Messrs. G. Watts and Sons. The last-named firm secured first place with a grand lot of hyacinths, twelve pots being staged. Mr. F. W. Welch, Park Nurseries, Bournemouth, was second, and Mr. Ingram third. Messrs. Watts and Ingram were first and second respectively for lily of the valley.

For a collection of narcissi, eighteen varieties, distinct, Mr. Usher was awarded first honours, and Golden Spur, Madame de Graaff, Victoria, Emperor, Glory of Leiden, and Maximus were the best flowers. The Messrs. Watts came second, and Mr. Wadey, Wimborne, was placed third for a neat collection. In the class for five blooms of trumpet varieties, Mr. Usher was first. The Messrs. Watts were successful with grand blooms of medium crowned varieties. For four varieties of carnations, with own foliage, nine blooms of each, Mr. Usher was placed first, having superb flowers of Britannia, Harlowarden, Victory, and Mrs. Burnett. Messrs. Ingram and Watts were second and third respectively, the last-named having small, but very fresh blooms.

Miss Martin, Messrs. Watts, and C. Wadey were the winners in this order, for beautiful bouquets. The special prizes offered by various firms, were well competed for, as also were those offered by the society for spiræas, cinerarias, primulas, cyclamen, deutzias, and mignonette.

THE CHILDREN'S SECTION.

A new feature at the Bournemouth Flower Show has been inaugurated this spring in the form of classes for children under the age of fourteen years. The chief classes provided are vases of cut flowers, buttonholes, pots of mustard and cress, polyanthuses, and primroses in flower pots, baskets of daffodils, coloured drawings of daffodils with foliage, and black and white sketches of lily of the valley and a single leaf.

Two hundred and twelve entries were made, and there was not one bad exhibit; all were of good quality, and the result has been to cause a more wide-spread interest in gardening in the district.

NON-COMPETITIVE EXHIBITS.

These were numerous and of high merit. Gold medals were awarded to Messrs. J. Cypher and Sons, Cheltenham, for orchids; Messrs. Sutton and Sons, Reading, for cinerarias; Mr. M. Prichard, Christchurch, for rockery and alpine plants; Mr. Robert Chamberlain, Bournemouth, for floral designs; and Mr. Pursglove, head gardener at the Winter Gardens, for a miscellaneous collection of plants. Silver medals were awarded to Messrs. Heath and Sons, Cheltenham, for alpine plants; Messrs. Young and Co., Hatherley, for carnations; and Messrs. R. Sydenham, Lim., Birmingham, for bulbs in fibre.

East Anglian Horticultural Society.

The monthly meeting of this flourishing society was held on the 13th inst. at the Boar's Head Hotel, Norwich, Mr. T. B. Field, gardener to the Baroness Berners, Ashwelthorpe, presiding. Several new members were enrolled. A paper was read by Mr. J. H. Clements, The Woodlands, Norwich, upon "The Rock Garden." Mr. Clements said it was frequently stated that we could not grow the alpines as well as they did in their native surroundings. This, to him, was an erroneous idea, for, with the proper conditions given in the preparation of the rockery, they would flourish as well in our lowlands as they did in their mountainous homes. The position of the rockery required some thought. A large number of gardeners thought that just anywhere would do for this, but this was a mistake. The position should be somewhat sheltered, but open, that the plants could have the fullest benefit from light and air.

Mr. Frank Neave, Lingwood, spoke of the pleasure he had derived from his rock garden, remarking that he could find something in flower at all times of the year. Mr. H. Perry said that whilst the choicer alpines would do in the pure country air, it was difficult to get them to make a display when associated with dwellings, as was the case in town gardens. Mr. E. Peake thought the rock garden should be a place of large, bold groups of each plant, not little patches of "this and that," which spoiled the effect. Mr. L. Smith (Shotesham Park Gardens) said no garden nowadays was complete if it did not have its rock garden. He detailed his experiences in the formation of a large one this past winter, and of which he had great hopes. Mr. J. Clayton, of Messrs. Daniels Brothers, Lim., Norwich, spoke strongly in support of the rock garden; he said the five years he spent in his early gardening career in the renowned rockery of Messrs. Backhouse and Co., impressed itself largely upon his mind as a place beautiful, and he persuaded all who could do so to have a rock garden. Mr. Burtenshaw, Mr. Powley, and the President also added some useful remarks, the latter according Mr. Clements thanks for contributing the paper.

The display of competitive and non-competitive exhibits were a pretty feature, and also added to the educational value of the meeting. Messrs. Daniels Brothers, Lim., Norwich, staged forced shrubs in variety. Hobbies, Lim., Dereham, sent up two new dwarf polyantha roses, named Orleans and Mrs. Taft, which, although coming out from different Continents, were somewhat similar. Mr. Frank Neave, Lingwood, had some very fine polyanthus. In the fruit section the outstanding feature was the dish of early strawberries brought up by Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., Cringleford, Norwich; they were remarkable both in size and colour.

Bournemouth Gardeners' Association.

On Thursday, April 14, about fifty members journeyed to the Poole Marais garden to inspect the produce grown under the system of French intensive culture, by kind permission of the manager, Mr. G. Chapman. Mr. Fribeau, the able and courteous head gardener, met the members at the entrance to the gardens, and extended to them a very warm welcome. No time was lost in commencing the close inspection of the array of glass-covered frames and the cloches, which covered a little more than one acre of ground. The whole of the garden—in all extending to nearly three acres—is enclosed by a high wood fence, and on the north and east sides there is afforded much shelter by woods and low hills.

Mr. Fribeau first directed attention to the frames filled with radishes, nineteen varieties being grown. The bulbs were of good average size, but the tops were exceptionally small. All the crops are grown in cold beds, chiefly, we believe, owing to the difficulty in obtaining the necessary manure. The glass lights had been taken off the turnips; this crop looked remarkably healthy, as the lettuces, of which many thousands are grown. A cabbage variety, named Ression, was very fine, each specimen being firm, large, and well hearted. Round-seeded spinach was doing well in other frames, in which five cauliflowers were growing under each light.

Another system of cropping was shown. Four crops were taken from the same frame in the following order: First, radishes; second, lettuces; third, spinach; and, lastly, cauliflowers. These were so sown, or plants put in, that all were growing together at the same time. Carrots are extensively cultivated, and very nice roots were available. Melons, in small 60's, were plunged in frames in an inner enclosure, other plants being bedded out in the centre of the frames. Many thousands of celery plants were also growing in this part of the garden, and, later on, Mr. Fribeau said, they would be transplanted into other frames, and finally blanched under mats, no earthing up being done. Seedling tomatoes were also in evidence; all these were, in due course, to be planted in the open. Last year was an adverse one for outdoor tomatoes, but Mr. Fribeau told the members that he gathered two tons of fruit, which must have represented good cultivation.

In the open quarters a splendid crop of early cabbages were growing. From one batch, planted out on January 16, cabbages were ready to cut at Easter. A few specimens were left over of a variety named Ox-Heart; the young plants were put out on November 14. The other variety was Early Etamps. This is a quite distinct cabbage; the outer leaves forming the heart are more or less tinted with a deep purple on the back near the point.

The visit was a very pleasant and instructive one, and before the members returned home they passed a very hearty vote of thanks to Mr. Chapman, the manager, and Mr. Fribeau, the head gardener.

British Gardeners' Association.
(London Branch.)

The monthly meeting of the above branch took place at Carr's Restaurant on Thursday, April 14, Mr. E. F. Hawes in the chair.

The financial statement made regarding the concert held on March 19 showed that the total receipts from sale of tickets amounted to £3 19s. 6d., the expenses incurred £1 7s. 8d., leaving a balance of £2 11s. 10d. It is proposed to devote two guineas of this sum to the Saturday Hospital Fund, the remainder to be used for carrying on the work of the branch.

The most interesting event of the evening was an address by Mr. Parrott, on "Specimen Plants for Lawns and Flower Beds." In his opening remarks the speaker drew attention to the great changes that have been made in summer bedding during the past few years. We are, he said, no longer content with large masses of pelargoniums in scarlet, pink, or white, or with straight rows of calceolarias edged with blue lobelia. We now adopt a more artistic style of bedding that is far more natural and pleasing in effect. By our present methods we are able to make use of plants which years ago we should have been afraid to take out of our greenhouses. With a greater variety of plants at our disposal we are able to adopt different methods of arranging them each season, and thus avoid the monotony that existed in former years.

The following is a list of plants selected as being most suitable for training into large specimens: Ivy-leaved pelargoniums, zonal and scented-leaf pelargoniums, heliotropiums, plumbagos, hydrangeas, lantanas, statice, tropæolums, streptosolons, cassias, and shrubby calceolarias.

The time taken to make good specimens was said to be from one to three years. The speaker gave details of culture suited to the requirements of the different kinds selected from the cutting onwards, together with instructions for arranging them to the best advantage, either as specimens upon the lawn or as groups in flower beds.

A hearty vote of thanks to Mr. Parrott for his interesting and highly instructive address brought the meeting to a close.

United Horticultural Benefit and Provident Society.

The April meeting of this society was held at the Royal Horticultural Hall, Vincent Square, S.W. Mr. Charles H. Curtis presided. The minutes of the last meeting were read and confirmed. The number of new members elected during the last three months was 32. Two members were transferred from the lower to the higher scale. A cheque for £13 3s. 5d. was drawn for a lapsed member. The usual quarterly payments were made to members over 70. The amount of sick pay for the past month was £35 9s. The annual report and balance-sheet has been posted to honorary and benefit members. Any member not having received one is requested to write to the Secretary.

OBITUARY.

◆

MR. JOHN HAY.

We regret having to record the death, at Aberdeen, of Mr. John Hay, who was a gardener of the old school, and had reached the patriarchal age of 75 years. Born in the parish of Culsalmond, Aberdeenshire, Mr. Hay served his apprenticeship with the father of the present Convener of the county of Aberdeen, House of Newton, Aberdeenshire, from whence he was engaged at several county houses, ultimately settling down for a goodly number of years at [illegible] House, Lumphanan, Aberdeenshire. Here Mr. Hay also undertook the duties of forester. After his service there Mr. Hay came to the city of Aberdeen, when he was appointed head gardener to the then Lord Provost, Mr. Nicol. On the demise of Lord Provost Nicol, Mr. Hay went to [illegible] House, Aberdeen, with the late Mr. [illegible]. On leaving this situation, Mr. Hay undertook the duties of superintendent of [illegible] city churchyard of Aberdeen—one of the exquisitely beautiful oases in a densely-populated centre of the city of Aberdeen. Here Mr. Hay remained for a number of years, his work and worth being highly appreciated by the City Council of Aberdeen, [illegible] have the oversight of this churchyard. Mr. Hay was a skilful gardener, and was greatly respected by his confreres.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

DISBUDDING PEACHES AND NECTARINES.—C. L. B., Watford: The matter was dealt with in our issue of April 16, p. 308.

A POLITE CAUTION.—L. T. M., Leamington: The following lines occur to us as suitable for your particular circumstances:

Welcome to view the beauty of this place,
Raised by the gardener's skill on nature's face,
Then feast your eyes, for 'tis of pleasures full,
But no rude hand may fruit or flowers pull;
For pulling fruit without the Gardener's leave
Mankind was ruined by our Mother Eve.

ISMENE AMANCÆS.—H. D., Hull: This handsome plant is half-hardy, although it may survive the winters unprotected in especially warm southern gardens. If you treat it as a cool greenhouse plant you should succeed with it. Provide it with fairly rich, but well-drained soil, and give water with great care. Ismene amancæs is popularly known as the Lily of the Incas; it is somewhat rare in cultivation now, but was frequently seen in collections five and twenty year ago. The flowers are yellow, borne in large umbels, and very fragrant.

HORTICULTURAL SOCIETIES AND THEIR SECRETARIES.—T. H. B., Stourbridge: The most useful and complete list of horticultural societies and their secretaries, is to be found in the "Gardening Year Book for 1910," which contains an immense amount of information on other matters relating to the garden, you may obtain, post free, for 1s. 2d., from the Gardeners' Magazine Office, 148, 149, Aldersgate Street, E.C.

FRUIT SHOW AT HEXHAM.—M. E. M., Derby.—The fruit show to be held at Hexham in conjunction with the Congress referred to on p. 297, of our issue for April 16, will be judged under the Royal Horticultural Society's Code of Rules for Judging, 1909 edition. The latter may be obtained from the Secretary, Royal Horticultural Society, Vincent Square, Westminster, for 1s. 6d. post free; and schedules of the Hexham Show may be obtained gratis from Rev. J. Bernard Hall, Dalston, Cumberland.

FAILURE WITH BULBS.—G. B., Guildford: The trouble is not in the soil, but on it. The bulbs are healthy, and the roots are good, but the growth has in every case been damaged just above the ground level. We cannot tell what causes the damage, but a careful study of the surroundings might throw some light upon the matter. We remember that some years ago a correspondent could not understand how it was that in a certain flower bed spring-flowering bulbs were never a success, until we suggested cats, and it was found that cats frequented the bed during the sunny hours, and, besides damaging the advancing growth, made the ground surface very foul. The bed was dug, thoroughly limed, and allowed to remain rough (but netted over) for a few weeks, and then summer flowers were planted. The bed was again netted over, and the plants were a success. Later in the season the netting was removed and great care was taken to prevent cats from settling on the bed, with the result that these feline pests found matters too uncomfortable, moved to some other rendezvous, and there was no further trouble as far as that bed was concerned. We do not say that cats are the cause of your trouble, but suggest that the cause is not in the soil.

EMPLOYMENT AT KEW.—H. G.: For full particulars of employment at Kew you should write to the Curator, Royal Gardens, Kew, Surrey, stating age and experience. You will then receive a form to fill up and return, and then await a vacancy.

TULIPA CLUSIANA.—F. A., Missenden: This beautiful species needs no special treatment, but it is more at home in the well-drained soil of the rock garden than in the border or flower bed. It is a delightful plant for pot culture when allowed to grow in a cold frame or cool greenhouse. As a general rule the flowers are silvery white, with a violet base to each segment. Sometimes the flowers are more or less marked with rose. The daintiness of the blooms has led to the popular title of The Lady Tulip.

INTERNATIONAL HORTICULTURAL EXHIBITION.—W. K., Surrey: The members of the Executive Committee of the International Horticultural Exhibition, held at South Kensington, in 1866, were: Sir C. Wentworth Dilke, Bart., chairman; Mr. J. Jackson Blandy, deputy chairman; Sir D. Cooper, Bart., treasurer; Mr. T. Moore, Dr. R. Hogg, LL.D., and Dr. B. Seeman, secretaries (owing to the last-named having to go abroad early in the year Dr. Masters became the secretary of the botanical side of the gathering); Professor Bentley and Messrs. W. Bull, E. Easton, C. Edwards, J. Fleming, R. Fortune, J. Gibson, J. Lee, M. T. Masters, M.D., T. Osborne, W. Paul, J. Standish, C. Turner, H. J. Veitch, and B. S. Williams.

LILY BULBILS.—H. P. B., Worcester: Now that the bulbils have commenced to grow keep them in a warm greenhouse, and let them have plenty of light, but a little

Modern Glasshouses
. . AND . .
Heating Installations
Recent Contracts include the following:—
His Grace the Duke of BEDFORD, Woburn Abbey.
His Grace the Duke of DEVONSHIRE, Beamsley Hall, Bolton Abbey.
His Grace the Duke of PORTLAND, Welbeck Abbey, Worksop.
The Rt. Honble. the Earl of ELLESMERE, Croft Lodge, Brackley.
The Rt. Honble. Earl TEMPLE, Wotton House, Aylesbury.
The Rt. Honble. Lord DIGBY, Minterne, Cerne Abbas.
The Rt. Honble. Lord BELPER, Kingston Hall, Notts.
The Rt. Honble. Lord WINDSOR, Hewell Grange, Redditch.
The Rt. Honble. Lord BOLTON, Bolton Hall, Wensleydale.
Lady HULSE, Breamore, Salisbury.
Lieut.-General Sir ARTHUR PAGET, Coombe Warren, Kingston-on-Thames.
Sir E. BLOUNT, Mawley Hall, Cleobury Mortimer.
General CLIVE, Perrystone Court, near Ross.
Col. G. N. STARKIE, Huntroyde Park, Padiham.
Col. R. T. GASCOIGNE, Lotherton Park, Aberford, Leeds.
The Corporation of HANDSWORTH.
A. HOLT, Esq., Mayor of Leamington.
New Zealand Department of Agriculture.
Royal Masonic Benevolent Institution, Croydon.
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J. GIBBINS, Esq., The Hall House, Hawkhurst.
JAS JOICEY, Esq., Poulton Priory, Fairford, Glos.
G. McD. SUTOR, Esq., [illegible], Tenbury.
J. REID WALKER, Esq., Ruckley Grange, Shifnal.
P. H. FOLEY, Esq., Stoke Edith Park, Hereford.
J. S. TOOKER, Esq., King's Beeches, Ascot.
H. CLEMENTSON, Esq., Prospect House, Mossley, near Manchester.
W. B. M. BIRD, Esq., Eartham, Chichester.
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Mrs. SIMPSON, The Moorlands, Boston Spa.
CHARNOCK WILSON, Esq., Sudbury Priory, Harrow.
The Honble. H. CUBITT, Denbies, Dorking.
T. S. HOLLIS, Esq., Saxenhurst, Wadhurst.
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ARTHUR J. HILL, Esq., Chellow Dean House, Allerton, Bradford.
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shelter from strong sunshine. Keep a sharp look-out for greenfly, because if this pest obtains a footing it will injure the tender leaves and so kill or seriously retard the little plants. Fumigate the house every week or ten days. In the summer a frame will suffice for protection. As the plants progress, give them a top-dressing of leaf-mould and old dried cow manure.

MIGNONETTE.—F. N. C., Dorchester: Mignonette is one of the most desirable of annual flowers, and failures with it always prove very disappointing. The seeds should be sown in March or April, and the best positions for mignonette are in mixed beds and borders. The seed must not be scattered all over the surface, and the plants be allowed to run riot among the other occupants, or to crowd each other in a manner that will render perfect development an impossibility. The best course is to grow them in clumps, and we suggest that in the selected positions a circular drill be drawn with a diameter of fifteen inches, and to a depth of about one and a-half inches. In this the seed must be thinly distributed, and when the seedlings are well above the surface all the plants, with the exception of three or four of the strongest, must be drawn out. As a matter of course, the plants remaining should be left at equal, or as near as may be, distances apart. By this simple course of procedure, fine clumps are obtained. In sowing otherwise than in drills, the seed should be distributed thinly, and in all cases the thinning of the seedlings should be proceeded with at intervals until all that are not required have been removed. A plant of mignonette will, in good soil, fill a space of fully twelve inches in diameter, and if this fact be borne in mind, it will be easy to remember that at the final thinning the plants should be from ten to twelve inches apart each way. With reference to the preparation of soil for mignonette, it may be stated that they require a moderately rich medium, but not one that contains an excess of manurial matter. If the soil is in an impoverished condition the growth will be weak, the flower spikes small, and the season of bloom very short. On the other hand, if manure is so liberally used as to render the soil excessively rich, the growth is unduly luxuriant, and the production of flower spikes unsatisfactory.

DECAYED CYPRIPEDIUM. — G. O., Leeds: Overwatering is the cause of the trouble. After potting it you should have kept the plant in a warm moist house, giving only just sufficient water to keep the soil moist; indeed, if the compost was moist at potting time little water would have been necessary until new roots began to form.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

H. R. S., Reading.—1, Francisea calycina; 2, Cissus discolor.

A. O. G., Leeds.—1, Calceolaria Burbidgei; 2, Primula frondosa; 3, Narcissus Johnstoni; 4, Pteris tremula.

N. T. S., Godmanchester.—1, Prunus triloba; 2, Adonis vernalis; 3, Anemone blanda; 4, Forsythia suspensa.

GARDENING ENGAGEMENT.

Mr. H. Collier, for the past three years foreman at Rolleston Hall Gardens, Burton-on-Trent, has been appointed head gardener to Sir Oswald Mosley, Bart., at Rolleston Hall. Mr. Collier succeeds Mr. George Woodgate, who is retiring from the management of these gardens owing to impaired health, after sixteen years' service.

TRADE NOTE.

Of the many remedies in daily use for the destruction of rats and mice there is none which obtains or deserves better suppport than "Liverpool" Virus. In addition to testimony from various parts of the United Kingdom of the satisfactory results obtained from its use, it has been employed with the best effect in such distant parts of the earth as India, Malay, Australia, South Africa, and South America. Its chief recommendation lies in the fact that it is always effective when carefully used, but it possesses additional merits in being prepared ready for use by English scientists at the Liverpool Institute of Comparative Pathology, where the profits of its manufacture are devoted to further research. We have used the "Liverpool" Virus with much success.

CATALOGUES RECEIVED.

ACME CHEMICAL COMPANY, LIM., VALE ROAD, EAST, TONBRIDGE.—A descriptive list of fungicides and insecticides, shading material, hose, etc. "Fumerite," an exterminator of pests in the soil is a speciality.

HEATH AND SON, CHELTENHAM.—An unusually complete list of perennial plants for alpine gardens, herbaceous borders, and water gardens. The list is descriptive and brief cultural details are given.

WM. COOPER AND NEPHEWS, BERKHAMSTED.—Under the title of "The Spraying of Fruit Trees" this firm has issued a little pamphlet dealing with the why and the wherefore of spraying. The use of V.1 and V.2 spray fluids is explained, and at the end of the booklet "Weedicide" is brought into notice, and the very useful can, with its specially constructed rose for distributing the weed killer is illustrated.

H. N. ELLISON, WEST BROMWICH.—A price list of popular ferns, palms, hand lights, etc.

JAS. STREDWICK AND SON, SILVERHILL PARK, ST. LEONARDS. This freely illustrated catalogue is devoted very largely to the fine cactus dahlias raised at St. Leonards.

HARLAN P. KELSEY, SALEM, MASS, U.S.A.—A profusely illustrated catalogue of the principal American hardy plants cultivated in the Highlands Nursery, North Carolina. Rhododendrons, Andromedas, and Kalmias, are a special feature.

PERMANENT NITRATE COMMITTEE, FRIARS' HOUSE, NEW BROAD STREET, E.C. The sixth edition of "How to Use Nitrate of Soda" is full of practical hints for the profitable application of nitrate of soda as a fertiliser for root and farm crops.

THOMAS S. WARE, LIM., FELTHAM, MIDDLESEX. A special catalogue of great present interest, as it is devoted to dahlias, bedding plants, begonias, early chrysanthemums, etc.

M. V. SEALE, SEVENOAKS.—A handy, descriptive list of dahlias, including a number of novelties in the several sections.

W. DUNCAN TUCKER AND SONS, LIM., 27, CANNON STREET, E.C.—Under the title of "Some Notes on Caloriculture" this firm issues a pamphlet dealing with their new system of forcing by means of sharply pitched double-glazed, bottom-heated houses. The matter is of much interest.

Checking the Wart Disease of Potatoes.—Some experiments are recorded in the current issue of the "Journal" of the Board of Agriculture, which prove that the Wart Disease or Black Scab of potatoes can be checked to some extent by planting seed tubers that have been greened by exposure to light. Six potatoes that had been "greened" by exposure for a period of six weeks, counted from the time they were lifted, and six that had been kept in darkness for an equal period were selected. The greened potatoes had short green sprouts, whereas the sprouts on the potatoes kept in darkness were quite colourless and also short. The twelve potatoes were planted in pairs—one greened and one ungreened—in soil that had been thoroughly inoculated with the fungus causing the wart disease. After an interval of six weeks, the potatoes were examined, when five of the ungreened ones were found to be infected with the fungus. The six greened tubers were free from infection, with the exception of one sprout that had developed since the tuber was planted. Infection of a potato is only possible through the eye, and then only when the sprout is quite young, hence when the tubers were examined, all had passed the stage of possible infection, and thus represented the percentage of immunity due to greening.

MARKETS.

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COVENT GARDEN.

Flowers.

There is an improvement in trade, flowers of all kinds selling readily.

		s.	d.		s.	d.
Acacia	per doz. bun.	8	0	to	10	[illegible]
Adiantum cuneatum	per doz. bun.	6	0		8	0
Anemones	per doz.	1	0		1	[illegible]
Arums	per doz.	1	6		2	6
Asparagus	per bun.	1	0		1	[illegible]
Azalea, Ghent	per bun.	0	6		0	9
Camellias	per doz.	1	6		2	0
Carnations	per doz. blms.	1	6		3	6
..	per doz. bun.	12	0		18	0
Cattleyas	per doz.	6	0		10	[illegible]
Croton leaves	per bun.	1	0		2	[illegible]
Daffodils	per doz. bun.	1	0		3	6
Eucharis	per doz.	3	0		4	6
Freesias	per doz. bun.	1	0		1	6
French fern	per doz. bun.	0	6		0	9
Gardenias	per doz.	1	6		2	6
Iris, Spanish	per doz. bun.	9	0		12	0
Lapagerias	per doz.	1	6		2	6
Lilac, French	per bun.	2	0		3	0
Lilium auratum	per bun.	2	0		3	[illegible]
.. speciosum	per bun.	1	6		[illegible]	6
.. longiflorum	per bun.	2	0		[illegible]	[illegible]
Lily of the Valley	per doz.	6	0		10	0
Marguerites	per doz. bun.	2	0		4	0
Mignonette	per doz. bun.	3	0		6	[illegible]
Narcissus	per doz. bun.	1	0		1	6
Odontoglossums	per doz. blms.	1	0		2	0
Pelargoniums	per doz. bun.	4	0		6	[illegible]
Roses	per doz.	1	0		3	0
Smilax	per doz. trails	3	0		4	[illegible]
Stocks	per doz. bun.	2	0		4	[illegible]
Sweet Peas	per doz. bun.	2	0		4	[illegible]
Tuberoses	per doz. blms.	0	4		0	6
Tulips	per doz. bun.	6	0		15	[illegible]
Violets	per doz. bun.	1	0		2	6

Fruits.

Oranges and Cape and Australian fruits meet a ready demand. Trade is brisk.

		s.	d.		s.	d.
Apples, Californian	per case	6	0	to	8	[illegible]
,, American	per barrel	10	0		27	[illegible]
,, Canadian	per barrel	10	6		25	[illegible]
.. Nova Scotian	per barrel	10	0		20	[illegible]
.. Australian	per box	8	0		12	[illegible]
Apricots, Cape	per box	4	6		[illegible]	[illegible]
Bananas	per bun.	3	0		10	[illegible]
Grapes, English	per lb.	1	3		3	[illegible]
,, Almeria	per doz. lbs.	4	0		[illegible]	[illegible]
.. Cape	per 20lb. box	9	0		15	[illegible]
Lemons	per case	6	0		20	[illegible]
Oranges Jamaica	per case	9	0		12	[illegible]
.. Jaffa	per case	10	0		12	[illegible]
.. Valencia	per case	9	0		18	[illegible]
.. Navels	per case	9	0		12	[illegible]
.. Denia	per case	12	0		[illegible]	[illegible]
Peaches, Cape	per box	4	0		8	[illegible]
Pears, Cape	per box	4	0		6	[illegible]
,, Australian	per box	7	6		12	[illegible]
Pineapples	each	1	6		4	[illegible]
Plums, Cape	per box	5	0		[illegible]	[illegible]
Strawberries	per lb.	1	6		5	[illegible]

Vegetables.

Business is steady and prices show little alteration.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	[illegible]	[illegible]
Asparagus	per bun.	1	4		[illegible]	[illegible]
Beet	per bush.	1	6		[illegible]	[illegible]
Beans, Dwarf	per lb.	0	8		[illegible]	[illegible]
Broccoli, Sprouting	per bag	1	0		3	[illegible]
Cabbage	per tally	2	0		[illegible]	[illegible]
Carrot	per doz. bun.	2	0		[illegible]	[illegible]
Cauliflowers	per tally	6	0		[illegible]	[illegible]
Celeriac	per doz.	1	6		[illegible]	[illegible]
Chicory	per 12lb.	2	6		[illegible]	[illegible]
Cucumbers	per doz.	1	6		[illegible]	[illegible]
Endive	per doz.	1	3		[illegible]	[illegible]
Horseradish	per doz. bun.	10	0		[illegible]	[illegible]
Leeks	per doz. bun.	1	0		[illegible]	[illegible]
Lettuce	per doz.	1	0		[illegible]	[illegible]
.. Cos	per doz.	3	[illegible]		[illegible]	[illegible]
Marrows, Madeira	per doz.	10	0		[illegible]	[illegible]
Mint	per doz. bun.	3	0		[illegible]	[illegible]
Mushrooms	per doz. lb.	6	0		[illegible]	[illegible]
Mustard and Cress	per doz. pun.	0	10		[illegible]	[illegible]
Onions	per case	6	0		[illegible]	[illegible]
Parsley	per doz. bun.	1	0		[illegible]	[illegible]
Parsnips	per bag	1	6		[illegible]	[illegible]
Radishes	per doz. bun.	0	8		[illegible]	[illegible]
Rhubarb	per doz. bundles	0	[illegible]		[illegible]	[illegible]
,, natural	per tally	4	6		[illegible]	[illegible]
Savoys	per tally	3	0		[illegible]	[illegible]
Seakale	per doz. pun.	9	0		1[illegible]	[illegible]
Spinach	per bushel	2	0		[illegible]	[illegible]

LONDON POTATO MARKETS.

There is an improvement in supply but n demand.

		s.	d.
Bedfords	per ton	[illegible]	[illegible]
Blacklands	per ton	45	0
Dunbars	per ton	[illegible]	[illegible]
Evergood	per ton	45	0
Express	per ton	[illegible]	[illegible]
Kents	per ton	[illegible]	[illegible]
Lincolns	per ton	[illegible]	[illegible]
Up to Date	per ton	[illegible]	[illegible]
Teneriffe	per cwt	10	0
Jerseys, new	per lb.	0	[illegible]

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1910. April 10 to April 16.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
April 10—Sunday	—	43	42	49	41
,, 11—Monday......	10 24	49	45	58	43
,, 12—Tuesday	1 48	49	46	59	43
,, 13—Wednesday .	1 6	52	50	60	49
,, 14—Thursday ...	0 12	46	42	51	43
,, 15—Friday........	6 48	50	46	55	44
,, 16—Saturday ...	2 48	49	46	55	41
Means	(total) 23 6	48	45	55	43

Date. 1910. April 10 to April 16.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
April 10—Sunday	—	45	45	44	41
,, 11—Monday....	0·01	45	45	44	33
,, 12—Tuesday......	0·07	46	46	45	36
,, 13—Wednesday .	0·05	48	47	45	46
,, 14—Thursday ...	0·03	48	47	45	39
,, 15—Friday........	0·06	48	47	46	39
,, 16—Saturday ...	0·09	47	48	46	33
Means ...	(total) 0·31	47	46	45	38

FORTHCOMING ENGAGEMENTS.

TUESDAY, April 26.—Brecon Spring Show.

WEDNESDAY, April 27. — Royal Horticultural Society's Examination for Teachers.

Hereford Spring Show.

Presteign Spring Show.

THURSDAY, April 28.—Birmingham Daffodil Show; two days.

FRIDAY, April 29.—Knighton Daffodil Show.

SATURDAY, April 30.—Brussels International Exhibition, Flower Show; four days.

TUESDAY, May 3.—Royal Horticultural Society; Daffodil and Tulip Committee, at 11.30 a.m.; Fruit, Floral, and Orchid Committees at 12 o'clock; lecture at 3 o'clock, on "Future Forest Trees," by Dr. A. Henry, M.A., V.M.H.; Scientific Committee, at 4 p.m.

National Auricula and Primula Society, at the Royal Horticultural Hall.

Scottish Horticultural Association.

British Gardeners' Association Council Meeting.

WEDNESDAY, May 4.—National Auricula and Primula Society, Midland Section, at Birmingham Botanical Gardens.

THURSDAY, May 5.—Linnean Society Meeting.

SATURDAY, May 7.—French Horticultural Society of London.

MONDAY, May 9.—United Horticultural Benefit and Provident Society.

WEDNESDAY, May 11.—East Anglian Horticultural Society.

Royal Society of Arts.

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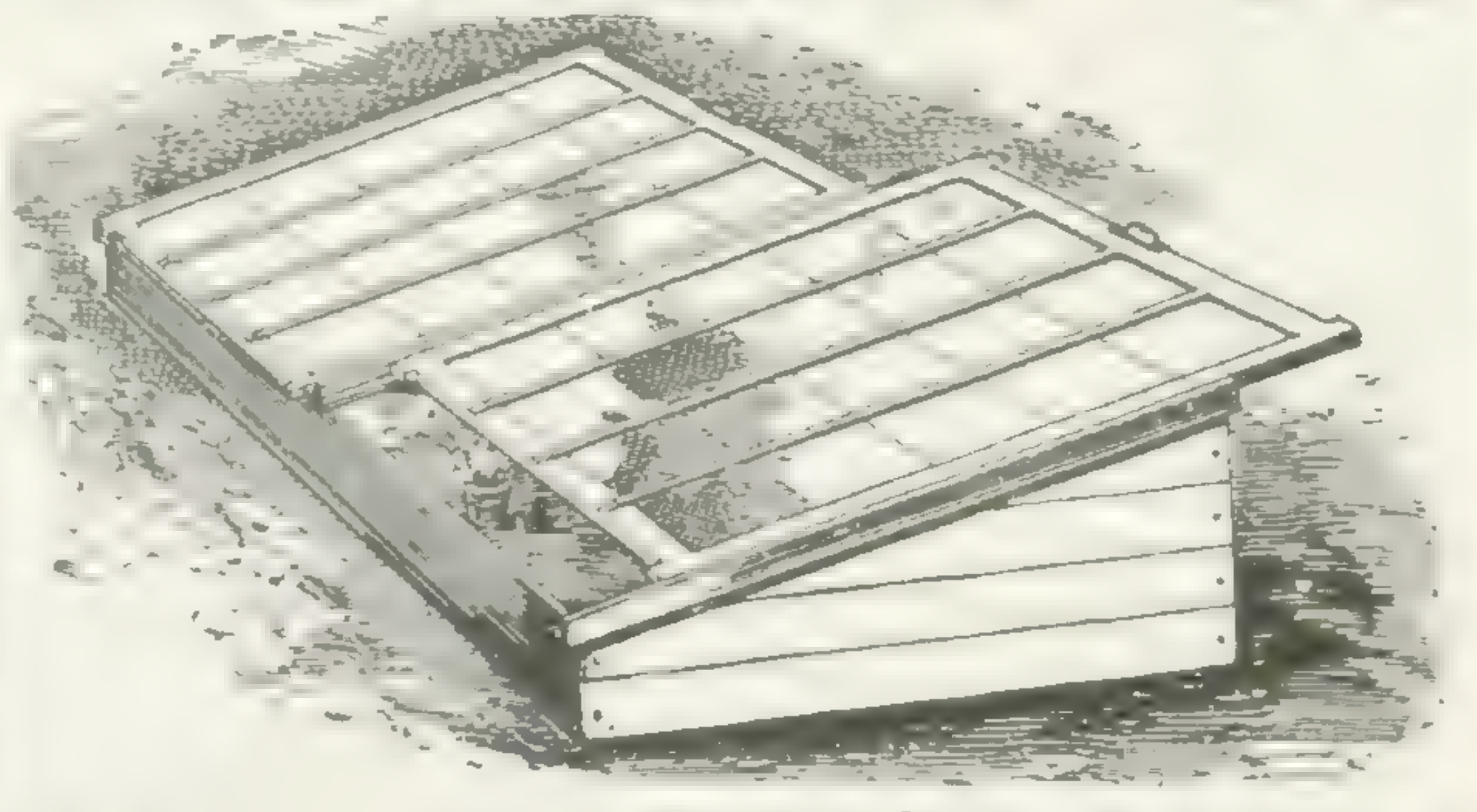

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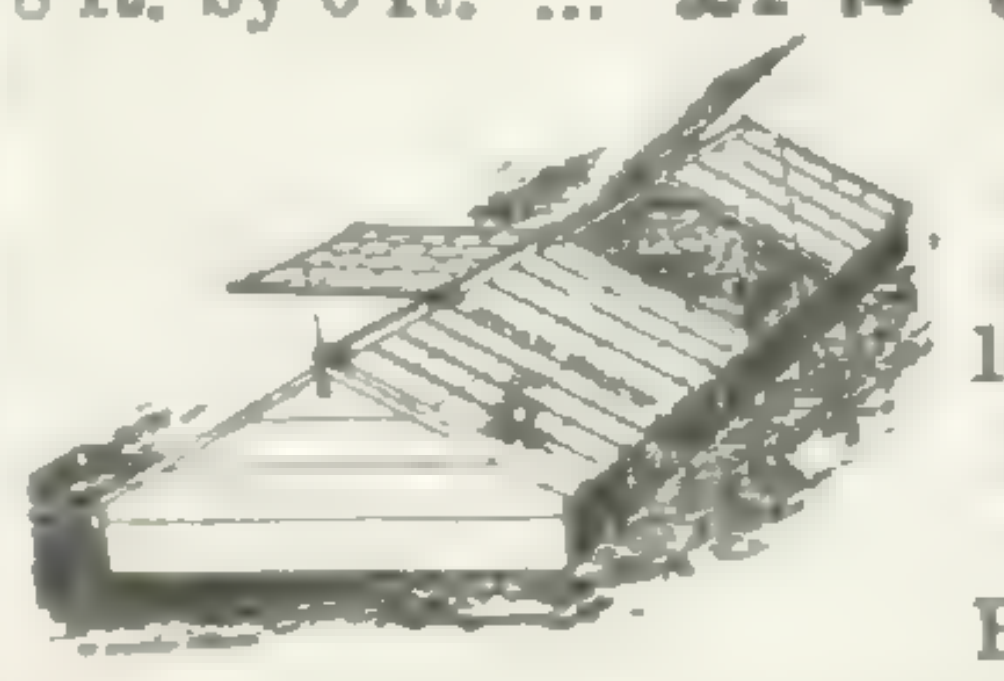

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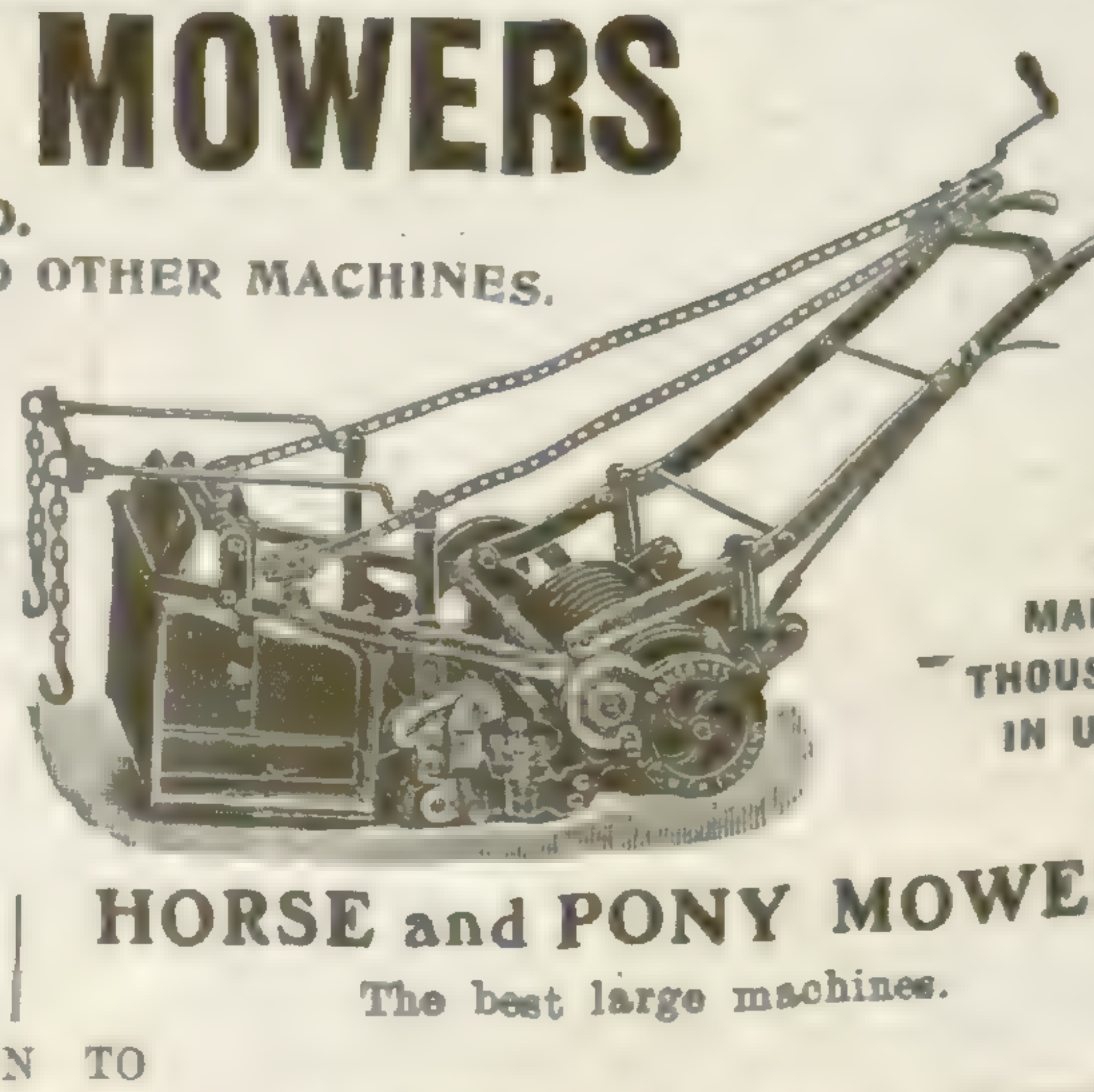

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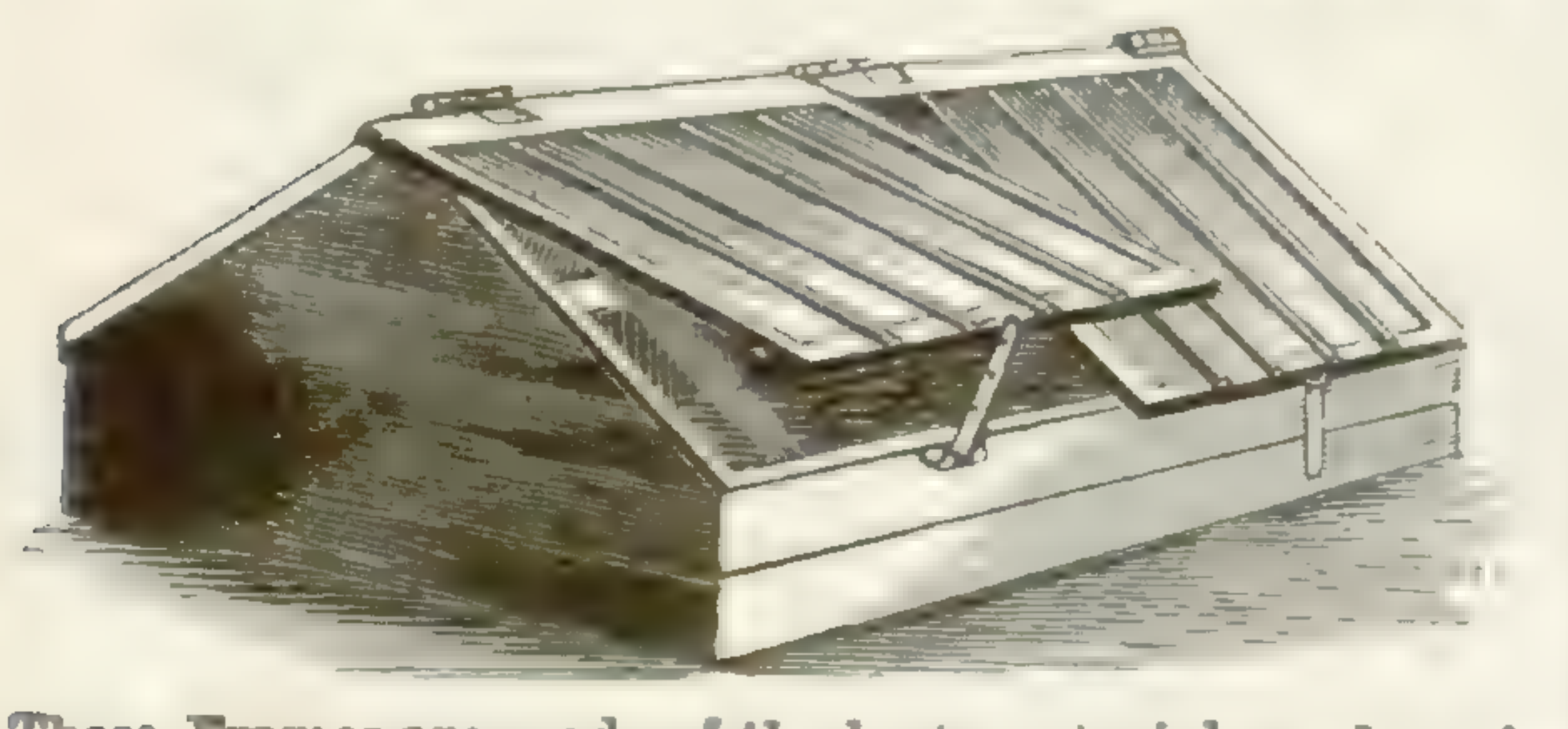

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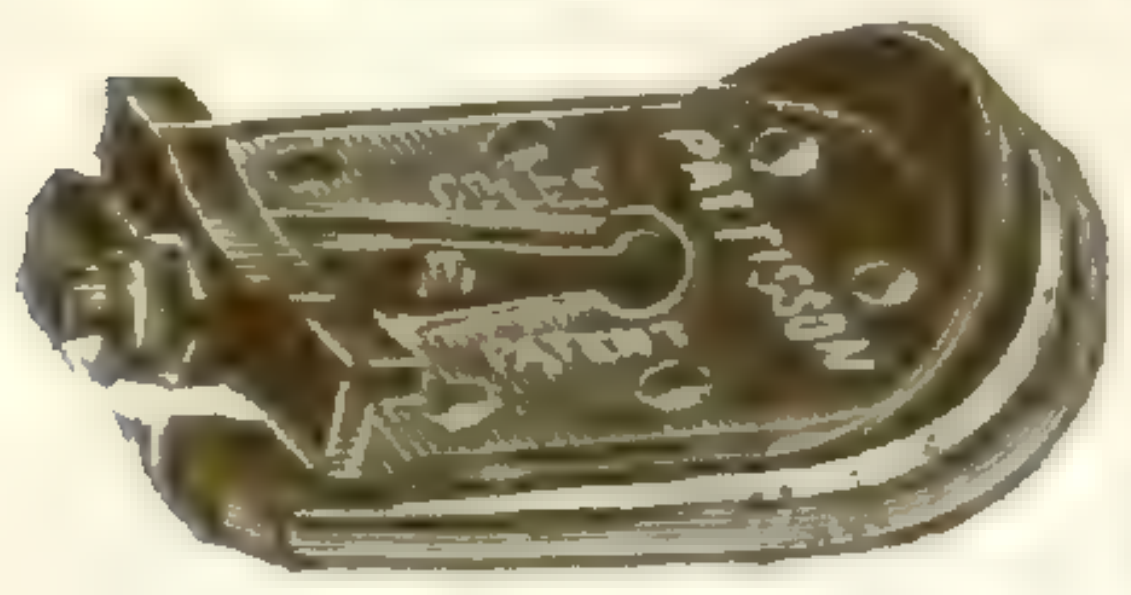

Fig. 1.

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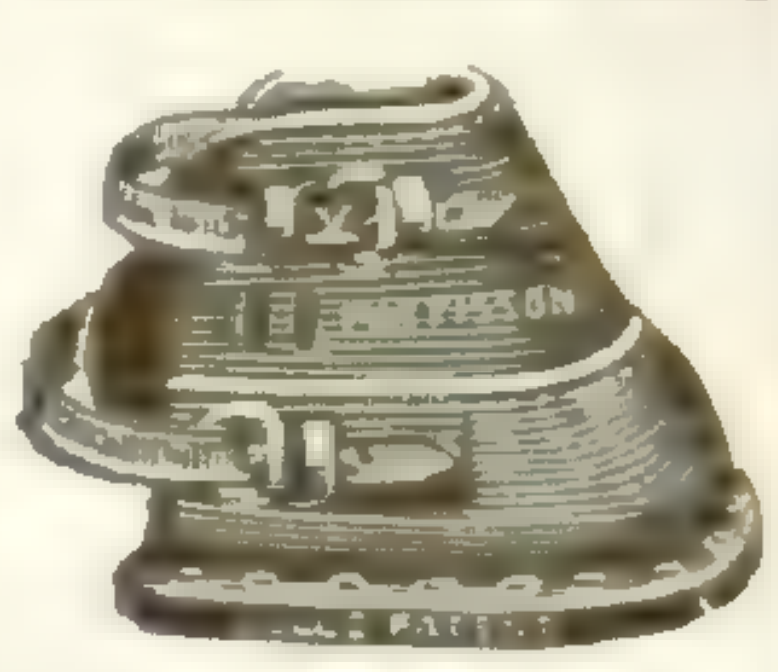

Fig. 2.

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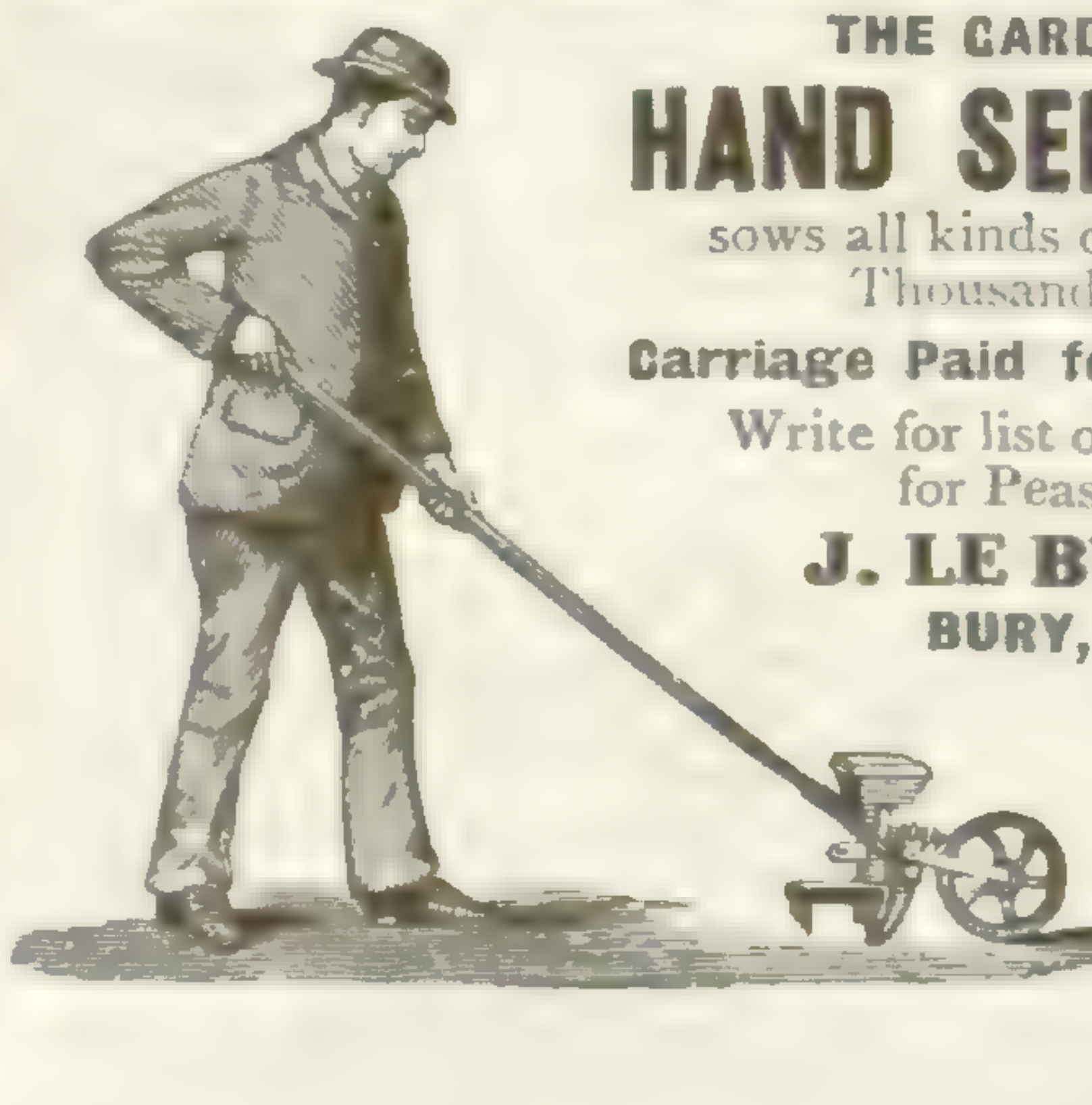

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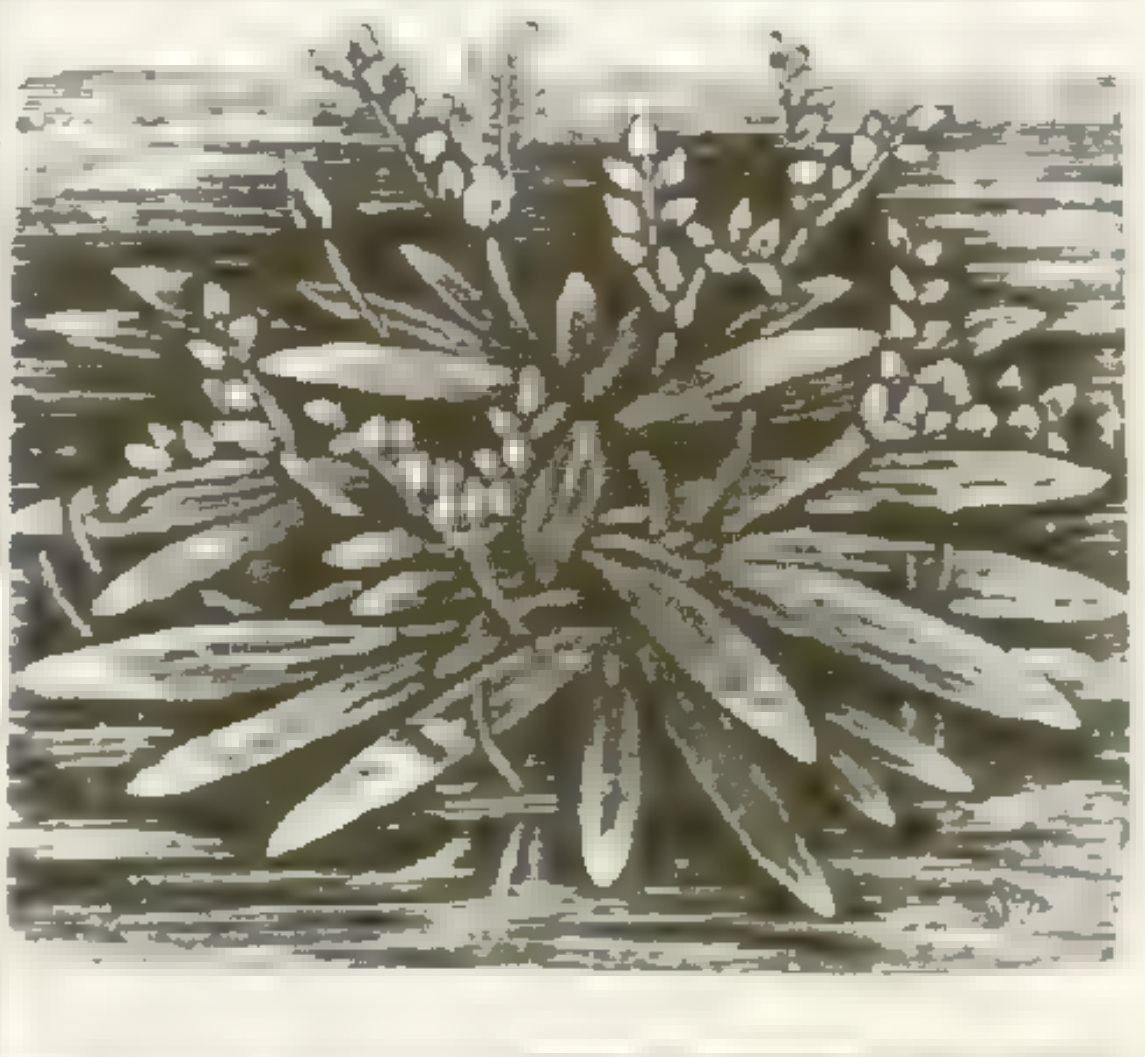

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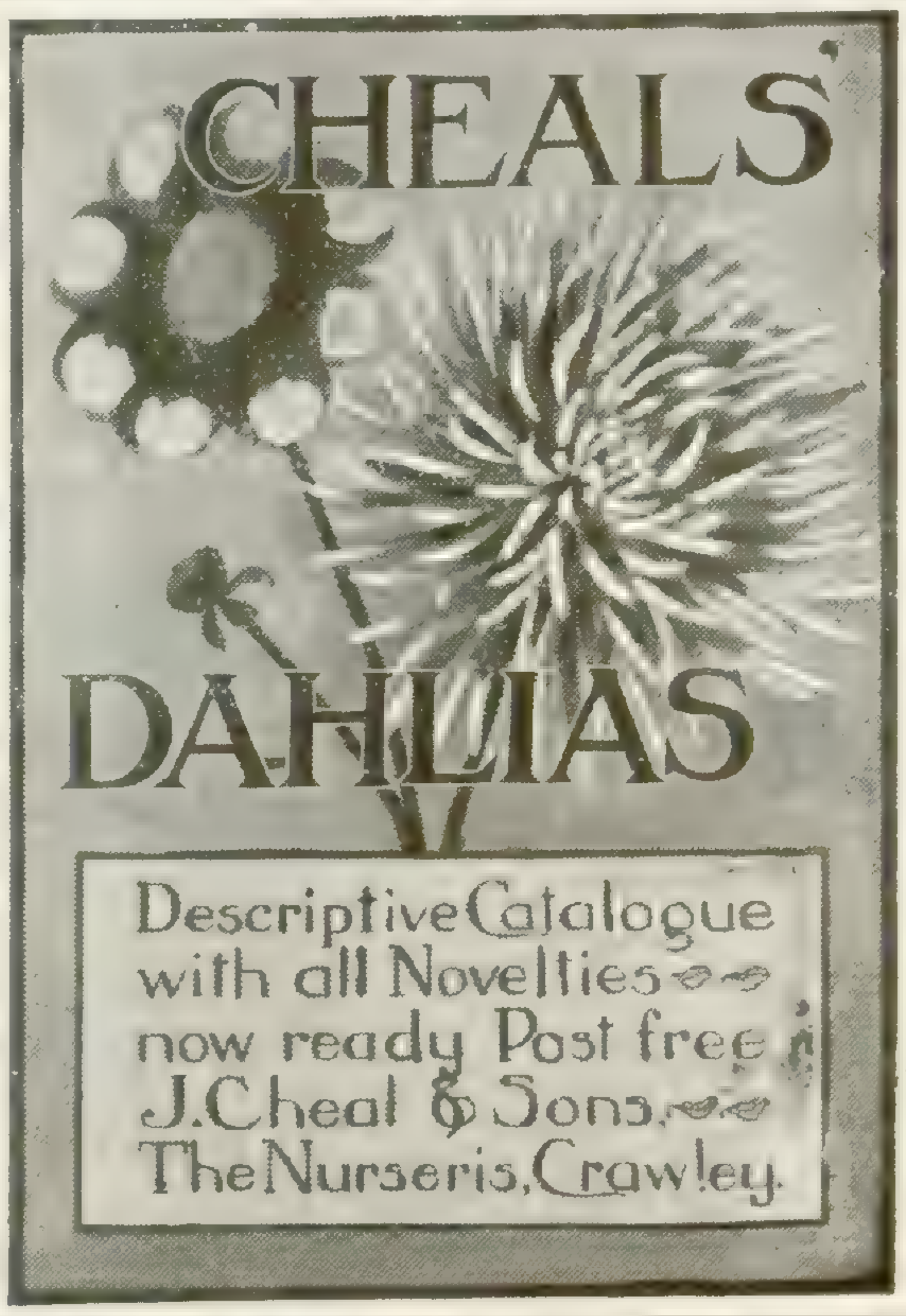

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VOL. LIII.—No. 2,948. SATURDAY, APRIL 30, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Spring Flowers.

There is no occasion for surprise that the flowers intimately associated with the season of spring should ever have been favourites with the poets, or that they should have sung their praises in some of the most beautiful lyrics that have a place in English literature. Even the most prosaic of individuals can hardly fail to have their thoughts stirred to the innermost depths by the manifold and wondrous charms of the native and exotic plants that so freely yield of their floral wealth during the spring months. From the opening days of spring until its close there is a continuous procession of flowers, all more or less beautiful, to which bulbous and fibrous-rooted plants, and trees and shrubs contribute liberally, and afford a succession of delights to those who fully appreciate Nature in her various moods. However much may be enjoyed the flowers of summer or of autumn, it is doubtful whether the charms of the most beautiful of them make so strong an appeal for admiration, or whether the interest in them is so readily quickened as in the case of those that belong to the spring. This, perhaps, is best explained by the fact that, while the community as a body admire summer and autumn flowers, they love those of the preceding season. It would, indeed, be surpassing strange were the latter not regarded with some degree of preference, seeing that they give brightness and beauty to garden and plantation that for some months have presented a bare and somewhat desolate appearance, and their development associated with the expansion of the tender green leaves of trees and shrubs, and with the melody of our feathered songsters. The taste of owners of gardens for spring flowers is no new thing, but it has been more marked of late years than was for a considerable period the case, and gardens have been made more interesting and beautiful at this season of the year. When the free use of tender bedders in the production of summer displays of flowers was popular spring-flowering plants were in large numbers utilised in beautifying the beds and borders for some eight or ten weeks before their summer occupants could with safety be transferred to their summer quarters. Then for a time spring flowers were less freely used in the production of colour effects, in some cases owing to the supposition that hardy herbaceous plants were all-sufficient, and in others to the reduction of the labour bill. Happily, they have been once more restored to their proper position as aids in rendering the garden beautiful, and they are now used with a freedom and taste of which past generations could not have had an adequate idea. Many plants that obtained favour in the past are still popular, but, with few exceptions, they have been greatly improved either in habit, freedom of flowering, or effectiveness of colour. The colours of the aubrietias, which constitute a most valuable group for massing in beds and borders, as well as for clothing rockery slopes, have been greatly increased, the bright reds and rich purples being especially useful in the working out of colour schemes. Wallflowers have undergone considerable improvement, as also have polyanthuses and primroses, more especially with regard to the quality of their flowers and the freedom with which they are improved. Spring gardening of the present day differs materially from that which obtained favour a quarter of a century or so ago in the increased use of bulbous plants. Then the latter were confined almost exclusively to the early-flowering tulips; now these are grown in increased numbers, and, in addition, daffodils and May-flowering tulips are annually planted in enormous numbers. The improvements in certain of the spring-flowering plants, and the cheapening of daffodils and tulips has rendered it possible to produce effects more varied and beautiful in the flower garden, and to create the most charming floral displays in the pleasure grounds and plantations, as witness the great breadths of daffodils in the grass that at the present time form such glorious features of gardens on all sides. To obtain the best possible results with spring flowers it is necessary to adopt a systematic method of culture that will result in a stock of young and vigorous plants for bedding out in the autumn. In some cases rough-and-ready methods of procedure are resorted to in the preparation of stocks of plants for spring bedding, but, happily, these are few, and mostly in gardens where the pressure on the staff is great. Without exception, young plants that have made the summer's growth under favourable conditions give the best results. Therefore the stock of all the kinds should be renewed annually by means of seeds, cuttings, or division. The propagation should be commenced as early as experience has found necessary, and care taken to avoid the young plants being injured by over-crowding. When planted out to make their summer's growth they should have a partially-shaded or open position, as may be the most suitable for them, and be put a sufficient distance apart for the hoe to be freely used among them for keeping down weeds and maintaining the surface soil in a loose state. The owners of town gardens of moderate dimensions may not, for various reasons, be able to employ such plants as aubrietias, forget-me-nots, arabis, alyssums, and wallflowers very largely, but they can have a most beautiful display of flowers with the aid of a careful selection of inexpensive early and May-flowering tulips, daffodils, crocuses, and a few other bulbs. Fortunately for the town dweller, there are many varieties of each of the kinds mentioned now so cheap that they can be annually renewed at a comparatively small cost, a point of no small importance having regard to the rapidity with which bulbous plants deteriorate when grown under the conditions that obtain in town gardens of small size.

MR. OWEN THOMAS, V.M.H.

Mr. Owen Thomas, who for many years was head gardener to Queen Victoria, at Windsor, is a well-known figure in the horticultural world, and, though he has not now the control of a large garden, he continues to take the keenest interest in horticultural matters. As his name implies, Mr. Owen Thomas is a Welshman. Before taking charge of the gardens at Frogmore and Windsor, Mr. Thomas was head gardener to the Duke of Devonshire at the famous Chatsworth gardens, and previously was at Impney Hall, Droitwich. He has raised numerous excellent melons, tomatoes, etc., that still occupy a large measure of popularity, and he has done a very great deal to advance the culture of hardy fruits and vegetables. Mr. Thomas has associated himself intimately with the work of the Gardeners' Royal Benevolent Institution, and has served on the committee of that body for many years. Mr. Thomas is also a member of the Royal Horticultural Society's Fruit and Vegetable Committee, and he is taking an active part in the establishment of the new National Vegetable Society, of which he is the vice-chairman. After such a long and varied experience it is small wonder that Mr. Thomas is in great request as a judge, and is frequently called upon to advise in regard to the formation and improvement of gardens.

The Late Baron Schroder. Instead of sending to Baron Schröder's funeral a wreath of flowers, which would be faded in a day, the Secretary of the Royal Horticultural Society will advise the council to establish a pensionership of £20 a year for five years, under the regulations of the Gardeners' Royal Benevolent Institution, "In memory of Baron Schröder."

Royal Botanic Society.—At a meeting of Fellows of this Society, held on the 23rd inst., Mr. Pembroke Stephens, K.C., presiding, 62 new Fellows were elected, and 72 candidates nominated. In the course of the proceedings the Chairman directed attention to the fact that more than 250 new Fellows had recently joined the Society. All the evidences showed that the society was reviving, and was in a fair way to become very prosperous and highly popular. In June, 1909, their total liabilities were £36,677, whereas they were now £25,384. That very remarkable reduction was brought about by quiet working and belief in the society by its Fellows, many of whom had responded to the urgent appeal put before them by the council at a time of stress. The reduction in the debenture debt was between £6,000 and £7,000. Mr. J. S. Rubinstein congratulated the society on its improved outlook. At the meeting of the council which followed the general meeting, it was resolved "That Mr. Raleigh be requested to give effect to the resolution of the council passed on February 26 authorising the engagement, experimentally, of a band to play in the Gardens on the last two Sundays in May, and on four Sundays in June, between the hours of 3 and 6 o'clock."

The Spring Flowers at Belvoir Castle will be at their best during the first two weeks of May. The Duchess Garden is open to the public daily, except on Sundays. The interior of the castle is only open on Mondays, Thursdays, and Saturdays, but all the woodland walks and wild gardens are open to the public every day. Our readers will remember that we referred to and illustrated some of the spring flowers at Belvoir Castle in our issue of April 16.

Vandalism at Camberwell. A high authority on trees writes: "After a visit to Camberwell Grove and Grove Park I am not surprised that you have written regarding the treatment of the trees in these thoroughfares. The wholesale removal of branches by a 'rule of thumb' method is bad enough, but when we associate this with the slovenly manner in which the operation has been carried out, your denunciation of the whole work must be supported. It is not yet too late to have the points where amputation took place made smooth with a sharp knife or spokeshave, and painted over to prevent the ingress of damp. I agree with you that some special supervision should be exercised to prevent the wholesale disfigurement of so many of our London trees."

Jubilee Bulb Show at Haarlem. This exhibition has been visited (from March 23 to April 17) by 82,418 visitors, and the financial results are so good that not only the costs of the show are already nearly paid, but a surplus may be expected. This result is a very pleasant one, as the promoters have practically no subsidy from the State or any public corporations, but only a guarantee fund. The Queen Mother of the Netherlands paid a visit to the show on April 15, on the first day of the second temporary show, and this display quite surpassed the first special show. Queen Wilhelmina and Prince Henry of the Netherlands have announced their official visit for May 26, and consequently the fourth temporary show will be held from May 26 to 29, instead of May 20-22. The third temporary show (May 4-12) will be devoted chiefly to orchids, and is to be held under the auspices of the Netherland Amateurs' Orchid Club.

The World before the Flowers.—To-day (Saturday, April 30), Dr. D. H. Scott, F.R.S., will give the first of a series of three lectures at the Royal Institution on "The World of Plants before the Appearance of Flowers."

Trials of Perpetual Carnations.—The Perpetual Flowering Carnation Society has decided to continue the trials instituted last year at the Royal Botanic Gardens, Regent's Park, in order to further test the suitability or otherwise of perpetual carnations for the open garden. Growers desirous of assisting should send well-established plants in "sixties," having strong growths, carriage paid, to Mr. E. F. Hawes, Royal Botanic Society, N.W., during the first week in May.

Northern Auricula Show. Mr. J. W. Bentley, of Stakehill, Castleton, writes us that the Northern Auricula Show will be held in the Coal Exchange, Manchester, to-day, Saturday, April 30, from 1.30 to 5.30 p.m.

Penang Botanic Gardens. It is not without considerable regret that we learn that these gardens, which, under the curatorship of Mr. C. Curtis and more recently of Mr. Fox, have acquired much fame, have been abolished, and the site placed in the possession of the municipal authorities for conversion into a reservoir. According to an interesting note in "The Field," these gardens are the third established since the settlement of Penang in 1786, and the history of botanical enterprise in the locality comprises some interesting associations and facts. Thus, the first gardens were established by the Honourable East India Company soon after the settlement, with a view to breaking down the Dutch monopoly of the spice cultivation and trade. Considerable success attended this enterprise, but following upon the appointment of a governor who is said to have been somewhat extravagant, spending large sums on useless fortifications, they were sold at twelve days' notice by auction for a sum considerably less than their cost. The subsequent apathy of the Government led to the collapse of nutmeg cultivation, which had become the most important industry in Penang and Singapore. The second gardens were founded by Sir Stamford Raffles, but they, too, fell a victim to the caprice of a governor, who is said to have sold them "because his wife could not get enough vegetables from them to diminish the cost of her cook's bills." The third gardens were started as lately as 1884. Being placed, however, under very efficient management they quickly became a centre of attraction, and have proved of great benefit to the community in their fostering of the rubber industry, and in other ways.

The Study of Genetics. We learn that a proposal is on foot to produce a "Journal of Genetics," for the publication of articles dealing with original research in the various branches of genetics, as well as reviews and summaries of work published elsewhere. The editors are to be Professor W. Bateson, F.R.S., and Professor R. C. Punnett, and the publishers the Cambridge University Press.

Protection of Beautiful Scenery.—We are pleased to learn that the French Society for the Protection of Scenery has been successful in its endeavour to make it illegal to disfigure ancient monuments or picturesque sites with posters or other advertisements. Early in 1909 the society prepared a Bill which had for its object the prevention of the disfigurement of sites containing monuments or buildings of historic importance, or remarkable for their beauty, and succeeded in obtaining its introduction into the Chamber of Deputies. Here it obtained ready acceptance, and it was in due course passed on to the Senate, by whom it has been ratified. Under this Act the display of bills on monuments and on all natural objects and sites that have been scheduled in accordance with the Acts of 1887 and 1906 is prohibited. A breach of this law renders the offender liable to a fine of from £1 to £40. We congratulate the society on the successful results of its endeavour to prevent the disfigurement of the more interesting and beautiful parts of France, and trust the provisions of the Act will be put into operation whenever occasion demands.

Hybrid Timber Trees.—At a recent meeting of the Linnean Society Dr. A. Henry stated that certain elm seedlings had shown Mendelian results. There are but two species of elm in Britain—Ulmus montana, With., and U. glabra, Mill.; both are known in the East of England as "Wych Elm." There are, in addition, many so-called varieties, the most remarkable being the "English elm" of British botanists and foresters, confined to the South of England, and styled U. campestris; this tree is unknown on the Continent. The "Huntingdon elm" he regarded as a hybrid, the first cross between the two species cited. The previous year had been noteworthy for the profuse fruiting of every kind of elm in England, due to the fine autumn of 1908 and the abnormal amount of sunshine during the spring of 1909. We gather, from "Nature," that Dr. Henry had procured abundance of seeds of numerous varieties and forms, and from many localities. These had been sown, and their progeny analysed. It was shown that the plants thus arising conformed very closely to the Mendelian formula of 9:3:3:1. He gave, in confirmation of his views, the experience he had with regard to the black Italian poplar, Populus nigra x deltoidea, the cricket-bat willow, Salix alba x fragilis; and the Lucombe oak, Quercus Cerris x Suber; namely, that the offspring of a first cross invariably produced a crop of the most diverse character, and this induced the author to formulate his view, that when botanists were unable to agree about the forms of a given plant, it was due to a mixture of at least two species; but where there was practical unanimity, as with varieties of beech and ash, there was only one species concerned, and the varieties were due to individual peculiarities. He finally insisted upon the importance of planting trees of a first cross, on account of their abnormal luxuriance and rapid growth, and their producing timber far more quickly than either parent.

NOTES FROM KEW.

Pentapterygium serpens.

This vacciniaceous plant has, when in flower, formed an annual feature at Kew for some time, yet despite its beauty and distinct character it is very seldom met with in private gardens. Just now both in the greenhouse and Temperate House it is very beautiful. This pantapterygium forms a peculiar flattened woody rootstock of large size. From this the long gracefully arching shoots are pushed up to a height of four feet to five feet if grown as an isolated bush, and far more if trained to a support. The leaves are small, lanceolate, and, in common with many of the same order, thick in texture, and evergreen in character. The flowers, borne freely from the undersides of the shoots, are upwards of an inch long, and scarlet in colour. They are of a tubular or elongated urn shape. In its Himalayan home this shrub occurs naturally as an epiphyte, and, in common with some of the rhododendrons from the same region, which grow under similar conditions, it needs a free open soil, such as an admixture of fibrous peat and sand. Dense masses of heavy soil are very detrimental to its welfare.

Azalea amœna alba.

This delightful little azalea is a pure white counterpart of the popular A. amœna, and, like it, is so exceedingly free blooming that the small plants in the greenhouse are a mass of bloom. It is, I should say, destined to become largely grown, as these small-flowered azaleas are admired by many. In confirmation of this one has but to consider the immense numbers of the variety Hexe which are, during the season, disposed of as dwarf plants in comparatively small pots, and the value even before Christmas of the little red Azalea obtusa and its white-flowered variety. It may be noted that the correct botanical name of Azalea amœna alba is Rhododendron indicum amœnum album.

Eranthemum elegans.

One can seldom pay a visit to that portion of the T range in which an intermediate temperature is maintained without noting some particularly attractive or uncommon member of the order Acanthaceæ. This is a slender-growing species, whose flowers are borne, as in most of the others, in terminal heads, and are yellow, shading to deep orange towards the centre. In its colouring it is certainly very distinct from those generally grown.

Gloriosa Rothschildiana.

It is now half-a-dozen years since this gloriosa was first exhibited at the Temple Show, and a First Class Certificate was awarded it. Few, if indeed any other plant, attracted as much attention as did this gloriosa, the bright ruby-red of its blossoms, lit up when they were first expanded with a little yellow at the base of the segments, being so distinct from any previously seen. This flowered with the Hon. Walter Rothschild from tubers collected in Uganda. From the peculiar form of the tubers the gloriosas do not readily lend themselves to pot culture, but are seen at their best when planted out in a warm house. A splendid example of this is to be seen in the nepenthes house, where, planted in some good soil, and trained to the roof, a fine specimen is bearing a large number of its gorgeously coloured reflexed blossoms.

Helichrysum (Aphelexis) humile.

Time was when, under the name of Aphelexis humile, this helichrysum was popular in gardens. This was when specimen hard-wooded or New Holland plants, as they were generally termed, used to figure largely at the principal exhibitions. For this they were, of course, tied out in a more or less formal manner. In the Greenhouse a row of this aphelexis forms a very pleasing feature, the small bushes being allowed to assume their natural half-spreading character, and, being plentifully sprinkled with flowers, are very attractive.

Lysichitum camtschatcense.

My first acquaintance with this striking and distinct aroid was through an illustration in the Gardeners' Magazine, two or three years ago. It is just now one of the most conspicuous features in the Himalayan portion of the Temperate House, where, though no fire heat is used, it receives the protection of the structure. Planted out on the edge of a small pool it is evidently just at home. It is totally deciduous, and in spring the leaves and flowers make their appearance simultaneously. These last, however, develop the more rapidly, so that when in bloom the leaves do not play a very important part. The flowers rise to a height of a foot to eighteen inches, of which the spathe occupies six to seven inches. It is when first expanded of a bright golden-yellow, in which stage it remains for some time, but, in common with several of its relatives, the spathes ultimately become green. It is very free flowering, quite a number of spathes being now developed. By no means alone among aroids, the flowers of this lysichitum have when mature a decidedly unpleasant odour. After the flowering season is past it is well worthy of consideration for its handsome foliage. The leaves when full grown are a couple of feet or nearly so in length, and eight to nine inches wide. They are deep green, marbled with a lighter hue. This lysichitum occurs in a native state in swampy districts in North-eastern Asia and North-west America. It is quite hardy, but is seen at its best with a little protection.

Hybrid Rhododendrons.

Of late years the Himalayan Rhododendron Griffithianum or Aucklandi, as it is more generally termed, has been extensively employed by the hybridist, a great stimulus, no doubt, being the great popularity of the variety Pink Pearl. Two very pleasing hybrids are now in bloom in the Temperate House, one, a cross between R. Griffithianum and the well-known garden variety Grand Arab, having fine clusters of beautiful pink blossoms; while in the second, in which Ascot Brilliant took the place of Grand Arab, the flowers are more of a carmine tint. The form of the flowers and their arrangement show markedly the influence of R. Griffithianum.

K.

THE LATE BARON SIR HENRY SCHRÖDER, BART., V.M.H.

On April 20, at Sidmouth, Baron Sir John Henry William Schröder, K.C.V.O., V.M.H., passed away in his eighty-sixth year. Although not entirely unexpected, the death of "The Baron," as he was familiarly spoken of, will be very widely regretted throughout the horticultural world. As head of the firm of Messrs. J. H. Schröder and Co., of Leadenhall Street, he was a man of considerable wealth, and it was ever his delight to surround himself at his beautiful home at The Dell, Egham, with the finest products of horticultural skill and enterprise. He had a boundless love for plants and flowers, and was one of the most generous patrons of horticulture during the last thirty years. At The Dell he formed a large collection of superb orchids, a collection that contains large numbers of wonderful, beautiful, and unique specimens, for many of which he paid very high prices. Not only have the glass houses at The Dell been filled with choice and rare plants, but the garden and grounds have been beautified by the finest flowering trees and shrubs, planted in large groups and beds. Probably at no other private garden is there such a wealth of choice varieties of hardy rhododendrons as at The Dell. In 1882 Baron Schröder gave a donation of £1,347 15s. to the Gardeners' Royal Benevolent Institution; he was a vice-president of the institution down to the time of his death, and in 1893 he presided at the annual festival dinner. He was also a life subscriber to the Royal Gardeners' Orphan Fund, and contributed liberally to this excellent charity. But although Baron Schröder will long be kept in grateful memory for his fine plant collections, and his generous assistance to gardening charities, he will probably be best remembered for his staunch advocacy of "The Hall Scheme," projected by the Royal Horticultural Society, a scheme that materialised in the splendid building and offices in Vincent Square. For many years Baron Schröder was a vice-president of the Royal Horticultural Society, and it was his great desire to see the society possess an exhibition hall, library, and offices worthy of the art and science it fostered. He was chairman of the New Hall Committee, and used his great influence wisely and well for the advancement of the scheme, even going so far as to secure the site of the present hall as soon as it was considered to be a suitable one. Baron Schroder issued a strong appeal for the support of the movement, and he also backed up his appeal by a donation of £5,000 towards the £40,000 required. Happily, after the initial difficulties were overcome, the scheme prospered, the hall was built, and Baron Schröder was present on Friday, July 22, 1904, when His Majesty the King, accompanied by the Queen and Princess Victoria, opened the new buildings. There could hardly have been a happier man than the Baron on that occasion. To his previous munificent gift Baron Schröder added yet another for, desirous of seeing the Lindley Library, and the works accumulated by the society, suitably housed, he, at his own expense provided all the beautiful fittings and furniture that make the Library at Vincent Square one of the finest rooms of a similar kind in all London. The brass tablet over the library door will serve to remind Fellows of Baron Schröder's generosity, the fine portrait in the Council Chamber will tell for years to come what manner of man he was, but the great hall itself is a monument to his foresight, determination, business ability, and great generosity.

Allamandas.—Of the great beauty of these plants, with their large golden flowers, there is no occasion to speak, and it will suffice to say that they are not difficult to cultivate either in pots or in borders, provided a stove temperature can be given them. A. Hendersoni still remains the finest of the large-flowered forms.—S.

EXETER DAFFODIL AND SPRING FLOWER SHOW.

The Devon and Exeter Horticultural Society held its spring show in the Victoria Hall, Exeter, on Friday, April 22. The hall is a spacious building well adapted to the purpose of holding an exhibition of this nature, and the secretary and committee are to be congratulated upon the admirable arrangement of the display. There was a capital entry, some really fine flowers being staged in the principal classes.

The largest class was for twenty-four varieties of daffodils, fairly representing the three groups, Magni coronati, Medio coronati, and Parvi coronati, not less than three varieties in either group, one vase only of one variety, containing three blooms. The best exhibit in this class was that staged by Mr. A. Buchanan, gardener to Mrs. Gage-Hodge, his blooms of King Alfred, Gloria Mundi, Weardale Perfection, P. R. Barr, Lucifer, Gleam, and others being very fine. Unfortunately, two vases of Albatross were staged, and on this account the exhibit was disqualified. First prize was consequently awarded to Mr. W. Rowland, gardener to W. Brock, Esq., who had good varieties, and well-grown blooms, some of which, however, showed age. The exhibit comprised Bridesmaid, Beatrice Hesseltine, Baroness Heath, Maximus, Mdme. de Graaff, Victoria, Constellation, P. R. Barr, White Lady, Glory of Leiden, Poetarum, Beauty, Seagull, Emperor, Mdme. Plemp, Gloria Mundi, Weardale Perfection, Ariadne, Princess Mary, Barri conspicuus, Firebrand, King Alfred, Mrs. Walter Ware, and Duchess of Westminster. Second place was secured by Mr. J. Mitchell, gardener to Rev. T. Buncombe; Mr. J. W. Hussey, third, Mr. Gould, gardener to H. H. Dippell, Esq., fourth.

In a similar class for twelve varieties, Mr. Cobbin, gardener to Mrs. Bolitho, led, while Mr. T. Littlejohn, gardener to Rev. Heathcote, took second with some fine blooms. We thought, in fact, that this was the superior exhibit. Mr. H. Hooper, gardener to T. Knapman, Esq., was third. Mr. J. Mitchell secured premier honours for six vases of Magni coronati varieties with Mrs. Camm, Grandee, Mdme. de Graaff, Goldfinch, Weardale Perfection, and Emperor; Mr. A. Buchanan, second, his vase of King Alfred being very fine; Mr. Baker third. Mr. Buchanan and Mr. Mitchell were placed in the order named for six Medio coronati varieties, and for six Parvi coronati Mr. J. Copp, an amateur, scored with good blooms of Blood Orange, Vivid, Almira, Glory, Beacon, and Bullfinch; Mr. Buchanan and Mr. Mitchell followed.

BULBOUS PLANTS IN POTS.

For twelve pots of trumpet daffodils, three bulbs in each, Mr. W. J. Cobbin was awarded first. He had nice examples of Victoria, Grandee, P. R. Barr, and other serviceable varieties. Mr. W. Rowland came second, his best being Weardale Perfection, Walter Ware, Glory of Leiden, and Mdme. de Graaff. In the class for six pots of the same class, a lady exhibitor, Miss F. Saunders, was the only competitor. For six pots narcissi, excluding polyanthus varieties, Mr. Cobbin and Mr. A. Olding received first and second prizes respectively. Mr. H. Baker won first for six pots of polyanthus narcissi; Mr. F. Webber, gardener to Mrs. W. J. Pring, second. Mr. A. Olding, gardener to A. F. Shapland, Esq., was awarded first for six pots of freesias, which were well-grown stuff. Mr. W. Rowland, gardener to W. Brock, Esq., had the best lily of the valley, Mr. Cobbin being second.

For six pots single tulips, Mr. Gould was the only exhibitor, the first prize being awarded him, as also in the classes for doubles, and for three pots. In two classes Mr. Rowland received second prize

MISCELLANEOUS PLANTS.

Mr. W. Rowland was first for six flowering plants, distinct kinds; Mr. A. Olding second; Mr. F. Webber third. Only one entry for a specimen azalea was forthcoming, Mr. Rowland being the exhibitor. Mr. A. Olding brought six azaleas, which secured first in that class. The same exhibitor also scored with six cyclamen. For six primulas, Mr. S. T. Gould and Mr. Webber were awarded first and second prizes in the order named. Six spiræas: Mr. A. Olding, first; Mr. Rowland, second. Mr. H. Baker, gardener to T. Bradley Rowe, Esq., took first for three deutzias.

In the class for six plants for table decoration, Mr. S. T. Gould won with Cœlogyne cristata, Cypripedium insigne, an anthurium, deutzia, cyclamen, and Primula obconica; Mr. Webber second. For six foliage plants Mr. Gould was again first, and Mr. Webber second. Mr. C. Knibb, gardener to A. Lythall, Esq., had the best six cinerarias, Mr. A. Olding and Mr. S. T. Gould taking second and third. Mr. C. M. Collingwood, an amateur, was the only exhibitor of six stellate cinerarias, and was awarded first prize. Mr. Webber won under similar conditions for six pot roses. Mr. Knibb exhibited six pots of schizanthus, which were really remarkable examples of a fine strain skilfully grown.

Mr. W. Rowland led for three Dielytra spectabilis, his plants being large, and beautifully flowered; Mr. Olding was second.

A special class was provided by Messrs. R. Veitch and Son, The Royal Nurseries, Exeter, for twelve varieties of single daffodils. The first prize was awarded Mr. W. Rowland, Miss F. Saunders being second. Mr. Baker's exhibit was disqualified for staging three varieties, unnamed, contrary to the conditions of the class. Messrs. Sutton and Sons, Reading, offered special prizes for twelve pots of their Cineraria stellata, and the exhibits made a brave show. Mr. W. Rowland led with fine plants; Mr. S. T. Gould second; Mr. H. Baker third. Four competitors came forward in the ladies' class for a table 8ft. by 4ft., decorated with cut flowers and foliage. Miss Knapman was first, and Mrs. Burton second, both using schizanthus, Miss D. Knapman being awarded third for a bright display of zonal pelargoniums.

A class that deserves special mention, and one that should receive greater attention at spring shows, was that for six vases filled with stems or sprays of hard-wooded flowering shrubs. Mr. C. Knibb received first prize for good bunches of Prunus sinensis, Cytisus præcox, Berberis Darwini, Spiræa arguta, Kerria japonica fl.-pl., and Ribes sanguineum album. Mr. Gould came second with double cherry, rhododendron, Choisya ternata, etc.; Mr. Buchanan was third, a nice piece of Piptanthus nepalensis being noteworthy in his exhibit.

NON-COMPETITIVE EXHIBITS.

Messrs. Robert Veitch and Son, The Royal Nurseries, Exeter, contributed a large and varied display of plants and cut flowers that constituted an imposing feature of the show. The exhibit occupied the whole of one end of the hall, being arranged as a bank of flowers, intermingled with graceful foliage. Amaryllis were conspicuous with their glowing crimsons and intense scarlets, relieved by white markings in some of the flowers. Brilliant azaleas and fragrant lilacs were surrounded by copper-leaved acers, graceful bamboos, and many other fine shrubs, and equally interesting alpines. About fifty varieties of choice daffodils, some good carnations, and a vase of hybrid gerberas of exquisite shades of colour, helped to make this a particularly fine exhibit.

At the opposite end of the hall the Devon Rosery and Fruit Farm, Lim., Torquay, staged roses in pots in great variety. The majority of the plants were small, compact, healthy specimens of the more popular varieties of H.T.'s and H.P.'s., while ramblers in variety were used as a background. Unfortunately, none of the varieties were labelled. We consider it should, in the interests of visitors, be made compulsory for exhibitors to name the plants and flowers they stage.

An extensive collection of the newer and choicer daffodils came from Messrs. Barr and Sons, King Street, Covent Garden, London. This exhibit naturally attracted local enthusiasts, and was also a centre of attraction to the general visitors. Varieties for special attention were the very beautiful Seraphin, Horace, the now popular poeticus variety, Peter Barr, Lord Kitchener, and Mohican; Incognita, remarkable for its exceptionally large, flat crown, and the quite distinct and graceful Cingalee, a flower of most aristocratic appearance. A number of the smaller daffodils, such as Capax plenus, Queen of Spain, and Cernuus plenus were also included in this representative collection.

Ireland was well represented by the interesting group of daffodils sent over by the Lissadell Bulb Farm, Sligo. The range of varieties was wide, some of the best being M. J. Berkeley, Torch, Brigadier, Queen Maeve, White Queen, and Artemus. All the blooms were beautifully clean, and showed good cultivation. In the centre of the hall was a group of tall palms, azaleas, spiræas, etc., staged by Mr. George Kerswell, Bowhill Nurseries, St. Thomas, Exeter, who also showed a quantity of the richly-coloured Gentiana acaulis.

Messrs. Saunders and Biss, horticultural builders, Exeter, had on view a series of interesting photographs, depicting various styles of conservatories, plant houses, and garden frames, as constructed by the firm. A notable feature of all the structures is the adoption of the zinc dry-bar method of glazing, which is the speciality of the firm. By this method the use of putty is dispensed with, and heavy, light-obstructing rafters are unnecessary. The exhibit was of much educational interest to practical gardeners.

INTENSIVE CULTURE.

Messrs. Sutton and Sons, Reading, inform us that upon the suggestion of one of the principal residents of Birmingham, and by kind permission of the Lord Mayor and the Parks' Committee, they are hoping to make in Warley Park, Birmingham, during Whitsuntide week, an educational exhibit in the form of a model French garden, demonstrating the Continental system of intensive culture and vegetable forcing, by the aid of hotbeds, frames, and cloches.

This garden will be the first complete model ever exhibited in this country, and will cover altogether some 1,500 square feet of ground, showing the preparation of the hotbeds, the uses of the cloche for raising seeds, and also for bringing on seedlings.

The following crops, either mature or in various stages of growth, will also be exhibited in frames or under cloches: Cabbages, carrots, cauliflowers, endives, cabbage lettuce, cos lettuce, marrows, melons, peas, radishes, spinach, strawberries, tomatoes, turnips.

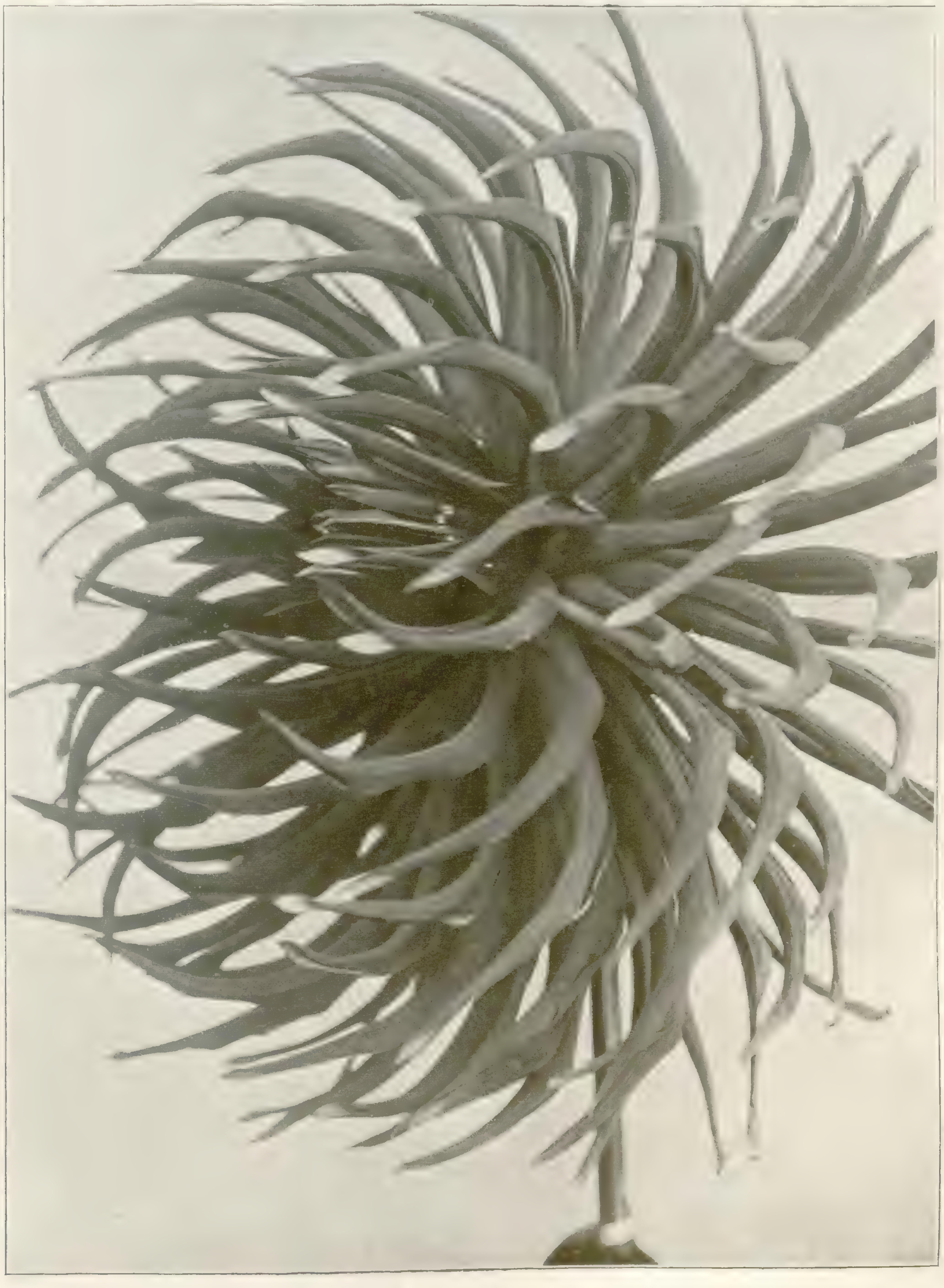
The whole of the garden has been prepared in Messrs. Sutton and Sons' experimental grounds at Reading, and will be transferred to Warley Park.

The Rt. Hon. the Lord Mayor of Birmingham has shown his interest in this unique demonstration by expressing a hope that it may be possible for him to inspect it on Whit Monday, after which it will be open to the public free of charge, and will remain on view till Friday, May 20.

Lilium testaceum is one of the most handsome and useful of the hardy lilies and under good cultivation reaches a height of four or five feet. The flowers are produced in umbels of from three to ten, are rather large, nodding, with revolute segments, colour pale buff. Vigorous in growth, easily cultivated, and flowering at the end of June. This lily is assumed to have originated as a hybrid between L. candidum and L. chalcedonicum in a garden at Erfurt, and was introduced to cultivation about the middle of the nineteenth century.—R. F.

SOME NEW CACTUS DAHLIAS

To those of our readers who take an interest in dahlias and their cultivation it is well known that Messrs. James Stredwick and Son, Silverhill Park, St. Leonards-on-Sea, have occupied a prominent position among raisers and cultivators of these flowers. It is also a matter of common knowledge that they have been especially successful in their efforts to improve the cactus dahlia, and as the result of their persistent endeavour have enriched our gardens with a large number of varieties of an especially high order of merit. The number of varieties of their raising that have received distinction from the Royal Horticultural Society, the National Dahlia Society, and other bodies is very large, and the popularity enjoyed by the most noteworthy is indicated by the free use that is made of them by growers for exhibition in making up their collections for competitive purposes.



NEW CACTUS DAHLIA RED ADMIRAL.
Raised by Messrs. J. Stredwick and Son. Colour rich crimson.

Messrs. Stredwick and Son have been careful to proceed with the work of improvement on well-defined lines, and in the selection of varieties for distribution they would appear to have constantly kept in view the importance of a marked improvement in colour or form, or, it may be, in both of these attributes.

Hence their new varieties belonging to the cactus section are each season anticipated with much interest, more especially as cultivators have had an opportunity of seeing the majority of them, if not all, at the exhibitions, or of reading something about them, as the firm year by year submit their novelties to the leading societies, who make awards to new dahlias, and invariably obtain distinction for the majority. The varieties that are being distributed from Silverhill Park this season are not less remarkable in their way than were the varieties, in their respective seasons, that have preceded them, and they are all marked advances upon the cactus varieties in the same lines of colour. Messrs. Stredwick and Son have of late turned their attention to the raising of cactus varieties adapted for the production of rich colour effects in the garden, and this year they are introducing four varieties, which should be welcome to those growing dahlias exclusively for beautifying the garden. Of the exhibition cactus varieties that are being introduced this season the following are especially deserving attention.

Red Admiral is a remarkably fine variety, with large, finely formed blooms of a rich scarlet hue. The size and form of the blooms is well shown in the accompanying illustration, and with the aid of this it is not difficult to understand that the National Dahlia Society should have awarded it a First Class Certificate, and the Royal Horticultural Society should have made an Award of Merit in its favour.

Indomitable is a valuable addition to the light-coloured exhibition varieties, and will, there is good reason to believe, become highly popular. The blooms are large and full, and the florets are long, narrow, and gracefully arranged; the colour, mauve-lilac, lighter at the tips. This has received the A.M. of the R.H.S., and the F.C.C. of N.D.S.

Jupiter is a valuable contribution to the list of fancy cactus dahlias, and will be popular among those who appreciate the distinctive colouring of the varieties belonging to the fancy section. In size and form the blooms of Jupiter have much to recommend them, and the narrow florets are yellow at the base, passing to pink, and are freely striped and splashed with bright crimson. This received the A.M. of the R.H.S.

Johannesburg is a distinct variety, the blooms very large, and of fine form, the florets long and gracefully curving, but less twisted than in the majority of the present-day varieties; the colour, rich yellow.

H. H. Thomas is a crimson variety of quite exceptional merit; the blooms, large and very full, with long, much twisted florets; while of the highest value for exhibition, this variety should prove of much merit for the garden, owing to its freedom of flowering. It received the A.M. of R.H.S., and the F.C.C. of N.D.S.

Iolanthe is especially deserving of attention for its distinct and effective shade of colour, as well as for the other good qualities it possesses, the colour is coral-red, and each floret is tipped with gold. The blooms are of the largest size, very full, elegant in contour, and freely produced. A.M., R.H.S., and F.C.C., R.H.S.

Goldcrest is remarkable for its distinct colouring and its effectiveness. The blooms are of medium size, with incurving elegant florets, of which the lower half is rich yellow, and the upper half bright scarlet. This variety is described as being "over free in flowering, and as carrying its blooms quite erect." A.M., R.H.S., and F.C.C., N.D.S.

Quimbo is valuable for its dark colour, as well as for its fine form. The blooms are of the largest size, the florets long, narrow, and gracefully incurving, and the colour crimson-maroon. A.M., R.H.S., and F.C.C., N.D.S.

In addition to the foregoing and several other fine exhibition cactus varieties. Messrs. Stredwick offer a set of four cactus varieties for garden decoration. These are Erecta, Lightship, Penguin, and The Lion. and they appear to be especially deserving of attention from the general body of cultivators.

ANNUAL ASTERS.

A few years ago the prefix "annual" would not have been necessary when speaking of the bedding, or Chinese, aster (Callistephus chinensis), but the growing popularity and ever-increasing variety of the Michaelmas daisies, which belong to the genus aster, have resulted in the ubiquitous bedding annual no longer having a name to itself. If the original introduction from China had been one of the double forms, to which we have become so accustomed that we do not realise that the true species is a single mauve flower with a yellow centre, it would never have obtained the name aster, though to the single flower it is as appropriate as to the Michaelmas daisy. It is one of the flowers that the beginner usually starts upon, and he obtains better results than he would do with most of the commonly grown flowers.

One used to be recommended to sow the seed in heat very early in the spring, so as to have them to flower early, but the end of March or early in April is now regarded as quite soon enough even in a cold house or frame, while for later crops of blossom the middle of May is not too late. After the latter part of April seed may be sown in the open ground, and the seedlings treated like other annuals sown in the open, but such good results will not be obtained as by the more careful raising of the plants under glass. The most important points in their cultivation are the thin sowing of the seed, the avoidance of anything like legginess by giving the seedlings plenty of air, and keeping them close to the glass, pricking them out into boxes of good light soil as soon as they are showing the third leaf, and keeping them in a cold frame till the danger of any check from a damaging frost is over, finally choosing genial weather, preferably a little damp, for putting them out in the open, and then only in the shade for the first day or two.

They should be planted out carefully in cool or showery weather, if possible, each plant with a ball of earth attached, good results never being obtained from plants dibbled in like cabbages, with their leaves lying flat on the ground for a day or two afterwards. A foot apart is a fair distance to allow. The China aster likes good feeding, and must have a good depth of soil if it is to come triumphantly out of a hot, dry spell in July. About the middle of July the soil between the plants, which should have been kept stirred through the previous part of the summer, should be covered with a top-dressing of rotted manure, and given a good watering if the weather is dry, when flowers of exhibition quality may be expected, especially if slight disbudding is done, so that not more than four or five blooms are on one plant. Watch must be kept for the black fly, as this often attacks them, even while they are still in boxes. A syringing with the old remedy—soft soap and quassia—generally wanted for the roses before May is out—will easily clear it off in the early stages, before the leaves begin to curl, but otherwise the plants may be ruined. Earwigs often deform the blooms very much, and when any trouble is experienced, or threatened, with them, small flower pots filled with moss, or rubbish of some sort, should be hidden among the plants, and occasionally inspected.

The aster is especially suitable for growing in masses, either in specially prepared beds on the lawn, or in patches in the borders. They often suffer most from the storms of the late summer, just when the flowers are in their full beauty, and it is advisable to choose positions for them where they will be protected a little from the winds between south-west and north-west. It is worth while to put a short stick to each one to support the main stem, but not long enough to be visible, and then, if they are well grown, they will not sustain much damage from any ordinary bad weather. Some complain of the aster that it is too formal, but that objection is not so valid as it used to be now that we have flowers of the Ostrich Plume type, with their feathery heads and graceful habit of growth. This and the Comet type are certainly two of the finest forms to grow for general bedding purposes. This complaint of formality is owing, in large measure, to the very dwarf forms of the aster, which, though suffering less damage from storms in the late summer, are more suitable for pots than beds. Whatever may be said against it, the fact remains that for the production of colour effect there are few things which surpass it.

A great value of the aster lies in its use as a reserve bedder, and its adaptability in the matter of bedding out, for it is possible, with care, and by choosing the right weather, to bed out asters or pot them up at almost any stage of their growth. If we have beds which keep in flower so late in the spring that it becomes early summer—and some spring beds, e.g., daisies, have a provoking way of doing this in cool seasons—then, without resorting to the later raising of the plants in anticipation, we may plant them out on a nursery bed to be growing on, and put them in their final summer positions at the end of June, or later if necessary. This is especially useful after a bed of autumn-planted violas, which will make a fine display throughout May and June in a normal season, but are not good enough to have through the whole summer.

As mentioned above, some of the asters are useful for pots, and for this purpose they may be taken up and potted when coming into flower if damp weather is chosen for the purpose, or, failing that, if the ground is well soaked a few hours beforehand. For cutting the aster is invaluable, almost fulfilling the purpose of the chrysanthemums, which, indeed, some very much resemble, and they last as long a time in water. Single forms have been coming into notice lately, and among them the original Callistephus chinensis, as it is often called. Some are coarse, while others are scarcely surpassed by the most beautiful single chrysanthemums, for which they may be mistaken by many when cut.

Alger Petts.

Hoeing and Weeding.—May is a delightful month, but it provides sufficient work to keep the most energetic of cultivators fully employed; weeds will be growing apace, and to wage war against them before they have reached the flowering stage is a point of good practice, more especially as the hoe, in cutting the weeds, loosens the surface soil and facilitates the passage of warm rains and air to the roots of crops. —W.

Apple, Pear, and Plum Blossom.—Last year, being cold, wet, and lacking in sunshine, many fruit-growers feared a bad show of blossom this year, owing to the unripe condition of the buds in many parts of the country. I do not know how the apple, pear, and plum blossom is showing in other parts of the country, but in the southern portion of Hampshire the trees are grandly clothed, and if we fortunately escape frosts, good average crops may be reasonably expected.—G. B.

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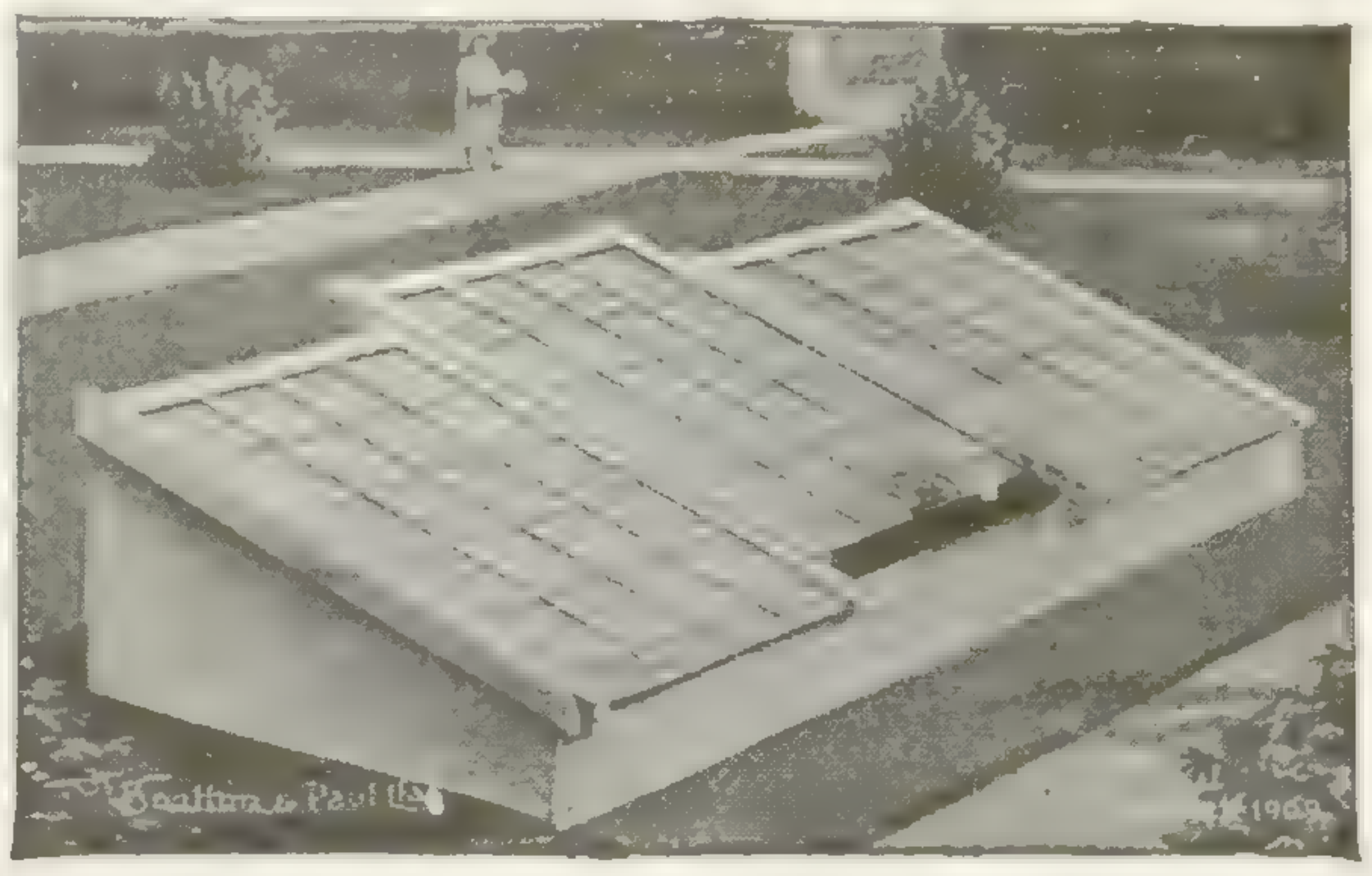

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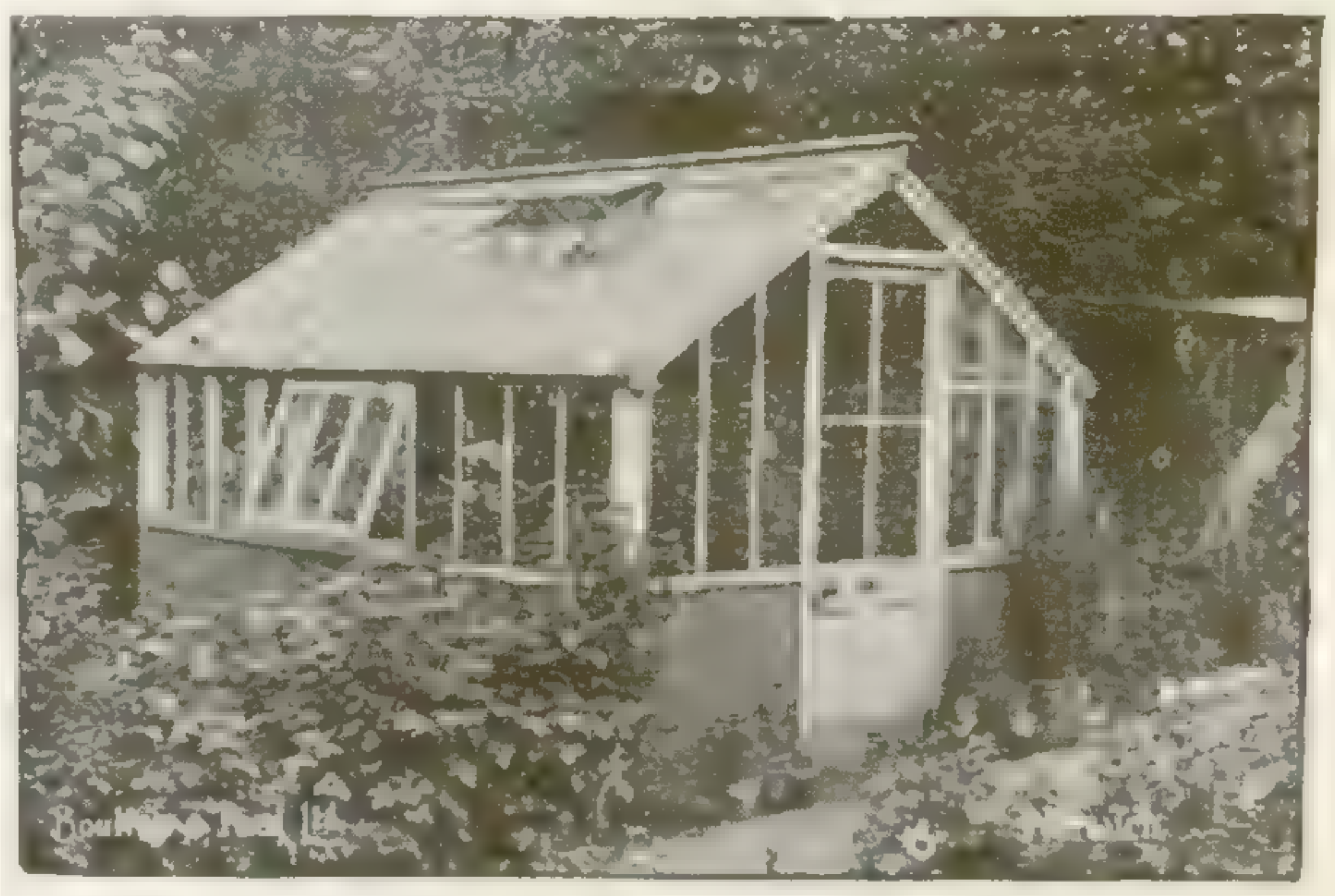

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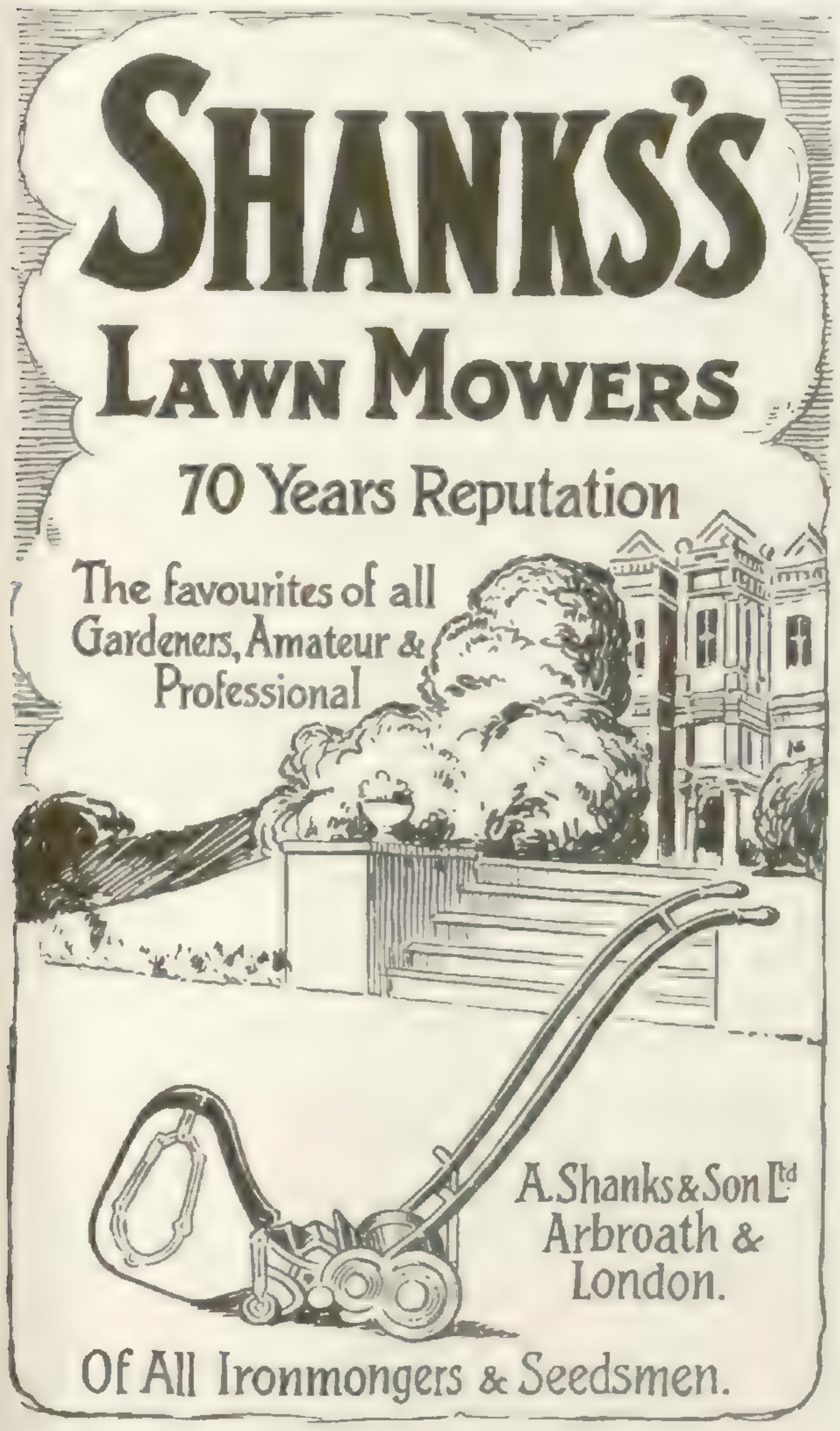

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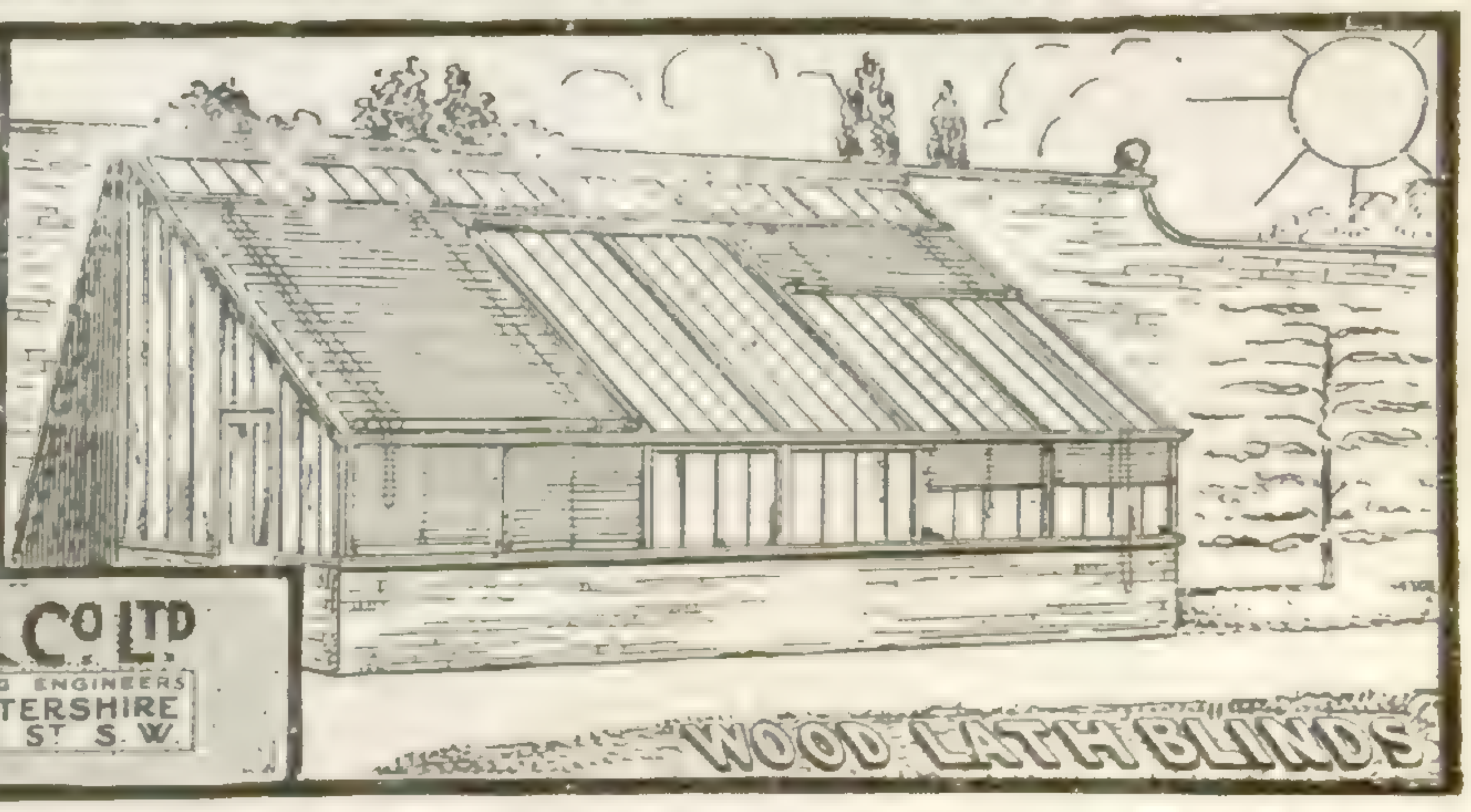

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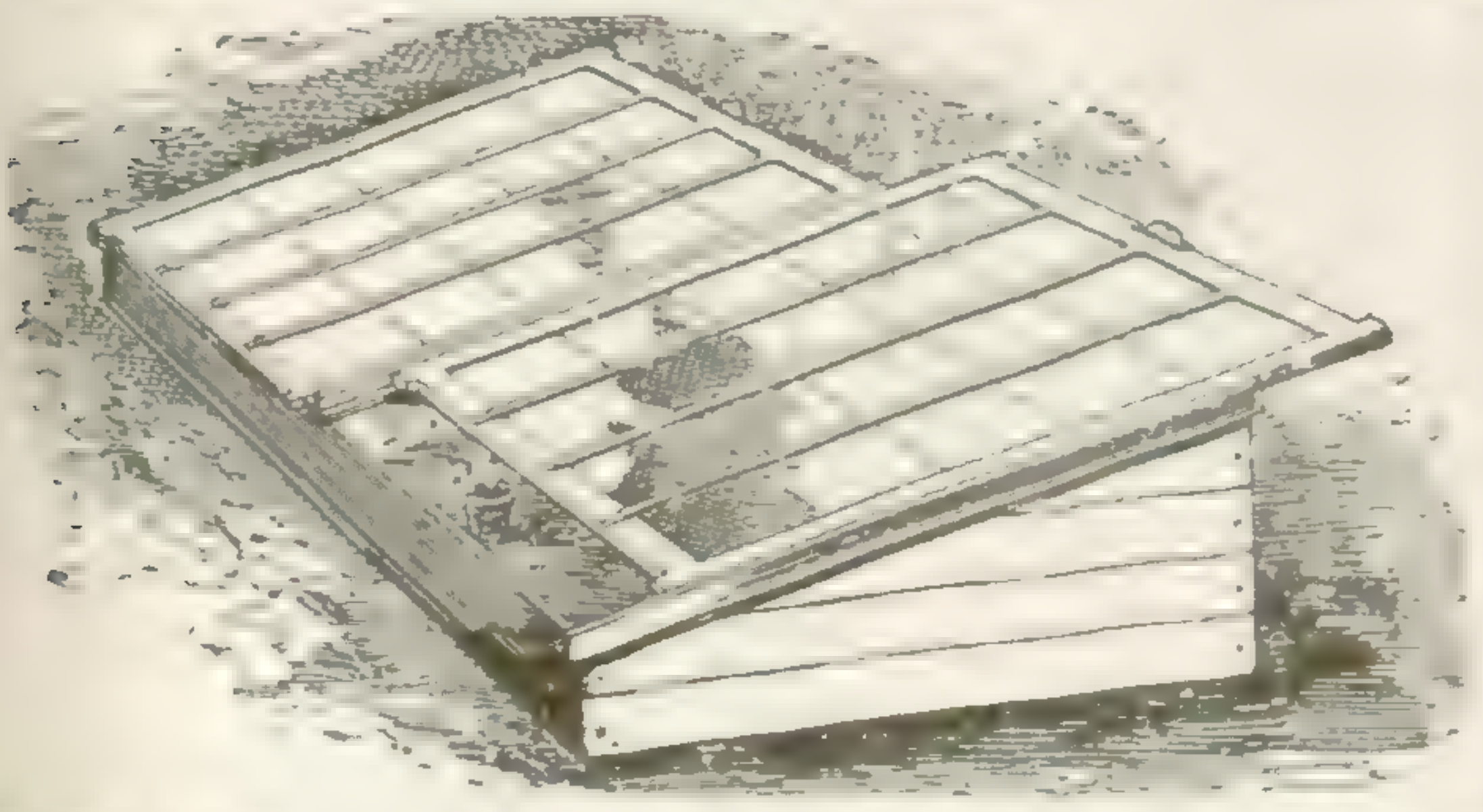

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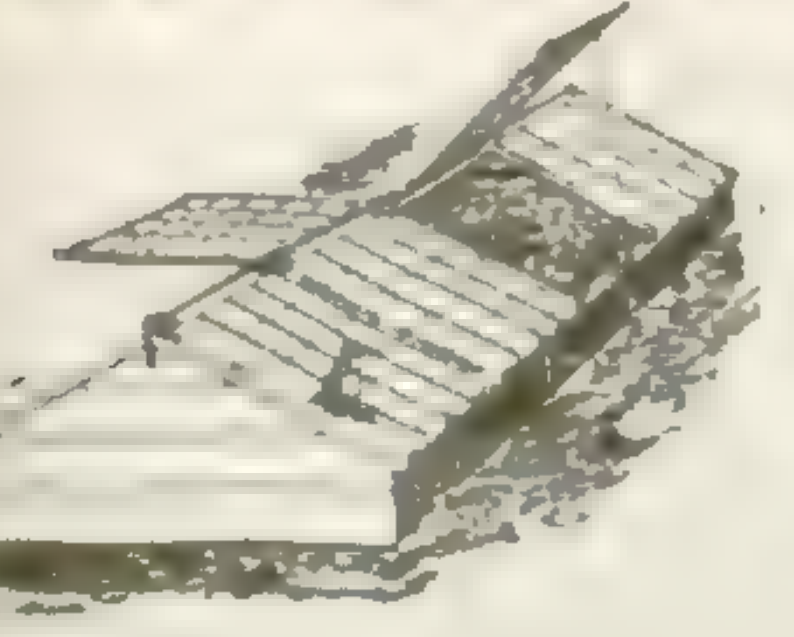

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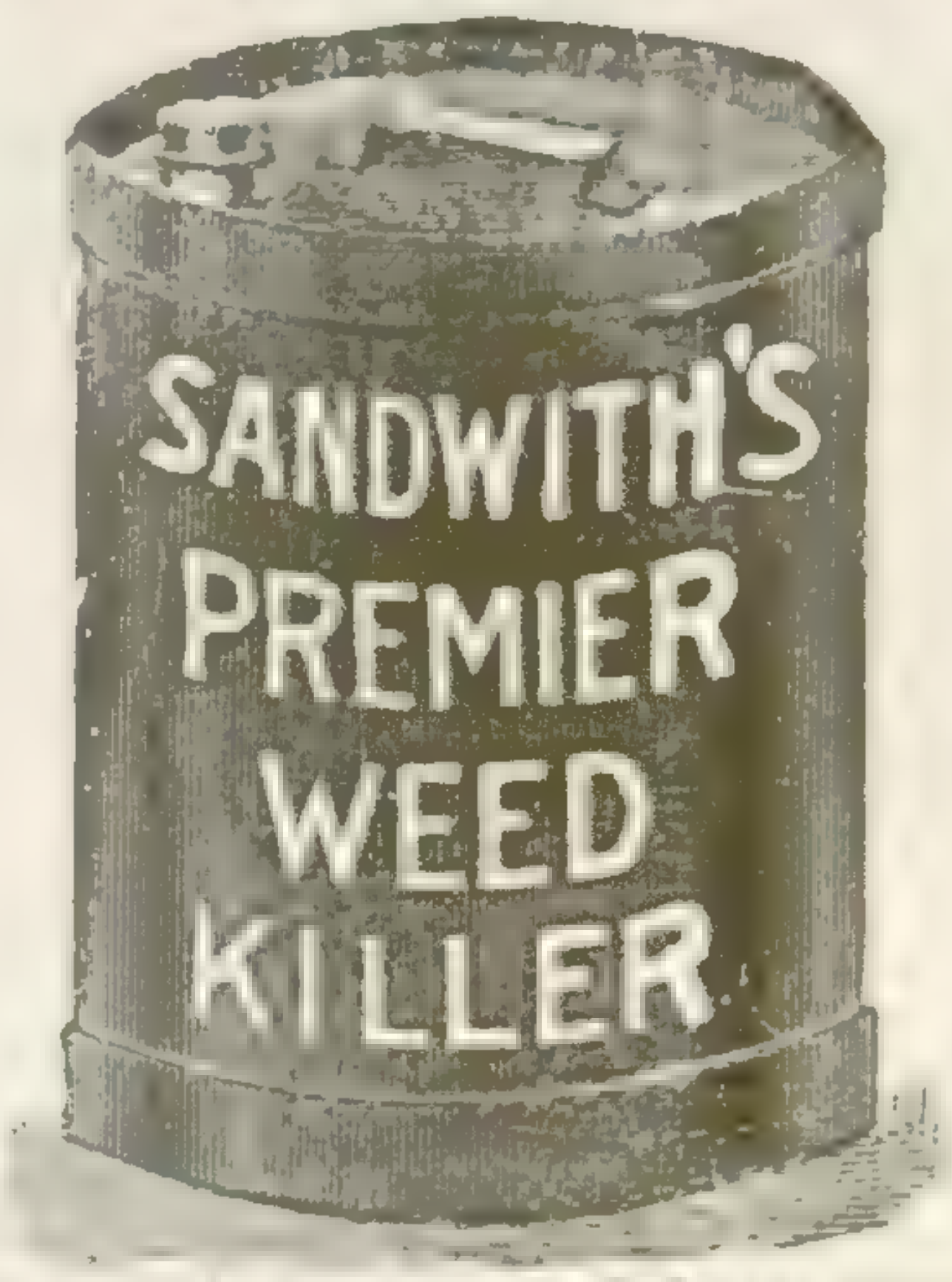

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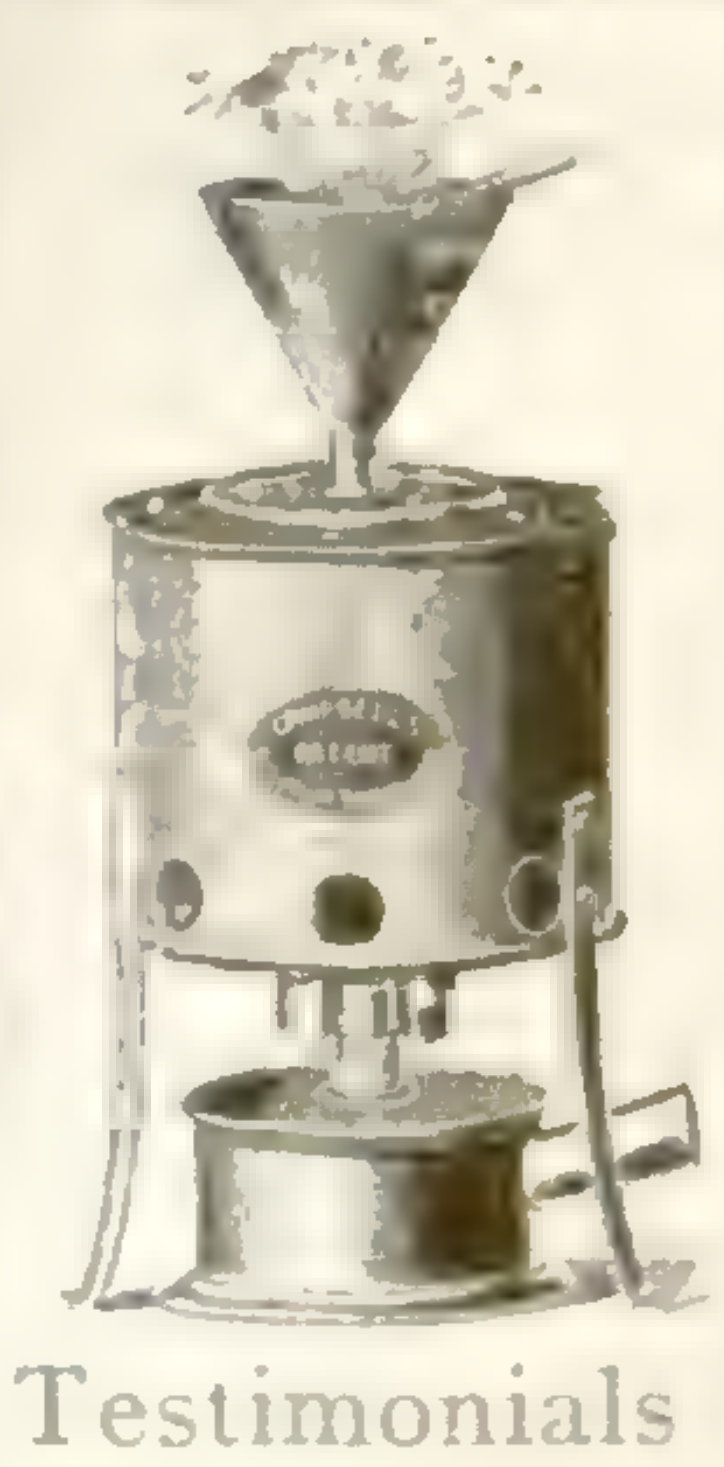

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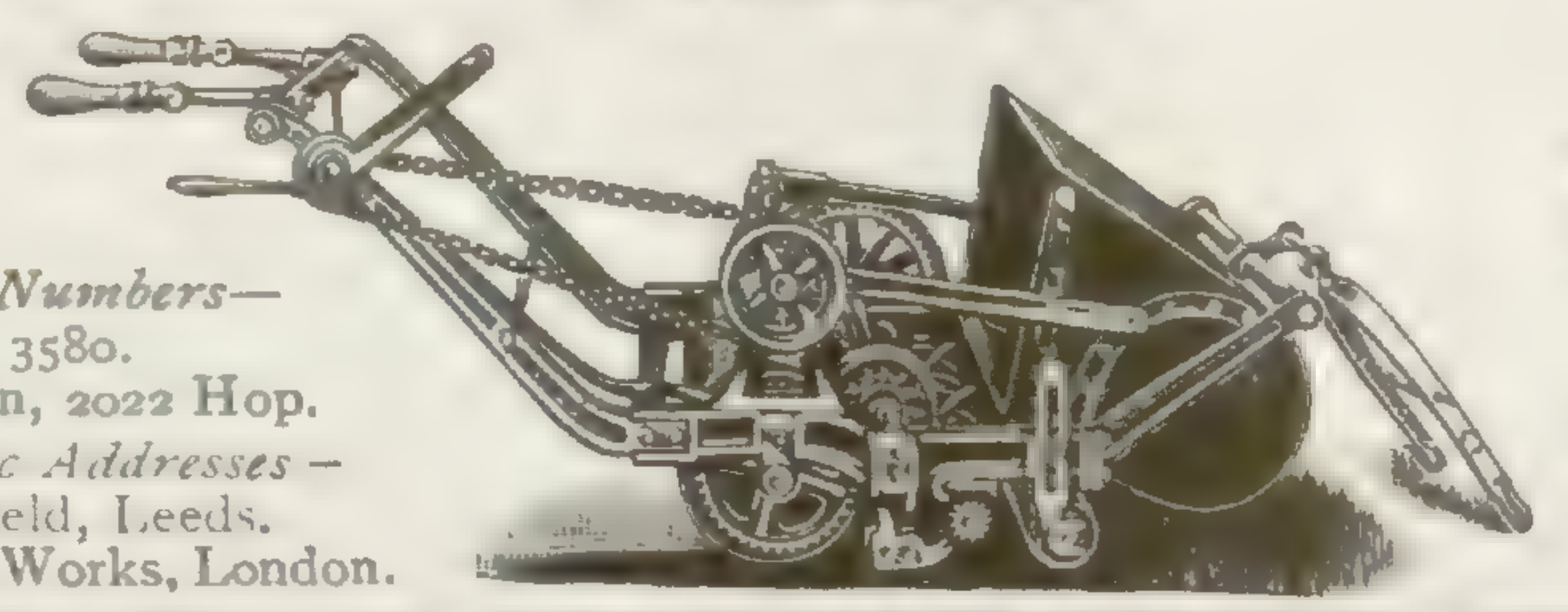

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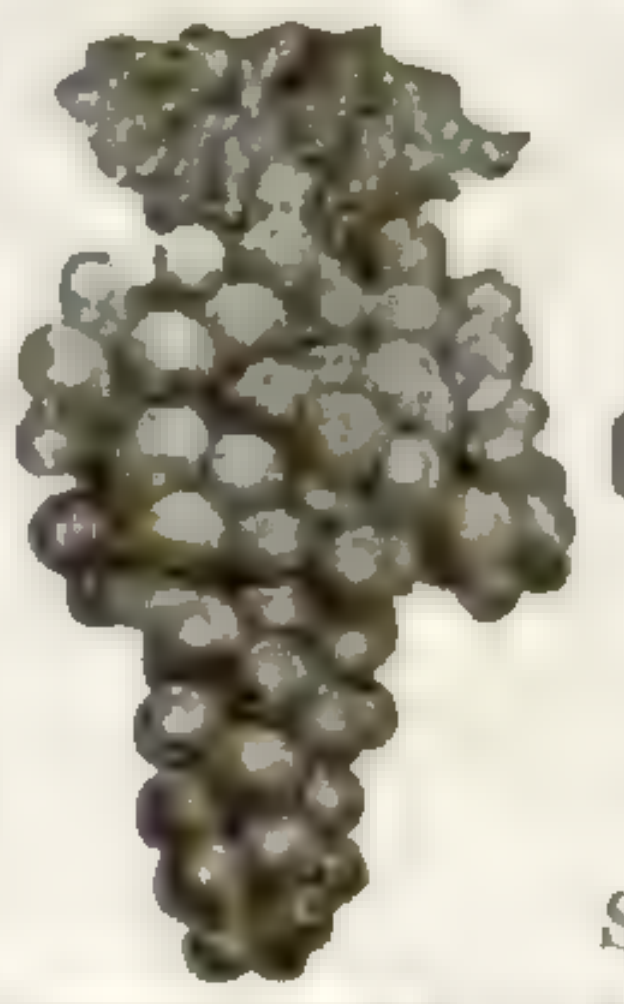

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SPRING-FLOWERING ANEMONES.

The dwarf-growing species and varieties of anemone are not rock plants in the strictest sense, as the majority of them are found in Nature among upland pastures and in sunny woodland glades, and only a comparatively few climb to high elevations. Nevertheless, under cultivation they form a group of most beautiful and useful subjects for furnishing rock gardens and similar positions. Those partaking of the character of true alpines are A. alpina, A. sulphurea, A. pulsatilla, and A. vernalis. All these have a big tap-root, which renders them difficult to transplant; on the other hand, when raised from seed, and early established in the open, few plants surpass these in vigour and longevity.

While seed offers the surest and safest means of establishing these alpine species, it is also the most interesting, as with the pleasure taken in recording their progress comes the satisfaction in watching them flower. As an instance, let me note how varied are the progeny of Anemone pulsatilla alba from seed; forms with green, sulphur, and dull white petals are innumerable, but an albino form, with the petals snow-white, is none too frequent, and such, when it is produced from seed, equals the type in vigour, and in itself is one of the loveliest of hardy plants.

Anemone alpina is generally found upon limestone soils, and A. sulphurea on granitic formations, the latter being generally regarded as a geographical form of A. alpina. Both species succeed in light, rich soil, in moist, well-drained positions, either on the rock garden or the drier parts of the bog. In flower A. alpina is somewhat variable, the petals, white or cream tinted, having a purple tinge on the reverse. A. sulphurea has soft yellow flowers. In A. pulsatilla the buds are densely coated with fine silky hairs, and the mature flowers are violet, carried upon nine-inch stems; it is exceedingly free in flowering, and a plant of sterling merit on limestone soils. A. vernalis is a dwarf species, the buds also being clothed with silky hairs, and the goblet-shaped flowers are pearly-white, the reverse of the petals being violet. It succeeds best in peat and loam in positions always moist, and yet exposed to the sun.

Passing over the section of which Anemone hepatica is the type, we have a group of almost equal beauty, yet infinitely more accommodating as garden plants. They are indigenous to Southern Europe, and are characterised by having a tuberous root-stock; all are easy to establish, increase rapidly, and form masses that eventually cover large areas. Soil is of minor importance to these South Europeans, as they flourish in ordinary garden soils, but position is of great importance, as they must have sunshine, otherwise leaf growth is developed at the expense of flowers. Anemona blanda is considered to be the Greek form of A. apennina, and is one of our most precious spring flowers, often breaking into bloom early in February. The flowers are large, and variable in colour, but generally some shade of blue, and occasionally white. Anemone apennina is taller than A. blanda, and produces deep blue flowers over elegantly cut foliage some six weeks later. Anemone hortensis fulgens is a brilliant scarlet flower indispensable in the late spring; there is also a fine form named alborocusis, in which the scarlet is most intense. The various forms of A. nemerosa, our native species, fall naturally into this group. The type is most at home in damp bottoms in woodlands, but its double form is a most excellent garden plant. Of the coloured forms A. Robinsoniana is quite one of the loveliest of hardy plants, although it is somewhat slow of increase; the colour is a fine shade of lavender-blue. Blue Bonnet is a late-flowering form, with larger flowers than the type. This section also includes A. coronaria, a species represented by innumerable garden forms, a variety of outstanding merit being King of Scarlets, which is a flower of faultless beauty and brilliance.

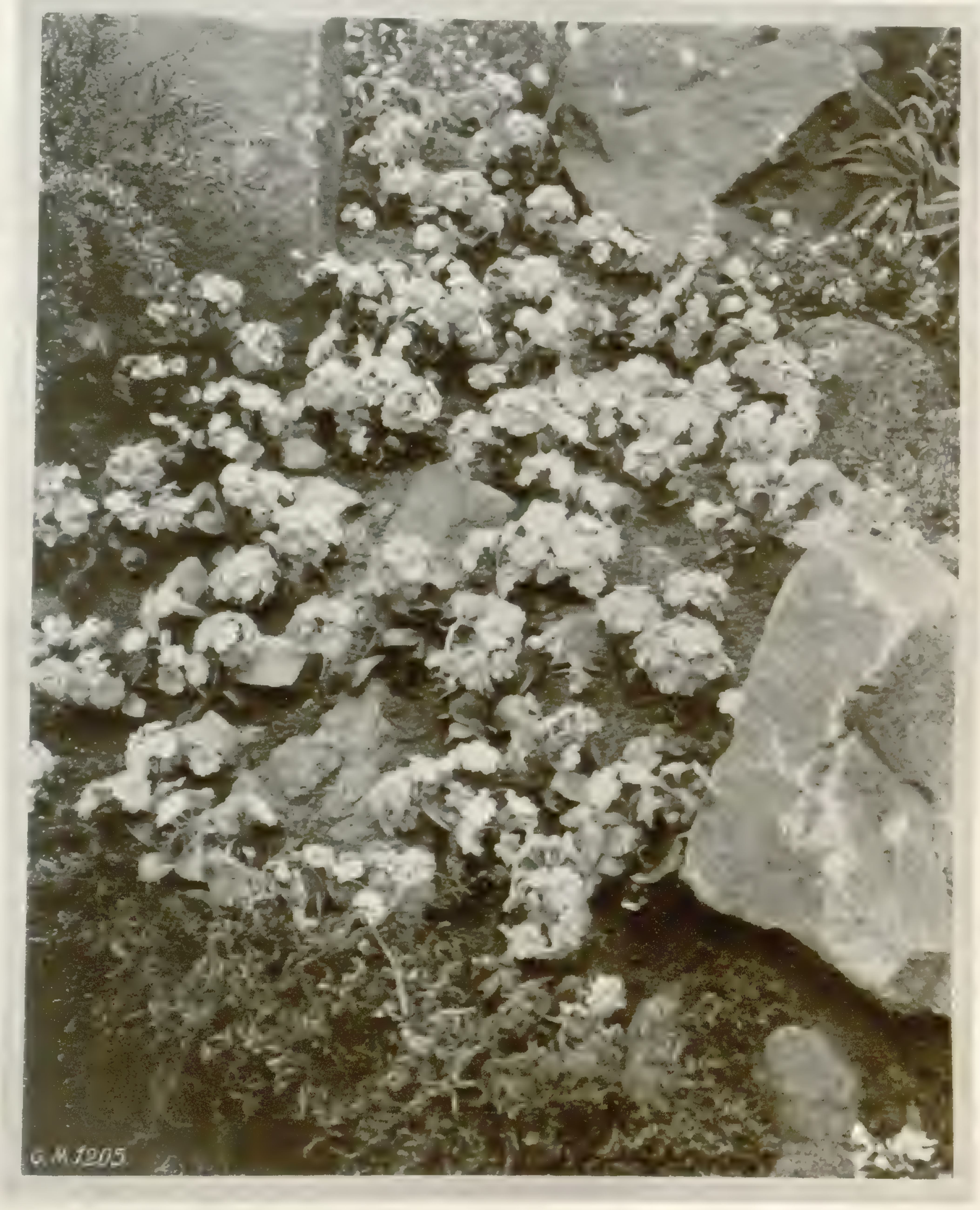
Of the fibrous-rooted, A. sylvestris is probably the best-known species, and the variety A. s. grandiflora is much the freest in flower; the double form is also very good, succeeding under indifferent conditions, but always flowering best in sunny positions. A. baicalensis is a most satisfactory plant to grow, producing its snowy flowers in great freedom, and increasing in a surprising manner even upon sun-baked slopes. It very much resembles A. sylvestris, of which it is probably a dwarfer geographical form. A. narcissiflora is a vigorous-growing species, attaining to a height of eighteen inches, and producing white flowers, which are tinted lilac on the reverse of the petals. A. globosa is a species having small globular red flowers, and on this account it is not without interest. It grows to a height of nine inches, the flower stems being leafy.

THOMAS SMITH.

Walmsgate Gardens.

PRIMULA VISCOSA VAR. MRS. J. H. WILSON.

It may be that some people do not love the colouring of this neat, free-blooming alpine primula, indeed, we have heard some people condemn it, but by far the greater majority of those who love the lowly flowers that are suitable for the rockery and the alpine garden have a great liking for this charming little primula. It bears its clusters of flowers on short spikes, after the manner of P. viscosa, but the flowers are larger, and of a rich and effective shade of mauve-purple or violet-purple. No one has yet exhibited this variety so well as Messrs. R. Wallace and Co., Colchester, who on several occasions recently have displayed it to great advantage at Vincent Square. They have, fortunately, not shown it in pots, but have exhibited little colonies of freely-flowered plants among rocks in a little rock garden. Visitors to the exhibitions have consequently had excellent opportunities for seeing it arranged in much the same manner as the rock garden, and for forming an opinion of its merits. A view of the colony thus arranged at the Royal Horticultural Society's meeting of April 19, is given in the present issue for the purpose of showing the usefulness of the plant, and also a very interesting, natural, and attractive method of exhibiting.



A COLONY OF PRIMULA VISCOSA VAR. MRS. J. H. WILSON.
As exhibited by Messrs. R. Wallace and Co., Colchester, at the Royal Horticultural Hall on April 19.

STAGENHOE PARK.

Beautiful and interesting gardens abound in the fertile county of Hertford, as has already been shown in these pages, but in addition to the many that are near such well-known centres as Hertford, Luton, and St. Albans, there are a large number that lie off the beaten track, and five miles or more from a railway station. One of these is Stagenhoe Park, at Welwyn, but best reached from Hitchin, seven miles away.

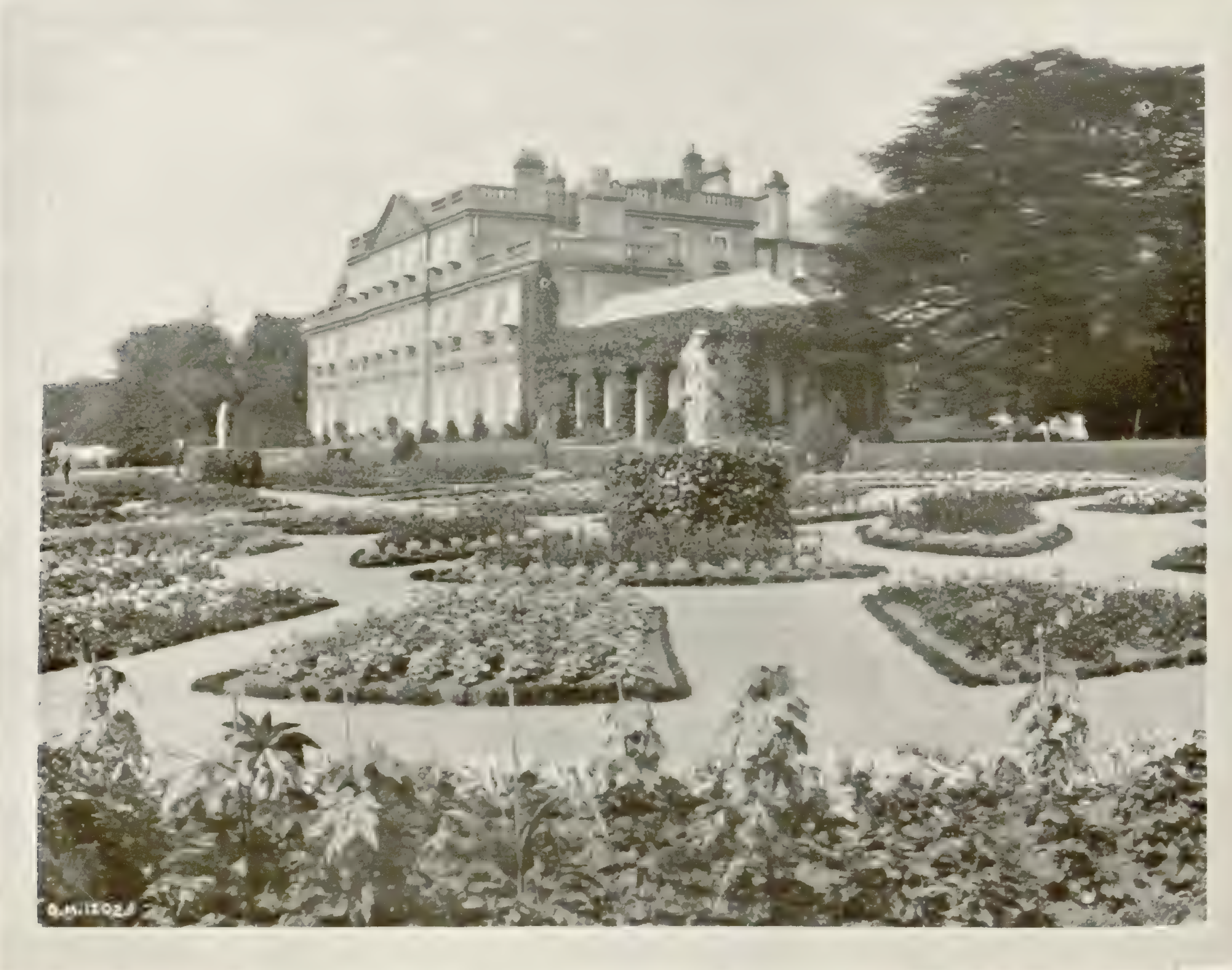
Stagenhoe Park, the residence of W. Bailey-Hawkins, Esq., is a charming old place, with a large, comfortable mansion set in a wealth of fine trees, and surrounded by flower, rose, fruit, and kitchen gardens of considerable extent. The latter are amply provided with high protecting walls, which on the inner side carry splendid peach, nectarine, and fig trees, on the southern and western aspects, apricots and plums on the east, and gooseberries, currants, and Morello cherries on the north

The upper portion of the fruit and vegetable garden is made beautiful as well as useful, as the paths are bordered with herbaceous plants, which in turn are backed by roses or fruit trees. A large pool that serves to catch the surface water of the garden occupies a prominent position here, and it is so well planted around with moisture-loving hemerocallis, arundos, and pampas grass, with cotoneasters, papavers, liliums, aubrietias, etc., along the top of the retaining walls, that an interesting rock and water garden is provided. A creeper-clad bridge spans the pool, made gay with tropæolums, ampelopsis, and hardy fuchsias, and around the whole is a ring of roses—rambling roses, and pillar roses—clothing poles and meeting each other along the connecting chains. This circle of roses is really the point to which a pergola leads from north and south. This rose pergola is made of oak cut on the estate, and it has now been about three years in position. The roses have done splendidly all around, the chief varieties being Claire Jacquier, Celine Forestier, Veyrat Hermanos, Gardenia, Mrs. W. Flight, Tea Rambler, Paul's Single White, and Blush Rambler, with Euphrosyne, Madame Alfred Carriere, Dorothy Perkins, and Crimson Rambler, as the most successful varieties on the pillars and chains.

But the beauty of the roses and herbaceous plants is likely to prevent proper attention being paid to the skilfully trained fruit trees on the walls, the bush apple trees along either side of the central pathway, and the capital crops of vegetables lower down. Mr. W. Munt, the head gardener, is an old pupil of Mr. Beckett's, and so it is but natural he should excel as a cultivator of vegetables. He is particularly successful with celery, onions, and peas, and at the exhibitions in the neighbouring towns, and even in the adjacent county of Bedford, he is seldom beaten for vegetables. Given reasonable facilities a gardener's ability must now, as always, be largely estimated by the quality and quantity of fruits and vegetables he produces. Mr. Munt puts these two things first, and he has now brought this enclosed garden of three acres into a very high state of cultivation. One of Mr. Munt's weaknesses is for half-standard gooseberries, as he believes by their use the bushes, fruit, and ground below are more easily kept clean and free from pests.

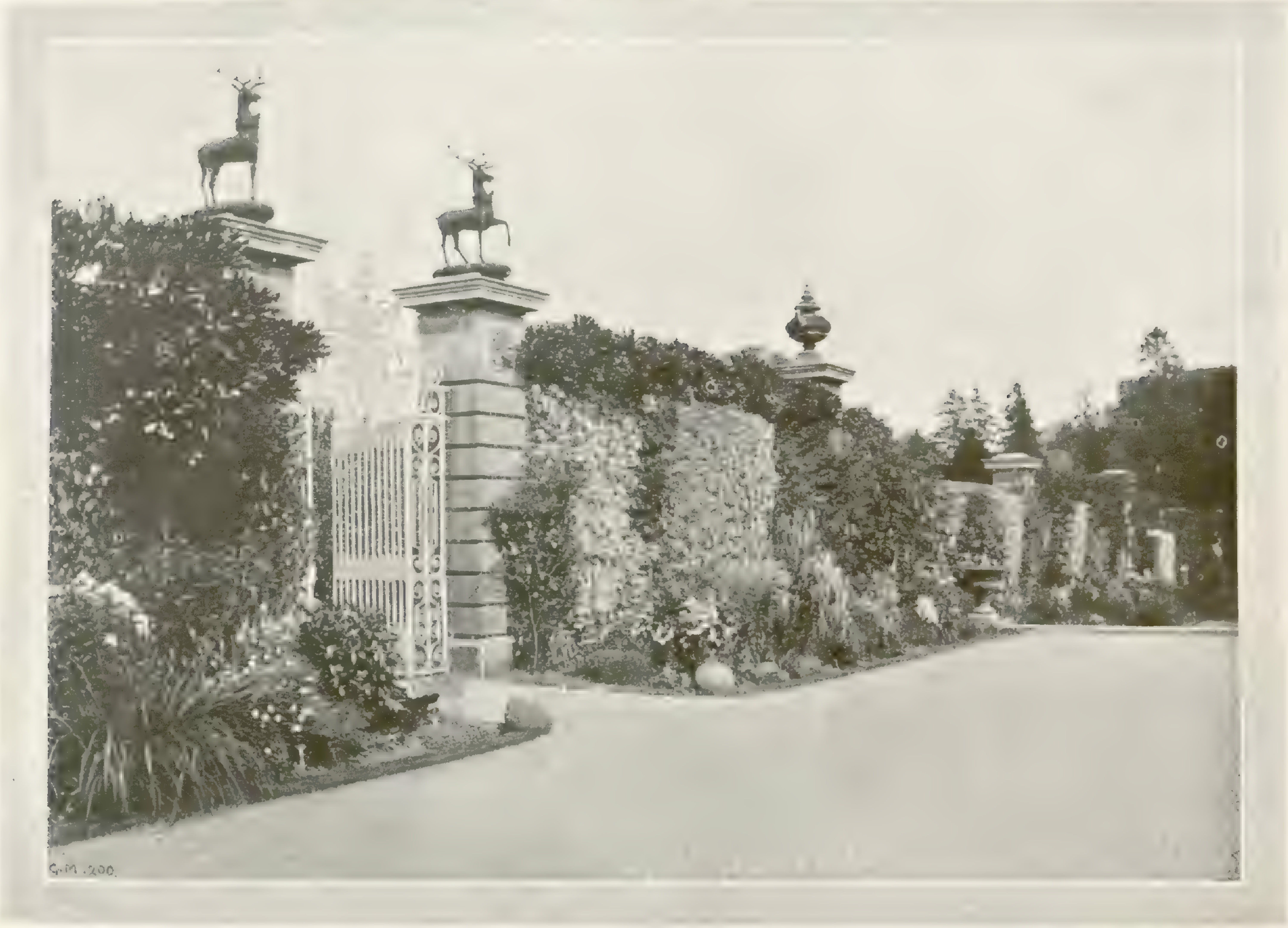
The glass department is not extensive, but the houses are very convenient. There are three vineries, one of Muscats, and one of Black Hamburgh, with the third containing Mrs. Pince, Lady Downes, and Melton Constable, the latter regarded as far finer than Gros Colmar, and of better flavour. Good bunches, not over large, but well finished, are produced in all three houses each year. Several houses are devoted largely to winter-flowering subjects, such as Begonia Gloire de Lorraine, salvias, pelargoniums (very fine), and eupatoriums. Mr. Munt roots cuttings of Eupatorium petiolare in the spring, and the resulting plants come into flower just before the chrysanthemums; they are cut back and again potted, and give an abundance of flowers in March. One small house is devoted to the more popular orchids, and Dendrobium phalænopsis is well grown. Crotons fill another small house, with calanthes on the shelves, and calanthes are managed well. There are low pits for tomatoes, melons and cucumbers, and others for cyclamen, vardias, Primula Kewensis, ferns, tropes, poinsettias, etc. In the low pits and frames, the garden furnished, and it would be of immense tance to many a gardener if the employ followed the example of Mr. Bailey Haw kins in providing these handy and comparatively cheap aids to cultivation.

Both summer and spring flower gardening are carried out vigorously and ex sively at Stagenhoe Park. There is formal flower garden in front of the sion, each half containing twenty beds. The beds are cut out in and the aspect is south-east. Last as the illustration shows, the cipal beds were filled with Calceolaria plexicaulis and Lobelia cardinalis. The extreme corner beds were planted Paul Cramfer pelargonium, tall plan Abutilon Thompsoni, centaureas, lobelias, and dwarf alyssum. Four of the beds con-



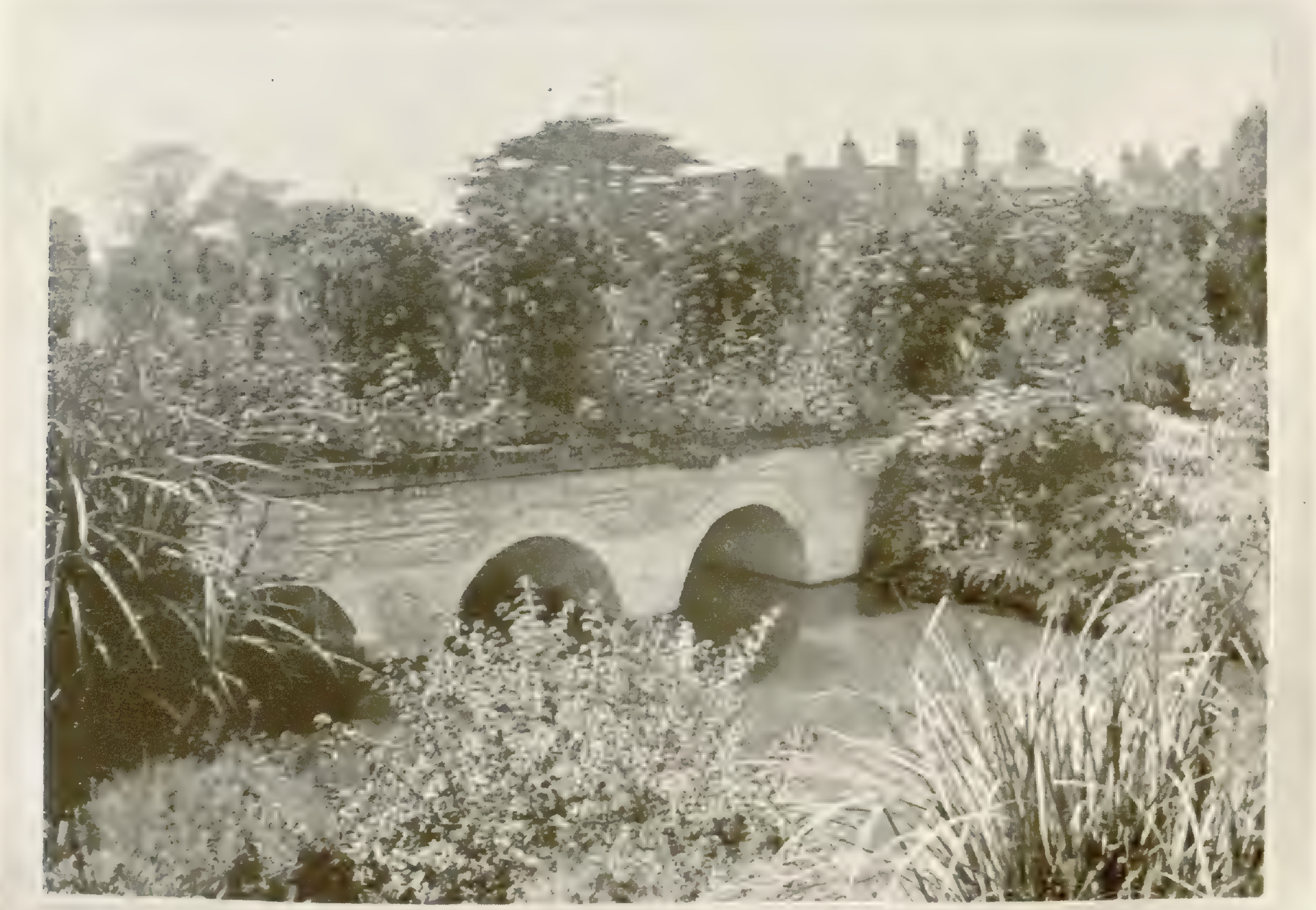
[Photo: Bishop, Welwyn.

STAGENHOE PARK—MANSION AND FLOWER GARDEN.



[Photo: Bishop, Welwyn.

STAGENHOE PARK—STAG GATES.



[Photo: Bishop, Welwyn

STAGENHOE PARK—WATER GARDEN AND ROSERY.

tained heliotropes; four others were planted with Madame Crousse ivy-leaved pelargonium; four with Begonia Worthiana, and four with the brilliant Salvia splendens var. Zurich, and Swainsonia alba. For the spring display aubrietias, violas, arabis, daisies, and bulbs of many kinds are used. It will be gathered from these remarks that the provision of bedding plants is an important part of Mr. Munt's duties. The flower garden is a fine feature, well in view from the house and flagged terrace, and backed up by great groups of rhododendrons and thorns, and the great lime, chestnut, and oak trees in the park beyond, and from which it is divided by an ornamental ivy-clad balustrading.

A fine old conservatory, spacious and substantial, and partly shaded by a grand old Cedar of Lebanon, is attached to the mansion, and is used as an extra withdrawing room. It has walls 2ft. 6in. thick and iron-framed doors and windows. Outside its walls are covered with the small-leaved Ampelopsis Veitchi, and inside are splendid kentias and smaller arecas, Cocos Weddelliana, and Geonoma gracilis, with great baskets of nephrolepis and asparagus suspended from the iron roof rods, that also serve to carry the bougainvilleas that are a pleasing feature when in bloom.

Running at right angles to the mansion and flower garden is a broad path that descends, terrace fashion, to the Wilderness garden. The walk is a long one, and the series of old broad stone steps show that it is the design and work of many years ago. Along the left-hand side of the walk is a broad border backed by one of the high walls that skirt the upper fruit and kitchen garden, and pierced by the handsome Stag gates so well illustrated in the present issue. This side of the wall is clothed with a great variety of flowering and other shrubs, the most notable being the wistarias, Cercis siliquastrum, magnolias, Acer negundo variegata, very fine for the purpose, double kerrias, Ceanothus americanus, laburnums, viburnums, and jasmines. Popular herbaceous subjects fill most of the border, but dahlias are grouped here and there in the summer and autumn.

There are five sets of stone steps on the walk, and each set is ornamented by four large ornamental stone vases, twenty vases in all, and each one is filled with effective flowers during the summer season, fuchsias being the chief subjects placed in them. To the right, as the path descends, one notes many fine old specimens of Abies excelsa, Sequoia gigantea, and S. sempervirens, Cedrus Deodara, Picea Pinsapo, and various cupressus. The walk ends at the woodland gate, but a path beyond leads away to St. Paul's Walden, through the woods.

The Wilderness garden is entered from the end of the walk, and this interesting spot is bounded on the lower side by a long and quaint old pleached alley, composed of interlacing lime trees trained to meet overhead, and kept closely pruned to spurs each season. The spot is in process of transformation from a wilderness to a garden. Each year some part is thinned out, and new and interesting features are created. Spring flowers, flowering shrubs, and hardy ferns already fill many a charming spot. Winding paths pass under the tall trees and amid great masses of rhododendrons and laurels, and provide a cool retreat in the hot summer days.

Between the Wilderness garden and the southern corner of the flower garden is a very old rosery, at least the site and the high, dense surrounding hedges of roses are old, but inside these hedges of ancient rambling roses are newly-made beds planted with Caroline Testout, Captain Christy, La France, Madame Pernet Ducher, Marie Van Houtte, Gustave Regis, Maman Cochet, Madame Lambard, and Madame Abel Chatenay, while four large standards of Crimson Rambler add their quota to the charm, beauty, and fragrance of this very old English and yet also quite modern feature of a charming and interesting establishment.

There are many other points of interest at Stagenhoe Park. There are the ancient chestnuts that formed part of a big drive planted about three hundred years ago. At the lower end of the park is a big lake, with islands. All around it are red and white thorns, but the water plants in the lake and along its margin are wild British subjects left to their own sweet will. When the Wilderness garden is finished, Mr. Bailey Hawkins has in the lake and its surroundings magnificent scope for the production of a garden scene unsurpassable in the county. The site and the water are there; clearing and thinning and planting are alone needed to make Stagenhoe Park a more beautiful place even than it is at present. The splendid cricket ground and pavilion must not be omitted, for Mr. Bailey-Hawkins and his sons take a great interest in the employees, and the estate cricket club is able to hold its own with the teams from the surrounding estates and villages.

Chas. H. Curtis.

THE WILD GARDEN.

It is an open question whether any other aspect of garden beauty can vie successfully with the wild garden. Certainly one meets with charming effects within the ordinary limits of the garden, but glorious though these "set effects" may be, they lack the wide range and the wondrous possibilities of the wilder portion. In it there is no place for formalism, no rigid lines, no carefully studied geometrical features, nothing which speaks of artificiality, stiffness of design, or primness of form.

Instead, there is a natural grace, an exquisite informality of outline, a daintiness of effect, which tells of the wisdom of taking Nature's own way of naturalising Nature's own subjects. With natural groupings, broken or undulating ground, and the exercise of thought in the making, one can obtain a hundred idealistic pictures of garden beauty, where perhaps only one would be given if a bed or border were under notice. I do not know if the idea of the natural garden is recognised at its full value by the majority of my readers, but it is apparent that this style of garden adornment is greatly on the increase, and its potent possibilities for good are surely (if slowly) making themselves felt in the minds of the garden-loving community.

In the wild garden one can group many shrubs and trees (particularly those which make a profuse display of blossom) in such a manner as will show their full beauty to advantage. There is no longer the need for close pruning and rigid shapeliness, but one can give the subjects their full freedom in order that they may show their grace of outline. The flowering trees and shrubs of spring and early summer will contribute to the making of a beautiful (yet natural) garden scheme. Starting with such subjects as Daphne mezereum, the andromedas, almonds, early-flowering double peaches, prunus, etc., and on through the maze of azaleas, cherries, rhododendrons, philadelphus, syringas, deutzias, pyrus, spiræas, rubus, roses, forsythias, berberis, cratægus, kerrias, and a host of other subjects, we have a profuse and continuous display of floral treasures.

With the herbaceous perennials one can work wonders in the way of groupings. Drifts of alstrœmerias, montbretias, phloxes, campanulas, delphiniums, lupins, rudbeckias, asters, helianthus, scabious, irises of varied types, monardyas, myosotis, œnotheras, etc., masses of pæonies, aconitums, anemones, centranthus, doronicums, heleniums, hellebores, hemerocallis, primulas, polygonatums, and light waving groups of eulalias, arundas, gyneriums, phalaris, and bamboos, give one a diverse, yet noteworthy, group of suitable subjects.

By watersides, or in low boggy places, one can grow the golden calthas, the showy lythrums and lysimachias, lobelias like L. cardinalis and L. syphilitica, the best of the astilbes and spiræas, irises like I. Kæmpferi, I. aurea, I. monspur, I. spuria, I. siberica, and I. virginica, the moisture-loving primulas, Myosotis palustris, mimulus, also foliage plants of the character of the gunneras, rodgersias, Saxifrage peltata, osmundas, struthiopteris, funkias, Elymus glaucus, Juncus zebrinus, J. spiralis, and the petasites. By the free use of selected forms of some of these subjects many striking little bits of scenery may be obtained, and at the same time one is able to realise to the full their decorative character.

Open exposed slopes may be treated as a garden of heaths, using a varied selection of the best varieties of Erica vulgaris, E. mediterranea, E. tetralix, E. vagans, E. carnea, etc. Soil of a peaty nature should be obtained, and the groupings made as natural and diverse as possible. Among the heaths, at intervals, a few low pines or other trees and shrubs of moorland character can be placed with advantage, as they will give tone, and break the lowness of the outlines of the ericas.

Then, again, in the wild garden one has or can introduce, a dell-like depression, where ferns, anemones, foxgloves, and many plants which love cool and shade will revel under suitable conditions. There is a charm in such a cool retreat during the summer months, where one can view the beauties of the aspleniums, aspidiums, lastreas, polypodiums, polystichums, blechnums, scolopendriums, mingled with light intersecting groups of waving blossoms. A rough-stepped pathway leading down to the dell, o'erhung with light-growing shrubs, with a mossed pathway or stepping stones winding through the lower levels, will give access to the fern colonies.

Furthermore, there is the ever-present question of the naturalisation of bulbous flowers, and nowhere can this be better done than in the wild garden. Here, amid sheltered surroundings, one can enjoy the first beauty of the snowdrops and winter aconites. Here one is greeted by colonies of scillas and chionodoxas, banks are lit by the gold of the crocus, and gemmed with the "haunting blues" and the "pure whites" of the muscari. Sheets of sulphur, white, and gold represent the glorious narcissi, while later the deep blue sheen of the bluebells, the rising spikes of lilies and ornithogalums, and other subjects will continue the display.

It matters little which way one may turn, at all points the pictured beauty is apparent, with its simplicity, its natural unrestricted outlines, and its ever-present charm. From the very dawn of spring until the days of the late autumn foliage the wild garden is an everchanging panorama of floral beauty, giving to the beholder the real charm and endless delight associated with Nature's garden.

P. S. Hayward.

NEW PLANTS, ETC.

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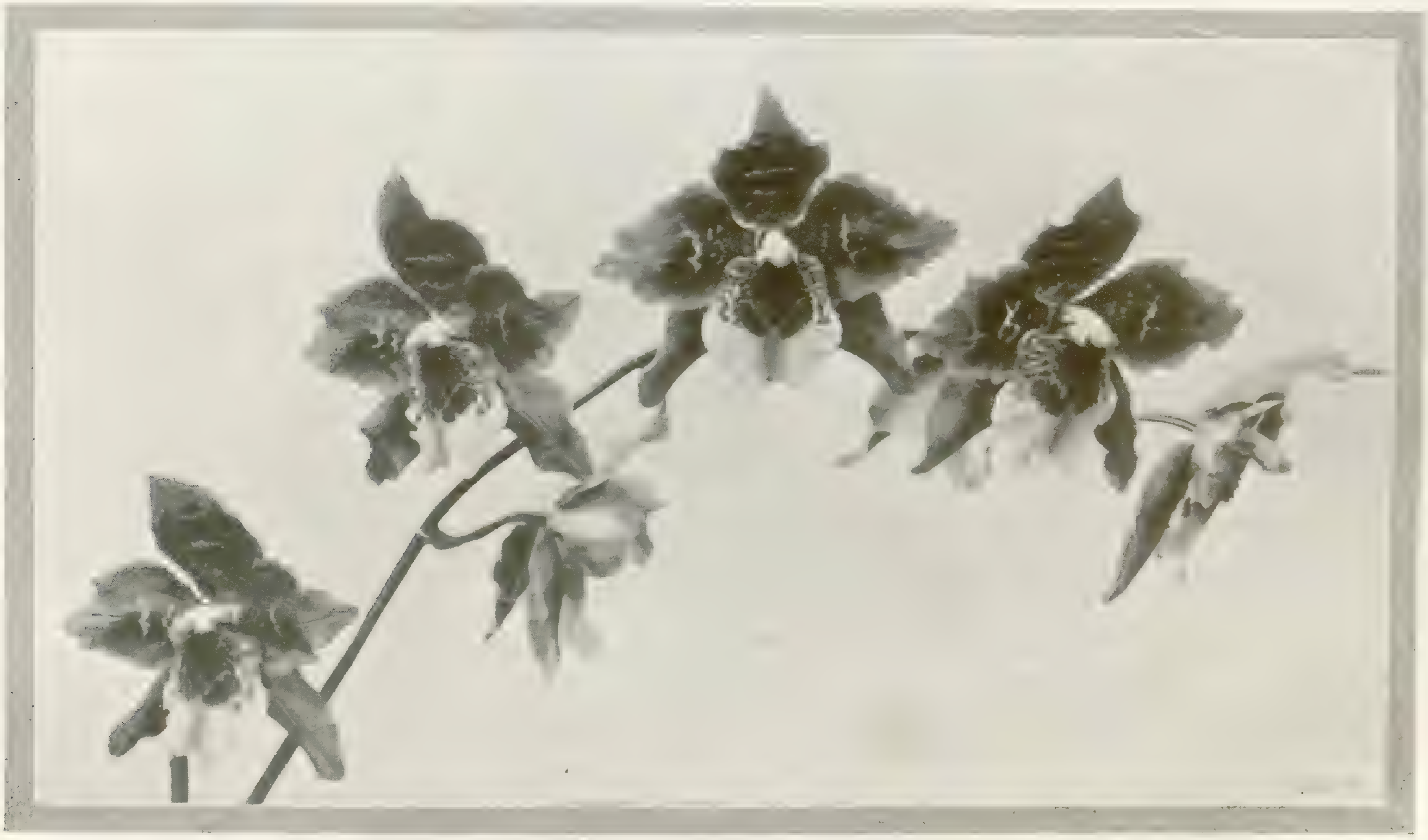
SOBRALIA CLIFTONIÆ.

This very beautiful new species was figured on page 325 of our issue of April 23. It is from Ecuador, and has more substantial blooms than those of the white form of Sobralia macrantha. The flowers follow each other in regular succession over a considerable period, but only one expands at a time from the same stem. The flowers are pure white, except for faint mauve-purple stains in the throat of the lip. A.M., R.H.S., April 19. Messrs. Sander and Sons, St. Albans.

ODONTOGLOSSUM REGALE ROSEFIELDIENSE.

This is an interesting hybrid from O. Lawrenceanum and O. ardentissimum, and in shape and habit it somewhat resembles the latter parent, but the flowers are yellow, heavily marked with deep brownish-red. A.M., R.H.S., April 19. De Barri Crawshay, Esq. (gardener, Mr. Stables), Rosefield, Sevenoaks.



ODONTOGLOSSUM LAWRENCEANUM COBB'S VARIETY.
A handsome hybrid, blotched with brown-purple on a yellow ground. A.M., R.H.S., April 19. W. Cobb, Esq.

ODONTOGLOSSUM ARNOLDIANUM.

This is a distinct and handsome hybrid of unknown parentage. It has broad segments, the lip being especially broad, white, with purple marks. The sepals and petals are brownish-purple, the colour being broken up by white markings. A.M., R.H.S., April 19. J. Gurney Fowler, Esq. (gardener, Mr. J. Davis), Glebelands, South Woodford.

MILTONIA PHALÆNOPSIS McBEAN'S VAR.

In this variety the rosy markings on the white lip are considerably extended, while the white sepals and petals have a rosy base. A.M., R.H.S., April 19. Messrs. J and A. McBean, Cooksbridge.

ODONTOGLOSSUM LAWRENCEANUM COBB'S VARIETY.

This is a particularly fine form of the hybrid between O. triumphans and O. Rolfeæ, it has broader segments than the type, and the bright yellow ground colour is broken up by large central blotches of brown-purple. A.M., R.H.S., April 19. Walter Cobb, Esq. (gardener, Mr. C. J. Salter), Normanhurst, Rusper.

ODONTOGLOSSUM ROSSIANÆ RUBENS.

A very attractive form of the hybrid between O. Rossi and O. Adrianæ. It is of larger growth than O. Rossi, and has flowers as large as those of O. Adrianæ, but showing the influence of O. Rossi. The latter have white based purplish sepals and petals freely and distinctly spotted with dark rose purple. The rosy lip has a deep yellow crest. A.M., R.H.S., April 19. Mons. Henri Graire, St. Fuscien, Amiens.

ODONTOGLOSSUM CRISPUM ST. FUSCIEN.

A very handsome, rounded, and substantial variety, pure white, with heavy blotches of rich red-purple or crimson. A.M., R.H.S., April 19. Mons. Graire.

AURICULAS.

Warley.—A remarkably distinct new show auricula of fine size and form, making a quite new addition to exhibition varieties. Its rounded flowers are of a colour difficult to describe, but heliotrope-pink about fits it. There is a fine clear ring of white paste round the yellow centre. A.M., R.H.S., April 19. Mr. James Douglas, Great Bookham.

Roxburgh.—A very bright purple alpine auricula, the colour shading to maroon-purple round the golden eye. A.M., R.H.S., April 19. Mr. James Douglas.

Victor.—A self variety, having fine bright maroon-purple or crimson flowers, with white centre. A.M., R.H.S., April 19, Mr. James Douglas.

HIPPEASTRUMS.

Cardinal Wolsey.—A wondrously beautiful hippeastrum, of fine form, size, and substance, the colour being intense and rich rosy-red, with a faint suffusion of violet, and some white veinings at the base. A.M., R.H.S., April 19. Lieut.-Colonel G. Holford (gardener, Mr. Chapman), Westonbirt, Tetbury.

Gereant.—A splendid and brilliant variety, the flowers being wholly of a rich shade of deep clear orange-scarlet. A.M., R.H.S., April 19. Lieut.-Colonel Holford.

Calypso.—A fine variety of beautiful form and unusual substance; white, heavily veined, and shaded with rich rose-red.

PRIMULA CILIATA VAR. GENERAL STEWART.

Under the above title a neat little primula was shown, with rather large auricula-like flowers, borne on short spikes. The colouring is bright brownish-crimson, with yellow eye. The plant has something of the habit of P. viscosa, and this is probably one parent, with P. auricula as the other. A.M., R.H.S., April 19. Mr. W. Cranfield, Enfield.

NARCISSUS MATTHEW ARNOLD.

This is a particularly beautiful poeticus variety, of medium size, but with broad, solid white segments, that make up a flower of the highest florist's type. The cup or crown is brilliant crimson. A.M., R.H.S., April 19. Messrs. Cartwright and Goodwin, Kidderminster.

APPLE WAGENER.

A late culinary variety that has a good reputation for regular and heavy cropping. It is an American introduction, of medium size, roundish, and bright scarlet. A.M., R.H.S., April 19. Mr. W. Crump, The Gardens, Madresfield Court.

Calceolarias.—These beautiful old flower-garden favourites sometimes disappoint the cultivator grievously; they die off and leave ugly gaps in the beds just at a time when all the other plants are growing nicely. I have had many plants die in this way, no matter how well they were watered and cared for. Then I adopted the plan of planting them out at the end of April, quite a month before the ordinary summer-bedding plants were put out; and great care was taken not to bury the stem of the plant. Failures never occurred after. It is not possible in all cases to put out calceolarias thus early, but I am sure they succeed better so dealt with.—George Garner.

GRAPES AND HOW TO GROW THEM.—An illustrated guide to propagation, culture, and management in vineries, greenhouses, and in the open air. By J. Landell, F.R.H.S. Price 1s. net, by post 1s. 2d., cloth, 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London

REV. F. PAGE-ROBERTS ON ROSES.

The gardeners of Basingstoke and district recently had the privilege of listening to a lecture on roses by no less an authority than the Rev. F. Page-Roberts, the renowned amateur rosarian and president of the National Rose Society. From such a high authority a lecture dealing with the cultivation of roses could not fail to be of universal interest; and with this in view, the writer has essayed to embody the remarks of the president in the following notes.

AURICULA WARLEY.
A distinct self variety, the body colour heliotrope-pink. A.M., R.H.S., April 19.
Mr. J. Douglas.

Soil Conditions.

Soils are of different natures and textures, which is a fact that does not seem to be properly understood by many amateur growers. There may be something in the soil, or something wanting in it, that will set at naught the most perfect system of tillage and the most suitable dressing of manure. It has been pointed out that such soils very probably lack rose food, especially old cultivated kitchen garden soils. With regard to the inequalities of soils, there is a good example in Hampshire. At Strathfieldsaye, the home of the Rev. F. Page-Roberts, a quantity of clay predominates; while only a few miles away in the Basingstoke district, there is a great deal of chalk. The latter, it may be remarked, is not the most suitable soil for roses. Yet they will, of course, grow on nearly all soils; and even these calcareous lands have borne some of the most beautiful specimens, but it required very rich cultivation to grow them. Drainage is an important feature in rose culture, and unless the surplus moisture is drained from the soil by a proper system of pipes, the best results cannot be expected. Excessive drainage must, however, be avoided, as it is then difficult to keep the water on the land at all. It may also be mentioned that the climate is as important in rose growing as it is in farming.

Choice of Roses for Different Soils.

One salient point to be noted by all rose growers is a knowledge of the texture and quality of the soil, and another is to then choose roses for that soil. If it proves to be heavy and retentive, some of the best and strongest of the hybrid teas or the hybrid perpetuals are most suitable. Tea roses should be avoided on such heavy soils. If, however, the soil is light in texture and sandy in nature, it is useless to attempt the cultivation of hybrid perpetuals. Those growers who are unfortunate or inexperienced enough to choose the wrong varieties in this manner generally come to grief. Their roses dwindle and die away; and they anathematise the soil and everything else, except their own choice of roses. A great deal may be said in favour of the hybrid teas, that class of rose which has come so much to the front since 1890. They will grow almost anywhere, in almost all soils, and they are much more perpetual in blooming than the so-called hybrid perpetuals, their season often being prolonged from May to November. Many of the latter class only bloom well in the first part of the summer, and rarely make good secondary bloomers. That beautiful rose Madame Gabriel Luizet for example does not bloom at all in the autumn. There are some of them, however, particularly the more recently introduced varieties, that resemble a hybrid tea more than a hybrid perpetual. An example of this kind is to be found in the rose Hugh Dickson. This variety was brought out some years ago, and is one of the most beautiful roses we have. In the hybrid teas that have yet been introduced, however, we yet await those deep rich reds and fine scent that are naturally associated with the best roses. Hence it is difficult to dispense with some of the old favourite hybrid perpetuals, which exhibit these characteristics to such a marked degree. The latter are also more hardy than the hybrid teas; though the last-mentioned roses can be easily protected by hoeing the soil three or four inches up the stem.

Deep Cultivation Essential.

Six hundred years before Christ, Pliny, referring to the cultivation of roses, said: "Be careful and dig at least two spades deep." And this deep cultivation is no less important for roses at the present day. Two spades' depth of earth should be taken out, and the bottom soil broken up with a fork. One of the most successful methods of growing roses is to select a nice piece of grass land, cultivate it deeply in the above-mentioned manner, and then turn the turf into the trench and chop it up nicely. On top of this a thick layer of good manure should be placed, and that in turn covered with a little soil. Then the rose should be placed in position, the roots spread out carefully, and some nice dry light soil shaken amongst them. Of great importance is it to see that the manure is kept well below and under the roots. The supply of nourishment is then derived from below, which is preferable to surface manurings; although, of course, the latter system must be resorted to in the case of beds already established. With further regard to the planting of roses, it is essential to see that the soil is well trodden, for roses like a nice firm bed. The junction where it is budded should be at least an inch below the surface of the soil, but not too deep; and at the time of planting a useful stimulant can be given in the form of a little bone-meal or crushed bones. With regard to the most suitable time at which to plant roses, the earlier they are got in the better. A very good time is whenever circumstances are propitious in October; but at all events, the months of March and April are to be preferred to January or February. Before planting roses in spring-time they should be pruned, and subsequently every possible attention should be given to the destruction of insect pests, caterpillars, etc. The latter are a considerable source of trouble to the grower, and the trees should be examined once a day, or even twice if need be.

Manuring of Roses.

Roses are composed largely of potash, and for this reason some form of potassic manure is most beneficial to them. Among other things, the sweepings of garden refuse, prunings of old wood, etc., when burnt, form an excellent dressing; and this can be supplemented with a quantity of bone-meal, soot, and dried chicken manure. In applying such dressing it is advisable to prick or hoe the manure in, but care must be taken not to disturb the fibrous roots which run near to the surface. In the growing season roses derive an immense amount of benefit from liquid manure, and one of the best means of preparing this is to soak a barrowful of cow manure together with a bag of soot in a tub of rain-water. Before being used the liquid should be well stirred and diluted with water until it is of a pale yellow colour. One important point concerning the application of any form of liquid manure, either for roses or for any other plant, is that it should not be made when the soil is dry, but always when the ground is comparatively moist, preferably after a shower of rain or when the plants have been well watered. Hoeing is a most beneficial means of conserving moisture around the roots of roses; and if performed the day after the water has been given, a nice friable tilth will be secured. This will obviate the necessity for frequent waterings during droughty weather.

In autumn a sprinkling of basic slag may be applied to the beds; and as soon as a good growth commences, nitrogen may be advantageously supplied in the form of nitrate of soda. A light dusting of the latter fertiliser may be given each week until the buds have been well formed; but this manure must on no account be allowed to come into contact with the foliage, or it will have a burning effect. R.

(To be continued.)

"SOILING" POTATOES.

The "soiling" of potatoes is a somewhat different process to the earthing-up of the plants. By "soiling," I mean placing soil right in the centre of the growing haulm; but, of course, this cannot be done where there is only one stem to the root. Few roots, I am afraid, will be found to have one stem only, as there are too many sets planted, in these days, with several sprouts on them.

But I am a firm believer in soiling potatoes, as I feel sure that the crop is thereby increased in weight, and less damaged by disease.

My father once had a long, narrow strip of ground planted and treated as follows. Holes were made about 2ft. apart each way all over the plot, and some manure was mixed with the soil in the bottom before the tubers were laid in. Then the soil first removed was replaced, covering the tubers. This method was adopted on account of lack of time for digging in or ploughing in the potatoes, and the ground had previously been well broken up. With the exception of necessary hoeing nothing further was done to this crop, except the soiling—the placing of soil in the centre of the growing haulm. I have often heard my father say that the crop of tubers was the largest he ever saw, and he annually had to do with the planting and cultivation of many acres of potatoes.

He had boys to gently spread out the potato tops while men followed and placed a spadeful of soil in the centre of the plant; this was done in addition to the usual earthing up with a proper plough. I, too, have adopted the system from time to time, and have found that the tubers are larger than those from plants not so treated. G. B.

PERPETUAL CARNATIONS AS SUMMER BEDDING PLANTS.

We are a long way past the experimental stage in the practice of bedding out perpetual carnations in summer, in fact we can claim to have reached firm ground where all room for doubt can be put away.

It has been proved in nurseries, private gardens, and public parks that for purely decorative purposes the perpetual carnation is superior to the old border carnation, not only because it can be planted in the spring, thus allowing for early spring bedding plants, but chiefly on account of the continual crop of bloom it produces from May to October. Like their contemporaries of the border section, perpetual carnations prefer a light, open position, and summer cultivation. Old blooms should be removed, and the others supported. Little, if any, additional care and attention is required, and the perpetual carnation will have a tendency to lighten, rather than add to, the already heavy burden placed upon gardeners during the summer months.

All that remains for us at present to decide is, what is the best kind of plant to bed out—a young plant in a three-inch pot, or one in a five-inch pot, twelve months old.

The younger one, if planted when in a free, vigorous condition, will naturally have a fresher and more thrifty appearance, but no matter how early they may have been propagated, and stopped, they will not commence to flower until June, and will even then have a tendency to grow. This can be partly overcome by stopping one of the growths, and allowing the remainder to run off to flower. With this practice from the commencement of flowering a continuous supply of flowers will be given.

If one-year-old plants are bedded out they can be had in flower practically from the day of planting. Late spring-propagated stock grown during the winter in a cool frame, make capital plants for the purpose, and should be fine stock in five-inch pots, in bud at the time of planting; but those which have produced an early winter crop of bloom will also do admirably for this purpose, in fact, some prefer them. Hyde Park illustrated to us only last summer how two-year-old plants from nine-inch pots produced masses of bloom during the entire season, and all that is required is to edge the beds with young plants, or carpet with violas, etc.

Some of our most progressive gardeners will no doubt shortly be telling us of good mixed beds in which perpetual carnations form a prominent part. Undoubtedly many delightful combinations could be thus made.

Regarding the best varieties for the purpose of summer flowering out of doors, few exceptions from the general collection need be made, but perhaps the pick are: Britannia and Beacon, scarlet; White Perfection, White Enchantress, Lady Bountiful, white; Rose Enchantress, Mrs. Burnett, and Enchantress, pink; and Black Chief and Harlowarden, crimson; while among fancy varieties, Helen M. Gould, Oriflamme, and Jessica have proved themselves to be superior for this purpose.

Montagu C. Allwood.

USEFUL GUIDE TO GARDEN WORK.—A handy all-round guide to work in the garden month by month is the Gardening Year Book, by George Gordon, V.M.H., price 1s. net from booksellers or by post 1s. 3d., from W. H. and L. Collingridge, 148, Aldersgate Street, London. The book is freely illustrated, and the cultural details thoroughly practical and up to date.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

PHAIUS.—The eastern section of the evergreen species of this genus will have now passed out of flower. There is a short period between the flowering and the production of new growths, when it may be considered that the plants are in a dormant stage. Otherwise it is not desirable they should at this period be removed to a lower temperature. They may, however, be rather drier about their roots, only sufficient root moisture being necessary to retain the plants in a normally plump state, and as at this season the atmosphere is usually well charged with moisture, it will be found that very little water will suffice. Immediately the new growths make their appearance more liberal treatment must be given. When these growths have advanced a few inches new roots make their appearance, and before the roots become very far advanced any potting that may be necessary should be attended to. It is not desirable to annually repot provided a lasting material, as well as ample root space, are afforded.

HYBRID PHAIUS such as P. Cooksoni, P. Norman, P. Clive, P. Harold, P. Cooksoniæ, P. Phœbe, P. Oakwoodiensis, P. Chapmani, P. Doris, and others that have been derived from the intercrossing of the two Madagascar species, P. simulans (better known in gardens as P. tuberculosus), and P. Humbloti are a desirable class, and are exceedingly useful in gardens where plants in flower are required for house decorations during the months of March, April, and May. Although generally classed as stove plants, I consider they are better accommodated in an intermediate house temperature; at any rate as soon as the flowers are expanded they may be transferred to the conservatory or greenhouse, where the temperature is maintained about 50 deg. at night. Here they last for several weeks in perfection, and they may be also used without injury for house decoration, but care should be taken not to overwater while they are subjected to cool treatment. When well grown the finest hybrids are most useful for exhibition. They should also have repotting attended to as soon as the new roots make their appearance. The compost we find most suitable consists of equal portions of fibrous loam, peat, leaf-soil, and chopped sphagnum moss, with sufficient finely-broken crocks and silver sand to render the compost porous. If it is thought desirable a little dried cow manure may be intermixed, but it is now some years since we used anything of the kind in the potting compost. The size of pots must be governed not so much by the size of the plants as the amount of roots they have. Where the plants do well they are robust rooting, and require ample space. The pots should be carefully drained to about one-third their depth, and the compost should be made firm about the roots. Water as soon as repotting is completed, and shade carefully from excessively strong light.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

SWAINSONIA GALEGIFOLIA. — This species and its varieties purpurea and alba are useful for training up the sides of a section of the greenhouse. They can be grown quickly, and will cover a large space even when the roots are confined in pots of moderate size. Use a compost of loam, leaf-soil, and sand, and supply with liquid manure when the pots have become filled with roots. Cuttings made from the young growths will root freely at the present time if inserted in sandy soil and the cutting pots placed on a mild hotbed.

ZONAL PELARGONIUMS.—For flowering in winter the plants that are now going out of bloom should be cut back, and the cuttings inserted for the purpose of raising a stock to bloom next winter. If it is desired to keep the old plants, the roots must be kept moderately dry until new shoots are formed about two inches in length. At that stage the roots should be shaken out of the old soil and repotted, using for this purpose a compost of loam, leaf-mould, and sand, with a sprinkling of bone-meal. In potting the soil should be rammed firmly round the sides of the pot as this gives fine short growth and a free production of flower trusses. Pinch off all flower buds that appear during the summer, and early in the autumn. Freely ventilate the house, as it is essential the shoots should become well matured.

CELOSIA PYRAMIDALIS.—The earliest of these will now be developing their plumes, therefore a selection should be made of the best. Choose those of a strong habit, and discard all those that exhibit weak, straggling growth or washy and undecided colours. Shift the selected plants into 6 inch pots, and use a compost, consisting of two parts turfy loam, one part leaf-mould, one part well-decayed manure, and a moderate proportion of sand. Return to a light structure, and place near the glass, giving each specimen plenty of room to develop its side shoots and acquire a perfectly pyramidal form. Syringe night and morning, taking care to thoroughly wet the underside of the leaves to dislodge red spider, a pest to which celosias are very susceptible. A rather warm temperature at the commencement will be the most conducive to a vigorous growth. Admit air early in the day, and close the ventilators early in the afternoon to conserve the sun heat. If large specimens are required select the best examples when ready for a further shift, and put them into 7 and 8 inch pots, in which size very fine specimens may be cultivated; after the plumes are fully developed cooler and drier atmospheric conditions will be advisable.

BULBS.—Such as narcissi, tulips, hyacinths, etc., that were forced into flower early should not be thrown away, as they can be again utilised. Clear them out of the boxes and pots, and plant on a spare piece of ground in the garden where they will flower the following spring; the same applies to spiræas, if left in the ground for a couple of years they can again be lifted for forcing.—W. Staward, Belford Hall Gardens, Northumberland.

THE FLOWER GARDEN.

HERBACEOUS BORDERS.—Most of the plants are above ground. Vacant places may be filled up with violas, antirrhinums, hollyhocks, campanulas, foxgloves, or other suitable plants that may be at hand and to spare. Any bare spaces near the margins might be sown with suitable annuals, or later on filled with dwarf-growing asters or stocks.

HARDY BEDDING PLANTS might be put into their permanent quarters forthwith, and so assist in keeping pace with the work to be done at the general planting-out time; sedums, cerastiums, saxifrages, and similar plants might be so dealt with. Borders that have remained vacant throughout the winter months should be suitably manured and roughly dug, and so left to the ameliorating influences of wind and weather until planting-out time.

TENDER BEDDERS that have made sufficient growth for the time being should now be removed from the fruit or other houses, where the usual atmosphere is too moist or the temperature too high. It very often happens that for want of space at this time of the year bedding plants suffer by being overcrowded, and have to be transferred to a temporary unheated shelter all too soon. Where this becomes an absolute necessity nothing must prevent the plants being nightly covered until all danger from frost is past. A sudden change in the wind, even though the glass is high, might mean a corresponding and sudden drop in the temperature and a frost before morning. If the supply is short there is still time to strike cuttings of lobelia, ageratum, or other quick-growing subjects. Tender subtropical plants such as castor oils should be kept growing and transferred to larger pots as may become necessary. Tuberous-rooted begonias that have been started in boxes should be potted up singly, and kept steadily growing for another three weeks or more to ensure compact healthy plants, as only such will produce an effective display later on.

SUMMER-FLOWERING CHRYSANTHEMUMS that have been kept steadily growing in cold frames might soon be planted out, but before doing so the ground—if not already done—should be deeply dug and well manured. When planting see that each is fixed firmly in the soil, and should the latter be at all dry, or it be requisite, water well as the work progresses.

ROSES on walls or in sheltered positions that are making rapid growths should be carefully watched for green-fly, and as soon as the pest makes its appearance the trees should be well syringed with an approved and suitable insecticide. All the leading growths that are in danger of being broken or damaged should first of all be made secure.

BORDER CARNATIONS and PINKS may need some protection from sparrows and other birds, otherwise the leading growths might be seriously injured by them. Where netting is impossible, or may be deemed unsightly, spray the plants with a strong solution of quassia and soft soap as often as may be necessary until they cease their attacks.

GENERAL WORK to a large extent consists in the preparation for summer arrangements. Mowing, sweeping, cutting, and clipping of grass verges and edgings, preparing beds and borders for planting, pruning and tying up or nailing in climbing plants requiring attention, and the dressing with soot or wood ashes any portions of the lawn that have a sickly hue. Paths that require turning or regravelling might receive attention during showery weather, after which they should be well rolled and the surface made smooth and firm. Paths that are becoming moss-grown or weedy in appearance should be dressed—where practicable—with an approved weed-killer during fine weather.—W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

APHIS, OR GREEN-FLY, will soon become a source of trouble to fruit growers, and a sharp lookout should be kept upon the growths of all the kinds of fruit trees that are subject to the attacks of this pest. Plums, peaches, nectarines, and cherries are the most liable to the attacks of green-fly, and where it is found to be present trees should be immediately syringed with quassia extract, or some other approved insecticide. At this season of the year, the young growths being very tender, two or three weak applications are preferable to one strong one, which will often injure the leaves, and cause them to drop off. If the weather is mild, it should be applied in the evening, and the trees syringed early next day with soft tepid water to clean the foliage; if, on the other hand, cold nights prevail, the spraying should be done on a fine day, so that the foliage may become dry before night.

BLACK-FLY.—Cherries are subject to the attacks of this pest, and the trees should be carefully watched for its presence, which can easily be discerned by the curled leaves, which form a fine harbour for the fly. Tobacco powder may be used for slight attacks, dusting the affected parts several times, until the insects have been eradicated, and giving the trees a good syringing with tepid water. Where severe attacks of black-fly have to be dealt with the trees should be syringed with a well-prepared nicotine wash, taking care to wet the foliage thoroughly. It must be borne in mind that spraying operations should not be undertaken until the trees have set their fruits.

LEAF-CURL IN PEACHES AND NECTARINES.—This is common in some localities on the foliage of these trees when grown on the walls outside, and usually makes its appearance when the material used to protect the blossoms has been removed. Leaf-curl is caused by a fungus, and all affected leaves should be removed and burnt as soon as possible, and, in the case of a bad attack, the trees should be lightly syringed with a weak solution of potassium sulphide.

GENERAL WORK.—Disbudding peach and nectarine trees should be proceeded with gradually, this operation being governed by the conditions of the weather and the development of the young growths. This season vegetation has been very slow up to the present time, and plenty of patience must be exercised when proceeding with this work. Apricots will require many of their shoots to be pinched within a short time hence to encourage them to form fruit spurs for next season. Where these trees have been well protected from recent frosts they have set far too many fruits, therefore the worst placed and smallest should be removed as soon as possible. Attend to the removal of the protecting material from wall trees as soon as the blossoms have fallen. Cherries and pears in full flower will require to have protecting material placed over them. The same careful attention should be given these two kinds as that usually received by peaches and nectarines.—Henry R. Farmer, Card Castle Gardens.

COLOUR IN BLACK GRAPES.

The season of 1909 was not a good one for the grape grower. In the first place many vines were flowering early in June when the sun was obscured for more than a week, and the weather, generally, was cold. Usually, when the flower bunches are gently tapped a cloud of pollen falls out, and then ascends through and around each bunch, but in my own case I saw very little pollen, though I had a good "set" of berries, the houses being kept warm and dry.

After the cold spell there followed a fortnight of intense heat at the beginning of August, just when many grapes were stoning, and very liable to scald. Free ventilation and some shading were necessary in order to save the berries from damage. Following on all this we had a cold, sunless autumn, with constant showers of rain, and I was surprised to see, in different parts of the country, grapes so well coloured.

But I chiefly wish to refer to several bunches of Alicante which grew close to the roof glass—within six inches of it, which position could not be avoided under the circumstances. Except when the berries were stoning, these bunches were practically exposed to the sun's rays throughout the season. One bunch had full exposure, with a north-east aspect, and it was the best-finished bunch of all, the berries being large, even, and bearing a dense bloom. Instead of being first suffused with colour, the berries were deeply streaked with dark red; the streaks deepened, and soon joined, and at the end of twenty-one days the berries were finished. When a lighted candle was held behind the berries no red tinge could be seen. In some other bunches, which had a fair canopy of large main leaves over them, a little of the objectionable red could be seen.

Now I know that black grapes usually colour best under a suitable covering of leaves, and also retain their colour in such circumstances; and I would not like to advocate the full exposure of the bunches similar to the one I have referred to, but the way in which the bunch progressed and finished has impressed me, and I hope to experiment further; also I should be glad to know what the experience of other growers has been in this connection. Of course, I remember the weather conditions during 1909, and such full exposure in a normal summer may be disastrous to any bunches so exposed.

Geo. Garner.

ROYAL SHOW

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EXHIBITIONS AND MEETINGS.

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Huntingdon Daffodil Society.

The Huntingdon Daffodil and Spring Flower Society is something more than a local affair, because the classes it provides are, with one exception, open to all England, that is to say they are open to all but nurserymen and trade growers. A neat little schedule of twenty-nine classes is provided, sixteen of these being devoted entirely to daffodils. Miss L. L. Linton is the energetic secretary, and no fewer than eight members of the Linton family are hearty supporters of the society. Fairly good prizes are offered, these, in several instances, coming from the traders, i.e., Messrs Robert Sydenham, Lim., Birmingham; Messrs. Barr and Sons, Covent Garden; Mr. J. Cooper, Lissadell, Sligo; and Messrs. R. H. Bath, Lim., Wisbech.

The exhibition was again held in the Corn Exchange, Huntingdon, and the competition throughout was keen, and the flowers in excellent condition. The Corn Exchange is not large enough, neither is it light enough to display the flowers to fullest advantage, but everything possible in the way of tiered and draped staging was provided, and a very effective show resulted. There was a large attendance directly after the opening hour, and some little time before this arrived judging was concluded, and the prize cards all placed in position ready for the visitors. The Huntingdon Society is only four years old, but, thanks largely to Miss Linton's efforts, it has made wonderful progress, and greatly increased the cultivation of daffodils in the district.

The Barr Cup, offered for the best collection of thirty varieties, in bunches of not fewer than three or more than nine flowers of each, was won by J. Cator, Esq., M.P., Woodbastwick Hall, Norfolk, with a magnificent set of varieties, nine blooms in each vase; the very best were Shakespeare, Queen of Spain, Glory of Leiden, Minnie Hume, Ariadne, King Alfred, Mdme. de Graaff, Gloria Mundi, Victoria, Mrs. Betteridge, and M. J. Berkeley. There were five competitors, and second prize fell to S. F. Staffurth, Esq., Frieston Priory, Boston, for a delightfully well-set-up set, consisting of three or four flowers of a variety; his Gloria Mundi was superb; Miss Linton, Stirtloe House, Buckden, was second with a well-staged collection of clean, medium-sized blooms; Lady Lilford, Lilford Hall, Oundle, was awarded a special prize.

Lady Lilford led for three vases of distinct poet's varieties, with lovely solid flowers of Horace, Cassandra, and Homer; J. Marshall, Esq., second, and H. R. Darlington, Esq., Park House, Potter's Bar, third. Lady Lilford secured first prize for six large-crowned varieties, in as many vases, winning with clean, fair-sized specimens of Golden Bell, Mdme. de Graaff, Glory of Leiden, Emperor, Maximus, and Duke of Bedford; H. R. Darlington, Esq., second, and T. Longland, Esq., Warboys, Huntingdon, third.

J. Marshall, Esq., Hartford Cottage, Huntingdon, led for six vases of Incomparabilis and Leedsi varieties with Crown Prince, Gloria Mundi, Lucifer, Katherine Spurrell, Fairy Queen, and Lady Godiva; H. R. Darlington, Esq., second, his Seagull and Albatross being very good; Mrs. Stables, Offord Hall, Godmanchester, third. J. Marshall, Esq., also led for six poeticus varieties with a delightful set of Laureate, Virgil, Almira, Homer, Epic, and Cassandra; Miss Olive Linton, Buckden, was a close second, and Lady Lilford third.

The best three vases of poetaz varieties came from Miss Irene Linton, Buckden, who showed Triumph, Irene, and Aspasia in first-rate condition; Miss Louise L. Linton second, and Mrs. Towgood, Farm Hall, Godmanchester, third.

The best large-crowned daffodil was a bloom of Glory of Leiden, exhibited by Rev. O. P. Fisher, Graveley Rectory, Huntingdon, and S. F. Staffurth, Esq., second, with Weardale Perfection. There were eleven competitors in the class for the best single bloom of a medium-crowned variety, and here Lady Lilford scored with a fine flower of Diana, F. Staffurth, Esq., following with Evangeline, and J. Linton, Esq., Buckden, third, with Strongbow. Mrs. Nowell-Ustiche, Philleigh, Cornwall, scored for one parvi-coronata variety with a good bloom of Diana; J. Linton, Esq., second with Dante.

Miss Louise L. Linton annexed the premier award for three vases of Leedsi varieties, winning with White Lady, Katherine Spurrell, and Fairy Queen; Miss Linton second, and Miss Joan Linton third, the latter having a pretty vase of Water Witch. Mrs. Towgood scored for three double varieties with Sulphur Phœnix, Golden Rose, and Orange Phœnix; Miss Irene Linton and H. R. Darlington, Esq., second and third respectively.

There were no fewer than a dozen entries in the class for four vases of daffodils, any varieties, and here J. Marshall, Esq., scored with Glory of Leiden, Madame de Graaff, Autocrat, and Gloria Mundi; Mrs. Stables, Offord Hall, second; and T. Longland, Esq., third. There were also a dozen entries in the county class for six vases of distinct varieties, J. Marshall, Esq., scoring with fine examples of Glory of Leiden, Almira, Surprise, Minnie Hume, Madame Plemp, and Sir Watkin; Mrs. Carnegy, Alconbury, Huntingdon, second; and Mrs. Senior, Brampton Park, Huntingdon, third.

In the classes for polyanthuses, primroses, violets, and spring flowers the leading prize-winners were Mrs. Baumgartner, Island Hall, Godmanchester; Mrs. Pope, Pertenhall, St. Neots; Mrs. Linton, Buckden; Mrs. Towgood; Lady de Ramsey (a fine set of perpetual carnations); Rev. H. S. Bridge, Brampton; and Mrs. Senior.

Non-competitive displays of high quality were made by several of the nurserymen. Messrs. J. R. Pearson and Sons, Lowdham, had a particularly fine lot of daffodils, in which Romance, Florence Pearson, Magnate, Lowdham Beauty, Homespun, Uncle Robert, and Scarletta were conspicuous. Messrs. Barr and Sons, Covent Garden, and Messrs. Cartwright and Goodwin brought along the best of their flowers from Westminster, where they displayed them the previous day. Lovely perpetual carnations and cut roses were finely set up in large bunches by Messrs. Laxton Brothers, Bedford. Messrs. R. H. Bath, Lim., Wisbech, had excellent daffodils, their Crystal Queen, Argent, King Alfred, Fireflame, Refulgence, Brilliancy, and Great Warley figuring conspicuously.

Mr. J. E. Perkins, Hunts, had, in a miscellaneous group, splendid examples of Tausendschon rose, Veronica Hulkeana, and Clematis montana rubens. Another miscellaneous display came from Messrs. W. and J. Brown, Peterborough. Mr. J. Mallender, of Blythe, Notts, sent some beautiful flowers of old and new daffodils, and new seedlings.

Ipswich.

On Thursday, April 21, the Ipswich Society held its Daffodil and Spring Flower Show in the Corn Exchange, and this proved a spacious, light, and in every way more suitable place than the old venue. A capital lot of daffodils were forthcoming, and the modern, refined, and red-cupped varieties were shown more extensively than on any previous occasion, and this made the show much more interesting. If the society would arrange for tiered staging on the occasion of its next spring show it would be better for the flowers and for the visitors.

The competition was fairly good, and the attendance of members and visitors early in the afternoon of a beautiful spring day was excellent.

DAFFODILS.

In the only trade class for forty-eight varieties of daffodils, three blooms of each, there was only one entry, and this from Major W. O. Cautley, was awarded a second prize, probably because the flowers were a trifle small, and in many cases the blooms were splashed with rain; Gloria Mundi, Glitter, Weardale Perfection, White Lady, Vesuvius, and Seagull were all well represented.

Premier award for two dozen varieties, three blooms of each, fell to Mr. A. Sparke, gardener to F. L. Bland, Esq., Rookwood, Copdoc, Ipswich, whose back row consisted of very fine examples of Lucifer, Emperor, Seagull, White Lady, Mdme. Plemp, and Albatross; other good things were Crown Prince, Lulworth, and Mdme. de Graaff; Mr. H. G. Strutt, gardener to W. P. Burton, Esq., Edgehill, Belstead Road, was a good second, his Glory of Leiden, Emperor, and Golden Spur, being excellent. The best dozen varieties were set up by Mr. F. H. Fieldgate, who had Sir Watkin, Barri conspicuus, and Glory of Leiden in good colour; Mr. S. Farrow, gardener to Mrs. Luther Holden, Pinetoft, Rushmere, second.

A charming set of twelve narcissus, single flowers, came from Mr. Bland, and secured for him the first prize in the class; his blooms were clean and perfect, and the varieties were White Lady, King Alfred, Albatross, Lucifer, Lady M. Boscawen, Will Scarlet, Fusilier, Mdme. de Graaff, Oriflamme, Asterdente, Sequin, and Amyas Leigh; Mr. W. P. Burton second, and Mr. Fieldgate third. Mr. Burton was placed first for three vases of bicolor daffodils in a keen competition, his varieties being Empress, Victoria, and Mdme. Plemp; Mr. Bland had to be content with second place, and Mr. R. Dow was third.

Mr. Bland scored for three vases of incomparabilis varieties with Orangeman, Gloria Mundi, and Lucifer, all very bright; Mr. D. C. Warnes, second, and Mr. Burton third. Mr. Bland led for three Barri varieties, showing elegant examples of Crown Prince, Albatross, and Seagull; Mr. Burton second.

For three Leedsi varieties, Mr. Bland was again to the fore with Salmonetta, White Lady, and M. B. de Graaff; Mr. Burton second. Mr. Bland was the only exhibitor of poeticus varieties, three vases, and here he had beautiful blooms of Almira, Horace, and Rosetti. Mr. Bland also scored for Burbidgei varieties.

The class for a dozen blooms of Sir Watkin was a fine one, the numerous entries making a fine display; Mr. R. Death, Capel St. Mary, was first with bright fresh flowers; Mr. J. E. Grant, gardener to W. H. Burroughes, Esq., Burlingham, Ancaster Road, second; and Mr. D. C. Warnes third.

Twelve blooms of Barri conspicuus was another fine class, and here the awards fell in order to Messrs. Burroughes, Warnes, and Dow, who all showed well. Twelve blooms of any one variety brought out numerous entries, and here Mr. Burton led with Golden Spur; Mr. Burroughes second with Mdme. Plemp, and Mr. Warnes third with Mdme. Plemp.

In the amateurs' section for daffodils Mr. E. H. Buxton, Mr. Bradbury, Mr. J. Edgar, and Mr. V. D. Colchester were leading prizewinners, Mr. Bradbury showing a splendid White Lady.

MISCELLANEOUS.

Miscellaneous groups were not of particularly high merit, overcrowding being the great fault. Mr. Burton led with a bright arrangement of azaleas, spiræas, lilacs, cinerarias, etc.; Mr. J. H. Southgate, Spring Road, second, and Mr. V. D. Colchester, Henley Road, third, the latter showing large cytisuses and clivias. Six bunches of spring flowers from the open air proved a good class, and here Mr. Dow took leading honours with Crown Imperials, Empress Daffodils, fine wallflowers, forget-me-nots, polyanthuses, and Keizer Kroon tulips; Mr. W. C. Moses, gardener to W. F. Paul, Esq., Orwell Lodge, second, and Mr. L. Holden third.

There were five half-dozens of Cineraria stellata, and the best set came from Mr. F. Whitaker, gardener to C. B. Cowell, Esq., St. Margaret's, Tuddenham Road. Mr. Dow had the best six florists' cinerarias out of a very moderate set of five exhibits. Mr. Paul had the best three deutzias, and he scored in the classes for calceolarias with a really magnificent set, and also led for schizanthuses.

Mignonette, six pots, secured a first prize for Mr. Paul, and it was finely grown. There was a close fight between Mr. Dow and Mr. Colchester for first place for six pots of tulips, but awards were made to them in the order of their names, the former having rather the larger blooms; Mr. Burroughes third. Messrs. Colchester, Dow, and Burroughes took the awards, as placed, for three pots of daffodils.

In the ladies' classes there were some pretty displays, consisting of bowls, vases, and bouquets of daffodils and other flowers, and the leading prizewinners were Miss Snell, Anglesea Road; Miss A. Harwood, St. Peter's Street, Colchester; Mrs. E. Butcher, Upper Brook Street; Mrs. Judge, London Road; Mrs. D. C. Warnes, and Mrs. G. Hempson, Springe Vale, Sproughton.

TRADE DISPLAYS.

Mr. R. C. Notcutt, Ipswich, displayed a fine large group of forced flowering shrubs, lilacs, and mollis azaleas being the chief features, but the exhibit lacked a neat marginal finish. Messrs. B. R. Cant and Sons, Colchester, had a charming lot of roses, Rose du Barri, Fortune's Yellow, and Elizabeth, figuring conspicuously. Mr. F. Lilley, Guernsey, brought over some fine daffodils, notably White Lady, Broad Wings, Gloria Mundi, Argent, and Don Quixote.

Messrs. R. Wallace and Co., Colchester, had a pretty set of hardy primulas, and Messrs. Bakers, Wolverhampton, sent aubrietias, and saxifragas, while Mr. C. Buck, Ipswich, had floral designs, carnations, etc., and decorated the doorway of the Corn Exchange with big bunches of daffodils.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE.—April 19.

Present: Mr. E. A. Bowles, M.A., F.F.S., F.L.S. (in the chair), Dr. A. B. Rendle, F.R.S., Messrs J. Fraser, J. Douglas, A. Worsley, J. T. Bennett-Poë, W. Hales, W. Fawcett, E. M. Holmes, R. Hooper Pearson, and F. J. Chittenden (hon. sec.).

THE LATE MR. G. S. SAUNDERS.—The members heard with deep regret of the death of Mr. G. S. Saunders, F.L.S., who had for many years been a regular attendant at the meetings of the Committee, and who had acted as entomological referee. It was resolved that a vote of condolence should be conveyed to Mr. Saunders's relatives, the resolution being carried by the members in silence, upstanding in their places.

A FOUR-MERONS NARCISSUS.—Mr. Chittenden showed, on behalf of Mr. Murray Thompson, a flower of Narcissus "Sir Watkin," having eight perianth pieces, eight stamens, and a four-celled ovary with four-lobed stigma. The multiplication of parts in narcissus flowers is frequent, but this specimen showed the multiplication very regularly.

INFERTILE CINERARIA.—Mr. Worsley drew attention to a blue flower cineraria which he found among others in his garden with the stamens developed, but containing no pollen.

INTERMITTENT VARIEGATION.—Mr. Bowles read a communication from Canon Ellacombe concerning variegation in Sedum telephium. This plant had produced leaves variegated with pink in his garden in 1908, and a piece of the plant was placed in Mr. Bowles's garden, where, also, it grew variegated. In 1909, however, in both gardens the shoots were wholly green, but this year again, in both gardens, they were coming variegated. Other examples of intermittent variegation were mentioned, most occurring when the plant in question had been placed under different conditions from that in which it generally grew, and it was considered that variegation depended largely upon the environmental conditions acting upon the plant, as well as an innate tendency to produce variegated foliage.

Norfolk and Norwich Spring Flower Show.

The array of narcissi at this exhibition was very good indeed, beside which there were many classes for various cut flowers, pot plants, and vegetables.

There were four entries in the class for a circular group of flowering and foliage plants, and here Mr. Andrews, gardener to Captain Meade, Earsham Hall, had the distinction of winning the challenge cup with a pretty group.

Mr. George Davison, gardener to Colonel Petre, Westwick House, Norwich, was the winner in the most important classes for narcissi, viz., thirty-six varieties, three blooms each; and twelve varieties, all trumpet types. Mr. Davison has been working away at the large trumpet section for many years, and the result of his labours was shown in the seedlings he exhibited. These were respectively named **Juliana, Unicorn, Edmund, Charlemagne,** and **Dumpy.** They all, with the exception of the latter, possess beautifully-frilled trumpets and wide perianths, and from an exhibitor's point of view, are most attractive.

Mr. A. Woodhouse, gardener to Sir H. Cozens Hardy, Letheringsett Hall, also staged exceptionally good blooms in both these classes. Mr. Frank Neave, Lingwood, won the bronze medal for the best dozen blooms grown by an amateur enthusiast. Mr. Lewis Smith, gardener to Robert Fellowes, Esq., Shotesham Park, staged some fine examples of flowers from the hardy garden, and in his stand of twelve bunches, for which he took first prize, were to be seen such charming things as gentians, primulas in variety, and Trillium grandiflora. He won first also with anemones, staging four distinct types. As an "inside" grower he won first for twelve bunches of exotic flowers, and first for six orchids, in pots or pans, beating Mr. Rider Haggard's gardener, who, nevertheless, had a fine batch. Carnations were another fine feature, and those staged by Mr. W. Laws, gardener to G. E. White, Esq., Eaton, Norwich, were indeed fine examples, especially the blooms of Marmion; Mr. W. Allan (Gunton) had a nice lot of flowers in this section.

Mr. Frank Neave was first for polyanthuses, with trusses of immense size and beauty. Tulips were only a moderate display. Violets were a strong class, doubles predominating. The pot plants were in every case splendid examples of cultural skill. Dr. Thomson, Thorpe, and Mr. F. Williams, gardener to Louis Tillett, Esq., Catton, both staged splendid mignonette, cyclamen, too, were good from Dr. Osburne's garden. Schizanthuses, cinerarias, calceolarias, azaleas, and amaryllis were all on view from the best local growers.

Fruits were represented only by strawberries, the best coming from Mr. U. Wright, gardener to W. J. Birkbeck, Esq., Stratton, and those in pots from Mr. F. Williams, gardener to Louis Tillett, Esq. The best lot of vegetables was a fine collection staged by Mr. W. Chettleburgh, gardener to Colonel Rous, Worstead House.

The trade growers contributed their quota to the show. Messrs. Daniels Bros., Lim., Norwich, had a magnificent group of forced shrubs, roses in pots, and cut blooms; Messrs. Hobbies, Lim., Dereham, made a feature of roses grown in pots; Mr. G. W. Miller, Clarkson Nurseries, Wisbech, made a feature of orchids with a stand of profusely-flowered plants, odontoglossums being especially good.

The general appearance of the exhibits was in advance of former years, and it is pleasant to record that the public appreciated the efforts of the Norfolk and Norwich Horticultural Society to keep this show going by turning up in larger numbers than usual.

The Horticultural Club.

OLD FRENCH FLORAL LITERATURE.

At the usual monthly dinner of this club, held at the Hotel Windsor under the chairmanship of Mr. W. A. Bilney, on Tuesday, the 19th, Mr. C. Harman Payne delivered a very interesting address on "French Floral Literature prior to 1800." Considering the comparative paucity of floral material which was available for the floriculturist at that time, the lecturer pointed out the curious fact that a very large number of writers treated of such flowers as were in vogue, which included our still familiar friends:

Carnations.
Cyclamen.
Anemones.
Pæonies.
Roses.
Ranunculus.
Tulips.
Hyacinths.
Crown Imperial.
Antirrhinums.
Balsams.
Poppies.
Foxgloves.
Marigold.
Daisies.
Lily of the Valley.
Pansies.
Wallflowers.
Lilac.
Rosemary.
Sunflower.
Passion Flower.
Jessamine.
Amaranth.
Auricula.
Everlasting Pea.
Marvel of Peru.
Primrose.
Crocus.
Narcissus.
Tuberose.
Iris.
Lilies.
Orchids.
Aquatics.

A by no means insignificant list. These were treated on lines which in many cases must have involved great expense, and yet, as surviving examples prove, ran into numerous editions, and held their own in some cases for many decades. These works appear practically to have formed the main foundation of English floricultural literature at that time in the form of translations, and as many of them gave long lists of the names of the flowers concerned, they are of intense interest to such flower lovers as are not contented with the mere study or culture of the plants themselves, but also desire to know their origin and pedigree and history generally.

It is noteworthy that much of the data of that time was collected by ecclesiastics whose avocation permitted them to pursue such studies systematically, while it is clear that at that epoch the wealth and stability (real or assumed) of the French Court and aristocracy permitted of the [illegible] ful support being given to encourage [illegible] publication of their records on liberal [illegible] By comparison, the English floral literature of the same period was insignificant. [illegible] dentally the lecturer lamented that our public libraries, even that of the British Museum, involved no collection of old floral literature of this class, though abroad they could be found well represented, and he expressed the hope that the Royal Horticultural Society would do something in this connection with relation to the Lindley Library and their own contemplated additions thereto.

In the subsequent discussion, in which Messrs. Bilney, May, Druery, Walker, Sanders, Cook, and Jeffries took part, Mr. May, adverting to the lecturer's allusion to the salutary influence of the expatriated Huguenots on British floriculture, said that, as a youth he recollected seeing tulips and other flowers carefully cultivated at Spitalfields, where these exiles largely settled, founding in that locality the silk-weaving industry, which they imported together with their floral knowledge. Mr. Druery, while fully appreciating the lecture from the bibliographical point of view, considered from his own experience of ancient fern literature, that it was of little or no use as a practical guide to culture nowadays, too often consisting of myth and fable and a multitude of synonyms, the great bulk of which had long since been discarded. Mr. Sanders and Mr. E. T. Cook, as representing the business side of floricultural literature, pointed out that books on such flowers as the ranunculus, which Mr. Payne regretted no longer appeared, would not possibly pay nowadays, a theme which Mr. Bilney summed up by pointing out that in the old days such special treatises as had been described constituted the sole resource of would-be cultivators, while to-day they were kept fully informed day by day by a competent horticultural Press at next to no expense at all. He, however, fully recognised, as did the rest of the audience, that the historical side of floriculture was of absorbing interest, and he most heartily congratulated Mr. Payne on the way in which he had brought the fact home to his hearers, on whose behalf he thanked him cordially.

Bournemouth Gardeners' Association.

On April 19 a very interesting and instructive lecture was given by Mr. G. H. Heath, Glenfallock Gardens, Bournemouth, on "The Cultivation of Primula sinensis."

The lecture was short, but full of useful hints, and a good general discussion followed, nearly all the members taking part. Mr. Heath exhibited twelve primulas, and was deservedly awarded a first-class certificate. A similar award was made in the case of mignonette and schizanthuses in pots; they were very fine indeed. These were shown by Mr. Tompkins.

Mr. Heath's primulas were of large size, named varieties, and included the Giant, as well as older types. The trusses and individual flowers were of good average size, especially considering the lateness of the season, and the fact that some of the plants commenced to flower six months ago, and had continued to do so up to the present time.

The following are the chief points of the lecture. Mr. Heath makes two sowings for his purpose; the first early in March, and the second in May. The seeds are sown in a mixture of loam, leaf-soil, and sand, and the pans placed in a temperature of 60 deg. The soil is kept regularly moist, and is shaded from bright sunshine. In June all the plants are removed to a cold frame. From the seed pans the seedlings are transplanted into shallow boxes, Mr. Heath being a firm believer in obtaining a mass of fibrous roots, spreading out every way, in preference to a few roots penetrating deeply. The lecturer preferred transplanting to early potting separately in small pots, on account of the necessity for constant watering in the latter case. The potting compost recommended was loam two parts, leaf-soil one part, and decayed manure one part, with a small quantity of old mortar rubble and sand to keep the whole porous. Mr. Heath said he potted his plants firmly and rather low down; the leaves were not buried, but allowed to rest on the soil. From the boxes he potted the plants into 60's, then shifted them into 48's, and finally into 32's. After the first potting had been done, he always took care to shift the plants directly the roots touched the sides of the pots.

Careful watering, said the lecturer, was essential to success. If the soil was kept too wet the plants soon collapsed, and if it was allowed to get dry several times the plants lost some of their leaves. In very hot weather Mr. Heath advised syringing early in the morning. Throughout July, August, and September the plants made rapid growth, and in settled weather he said he removed the lights at night, as the dew was very beneficial. In September the plants were removed from the frames to a warm house.

At the close of the discussion, hearty votes of thanks were accorded the lecturer and Mr. Garner, who presided.

Birmingham Gardeners' Association.

The last fortnightly meeting of the association took place on April 18, when an average number of members attended, and were presided over by Mr. Thomas Humphreys (the chairman). It was "Question Night," and this has ever possessed a special interest for the debaters. Another interesting matter was the consideration of the annual outing fixture, but, as nothing was definitely settled, this was delegated to a sub-committee to bring up for approval at the general meeting.

The questions were numerous, and of special moment was that pertaining to the reason why certain varieties of peaches and nectarines were more prone to mildew and "blister" than others. It was suggested that as the petioles of the leaves had no glands, and the leaves were serrated, while, on the other hand, such varieties as Grosse Mignonne, with the leaves crenated and glands globose, are not so liable to mildew. The conditions necessary for the development of mildew was considered to be the unequal degree of moisture existing between the atmosphere of the house and the medium in which the roots are growing; for instance, if the border be kept abnormally dry, and the atmosphere of the house close or moist for a few days, the foliage will speedily mildew, while cold currents of air also favour the "blister." Another puzzling problem was why the fruits of tomatoes sometimes fail to ripen perfectly owing to the presence of peculiar greenish-coloured blotches that affect the epidermis and relative portions of the flesh. There was more than one opinion that it was caused by frequent syringings and sun-burnings. It was also suggested that the symptoms evidenced a lack of some constituent in the soil, probably potash, necessary for the perfect ripening of the fruit. The most suitable soil or loam for the culture of carnations, and the most efficient insecticide for the destruction of red-spider were debated, and one of the best for the latter purpose was considered to be XL-All, if used in a comparatively dry atmosphere.

Reading and District Gardeners' Association.

The last meeting of the Spring Session was held in the Abbey Hall on April 18, the president (Mr. Alderman Parfitt, J.P.) occupying the chair.

There was a very large company present, including a number of lady visitors, when, by request of the members of the association, Mr. T. J. Powell, of The Gardens, Park Place, Henley-on-Thames, gave a practical demonstration in the art of arranging cut flowers in vases, bowls, etc. Mr. Powell prefaced his demonstration with the remark that the more natural the flowers can be made to appear when cut, the more pleasing is the effect to the eye. His arrangement in bowls of magnolias, Cydonia japonica, spiræas, narcissi, and roses called forth much praise, as also did his vases of schizanthus, shrubby spiræas, and Forsythia suspensa, but the climax was reached when he decorated an overmantel with narcissi and again with roses. Mr. Powell having answered several questions, a hearty vote of thanks was accorded him for a most interesting and instructive evening; and Messrs Bracher and Sydenham were also heartily thanked for so kindly lending the silver bowl and vases, and Mr. Phillips for the loan of tables and cloths.

As this was the evening set apart as "The Annual Hospital Night," a magnificent display, comprising over a hundred bunches of cut flowers, was made, consisting of arums, arabis, berberis, cinerarias, deutzias, geraniums, myosotis, narcissi (in variety), Pyrus japonica, polyanthus, ribes, spiræas, schizanthus, wallflowers, etc. Those contributing were Messrs. Abraham, Barnes, Bailey, Blackwell, Brooker, Boxall, Carter, Dix, Dore, Durrant, Eggleton, H. Goodger, Garlick, R. A. Hatton, Hinton, Judd, Lees, Newman, Neve, W. J. Townsend, F. Townsend, Tunbridge, Tovey, Procter, Powell, Nichols, Reeves, Skeet, Wynn, and Wilson.

A collection was also taken on behalf of the Royal Berkshire Hospital, and the sum of £3 8s. 6d. was realised. On the next morning the flowers were conveyed to the Berkshire Hospital.

Bristol Gardeners' Association.

The annual meeting was held on April 21 at St. John's Parish Rooms, when Mr. S. Shaddick presided over a large attendance. Mr. J. Scott read the annual report, followed by the financial statement, both of which were satisfactory, from whatever position viewed.

The society is now standing on a firmer basis than at any time in its history. Colonel Carey Batten was re-elected president; Mr. Hayball was chosen as chairman; and Mr. Albert Perry as vice-chairman for the new session. Messrs. J. Scott and H. Woodward were re-elected hon. secretary and treasurer, and assistant secretary respectively. Messrs. Coombs and Extence were also re-elected librarian and registrar. Four new members were elected.

It was reported that several young men had made a full attendance for the session. Mr. Shelton won the silver medal for the highest number of points. For six vases of daffodils, Messrs. Scott and Woodward won respectively, and Messrs. Binfield and Spry were equal third. Mr. Gostling won three points, and Mr. Curtis two for orchids. Messrs. Garaway were awarded a special certificate for six large plants of their giant strain of schizanthus. Mr. Thoday also had a special for a very fine amaryllis.

Croydon Gardeners' Society.

There was a large attendance at the Sunflower Temperance Hotel on Tuesday, when Mr. J. Watson, B.Sc., of Redhill, lectured upon "Leaves."

After quoting Ruskin, to the effect that "Leaves take all shapes, as if asking us to examine them," the lecturer proceeded to exhibit some splendid lantern slides, and by their means he was able to convey to his audience the structure of the leaf. In examining this structure of a transverse section he showed it was composed of the upper and lower epidermis or skin, and between these the cells through which passes the food of the plant taken up by the root system. The flow of moisture passing through the tissues is in excess of the plant's requirements, and this excess is passed into the air we breathe through pores in the leaf, called stomata. The stomata serve a double purpose, for while they allow this escape of moisture, they admit also the carbon dioxide, which is chemically broken up by the chlorophyll or green colouring matter in the leaf. This process helps us to comprehend the economy of nature. The arrangement of the leaves on a plant in the most favourable position to get sunlight is another point to be considered by the observer. Another study is the adaptation of the leaves of a plant to its environment, and an example of this was illustrated by the water crowfoot. The part of the plant growing above the water has broad leaves, whilst those submerged are of much finer substance. In the cacti there is an illustration of a different arrangement; for many months cacti are without water at the roots, and Nature has ordained methods of retention of moisture to serve, and leaves to a plant of this kind would be a positive danger to its welfare. The thistle furnishes an illustration of flower protection, the thorny structure being so arranged to prevent ants and other insects climbing up to rob the flower of nectar.

The proposal of a very hearty vote of thanks to Mr. Watson received unanimous support from the audience. Mr. O. Jeal, Waddon Lodge Gardens, staged half a dozen cabbages, Sutton's Early April, which were much admired.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1910. April 17 to April 23.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
April 17—Sunday	4 48	43	40	54	41
,, 18—Monday......	0 12	47	46	56	40
,, 19—Tuesday	1 6	56	53	60	46
,, 20—Wednesday .	0 12	53	50	60	49
,, 21—Thursday ...	3 48	58	54	64	52
,, 22—Friday.........	3 6	49	48	58	47
,, 23—Saturday ...	—	43	38	50	34
Means	(total) 13 12	49	47	57	44

Date. 1910. April 17 to April 23.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
April 17—Sunday	—	47	47	46	39
,, 18—Monday.....	—	46	47	46	33
,, 19—Tuesday......	trace	49	48	46	49
,, 20—Wednesday .	—	50	48	46	49
,, 21—Thursday ...	0·13	51	49	47	48
,, 22—Friday........	trace	51	50	47	43
,, 23—Saturday ...	0·08	49	50	47	28
Means ...	(total) 0·21	49	48	46	41

FORTHCOMING ENGAGEMENTS.

SATURDAY, April 30.—Brussels International Exhibition, Flower Show; four days.

TUESDAY, May 3.—Royal Horticultural Society; Daffodil and Tulip Committee, at 11.30 a.m.; Fruit, Floral, and Orchid Committees at 12 o'clock; lecture at 3 o'clock, on "Future Forest Trees," by Dr. A. Henry, M.A., V.M.H.; Scientific Committee, at 4 p.m.

National Auricula and Primula Society, at the Royal Horticultural Hall.

Scottish Horticultural Association.

British Gardeners' Association Council Meeting.

WEDNESDAY, May 4.—National Auricula and Primula Society, Midland Section, at Birmingham Botanical Gardens.

THURSDAY, May 5.—Linnean Society Meeting.

SATURDAY, May 7.—French Horticultural Society of London.

MONDAY, May 9.—United Horticultural Benefit and Provident Society.

WEDNESDAY, May 11.—East Anglian Horticultural Society.

Royal Society of Arts.

THURSDAY, May 12.—British Gardeners' Association. London Branch.

FRIDAY, May 13.—Devon County Show at Exmouth.

TUESDAY, May 17.—Royal Horticultural Society; Fruit, Floral, Orchid, and Tulip Committees meet at 12 o'clock; lecture at 3 p.m. on "The Tulip: Problems and History," by the Rev. Joseph Jacob; Scientific Committee at 4 o'clock.

National Tulip Society's Show, to be held at Royal Horticultural Hall.

THURSDAY, May 19.—Perpetual Flowering Carnation Society, at Royal Horticultural Hall.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

BLUE PRIMROSE.—B. T., Swindon: The flowers sent are very beautiful, the shade of violet-blue being specially attractive. Carefully seed the plant, and make a rigid selection from the resulting seedlings, with a view of increasing the size and substance of the flowers. Increase the original plant by division, and use plenty of leaf-mould in the soil provided for the divisions.

FIGS IN EARLY VINERY.—J. W., Yarmouth: The figs are not likely to be a great success under the conditions to which they are at present subjected. The plants receive too much shade from the fast-growing vines, and this shade increases as the need of light becomes more and more imperative. Further, figs planted out are not suitable for early forcing, because the stems become active before the roots; figs in pots, the latter plunged in leaves or other suitable material and given a little bottom heat are easily forced. It is also probable that the planted-out figs have too deep and rich a root run, but lack of light, coupled with early forcing, are the chief causes of failure in regard to the first crop, and this is proved by the fact that the second crop of figs comes fairly good later in the season, when there is more light and little artificial heat.

A SHAKESPEAREAN GARDEN.—J. C., Wavertree: Shakespeare refers to a very large number of plants in his plays, and it is from these that a selection is made for a Shakespearean garden. You will probably leave the vegetables out altogether, but flowers, herbs, and many of the trees could be grown without any great difficulty. The design of the garden is a matter of taste; we incline to the view that it should be of formal plan, and surrounded by a yew hedge, with walks radiating from a central old-fashioned sun-dial. The following are the trees and shrubs referred to by Shakespeare: Almond, apple, apricot, ash. Aspen (Populus tremula), bay, Bilberry (Vaccinium myrtillis), birch, blackberry, box, briar, broom, cedar, cherry, chestnut, cork, cypress, damson, Dewberry (Rubus cæsius), dogberry (probably Cornus sanguinea), Eglantine (sweet briar), elder, elm, fig, filbert, furze, gooseberry, hawthorn, hazel, heather, holly, honeysuckle, ivy, laurel, lavender, lime, marjoram, medlar, mistletoe, mulberry, myrtle, oak, peach, pear, Pine (Pinus sylvestris), plane, plum, pomegranate, quince, rose, rosemary, rue, sycamore, thyme, vine, walnut, willow, Wormwood (probably Artemisia abrotanum), and yew. We have omitted the tropical kinds that it would be useless to plant out of doors.

MOSCHOSMA RIPARIA.—G. G. B. C., Alnwick: This plant is a shrubby member of the order Labiatæ, and comes from South Africa. It has been grown for several years at Kew, and proved a useful winter flowering subject. It was exhibited by two firms of nurserymen on January 6, 1904, before the Royal Horticultural Society, and received an Award of Merit. The flowers are quite small individually, but they are carried in long, plumose, spiræa-like spikes, and as they are white they produce a very graceful effect, and good plants are very suitable for association with gaily-coloured flowers in the conservatory. After the plants have finished flowering they should be cut back, placed in a warm greenhouse, and watered sparingly. After a few weeks of this treatment they will commence to break into new growth, and should then be placed in a warmer house where there is a moist atmosphere. The new growths will soon develop here, and when they are three inches long these should be removed with a heel of old wood and inserted singly in small pots, or several in a 48-sized pot. Over gentle bottom heat in a close pit these cuttings quickly root, and they must be potted up as soon as fit. When established, place them on a shelf in an intermediate house, and pot again as necessary. During the summer Moschosma riparia will need very little artificial heat, and a greenhouse or brick frame will afford sufficient protection, returning them to the warm greenhouse in September. During the earlier stages of growth pinch out the growing points twice to induce a bushy habit; if pinched more often a larger plant may be secured, but the spikes will be small. Moschosma riparium must never lack moisture at the roots from the time the cuttings are rooted until the flowers have faded. Weak liquid manure may be given after the plants have become well-rooted in their flowering pots, and 48 or 32 sized pots are sufficiently large. Sound loam, sand, and a little leaf-soil or old mushroom bed manure makes a suitable compost for Moschosma riparium.

WEEDS IN LAWNS.—E. C. P., Newbury: Failing the tedious business of hand-weeding the lawn, you had better use one of the lawn sands advertised in our columns. Nitrate of soda will encourage many of the weeds and strong grasses. Superphosphate is a capital dressing for lawns in the spring especially if mixed with sulphate of ammonia at the rate of three parts of the former with one part of the latter, using about 1lb. per square rod. One such dressing at the end of February, and another from the middle to the end of April, will work wonders upon a lawn that has been neglected.

SHAKESPEARE'S FLOWERS. — J. C., Wavertree: The following are the chief flowers referred to by Shakespeare: Aconite (Aconitum napellus), anemone, Bachelor's Button (possibly Ranunculus acris fl.-pl.), Balm (Melissa officinalis), barley, bread beans, bulrush, Burdock (Arctium lappa), Burnet (Poterium sanguisorba), Camomile (Anthemis nobilis), carnation, clover, cockle or cornflower, columbine, corn, cowslip, Crow-flower (Lychnis flos-cuculi), Crown Imperial, Cuckoo-buds (Cardamine pratensis), daffodils, daisy, Darnel (Lolium temulentum), dock, Eringoes (Eryngium maritimum), fennel, fern (hardy), flax, Flower-de-Luce (iris), fumitory, Harebell (Scilla nutans), hemlock, Holy Thistle (Carduus benedictus), hyssop, Knot-grass (Polygonum aviculare), Lady-smocks (Cardamine pratensis), Lark's Heel (Larkspur or delphinium), lily, Long Purples (Orchis mascula and O. maculata, or, possibly, Lythrum salicaria), mallow, Mandrake (Mandragora vernalis), Marigold (Calendula officinalis), Marybuds (see marigold), mint, mustard, narcissus, nettle, oats, oxlip, pansy, parsley, pæony, Pig-nut (Conopodium denudatum), pink, plantain, poppy, primrose, pumpion, or pumpkin, rush, rye, Saffron (Colchicum or crocus), samphire, savory, Sedge (Carex pendula), Spear Grass (as this is probably Couch-grass, Triticum repens, you had better omit it), strawberry, Vetch (Vicia sativa), and violet.

FLOWER SHOW SCHEDULES.

We shall be obliged if secretaries of societies will forward us a copy of their schedule for the present year.

National Dahlia Society.—First show on September 8 and 9, at the Crystal Palace; second show on September 20 and 21, at the Royal Botanic Gardens, Regent's Park.

Perpetual Flowering Carnation Society.—This society's eighth and ninth shows will be held at the Royal Horticultural Hall, respectively on May 19 and December 13.

Finchley Horticultural Society.—Fifty-first exhibition, July 14, at Manor House. There are 127 classes, and in 71 of these the prizes are specially provided.

Uxbridge Horticultural Society.—Wednesday, July 13, at Hillingdon Court. Roses and sweet peas are specially provided for.

MARKETS.

COVENT GARDEN.

Flowers.

Daffodils are plentiful and so are carnations and roses, but all sell readily at moderate rates.

		s.	d.		s.	d.
Acacia	per doz. bun.	8	0	to	10	6
Adiantum cuneatum	per doz. bun.	6	0		8	0
Anemones	per doz.	1	0		1	6
Arums	per doz.	1	6		2	6
Asparagus	per bun.	1	0		1	6
Azalea, Ghent	per bun.	0	6		0	9
Camellias	per doz.	1	6		2	0
Carnations	per doz. blme.	1	6		5	0
,,	per doz. bun.	12	0		18	0
Cattleyas	per doz.	6	0		10	0
Croton leaves	per bun.	1	0		2	6
Daffodils	per doz. bun.	1	0		3	6
Eucharis	per doz.	3	0		4	0
Freesias	per doz. bun.	1	0		1	6
French fern	per doz. bun.	0	6		0	9
Gardenias	per doz.	1	6		2	6
Gypsophila elegans	per doz. bun.	3	0		4	0
Iris, Spanish	per doz. bun.	6	0		9	0
Lapagerias	per doz.	1	6		2	0
Lilac, French	per bun.	2	0		3	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		3	0
,, longiflorum	per bun.	2	0		4	0
Lily of the Valley	per doz.	6	0		9	0
Marguerites	per doz. bun.	2	0		4	0
Mignonette	per doz. bun.	3	0		6	0
Narcissus	per doz. bun.	1	0		2	0
Odontoglossums	per doz. blms.	1	0		2	0
Pelargoniums	per doz. bun.	4	0		6	0
Roses	per doz.	1	0		5	0

Fruits.

The demand is chiefly for oranges, bananas, and apples; the Cape fruits sell well.

		s.	d.		s.	d.
Apples, Californian	per case	6	0	to	8	0
,, American	per barrel	10	0		27	0
,, Canadian	per barrel	10	6		25	6
,, Nova Scotian	per barrel	10	0		18	0
,, Australian	per box	7	0		12	0
Apricots, Cape	per box	4	0		5	6
Bananas	per bun.	3	0		10	0
Grapes, English	per lb.	2	0		4	6
,, Almeria	per doz. lbs.	4	0		7	6
,, Cape	per 20lb. box	5	0		16	0
Lemons	per case	6	0		21	0
Melons		1	6		4	0
Oranges Jamaica	per case	9	0		12	0
,, Jaffa	per case	10	0		12	0
,, Valencia	per case	9	0		18	0
,, Navels	per case	8	0		10	6
,, Denia	per case	14	0		27	6
Peaches, Cape	per box	4	0		8	0
,, English	per doz.	15	0		24	0
Pears Cape	per box	4	0		6	0
,, Australian	per box	7	6		12	0
Pineapples	each	1	6		4	6
Plums, Cape	per box	5	0		9	0
Strawberries	per lb.	1	6		4	0

Vegetables.

Greenstuffs and rhubarb meet a brisk demand. Asparagus sells well and the demand for salading is improving.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	2	6
Asparagus	per bun.	1	4		5	0
Beet	per bush.	1	6		2	0
Beans, Dwarf	per lb.	0	8		1	2
Broccoli, Sprouting	per bag	1	0		1	6
Cabbage	per tally	4	0		5	0
Carrot, new	per doz. bun.	4	0		7	0
Cauliflowers	per tally	4	0		8	0
Celeriac	per doz.	1	6		2	6
Chicory	per 12lb.	2	6		3	6
Cucumbers	per doz.	1	6		4	0
Endive	per doz.	1	3		2	0
Horseradish	per doz. bun.	10	0		15	0
Leeks	per doz. bun.	1	0		1	6
Lettuce	per doz.	1	0		1	3
,, Cos	per doz.	3	0		4	0
Marrows, Madeira	per doz	10	0		16	0
Mint	per doz. bun.	3	0		4	0
Mushrooms	per doz. lb.	6	0		10	0
Mustard and Cress	per doz. pun.	0	10		1	0
Onions	per case	6	0		9	0
Parsley	per doz. bun.	1	6		2	6
Parsnips	per bag	1	6		3	0
Radishes	per doz. bun.	0	8		0	9
Rhubarb	per doz. bundles	0	6		1	3
,, natural	per tally	4	0		6	0
Savoys	per tally	3	0		4	6
Seakale	per doz. pun.	9	0		12	6
Spinach	per ½-sieve	2	0		3	0
Tomatoes, English	per doz. lb.	8	0		12	6
,, Canary	per case	10	0		14	0
Turnips, new	per doz. bun.	3	0		6	0

LONDON POTATO MARKETS.

Business is dull and the large supplies tend to reduce prices.

		s.	d.		s.	d.
Bedfords	per ton	60	0	to	65	0
Blacklands	per ton	40	0		60	0
Dunbars	per ton	85	0		105	0
Evergood	per ton	45	0		60	0
Express	per ton	60	0		65	0
Kents	per ton	65	0		70	0
Lincolns	per ton	45	0		80	0
Up-to-Date	per ton	65	0		80	0
Teneriffe	per cwt.	10	0		12	6
Jerseys, new	per lb.	0	3½		0	6

CATALOGUES RECEIVED.

BEES, LIM., MILL STREET, LIVERPOOL.—A small spring catalogue of dahlias, carnations, bedding plants, pot roses, etc.

R. E. WEST, FIRTH DENE, REIGATE.—A hardy illustrated catalogue of rose protectors, trainers for roses, pergolas, rose cups and tubes, flower holders, labels, etc.

BOULTON AND PAUL, LIM., NORWICH.—It is only when one inspects a catalogue like the present that the infinite variety and usefulness of trellis work and mural treillage becomes apparent. Arches, arbors, verandahs, and pergolas in trellis work are illustrated, and there are numerous designs for garden seats.

J. CHEAL AND SONS, CRAWLEY AND VICTORIA STREET, WESTMINSTER.—A little booklet containing suggestions for ideal gardens, and illustrations of rock garden and old English gardens, garden furniture, etc., designed and executed by the firm.

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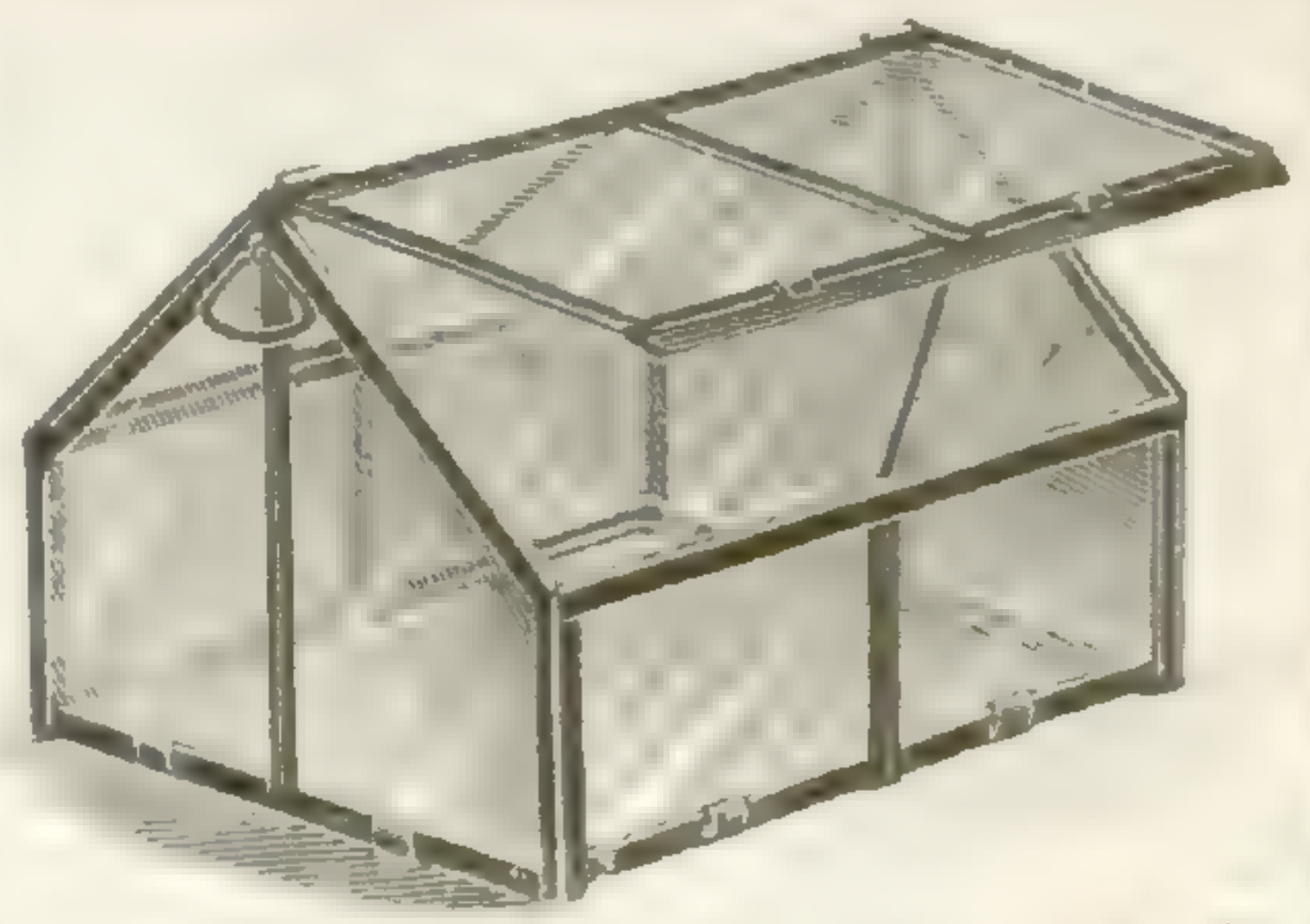

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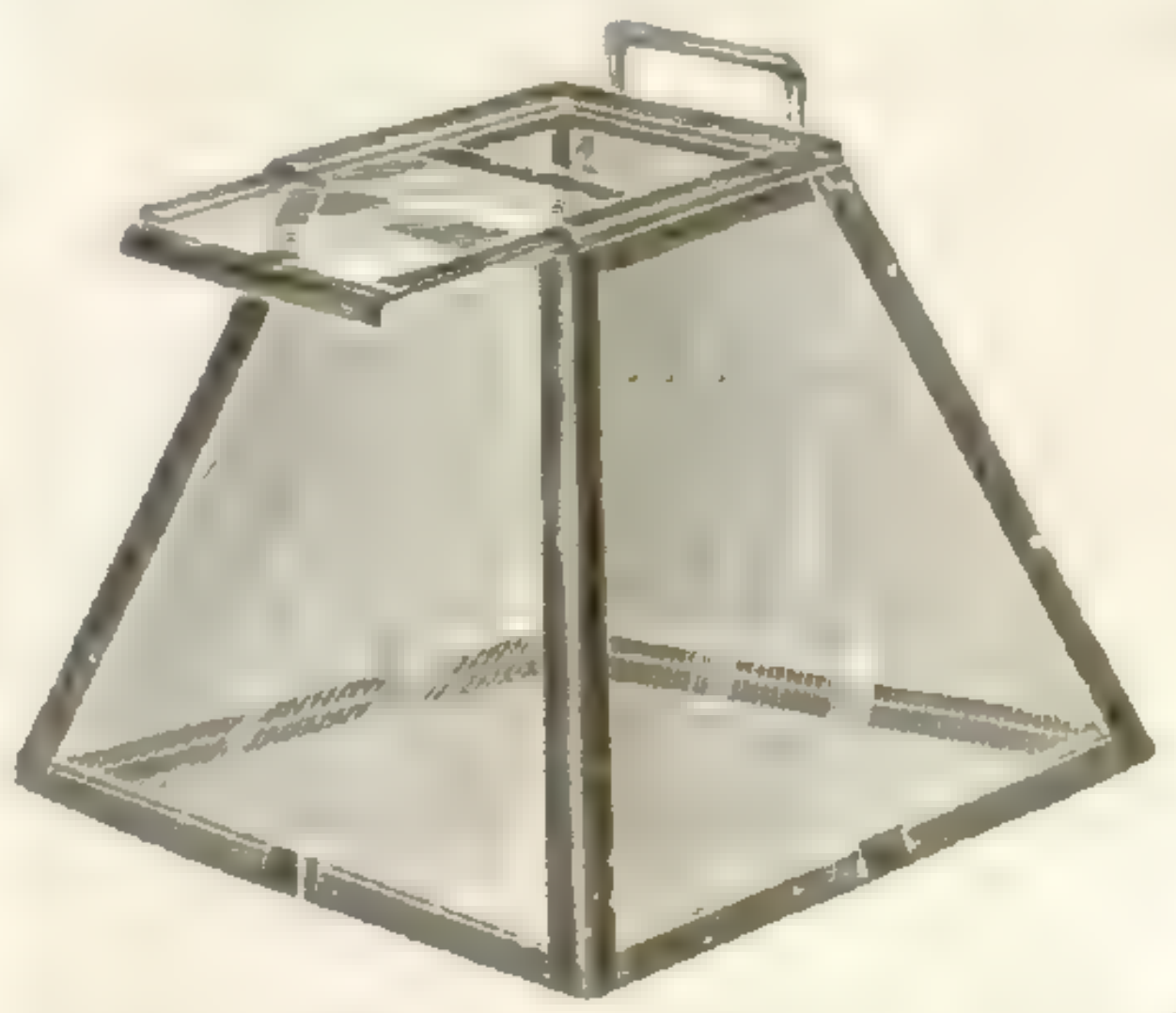

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The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

MR. ALEX. KIRK, for 30 years Head Gardener to the late John Thomson Paton, Esq., Norwood, Alloa, will retire from the charge of the Gardens in May, and is willing to accept another engagement or offers his services as CONSULTING GARDENER, and to give advice on the Cultivation of the Vine and Erection and Renewal of New or Old Vineries, etc. Winner of the 50-Guinea Challenge Cup at Edinburgh, 1906 and 1908; author of "Grape Culture Up-to-Date."—Apply to A. KIRK, Norwood, Alloa, N.B.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

MR. E. R. BEVAN, 6, Chelsea Embankment, highly recommends his late GARDENER (Head Working); 13 years in his service; life experience; extremely intelligent and trustworthy; 39; married, one child. H. KING, Rempstone, Corfe Castle.

GARDENER (Head Working); experienced in the cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, etc.; also Hardy Fruit culture; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; prize winner; leaving own request; no young children; youngest 13. W. BLOOMFIELD, Staplehurst, Kent.

GARDENER (Head Working).—Gardener's Son seeks SITUATION where two or three are kept; life experience, including 5½ years at Londesborough Park and over two years in present situation as Foreman; age 27; good references. HODGSON, Kirklees Gardens, Brighouse.

GARDENER (Head Working), life experience Inside and Out, in good establishment; vines, flowers, vegetables, hard fruit, stove and greenhouse plants; capable and trustworthy; good references; married; no family; age 39. R. GRIFFITHS, 8, Pitt Road, Farnboro', Kent.

GARDENER (Head Working).—W. HULBERT, The Gardens, Clarefield, Maidenhead, highly recommends his Foreman, F. BOOKER, to take charge of small place and Electric Plant if required; life experience Inside and Out; age 27.

GARDENER (Head Working, where more are kept), age 28; life experience Inside and Out in good places with Vines, Fruit, Plants, House Decorations, Forcing, etc.; good references previous places. MIDDLETON, Exbury House, Exbury, Southampton.

GARDENER (Head Working), age 30.—Mr. WATSON, Gardener, The Lodge, Bushey Down, Tooting Common, can highly recommend his Foreman; life experience in all branches; married when suited.

GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

GARDENER seeks SITUATION, Head Working; life experience Inside and Out, Vines, Fruit, Greenhouses, Orchids, Land and Stock, Poultry; wife help; no family; disengaged. E. W. SURMAN, 55, Ellora Road, Streatham.

SIR E. CORNWALL, M.P., wishes to recommend his GARDENER (Head Working, where three or more kept); 22 years' experience; good references; age 37; married, no family. C. DOMAN, Oaklands, Horley, Surrey.

GARDENER (Head or Good Single-handed).—G. HARTMANN, Esq., Newlands, Thames Ditton, recommends his Gardener; five years' reference; age 38. A. COOK, 5, Jubilee Villas, Thames Ditton.

GARDENER (Head or good Second), 12 years' experience, Inside and Out; married, no family; age 26; excellent references. H. CROUCH, 8, Laburnum Road, Chertsey, Surrey.

GARDENER (Head or Single-handed), 16 years' general experience; fruit and plant houses; pleasure and kitchen garden; good references; age 30. D. HILLS, 8, Edwards Road, Chislehurst, Kent. (No circulars.)

GARDENER (Single-handed or with help), good all-round experience Inside and Out; age 25; single; good reference. J. LAMPARD, 5, Camden Grove, Chislehurst, Kent.

GARDENER (Single-handed, or with help); life experience Inside and Out; single; age 25. E. G. FRY, c/o Mrs. H. Osborn, 322, Latimer Road, North Kensington, London, W.

GARDENER (Single-handed or with help). age 26; life experience in flowers, fruit, vegetables, and pleasure grounds; disengaged; wants situation near London S.W.; excellent references. W., 13, Kenilford Road, Balham, S.W.

GARDENER (Single-handed or otherwise) seeks SITUATION; age 28; good experience; understands cows; good references. A. AYRES, Rhodes Farm, Mill Hill, Middlesex.

GARDENER (Good Single-handed or with help); age 30; married, two children; life experience Inside and Out; good references. LOVELOCK, 109, Landcroft Road, Dulwich, S.E.

GARDENER (Single-handed), good all-round, understands cows; can be highly recommended from present employer; over five years; married, no family. T. GORRINGE, Larne Villa, Lindfield, Sussex.

GARDENER (Single-handed); 8 years 3 months' present situation; married, one child; age 28. G. QUITTENTON, The Lodge, Foxburrow, Caterham Valley, Surrey.

MR. STEPHENSON, Sutton Hall Gardens, Chesterfield, can with every confidence recommend G. KITCHEN to any Lady or Gentleman requiring a thoroughly reliable Single-handed Gardener; highest references; age 24.

S. W. SHERLOCK, Oakfield Park, Mortimer, Berks, can highly recommend his First Journeyman as FOREMAN; 9½ years' experience in all branches; age 25; has been here two years as First Journeyman.

GARDENER (Second, chiefly Inside).—Mr. G. NYE, Bay House Gardens, Gosport, Hants, can highly recommend C. GOULD in first-class establishment; thoroughly experienced in all departments, including decorations; disengaged; age 27; married when suited.

FOREMAN (Inside).—Mr. DYE, Tring Park Gardens, Tring, Herts, wishes to recommend C. BALCHIN as above; 12 years' experience i Fruit, Plants, Carnations, and Malmaisons, H and Table Decorations; age 26; good references.

FOREMAN (Inside), aged 28; life experience; Decorative, Stove and Greenhouse Plants, Chrysanthemums, Carnations; total abstainer; North London preferred. E. H., 18, Aberdeen Road, Upper Edmonton.

MR. G. WHITE, The Gardens, Oving House, Aylesbury, can thoroughly recommend F. BUCKINGHAM as FOREMAN (Inside or General); good experience in Fruit, Stove, and Greenhouse Plants, Kitchen Garden work; age 26; excellent references.

GARDENER (Second, Inside or Inside and Out); 11 years' good experience; 3½ years in present situation as Second of five; highly recommended; age 29. GIDDINS, The Bothy, Geralds Cottage, Totteridge, Herts.

GARDENER (Second Inside or Inside and Out, where three or more kept; 7½ years' experience; age 22. S. L. WILLIS, Delamore Gardens, near Ivy Bridge, Devon.

MR. GAY, Pasture Wood, Dorking, highly recommends W. BENTLEY as good SECOND, Inside; 11 years' practical experience in chrysanthemums, fruit, stove and greenhouse plants; three years in above situation; age 28; excellent references; disengaged. 38, White Horse Hill, Chislehurst, Kent.

MANAGER or SUB. in good place; experienced in modern business methods and control of men; 17 years' experience, single, well recommended. C. MITCHELL, Balmullo, Fife, N.B.

F. IBBOTSON, Rolleston Hall, Leicester, wishes to recommend F. JARVIS as JOURNEYMAN (Inside or Inside and Out); age 21; strong and willing; six years' experience.

JOURNEYMAN, age 21, Inside or Inside and Out; six years' experience; can be well recommended, disengaged. J. FRISBY, Park Gardens, Compton Abdale, Glos.

JOURNEYMAN or SECOND (Inside or Inside and Out); 4½ years present situation; age 27; good character. T. W. FORD, The Gardens, Donnington Grove, Newbury.

JOURNEYMAN (Inside, or Inside and Out), seeks SITUATION; age 22; eight years' experience. Address S. WALKER, 2, Wellington Place, Cadnam, near Southampton.

JOURNEYMAN, age 19, seeks SITUATION; Inside or Inside and Out; 3½ experience; well recommended; Bothy pre CHAS. GALE, Police Station, St. Ives, H

JOURNEYMAN (Inside).—H. DUKE, Lodge Gardens, Felixstowe, can with confidence recommend H. GRIFFITHS; age 24; been here two years; Bothy preferred.

JOURNEYMAN (Inside or Inside and Out); nine years' general experience; age 23; good references.—C. ANDERSON, 3, Waterworks Road, Otterbourne, nr. Winchester.

JOURNEYMAN or IMPROVER (Inside).—Rev. G. H. COLVILE, Weston Rectory, Shifnal, Salop, wishes to recommend L. GIBBS as above; four years' experience; age 19; Bothy pr

JOURNEYMAN (First, Inside), age years' experience in Fruit and Pla highly recommended; Bothy preferred. W MAN, Whiteland Cottages, Bicester, Oxon.

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GARDENER (Under), or Single-handed; age 24, single; 8 years' good experience. W., c/o T. Spurling, Rushmere Street, Ipswich.

GARDENER (Under) seeks SITUATION, Inside or Inside and Out, under foreman; age 25; good ref. E. DOW, care Mr. Humphery, Franklynns Lodge, Haywards Heath, Sussex.

GARDENER, single, seeks SITUATION as all-round Man or Garden Labourer; used to scythe and machines; 10 years' experience Inside and Out; abstainer; good character; age 30. H. DAVIS, 42, West Street, Lilley, Luton, Beds.

IMPROVER, age 18, seeks SITUATION under Glass; Bothy preferred; three years' character. SIDNEY HAM, Elm Cottage, Silchester, near Reading.

MR. CATANACK, Victoria Nurseries, The Downs, Luton, Beds, will be pleased to recommend H. DAVIS to any Gardener, Lady, or Gentleman requiring a steady hard-working Man for lawns and kitchen garden; used to scythe and machines; 2 years here; 10 years' experience in all branches; abstainer; single; age 30. H. DAVIS, 42, West Street, Lilley, Luton, Beds.

STRONG LAD requires SITUATION as IMPROVER, Inside and Out; 2 years' good character and 2 years' previous place; age 18. V. MEPHAM, Pay Gate, Burwash, Sussex.

WANTED, SITUATION as IMPROVER in market gardens; 3 years' experience with market florists; age 21; live in preferred. A. LITHGOW, c/o Mrs. Allner, Sturminster Newton, Dorset.

SITUATION required by a strong YOUTH (17) under a good Gardener; has knowledge of Botany; good character. J. L., care of J. Williams, The Gardens, Whitbourne Hall, Worcester.

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WANTED, SITUATION as GARDEN LABOURER, age 40; married, no family; good character and good experience; scythe and machine and spade work, etc; willing to be useful; disengaged. W. L., Grove Yard, Daybrook, Nottingham.

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YOUNG MAN, age 21, wants SITUATION in garden; 6 years' experience; kitchen garden and pleasure grounds; good character; Bothy preferred. Address W. BRIDGEMAN, 38, Union Street, Rugby.

YOUNG MAN, age 18, as IMPROVER; excellent character and references. L. MONK, care of County Gardens, Chelmsford.

YOUNG MAN (Inside or Inside and Out), under a foreman; age 21; one year here and three previous; abstainer. C. HIGGINS, Millbotton, South Holmwood, near Dorking, Surrey.

YOUNG MAN (20) seeks SITUATION under Gardener; 5 years' experience, Inside and out; good reference. H. DRAKE, 156, Payne's Road, Freemantle, Southampton.

YOUNG MAN, 22, seeks SITUATION, Inside Under Foreman; 7 years' experience; Inside and Out; excellent references; highly recommended. H. HAZELL, The Gardens, Beachboro' Park, Folkestone, Kent.

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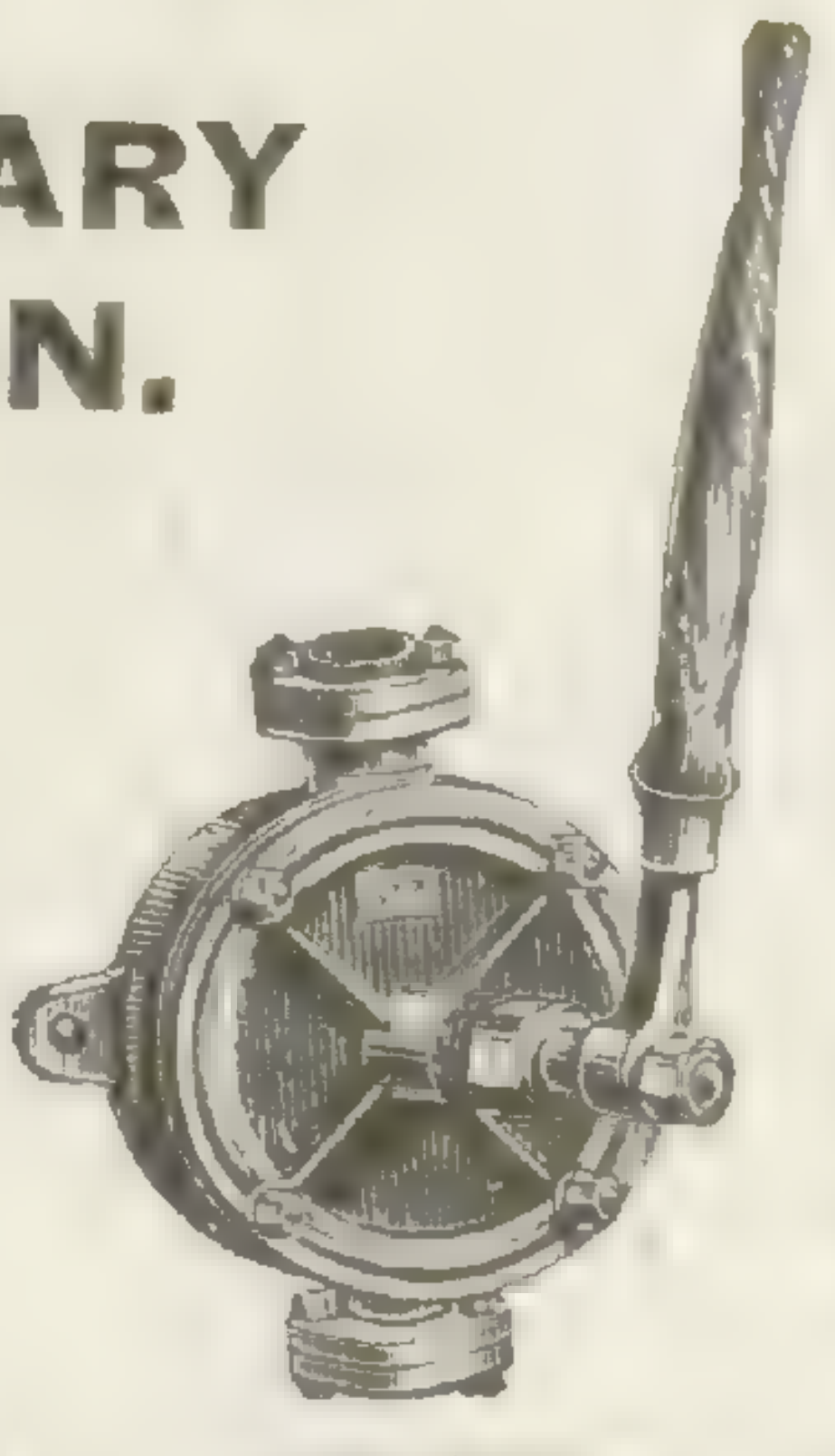

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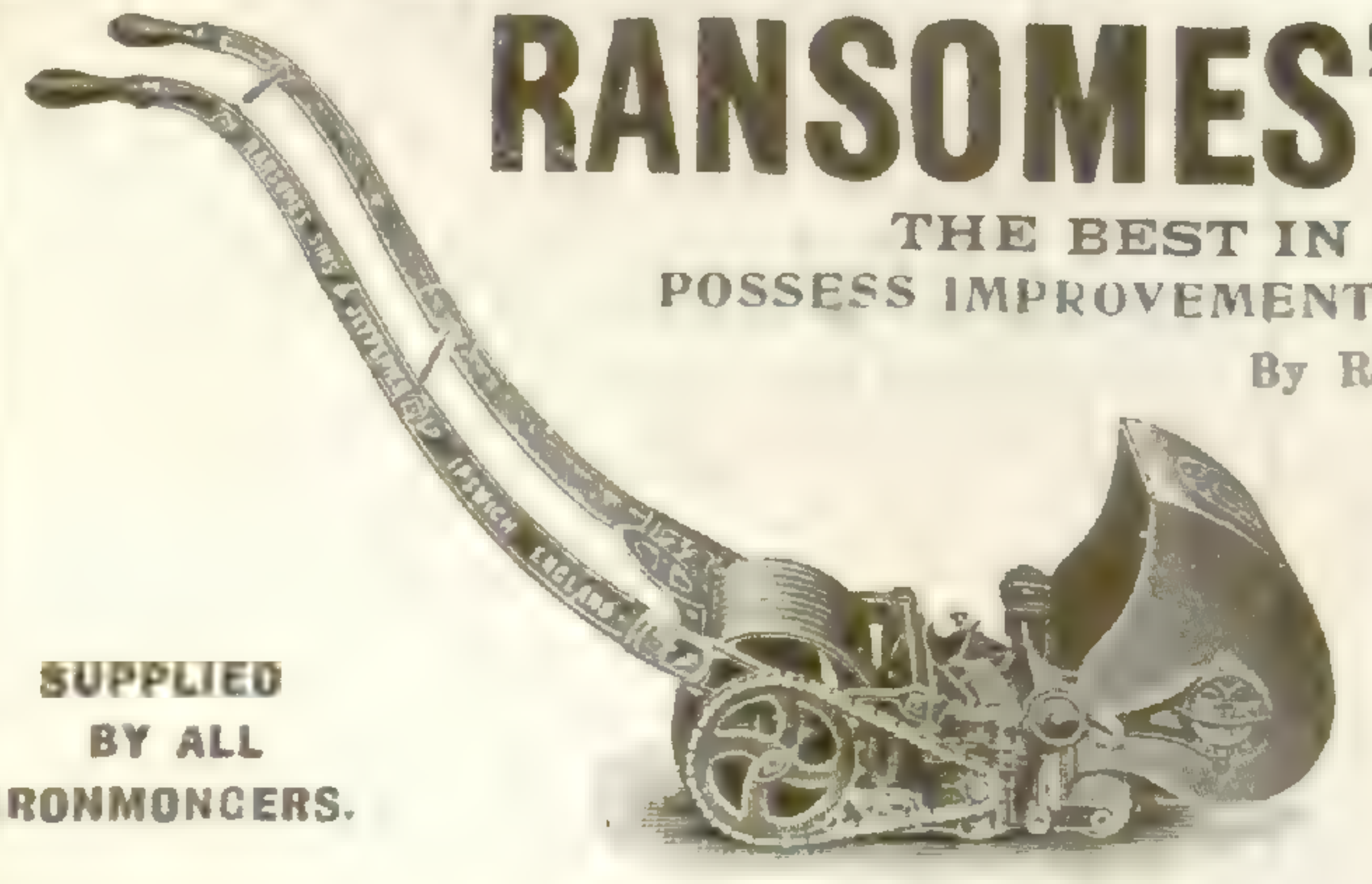

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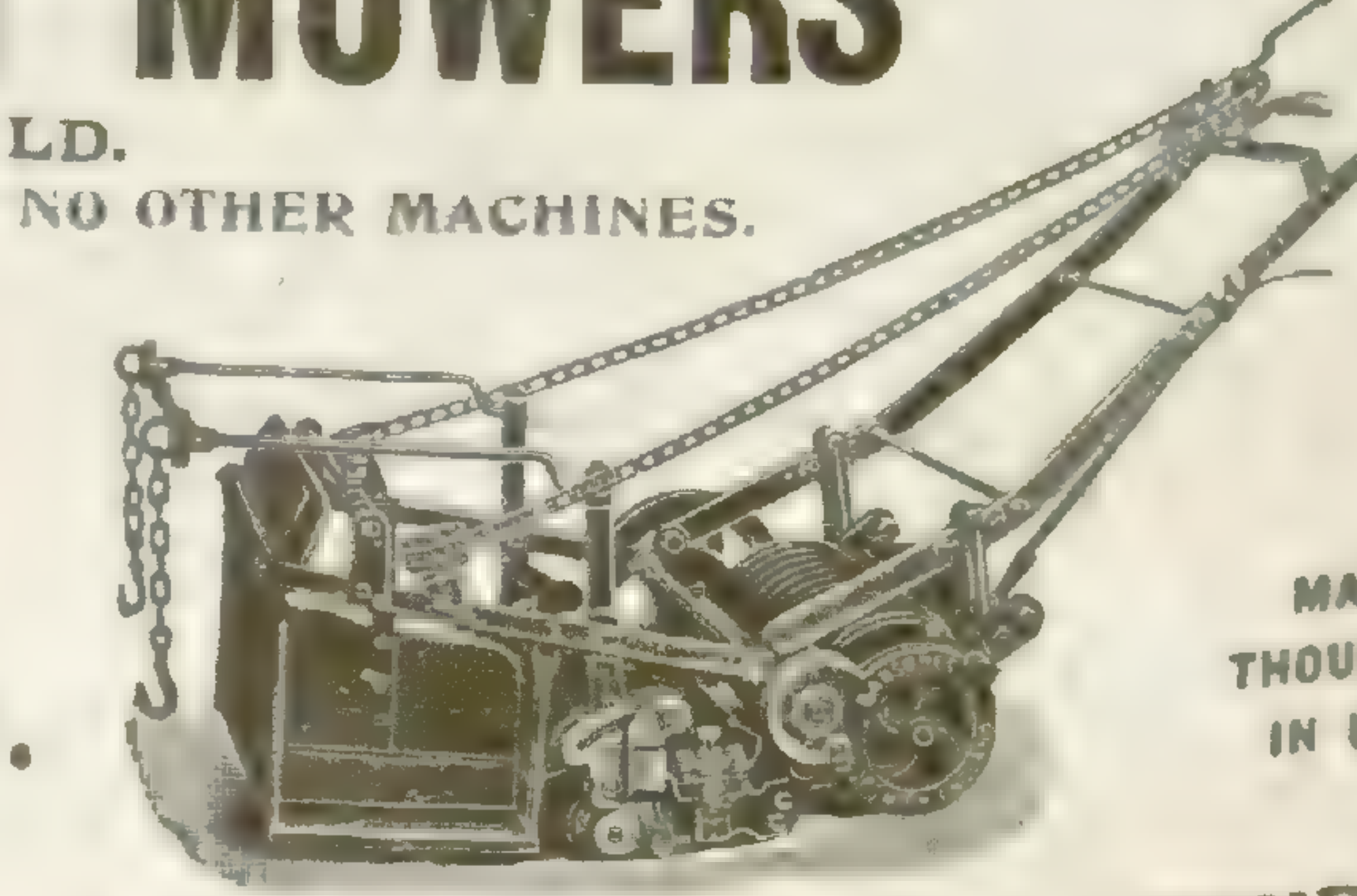

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THE GARDENERS' MAGAZINE.

No. 2,949. Vol. LIII.
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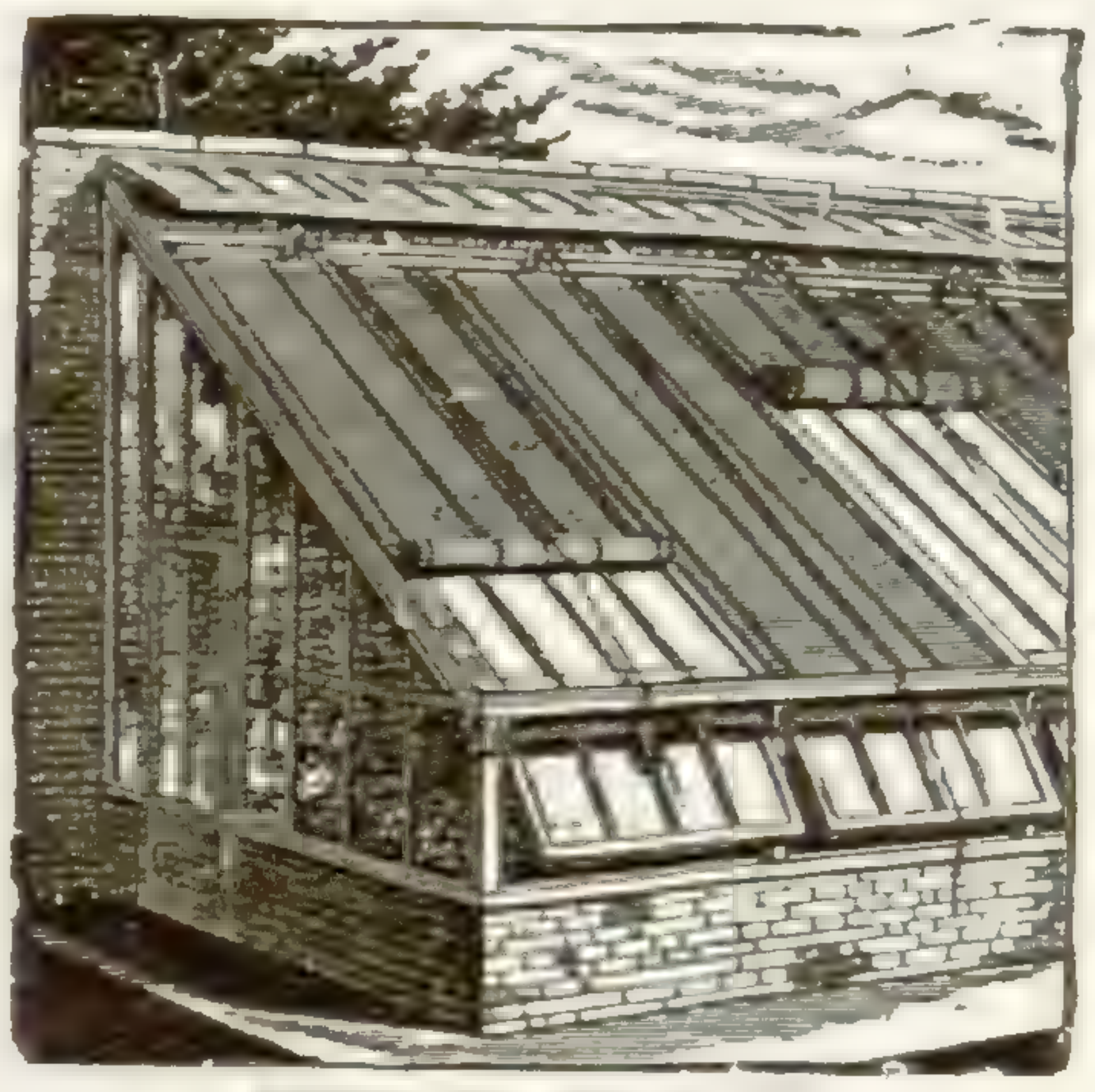

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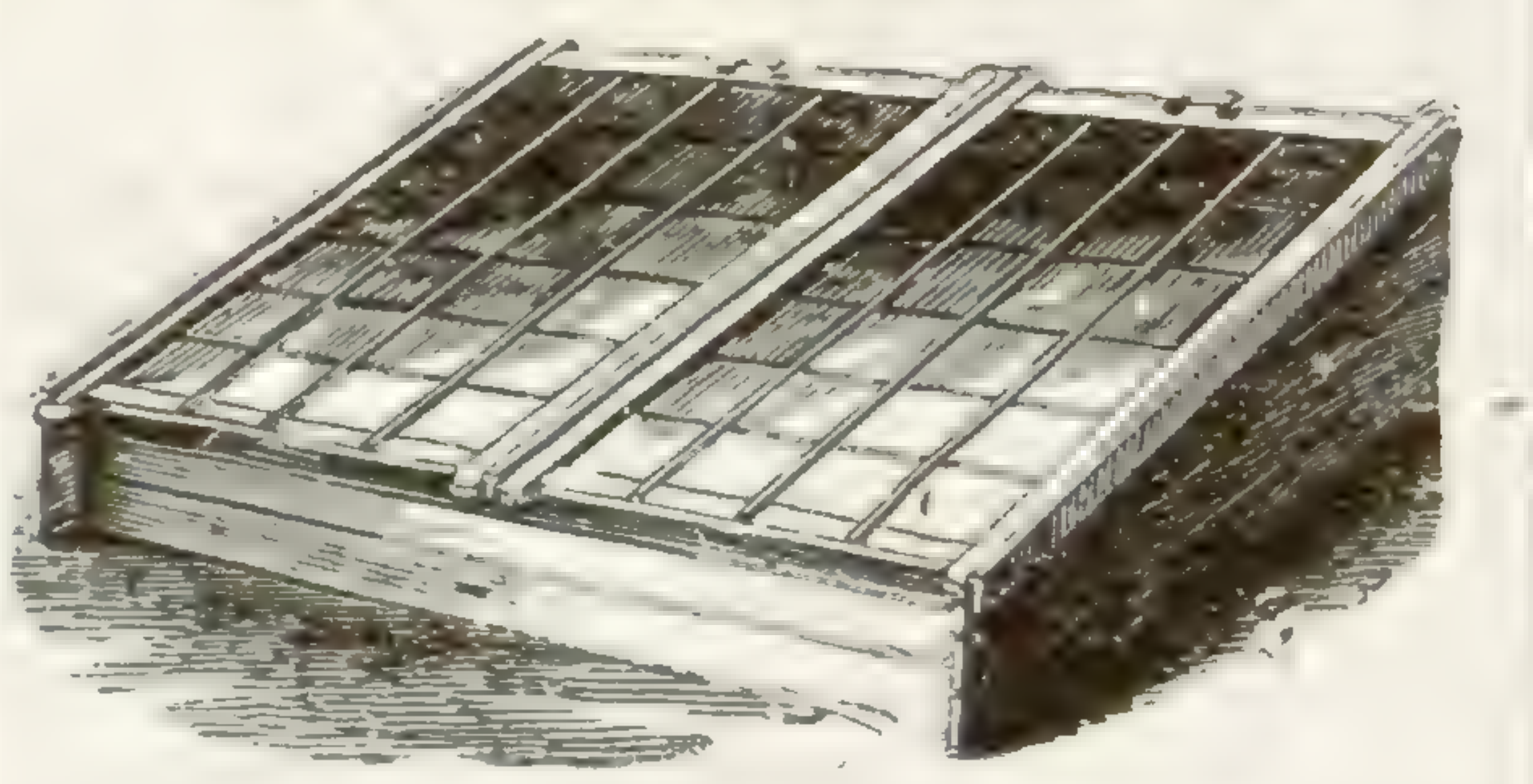

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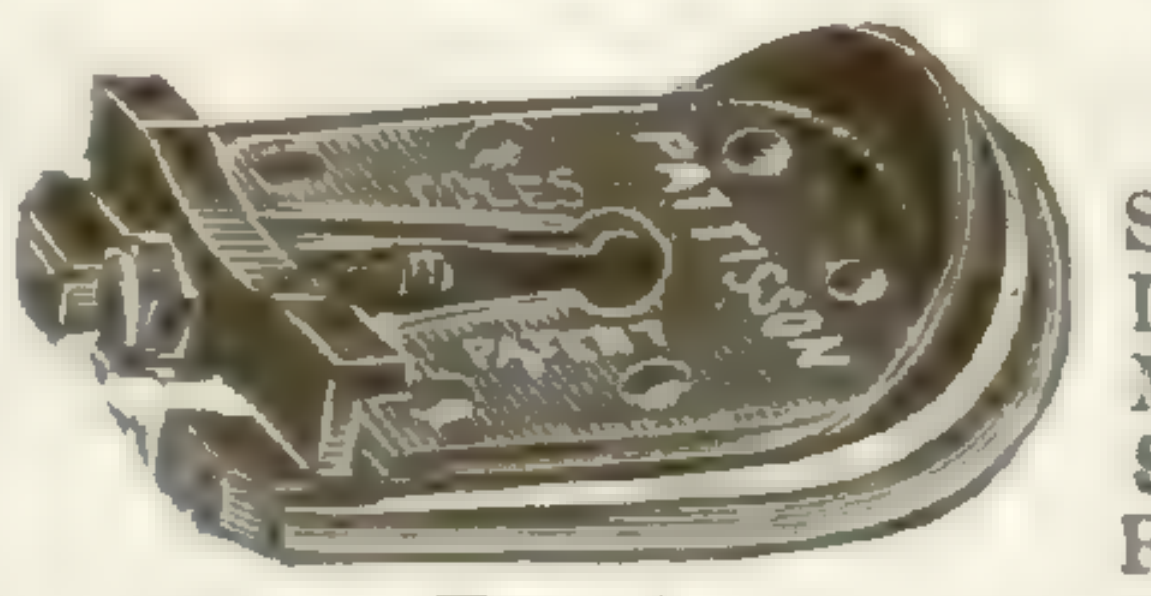

Fig. 1.

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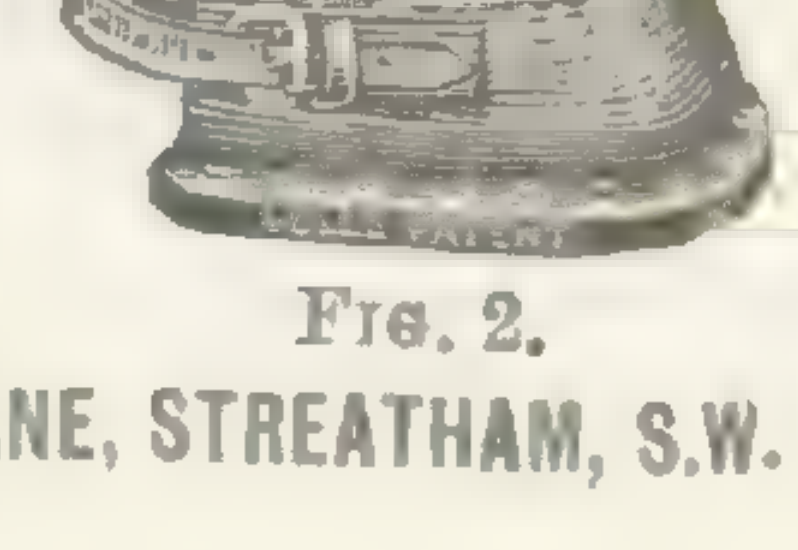

Fig. 2.

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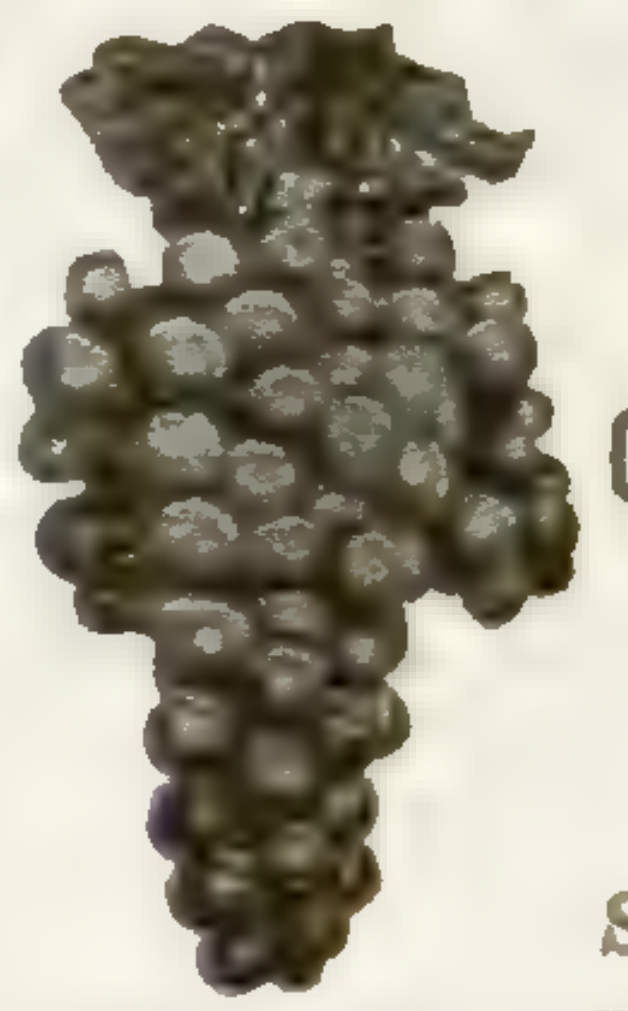
Splendid for all purposes.

This valuable Manure is yearly growing in Public favour.



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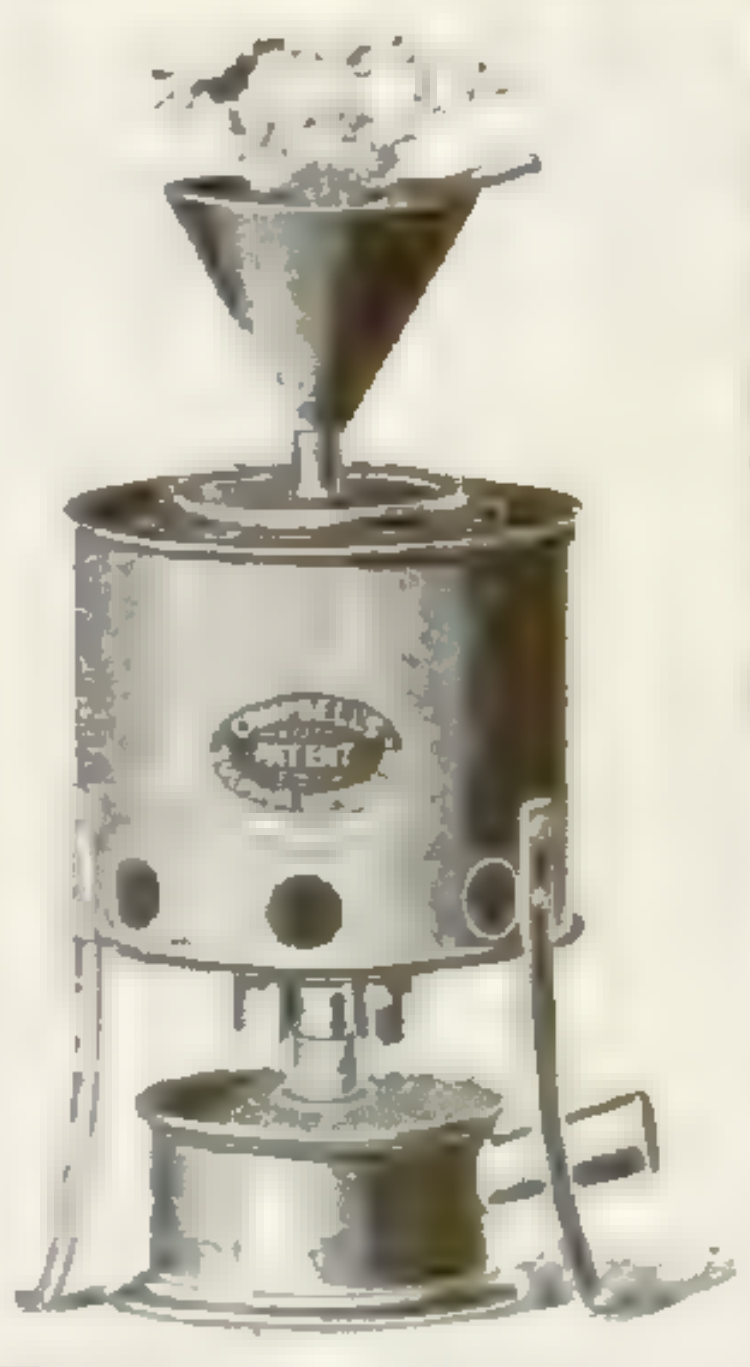

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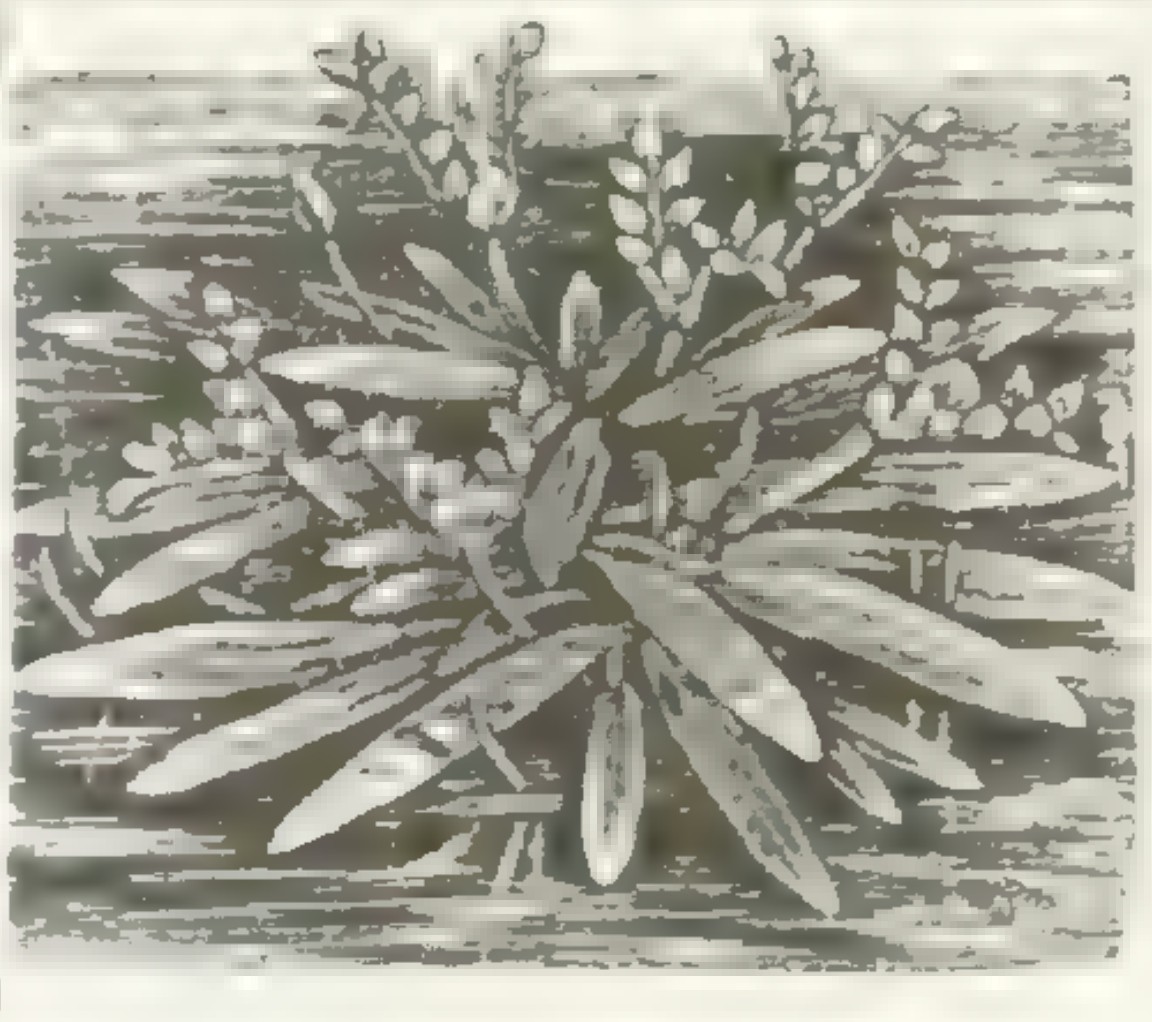

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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

MR. ALEX. KIRK, for 30 years Head Gardener to the late John Thomson Paton, Esq., Norwood, Alloa, will retire from the charge of the Gardens in May, and is willing to accept another engagement or offers his services as CONSULTING GARDENER, and to give advice on the Cultivation of the Vine, etc., Erection and Renewal of New or Old Vineries, etc. Winner of the 50-Guinea Challenge Cup at Edinburgh, 1906 and 1908; author of "Grape Culture Up-to-Date."—Apply to A. KIRK, Norwood, Alloa, N.B.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

GARDENER.—Mr. SYMONDS, Head Gardener, Brome Hall, Eye, Suffolk, wishes to recommend W. CRAWFORD, as Single-handed, or where help is given; 8 years' reference; can milk; age 29, married. Apply CRAWFORD, as above.

MR. E. R. BEVAN, 6, Chelsea Embankment, highly recommends his late GARDENER (Head Working); 13 years in his service; life experience; extremely intelligent and trustworthy; 39; married, one child. H. KING, Rempstone, Corfe Castle.

GARDENER (Head Working); experienced in the cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, etc.; also Hardy Fruit culture; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working); age 44; life experience, 21 years' excellent references from first-class establishments; thorough knowledge in all branches; prize winner; leaving own request; no young children; youngest 13. W. BLOOMFIELD, Staplehurst, Kent.

GARDENER (Head Working), life experience Inside and Out, in good establishment; vines, flowers, vegetables, hard fruit, stove and greenhouse plants; capable and trustworthy; good references; married; no family; age 39. R. GRIFFITHS, 8, Pitt Road, Farnboro', Kent.

GARDENER (Head Working).—W. HULBERT, The Gardens, Clarefield, Maidenhead, highly recommends his Foreman, F. BOOKER, to take charge of small place and Electric Plant if required; life experience Inside and Out; age 27.

GARDENER (Head Working, where more are kept), age 28; life experience Inside and Out in good places with Vines, Fruit, Plants, House Decorations, Forcing, etc.; good references previous places. MIDDLETON, Exbury House, Exbury, Southampton.

GARDENER (Head Working); life experience in Flowers, Fruits, Vegetables, Inside and Out; good references; age 33; married, two children. J. HOWLETT, The Cottage, Culverlands, Farnham, Surrey.

GARDENER (Head Working); life experience all branches; early, late forcing, flowers, fruit and vegetables; specialties, Carnations, Chrysanthemums. References, Crachel, Broomhill, West Grinstead Park, Bidborough Hall, and 7 years J. Douglas, V.M.H., who highly recommends; disengaged; age 32. CHOULS, Credenhill, Streatham.

GARDENER (Head Working), can be highly recommended by present employer (2½ years); 19 years' practical experience all branches; age 34; married, one child. SAUNDERS, Crofton Lodge, Titchfield, Hants.

GARDENER (Head Working, where more are kept); like experience Inside and Out; thoroughly competent in all branches; capable, trustworthy, and excellent manager; highest references; married when suited. J. HEXTALL, Stoke d'Abernon, Cobham, Surrey.

GARDENER (Head Working); experienced Inside and Out; Forestry, Landscape, Rockeries; 15 years' references; no family; age 28; disengaged May. MALPAS, Rhosygilwern, Rhoshill, Pem.

GENTLEMAN highly recommends GARDENER (Head Working); age 32; married, no family; life experience in all branches; excellent references from first-class establishments. F. BATT, Newbury Street, Lambourn.

GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

W. J. SHARD, Esq., 2, Connaught Place, London, S.W., can with confidence recommend G. ADLAM, as good all-round GARDENER, Head or good Single-handed; age 29; 16 years' experience; R.H.S. certificate; South preferred. Adlam, Old Netley, Bursledon, Southampton.

GARDENER (Head or Good Single-handed).—G. HARTMANN, Esq., Newlands, Thames Ditton, recommends his Gardener; five years' reference; age 38. A. COOK, 5, Jubilee Villas, Thames Ditton.

GARDENER (Head or Single-handed), 16 years' general experience; fruit and plant houses; pleasure and kitchen garden; good references; age 30. D. HILLS, 8, Edwards Road, Chislehurst, Kent. (No circulars.)

GARDENER, Single, seeks SITUATION as GARDENER (Single-handed or Kitchen), with 4 years' good references last place; disengaged. J. BIRD, Freehold, Hadlow, Kent.

GARDENER (Single-handed or otherwise) seeks SITUATION; age 28; good experience; understands cows; good references. A. AYRES, Rhodes Farm, Mill Hill, Middlesex.

GARDENER (Single-handed), good all-round, understands cows; can be highly recommended from present employer; over five years; married, no family. T. GORRINGE, Larne Villa, Lindfield, Sussex.

FOREMAN (Inside).—Mr. DYE, Tring Park Gardens, Tring, Herts, wishes to recommend C. BALCHIN as above; 12 years' experience in Fruit, Plants, Carnations, and Malmaisons, House and Table Decorations; age 26; good references.

FOREMAN (Inside), aged 28; life experience; Decorative, Stove and Greenhouse Plants, Chrysanthemums, Carnations; total abstainer; North London preferred. E. H., 18, Aberdeen Road, Upper Edmonton.

FOREMAN or GROWER, age 40; married; life experience Grapes, Tomatoes, Cucumbers, and Bedding Plants; good potter and tyer, etc. R. READ, 26, Yew Tree Road, Croydon Road, Beckenham.

MR. WATSON, Gardener, The Lodge, Bushey Down, Tooting Common, highly [illegible] commends W. WEST as SECOND; age 30, [illegible] perience in all branches; been here two years; [illegible] ried when suited.

GARDENER (Second), chiefly Inside, where several are kept; 12 years' experience in [illegible] establishments; excellent references; age 27, [illegible] ried when suited; disengaged. C. GOULD, The [illegible] Lodge, Parkstone, Dorset.

F. IBBOTSON, Rolleston Hall, Leicester, wishes to recommend F. JARVIS as JOURNEYMAN (Inside or Inside and Out); age 21; strong and willing; six years' experience.

JOURNEYMAN, age 21, Inside or Inside and Out; six years' experience; can be [illegible] recommended, disengaged. J. FRISBY, [illegible] Park Gardens, Compton Abdale, Glos.

JOURNEYMAN (Inside, or Inside and Out), seeks SITUATION; age 22; eight years' experience. Address S. WALKER, 2, [illegible] Place, Cadnam, near Southampton.

JOURNEYMAN (Inside).—H. DUKE, The Lodge Gardens, Felixstowe, can with confidence recommend H. GRIFFITHS; age 24; been here [illegible] years; Bothy preferred.

JOURNEYMAN (Inside or Inside and Out) 5 years' experience; excellent reference; age 2[illegible] disengaged. F. SIGLEY, 31, Fountain Street, Leek, Staffs.

JOURNEYMAN or IMPROVER (Inside).—Rev. G. H. COLVILE, Weston Rectory, Shifnal, Salop, wishes to recommend L. GIBBS as above; four years' experience; age 19; Bothy preferred.

JOURNEYMAN (First, Inside), age 22; seven years' experience in Fruit and Plant Houses; highly recommended; Bothy preferred. W. BOORMAN, Whiteland Cottages, Bicester, Oxon.

JOURNEYMAN.—J. R. TOOLEY will be pleased to recommend B. COLMAN as above, under a good foreman in glass dept.; age 21, present situation 4½ years. B. COLMAN, Toddington Garden, Winchcombe, Glos.

JOURNEYMAN (First).—S. W. SHERLOCK, Oakfield Park Gardens, Mortimer, Berks, [illegible] highly recommend E. JONES, as above; 9½ years' experience in all branches; has been here 2½ years [illegible] First Journeyman.

GARDENER (Under or Journeyman), Inside or Inside and Out; age 25; good ref.; [illegible] engaged. E. DOW, No. 10, Triangle Road, Hayward's Heath, Sussex.

MR. J. SHELTON, Wildernesse Gardens, Sevenoaks, Kent, will be pleased to recommend A. BOOKER as JOURNEYMAN (Inside), age 2[illegible] four years' experience. Apply as above.

GARDENER (Under) seeks SITUATION, Pleasure Grounds and Herbaceous Borders, help Inside and Kitchen Garden if necessary; [illegible] references. T. BALLAM, Winterbourne, [illegible] Blandford, Dorset.

GENTLEMAN wishes to recommend Young Man as GARDENER (Under) in Kitchen Garden, or Kitchen Garden and Pleasure Grounds; [illegible] 21; abstainer; good references. BARRELL, [illegible] Colchester, Essex.

MR. HILLIER, Danesfield Gardens, [illegible] can highly recommend a Gardener's [illegible] late Improver, Inside; age 18; three years' experience; strong and active; abstainer. WAL[illegible] COWIE, High Barn, Godalming.

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For MAY 14, 1910.

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IMPROVER (Inside). — Mr. E. STUBBS can confidently recommend A. CARD, age 18 years; 3 years' experience Inside and Out; used to [illegible]ry. Knole Gardens, Sevenoaks, Kent.

IMPROVER (Inside and Out); age 19; 2½ years' reference. Apply J. L. PREECE, Byttom Hill, Mickleham, Surrey.

IMPROVER, age 18, requires SITUATION, Inside or Inside and Out; nearly three years' experience; good character; bothy preferred. O. W. GLOVER, Brackenfield Lodge, near Alfreton, Derbyshire.

STRONG LAD requires SITUATION as IMPROVER, Inside and Out; 2 years' good character and 2 years' previous place; age 18. V. [illegible], Pay Gate, Burwash, Sussex.

WANTED, SITUATION as IMPROVER in market gardens; 3 years' experience with market florists; age 21; live in preferred. A. LITHGOW, c/o Mrs. Allner, Sturminster Newton, Dorset.

SITUATION required by a strong YOUTH (17) under a good Gardener; has knowledge of Botany; good character. J. L., care of J. Williams, The Gardens, Whitbourne Hall, Worcester.

WANTED, SITUATION as CHRYSANTHEMUM GROWER and general nursery [illegible]. Address, G. F. EVANS, 6, Dale [illegible], Craven Arms, Shropshire.

YOUNG MAN (19) as IMPROVER (Inside [illegible]); three years' experience in present [illegible]; bothy preferred. Apply W. FINCH, Bates [illegible], near Banbury.

YOUNG MAN, age 21, wants SITUATION in garden; 6 years' experience; kitchen garden and pleasure grounds; good character; Bothy preferred. Address W. BRIDGEMAN, 38, Union Street, [illegible].

YOUNG MAN, age 18, as IMPROVER; excellent character and references. L. MONK, care of County Gardens, Chelmsford.

YOUNG MAN (Inside or Inside and Out), under a foreman; age 21; one year here and three previous; abstainer. C. HIGGINS, Millbotton, South Holmwood, near Dorking, Surrey.

YOUNG MAN (20) seeks SITUATION under Gardener; 5 years' experience, Inside and out; good reference. H. DRAKE, 156, Payne's Road, Freemantle, Southampton.

YOUNG MAN, 22, seeks SITUATION, Inside Under Foreman; 7 years' experience; Inside and Out; excellent references; highly recommended. H. HAZELL, The Gardens, Beachboro' Park, Folkestone, Kent.

YOUNG MAN seeks SITUATION in Garden (age 21); 5 years' experience. Kitchen Garden and Pleasure Grounds; excellent character; take third where three or four are kept; bothy preferred. Mr. W. H. RUSS, No. 4, Fairview Cottage, London Road, Wokingham, Berks.

YOUNG MAN, age 22, seeks SITUATION in the Gardens: has been 4½ years in Royal Navy; excellent ref.; willing and obliging. H. TULLEY, Fletching, Sussex.

LAD (16) requires SITUATION to Learn Gardening in private Garden; height, 5ft. 5in., strong and intelligent; bothy preferred; good references.—H. DONNE, Lewis Road, Welling, Kent.

MR. J. ADAMS, Leighside Nursery, Lewes, wishes to recommend willing YOUTH for Garden work; steady and obliging; age about 18; anxious to improve.

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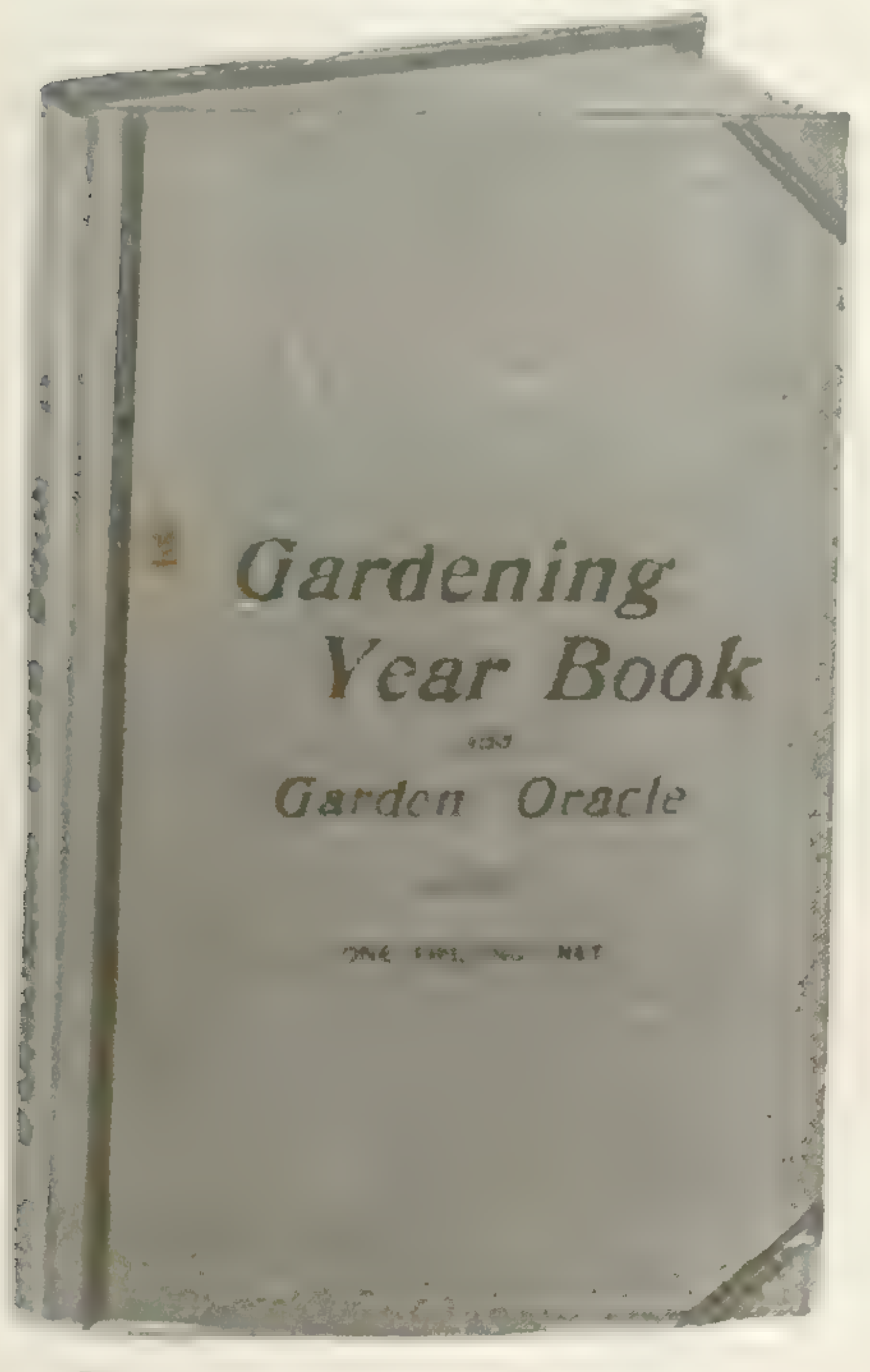

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VOL. LIII.—No. 2,949. SATURDAY, MAY 7, 1910.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Cross Fertilisation.

In the study of natural phenomena nothing can appeal to one's sense of awe more than the subtlety which underlies them, and often produces far-reaching effects from apparently insignificant laws. The great majority of the members of the plant world are so constituted that by themselves, and independently of outside influence, they are capable of reproduction; most flowers are complete in themselves, possessing both stamens and stigmas, so that self-fertilisation would seem inevitable; but since it is a law in Nature that cross-fertilisation is preferable, and tends more to promote the stamina of the race, innumerable contrivances exist to frustrate the action of the pollen on the ovaries of the same flower, and to convey it abroad to form other alliances. The simplest arrangement to this end is that by which the stamens and stigma mature at different times, do not synchronise, so to speak, while the most effective is seen in those cases in which Nature has placed them far apart on separate plants. The most interesting, however, are those in which insect aid is involved in the transference of pollen from one flower to another, and it is undoubtedly due to this that we owe by far the major part of the diversity of structure and brilliancy of colour which we see in the plant world at the present day. We believe it is safe to say that no flower which is habitually self-fertilised equals in beauty those where cross-fertilisation is the rule; the sweet peas may appear to be an exception, but the natural flowers would never have developed their multiformity and varied colours which now grace our shows had the hybridist not stepped in and broken through the natural rule. Our pansies would have remained but insignificant flowers had all the blooms adhered to the self-fertilising process which is partially retained by some of the violets, as these, in addition to their larger flowers, produce inconspicuous ones which can only fertilise themselves. Without this need for cross-fertilisation, it is indeed open to question whether flowers would have been evolved at all, for if we consider the fundamental simplicity of the fertilising process, and study how it is effected in non-flowering plants, such as the ferns, it is clear that the world might still be covered more or less with abundant vegetation, just as it was in the Coal Age, independently altogether of that insect agency, which, by introducing selection based on cross-fertilisation, has led up step by step to the floral wealth we now enjoy. In the ferns we have what are practically flowers, but on a microscopic scale, and so arranged that no insect selection is necessary, and the logical result has followed, since, despite the immense variety of fern types, there is practically but one type of the microscopic flowers all through, from the smallest to the largest, the only difference being in the frondage and the ways in which the spores are borne upon it. The great scheme of evolution, however, could not be fulfilled on these lines, drier conditions, and varied environments necessitated a departure from the fern line of life, and in some subtle way members of that family and its allies became modified to suit the changed conditions. Flowers, inconspicuous it may be, but yet easily visible, made their appearance, and the great law of cross-fertilisation, which meant infusion of new blood, came into operation to strengthen the race, and by enlisting the services of the insect world, to ensure its development on higher and higher lines of beauty and complexity. Of beauty, since the brighter the colour, or the larger the flowers or bunch of flowers, the better the chance of producing offspring, and of complexity because the flowers, by some subtle response to insect tastes and habits, became modified in form to assist the visitors to collect the fertilising pollen, and to prevent them from depositing it on the stigmas immediately adjacent, instead of on those of flowers subsequently approached. That the benefit accruing from such transfer of pollen is not merely imaginary has been amply proved. Darwin demonstrated that long-styled primulas crossed with short-styled pollen, gave not only more seeds but larger ones, which means more robust progeny, and in another domain altogether, every breeder of sheep, cattle, dogs, horses, etc., knows full well that inbreeding is, in the long run, fatal to the constitution of the race involved, just as a nation which persisted in close intermarriage would be bound to deteriorate, while the strongest races are the mixed ones.

MR. J. LYNE.

Mr. John Lyne, head gardener to H. F. Tiarks, Esq., Foxbury, Chislehurst, is of fine physique, tall, and "bearded like the pard." He has had a large number of young men pass under his care in the earlier stages of their gardening career, and many of these now occupy important positions as head gardeners, and every one speaks very highly of him. My Lyne is a "working gardener" in the truest sense, for his restless and boundless energy impel him to take a very practical part in the many and various duties that he is responsible for at Foxbury. Mr. Lyne's early gardening history we do not know, indeed we have not asked him for it, but we do remember that twenty-five and more years ago he was head gardener at Belvedere, Wimbledon, the residence of the Schlusser family, and he there made for himself a great reputation as a fruit grower and a skilful plantsman—orchids, dendrobiums especially, being remarkably well managed. When the Belvedere estate was broken up Mr. Lyne went to Foxbury, and here he has still further enhanced his reputation. Hardy fruit is well grown, and the splendid fruit room which has been illustrated in these pages is a splendid testimony to Mr. Lyne's judgment. Chrysanthemums and orchids are great favourites with Mr. Lyne, and he has won hundreds of prizes with the former. Mr. Lyne is ever ready to impart his knowledge to members of the craft, and, consequently, is in great request among the horticultural societies of Kent and Surrey. He is a member of the Royal Horticultural Society's Fruit and Vegetable Committee, and as a member of the committee of the Royal Gardeners' Orphan Fund, and also as one of the local secretaries of the fund, he has rendered invaluable service to the sacred cause of charity. Mr. Lyne is an active member of the executive of the Chiselhurst Gardeners' Association, which for a long series of years has annually raised a considerable sum for charitable purposes, and set an example to kindred associations of much value.

Water Gardening will obtain special attention in our next issue, and the articles and illustrations relating thereto will form a feature not less remarkable for its interest than for its usefulness. The contents will include articles on "The Making of Lily Pools," "Water Lilies," "The Planting of Water Margins," and "Hardy Aquatics," other than nymphæas. The illustrations will include several views in beautiful water gardens.

The Death of Major Enthoven, Chief Officer of the Parks Department of the London County Council, will give rise to a feeling of regret among those who knew him as an able military officer, and once more quicken a widespread interest in the London parks and gardens that are under the control of the Council. Less than three months ago Major Enthoven was appointed to the position he occupied at the time of his death, and the vigorous protests that were made in relation thereto will be fresh in the minds of our readers. We felt it our duty to criticise the course taken by the Council, not because Major Enthoven was wanting in ability, but because he had not received such training in horticulture as would have placed him in possession of the knowledge that is essential to the successful management of public parks and gardens. The protests that were made on all sides were all the more vigorous because the Council had invited applications for the position of Chief Officer from those who were well acquainted with such branches of horticulture as are more or less closely associated with park management, and then appointed a candidate who had been trained for a profession of a wholly distinct character. We are not concerned with the claims of any prospective candidate for the vacant post, but in the interest of the Metropolis and its magnificent open spaces we earnestly hope the Council will avoid the mistake that was made in February last, and appoint to the important position of Chief Officer of the Parks Department a horticulturist who, by the work he has accomplished, has proved to demonstration that he is in every way qualified for the onerous duties associated therewith. There is no dearth of gardeners in this country who are fully equal to the responsibility of the position, and we trust the Council will recognise the fact that a knowledge of gardening is just as essential to the officer in charge of the parks and gardens as an acquaintance with architecture is to their chief architect, or with law to the head of their legal department, and make the appointment accordingly.

Extension of Wimbledon Common. The meeting held on the 27th ult. at the Mansion House, in support of the movement to extend Wimbledon Common was well attended. The Lord Mayor, who presided, expressed his sympathy with the movement, and Sir George Gibb, one of the members of the committee of the Extension Fund, gave an outline of the scheme. Their principal object, he said, was not the mere enlargement of the area of the common, but the preservation of the beauty of the magnificent open space which forms so important a feature of the western side of the Metropolis. Happily, Wimbledon Common had not been disfigured, as so many public spaces in and around large cities were apt to be, by the crowding of buildings round them. The price, he thought, was reasonable, and he asked those present to assist in raising the £60,000 necessary for the purchase of the land. Lord Eversley moved a resolution commending the movement to the prompt and liberal support of the wealth of London, private and corporate, and, this having been seconded by Mr. H. J. Mackinder, M.P., was carried.

London Branch of the B.G.A.—The annual meeting of the London branch of the British Gardeners' Association will take place at Carr's Restaurant, Strand, W.C., on Thursday, May 12, at 8 p.m. Mr. E. F. Hawes will preside. The election of officers and other important business will be dealt with, to be followed by a discussion on the policy of the B.G.A., which will be opened by Mr. Feltham, of Kew.

Pansies and Violas from Rothesay.—The large gathering of flowers of violas and fancy pansies, sent by Messrs. Dobbie and Co., from their nurseries at Rothesay, presents a highly attractive appearance on our table, and serves as a reminder of the remarkable development which these two classes of flowers have undergone within quite recent times. The flowers also indicate in no uncertain manner how greatly the attractions of the flower garden may be enhanced during the spring season by a selection of the finest varieties when placed under the conditions favourable to a vigorous growth. Prominent among the beautiful varieties now before us are the following fancy pansies: Nurse Engleson, lower petals mauve with white margin, top petals shaded blue; Mrs. A. B. Douglas, rich claret, with dark blotch; William Hamilton, lower petals deep claret, top petals lighter; George Dunn, flaked and striped rose-purple on blush ground; Duke of Argyll, lower petals purple with primrose margin, top primrose with purple margin; Nellie Currer, lower petals crimson-purple, top lavender-blue with deep base; J. McNab, maroon with broad golden margin; Nellie Curzon, bottom petals purple-violet with yellow margin, top yellow with purple-blue margin; and Miss Neil, bottom petals royal purple with blush margin, top pale blush. Conspicuous among the violas are: Mosely Perfection, deep golden yellow; Mrs. H. Pearce, pure white; Mrs. H. Kinross, bottom petals deep blue, top light blue; Rose Noble, deep gold; Mrs. J. Lindsay, white shaded blue at margin; and Dr. McFarlane, bottom petals royal blue, top light blue, each petal marked with a wedge-shaped blotch of lavender-blue.

In Search of Knowledge.—On May 6 Mr. Leonard Sutton, Mr. Mansfield, Mr. W. M. Childs, Mr. R. Hart-Synnot, and Dr. Keeble start for Canada and the United States for a tour of inspection of the Agricultural and Horticultural State Colleges of those countries. These gentlemen are acting as delegates from the Council of the University College, Reading, and it is hoped that as a result of their tour great advances in methods of teaching and research will be made in this country. We understand that the expenses of the trip are being met by Mr. Leonard Sutton and Mr. Alfred Palmer, both of whom have devoted much time and money to advance the work of University College, Reading.

Falmouth Spring Show.—After a lapse of over thirty years the Falmouth Spring Show has been revived, and on April 21 a splendid display, held at Gyllyngdune, was opened by H.R.H. Princess Christian, in the presence of a large and influential gathering. The success of the undertaking was due largely to the energy of Mr. C. H. Hext, of Trebah, the president, and Mr. R. E. Gill, of Falmouth, the hon. secretary. Azaleas and rhododendrons were magnificent, as also were magnolias and other flowering trees and shrubs, while daffodils formed a large and attractive feature. Mr. J. D. Enys, of Enys, contributed the noble and beautiful Myosotidium nobile, and Mr. Howard Fox, of Rosehill, sent citron fruits, a giant bamboo, 21½ft. high, and a banana in fruit. We understand the show was a financial as well as a horticultural success.

National Rose Society's Literature.—We have to acknowledge the receipt of the "Rose Annual" for the current year, and the second edition of the "Enemies of the Rose," which the National Rose Society is now sending to its members. The "Rose Annual" is increased in size and improved in appearance, as compared with previous issues, and contains an immense amount of information on roses and their cultivation of a substantial character. The notes by Mr. H. R. Darlington on the twenty-four roses recommended in the N.R.S. official catalogue for garden cultivation, are of much interest, and should prove of immense value to cultivators with but little experience of roses. Not less noteworthy in their way are the plans of rose gardens contributed by Mr. C. E. Shea, Dr. A. H. Williams, Miss Dorothy Page-Roberts, and Mr. R. C. Mount. The plans possess much merit, and form a feature of considerable value, which is much enhanced by the views of those who have furnished plans on the formation of rose gardens. A much appreciated feature is the "Rose Analysis" for 1909 by Mr. E. Mawley, V.M.H. The "Enemies of the Rose" has, in its second edition, been thoroughly revised, and the additions and emendations add considerably to its value.

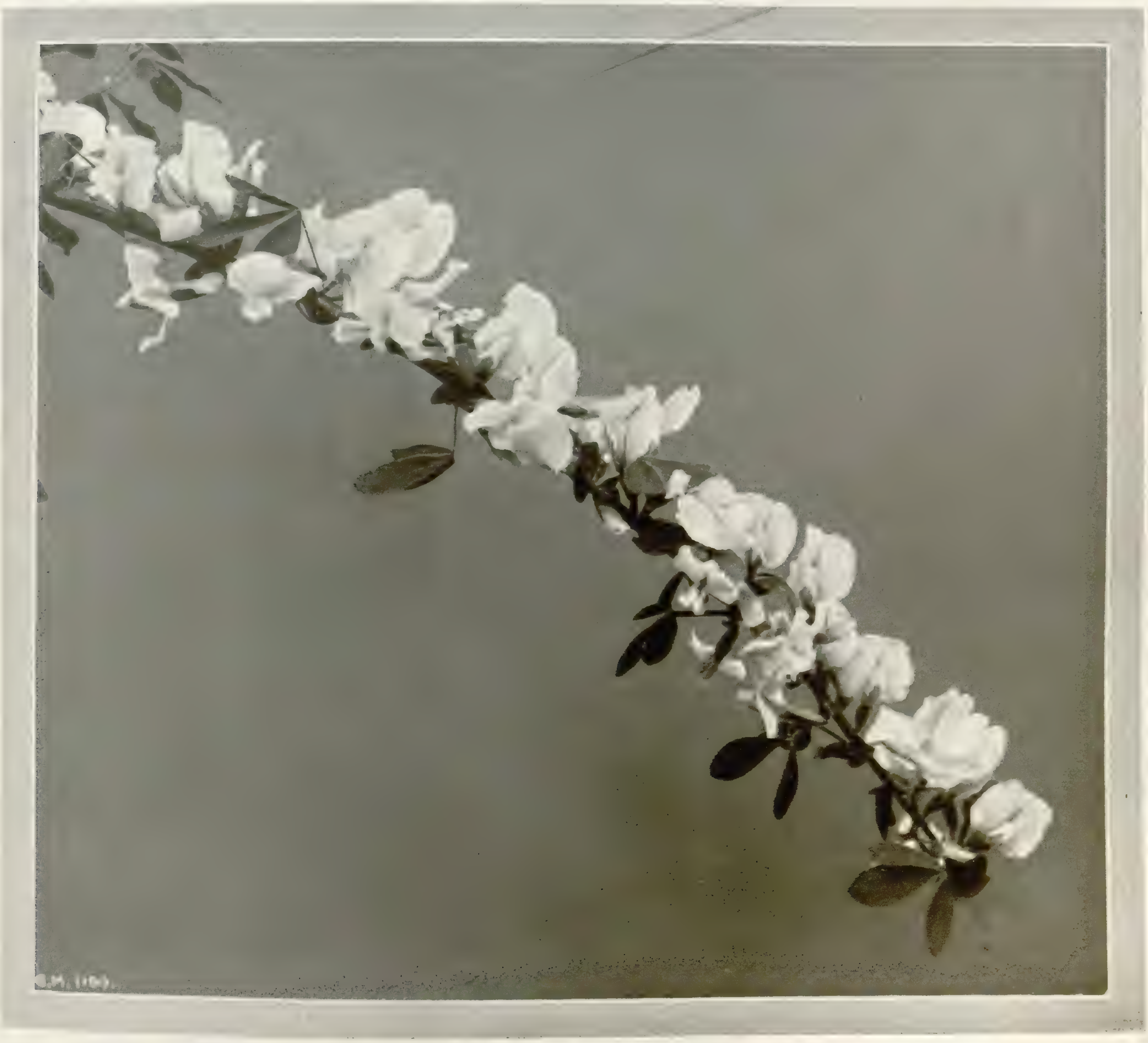
American Carnations formed the subject of an instructive lecture given by Mr. A. A. Fabius before the members of the Brighton and Sussex Horticultural Society the other evening. Mr. Fabius dealt at length with the details essential to success in the cultivation of perpetual-flowering carnations, and gave abundant evidence of his thorough acquaintance with them and their cultivation.

Japan-British Exhibition at Shepherd's Bush will be opened by H.R.H. the Prince of Wales on Thursday next, the time fixed for the opening ceremony being 11.30 a.m.

The Women's Congress on Gardening will be held at the Japan-British Exhibition on July 5, under the presidency of Viscountess Falmouth. An afternoon will, we are informed, be devoted to the congress, and the programme is of sufficient length to occupy at least two sittings. The subjects that will be discussed are, lady gardeners, lady gardeners for the Colonies, landscape gardening and expert advice, jobbing gardening, American landscape gardening, French gardening, market gardening, co-operation amongst ladies in gardening, and Nature study.

TRAILING CYTISUSES.

In common with the brooms that are more or less erect in growth, those of a decumbent or trailing habit thrive in soils that are light, sandy, and dry, and can be depended upon to succeed on banks and in other positions where the moisture is no more than sufficient to maintain in a healthy state plants that in a state of Nature have their homes on sandy wastes that are of but little value to the cultivator. Hence the species and their varieties that have a decumbent habit are of special value for planting on ledges in the higher parts of the rock garden, where the soil is usually comparatively dry owing to the difficulty in giving artificial waterings during periods of drought, and on sloping banks from which the rains pass away so rapidly as to seldom moisten the soil to any considerable depth during the season of growth. They should therefore receive a full share of attention in gardens where the rock garden forms a feature of importance, or dry mounds or banks have to be clothed with vegetation of a more or less attractive character.



CYTISUS HANDSWORTHENSIS.

A dwarf growing hybrid of much value for planting in the rockery and on sloping banks, and bearing cream-white rose-tinted flowers.

The most noteworthy of the species belonging to this section are:

Cytisus Ardoini, a charming species with spreading growths that rise four or five inches above the surface of the ground, and during April and May bear a profusion of bright yellow flowers. It is admirably adapted for planting in sunny positions in the rock garden, and is of interest as one of the parents of the fine hybrid known as C. Kewensis.

C. decumbens is a beautiful species, growing abundantly in some parts of the South European Alps. It has a free-spreading habit and blooms profusely, the flowers being rich yellow tinted with purple-brown, and produced during the latter part of the spring months.

C. hirsutus if not quite equal in all respects to either of the foregoing is sufficiently attractive to justify it being included in a selection for a large rock garden. The growth is neat and the flowers are bright yellow, and are produced in June.

C. purpureus is remarkable for its distinct colour, and for its attractiveness. The growth is elegant and spreads freely, and well-developed specimens, spreading over the face of the rockery are highly attractive when bearing a profusion of their bright purple flowers. This species is frequently seen grafted on tall stems of the common laburnum, and although large examples are not wanting in attractiveness when so grown, they possess a less pleasing appearance than do those spreading over the stones in the rock garden. The flowers are produced during June.

The trailing brooms of hybrid origin that are of exceptional merit include:

C. Beanii, a free-growing, handsome form, the result of a cross between C. Ardoini and C. biflorus, both of which have yellow flowers. This hybrid was raised some years since at Kew, and, like its parents, has yellow flowers.

C. Handsworthensis, a charming hybrid, with comparatively long and slender shoots, which during the season of flowering are clothed their whole length with medium-sized attractively-coloured flowers. The spray herewith illustrated was taken from one of the several pot plants exhibited by Messrs. Paul and Son, of Cheshunt, at the meeting of the Royal Horticultural Society, held on April 5.

C. Kewensis.—This charming hybrid originated as a chance seedling in the Royal Gardens, Kew, and is assumed to have been a hybrid between C. Ardoini and C. albus. It has a free-spreading habit and bears in great profusion its large cream-yellow flowers in May. One of the best of the trailing brooms for prominent positions in the rock garden. G.

TOMATOES IN THE OPEN AIR.

There is probably no other vegetable crop so much neglected as tomatoes cultivated in the open ground. With those under glass we find the reverse, and generally every detail of their cultivation is strictly adhered to. The neglect which accompanies outdoor culture may be largely accounted for by the fact that when grown in the open air tomatoes can never be regarded with the same amount of certainty as are other occupants of the kitchen garden. Therefore, many people set about their cultivation in a haphazard manner, placing their trust in the prospect of a good season, yet forgetting that even should such favourable conditions be secured, there is something more than sunshine and warmth essential to the development of fruitful plants. Too often, seedlings are put out to take their chance, and in the busy months of May and June they become sadly neglected.

Selection of Plants and Planting.

It is very important that a good batch of plants of a reliable open-air variety be raised and grown steadily until the time of planting out, and there is no better plan than to prick off the seedlings into boxes, and later put them into 48's, meanwhile keeping up a steady growth, just sufficient to produce short-jointed plants with a truss or two of flowers by the first week in May. By this time a start may be made at hardening them off in cool frames, and later in the open. It is the greatest mistake possible to plant out weak puny plants from boxes, or those that may have been drawn up under the influence of excessive heat; such plants receive a severe check, and take weeks to recover themselves, and this loss of time can be ill-afforded, as it very considerably minimises the season of growth.

Aspect and climate will determine, to a great extent, when it is advisable to place the plants in their permanent quarters. While tomatoes do exceedingly well in the open, they must not then be subjected to exposure as early as is possible on a warm border or against a wall having a south or south-west aspect. A very common mistake on heavy retentive soils is that of deep planting, whereby the young roots are brought into contact with a low soil temperature, which naturally arrests their growth. In order to give tomatoes a good start, and to encourage root action, they should be planted in a little ordinary potting compost, and if the weather continues mild, it will be found that they have become thoroughly established by the end of June. All plants should be securely staked after planting, as if allowed to grow in any other than a perpendicular direction, lateral growths become numerous, with the natural result that the terminal shoot soon ceases to grow.

After Cultivation.

When once established they begin to make rapid growth, and the advantage of their already possessing flowering trusses is that superfluous sap goes towards developing the fruit which would otherwise only tend to encourage leafy growth. The work of tying and pinching out lateral growths is very apt to be neglected during the months of June and July if not performed systematically. If success is to be attained fruiting must be restricted to the main stem, which, when clothed with a reasonable number of trusses of fruit and flowers, should have its terminal growth removed so that the plants can confine their energies to maturing and ripening fruit, and not in making unnecessary and useless leaf growth. I have rarely had occasion to deprive them of foliage, as there is no greater mistake than that of clipping back the leaves of the plant if large, well-developed fruits are desired. The thinning out of foliage which deprives the fruit of the full benefit of the warmth of the sun's rays is all that is allowable.

Manures.

It is always difficult to say what manure is best for any particular crop, and, like others, I have made the mistake of using farmyard manure too liberally. In fact, no manure containing nitrogen is ever an advisable dressing where the object is to produce quality in fruit, unless in addition to such nitrogenous food there is a proportionate allowance of phosphates and potash. In the early stages nitrogen produces a rank growth of stem and foliage, and to correct this one is often advised to keep the soil rather dry; but where phosphates and potash are used there is not this necessity of depriving the plants of moisture, even at the time of setting their fruit. During late years I have invariably mixed a little phosphatic guano in the soil at the time of planting out, and followed this later on with a top-dressing of loam, with which is mixed about 1oz. of vitriolised bones, and ½oz. of sulphate of potash per plant. The young roots soon make their way into this, and appear to receive much stimulus.

There is no better way of assisting outdoor tomatoes than that of top-dressing; by this practice new roots are encouraged, and these are much more beneficial to the plant than are those below ground,and particularly so in wet seasons. When artificial manures are not used, a little spent manure may be incorporated with the soil at the time of planting out, and when the fruit is set periodical waterings of diluted liquid manure may be given, but on no account heap up a heavy dressing of rank farmyard manure around the base of the plants.

Varieties.

The finest crop of outdoor tomatoes I have ever seen was grown in a private garden in the New Forest, the variety being the well-known Magnum Bonum. This is still one of the most prolific sorts, but, unfortunately, it is not a general favourite, merely on account of its corrugated surface, an objection which might very well be waived in view of its other qualities of size, colour, and flavour. Of the globular varieties there are numbers to select from, but Up-to-Date is difficult to beat, as it is a free setter, and produces plants of a dwarf, sturdy habit of growth. The fruit is also of excellent flavour and colour. Sutton's Open Air, Laxton's Open Air, and Dobbie's Champion are also worthy of mention. As with indoor varieties, it is most important that a good strain is obtained of whatever kind is selected, and most of our principal seedsmen make a speciality of at least one good open-air variety.

J. C. Newsham.

Old Basing.

THE CUCKOO SPIT AND FROG HOPPER.

When reading the very interesting article by Mr. James Scott in your last issue, I was hoping to find the solution of a mystery which I have long sought, but in vain. As is only too well known, the larvæ of the fly appears in immense numbers in the late spring, enveloped in spittle-like masses of froth, formed at the expense of the sap in the plants attacked. Later on this disappears, and during the summer only the perfect insect, a hard-skinned, frog-like hopping fly is seen. Now, my difficulty is this. Mr. Scott explains that this fly, by means of a sawlike apparatus or ovipositor, is enabled to gash the tissues of plants and deposit its eggs therein, whence, he states, in a short time, the larvæ, or spittle-forming stage issues. I have never, however, seen the perfect fly in the spring, and have hence believed that, like most insects of this kind, the eggs are laid in the summer or autumn, nor have I ever seen the spittle stage late in the growing season; only the perfect hopping fly. How, then, does it happen that the larvæ appear the following season on entirely new growth, of which not even a rudiment existed the preceding season.

To make this clear I may state that in my garden I have several plants of the Oriental poppy, which dies down entirely in the winter, starts new growth in the spring, producing at the spittle fly season flower buds of large size, sheathed in a hairy leathery shell, and it happens year after year that when these buds are about the size of walnuts two or three tiny white patches of spittle appear on them, which contain the just-hatched larvæ of the cuckoo spit. How do the eggs get there? I have never seen the perfect insect at that time of year, and yet not only the poppy buds (which I have instanced as representing entirely new growth, which could not possibly bear eggs laid the previous season), but most of the plants in the garden are infected, which must mean the laying of a very large number of eggs not long previously, if, as Mr. Scott states, the hatching is not long deferred after the mature insect has inserted them in the cutting made by its saws, no trace of which, by the way, is visible on the poppy buds, as I have watched them time after time in my endeavour to elucidate the mystery.

That the larvæ, or spittle-forming stage, does not appear in my garden after the first attack, I am practically certain, for I always go round and destroy the pests when I find them depleting the plants of their life-blood. I may mention, as an additional fact, that there are nearly always two larvæ in a mass of foam. Perhaps Mr. Scott will add to his notes an explanation of this mystery.

Chas. T. Druery, V.M.H., F.L.S.

Ixoras.—In tropical India and Africa the ixoras form handsome flowering shrubs, and the large scarlet corymbs of flowers are used in the temples of some Hindoo deities. In Britain ixoras are unsurpassed in beauty by any of the stove shrubs grown for their flowers; under good cultivation they bloom freely and are very attractive, and their flowers are much appreciated for decorations. They require a temperature of from 70 deg. to 80 deg. during the summer, and from 60 deg. to 65 deg. in autumn and winter. Until they have attained a large size an annual shift will be necessary, and they should be potted in fibrous peat to which a liberal proportion of sand has been added, and have the new soil pressed firm. They are propagated by means of cuttings of the side shoots placed in a close frame, with bottom heat. The most desirable for general cultivation are Ixoras coccinea superba, scarlet; I. crocata rutilans, red; I. Duchess of Teck, orange-red; I. Fraseri, scarlet; I. macrothyrsa, bright red; I. Prince of Orange, orange; I. Westi, whitish; and I. Williamsi, scarlet.—P. P.

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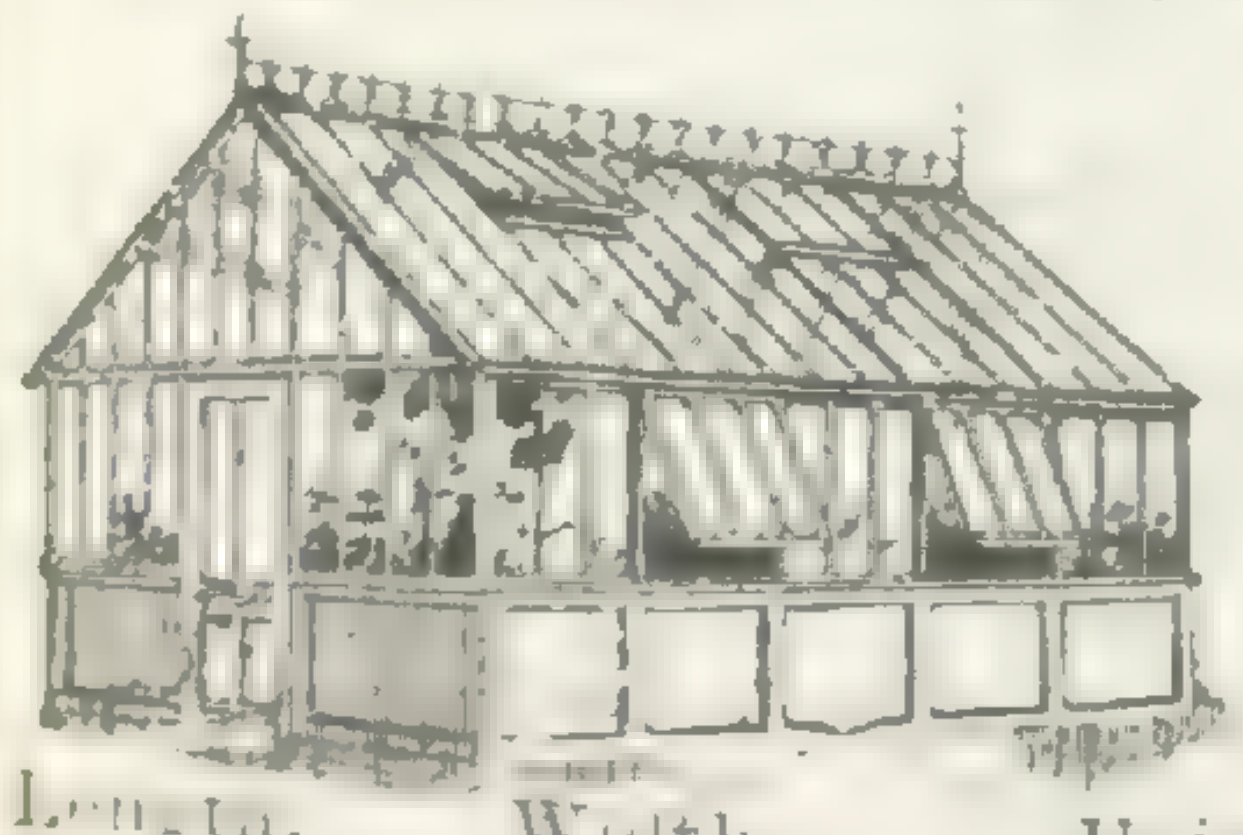

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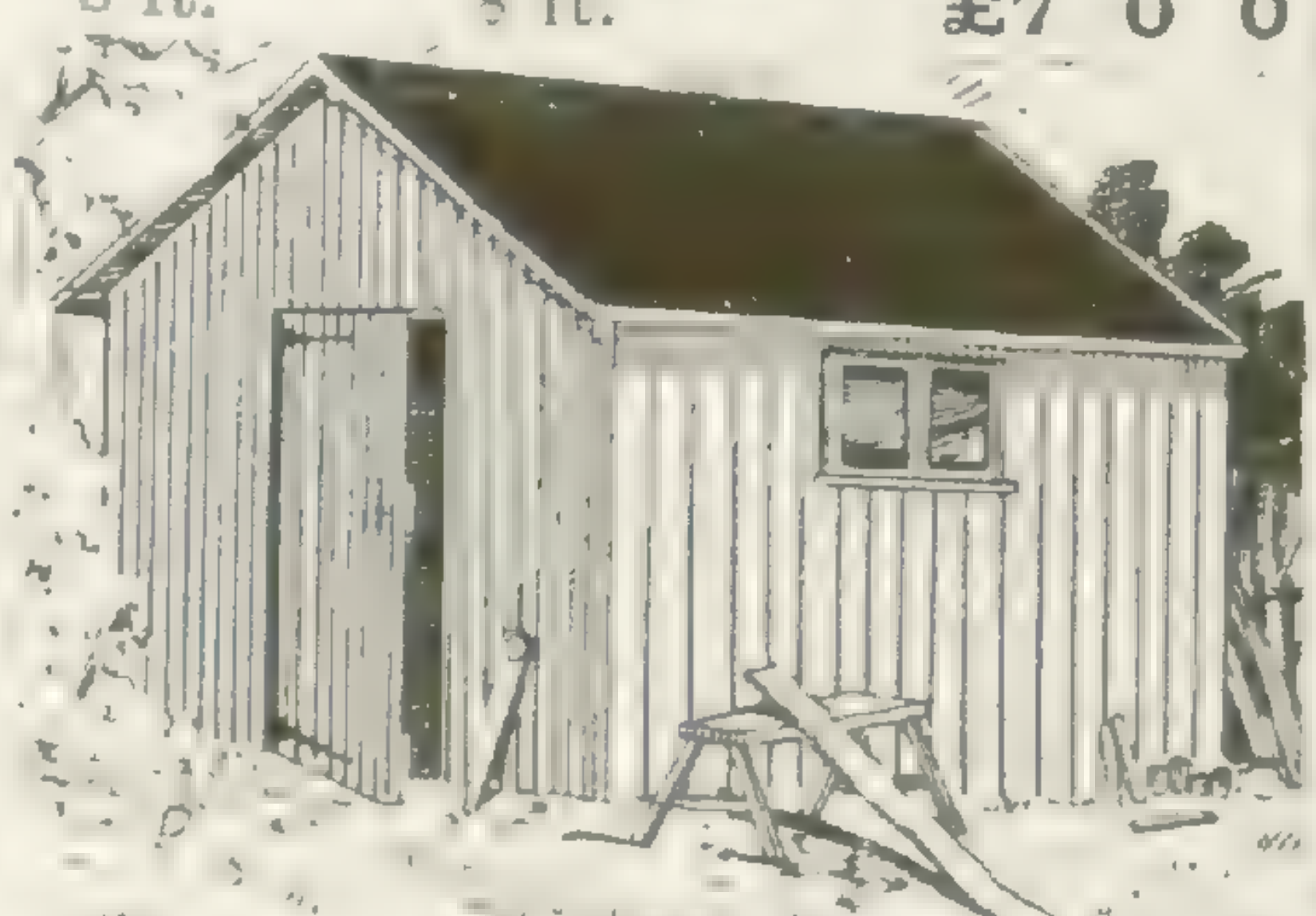

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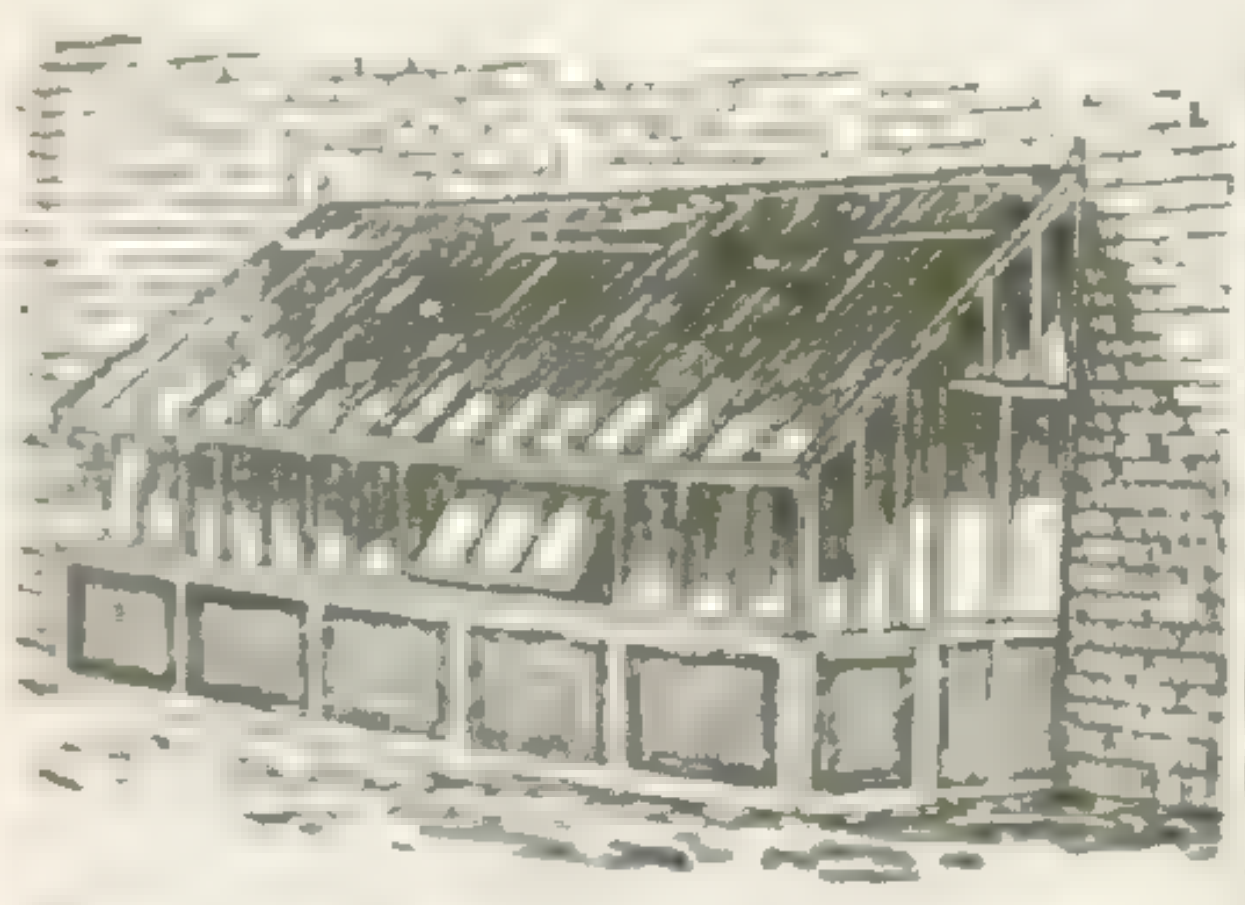

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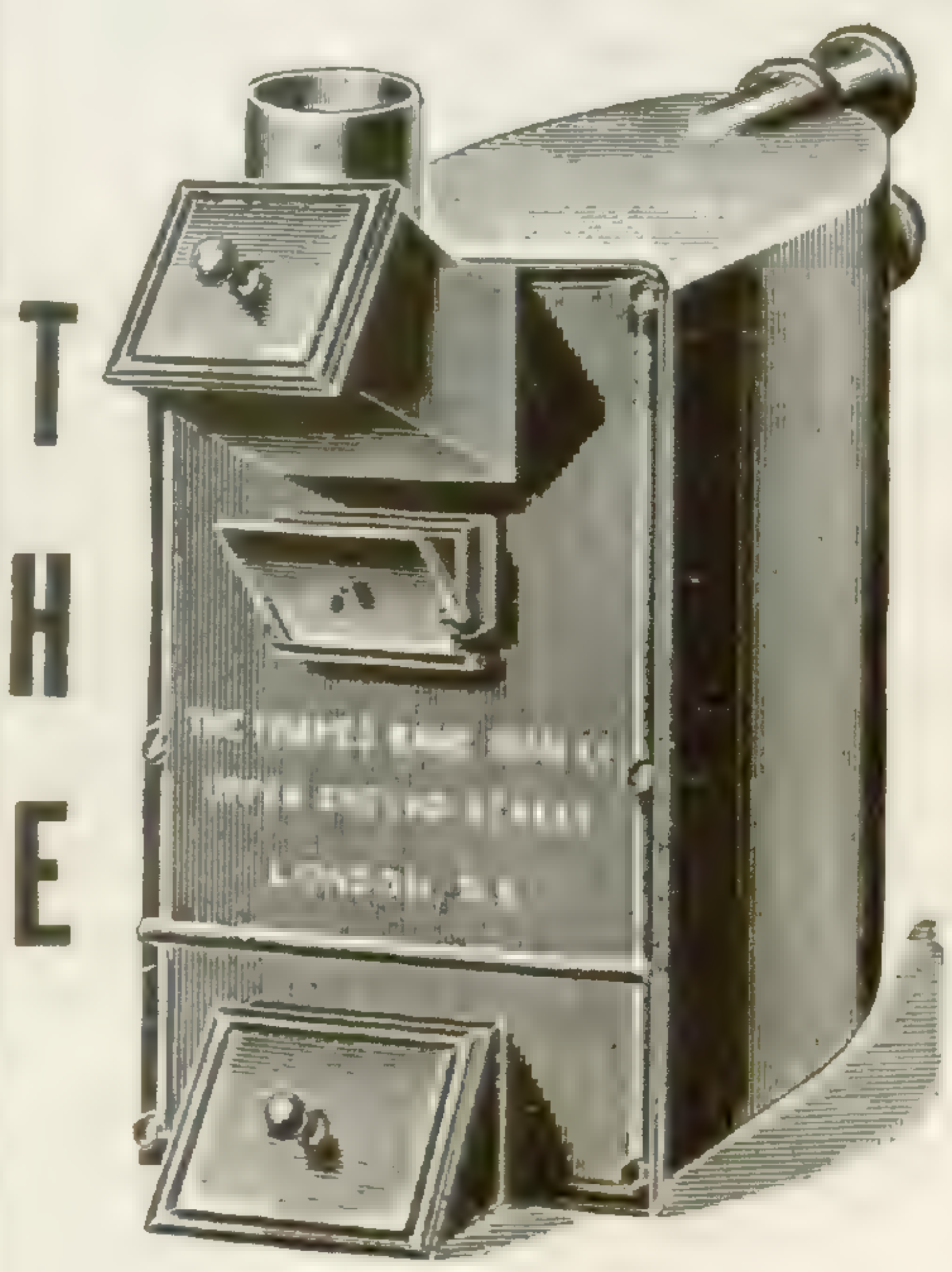

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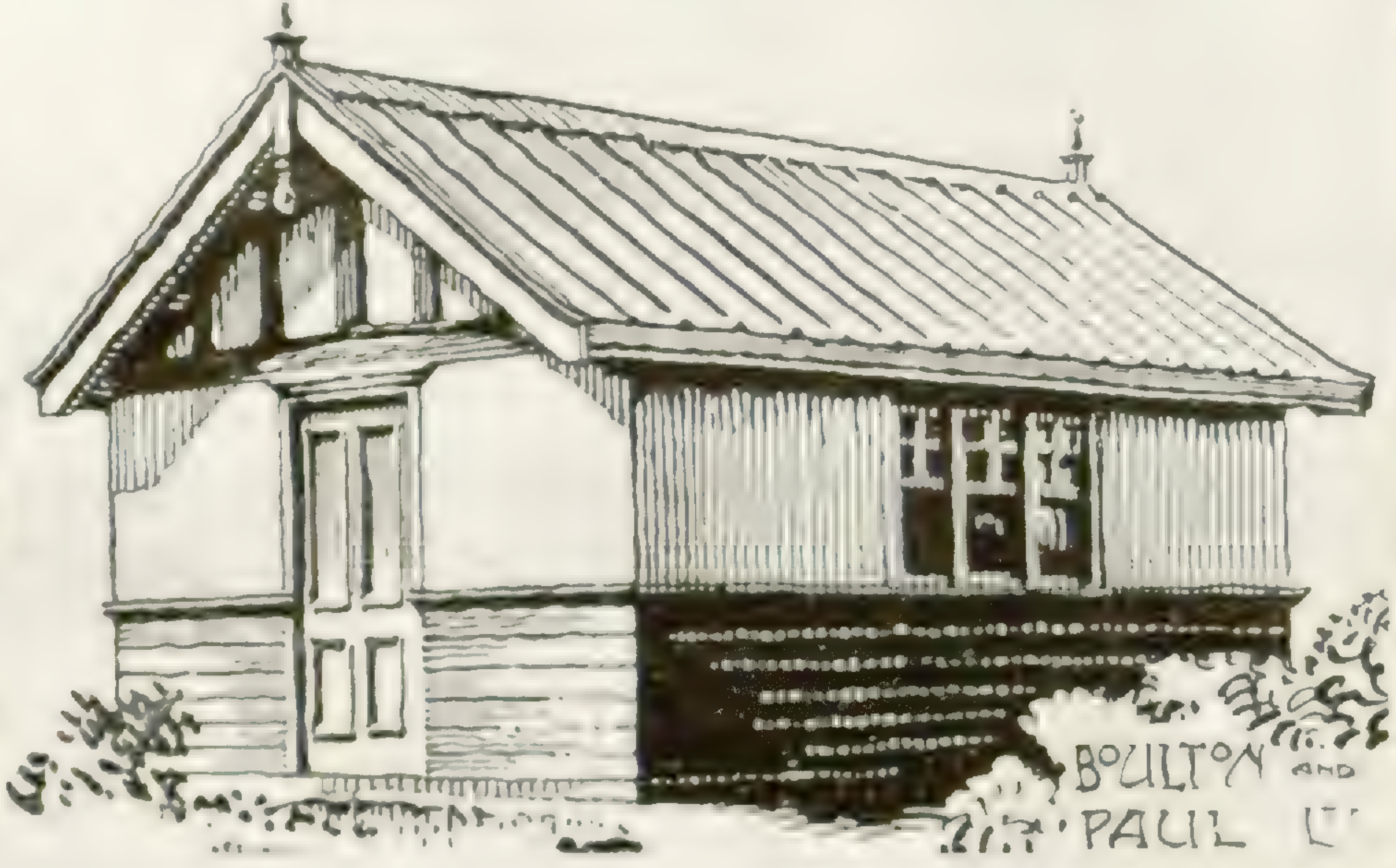

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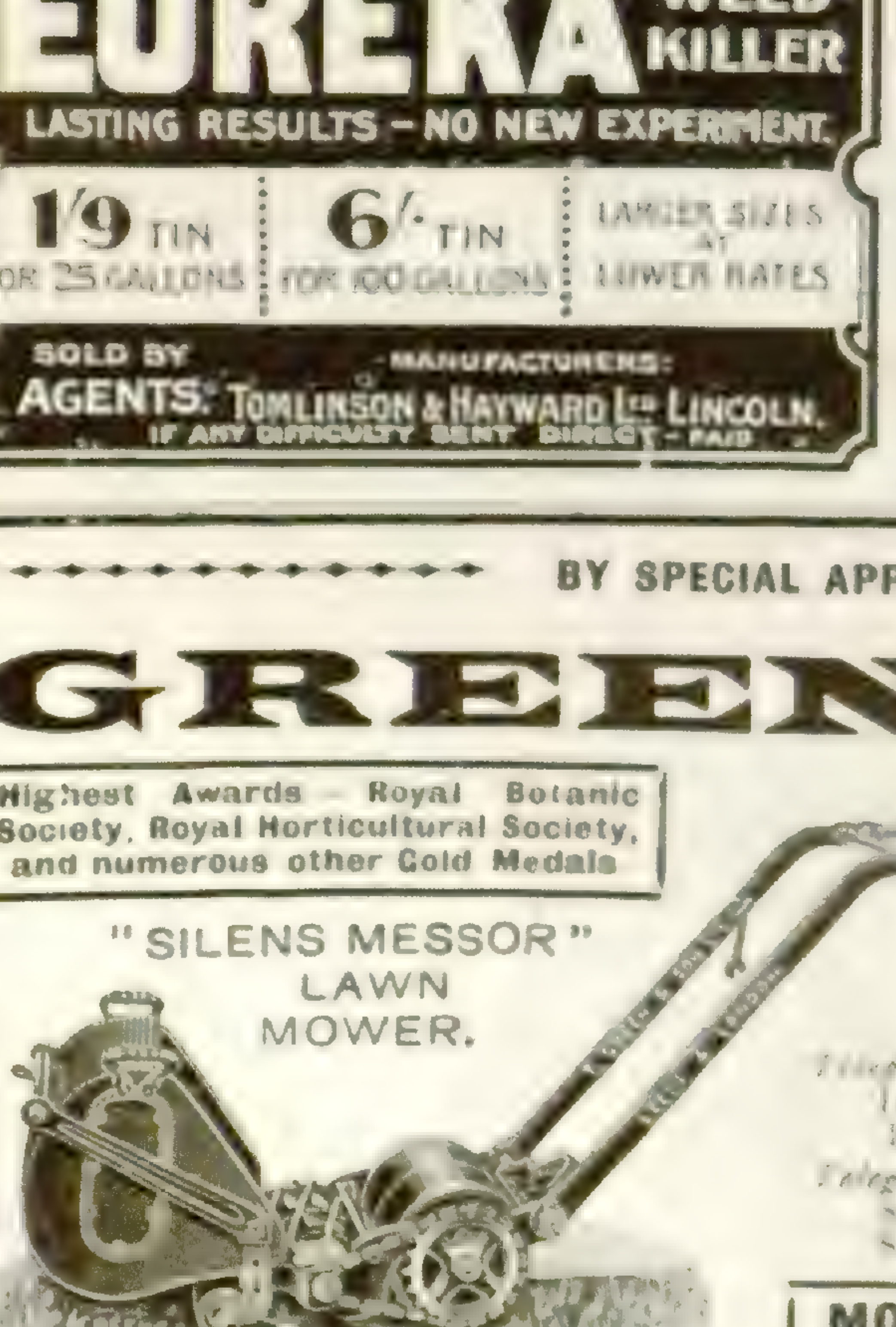
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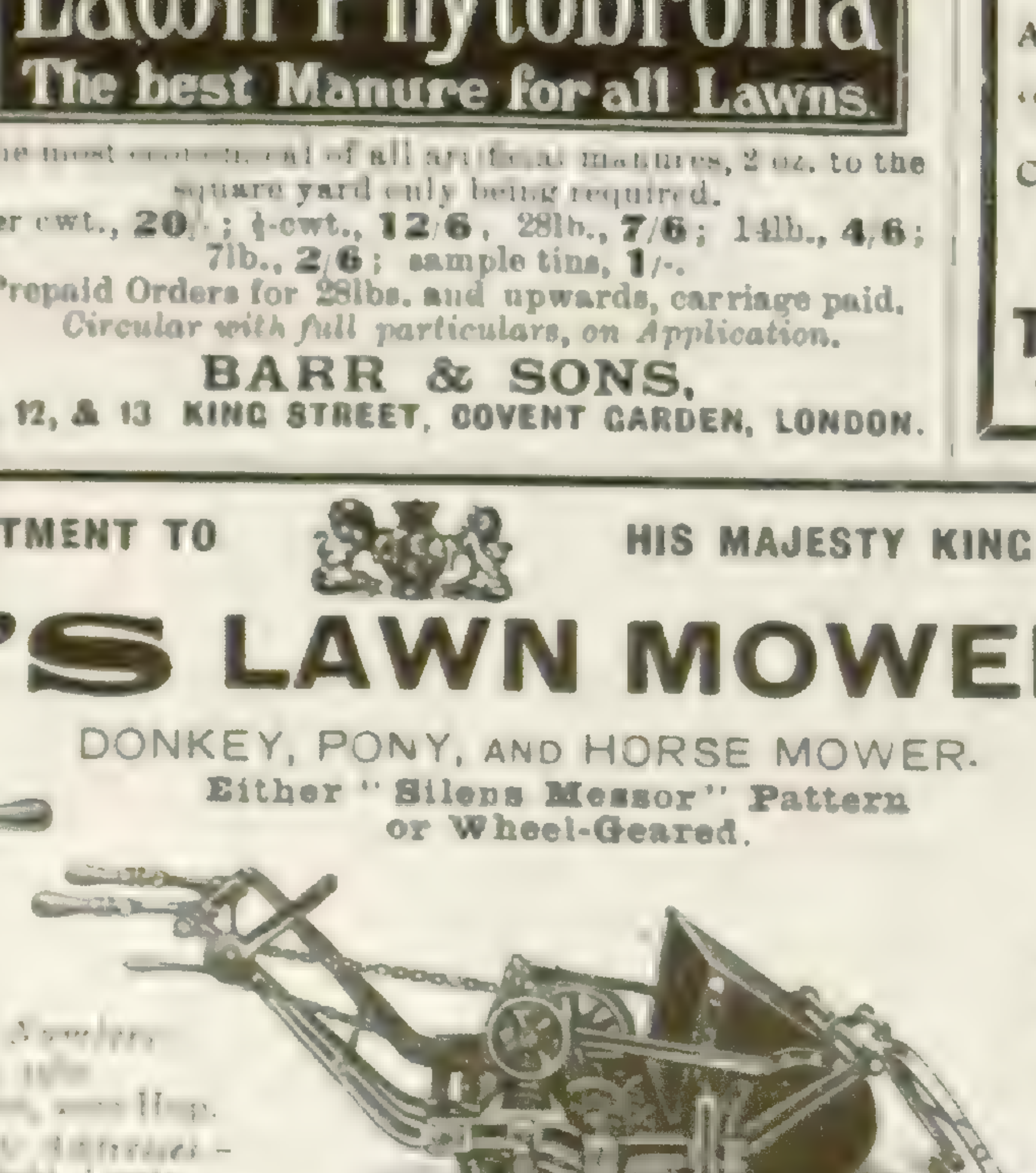

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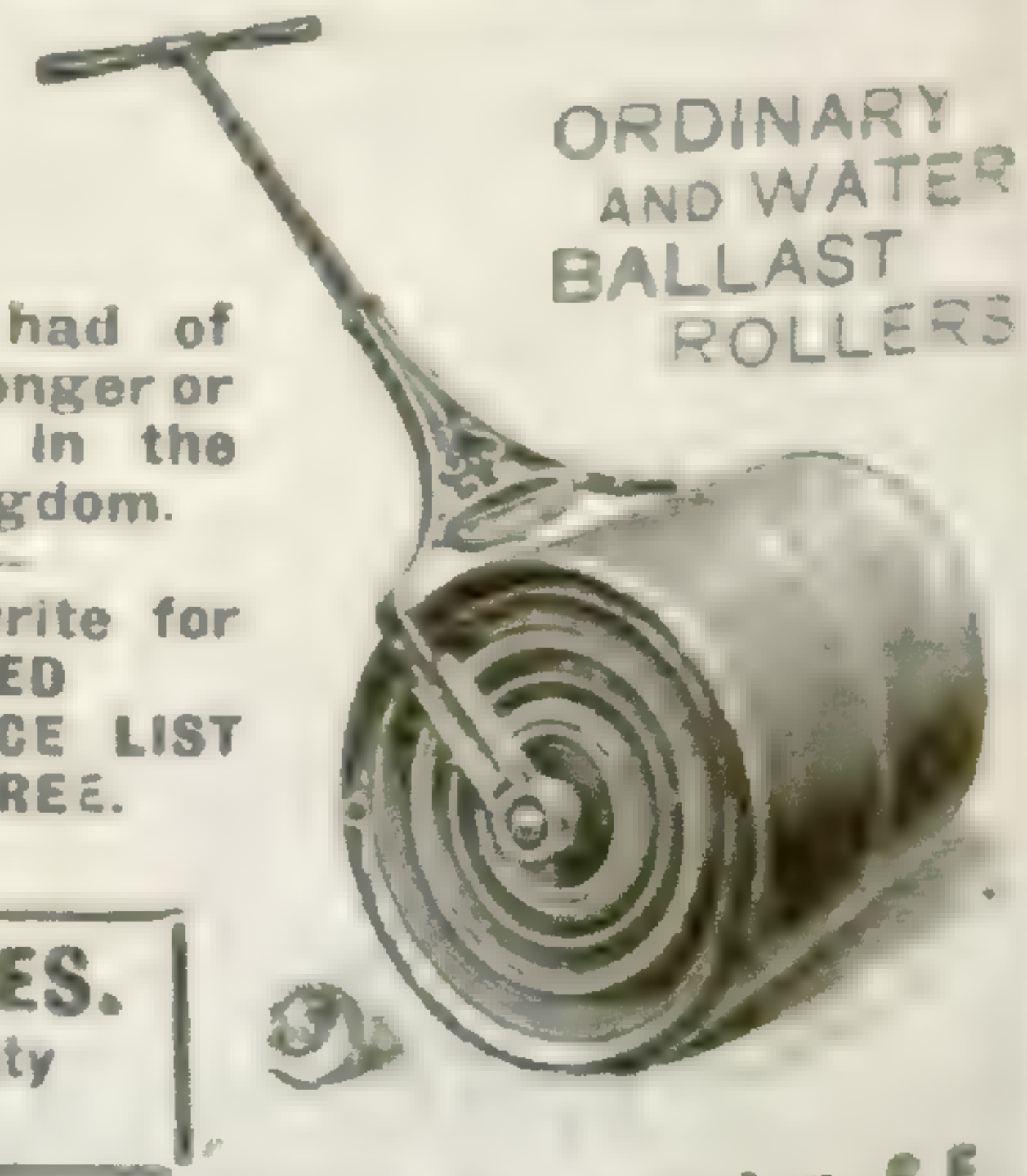
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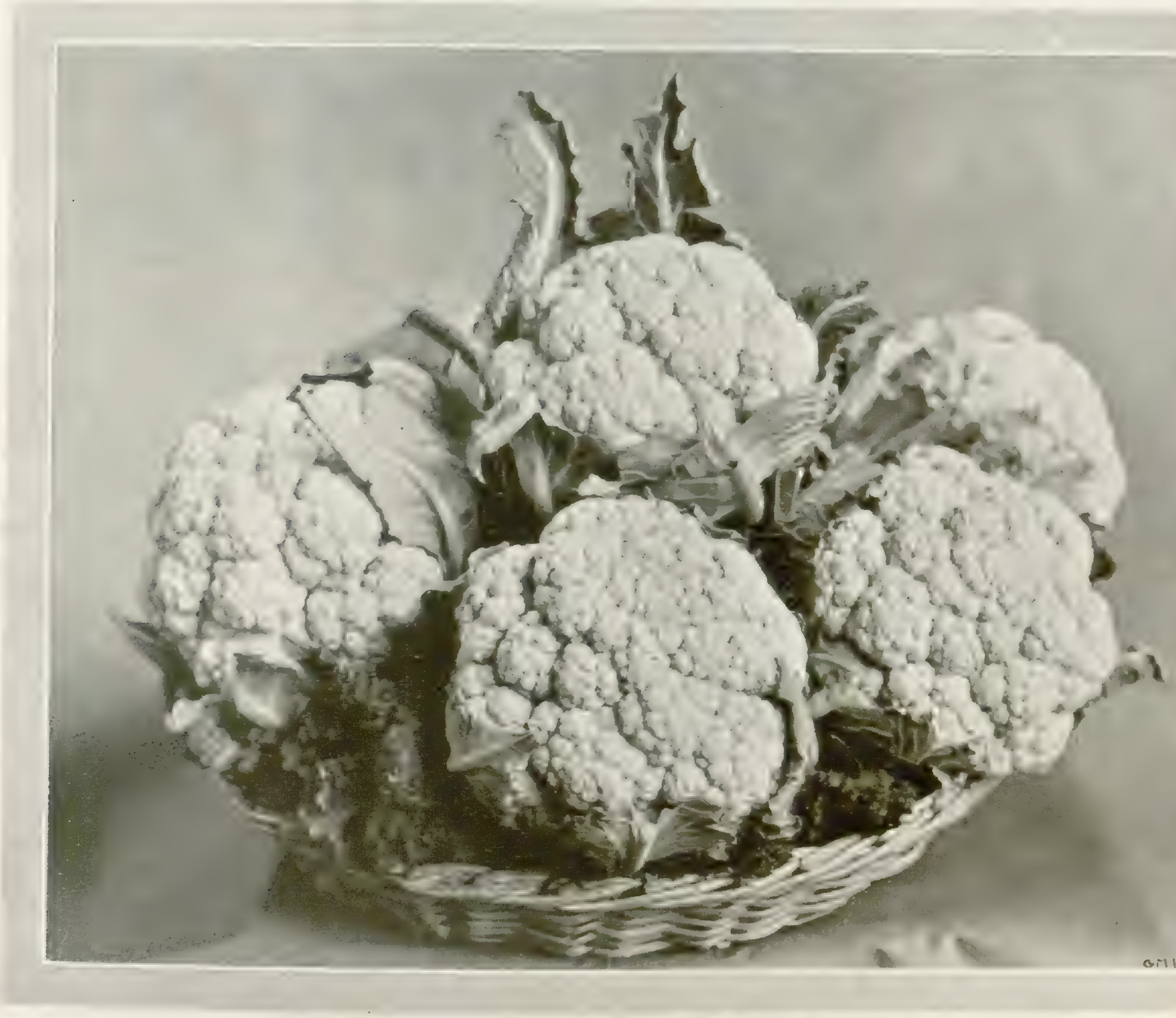
WINTER BROCCOLI.

To produce a good crop of broccoli, and also a successional supply, should be one of the chief aims of the kitchen gardener, as few vegetables are considered a greater delicacy than these, and their value is doubly enhanced, for in their season the choice of vegetables is very limited. The past winter has been an exceptionally favourable one for the perfection of broccoli, and quite a striking contrast to the one previous, when crops of all the brassica tribe suffered most severely, and in most parts of the country a great shortage was felt. Though the weather must always play a very important part in connection with this crop, yet at the same time a very great deal must also depend upon the right selection of varieties, and the cultural details.

During recent years many new varieties of sterling merit have been introduced, and I will presently name a few of those that I am much impressed with, for the quality of many of them is so marked that it is really a difficult matter to distinguish the broccolis from cauliflowers.

Seed sowing is best performed at intervals from the middle of April to the middle of May. Select a piece of ground, of poor quality for preference, and one that has not accommodated the brassica family for at least two years. Sow the seeds thinly and evenly after having made a good tilth, and net, or use some other device, as protection against birds. When large enough the seedlings should be transferred to their permanent quarters, and here let me emphasise one important factor in their cultivation, and one that does much to improve their hardiness. With the exception of very late plantings it is preferable to plant out on land that has carried some crop, and, consequently, been made firm, even if one has to make holes with a crowbar, which, by the way, is far the best means of planting. Make the plants very firm, and be sure that the roots reach the base of the hole; then well water in.

A distance of two feet six inches between the plants will be found quite sufficient, with a trifle less between the rows. Should the ground be uneven this can be easily remedied by a light forking. For ordinary purposes little else in the way of attention will be needed, with the exception of an occasional hoeing, and during dry weather, when growing freely, an occasional soaking of water will be beneficial, afterwards applying a mulch of some kind.



BROCCOLI SUTTON'S SUPERB EARLY WHITE.

A good plan is that of planting between the rows of peas, where space allows of this, and another method to adopt for late sowings is to plant in the warmest part of the garden, under a south wall, having first well dug and enriched the soil with a good dressing of farmyard manure. Under these conditions the plants will make a free growth, and often turn in at the right time, and so prevent a gap, while, being in a sheltered position, it is not necessary to encourage such a hardy growth as in the open.

During hard weather all means must be taken to protect the plants, and the best method I know is to open out a trench about fifteen inches in depth and have the plants turned over with a fork so that the heads face north. Then take out another trench and cover the stems of the previous layer well up to the crown with the soil so moved, and make the soil firm round the collar of the plant, as this is the most tender part. If the weather be very severe additional covering must be provided, such as straw or bracken, which should, however, be removed immediately the weather breaks.

Probably the broccoli most closely related to a cauliflower is Sutton's Michaelmas White. This is quite one of the very best for succeeding late crops of Autumn Giant cauliflowers. Sutton's Superb Early White and Sutton's Christmas White are both very desirable varieties of fine quality. The old Snow's Winter White is still hard to beat as a hardy mid-winter variety, and should always be included. Another very fine old variety for succeeding this is Leamington; when a true stock is obtained it is invaluable in any garden. For further succession Veitch's Model is excellent, and it has the advantage over many other varieties of being extremely hardy, and producing leaves that protect the curd from exposure till the very last. I know of no variety that is so self-protecting, and few can surpass it both for appearance and quality.

E. Beckett, V.M.H.

Aldenham House Gardens.

Half-hardy Annuals.—It may be useful at the present time to state that the best time to transplant stocks, asters, zinnias, Phlox Drummondi, or any other like subject, is as soon as they are large enough after the season is sufficiently advanced, for if allowed to become starved in boxes they do not start away freely, and if allowed to remain too long when pricked out on half-spent hotbeds they quickly grow to a large size and feel the effects of removal. Select a showery day, if possible, and transplant each with a small ball of soil.—A. B.

THE FELTHAM DAHLIAS.

For a number of years Messrs. T. S. Ware, Lim., Feltham, have devoted a great deal of attention to dahlias. They have exhibited these flowers extensively and well at the leading exhibitions, and devoted a very large portion of their Feltham Nursery to the trial of varieties. They have also raised a large number of seedlings, and, having a wonderful collection of the newer sorts from other sources, they have had exceptional opportunities for estimating the value of their own.

A HANDSOME DECORATIVE DAHLIA.
This is a rich maroon and rose-purple sport from Souv. de Gustave Douzon, and it originated with Messrs. T. S. Ware, Lim.

There is no reason whatever why dahlias should not continue to be popular as exhibition flowers, but the time has gone when dahlias, no matter what their section, may be considered solely from an exhibitor's point of view. The Messrs. Ware were quick to see that dahlias did not secure that measure of popularity their beauty and time of flowering appeared to justify, and so they set out to popularise the flower, and soon found that, if business was to develop materially, it must be along the lines of garden decoration. Last season the firm had a marvellous display of dahlias at Feltham, and from their large collection of cactus varieties they made a selection of those most suitable for garden decoration. The selection is as follows:

Alfred Vasey, crimson and amber; Amos Perry, flame red; Captain Broad, bright crimson; Countess of Lonsdale, salmon; Dainty, pale yellow and pink; Effective, amber pink and rose; Eva, white; Fighting Mac, bright crimson; Fire King, scarlet; Floradora, deep crimson; Fred Cobbold, bright crimson; General French, terra-cotta; Gladiator, apricot and salmon pink; Kriemhilda, cerise pink, white centre; Laverstock Beauty, vermilion; Liberté, rosy carmine and maroon; Mary Service, heliotrope; Mrs. Clinton, orange and salmon; Mrs. H. C. Brousson, salmon over yellow; Mrs. McKergow, amber; Mrs. Sanders, yellow; Red Cap, crimson scarlet; Spotless Queen, white; Sweet Nell, pink; and Vesuvius, yellow, striped crimson. We had an opportunity of inspecting these varieties when in flower, and can bear testimony to the excellence of the selection.

In addition to these tried varieties of several years' standing, the Messrs. Ware strongly recommended Flash, scarlet, rather small flowers; Miss Willmott, orange, very long stems; and Stalwart, vivid crimson-scarlet, all of which have gained three marks at Wisley for usefulness for garden decoration in the trials conducted by the Royal Horticultural Society. Then there is an entirely new set of four varieties, selected from many seedlings, and with garden decoration in view. This set consists of Dibs, rose-pink and gold; Her Ladyship, rosy lilac; M. Inman, bright orange-scarlet; and Veritas, salmon-pink marked with chocolate-red. In each of these four varieties the flowers are borne on long, stiff stems, and thus carried well above the foliage; the average height is about four feet, M. Inman being the tallest and Veritas the shortest of the set. M. Inman and Dibs appealed to us as being very great advances in the direction of garden cactus dahlias, and it must be remembered that the flowers, as well as the habit and colour, are good.

We have consistently urged in these columns that the great majority of show and fancy dahlias are extremely valuable for garden decoration, provided they are not grown in excessively rich soil. This view was once more emphasised on the occasion of our visit to Feltham last autumn, for the breadths of show dahlias presented a mass of colour. Most of the pompon dahlias also come under the description of garden dahlias, but these, and the show varieties, may be selected from any good catalogue, according to the colour or colours required.

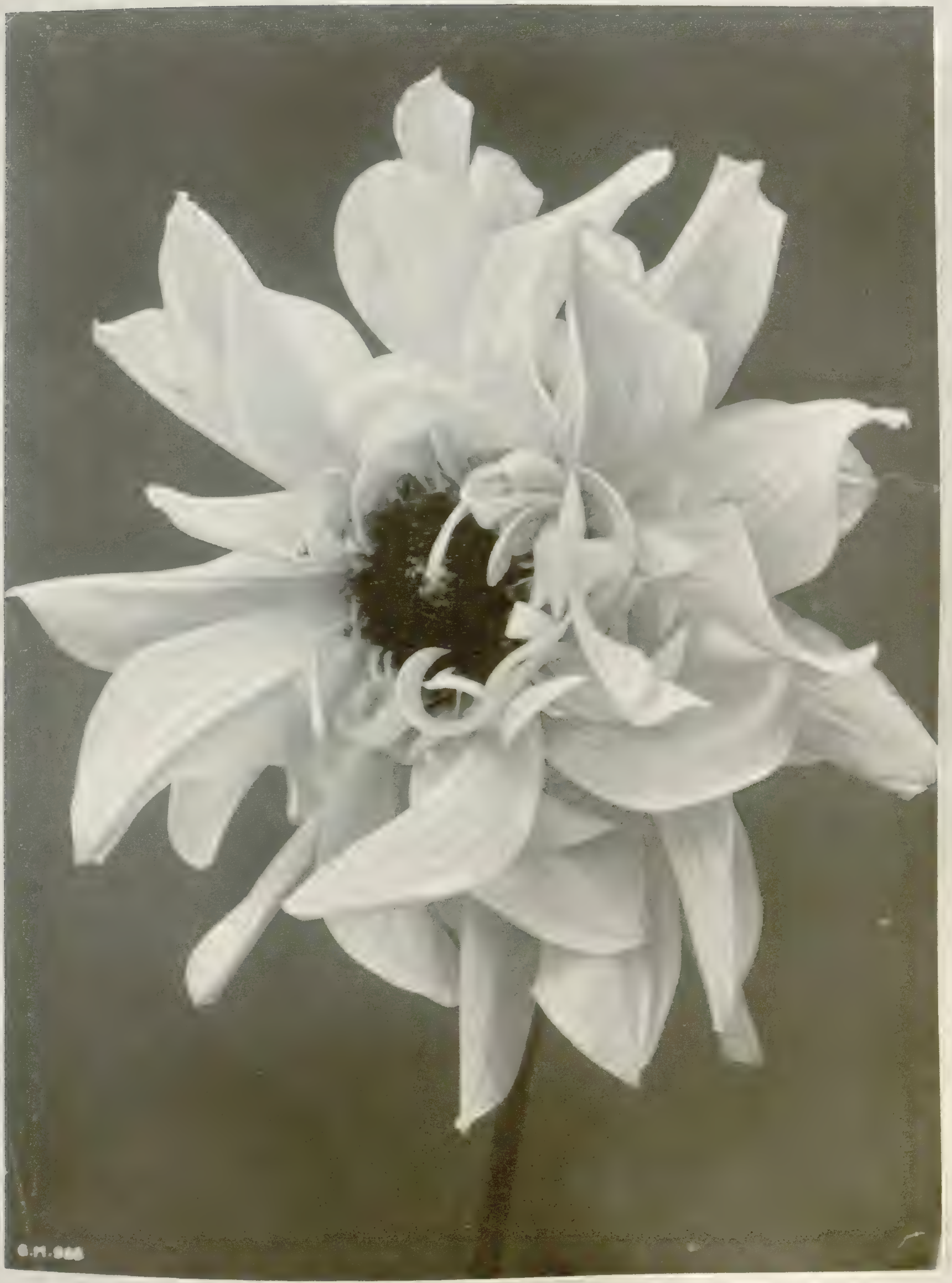
Decorative dahlias, as distinguished from cactus varieties, include several varieties of great value for the decoration of our gardens in late summer and autumn, but the class contains also a number of varieties of little value. The best, as judged at Feltham, are Black Prince, maroon; Constance, white; Grand Duc Alexis, a huge white flower flushed with pink; Harry Freeman, white; Le Colosse, red; Maid of Kent, crimson and white; Market Yellow, yellow; Mdlle. H. Charvet, a big white flower; Mrs. Kingsley Foster, golden amber; Perle de la Tete d'Or, white; Salisbury White, white; Souv. de Gustave Douzon, huge orange-red flowers; a new sport from the latter, vivid and deep red, shaded yellow and tipped with white (see illustration); and Yellow Colosse, deep yellow. For openings in shrubberies or for beds, belts, and borders in the pleasure grounds or in public parks and gardens, all these varieties are eminently suitable. Messrs. Ware have a fine sport from Souv. de Gustave Douzon, which is herewith illustrated. The colour is rich maroon, tipped with bright rose-purple.

One other class of dahlias that the Feltham firm has taken up with great energy and success is that known as Pæony-flowered. The earlies, Dutch varieties, are largely grown, but many of these are now surpassed by home-raised ones, and the Messrs. Ware's Admiration, buff, carmine, and yellow; Bronze Gem, rich bronzy red; Firefly, white, edged with crimson; Corallina, coral rose; Rev. H. J. Kitchin, pink and yellow; and Sunrise, pink, carmine, and yellow, have already proved their value for garden decoration.

But to the foregoing list must be now added the new set which the firm is offering for the first time this spring. Some folks do not like pæony-flowered dahlias, and we shared their dislike until during a recent wet and dismal autumn we found that the only flowers worth looking at were the pæony-flowered dahlias, which bloomed regardless of the unkind climatic conditions.

This new set includes several that are already known to those who regularly visit flower shows, because the Messrs. Ware exhibited them largely last season. Taking them in alphabetical order they are: Albatross, pearly-white, broad-petalled, and long-stemmed; Colonel Cody, bright buff and pink, very handsome; Hampton Court, pink, with great yellow disc; Klondyke, old gold and pink; Mrs. Alfred Platt, very large, many-petalled, bluish rose, very distinct, and with long stiff stems; Mrs. George Gordon, beautiful creamy-white, with very broad outer petals and smaller twisted petals round the yellow centre; Mrs. J. B. Riding, brilliant red, and very free; Ruddigore, a very attractive and gorgeously-coloured variety, purplish pink ground, heavily splashed and striped with orange and golden-yellow — a Japanese mixture of rich colours; and Yellow Gem, large, bright yellow, with orange centre.

Of course, all the best exhibition cactus dahlias are grown at Feltham, but we have not space to deal with them here.



PÆONY-FLOWERED DAHLIA MRS. GEORGE GORDON.

Pure creamy white, with yellow centre; raised by Messrs. T. S. Ware, Lim., Feltham.

REV. F. PAGE-ROBERTS ON ROSES.

(Concluded from page 343.)

◆

Pruning and Disbudding Roses.

Before attempting to prune roses, the grower should settle in his own mind whether his ambition is to have merely a profusion of bloom or flowers of beautiful form and size. The latter are, of course, the aim of the exhibitor; and for these, the pruning is a little more severe than that recommended in the case of the varieties that are generally known as decorative roses. One essential point in the pruning of roses of whatever class or variety is to keep the centre of the tree open, and so avoid overcrowding. And in all cases the cuts should be made to a bud pointing outwards. Fine shoots should be shortened back so as to leave four or five eyes. Except in the case of some especially vigorous growers, as for example Ulrich Brunner and Mrs. John Laing, not more than four or five shoots should be allowed to develop; and even on these particular varieties, five is generally considered the maximum number. The hybrid tea roses will not require such severe pruning, and often during the winter months such shoots as are best dispensed with are removed by frost; all that then remains is to cut out the dead wood and perform a judicious thinning of the shoots in the centre of the tree. Summer pruning, which in reality is only a sort of corollary to disbudding, is exceedingly beneficial for roses, and is indeed the only means of securing ideal blooms.

A good practice is to remove the old wood on which the first lot of bloom is borne, leaving the young wood to develop and ripen before the winter arrives. With regard to the climbing roses, such as Crimson Rambler or Carmine Pillar, or even the Wichuraianas, a somewhat elaborate method of pruning is advocated. Immediately the first blooming season is over the supports should be removed and the long stems laid on the ground. The whole of the wood that has bloomed should then be cut out from the base, in order to prevent the tree from developing into a mass of tangled useless wood; and subsequently the new wood should grow 10 or 12 feet right from the base of the tree. In any case, climbing roses are best pruned directly after blooming, for most of these roses flower on the shoots which come from the previous year's wood. Spring pruning is of no use for such trees. These remarks apply with equal force to the Banksian roses and the noisettes, which develop their bloom from the secondary wood. That beautiful rose, the Marechal Niel, is a most difficult variety to manage properly. The best method of treating it is according to the directions given by the Rev. Foster-Melliar in his "Book of the Rose"—that is, to cut it right back to the main stem, not leaving a leaf, making it look exactly like a vine in winter. By the autumn it will be covered with fine growths, which yield an enormous number of blooms.

Exhibiting Roses.

The choice of a rose for exhibition purposes, or, for that matter, even for ordinary decorative purposes, is always a somewhat difficult matter. The improvements which are annually effected in the different classes of roses are very considerable; and what may have been considered one of the choicest and best varieties a few years ago is now relegated to a secondary position. For example, thirty years ago such roses as Catherine Mermet and numerous other beautiful varieties were grown to perfection in the garden. Now, however, they have practically disappeared from amongst the popular varieties of garden roses; and have instead become greenhouse roses.

The advice given in the first part of these notes respecting the choice of varieties is of such supreme importance to rose growers that it may bear repetition. It is that only those varieties most suited to the local conditions of soil and climate are worth growing. It is waste of time and money and labour to attempt to grow other kinds. Furthermore, only the best and choicest plants should be retained in the garden; those that are not fine in every respect should be culled out. When preparing roses for exhibition they should be cut the day before, and, if possible, the operation should be performed before seven o'clock, for it is curious how roses start into growth after sundown. The stems should be fairly long and the roses carefully placed into tepid water. During wet weather it is important to protect the blooms from rain by the little white cones provided for this purpose by most nurserymen. When the rose is half grown it should be tied round with some wool in order to keep the petals together; and only a little judicious dressing is permissible. By lightly blowing on the bloom the petals may be loosened, and a camel's-hair brush may be used to press down to the base of the petals. R.

THE JAPANESE INVASION.

Already we are expecting much from the displays of Japanese horticulture to be made at the Japan-British Exhibition that will shortly open at Shepherd's Bush. Rightly or wrongly, as various impressionists will have it, the horticultural exhibits from Japan, and by Japanese gardeners, will leave a deep imprint upon the minds of English garden lovers and workers. Lessons will be taught and learned, and ideas promulgated, that the average gardener has hardly ever concerned himself about in the past, and the work of the artist in garden effects will receive such a fillip as will do much to advance our studies and ideals in this direction.

It is hard to predict what phase of the exhibits will attract the keenest attention, but one thing is certain, that we shall be astonished at the amount of detailed work and diverse scenic effects which can be put into a small area of garden ground.

We shall also be greatly struck by the laudable "copying of Nature," which will be typified in these and many other Japanese gardens. The Japanese garden maker is a keen scrutineer of natural scenery, so much so that he can copy realistically almost any given portion of his native landscape. It is no uncommon thing for a small Japanese garden to include hill and dale, stream and wild swamp, bamboo jungle, and mountain track, with the grand finale of mighty Fugi-Yama itself seemingly far away in the distance.

There is nothing that our Japanese artists will fail to reproduce. Even the glorious pine-clad islets of Matsushima, the beauties of the Iris valley at Hori-kiri, the wistaria wealth of Kameido, and the wondrous pictures around Nikko, are drawn upon as subjects for minor gardens, and, this being so, can one wonder that the Japanese garden is a successful garden?

This way lies the garden secret, the true and perennial cause of an attractive garden. We must have a garden of ideas, something really out of the common, and that will impel attention at all times and enthuse when the seasons are in full swing. It is the individualistic in gardening which makes for garden charm. It is not the ornate combination of flower schemes, but the simplicity of a direct appeal to the eye and mind of certain subjects at certain seasons, chosen to harmonise with the landscape, that really tells. For instance, let us consider the attraction possessed by a simple fern-clad dell in summer, the gold of the gorse in spring on the uplands, or the moors "purpled o'er" in late summer and early autumn with its heather. It is the simple and natural idea that tells: in it is art, and the sooner garden lovers realise this, the better will it be for the English gardens. It is in such effects that the Japanese garden maker excels. He realises the impressiveness of old gnarled tree trunks and storm-bent boughs. He knows the effect of natural harmonies of stone outcrops and boulders in a broken landscape, and the lighting and softening effects of pool and stream. He will bring spring into her fullest glory by his wealth of flowering plums, peaches, and cherries. He knows the value of iris tones for summer days, and will welcome autumn with a riot of colouring, culminating in the glowing crimson of the maple leaves. Whose hand but an artist's would plant scarlet azaleas against a grey hillside, or twine the wistaria in a trellis overhanging the shimmering water, or plant informal stepping-stones through pool and swamp?

We shall be shown how to utilise stone to the fullest advantage. Quaint old stone steps, fantastic designs in stone lanterns, and similar serviceable subjects will greet the eye from various positions. Natural rocks, chosen with studious care, are arranged as they would be upon a natural hillside, will give the onlooker the impression of being part and parcel of the garden itself.

Then, the woodwork of the Japanese garden is equally tasteful in design. The quaint tea house, among the wistarias or the Iris swamps, is just a light, artistic and withal natural arrangement. There is nothing ponderous, incongruous, or "raw" about its appearance. Clothed with vines or wistarias, these are examples of studied grace, while the bold trellises, and the charming round bridges, are equally suggestive of the artist's eye and hand.

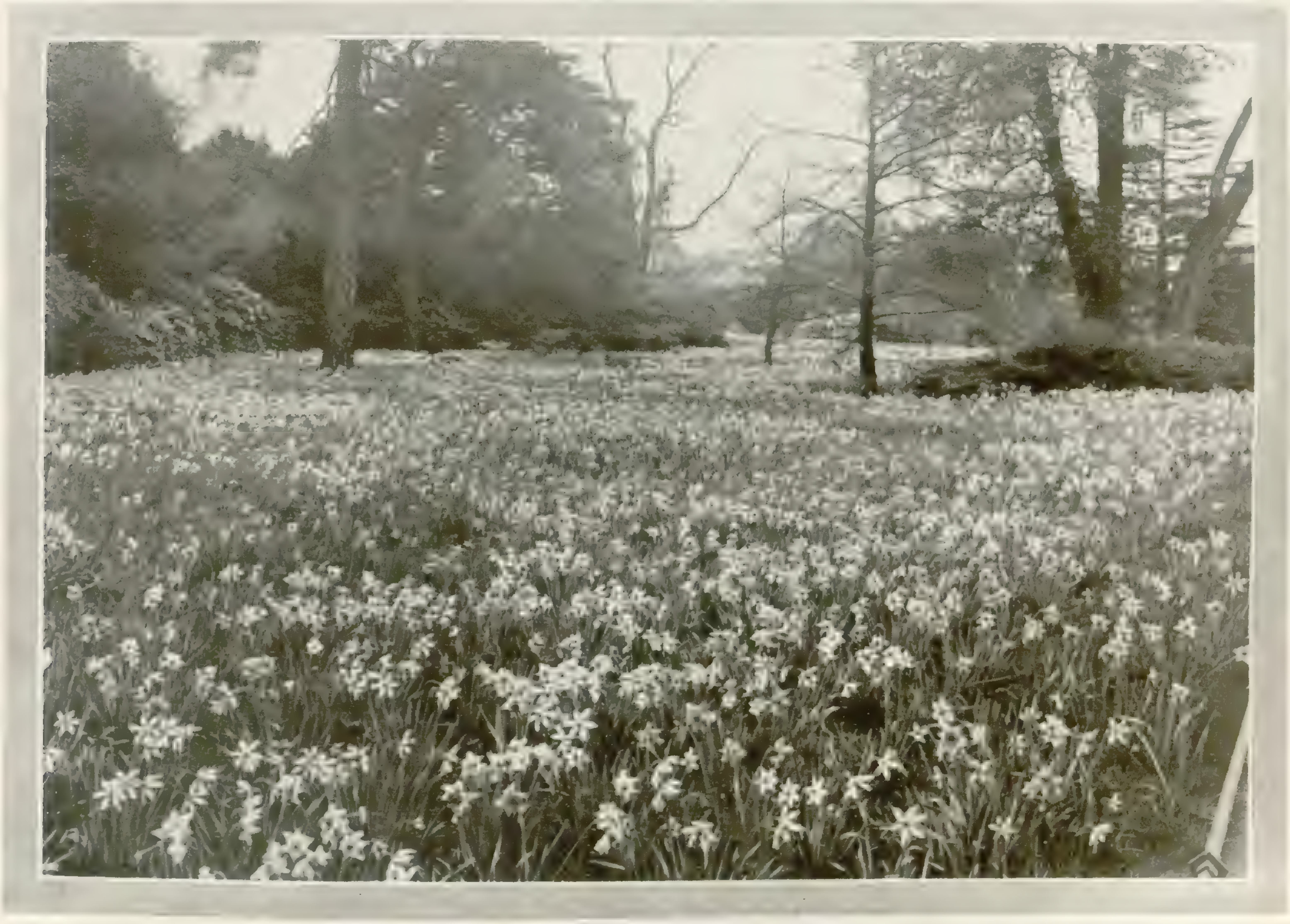
Certainly there is no question but that these ideas from Japan are going to influence us immensely. We shall see a widespread repetition of lily pond and iris swamp, of azalea brilliancy, and bamboo thicket. All the principal subjects used by the Japanese gardener will be laid under contribution. The early beauties of the "ume" (plums), the glory of the cherry and peach, the rich hues of the maples, the wealth of the pæony, and hardy lilies, the darkness of pines and junipers, will be utilised, and soon these will be better represented in the majority of our English gardens.

The writer has no desire to see British horticulturists ape the designs of their Japanese confreres, but holds the view, and would impress it strongly, that we should, like them, endeavour to excel in the art of taking pains, and, moreover, we should aim at producing in our gardens those characteristic touches of colour upon a grey landscape, those informal natural ideas of garden formation, the cultivation of simplicity in its ever-recurring charm, the utilisation of bold groups of colour or greenery, where circumstances demand it. All this will give to our gardens a charm of their own, and secure that elusive something that will distinguish each garden from its fellows.

Should the coming exhibition thus further the progress of garden art, it will be of distinct service to the whole race of garden lovers. P. S. H.

NATURALISED DAFFODILS AT KEW.

As our readers have been fully informed, much attention has of late years been devoted to the naturalisation of daffodils in the Royal Gardens, Kew, and the remarkable success achieved has been such as not only to bring much praise to those responsible for their management, but to materially assist in popularising the grass culture of these and other bulbs. Daffodils have been largely planted in various parts of the gardens, but the principal displays of these flowers are those on the Cumberland Mound, in the Queen's Cottage Grounds, and in the enclosure near the main entrance from Kew Green. We herewith give an illustration of a portion of the great breadth of flowers within the enclosure, and as this so clearly shows the general character of the display, there is no occasion to say a word in its praise. It will be seen that both star and trumpet daffodils have been freely used, and that the association of a few of the best of the two sections have produced a fine effect. On the Cumberland Mound star and trumpet daffodils are also in association, but the latter largely predominate, and in the grounds of the Queen's Cottage the majority of the breadths of flowers are formed by the Emperor. The last-named is sufficiently plentiful in the Pinetum to produce a rich colour effect, and in different parts of the Arboretum are great breadths of flowers of both star and trumpet daffodils, and of the chaste Narcissus poeticus ornatus, each consisting of a distinct variety. It need hardly be said that the naturalised daffodils have, as usual, proved immensely attractive to the visitors who come to Kew in ever-increasing numbers.



NATURALISED DAFFODILS AT KEW.
This "Host of Golden Daffodils" will be found on a stretch of lawn immediately to the left of the main entrance to the Royal Gardens.

FRUIT OF THE SANDBOX TREE.

At the recent meeting of the Edinburgh Botanical Society Mr. Symington Grieve exhibited seeds and remains of the fruit of the Sandbox Tree (Hura crepitans). This tree, he said, belonged to the spurgewort section of the Euphorbiaceæ, and it was indigenous in tropical America. At different places it was known by different names—for instance, at Panama it was named javilia, in New Granada it was habillo, and the general English name was the sandbox tree. It was the only species of hura, and differed from all the other members of the spurgewort family in the many celled ovary and the peculiar structure of the sterile flowers. The tree was branching, of thirty or forty feet in height, and often planted for the sake of its shade, for which it was so well adapted, having a great abundance of glossy poplar-like leaves. The curious, rounded, hard-shelled fruits varied in diameter from 2½ to about 4 inches; they were deeply furrowed, and each swelling between the furrows contained one flattened seed. These fruits were sold as curios in the West Indies, and Mr. Grieve when there acquired a number. He did so quite innocently, being wholly unaware of their explosive nature. He put them in his trunk, and was quite happy in their possession. Had he known what might have happened he would not have felt so comfortable. Fortunately, nothing untoward occurred until he arrived home, when, having unpacked his collections, he proceeded to make various donations to lady friends who liked to adorn their cabinets with things that were strange and rare. One lady friend had a very valuable collection of fragile old glass and china ware in a cabinet with a glass front, into which it was her intention to put the single fruit of hura. Fortunately for the china and the lady's peace of mind, the fruit was put on the top of the cabinet instead of inside it. It lay there for about twenty-four hours, when a fearful explosion occurred, and the whole household rushed to the drawing-room. An investigation showed that there was no sandbox fruit where the sandbox fruit should have been, but it was difficult to realise that most of the remains of the fruit were hanging upon the muslin curtains at least twenty feet away. The husband of the lady called upon Mr. Grieve demanding an explanation, and, having proved his innocence of all evil intentions, the matter ended by Mr. Grieve going to the house to see for himself the results of the explosion. He warned all other friends, to whom he had made presents of hura, to be careful, and not without reason, as within a few days reports came from every quarter of loud explosions of great violence. In only one instance was the fruit kept for any time, and in that instance the core of the fruit was cut out; but one day, about eighteen months after he had presented it, it went off with a bang. Owing to the loud noise made by the explosion, the fruit was often called "the monkey's dinner-bell." The seeds were emetic, in a green state violently purgative, but when dry were said to lose that property. An oil was extracted from them, and sometimes used as a purgative. A venomous, milky juice was abundant in all parts of the plant, and if it be applied to the eye was said to cause almost immediate blindness. The wood of the tree was very brittle, and the hollowed trunks were said to be used in the West Indies as vats for containing cane juice.

GREENHOUSE CLIMBERS.

There are among greenhouse climbers some very interesting subjects. In these days, however, when cut flowers are so much in request, there is a great difficulty in affording them sufficient attention, and as there are but few that produce flowers with stems long enough to enable them to be used with advantage for decorative purposes, they have become neglected. Unless trained to the roof climbers take up much room, and when grown thus close attention is necessary if they are to be kept from overshadowing the plants beneath, but where there are pillars to cover some of the less rampant species may be grown with advantage. Such plants were at one time grown and trained to balloon trellises, and when well flowered they made a fine display at some of our great exhibitions, but as they take up so much room when not in flower they have lost favour.

Some species are very useful, while others are grown on account of their peculiarity. Hibbertia dentata is one of this latter class. The small yellow flowers, which somewhat resemble those of a hypericum, are produced in great abundance during the early spring months, and these form a pleasing combination with the bronzy foliage and dark stems of the young growths. The plant is fairly hardy, and would doubtless withstand our winters in sheltered situations. Here it has the protection of a cold frame during the severe weather. Plants are easily propagated either by cuttings or seeds, so that when once established there is no difficulty in keeping up a stock. It thrives well grown in light sandy soil with the roots kept confined to induce it to flower freely. On no account should it be allowed to suffer from lack of moisture.

Kennedyas are also very pretty when in bloom, their small pea-like flowers being very attractive, and though by no means suitable for cutting, they make fine plants for covering trellis work, pillars, etc., in conservatories. It is easily raised from seed, which should be sown in a gentle heat in spring, and as the plants advance in size they must be potted in sandy peat before the pots are filled with roots.

Solanums are numerous, but the two most useful are S. Wendlandi and S. jasminoides, both of which will withstand the frost of an ordinary winter in the south. They are undoubtedly very useful, the former for its fine trusses of blue flowers, which are produced in abundance during the summer and autumn months, and the latter providing a wealth of bloom out of doors until cut down by the frost. When planted in the open this latter species makes rapid growth, and if allowed to ramble at will over the branches of trees presents a beautiful appearance in the autumn. A deep rich light soil suits it best, for the more liberal the treatment the finer the trusses of bloom.

Clematis indivisa, where space will admit of it being grown to perfection, is astonishing in its wealth of bloom during the early spring. It is, however, a rampant grower, and needs to be cut back each year after it has finished blooming to keep it within bounds. Where there is space, such as the roof of a lofty conservatory, this is just the place for it, as its white flowers then show to perfection. There is no difficulty in increasing the stock of plants by cuttings, and young plants in pots, when in bloom, look very pretty. It thrives well in a light rich soil, and will soon cover a large space if well attended.

Rhyncospermum jasminoides is very nearly hardy, in fact in some places it has withstood the severity of our winters for years, though in some severe seasons it is quite killed. For covering the wall of a greenhouse or conservatory there are few plants more attractive when in full flower. Years ago this was one of the chief kinds in all collections of stove and greenhouse plants at the principal shows, and fine, well-flowered specimens one used to see. Grown in peat the plant makes rapid strides and soon covers a good-sized space, and the dark green foliage is very pleasing even when the plants are not in bloom.

Lapagerias, both the red and white varieties, are grand subjects for covering trellises, walls, etc., in all greenhouses and conservatories, but to grow them well a certain amount of shade is essential, and on no acount must a close atmosphere be given them. I remember some years ago seeing a large plant covering a wall in the Isle of Wight, which, when in bloom, was a grand sight. For covering pillars in a conservatory few plants are more useful, while for exhibition, trained on a trellis, with the large bell-shaped flowers hanging loosely down, both varieties are fine. The flower stems, however, are too short to enable the flowers to be used with advantage for indoor decorations, though for the dinner table they may sometimes be employed with good effect.

H. C. Prinsep.

DAHLIAS IN THE GARDEN.

The dahlia is a show plant of immense value, but it is also meritorious as a beautifier of our gardens, and in this latter capacity we find it properly patronised in but few pleasure grounds. A collection of prize varieties is bought, perhaps, but, instead of setting these where the landscape needs them, or they are able to display themselves to perfection, they are stood in "serried ranks" across some square or oblong plot of uncarpeted ground. Later on, the plantation is made to bristle with upright sticks, topped by inverted pots. Can anything be more ugly, more out of keeping with the royal loveliness, the stately elegance, of this Mexican beauty?

A group of salmon and scarlet dahlias, of any class, in the angle of old grey walls or fences, will make a colour display that will live in an artist's memory; a stiff line of rose and carmine dahlias in front of a red brick house will create a discord that an artist—nay, any moderately artistic person—will recall long afterwards with a shudder. From this fact we gather the truth, that the more we study the laws of art, and observe the perfect manner in which Nature blends her hues, the greater shall we become in our most honourable profession.

Orange and gold dahlias may altogether glorify the aspect of a cold-looking grey or white house; Yellow Colosse is the name of a splendid decorative variety, which produces an incredible number of blooms, and displays them excellently, while the grand orange Glare of the Garden also belongs to this most useful class, being a foot lower than the former it can be massed in front of it. A delightful cactus dahlia, F. H. Chapman, is yellow, flushed with orange; George Gordon actually beats it for beauty, while Harbour Light is an orange that deepens to red at the tips. The range of hue yielded by these cactus varieties is warmer in effect than clear yellow, but that imitates sunshine, as does the golden privet, so is of incalculable worth where a cheering glow is needed.

While some dahlias are thus advisable to brighten scenes, others can be recommended to subdue them, and if we think of the thousands of crude red-brick, red-tiled houses that have sprung up in all country and suburban places, we must admit the need for such flowers. If maroon and white or cream dahlias are boldly massed in front of a dwelling that needs time to mellow down, the immediate appearance undergoes a change as remarkable as it is welcome, and the homestead becomes a scene that would make an agreeable subject for an artist's brush. Dahlias that offer the needed qualifications are the following: Maroon cactus—Good Hope, J. H. Jackson, Dreadnought, and Alexander; show dahlias—Claret Cup, Edward Mawley, Dante, and Mr. Chamberlain; single dahlias—Sambo, Stromboli, and Nellie; cream-white cactus—Fairy and White Lady; show dahlias—Ethel Britton, blush-cream, edged purple, and John Walker; single dahlia—Sevenoaks White.

The effect of a large grass-sided bank of shrubs in a spacious front garden is sometimes far too plain; if a narrow border is cut at the base and dahlias of different classes are grouped in this, to form a continuous line, but broader at places than in others, the improvement will be great, at small cost of labour. When dahlias are required to provide a bold mass of this sort every effort should be made to hide the soil between and before them now, as the strongest growers ought not to be overcrowded by one another, the best way of achieving this is to use pompons and Tom Thumb dahlias also of the most dwarf description.

Pompons only two or two and a-half feet high are: Arthur West, crimson; White Perfection; Zerlina, maroon-crimson; Bacchus, scarlet; Bonelia, rose; Kitty Barrett, yellow, tipped red. Tom Thumb dahlias, of scarcely more than a foot in stature, are: Golden Fairy; Tom Tit, orange; White Pet; and Mignon, pink. Then there are dwarf bedding cactus dahlias, not above two feet high, of which John Mortensene, crushed strawberry, is the loveliest, but of a shade that is a discord with all pink, crimson, scarlet, or orange flowers; Citronenvogel, primrose; Edelweiss, white; and Perkes, deep gold, can be obtained.

Hedges of dahlias are quite suitable for making summer screens in the garden, adding to the privacy of arbours and seats, surrounding croquet and tennis lawns, hiding the vegetable ground, or separating a front lawn from the tradesman's entrance path. The tallest dahlias I know are: Magnet, salmon-apricot; Flash, scarlet; Salisbury White; and the cerise-vermilion Souvenir de Gustave Douzon, which reaches beyond five feet. Paeony-flowered varieties are plentiful, and include La Riante, heliotrope; Baronne de Grancy, white; Pius X., yellow; and Queen Emma, pink. It is well known that seed-raised single dahlias often tower high above all others; it would be worth while to make a hedge each year of seedlings from the best seed, for the colours and shape would prove admirable, from the artistic and the gatherer's point of view, as well as exquisite for garden adornment.

By using dwarf kinds of dahlias in some of the lawn beds we can get away from the bedding-out schemes that are surely, though slowly, passing from public favour. All that pompons, Tom Thumb, and dwarf cactus varieties need is an edging of violas; yellow, mauve, or white are bound to harmonise with the hues of the more important flowers.

M. H.

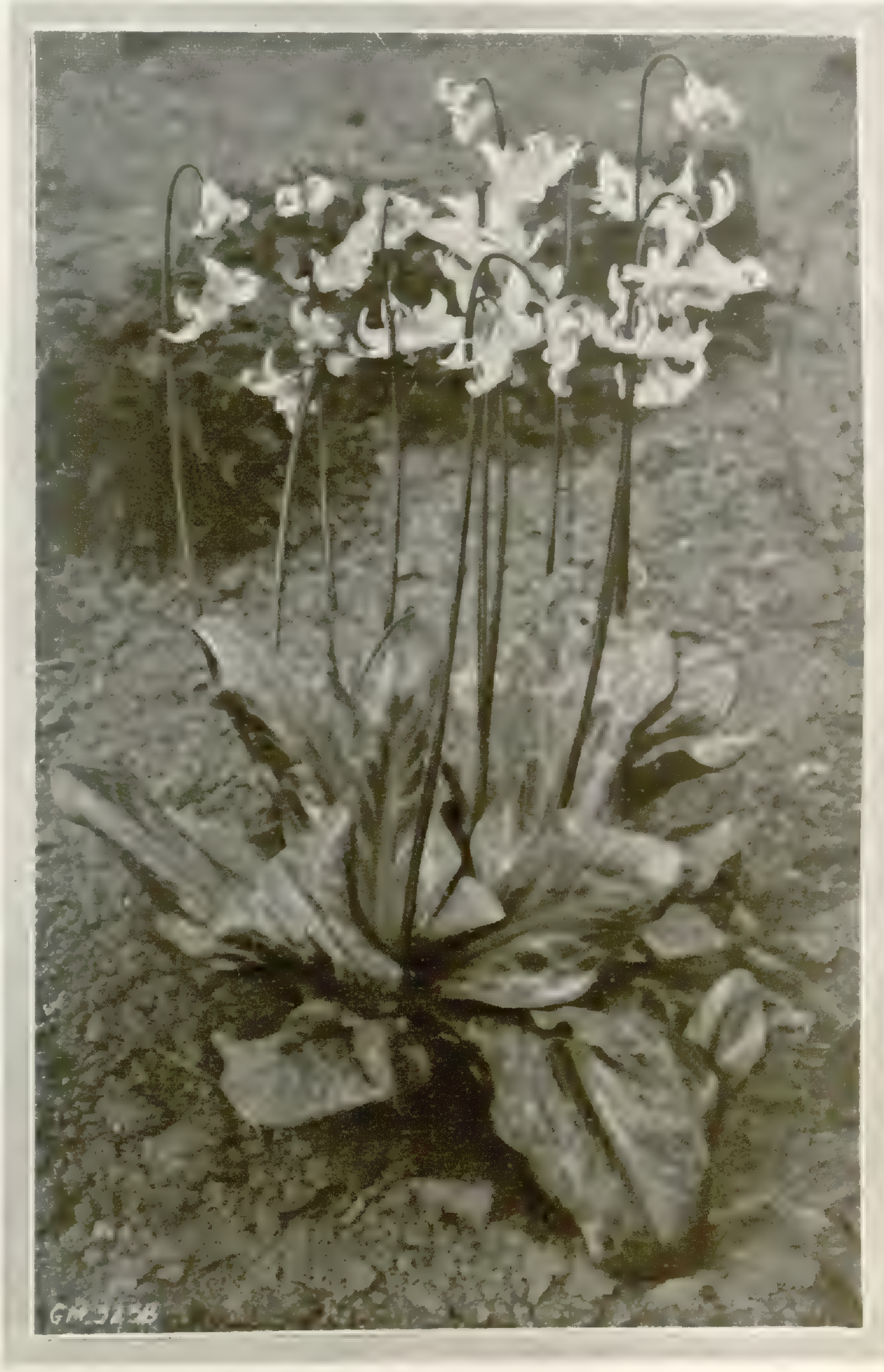
AMERICAN ERYTHRONIUMS.

The European Dog's-tooth Violet (Erythronium dens-canis) and its varieties form a small but attractive group of spring-flowering plants that well deserve a place in all gardens in which hardy flowers are appreciated. Attractive as they unquestionably are when grown under conditions favourable to their full development, they are, in some respects, surpassed in effectiveness by their more robust relatives that have been introduced from the other side of the Atlantic. The object in mentioning this fact is not to depreciate the merits of the charming European plant, that has been grown in this country for at least three hundred years, but rather to indicate the value of the American species in contributing to the attractions of the herbaceous border and the rock garden during the spring months. All that are in cultivation in this country are more or less beautiful, and they are all comparatively cheap. This being the case, lovers of hardy flowers who have not as yet grown the American erythroniums may be advised to visit nurseries where they are cultivated in considerable numbers, or botanic gardens, as may be the most convenient, and make the acquaintance of the finer forms. This having been done, they should take down a bulb catalogue containing a representative collection, and duly mark those for which they have a preference, so that everything may be in readiness for making purchases in September or October.

The following are of great beauty, and those who are able to visit nurseries or gardens in which there are representative collections should make a point of looking for them, while those unable to do so should mark a catalogue forthwith, and purchase the roots in the autumn. E. americanum, a dwarf-growing species, bearing yellow flowers that are marked with brown at the base: E. citrinum, a distinct and pretty species, with lemon-coloured flowers; E. grandiflorum giganteum, a bold-growing form of great beauty, which by some writers is given specific rank under the designation of E. giganteum. It is vigorous in growth, the large leaves are richly marbled with bronze-purple, and the flowers, which are borne on comparatively tall scapes, are cream-white, orange-yellow at the base. E. grandiflorum is hardly so tall as the form immediately preceding it, but the flowers are borne erect on stout scapes, and they are of large size, and of a rich yellow hue. E. Hendersoni is valuable for its distinct colouring, and is of much beauty. The leaves are deep green mottled with brown, and the flowers are pale rose with purple base. Not less beautiful or desirable is E. revolutum Johnsoni, which has large rose-coloured flowers with golden centre. These would form an excellent selection, and give much pleasure during March and April.

The American erythroniums are not, in the matter of cultivation, exacting in their requirements, and there are comparatively few gardens in which they cannot be successfully grown without elaborate preparations being made for them. They will thrive in any light friable soil, but the soil that is the most suitable for them is a light sandy loam, to which a rather small quantity of peat and a liberal proportion of leaf-mould have been added. The several kinds should be arranged in distinct groups, and each should contain from six to nine roots to ensure a good effect from the first.

W.



ERYTHRONIUM GRANDIFLORUM GIGANTEUM.

A beautiful variety of one of the finest of the American species; the flowers rich cream colour with orange base.

PRUNUS JAPONICA.

Until about ten years ago this dwarf cherry was only known in gardens by its double-flowered varieties, but Messrs. Veitch received seeds of the type from their collector, Mr. E. H. Wilson, and were successful in raising plants about the beginning of the century. Curiously, amongst the earliest plants which flowered were noted both white and pink or reddish-flowered forms, which correspond with the two double-flowered kinds. After being used to the flowers of the latter, those of the type were somewhat disappointing, for, though borne with freedom, they are much smaller than those of the varieties, and are of a more fugitive character. This, however, is compensated for, to some extent, for the flowers are followed by ornamental fruits as large as those of a small cherry, and similar in colour, though on different plants the colour may be bright red or dark red, as the case may be. The fruits are fairly fleshy, and of an acid taste. It is probable that they might be used for culinary purposes if they were obtainable in sufficient quantity. The species is a native of both China and Japan, and has been called P. chinensis in addition to P. japonica. The double-flowered varieties are exceedingly useful flowering shrubs, for they rarely fail to blossom freely, whilst they may be used successfully in beds in conspicuous positions, groups in shrubberies, or for forcing.

Under normal conditions they grow between five and six feet high, but it is a mistake to allow them to get too tail, for then the growths become short, and flowering suffers. The best way to deal with them is to cut them well back about every third year. By doing this long shoots are formed, often from two to three feet in length, and these bear blossoms throughout the greater part. It is sometimes found to be a rather difficult shrub to propagate, especially when raised from cuttings. The type may, of course, be increased by means of seeds, but the double forms have to be dealt with in some other way. The most satisfactory is layering, and if two or three are layered in spring good serviceable young plants may be obtained by autumn. These, taken off, and planted in nursery quarters for a year, form excellent shrubs, either for planting in the open ground or for forcing. Those used for the latter purpose may be forced two or three years running, providing care is taken to grow them on in a cold house for two or three months after the flowers are over. Treated in this way it proves a very profitable subject.

D.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEEDLINGS from seeds sown early in the year will now have advanced to that stage of growth when they may be removed from their seed beds and transplanted into small pots, singly, or placed several together in store pots. Where seedlings are extensively raised, the question of accommodation soon arises. It is not so much the question of accommodation in the early stages of growth as it is when the plants are in a more advanced state, and in advising on this question it is scarcely necessary to say that it is well, where room is limited, to keep the young plants in as small a space as possible. It is remarkable what a difference a year's growth makes to a dozen plants which in their early stages may be accommodated in a three-inch pot. On the other hand, where ample accommodation can be afforded, I have no hesitation in saying that the seedlings should be allowed to remain on the seed bed until they are sufficiently advanced to be planted singly in small pots. Where they can be thus treated they have the advantage of being treated individually, and will usually outrun plants that are pricked off several together in the store pots.

TRANSPLANTING. – I am frequently asked which is the best time to remove young plants from their seed bed; this is a matter which must be left largely to the discretion of those in charge of the plants. Circumstances necessitate prompt action at times, as the surface of a seed bed may become subject to attacks of one or more fungi, after germination has considerably advanced; or the potting compost may decay, or the sphagnum moss and other vegetable growth become so overgrown and dense that there is a danger of the loss of all the young plants. These are frequent occurrences, and serve to show that the time of removal must be judged on the spot. I think when all goes well the best time to remove young seedlings is when the first root is being emitted, and this usually follows the complete development of the first leaf. When potting seedlings from the seed bed, and in the early stages of growth, I find it is desirable that the compost should be of a loose and porous nature, so that water may drain off rapidly and the air may have passage through the material. Care should also be observed to have the pots and drainage thoroughly clean.

ODONTOGLOSSUM SEEDLINGS.—Until the last few years raising odontoglossums from seed with any degree of success appeared out of the question. The developments in this direction have been most remarkable, and we find that no orchid seeds germinate more rapidly to-day than those of odontoglossums and allied genera. Why this should be it is difficult to determine, for apparently the conditions of culture are the same as previously, with the exception, perhaps, that a little leaf-soil is included in the potting compost. Seedlings raised in the late months of last year, and the early months of this year will now require attention. The outside damp conditions have had considerable influence on the seedlings here during April. It is when they get to the stage of early leaf development that they are attacked by blackfly maggots and small slugs, and in this state they must have constant observation.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

PROPAGATION.—The greater proportion of plants will have now been raised either by seed or from cuttings, and many of them will be making vigorous growth. Yet there are many things that will need to be propagated regularly to keep up a supply of small furnishing stuff either for the houses or for indoor decoration, so that it is not wise to let the propagating frame stand idle for any length of time. Coleus, panicum, tradescantia, Ficus repens variegata, and various selaginellas are all particularly useful, so that whenever there is room to spare batches of these should be put in, using pots of a size best suited to one's requirements.

ASPARAGUS TENUISSIMUS.—This is one of the most useful and graceful of all the asparagus, and one that is easily propagated by means of cuttings, which may be put in at this season. Small side growths should be taken off with a portion of the old growth attached, and either pots or pans may be used to put them in, the one essential being a very light sandy compost. With a brisk bottom heat they will root quickly. Pot off as soon as they are well rooted, and if kept growing and shifted into 48's or 32's when fit, they should make a batch of really useful plants by the autumn, and their very light and graceful leafage is particularly adapted for use with all kinds of cut flowers.

THYRSACANTHUS AND RUELLIAS.—Cuttings of these two useful winter-blooming plants should now be put in, using a compost of equal parts of fine loam, leaf-soil, and sand. Though they are generally regarded as stove plants, and certainly require stove temperature during the autumn and winter months, they may, after being potted off into 60's, be transferred to a warm pit for the summer months, where they should, as a matter of course, be treated pretty liberally as regards heat from the sun, and the temperature must not be allowed to fall low at night. Shading will be necessary during the hottest part of the day, and the morning and afternoon syringing will greatly benefit them.

ACHIMENES.—These very pretty stove or warm greenhouse plants should be starting into growth nicely by now, but those that have not already commenced to grow should be shaken from the old soil, and if wanted for pots or pans should be potted straight off into the receptacles they are to flower in, placing the corms from 1 to 2 inches apart, and about three-quarters of an inch beneath the surface of the soil. The latter should be like the material used for gloxinias. If required for furnishing baskets they should be started either in pans or boxes, transferring them to the baskets as soon as they have made about two inches of growth; they may then be drawn through the wires of the basket wherever desired, thus furnishing the bottom as well as the top. After getting well into growth they will need plenty of water at the roots, but a too hot, humid atmosphere is not necessary, as the stiffer the young growths are kept the more likely are they to flower freely. Staking should be done with small tips of bamboos or hazel twigs before the growths begin to fall about, and as they come into bloom a little help may be given them in the way of weak liquid manure. About the same temperature and moisture will suit them as is given to gloxinias.

STOVE CLIMBERS.—The past week or two of mild weather has made these grow apace, and constant attention must be given to tying the young growths, or many of them will be preventing the light from reaching plants growing beneath them. Where space is limited some of the weaker growths should be cut out, leaving those that are most likely to bloom early.

POINSETTIAS AND EUPHORBIAS.—Batches of cuttings should be taken as soon as they are ready; have pans of fine dry sand handy in which to place the heel of each cutting as soon as it is removed, as this prevents bleeding. Afterwards place the cuttings singly in thumb pots in a very light compost, put them in a propagating frame, and keep lightly sprayed and shaded, when they will soon make root.—T. Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

ORCHARD HOUSE TREES.—Fruit trees in pots now commencing to swell their fruits will be making active top and root growth and require close attention to watering, as well as occasional applications of diluted liquid manure. A liquid for the purpose can be made by submerging bags containing sheep or deer manure, together with soot, in a tank of water. The thinning of stone fruits, such as plums, peaches, and apricots that have set freely should be commenced early, and be discreetly followed up, but apples and pears, which are more prone to cast their fruit, should be left unthinned until swelling freely. The thinning of shoots should be completed, and those left, except what are required for the tree's extension, be stopped at about the fifth leaf. Syringe the trees freely on fine days, maintain a moist atmosphere by damping the floor of the house, and should aphis be troublesome, destroy it by vaporising. Ventilate the house liberally by day in favourable weather, and slightly on mild nights, and even if it is desirable to forward the crops, use no more fire-heat than is sufficient to slightly warm the pipes.

LATE PEACH HOUSE.—The fruit from this house is especially valuable where outdoor peaches and nectarines are not cultivated, and in such cases, even where the latest varieties are grown, it will be necessary, in order to secure a late supply of fruit, to retard the fruits as far as possible by commencing to ventilate the house early, fully opening its ventilators during the warmest part of the day, and not finally closing them until the temperature has fallen to 55 deg. In cases, however, where it is desirable to advance the ripening of the fruit, the sun's warmth should be carefully economised, but only in exceptional instances should artificial warmth be employed. The disbudding of shoots will have been nearly completed, and care should be taken in tying in next season's bearing wood to thin it, if it is found necessary to do so to prevent crowding. In the case of young trees, train at about five inches apart sufficient of the best-placed side shoots to furnish the base, and in doing so study to lay their foundations perfectly. Owing to last year's unfavourable weather for ripening the wood, the fruit will be unusually liable to gum, and consequently there is more than ordinary reasons for delay in carrying out the final thinning.

STRAWBERRIES.—From this date plants growing in pots usually swell and ripen their fruit more satisfactorily in a structure facing east than when exposed to direct sunshine in one having a southern aspect. The watering is also lessened, and red-spider less troublesome, though on no account must needful supplies of water and diluted liquid manures, or the syringing of the plants on fine days be neglected. Syringing and manures should be discontinued once the fruit begins to ripen. Plants still outside, and intended for late crops of fruit, are now pushing up their flower spikes, and should be protected from frost, and afforded needful supplies of water and liquid manure. Batches should be introduced under glass, as required to keep up supplies of fruit, and when hardened, after fruiting, selections, if needed, should be made from them for planting in open quarters.

MELONS may now be planted in properly-prepared frames, upon warm hillocks, or ridges of soil placed rather nearer to the back than the front of the frame. Place the plants at equal distances apart—two to each light—and train two growths from each plant, one towards the back, and the other towards the front of the frame. Carefully ventilate the frame on fine days, and entrap the sun's warmth by closing early, at which time spray the plants and interior of the frame with tepid water. Well protect with mats at night. — T. Coomber, The Hendre Gardens.

GREENHOUSE MANAGEMENT. The Amateur's Greenhouse, the popular book by T. W. Sanders, not only treats of the selection and cultivation of greenhouse plants and flowers, but gives full instructions how to build a greenhouse and how to heat it, as well as every detail as to the management of the house and flowers grown in it. The price of this book of 416 pages is 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

THE PERPETUAL-FLOWERING CARNATION SOCIETY.

The SPRING SHOW OF CARNATIONS will be held in the ROYAL HORTICULTURAL HALL, Vincent Square, Westminster, S.W., on THURSDAY, May 19th.

Admission from One to Six p.m., One Shilling.

Schedules and particulars from Mr. E. F. HAWES,
Royal Botanic Gardens, London, N.W.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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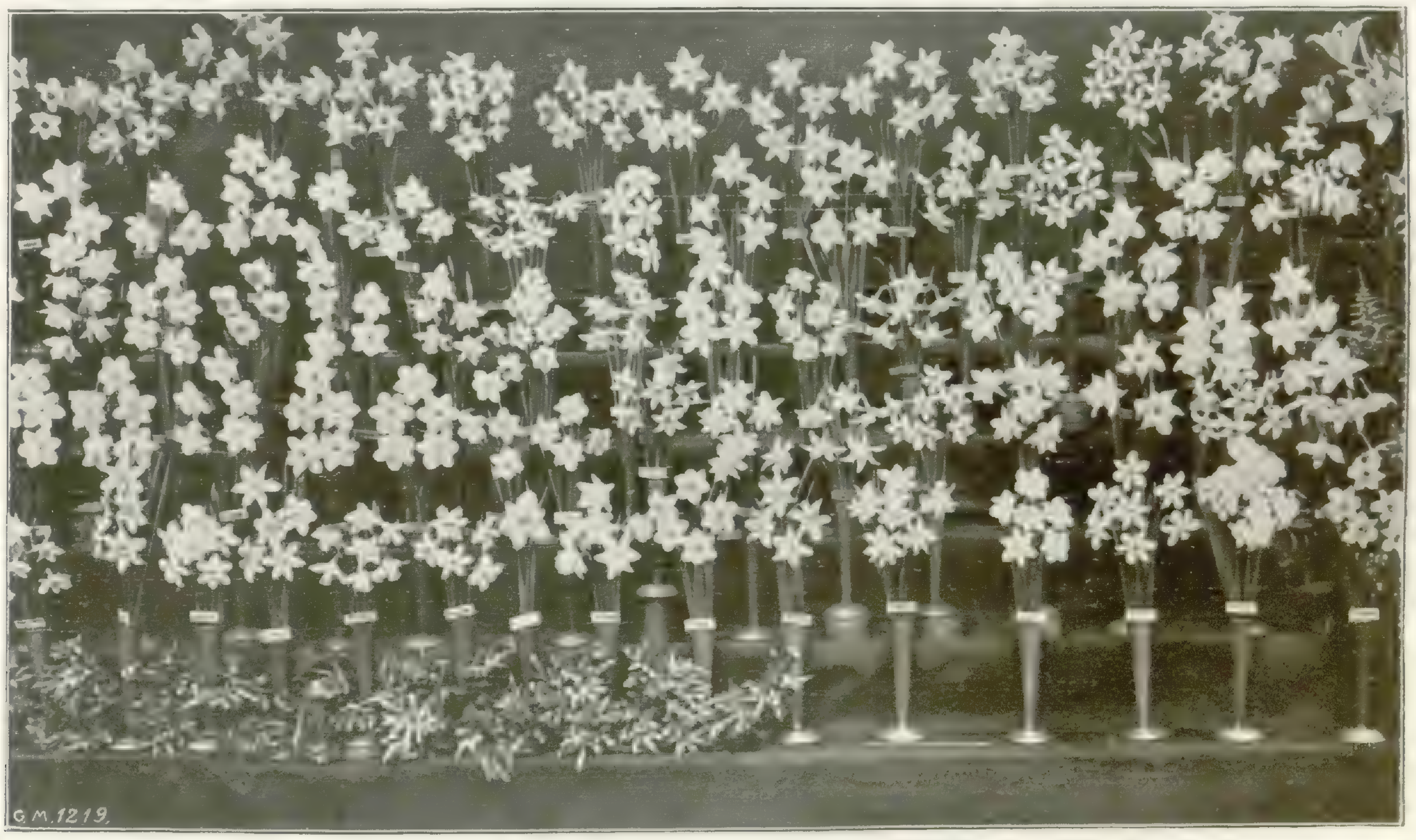
The Midland Daffodil Society.

The twelfth annual exhibition of the above society was held in the Botanic Gardens, Edgbaston, Birmingham, on Thursday and Friday, April 28 and 29, and was generally considered to be larger and better than any of its predecessors. The entries in the competitive classes established a record, and the non-competitive exhibits were numerous and excellent. The Lady Mayoress, who opened the show, was presented with a silver rose bowl, the Rev. G. H. Engleheart, president of the society, making an appropriate speech.



A FINE COLLECTION OF NARCISSI.
Contributed by Messrs. Robert Sydenham, Lim., to the Midland Daffodil Society's Exhibition.

The schedule opened with a class for fifty varieties, representing the different sections, excepting bunch-flowered varieties, and here Messrs. Cartwright and Goodwin, Kidderminster, secured premier honours with a grand lot of blooms. A few of the varieties worthy of note were Marigold, Diana, Cornelia, Dorothy, and Childe Harold, but every vase contained a good variety. Mr. J. Pope, The Ericas, King's Norton, was second, his Sulphur Prince, Will Scarlet, and King's Norton, being very fine; third prize was allotted to Mr. F. H. Chapman, Rye, Sussex, who had Cristata, Seahorse, Orangeman, and others in good form; Mr. Christopher Bourne, Simpson, Bletchley, came fourth, his Sahara being much praised. For twelve trumpet daffodils Messrs. Cartwright and Goodwin won with a nice collection: Van Waveren's Giant was conspicuous in this group. Mr. J. Mallender, Bawtry, was second, Sybil Foster and Merry Widow being well shown by him; Messrs. F. Impey and Sons, Northfield, were third; and Mr. J. Pope fourth.

Messrs. Cartwright and Goodwin also won first place for six short trumpets, the Rev. J. Jacob, Whitchurch, being second, and Mr. J Pope third. The Rev. J. Jacob had the best dozen large-cupped varieties in a strong class, his blooms showing fine culture; Mr. H. D. Phillips, Olton, second; Messrs. Cartwright and Goodwin, third; Mr. J. Pope, fourth; and Mr. C. Bourne, fifth. For twelve small-cupped varieties Messrs. Cartwright and Goodwin were again to the fore, showing White Slave, Inga, Dorothy, etc.; Rev. Jacob came second; and Mr. C. Bourne third. Mr. F. H. Chapman led for six, distinct, true poeticus varieties, his Tennyson and White Elephant being beautiful; Messrs. Cartwright and Goodwin, and Mr. Bourne took second and third prizes. Messrs. Cartwright and Goodwin won in the class for six flat-cupped varieties, and Mr. J. Pope was second; these competitors maintained the same order for six double varieties. For six bunch-flowered varieties Rev. J. Jacob led, Messrs. Cartwright and Goodwin following.

A class was provided for twenty-five varieties of daffodils, including all sections, to be staged by amateurs, and the varieties staged were not to be more expensive than 10s. 6d. each. The competition proved very keen in this class, Mr. E. H. Wood, Ludlow, being the victor with a lovely lot of blooms; Mr. N. Y. Lower, Presteigne, was second; the Rev. F. Buncombe, Black Torrington, North Devon, third; Mr. S. S. Jones, Whitchurch, fourth; and Mr. H. R. Darlington, Potter's Bar, fifth. For nine distinct varieties, long trumpets, Mr. N. Y. Lower, Presteigne, led; Mr. H. R. Darlington was second; and Mr. S. S. Jones, third; and Mr. J. A. Kenrick, Edgbaston, fourth.

In the class for three distinct short trumpets, Mr. N. Y. Lower led with Mr. H. R. Darlington second. Nine distinct large-cupped daffodils made a good class that brought out eight entries, of which Mr. N. Y. Lower's was adjudged the best; his flowers were large and clean; Mr. H. R. Darlington, second; Mr. J. A. Kenrick, third; the Rev. C. P. Haydon, fourth; Mr. S. S. Jones, fifth. Nine small-cupped daffodils proved another strong class, and brought out seven good entries; here Mr. N. Y. Lower was first, Rev. T. Buncombe second, Mr. H. R. Darlington third, Mr. S. S. Jones fourth, and Rev. C. P. Haydon fifth. The class for three true poeticus daffodils found Mr. H. R. Darlington first, Mr. N. Y. Lower second, Mr. S. S. Jones third, the Rev. G. P. Haydon fourth. The Rev. G. P. Haydon led for three distinct flat-cupped daffodils, his Barnowl being very noticeable; Rev. T. Buncombe second, and Mr. N. Y. Lower third. Mr. J. A. Kenrick, Edgbaston, led for three distinct double varieties with Sulphur, Golden, and Orange Phœnix; Mr. Kenrick, Harborne, second; and Mr. W. H. Parton, Hollywood, third. Mr. H. R. Darlington scored for three bunch-flowered varieties; Mr. S. S. Jones, second; Mr. J. A. Kenrick, third.

Another group of classes was open only to those who have never won more than three first prizes at any of the society's shows. The competition in these classes was very keen, and much interest was taken in them. For twelve, distinct, three blooms of each, first prize went to Mr. H. H. Jones, Ludlow, whose varieties included Peach, Captain Nelson, Mdme. Plemp, etc; Mr. W. Marple, Penkridge, second; and Mr. A. Taylor, Acocks Green, third; and Mr. C. F. Thurstan, Wolverhampton, fourth; there were nine entries. Six distinct varieties, long trumpets, brought out nine entries, Mr. A. Taylor leading, Mr. H. H. Jones second, Mr. W. Marple third. For six large-cupped daffodils, Mr. B. Brown took first prize, and for six small-cupped Lady Lilford won, with Mr. B. Brown second.

A class for six vases of popular varieties, arranged for effect, was a capital idea, but we thought the exhibits should have made a more artistic display. Mr. J. Pope won, his flowers and foliage being lightly arranged; second prize went to Mr. W. Marple, and third to Messrs. F. Impey and Sons.

In the single bloom classes the best long-trumpet yellow self was Lord Roberts, staged by Messrs. Cartwright and Goodwin, the best long trumpet of another colour was Maud Muller, a pale bicolor, Mr. A. M. Wilson, Bridgwater, being the exhibitor; Mr J. Mallender had the best short-trumpet, Maral being the variety; Mr. H. D. Phillips, Olton, won for a large-cupped flower with Homespun; Inga won the small-cupped class for Messrs. Cartwright and Goodwin, and in the flat-cupped class the same exhibitors won with White Star, a lovely flower rare quality. Mr. E. M. Crosfield's Snow King was adjudged the best of the true poeticus varieties.

Great interest, of course, centred round the classes for seedlings and new varieties, and a good deal of enthusiastic comment was passed upon the twelve remarkable blooms with which Mr. E. M. Crosfield won the Bourne Challenge Cup. The stipulation in this class was that the twelve should all have been raised by the exhibitor. A gold medal goes with the cup. An exquisitely-formed poeticus named Elf, and a larger, beautifully-eyed flower, named Challenger, were universally admired, while the cream-trumpet Climax was also highly praised. Mr. F. H. Chapman, Rye, secured the piece of plate offered as second prize, Equinox, Caramel, and Henry James being staged with some seedlings under number. The Rev. G. P. Haydon, Canterbury, was third with some capital cream self and rich yellow trumpets.

In a class for six sorts, raised by the exhibitor, Mr. P. D. Williams, St. Keverne, led, his varieties being of the flat-cupped form, and showing rich quality. Mr. A. M. Wilson had six really good things on his second prize stand, Lapwing being very distinct; Mr. J. Pope was third; and Mr. C. H Cave, Mangotsfield, fourth. The first prize for three varieties, raised by the exhibitor, and not yet in commerce, went to Mr. A. M. Wilson, and in the Cartwright Challenge Cup class for twelve varieties that have been in commerce not more than four years, Mr. E. M. Crosfield scored, Messrs. Cartwright and Goodwin being second, and the Rev. G. P. Haydon third. For six varieties, similarly qualified, the Rev. J. Jacob won, followed by Mr. J. Pope and Mr. F. H. Chapman. The Herbert Chapman Trophy for poeticus varieties went to Mr. A. M. Wilson, the pieces of plate for second and third prizes going to Messrs. Cartwright and Goodwin, and the Rev. G. P. Haydon.

The Walter Ware Cup for a group of triandrus hybrids went to Mr. E. M. Crosfield.

The classes for pot-grown bulbs and bulbs in bowls of fibre, provided by the society and by Messrs. R. Sydenham, Lim., brought good entries that added a distinct note of colour to the exhibition. Limits of space unfortunately forbid detailed mention of these classes.

A large number of new seedlings were placed before the judges, who voted awards of merit to Mr. Chapman's Kingsley and Mr. Crosfield's Challenger, Firetail, and Anchorite, Messrs. Barr and Son's Snow King, and Messrs. Cartwright and Goodwin's White Star.

NON-COMPETITIVE.

The first-rate exhibits staged by the trade, and raisers, commanded highest eulogies from all who saw the show. We would gladly give our readers a detailed account of every exhibit, but that is impossible, a brief reference to the more noteworthy varieties being all that we have space for. A few of the outstanding varieties staged by Messrs. Barr and Sons, Covent Garden, London, were poeticus Snow King, and Socrates, bicolors Cygnet and Czarina, and the rich yellow trumpet Hamlet. Many other good things were staged by this firm. Messrs. Robert Sydenham, Lim., Birmingham, as might be expected, came forward in fine style with an exhibit of all classes of daffodils, tulips, anemones, lily of the valley, etc., etc. A few of the more noticeable were Homespun, Seville, Peveril, Cavalier, J. T. Bennet-Poe, and Red Crest. About sixty varieties were well staged by Mr. Alex. M. Wilson, Shovell, Bridgwater. A huge yellow trumpet called Berseker, a chaste white incomparabilis named Casilda, and a poeticus variety named Kestrel were noteworthy.

Space forbids adequate mention of the grand display of novelties staged by Rev. G. H. Engleheart, Dinton, Salisbury. Our readers are aware that when this noted raiser shows a new seedling, it is a good one, and on this occasion quite a hundred varieties were put up. Huge trumpet flowers of pale shades were particularly fine, this section being Mr. Engleheart's latest love. Clean and perfectly developed were the many varieties of choice narcissi exhibited by Messrs. J. R. Pearson and Sons, Lowdham, Notts. Prima Donna, White Queen, Lord Roberts, and Scarletta stood out conspicuous. In striking contrast to the yellows and whites of the narcissi were a number of vases of Muscari botryoides Heavenly Blue, the spikes being unusually large. From Messrs. Dicksons, Lim., Chester, came daffodils in variety, and a group of the graceful little Primula malacoides, a plant that bids fair to become very popular. Messrs. R. H. Bath, Lim., Wisbech, staged a collection which once more forcibly demonstrated the fact that Lincolnshire soil is capable of producing daffodils of highest quality. Ireland was well to the fore with fine exhibits from Messrs. Hogg and Robertson, Lim., Dublin, and The Lissadell Bulb Farm, Sligo. Among other good things noticed on Messrs. Hogg and Robertson's stand were Ireland's Eye, a new flat-cupped variety, with splendid symmetrical petals, and a large yellow crown, edged with orange; Mrs. C. R. Hamilton, Gold Eye, Evangeline, and Poetaz Orient. Among the best of the Lissadell blooms were Mrs. Percy Foster, a large, distinct, and attractive flat-cupped flower; Acme, with deep orange eye; and Joseph Sangster, a bicolor incomparabilis of good form and substance. The position of this stand was unfortunately in a bad light, and the flowers were consequently seen at a disadvantage.

An attractive and interesting display of narcissi, tulips, and other bulbous flowers was arranged by Messrs. R. Wallace and Co., Colchester. Two glorious yellow trumpet seedlings, several good flat-crowned varieties, and the poeticus variety Kingsley, one of the gems of this section, were prominent. Fritillarias, erythroniums, etc., were freely used in conjunction with seasonable alpines. A batch of extremely good hybrid polyanthus came from Mr. S. Mortimer, Rowledge, Farnham. The plants were arranged in batches of distinct colours, clear white, rich golden yellow, bright red, and deep velvety-crimson. Messrs. Felton and Sons, Hanover Court, London, put up a grand lot of the Lyon rose, and some lovely hybrid gerberas, in shades that blended perfectly with the distinct shade of the rose. A varied collection of alpines, arranged on an improvised rockery of tasteful design, came from Messrs. Bakers, Lim., Wolverhampton. In addition to varieties of aubrietia, saxifraga, and other popular favourites were nice patches of Primulas Cockburniana, P. rosea grandiflora, P. japonica, and some hardy cypripediums.

Messrs. Sutton and Sons, Reading, arranged a group of cinerarias of both large-flowered and stellata types. The plants were well-flowered, and the colours rich and varied. Mr. Vincent Slade, Taunton, Somerset, put up a good collection of cut zonals, embracing the best of both double and single varieties. Mr. H. N. Ellison, West Bromwich, put up a table of choice ferns, among which crested nephrolepis were to the fore. A new dracæna with exceptionally stout leaves, and yellow variegation was also shown.

EVENING MEETING.

The principal competitors, judges, and visitors were entertained to dinner at the Grand Hotel in the evening of the opening day by Mr. Robert Sydenham. The chief speakers were Rev. G. H. Engleheart, Mr. P. D. Williams, Mr. Walter T. Ware, Mr. P. R. Barr, Mr. Robert Sydenham, Mr. G. H. Van Waveren, and Rev. J. Jacob.

A discussion followed the formal programme, and it was opened by Rev. G. H. Engleheart, who spoke of the posibilities of daffodils in regard to form, size, and colour.

SPECIAL AWARDS.

Messrs. Barr and Sons' silver daffodil vase was won by Dr. N. Y. Lower, Presteigne, as the most successful amateur. The large silver medal as champion prize for greatest number of points in classes 2 to 9, and 26 to 33 went to Messrs. Cartwright and Goodwin; the bronze medal, as second prize, to Rev. J. Jacob; silver medal for second champion of classes 11 to 18 and 26 to 33, Dr. N. Y. Lower; bronze medal, Mr. Darlington. Silver medal for most successful exhibitor in classes 26 to 33, 35 to 37, 39, and 42 to 47, Mr. A. Cryer, gardener to J. Kenrick, Esq; bronze medal, Mr. R. Usher, gardener to J. A. Kenrick, Esq.

AWARDS IN NON-COMPETITIVE SECTION.

Gold Medal. — Messrs. Bakers, Wolverhampton, for rockwork; Miss Currey, Lismore, for daffodils.

Silver-Gilt Medal.—Messrs. Barr and Sons, London, for daffodils; Rev. G. H. Engleheart, Dinton, Salisbury, for seedling narcissi; A. M. Wilson, Esq., North Petherton, for daffodils; Messrs. Felton and Sons, London, for roses and gerberas; Messrs. Sutton and Sons, Reading, for cinerarias.

Large Silver Medal.—Messrs. Pearson and Sons, Lowdham, for daffodils; Messrs. Robert Sydenham, Lim., Birmingham, for daffodils, and a collection of bulbs in fibre; W. A. Watts, Esq., St. Asaph, for seedling daffodils; Messrs. Hogg and Robertson, Dublin, for daffodils; Mr. W. T. Ware, Bath, for selection of Narcissus poeticus varieties; Messrs. R. Wallace and Co., Colchester, for daffodils, tulips, and rock plants; Mr. S. Mortimer, Farnham, for polyanthus.

Silver Medal.—Mr. H. N. Ellison, West Bromwich, for ferns; "Lissadeil," Ireland, for daffodils; Messrs. Dicksons, Lim., Chester, for daffodils; Mrs. Backhouse, Hereford, for seedling daffodils; Messrs. R. H. Bath, Lim., Wisbech, for daffodils; Mr. V. Slade, Taunton, for zonal pelargoniums; Messrs. Hewitt and Co., Solihull, for floral display. Messrs. Simpson and Sons, Birmingham, for daffodils.

National Auricula Society.

MAY 3.

The annual exhibition of the Southern section was held in the Horticultural Hall, Vincent Square, Westminster, on Tuesday last, and, contrary to most expectations, it proved a far greater success than was thought possible. No doubt the past cool days have helped exhibitors materially, with the result that a really good show of these charming flowers were staged.

The premier class was for twenty-four varieties in the show section. Although there were but two exhibitors, both staged well. The first prize going to Mr. James Douglas for a beautiful display. The plants were in splendid health, and the flowers were finished perfectly. The varieties employed were Favourite, Mrs. Henwood, Mrs. Phillips, Smiling Beauty, George Lightbody, Frank, Prince Charming, Loveliness, Eucharis, Olympus, Harrison Weir, Bella Donna, and Sea Mew. Mr. W. M. Shipman, Altrincham, was second with a somewhat weaker display as a whole, though many of the specimens were almost perfect. The most prominent varieties were Harrison Weir, Mikado, Molly, Mrs. Phillips, Mrs. Henwood, Amy Robsart, and Richard Headley.

In the smaller class for twelve plants Mr. James Douglas was still to the fore with a strong exhibit. His varieties were Mrs. Henwood, Lincoln Green, Mikado, Smiling Beauty, William Smith, Harrison Weir, Marmion, George Lightbody, adjudged the premier show auricula, Victor, and Heatherbell. The well-known amateur grower, Mr. W. Smith, Bishops Stortford, was a capital second, having good examples of The Pilot, The Mikado, Stately, George Lightbody, and Majestic, while Messrs. Phillips and Taylor, Bracknell, were third, having nice plants of Acme, Shirley Hibberd, and Abbe Liszt; while Mr. W. M. Shipman was awarded fourth prize. The competition for six plants was somewhat keen, but Mr. W. H. Parton, Birmingham, secured first prize for some good specimens of Mrs. Henwood, Shirley Hibberd, George Rudd, George Lightbody, Mikado, and Favourite. Mr. J. Bennett-Poë, Ashley Place, S.W., was the second prize winner, staging good typical examples of Prince Charming, Harrison Weir, and Mrs. Henwood. Mr. F. W. Price, Beckenham, brought up the rear for third place with neat plants of Olympus, Harrison Weir, and Acme.

For four varieties Mr. F. W. Price led off in a strong class. His varieties were Richard Headley, Shirley Hibberd, Olympus, and Lancashire Hero. Mr. J. Bennett-Poë came second with a nice plant of Mrs. Henwood: while the third prize was relegated to Mr. W. H. Parton.

There were nineteen entrants for a single specimen of a green-edged variety, and the honours fell to Messrs. Phillips and Taylor, who staged Mrs. Henwood. The same firm carried off the third prize with the same variety, while Mr. J. Bennett-Poë was second with still the same variety.

In a similar class for grey-edged varieties the competition was not quite so keen. Mr. James Douglas won first prize with a beautiful specimen of George Lightbody; Mr. W. M. Shipman followed with a weaker plant of the same variety, while Mr. H. R. Taylor, Cheam, was third with Richard Headley. We had seventeen contestants for a single plant of the white-edged varieties, Mr. J. Bennett-Poë coming first with Acme. Mr. W. F. Price was second with the same variety, while Mr. James Douglas was third with Conservative. For a single self variety, Mr James Douglas secured the first prize with a fine specimen of Queen of Spain; Mr. J. Bennett-Poë followed with Mikado, and Mr. W. Smith brought up the rear with the same sort. Mr. W. Smith cleared the deck in the seedling class, taking first, second, and third respectively with his seedlings Viscount, Countess, and Emerald—not a bad record.

Class 10 was for four show varieties, and there were six entries, Mr. J. L. Gibson, Leatherhead, winning well with the Rev. F. D. Horner, Mikado, George Lightbody, and Marmion. Mr. H. R. Taylor won second, and Mr. R. Beer, Bickley, was third.

The alpine classes proved a great source of attraction, and during the afternoon it was difficult to inspect the exhibits. For twenty-four plants Mr. Jas. Douglas was again invincible, leading with a splendid selection. The varieties were Teviotdale, Golden Eye, Phyllis, Chieftain, Claud Halcro, Argus, Olivia, Rosy Morn, Admiration, Mrs. J. Douglas, and Commander Douglas. Messrs. Phillips and Taylor made a good second, their best specimens being Argus, Her Grace, Thetis, W. Smith, Majestic, Sunrise, and Charmer; Mr. W. Shipman was third with smaller plants, though bright, neat flowers.

Four competitors staged in the class for twelve varieties, Mr. Jas. Douglas still leading. His exhibit was a particularly strong one. The varieties were Commander Douglas, Rosy Morn, Argus, Janet, Brighteyes, Phyllis Douglas, Blue Jay, and Claud Halcro. Messrs. Phillips and Taylor were second with good specimens of Thetis, Argus, Mars, and Moonshine; Mr. Chas. Blick, Warren Nurseries, Hayes, was third. In the class for six varieties, distinct, Mr. C. C. Price, Brentwood, secured first with well-developed specimens; Mr. F. W. Price followed with good typical examples; while Mr. R. Staward was third. In the smaller class for four plants, Mr. F. W. Price was an easy winner with Urania, Muriel, Argus, and Teviotdale; the second place was won by Mr. W. H. Parton, for good plants of Majestic and Thetis; while Mr. H. R. Taylor was third. Sixteen competitors entered the field for a single specimen with gold centre, Mr. C. C. Price securing both first and second prizes with Duke of York; Mr. J. Bennett-Poë taking third with the same variety.

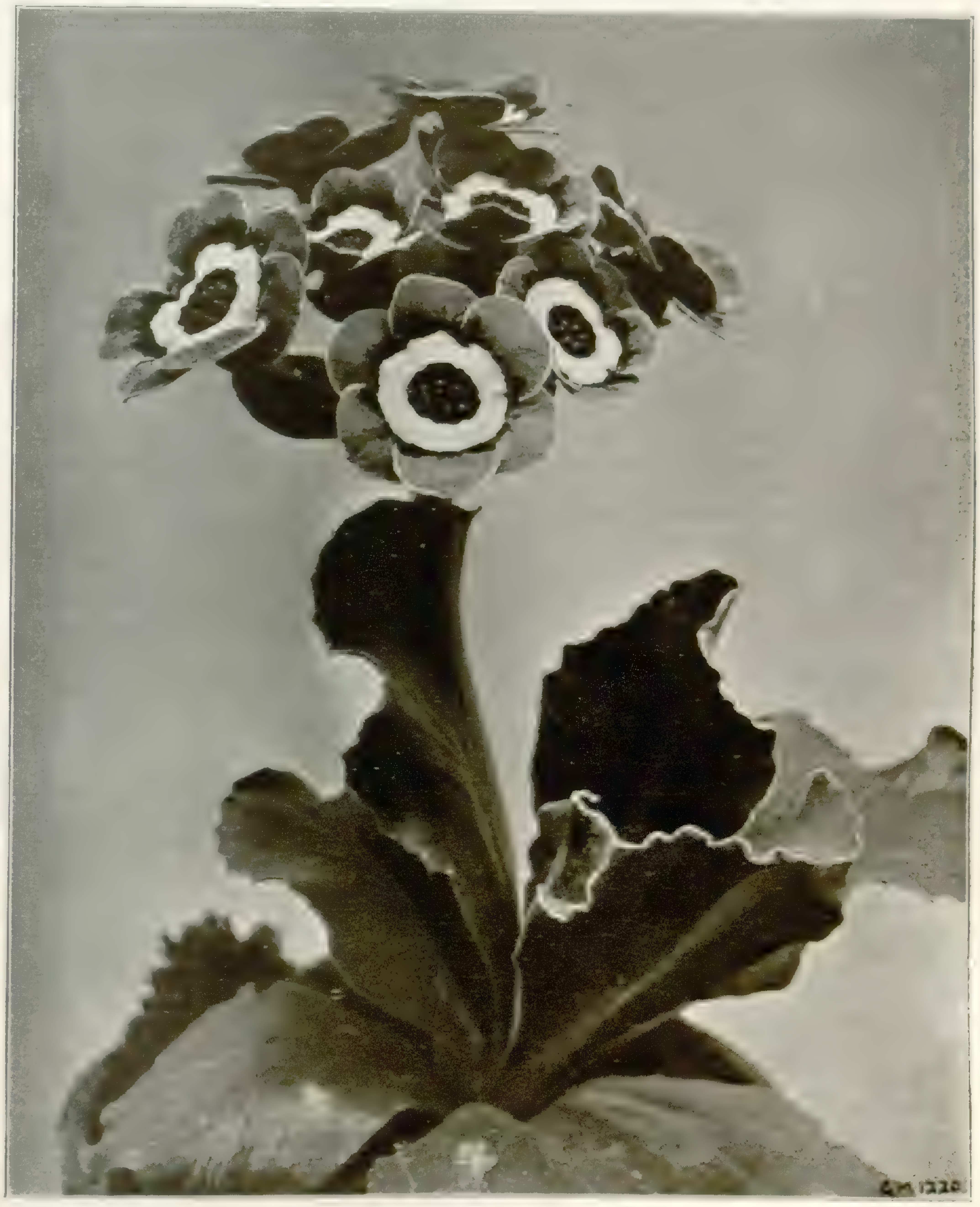
For a white-centred variety, Mr. W. B. Cranfield, Enfield, won well with Thetis; Mr. Charles Turner, Slough, was second with the same variety, and Mr. H. Parton third with Mrs. Parton.

For six alpines, Mr. J. L. Gibson, Leatherhead, won with good specimens of Argus, Urania, Duke of York, Admiration, and Mrs. Markham; Mr. H. R. Taylor was a close second, staging Argus, Teviotdale, and Duke of York in fine form, while Mr. Robert Morton, Woodside Park, made a good third.

Mr. R. Staward was awarded first prize for six alpine seedlings; while Mr. G. Butler, New Cross, was second.

The class for twelve fancy auriculas only brought out one competitor, Mr. James Douglas, who was awarded first prize for a most attractive display. The varieties were Daffodil, Bronze, Lapwing, Goldfinch, Beauty, Sunset, Old Gold, Banshee, Manakin, Trojan, and a beautiful heliotrope seedling.

The polyanthus classes did not produce anything sensational. For twelve plants, distinct, there were but two entries, Mr. S. Mortimer, Farnham, winning premier position with a remarkably fine strain; Mr. R. Staward was second with some well-grown plants. For a single specimen of polyanthus Mr. H. S. Bartleet, Shooter's Hill, came first for a nice white form; Messrs. Storrie and Storrie, Glencarse, was second and third with fine plants.



THE PREMIER SHOW AURICULA (GEORGE LIGHTBODY).

At the Exhibition of the National Auricula Society. Shown by Mr. J. Douglas.

The class for primroses only attracted one competitor, Mr. R. Staward, who had fine plants, and was deservedly awarded first prize. The groups of primroses and polyanthuses are always an attractive feature. On this occasion there were three entries. Messrs. Storrie and Storrie won with some splendid colours, the whole group being artistically arranged. Mr. S. Mortimer was awarded second with a beautiful bank of flowers; while Mr. J. Crook, Camberley, brought up the rear.

The premier specimen in the show varieties was awarded Mr. James Douglas, for George Lightbody, while the premier alpine variety was awarded to Mr. F. W. Price for Muriel.

Royal Horticultural Society.

On May 3 the Royal Horticultural Hall, Westminster, was filled with exhibits, and some considerable portion of the space was occupied by the annual competition held by the National Auricula and Primula Society. In the rest of the hall the displays were crowded, and there was a good deal of second-rate material on view. The rock garden style of exhibiting is now being greatly overdone, and it is only on rare occasions that a display of this kind is more than of very ordinary merit. Orchids were not present in great force, and daffodils were not so plentiful as a fortnight previously. Roses and carnations were good and forced flowering shrubs very bright.

FLORAL COMMITTEE.

Mr. Amos Perry, Enfield, sent the tasteful Anemone Alleni, with pretty rose-pink flowers (A.M.); Corydalis nobilis and the double Anemone bracteata alba plena, among other hardy flowers. Messrs. J. Veitch and Sons, Chelsea, had many good things forward, and among them we specially noted the pendant scarlet Macleana insignis, the white Primula obconica, the red Saxifraga decipiens grandiflora, and the hybrid gerberas in lovely shades of colour; the fringed white Hydrangea hortensia Mdme. Emile Mouillere (A.M.); the yellow Meconopsis integrifolia, and the brilliant Primula Unique.

The Mountain Buttercup (Ranunculus montana), with bright golden flowers, borne freely, was finely shown by Messrs. Gunn and Sons, Olton, who also had the lovely blue Viola cornuta purpurea. Messrs. Sutton and Sons, Reading, have used a creeping cineraria from Teneriffe, and crossed it with their cactus-flowered varieties, the result being a graceful, light, and free-flowering strain, carrying large and shapely flowers in numerous shades of colour, all charming plants for conservatory decoration, and greatly admired on this occasion. Some interesting shrubs were brought by Messrs. Paul and Son, Cheshunt, and these included Cytisus Heufflei, Viburnum dilatatum, the double-flowered Philadelphus Mer de Glace, Abelia floribunda, and the pretty, white-flowered, elegant-leaved Osteomeles anthyllidifolia.

Messrs. Bakers, Lim., Wolverhampton, brought forward a number of fine saxifragas; S. Arkwright, S. A. Lynes, S. R. W. Hosier, S. Bakeri (deep red), S. Lady Deane, large-flowered, tall, and white; and S. H. S. Stokes, form a fine set of these mossy alpines. Messrs. Dobbie and Co., Rothesay, had a lovely lot of fragrant violas, some in sprays, and some in bowls, the latter to show the habit of the plant, as large pieces of flowering growth were displayed; Walter Welsh, deep yellow with brown centre, was an especially beautiful and brilliant variety.

A fine range of colour was seen in Veitch's grandiflora strain of schizanthuses (A.M.); the rosy shades, and those with crimson colouring were very distinct and beautiful. This firm also had blue, white, and rosy hydrangeas, the bright Azalea Hinodegira, Hydrangea Hortensia Mariesi, etc. The bright pink, semi-double marguerite named Pink Perfection was an attraction in the group from Messrs. G. and A. Clark, Lim., Dover. Gentiana acaulis, gloriously blue; the rare and lovely Trillium erythrocarpum, dwarf, with pretty markings in the centre of its white flowers, were a couple of good things shown by Messrs. W. Cutbush and Son, Highgate.

Mrs. Lloyd Edwards, Llangollen, sent a lovely yellow alpine or border auricula named Yellow Beauty, and a rich blue aubrietia named Lloyd Edwards, both beautiful free-flowering plants. Mr. F. H. Chapman, Rye, Sussex, had a small group of his charming new yellow freesias.

Mr. Page, Hampton, had, in addition to the usual cut flowers, a batch of carnation Britannia, in pots, all carrying a rare crop of flowers, and showing in a very effective manner the freedom and usefulness of this scarlet perpetual variety. Messrs. R. and G. Cuthbert, Southgate, had a brilliant display of mollis azaleas and lilacs, wonderfully well arranged.

Messrs. B. R. Cant and Sons, Colchester, contributed rambling roses in pots, and beautiful cut blooms of Claudius and Elizabeth, both roses of large size and fine substance. Messrs. Wm. Paul and Son, Waltham Cross, filled one corner of the hall with a very effective exhibit of roses, and here Tausendschon and Elsie, the latter a double, pink-tinted rambler, were notably good, and Excelsa, a red Dorothy Perkins, was attractive. The Lyon Rose, Cynthia, and Albatross were fine roses, well represented by the Waltham Cross firm.

Other exhibitors of hardy flowers were Messrs. J. Peed and Son, Messrs. Heath and Son, Cheltenham; Burton's Hardy Plant Nurseries, Lim., Christchurch, who had an unfortunate position in the corner of an annexe; Messrs. J. Carter and Co., Holborn; Messrs. G. Jackman and Son, Woking; Mr. G. Reuthe, Keston; Mr. Chas. Turner, Slough; Mr. J. Crook, Camberley, who had some very bright polyanthuses; Messrs. Gilbert and Son, Dyke, scarlet anemones; Mr. H. C. Pulham, Elsenham; Messrs. J. Cheal and Sons, Crawley; Mr. C. Elliott, Stevenage; and Messrs. T. S. Ware, Lim., Feltham, who included a fine batch of Primula rosea grandiflora in their display.

Glorious carnations from Mr. H. Burnett, Guernsey, included grand blooms of popular varieties, and a vase of the brilliant new Mrs. C. F. Raphael (A.M.), a richly scented, large, rosy cerise, or salmon-coloured tree carnation of high merit. The charming little yellow Banksian rose was even more admired than the big blooms and the modern ramblers in the group staged by Messrs. Frank Cant and Co., Braiswick, Colchester. Messrs. G. Mount and Son, Canterbury, exhibited wonderful flowers of Frau Karl Druschki and Caroline Testout roses.

A fine group of well-grown schizanthuses was contributed by Wm. Noakes, Esq., Selsdon Park; these were excellent specimens, and showed a great range of colour and fine culture.

The climbing lygodiums in Messrs. H. B. May and Sons' exhibit were attractive, as also were Osmunda regalis cristata and Nephrolepis exaltata Scholzeli, another of the plumose varieties, but the dwarf Osmunda palustris crispato congesta (A.M.), with rose-tinted young fronds, was especially noteworthy, and should prove very popular.

DAFFODIL COMMITTEE.

Messrs. Barr and Sons, Covent Garden, had an interesting display, but the daffodils were their leading feature. These were admirably set up, and included Lolah, white trumpet; Dresden, Herrick, Socrates, Horace, and other beautiful poeticus varieties; Gloria Mundi, Fire Queen, Glitter, White Slave, White Lady, Will Scarlet, Chas. Surface, Hamlet, and other fine varieties. Some handsome tulips, such as Prince of Austria, Golden Lion of Hillegom, Brilliant Star, and Couleur Ponceau, were shown by Messrs. R. H. Bath, Lim., Wisbech, who also contributed a collection of the newer daffodils, in which Larissa, with a rich flat orange crown, was very fine.

Miss F. W. Currey, Lismore, Ireland, arrived rather late with a few choice daffodils, chiefly small-crowned varieties of high merit. Mrs. Norman Cookson (gardener, Mr. H. J. Chapman), sent several new seedling daffodils, all having Mdme. de Graaff as one parent; Cooksoniae and Chapmani were the best, and the former, a fine white variety of the giant Leedsi section, gained an A.M. Messrs. R. Wallace and Co., Colchester, had some magnificent tulip flowers, but even more lovely were the few flowers of such daffodils as Colleen (A.M.), the poeticus variety Ruskin, Whitewell, and White Sail.

Messrs. Cartwright and Goodwin, Kidderminster, displayed a number of lovely new daffodils, their Rudyard Kipling, Mrs. Betteridge, wholly white triandrus hybrids, Ethelbert, Harold Cartwright, Herod, and King Alfred standing out conspicuously. In Messrs. R. Sydenham's group of daffodils the chief attractions were Peveril, Wave Crest, the fine Homespun, Whitewell, Seville—lovely broad orange cup, Incognita, and White Lady, the small but brilliant Glitter, and Cavalier.

ORCHID COMMITTEE.

A lovely variety of Cattleya Mendeli named Pearl McBean (A.M.), was shown with several spikes of beautiful odontoglossums, and secured its meed of praise for fine form and deep colour. Such rare old orchids as Miltonia flavescens, Cymbidium Lowianum, and the quaint Bifrenaria purpurascens, with seventeen flowers and buds, were shown by Mr. Chas. Turner, Slough. Very fine in form and colour was Odontioda Charlesworthi Theodora (F.C.C.), shown by its raiser De Barri Crawshay, Esq. (gardener, Mr. Stables), Rosefield, Sevenoaks; it has brilliant crimson flowers; O. Zena was also well shown by the same exhibitor.

Among the orchids brought up by Mr. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester, Odontoglossum crispum Magnum Bonum (A.M.) was especially beautiful, as it had a perfect spike of white, brown-spotted flowers; Cattleya Dusseldorfei Undine Westonbirt variety. (F.C.C.), with four large chaste flowers; and a splendid Cattleya Mendeli with seventeen exquisite flowers.

Mr. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, brought up Brasso-cattleya Veitchi, B.-c. Queen Alexandra, Maxillaria Sanderiana, numerous forms of Cattleya Mendeli, etc., Brasso-cattleya Pink Beauty was well shown by Messrs. James Veitch and Sons, Chelsea. Miltonia Bleuana Hessle var. (A.M.), shown by W. P. Burkinshaw, Esq., West Hill, Hessle, was a lovely thing with a red blotch at the base of the lip. The green and black Cœlogyne pandurata was prominent among the orchids shown by Mr. E. V. Low, Haywards Heath. A good specimen of Cypripedium Rothschildeanum Northaw House var., carrying six spikes and an aggregate of thirty-two flowers and buds, was shown by Mr. E. May, gardener to J. B. Joel, Esq., Northaw House, Childwickbury, St. Albans, and was greatly admired for the good culture it represented.

In a very charming group of orchids set up by Messrs. Charlesworth and Co., Haywards Heath, Trichopilia Backhousiana, Odontoglossum Phœbe, and the somewhat rare Acineta Humboldti were to be seen. In Messrs. Sander and Son's collection of orchids a large plant of Lælio-cattleya Choletiana (one spike carrying eight flowers) was a feature, and Chysis bractescens, Odontioda Cooksoniæ, and Ada aurantiaca were other notable things on view.

FRUIT AND VEGETABLE COMMITTEE.

A large collection of rhubarbs was brought up from Wisley, but there was nothing to indicate that any variety possessed special merit either of size, earliness, or colour. Some remarkably fine Royal Sovereign strawberries and good Lady Downes grapes were staged by Mr. J. C. Sutton, gardener to Earl Stanhope, Chevening Park, Sevenoaks.

Messrs. Sutton and Sons, Reading, made a very fine display of vegetables and salading, and displayed these in a way that attracted general appreciation. Flower of Spring cabbage, Standwell and Golden Ball lettuces, the Sutton rhubarb, Rochford Market and Lord Roberts cucumbers, Early Giant peas, and Early Market tomatoes were all of exceptional excellence.

MEDALS.

Silver-gilt Knightian.—Messrs. Sutton and Sons, Reading, for vegetables.

Silver-gilt Flora. — Messrs. James Veitch and Sons, Chelsea, for greenhouse plants and flowering shrubs.

Silver-gilt Banksian.—Messrs. Barr and Sons, Covent Garden, for daffodils.

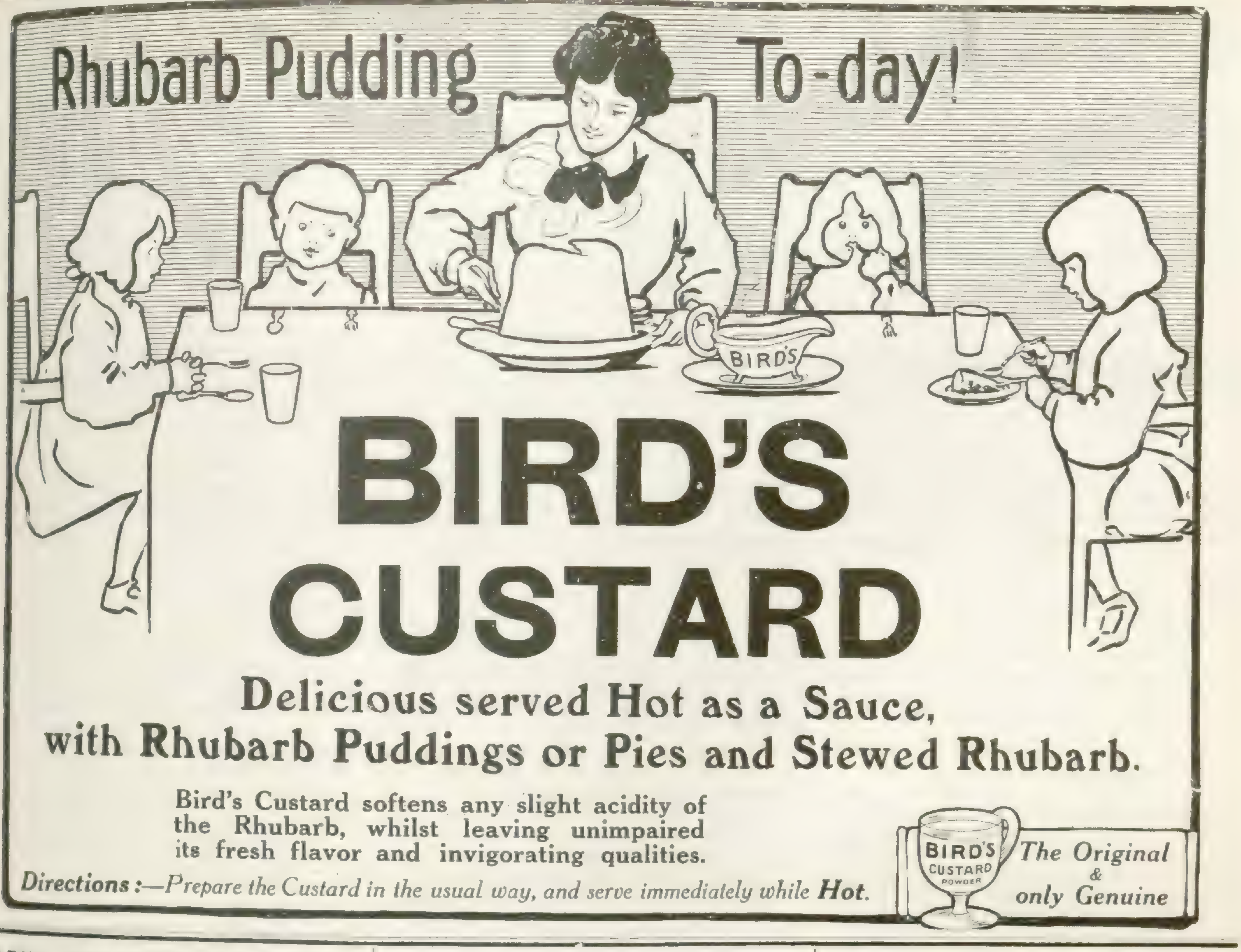
Silver Flora. — Messrs. B. R. Cant and Sons, Colchester, for roses; Messrs. William Paul and Son, Waltham Cross, for roses; Messrs. W. Cutbush and Son, Highgate, for carnations and hardy plants; Mr. Amos Perry, Enfield, for hardy flowers; Messrs. T. S. Ware, Lim., Feltham, for hardy flowers; Messrs. Cartwright and Goodwin, Kidderminster, for daffodils; Messrs. Charlesworth and Co., Haywards Heath, for orchids; Messrs. Sander and Sons, St. Albans, for orchids.

Silver Knightian.—Mr. J. Sutton, gardener to Earl Stanhope, Chevening, Sevenoaks, for fruit.

Silver Banksian.—Messrs. R. Sydenham, Lim., Birmingham, for daffodils; Messrs. Bakers, Codsall, for saxifragas; Messrs. R. and G. Cuthbert, Southgate, for flowering shrubs; Burton's Nurseries, Christchurch, for hardy flowers; Messrs. Dobbie and Co., Rothesay, for violas and pansies; Messrs. Garaway and Co., Bristol, for schizanthuses; Messrs. G. Mount and Son, Canterbury, for roses; Mr. H. Burnett, Guernsey, for carnations; Messrs. Low and Co., Enfield, for roses, carnations, etc.; W. Noakes, Esq., Selsdon, for schizanthuses; Messrs. J. Peed and Son, Norwood; and Messrs. H. B. May and Son, Edmonton, for ferns.

CERTIFICATES AND AWARDS.

First-class Certificate. — To Odontioda Charlesworthi Theodora, from De Barri Crawshay, Esq., Rosefield, Sevenoaks; to Cattleya Dusseldorfei Undine Westonbirt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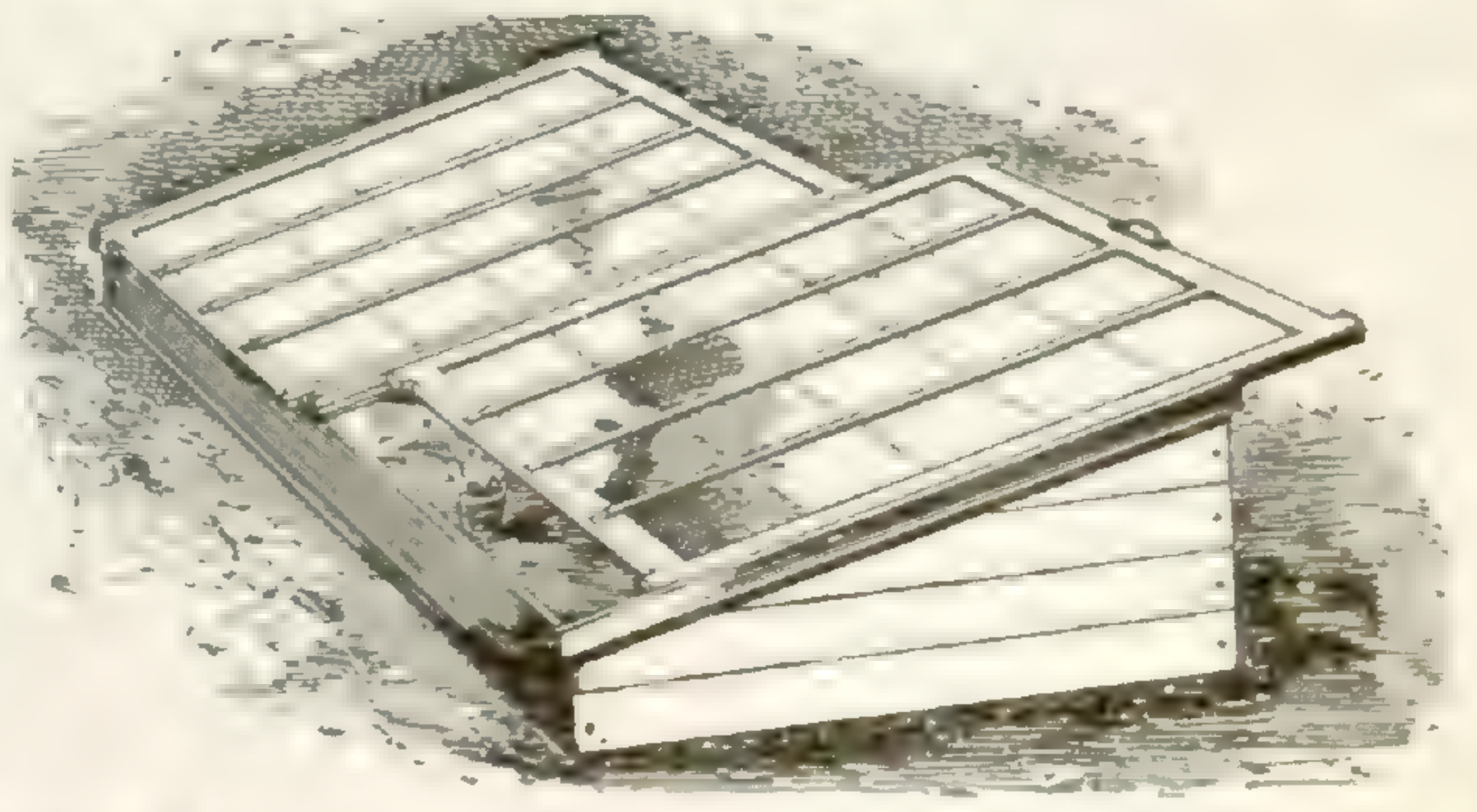

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var., from Lieut.-Colonel Holford, Westonbirt, Tetbury.

Award of Merit.—To Osmunda palustris crispato congesta, from Messrs. H. B. May and Son, Edmonton; to Polyanthus Ladham's Brilliant, from Messrs. Ladhams and Sons, Shirley, Southampton; to Hydrangea Hortensia Mdme. Emile Mouilliere, from M. E. Mouilliere, Vendome; to Macleana insignis, Hydrangea Ornament, and Schizanthus hybrids from Messrs. James Veitch and Sons, Chelsea; to Carnation Mrs. C. F. Raphael, from Mr. H. Burnett, Guernsey; to Auriculas Dorothy Cutts, May, and Canary Bird, from Mr. James Douglas, Great Bookham; to Odontoglossum crispum Magnum Bonum, from Lieut.-Colonel Holford, Westonbirt, Tetbury; to Cattleya Mendeli Pearl McBean, from Messrs. J. and A. McBean, Cooksbridge; and to Miltonia Bleuana Hessle var., from W. P. Burkinshaw, Esq., West Hill, Hessle.

OBITUARY.

MR. R. WILSON KER, V.M.H.

It is with feelings of deepest regret we have to chronicle the death of Mr. R. Wilson Ker, of the Aigburth Nurseries, Liverpool, which took place on Tuesday afternoon last, after a long and painful illness. Mr. R. Wilson Ker was one of the best of men, large-hearted, generous, broad-minded, and the personification of uprightness. He was a clever, enterprising nurseryman, and by his death the horticultural world suffers great loss. During the last year or two Mr. Ker suffered greatly, and for some time past his devoted family knew, as he did, that the end could not be far distant, but notwithstanding this shadow over him, he was courageous and kindly as ever. Mr. Ker was in his seventy-first year, and he leaves behind a family of eight sons and four daughters, two of his sons, Mr. R. B. Ker and Mr. Frank Ker, being in the business in association with their uncle, Mr. A. W. Ker, who has for many years managed the seed and bulb department, while Mr. R. Wilson Ker devoted his attention chiefly to the nursery department. To those now so sadly bereaved we tender our deepest sympathy.

For his many excellent qualities of heart and mind, Mr. Ker will long be remembered by all who knew him, while the crotons and wonderful hippeastrums of pink and rose shades, he raised will keep his horticultural successes before the public. It was in June, 1909, that the Council of the Royal Horticultural Society, recognising Mr. R. Wilson Ker's achievements in practical horticulture, and his devotion to the work of the Gardeners' Royal Benevolent Institution, awarded him the Victoria Medal of Honour in Horticulture, an award of which he was very proud.

Mr. R. Wilson Ker's horticultural education was begun under Mr. Skirving, who was a very enterprising nurseryman, with an establishment known as the Walton Nursery, Liverpool. Here he remained for some time, and then proceeded to the famous Pineapple Nursery, at Maida Vale, London, with the Messrs. Henderson. After a stay here, where new plants and orchids were great features, our late friend returned to join his father at Liverpool in 1860. No member of the horticultural trade has ever enjoyed greater respect and popularity than Mr. R. W. Ker, either at home or abroad. He was one of the first British nurserymen to visit Holland regularly to examine and purchase bulbs, and his integrity was such that a recommendation from him was a passport into any bulb nursery in that country. Mr. Ker had a great and abiding love for horticulture, and, while believing British horticulture to be unsurpassed, he nevertheless strongly believed in the advantages to be derived from visiting other countries, especially on the occasion of the great exhibitions. To all the great horticultural functions on the Continent Mr. R. Wilson Ker was invariably invited as a judge, and at Ghent, Berlin, Hamburg, Paris, Haarlem, St. Petersburg, Antwerp, and Vienna he was to be found on these occasions. He also believed in showing others what his firm was doing, and consequently he exhibited his magnificent hippeastrums across the water on many occasions, and was invariably successful with them in international competitions.

The family history of the Kers is vastly interesting, but we may only mention here that William Ker, who went to China from Kew in 1819 for Sir Joseph Banks, and sent home Lilium longiflorum and Kerria japonica, was uncle of Mr. R. P. Ker, who founded the Aigburth nurseries.

MAJOR C. H. ENTHOVEN.

We have to record the death of Major C. H. Enthoven, Chief Officer of the Parks Department of the London County Council, which occurred on Saturday, April 30, in his forty-fourth year. Major Enthoven, late Royal Engineers, obtained his commission at the age of 19, and reached the rank of major in 1902. In February last he was appointed Chief Officer of the Parks Department of the London County Council, when he resigned his commission. The death of Major Enthoven was referred to at the meeting of the Council on Tuesday, and the Chairman said they had all been impressed with the zeal which he had displayed in the work which was new to him.

FLOWER SHOW SCHEDULES.

We shall be obliged if secretaries of societies will forward us a copy of their schedule for the present year.

Carlisle Horticultural Association. — Third Annual Show, to be held in the New Markets, on August 31 and September 1. Nearly £200 are offered in prizes.

National Chrysanthemum Society. — Early Exhibition on October 5 and 6, and great Autumn Show on November 2, 3, and 4, both at the Crystal Palace.

TRADE NOTE.

We are informed that Messrs. James Smith and Sons, Darley Dale Nurseries, Matlock, have received the Royal Warrant appointing them nurserymen to his Majesty the King. It gives us great pleasure to record this, for our knowledge of the firm, and of the high-class stocks cultivated on their nurseries, enable us to say they are well worthy of the honour they have received.

FORTHCOMING ENGAGEMENTS.

SATURDAY, May 7.—French Horticultural Society of London.
MONDAY, May 9.—United Horticultural Benefit and Provident Society.
WEDNESDAY, May 11.—East Anglian Horticultural Society.
Royal Society of Arts.
THURSDAY, May 12.—Japan-British Exhibition; Opening by the Prince of Wales, 11.30 a.m.
British Gardeners' Association, London Branch; Annual Meeting at "Carr's," Strand, W.C., 8 p.m.
FRIDAY, May 13.—Devon County Show at Exmouth.
TUESDAY, May 17.—Royal Horticultural Society; Fruit, Floral, Orchid, and Tulip Committees meet at 12 o'clock; lecture at 3 p.m. on "The Tulip: Problems and History," by the Rev. Joseph Jacob; Scientific Committee at 4 o'clock.
National Tulip Society's Show, to be held at Royal Horticultural Hall.
THURSDAY, May 19.—Perpetual Flowering Carnation Society, at Royal Horticultural Hall.
Royal Gardeners' Orphan Fund; Annual Festival Dinner at the Hotel Cecil, to be presided over by Sir Jeremiah Colman, Bart.
FRIDAY, May 20.—Special Bulb Show at Haarlem; three days.
TUESDAY, May 24.—Royal Horticultural Society's Great Exhibition at the Inner Temple Gardens; three days.

CATALOGUES RECEIVED.

BENJAMIN R. CANT AND SONS, COLCHESTER.—An illustrated list of roses in pots for immediate planting, and of recently-introduced roses that will be ready for sale in June.

THE CRAVEN NURSERY, CLAPHAM, LANCASTER.—This is a very interesting, descriptive, and illustrated catalogue of hardy flowers, the alpines receiving a large amount of attention.

ANSWERS TO CORRESPONDENTS.

BLEACHED TOMATO LEAF.—E. P. C., Bristol: The small piece of leaf sent is not really sufficient for investigation. The specimen showed no trace of disease, but the lack of substance, and bleaching suggest rather too much heat and moisture have been provided, and that a burst of strong sunshine caught the tender foliage while it was glistening with moisture. Remove the damaged leaves, and maintain a drier atmosphere.

FUCHSIAS.—F. L., Ipswich: Shift the plants into pots a size larger than those they at present occupy, and add a sixth-part of dried sifted cow manure to the compost used. Ten days or so later pinch out the points of growth to further induce a bushy habit.

HERBACEOUS LOBELIAS.—M. E. M., Lyndhurst: There should be no danger in planting herbaceous lobelias of the L. cardinalis group out of doors now in your locality. The plants are almost hardy in the south, but it is always a good plan to lift and pot-up a stock each autumn, and part up or pot them in early spring.

MUDDY WATER IN ARTIFICIAL LAKE.—G. L. C., Bracknell: The muddy water may be due to one or several causes. The supply itself may not be clean; the action of the water supply may be strong enough to disturb the puddled clay bed of the lake, and so make the water dirty; or the water may have become rather stagnant, and therefore muddy. You do not tell us what kind of a water supply you have, or how it enters the lake. If the foregoing suggestions do not lead to the cause of trouble, please send us further particulars that we may be able to help you.

APPLE SUCKER.—E. W. J., Carlisle: The pest is the Apple Sucker (Psylla mali), one of the most destructive of the many pests that attack apple trees. Early in September the females deposit their eggs chiefly on the branches upwards of a year old, and usually in furrows and crevices. Early in April the eggs hatch out, and the young apple suckers, which are wingless, immediately commence their attack upon the buds. They first gnaw the scales of the buds, and proceed to suck the juices of the tree. Where they are numerous they greatly impair by this means the health of the trees. The suckers undergo several stages of development, and are of a yellowish colour at first, and light green on attaining their full development. The best course to take in checkmating this pest is to prune the trees early in the winter and burn the prunings. We do not know how far your apple blossom has advanced, but it is an excellent plan to spray the trees one or two weeks before the blossoms are expanding with a decoction of tobacco, prepared at the rate of 24oz. of tobacco powder to five gallons of water. This is equivalent to 2 parts of tobacco to 100 parts of water.

CALORICULT.—A. H. E., Chichester: We have not seen the Caloricult structures in working order; indeed, they are quite new to this country. On the Continent, we believe, they are used with great advantage for early forcing, and a great point is the amount of produce obtainable from a comparatively small amount of room. You should apply for full particulars from Messrs. W. Duncan Tucker and Son, Lim., 27, Cannon Street, London, E.C. In regard to the other matter we shall be very glad if you will submit photographs for inspection.

DEFINITION OF AN AMATEUR.—W. [illegible], Falmouth: This old question keeps cropping up, and in all sorts of ways. If, as may happen occasionally, you have a few surplus plants of any kind, and sell them to friends, you cannot be regarded as a professional, but if you make a practice of producing more plants than you need, and advertise them, or otherwise make a practice of selling them then you can hardly be allowed to compete as an amateur. In many gardens the surplus plants, flowers, and fruits, are regularly sold by the gardener, but even this practice does not place the employer outside the position of an amateur at many of our most important exhibitions. For instance, some of the finest orchid collections in the country belong to gentlemen who derive their wealth from other than horticultural sources; as their collections increase, and not wishing to increase the glass accommodation in corresponding fashion, they now and again sell their surplus plants at auction, and derive a goodly sum from the sale, but we have never yet heard that such a procedure made them professionals or traders. Unless you make a practice of producing more plants than you require, and of selling the surplus, we do not think you should be disqualified. Of course, we do not know what your own society's definition of an amateur and a professional is; if there is a special definition in the rules you must abide by it; our answer is only on the general question as submitted.

SCALDED PEACHES.—W. C. F., Renfrew: The small fruits sent show evidences of scalding, due to moisture standing upon them during a period of sudden and bright sunshine, while there was practically no ventilation provided. The drops of moisture act as burning glasses under these conditions, and soon scald the tender young fruits. The remedy is obvious.

PEACH LEAVES DROPPING.—H. J. R., Essex: The tree is evidently in bad health, as evidenced by the small size of the leaves and the gumming of the stems. If you carefully examine the border you will probably find it badly drained, and the strong roots down in the wet lower soil. Crop very lightly, and give water with the utmost care. In the autumn lift the tree as soon as the leaves turn yellow, put the border in order, and replant, or introduce a new tree.

FINEST ODONTIODA.—J. E., Leicester: Tastes differ, and therefore considerable allowance must be made for them when expressing an opinion of this kind. In our estimation, the finest odontioda that has yet appeared is O. Bradshawiæ Cookson's var. It gained a first-class certificate from the Royal Horticultural Society on March 9, 1909, and was figured in our columns. It is also described and figured in the "Gardening Year Book for 1910," among the new orchids of the year 1909. This interesting and useful handbook is published at the Gardeners' Magazine office, 148, 149, Aldersgate Street, E.C., 1s. 2d. post free.

BACTERIAL DISEASE IN TOMATOES.—J. H. C., Duffield: The disease is a bacterial one, and is readily recognised by the brown discoloration of the woody part of the stem, this being found to be quite hollow when severed. The disease seems capable of propagation by means of any insects that puncture or eat the leaves and green parts of plants, and it may be present in soil in which infected plants have been grown. The potato, petunia, physalis, and egg-plant are all liable to this disease, hence the great need of extreme cleanliness in cultivation, the prevention of insect attacks, and rotation of crops. For the present all you can do is to vaporise regularly, and remove and burn all plants that show signs of infection.

NAMES OF PLANTS.

DUNELM, Durham.—A variety of Odontoglossum odoratum, and one of no special value. In growth and leafage this species is very much like O. crispum.

A. D., Bovey.—Apparently a rank-growing variety of the Watercress, possibly Nasturtium officinale var. siifolium. We shall be obliged by your sending a specimen when the plant flowers.

B. A., Glastonbury.—1, probably Begonia utiloba; 2 and 3 are plumose Nephrolepises, the first somewhat resembles N. todeaoides, and the second N. Piersoni, but neither are in true character, both fronds showing considerable reversion to the type.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1910. April 24 to April 30.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Temperature of the Air. At 9 a.m. Wet Bulb.	Temperature of the Air. Day Highest.	Temperature of the Air. Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
April 24—Sunday	3 36	48	45	54	41
,, 25—Monday......	7 30	46	42	53	40
,, 26—Tuesday	8 18	44	40	52	35
,, 27—Wednesday .	11 18	49	44	54	35
,, 28—Thursday ...	4 0	53	47	57	42
,, 29—Friday.......	9 30	45	40	53	35
,, 30—Saturday ...	3 42	47	42	51	34
Means	(total) 47 54	47	43	53	37

Date. 1910. April 24 to April 30.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	Temperature of the Soil at 9 a.m. At 2 ft. deep.	Temperature of the Soil at 9 a.m. At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
April 24—Sunday	0·11	49	49	48	43
,, 25—Monday...	0·12	47	49	48	36
,, 26—Tuesday......	0·02	46	48	48	30
,, 27—Wednesday .	—	46	48	48	25
,, 28—Thursday ...	0 18	48	48	47	35
,, 29—Friday.......	—	46	48	48	30
,, 30—Saturday ...	0·02	46	48	48	27
Means ...	(total) 0·45	47	48	48	32

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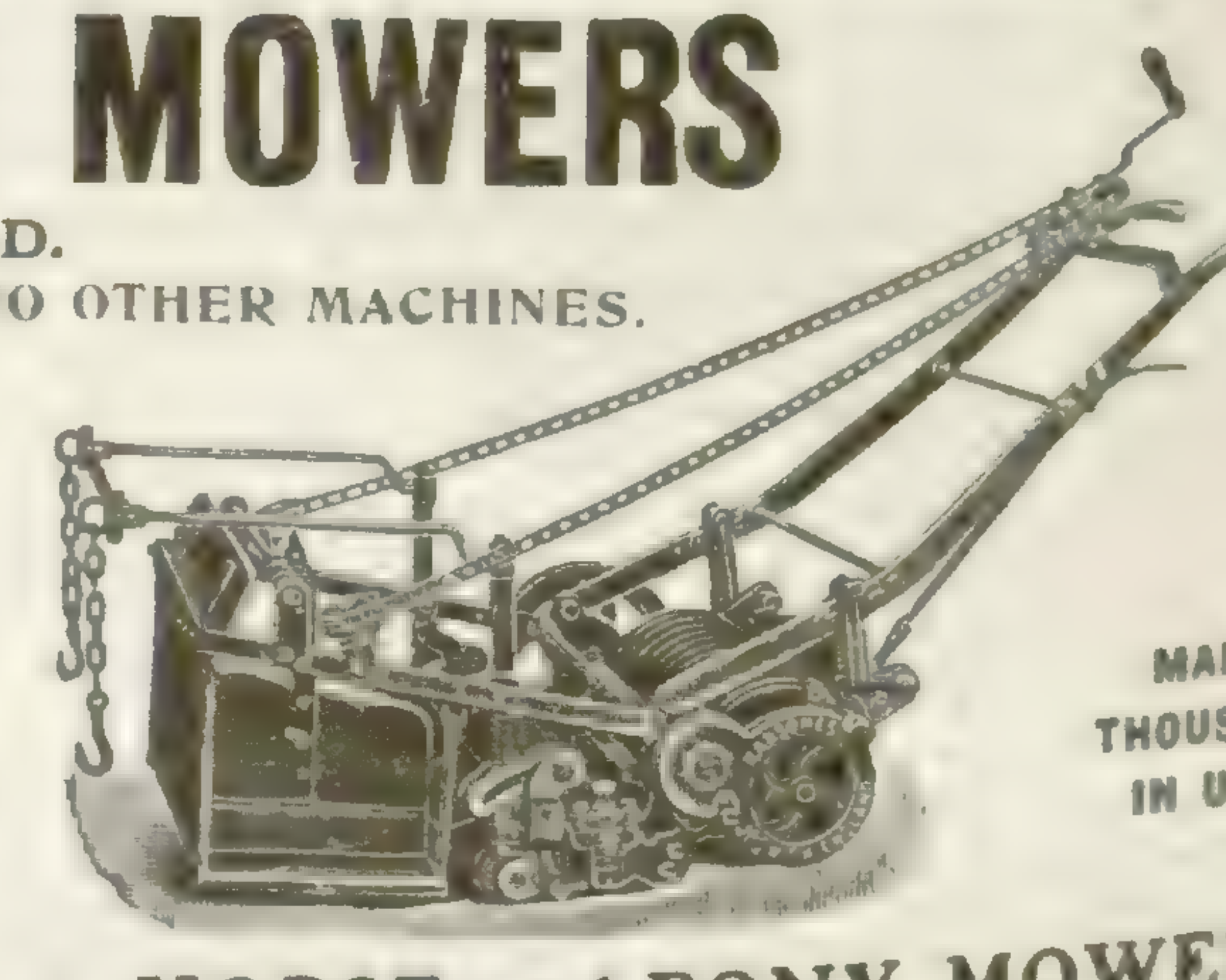

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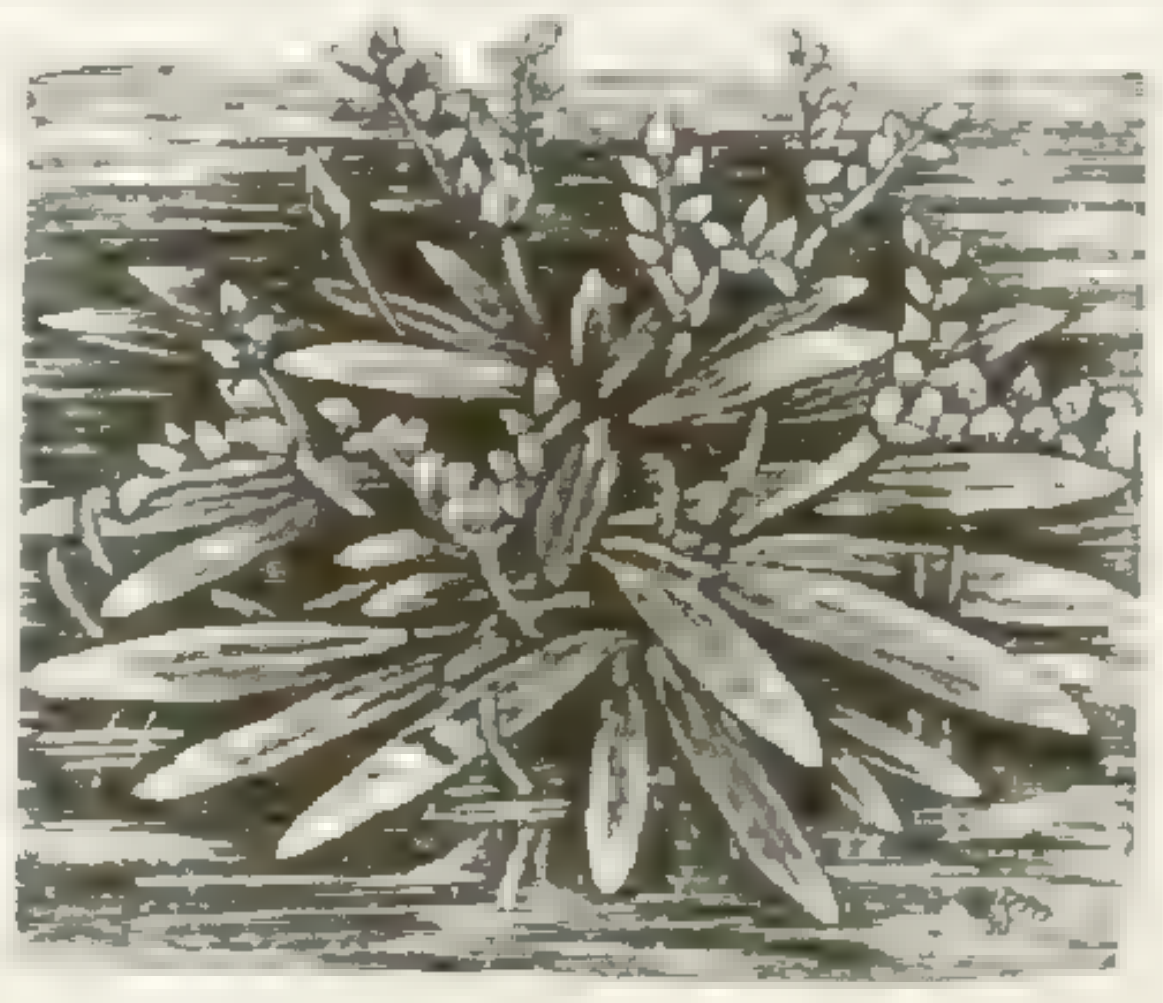

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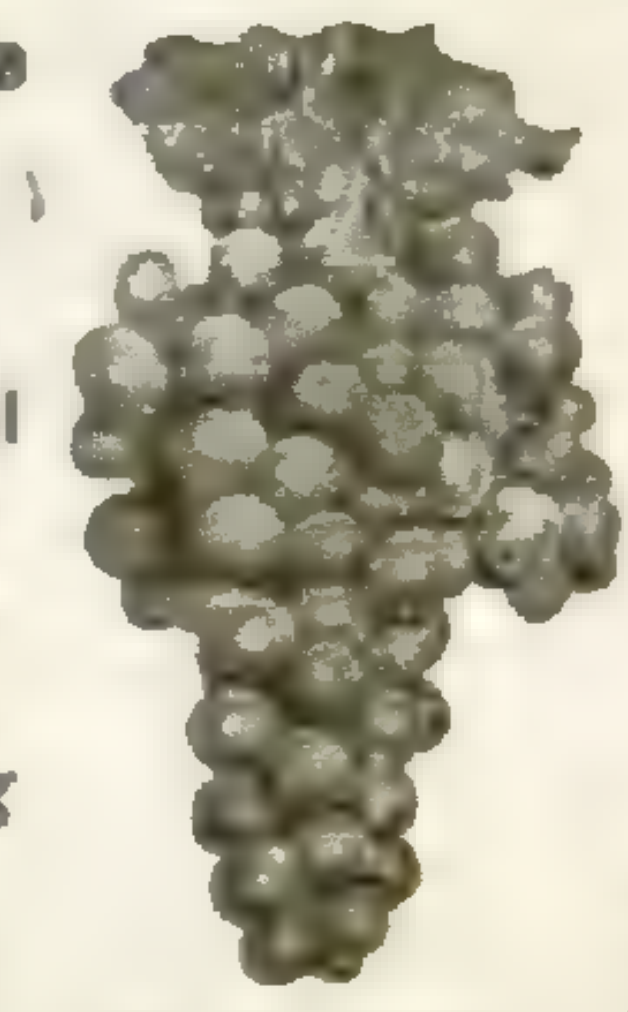

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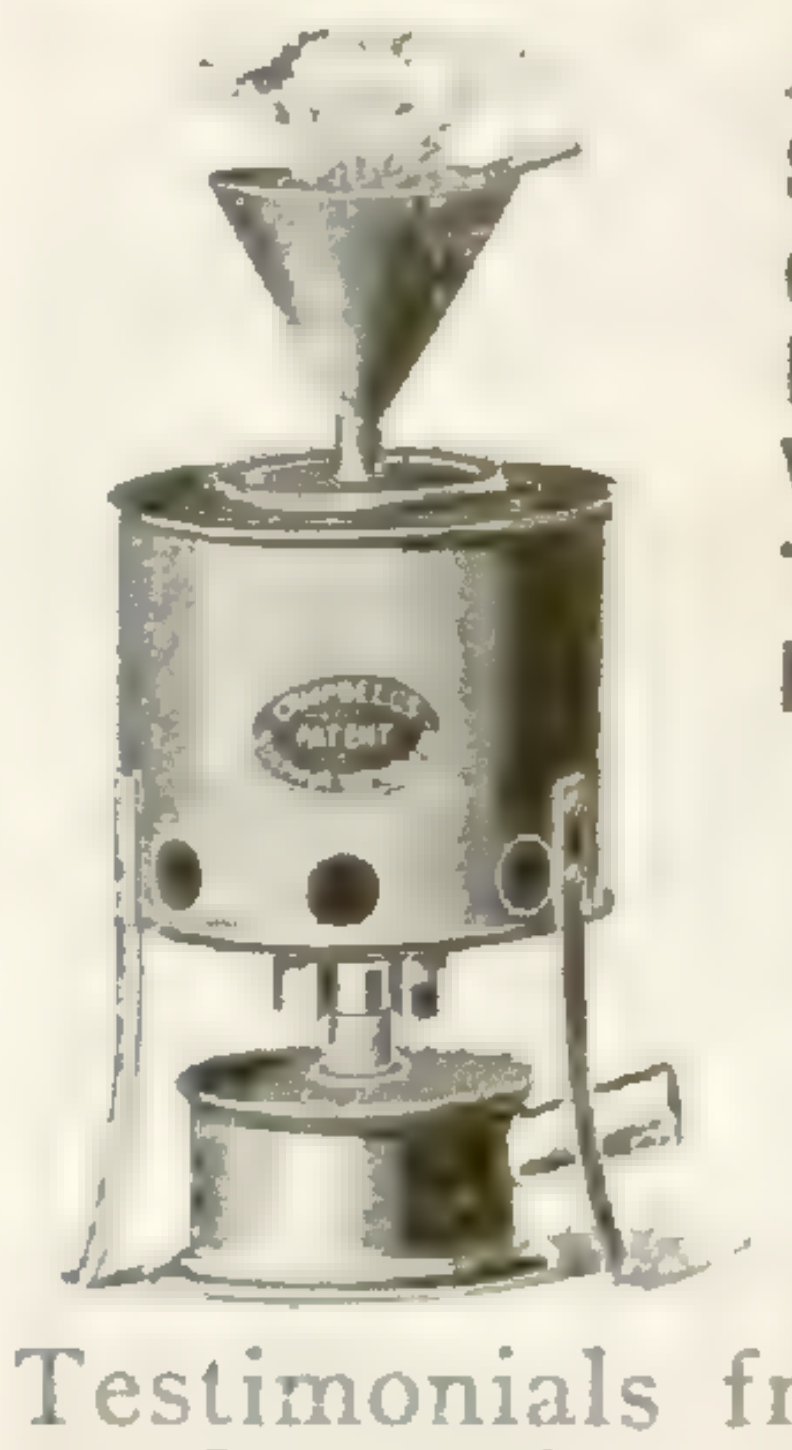

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VOL. LIII.—No. 2,950. SATURDAY, MAY 14, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

King Edward VII.

The recent sudden death of King Edward VII. has produced a profound impression, not only upon the various classes of people that belong to the British Empire, but upon other nationalities throughout the civilised world. Nations other than our own cannot feel in the same degree the sense of loss that is uppermost in the thoughts of those who have enjoyed the advantages of his short but highly beneficent reign; but they know that we have lost a Sovereign who used to the full his commanding influence in maintaining those peaceful relations between his own and other nations which are essential to the welfare of all countries and people. It is a matter of common knowledge that King Edward enjoyed to the full State ceremonial as a symbol of monarchy, and the pageantry associated therewith, but, strong as may have been his love for these, he had no liking for the glitter of the sword and the clash of arms, with their attendant horrors and hindrances to social progress. He therefore deserved, and fully obtained, the love of his subjects, and the gratitude of all who appreciated the blessings of peace. Again, while ever ready to maintain the dignity of his exalted position, and giving the closest attention to State affairs, King Edward entered heartily into the enjoyment of the several aspects of country life, and took an active interest in the various movements that have had for their object the advancement of the arts and sciences and the amelioration of the condition of the poor, and indeed of the industrial classes generally. It is pleasant in this hour of sorrow to call to mind the great zeal that King Edward displayed in the fulfilment of the duties of President of the British Commission of the Paris Exhibition of 1878, and how liberal was his contribution to the success associated with the display of the products of Great Britain and her Colonies and possessions. What was true of the exhibition of 1878 was equally true of that held twelve years later, and it may be mentioned as a matter of some moment that he used his powerful influence to ensure an adequate representation of British horticulture in Paris on both occasions, and especially the first, and with so much success that the commanding position occupied by British horticulture was amply vindicated. Exhibitions of the first importance at home also received his fullest support, and we could have no better proof of this than in the magnificent Colonial and Indian exhibitions that were held in the gardens of the Royal Horticultural Society at South Kensington. As a member of the executive King Edward took an active part in their management, and it was generally conceded that in carrying out the arrangements, his tactful resource, great breadth of view, and stimulating endeavour contributed in no small degree to the splendid success that was achieved. If we turn to another, and certainly a most beneficent aspect of the late King's activities, the foundation, on his initiative, of the great charitable institution now known as King Edward's Hospital Fund, and his presence on the Royal Commission for Housing the Working Classes at once come to mind as evidence of his generous nature and strong sympathy with the sick and suffering and the poor. To recall his successful endeavour in connection with these two great movements is to fill with gratitude the hearts of those—and happily they are many—who recognise the importance of well-equipped hospitals and of healthy homes for the industrial classes. Horticulturists have special cause for remembering with gratitude King Edward's achievements in the cause of charity, for he was a patron of the Gardeners' Royal Benevolent Institution from 1871 till 1890, and, on the death of the Duke of Westminster, who had long been president, he graciously consented to become president, a position he occupied until his accession in the following year, when King George, then Duke of York, consented to fill the office. These are but few of the many movements in which King Edward took a prominent part during the many years of his activities as Prince of Wales, and it should be mentioned that he had a strong sympathy with the efforts made to provide open spaces for town dwellers. That he should have consented to open public parks of large area and laid out at a considerable cost, was not perhaps especially remarkable, but it is a matter of considerable interest that one occupying so exalted a position should have been ever ready to show by his presence his sympathy with small endeavours. Appreciating to the full the importance of recreation grounds and gardens in and near towns, he did not appear to attach so much importance to their size as to their environment, and we have had the pleasure of being present at the opening by him in thickly populated districts of gardens of very modest proportions. It may, perhaps, be said that King Edward was less of a horticulturist than an agriculturist, but there can be no question that, from a very early period in life he fully appreciated the interest and the charms of well-planned and efficiently managed gardens. In proof of this, if proof were wanting, it would suffice to direct attention to the extensive and beautiful gardens at Sandringham which have been wholly constructed since it became a Royal residence. Beautiful as the gardens and grounds have been for a very long period, considerable alterations and improvements have been in progress during the past two years, and it was only within a few days of his lamented death that our late King went to Sandringham for the purpose of observing the progress that was being made and giving such further commands as he considered necessary. The gardens at Windsor and Frogmore, as so well known, have received a full share of attention, and within a comparatively short period of the accession of King Edward, the greater part of the glass structures have been rebuilt in accordance with more advanced ideas, and various other alterations made with a view to improve the usefulness and the interest of these great gardens. Indeed, he taught by example at Frogmore as at Sandringham the same lesson to owners of gardens as he taught landowners and farmers generally, namely, that to obtain the best possible results full advantage must be taken of the most modern appliances and the most improved methods of procedure. In other ways was sympathy shown with horticulture. During the earlier years of the Temple Shows, when help was needed by the Royal Horticultural Society to enable the Council to carry out their new and vigorous policy, King Edward was a frequent visitor, and thereby contributed in no small degree to the popularity which these great gatherings now so deservedly enjoy. Later, when the society had by indomitable perseverance and the generosity of many of its Fellows, provided itself with a hall that was so greatly needed for the proper conduct of its work, King Edward graciously consented to open the building, and those who had the good fortune to be present at the opening ceremony will not readily forget his words of appreciation and encouragement, or the geniality that was shown by him in the proceedings. And now our beloved King has passed from us full of years and honour, but, alas! all too soon. In the hearts and minds of his sorrowing subjects his memory will ever have a warm place, while history will always acclaim him as Edward the Peacemaker.

Water Gardening.—Considered as a generic term, water gardening means the cultivation of plants in and around water. In other words, it is the creation of beautiful scenes by means of pools or streams of water, and plants of various kinds. Water gardening has only been taken up earnestly during the last decade or so, and two things have contributed largely towards its wonderful development; these are the increasing love of hardy plants and an outdoor life, and the introduction of exquisite water lilies by M. Latour Marliac. Nature has always been painting pictures and singing songs of water gardening, but horticulture took very little heed of them. First of all the hardy flower border came by its own again; then the alpine and rock gardens developed in a marvellous manner, followed by a desire to improve the water scenery of the garden by planting beautiful flowers along its margins, and inducing beautiful blossoms to open on its bosom. In many gardens water was at hand, and Nature needed but little assistance, but in other gardens the coming of the nymphaeas brought the desire and need for water in which to grow them. Once the charm of water gardening took hold of the garden-loving public it became a fashion, and nurserymen and hybridists took any amount of pains to discover or create beautiful aquaties and moisture-loving subjects. Others, again, discovered that many well-known plants were often more suitable for positions near water than for the herbaceous border, and so the possibilities of the water garden were gradually opened up until now every garden of any pretensions contains a combination of water and flowers. We have continually drawn attention to the delights of water gardening, and we know that the illustrations of water gardens in Cornwall and Ireland, given in these pages two and three years ago, did a very great deal to advance natural water gardening, while our views of formal lily pools, such as those at Hillingdon Court, Downside, and elsewhere, served as examples that were followed in many parts of the country. In the present issue we give a few more illustrations of beautiful water gardens, as well as several articles dealing with various aspects of water gardening, by writers who have great practical experience in these matters.

Royal Horticultural Society's Meetings.—With reference to the meeting and exhibitions arranged for Tuesday and Thursday next, the Rev. W. Wilks writes: Owing to the lamented death of our late King and Emperor, Edward VII, of happy memory, the fortnightly meeting and exhibition of the Royal Horticultural Society, fixed for May 17, will not be held. The exhibition of the National Tulip Society for the same date is also abandoned, and the Perpetual Flowering Carnation Society's Show, arranged for May 19, at the R.H.S. Hall, is postponed until June 9. The Royal Horticultural Society's Great Spring Show, in the Inner Temple Gardens, Victoria Embankment, will be held as arranged and advertised. The show opens at noon on Tuesday, May 24; a private view for Fellows of the society only is given from 7 a.m. to noon on Wednesday, May 25—open to the public from 12 to 7 p.m.; and on Thursday, May 26, from 9 to 6.

Royal Gardeners' Orphan Fund.—In consequence of the death of King Edward VII. the annual festival dinner of this charity, arranged to be held at the Hotel Cecil on May 19, under the presidency of Sir Jeremiah Colman, Bart., has been postponed. Due notice of the altered date will be given at the earliest possible moment.

The Florists' Loss.—There is no doubt whatever that the death of King Edward will mean a great loss to London florists, especially those in the West-End, who look to do their chief business during May and June, when the society season is at its height. Now, unless there is a considerable departure from the usual rules governing national mourning, the loss to florists and to growers of flowers and plants for house and hotel decorations will suffer terribly.

The Weather.—British weather always provides material for a paragraph, but during the past week it has gone out of its way in the demand for attention. On Saturday last London was visited by thunder, lightning, snow, hail, and rain. Saturday night and Sunday morning were bitterly cold throughout the home counties, and early on Saturday morning seven degrees of frost were registered in many parts of the Thames Valley, followed by five degrees early on Tuesday morning. It is not possible to state at the time of writing how much damage has been done to fruit crops; fortunately pears and plums had already set fairly well, and their advancing leaves afforded some protection to the tiny fruits, but in many instances the early apples were in the first flush of their floral beauty, and a few more days will show what effect these cold snaps have produced. Flowering trees and shrubs have suffered, especially where exposed to the cold north and north-west winds prevailing, their floral beauty having been greatly diminished.

Garden Pictures do not form a very strong feature at the Royal Academy this year, for they are less numerous than usual, and include but few works of outstanding merit. The number is certainly less than one might reasonably expect, seeing that the great changes which have been effected in gardens within recent years have greatly enhanced their charms from the artistic standpoint. The creation of water gardens, the extension of the cultivation of climbing and rambling roses, and the development of hardy flower borders have provided much additional material for brush and pencil, and it is surprising so few artists of position should take advantage of it. There are a few fine pictures of gardens, and a considerable number of small paintings that are well executed and very pretty, but they cannot be said to adequately represent the artistic aspect of the garden at the present day. The most important of the works that have obtained their inspiration from the garden is Mr. Alfred Parson's "Fruit and Flowers," in which heavily laden picturesque pear trees and hardy border flowers, growing on the outskirts of a walled-in garden are admirably treated. To the right of the walk is a glorious border of hardy flowers, in which richly-coloured phloxes, and heleniums, stately single hollyhocks, and the bold-growing Senecio clivorum, with a host of other subjects that are in perfection in the later days of summer, are yielding liberally of their floral wealth. The composition, it need hardly be said, is remarkably good, and each plant is depicted with sufficient detail to admit of its being readily recognised. On the other side of the walk that skirts the border are several tall pear trees, carrying an abundance of ruddy fruits. "February Flowers," by the same artist, is a pleasing work, but does not make such strong claims for consideration as does the work first mentioned. "Monacute," by Mr. E. A. Rowe, is a charming garden scene, in which the wild clematis has been used with good effect in clothing the pillars of red brick that support the gates by which an entrance to the garden is obtained. Miss Mima Nixon's "Rose Garden, Middachten," must have somewhat heavily taxed the artist, for a geometric garden filled with dwarf roses does not readily lend itself to artistic treatment, but whatever difficulties there may have been they were surmounted. "In a London Garden," by Sir E. J. Poynter, has also roses for its subject, but, instead of beds of dwarfs a number of standards are grouped round a pretty summer-house, and produce a pleasing effect. In this connection it may be mentioned that there is on the walls a remarkably good portrait of Mr. William Kelway, who has done so much to increase the interest and beauty of gardens.

Wreath from the London Parks.—At its meeting, held on Tuesday, the London County Council resolved to send a wreath composed of flowers and foliage from the Council's parks for the funeral of King Edward, in token of the Council's profound grief at the loss of one who had always at heart the interests of London.

April in the North.—April, writes our Aberdeen correspondent, is in these northern regions often a month of the most varied character, showers of rain, hail, sleet, or even snow, alternating with days of the most brilliant sunshine. The one just closed afforded many examples of this. The rainfall for April this year slightly exceeded the average of that month for the last forty years, coming out at just a trifle over two inches. The largest amount recorded here was four and a-half inches in 1871, and the smallest about half an inch in 1891. The temperature during April this year has been almost constantly low, the air being cold, even when the sun shone out. March, in fact, was a better month. Frosty nights have been frequent, and, in the more inland and upland parts of the country there has been much snow. The average mean temperature of April, as deduced from observations of the thermometer in Aberdeen, is just about 44 deg. It is a month, too, when the chill easterly and north-westerly winds render the time very trying for invalids. During April the weather is often worse towards the end of the month than it is at the beginning. Thus, last year, the only snow we had was on the 30th of the month. The swallows generally begin to resume their visitation in the end of the month, and during the last week a few have been with us. As regards the land, April has, on the whole, been favourable for dealing with it, as the soil has seldom been too wet, hence the work of the husbandman is well forward. There has been very little growth, however, for the temperature has been too low, and frosty nights too frequent.

Bluebells at Kew.—At the time of writing a delicate flush of blue, a faint suggestion of the glories to come, extends over the bluebell strewn acres of the Queen's Cottage grounds, and other parts of the Royal Gardens, Kew. During the coming week the bluebells will be a lovely sight and worth going a long way to see.

Rainfall at Leonardslee. Mr. W. A. Cook informs us that the rainfall at Leonardslee, Horsham, during April, 1910, was 11.38 inches. Rain fell on eighteen days, and there was frost on ten nights. The lowest temperature was 25 deg. on April 3; the highest in the shade 64 deg. on April 22; and the highest sun temperature 115 deg. on April 29. The temperature in the sun rose above 100 deg. on ten occasions. In April, 1909, the total rainfall was 7.07 inches, and rain fell on fifteen days, while there was frost on nine nights; the temperature in the sun rose above 100 deg. on twenty-five occasions, and once rose to 70 deg. in the shade.

British Gardeners' Association.—The report of the Council of the B.G.A. for 1909-10, to be presented at the annual meeting at Carr's Restaurant, Strand, on May 25, is now issued. It appears that 274 new members have been elected during the year, and new branches were formed at Carlisle, Penrith, Leicester, and Caterham. Several legal cases have been dealt with satisfactorily by the association, and considerable attention has been given to the work of public bodies so far as this affects horticulture. The council nominates Mr. J. Weathers as general secretary, and Mr. C. P. Raffill as treasurer, and doubtless both these gentlemen will be re-elected. In accordance with rule certain members of council retire, and are not again eligible for election until 1911. Duly nominated members for the vacant seats are Messrs. C. Foster, A. G. Barnes, J. Collier, Thomas Winter, Thomas Bevan, James Lawson, George Figgis, E. F. Hawes, and W. H. Divers. The financial statement shows a balance of £290 14s. 1d. on the right side, as compared with a balance of £257 16s. 6d. brought forward from the previous year.

Recent Additions to the Kew Library.—In the form of an Appendix to the "Kew Bulletin," there has now been published a catalogue of the library additions received at Kew during 1909. This appendix extends to no fewer than 56 pages. A large number of the books added to the splendid national collection at Kew have been presented by the authors, others have been given by friends of the establishment, and the remainder, a considerable number, have been acquired by purchase.

The National Dahlia Society has just issued its schedule for 1910, together with the annual report for 1909, in which the history of the incorporation of the London Dahlia Union with the society is once more told. We have already pointed out that the first exhibition will be held at the Crystal Palace on September 8 and 9, and the second at the Royal Botanic Gardens, on September 20 and 21. With the schedule we have received a report of the proceedings of the Dahlia Conference held in London on March 4 last. The papers by Mr. G. Gordon, V.M.H., on "Dahlias for Garden Decoration"; Mr. James Stredwick, on "Growing Dahlias for Exhibition"; and Mr. J. B. Riding, on "Methods of Exhibiting Dahlias," are published in full. Bound up with this report is a list of dahlias introduced since the publication of the official catalogue in 1904, together with revised selections of varieties for special purposes. For the first time there are official lists of garden cactus, giant decorative, collarette, and pæony-flowered dahlias; from this it will be gathered that the society is now giving attention to other dahlias than those of the exhibition cactus and show varieties. We gather, too, that the society will hold a trial of single dahlias during the present year, in conjunction with Messrs. J. Cheal and Sons, Crawley.

Our Illustrations of Water Gardens.—The illustrations of lakes with water lilies at Easton Lodge and Gunnersbury House are from photographs by Mr. H. N. King, and those of the lily pools at Sandhurst Lodge and the bog garden at Dibden are from photographs by Mr. F. Mason Good.

Polyanthuses from Nuneaton.—From Mr. David Norris, the able gardener at Lindley Lodge, Nuneaton, comes a box of polyanthuses that represent an exceptionally fine strain, and make a brave display of colour upon our table, and fill the room with their delightful fragrance. In sending the flowers, Mr. Norris states that his object in doing so is to give us an opportunity of seeing how well the polyanthuses succeed with him, and of forming an opinion of their effectiveness when grown under the conditions favourable to their full development. Mr. Norris further states that he grows a large number every year, and that they are much admired by all who see them when in bloom. We are not surprised that they should be admired, for the flowers are of remarkably high quality, large in size, and produced in splendidly developed trusses, the latter containing from twenty to thirty fully-expanded flowers. The colours range from pure white to rich yellow and brilliant crimson. Some rose-purple shades are very attractive, as also are the laced flowers. A practice that gives such splendid results deserves to be widely known, and we should be much obliged by Mr. Norris sending us a few particulars of his method of procedure.

LEOPARD'S BANES.

Spring flowers are desirable in every garden, and those who like their homes to be brightened all the year round by the denizens of the garden cannot well be without the doronicums, or leopard's banes, so called because in olden times they were said to keep these beasts of prey away from the home of the cultivator. Nowadays, however, we prize them for their golden flowers, and for the air of gaiety and brightness they yield to the garden in their season.

Doronicum caucasicum.

The Caucasian leopard's bane is one of the most appreciated of all, as it is even more refined than D. austriacum, and is pretty, not only in its flowers, but also in its toothed foliage. It grows from six to eighteen inches high, according to the soil, and is among the early flowers of spring, giving plenty of its good yellow narrow-petalled flowers on stems which are long enough to make the flowers valued for cutting, as well as decorative in the garden. It is thoroughly hardy, and can be grown in practically any soil, while it does not despise shade, although doing best and flowering earlier in sun.

Doronicum austriacum.

The Austrian leopard's bane resembles considerably the Caucasian one, but is, on the whole, a little coarser, although one hesitates to make this remark regarding a flower which is devoid of real coarseness. It grows a little taller, and has less beautiful leaves, but is, withal, a plant to be grown by the many, while its very early spring flowering is a recommendation of some consequence. It thrives in the same positions as the preceding, and is equally easy to cultivate.

Doronicum Columnæ.

This is a near ally of one of the foregoing, and is probably only a variety of D. caucasicum. It was introduced from an Austrian botanic garden as dwarfer than either of the preceding, but, in the writer's experience and he had plants from the original stock in this country—in his garden, it gradually grew taller until it could hardly be distinguished from the taller one. It is worth procuring, however, by those not already possessed of D. caucasicum, and who may have an opportunity of obtaining Columna's leopard's bane.

Doronicum Pardalianches.

An old and well-known native plant in some neighbourhoods, this leopard's bane is not well introduced into other localities, and those who are possessed of a large garden, or who attempt wild gardening, might well consider its claim to a place in the domain. It is a tall-growing species, about three feet or more high, and having large yellow flowers in summer. It likes a strong and good soil, where its large and fine leaves and flowers will attain their full dimensions.

Doronicum plantagineum excelsum.

The tall plantain-leaved leopard's bane is, perhaps, the most valuable of all, inasmuch as it not only flowers in spring but also in autumn, and in some gardens, if the flowers are frequently cut, almost the summer through. Its height is, in some ways, a defect, but it is in other respects a gain, inasmuch as it cannot be used near the front of the border, but is well suited for a middle place. In poor and sandy soil this doronicum is not much of a success, but in rich borders, and in wild gardens, where the earth is good, it will delight everyone with its freedom and the quantity of golden flowers it will produce.

Cultivation.

These doronicums require but little special attention. All of them will grow and flower in partial, and even entire, shade, provided that they are not under the drip of trees, where, although they will grow and flower, they do not look happy. They like, however, some sun, and the early-flowering species, in particular, come much earlier when in a sunny place. They are not particular as to the nature of the soil, but like one which is fairly rich; and in a poor and dry one, especially in districts where the rainfall is slight, they will not give satisfaction to the same degree as when on a rich soil. They should be occasionally divided, lifting and replanting when they have passed out of flower, and in replanting using the outer parts of the clumps, which will supply more vigorous plants.

Propagation.

This is effected by division, which is best performed immediately after the plants have flowered, choosing, preferably, showery weather, and dividing the plants carefully, preserving for use the best of the outer growths. Each crown will form a plant if desired. Seeds can also be obtained from some seedsmen, and should be sown in the open in April, May, or June, sowing in little drills about a quarter of an inch deep, and covering slightly with fine sandy soil. When the seedlings have made a pair of their true leaves they should be thinned out, pricking off those removed about two inches apart, and transplanting in autumn to where they are to bloom. Seeds may be sown earlier in pots or boxes for making stronger plants, and they may be put in from February to April, sowing the seeds very thinly, covering slightly with fine soil, and, after watering, keeping the pots or boxes shaded until the seedlings appear, when they ought to be given both air and light, but the sun should not be allowed directly on the young seedlings. As soon as they have made a pair of their rough leaves they can be pricked out as recommended for seedlings in the open, gradually hardened off, and then planted in the border. Seedlings of spring will flower the following season.

S. Arnott.

"SHOWING NOT ALLOWED."

The above words appeared in an advertisement for a gardener which recently came before my notice, and they remind one that this is a condition under which a fair number of gardeners are engaged nowadays. "I'm not allowed to show," is an expression frequently heard, and the question that naturally suggests itself is, Why not? Gardeners, as a whole, have a liking for competition; it puts a bit of spirit into the thing, so to speak, and, apart from the possibility of a little prize money, which helps to eke out the gardener's income, that is none too big in most cases, there is the honour of winning, which always appeals to a man of ambition.

Why is it, then, that so many employers object to exhibiting? Perhaps, if you asked some they would not be able to give a reason other than prejudice, and others might urge that they have no wish to advertise themselves or their establishments in this way, but we know there are places where the gardeners used to exhibit, and their successors are not allowed to do so. Why this change?

Have gardeners themselves been responsible for the cessation of exhibiting? I am afraid it must be admitted that there are cases in which this is so, and more than one man has allowed his ambition in this direction to carry him too far, and the fact is very much to be regretted. If you get behind the scenes in some of the places where showing has been stopped you will learn that the gardener who was given an inch took an ell, and in his desire for honour in the show tent or his anxiety to win prize money, he centred his whole attention on the things he grew for exhibition and neglected his duty in other ways until at last his employer got tired of the whole thing and stopped his exhibiting altogether. It is no good trying to hoodwink the facts as stated above, and where showing has been stopped on account of the avarice of the gardener, I fail to see that the latter has any claim to sympathy. It is one of the things in which tact and moderation should be brought to bear, as it is often abuse of privileges which lead to their discontinuation. I am writing in this strain as a gardener, and I am quite sure that if I were fortunate enough to be an employer I should object to exhibiting if the rest of the garden suffered as a consequence of it.

But what shall be said of those employers who have no such reasons for objecting to exhibiting, and yet do object all the same, perhaps on the strength of what might happen, or from what they have heard has taken place elsewhere. One can have little sympathy with a person who objects to exhibiting because he does not want his gardener to get a little credit for himself and put a few shillings in his pocket, and one does not like to think that such a feeling exists, though there are instances in which appearances certainly point in this direction.

Let us put it in another way. Supposing, for the sake of argument that every employer in the country objected to exhibiting, what whould become of the shows and horticultural societies in general? There could only be one end: they would cease to exist. Perhaps it would not make much difference to such shows as the Temple and Holland House, which are confined almost entirely to the trade, and it must be remembered that the nurserymen who strive to exhibit their very best on these occasions are prompted to do so by the spirit of business. This spirit does not come in where the private gardener is concerned, but what would become of the Sweet Pea Society, the Rose Society, the Dahlia Society, the Chrysanthemum Society, the newly-formed Vegetable Society, and the rest of them, if employers as a whole followed the lead of those who object to exhibiting? Again, there are horticultural societies all over the country, some large and influential, and others small, where the competition is largely maintained by private gardeners, and what would be the fate of these if exhibiting from private establishments were stopped?

Happily, there is no likelihood of such a calamity happening; but would it be out of place to remind the owners of garden establishments who unreasonably object to showing that they owe a certain duty in this matter to the public? It is only when they visit flower shows that thousands of people are able to feast their eyes on beautiful flowers and see the results of the gardener's art, and I therefore say that it is the duty of people who have these things to share, to some extent, the privileges they enjoy with their less fortunate fellows. They can do this by merely allowing produce from their gardens to be exhibited, for they thus give opportunities for other people to see and enjoy them.

Let me state a case. Last year, at the ancient city of Gloucester, in connection with the Royal Agricultural Society's great annual event, there was the finest flower show ever seen in the West of England. Hundreds of people saw it, and opened their eyes in wonder and amazement, for their idea of a flower show was the exhibition they had seen in their own village, and it had never occurred to them that a show would be anything different. It was an education such as West Country folk had never had before, and the memory of it lives, and will always live in the minds of hundreds of simple folk who had never seen the like before, and probably never will again. More than once since I have heard ardent cottage garden sweet pea growers discuss "them there flowers as were showed at the Royal," and village vegetable champions who considered themselves to be perfect in this cult went back from "the Royal" wiser, if not sadder men, for they realised that they had a good deal more to learn.

It is true that many of the exhibits were staged by nursery firms, but many also came from private gardens, and if Lieut.-Colonel Holford, for instance, had objected to exhibiting, visitors to the show would not have seen the magnificent Westonbirt orchids, and would have missed a treat which everybody enjoyed.

Again, what a part shows have played in the development of flowers. Should we have had the roses, chrysanthemums, carnations, dahlias, and sweet peas which enrich our gardens to-day, if there had been no exhibitions at which raisers and growers could display the results of their skill as hybridists and cultivators? I say emphatically, no! and when we think of the beautiful productions exhibited by gardeners with the full permission of their employers, even the man in the street has reason to be thankful that there are a good many owners of private gardens who do not object to exhibiting. Would men like Messrs. Beckett, Gibson, and others have brought vegetable culture to such a pitch of perfection if they had not been privileged to show? and would the world have ever seen such fruit as is staged every year, say, at Shrewsbury by Mr. Goodacre and other doughty champions if they had been denied the privilege of exhibiting? I say no again, and thus it is that the world of horticulture owes much to the proprietors of gardens who support flower shows.

Perhaps the ideal of exhibiting comes in when the interest is of a dual character shared in the same spirit by the owner on the one hand and the gardener on the other; where both have the same object in producing the best, and the pleasure of winning in a keen competition is as great to the master as the man. It is a good sight at a big show to see a gardener when the awards are put up rush away to the telegraph office to notify his employer of his success, because in such cases one may fairly conclude that the interest is of a mutual and real character.

Everybody has, of course, a right to do as he likes with his own, and there are employers, no doubt, who have felt themselves compelled by certain circumstances to discontinue exhibiting, but it is not right to condemn a community because a few of its members have erred, and it would be an unfortunate thing for the horticulture of this country if the rule "No showing allowed" were enforced in private establishments as a whole.

H.

BUSH PEACH TREES.

The notes by your correspondent, "G. B.," page 324, recall to memory bush peach trees that were growing about forty years ago under the charge of Mr. Mill, at Rendlesham Hall, Woodbridge. At that distant period they were fairly old trees, yearly carrying good crops of fruit, and occupying, with the exception of the back wall, which was covered by fan-trained trees, a large lean-to house. They were planted, and established by the late Mr. Allan, father to the well-known chief of Gunton Park Gardens, who, if I have been rightly informed, previous to taking charge of Lord Rendlesham's gardens—a charge he held for many years, and until his death—gained a considerable amount of horticultural experience of a varied description in Italy, but whether or not he adopted this mode of peach culture from what he had seen on the Continent, I am not in a position to say.

Most of the readers of the Gardeners' Magazine are aware of how splendidly peaches, both under glass and upon outdoor walls, are grown at Eastnor Castle, and numbers of them have probably seen there a house occupied by standard peach trees. I well recollect being conducted over the gardens by the late Mr. Coleman, at a time when these trees were carrying full crops of good fruit, and also recollect that he spoke of their usefulness. I question, however, if Mr. Coleman preferred this description of tree to fan-trained ones placed upon trellises in a suitably-constructed house, and, without doubt, he grew his exhibition fruit upon trees of the latter kind. Judging from what I saw at Eastnor, and the experience gained in assisting in the management of the Rendlesham trees, I am satisfied that heavy crops of good fruit can be produced by bush and standard trees planted in borders, but question if crops of such uniform high quality as are usually grown upon fan-trained trees, placed near the glass, can be obtained from them. Your correspondent evidently made excellent use of the kind of house he had to deal with but he does not allude to the quality of the fruit, unless this was done in the leading sentence of his notes, when referring to the trees as "most satisfactory in every way."

The Hendre Gardens. T. Coomber.

Agricultural Education in South Africa.—The proposal to establish a National College of Agriculture at Pretoria has met with great success General Botha intends to set aside £100,000 as a first instalment towards the cost, and the Town Council of Pretoria has agreed to present the Government with a site for the college, at Groenkloof, consisting of 3,681 acres of arable, pasture, and forest land.

WATER LILIES.

Spring, with its bursting buds, refreshing sunshine, and prodigality of blossom, brings a plenitude of work in her train.

Multitudinous tasks are at this season heaped upon the garden worker. Flora's subjects call for care and attention on every hand, and among the many voices one hears is the persistent appeal of the water garden.

At the time of writing we are rapidly nearing the awakening of the water garden into full life and beauty. Calthas, in all their golden gaiety, have, conjointly with the starry snowflakes of ranunculus, ushered in the reign of beauty. Early primulas are astir with life, astilbes are lifting their ruddy bronze growths upward, irises and hemerocallis are putting vigour into new green growths, and a host of other subjects are keenly awake to the [illegible] of summer days, and bright [illegible], and amid all the wealth of water garden plants the queen of them all calls for immediate notice.

These nymphaeas, the floating glory of many a pond and lake, deserve a fuller tribute than I can pen. May is the month par excellence for planting, and with the ever-increasing hybrid varieties, one has indeed a glorious collection to select from. The comparative ease with which the majority of hardy water lilies can be managed, renders them a great asset in the hands of the garden maker. The [illegible] rich-toned leafage, a harmony of deep greens, bronzes, purples, etc., together with the charming range of form and colourings of the flowers, at once gives a special note to all water scenery.

There is an enthralling charm in these nymphs of the pools, with their starry forms uprising from their own "floating bed" of foliage. Pink and rose, ruby and scarlet, orange and pale yellow, cream and white, thus the colours run, with many an intermediate shading, and what is so striking in many forms, the golden anthered centre, amid the shell-like petals, enhances their delicacy or brilliancy.

The water gardener's debt to Mons. Latour Marliac is beyond computation, and the splendid varieties raised by the French florist will stand for generations as a memorial to his excellent work. The old saying, "By their fruits ye shall know them," needs but altering to, "By his flowers we shall know him," and assuredly all who are interested in water lilies will revere the name of Marliac.

Before referring to some of these varieties I will briefly consider the question of planting. Water lilies are not difficult of culture, though in some cases difficulties arrive through various faults of the planters. I have known nymphaeas of the less robust growing forms, including N. Ellisiana, planted in thick earthenware pans (watertight, as far as the bottoms and sides were concerned), and sunk into shallow pools. Surprise was evinced when the lilies did not grow, but the reader will understand that to plant nymphaeas in such a receptacle was really courting failure, for the whole contents of the pans were soon a mass of foul black mud. Where water can be run off from the pools, I am in favour of planting on the pool base, using fibrous turfy loam, with a little sharp sand, and decayed cow manure. Failing this, there is nothing quite like planting in open baskets, which can readily be sunk in the pools, and at the same time, allow the nymphaea roots free egress to the bed of the pool. In this case, providing suitable varieties are chosen, and the water is of sufficient depth, and partially sun-warmed, no great trouble should be experienced in getting young plants established.

Casual planting is often successful, but it is well to exercise both care and discretion in the task. Work well done goes far toward ensuring success.

And now to the varieties. Among white flowers the best are N. Gladstoniana, exceptionally vigorous, and free in growth, white as driven snow, and of large size. N. Marliacea albida, a very fine robust form. N. odorata maxima, the finest of the white forms of N. odorata, and N. Caroliniana nivea, a splendid floriferous gem, with a very fragrant perfume. In addition, there are N. odorata pumila, N. pygmæa alba, and N. odorata alba, which are valuable for small pools.

Of the pink and rose shades one may especially note N. colossea, a giant variety, with massive foliage and grand blooms, opening with a shade of cherry-pink, and gradually softening to white: it is of pleasing appearance, and its freedom and long season of blossom is also remarkable. N. Marliacea carnea and N. Marliacea rosea are both worthy of note, the former a pleasing flesh-pink, and the latter an exquisite soft rose, deepening at the interior of the blossom; both are superb growers. N. suavissima is very good, with massive rose-coloured flowers, pleasing and fragrant. N. caroliniana perfecta, exquisitely perfumed, grips the attention with its soft salmon-pink blossoms, while N. William Doogue, a fine vigorous flesh-pink, and the more

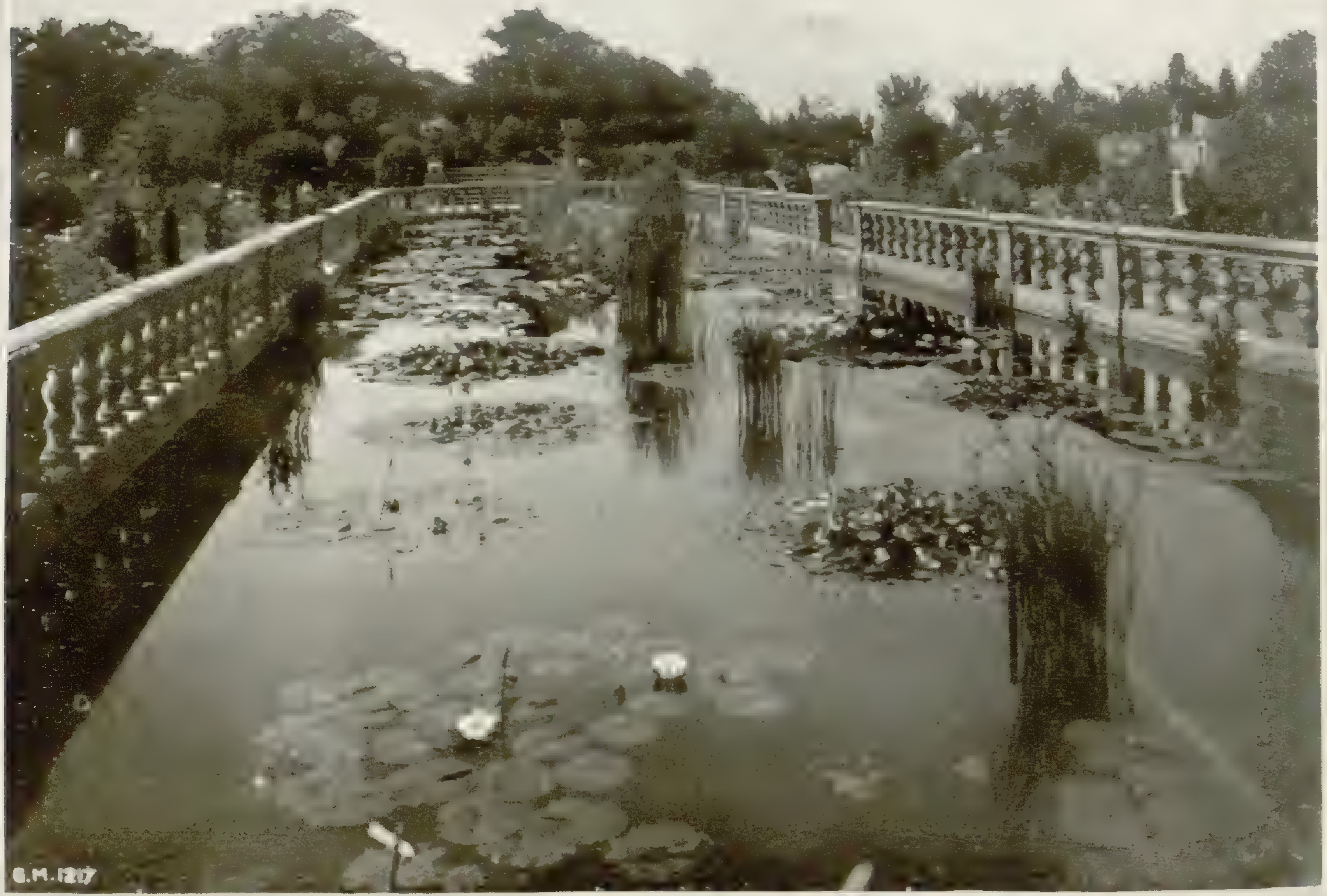
LAKE IN NATURAL STYLE WITH WATER LILIES

In the gardens of Gunnersbury House, the residence of Leopold de Rothschild, Esq. The collection of nymphaeas is comprehensive, and the conditions are highly favourable to a vigorous growth.

richly-hued N. Luciana, are both very worthy of note.

A selection of the bright-hued reds, crimsons, etc., would include the popular American variety, N. James Brydon, with its globular rich rosy-carmine blossoms. N. lucida is a magnificent rosy-vermilion, with grand foliage. N. Gloriosa has a superb sweet-scented blood-red flower, very double, and effective. N. Marliacea flammea, a very fine ruby-red, is spotted with white at the petal edges. N. Marliacea ignea is a flaming carmine of pronounced colour, and the ruby-crimson N. atropurpurea, with its luxuriant growth, is also good.

It is among the yellow, salmon, and orange shades that one meets exquisite colourings that are all too rarely seen in our water gardens. Take N. Aurora, for instance, with its changing colouring, first yellowish-rose, then orange-red, deepening with age into almost full red. Or N. Seignoureti, with its pleasing shades of pink and carmine upon a sulphur-yellow ground colour, and one has a vivid idea of the beauties of this group. N. Marliacea chromatella is a dainty canary-yellow, good at all points; N. Paul Hariot is a grand-flowered yellow, shaded with rose. N. fulva is pleasing, with its orange-red hues, and N. odorata sulphurea grandiflora is extremely valuable and free.



LAKE IN ITALIAN STYLE FOR WATER LILIES

At Easton Lodge, Dunmow, the Essex seat of the Earl and Countess of Warwick. The lake contains a fine collection of nymphæas, and, as so well shown, the arrangement is such as to prevent over-crowding.

Others there are like N. Graziella, N. Solfatare, N. flava, and N. chrysantha, very deserving of notice, to say nothing of the first-rate "novelties," which certainly deserve a notice to themselves. So far as garden varieties are concerned, the water-lily is a quite modern plant, and its creation, improvement, and extended cultivation form a wonderful page of floricultural history.

P. S. Hayward.

LILIUM TESTACEUM.

Like your correspondent "R. F." (page 334) I look upon this as one of the most beautiful of all hardy lilies, and one of the most distinct members of the genus.

The most complete account of the early history of this lily that has come under my notice is to be found in a publication entitled "Monographie Historique et Littéraire des Lis, par F. R. Cannart d'Hamale, President de la Fédération des Sociétés d'Horticulture de Belgique, etc."

Somewhat curtailed and freely translated the early history of Lilium testaceum is given as follows:

"There is also another lily with recurved petals, concerning the origin of which we have but a vague idea, but which, nevertheless, appears to be Japanese, viz., Lilium testaceum of Lindley (the Nankeen Lily). It was first discovered by M. Fr. Ad Haage, jun., of Erfurt, accidentally, in a large consignment of martagons he received from Holland in 1836, and with which it had been mixed. The plant was introduced into Belgium by M. L. Van Houtte, of Ghent, who received a case full of it from M. Von Weissenborn, of Erfurt, in exchange for some fuchsias. This exchange was made in 1840 or 1841, at which time there is no question that of this unknown lily three persons at Lille, in France, each possessed an offset. One only of these offsets flowered, and showed an umbel of pendant blossoms, with petals reflexed like the martagons, but larger, and of a beautiful nankeen colour, slightly tinged with rose, and dotted with a deeper tint at the base. The bright orange-coloured stamens served to add to the beauty of the flower. M. Van Houtte, who happened to be at Lille, was fortunate enough to see this splendid novelty. He eventually received from M. Von Weissenborn an order for fuchsias, with a postscript in the following terms: 'If by any chance you want the nankeen-coloured Lily I have a quantity at your service.'

"M. Van Houtte did not think twice about it, and seized with avidity the good fortune offered him. He accepted the exchange, and soon became the possessor of a case more than a yard square, full of Nankeen lilies of all sizes, the largest bulbs measuring more than a foot in circumference. This news soon spread to Lille, and caused much disappointment when the possessors of the three offsets were convinced that this lily of which M. Van Houtte had become the owner was the same as that which they had guarded so jealously. The nankeen lily passed from Belgium to England, where it flowered for the first time in 1842 with Messrs. Rollisson. It was figured and described in the 'Botanical Register' by Dr. Lindley in 1843, under the name of L. testaceum; Dr. Kruntze, of Halle, had described it as L. isabellinum, and it also bore the name of L. excelsum among gardeners. M. Rinz, sen., a nurseryman, of Frankfort, and another gardener at Leipzig, claimed to recognise in it an old friend which they had cultivated in their younger days. This was evidently a mistake, as no mention of this lily had been made in any work on botany or horticulture. We are more inclined to believe it is of recent introduction, and that the Dutch received it from Japan, with which country they were in constant communication. But is it really a true species? Or is it not rather the product of the white lily fertilised by one of the pomponium section? The general appearance of the plant would lead one to suppose so."

Forty years ago, when this book was written, it would have been far easier to obtain authentic information than it is now, and there is no doubt that the writer then took advantage of all available sources, without, however, learning the actual origin of this beautiful lily.

W. I.

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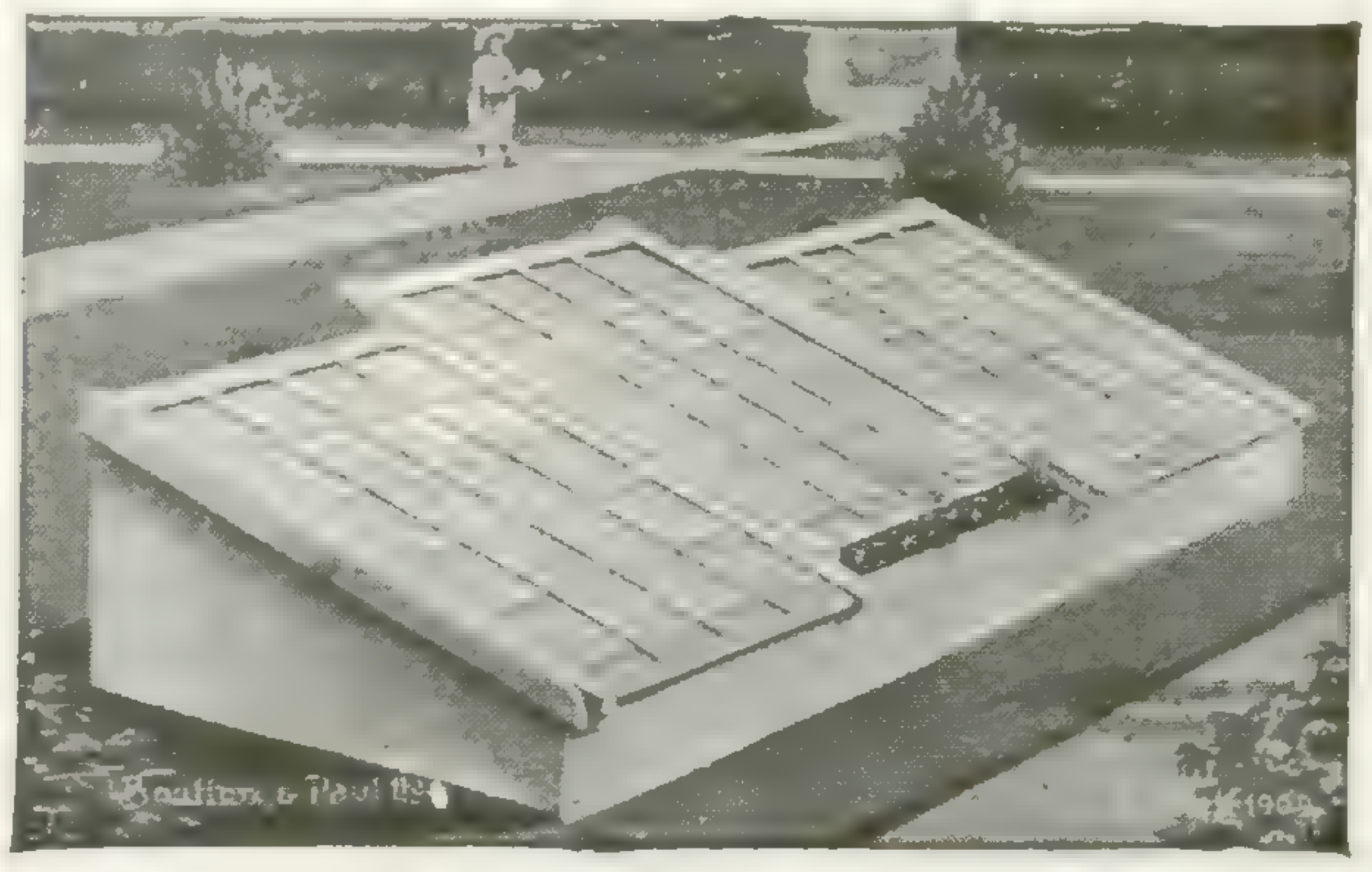

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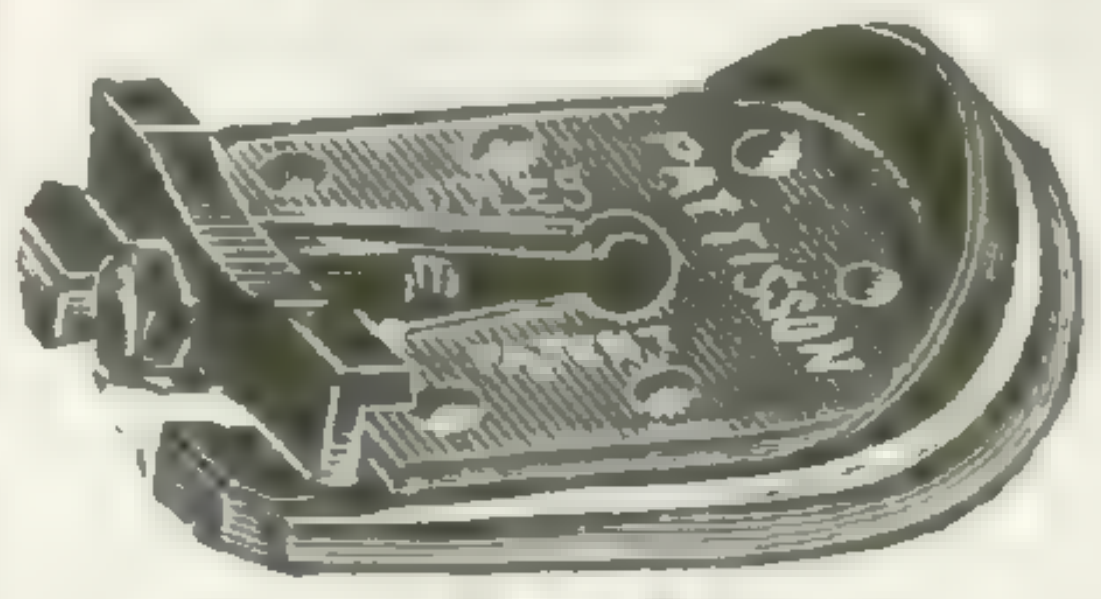

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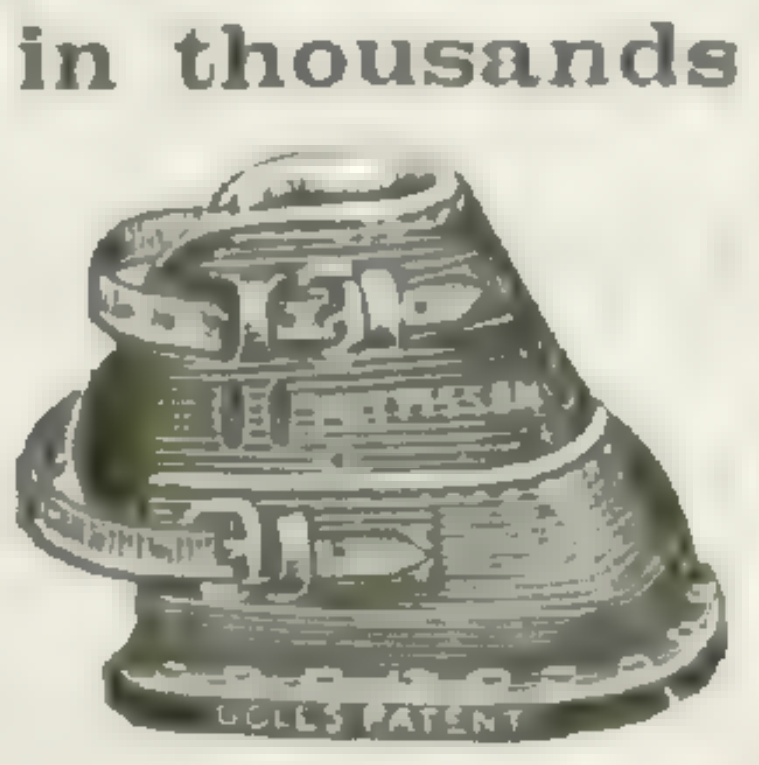

FIG. 2.

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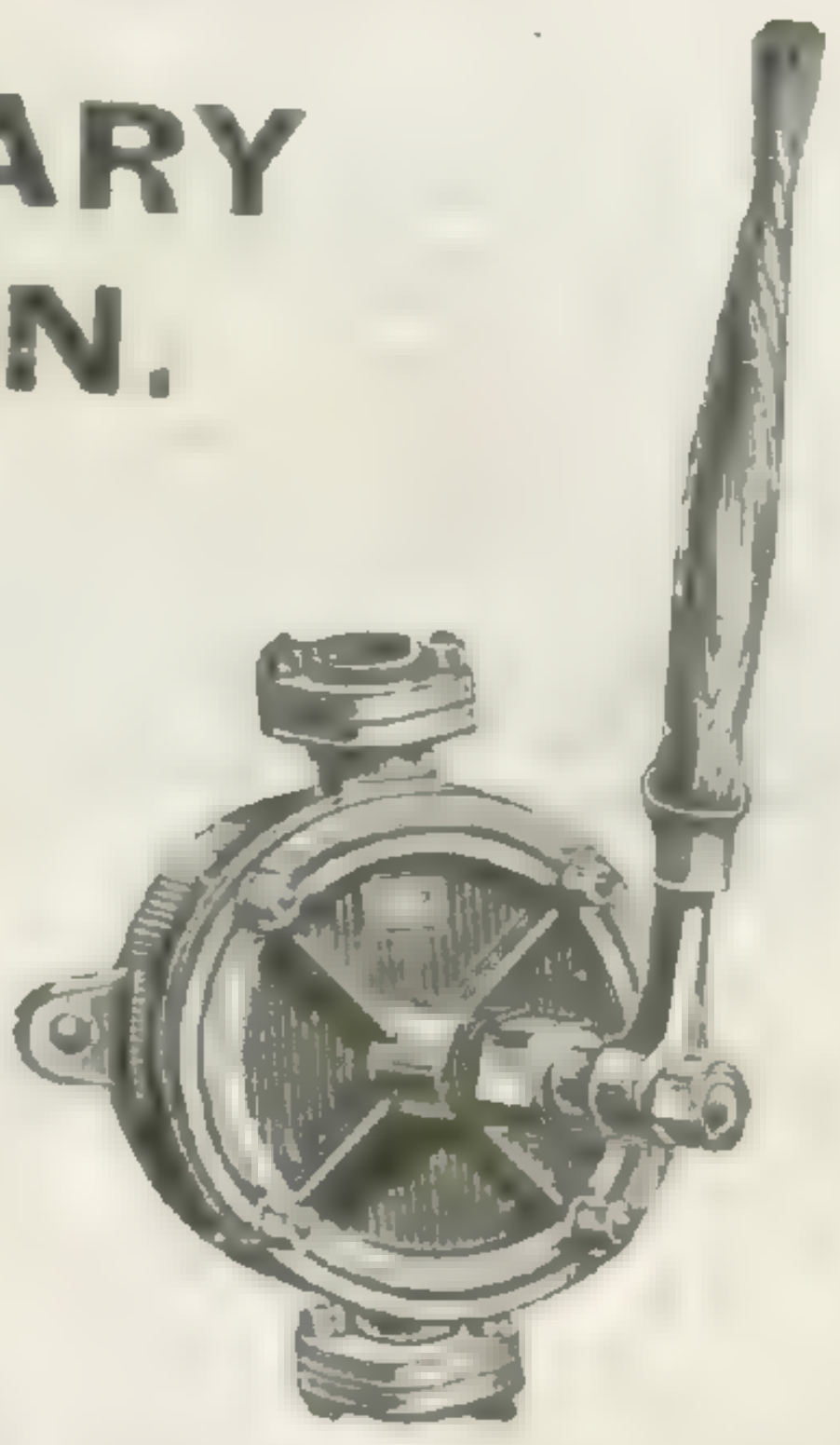

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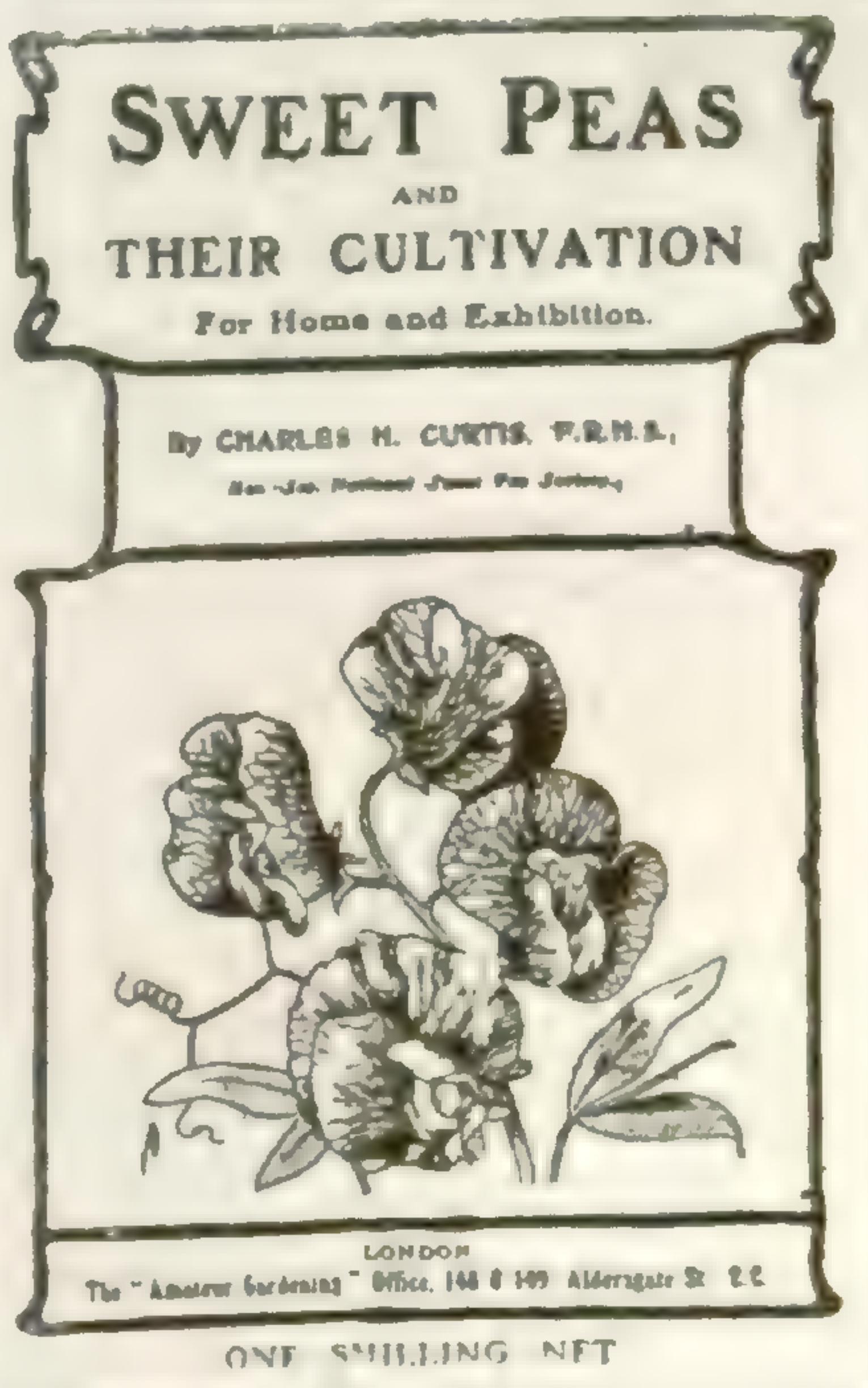

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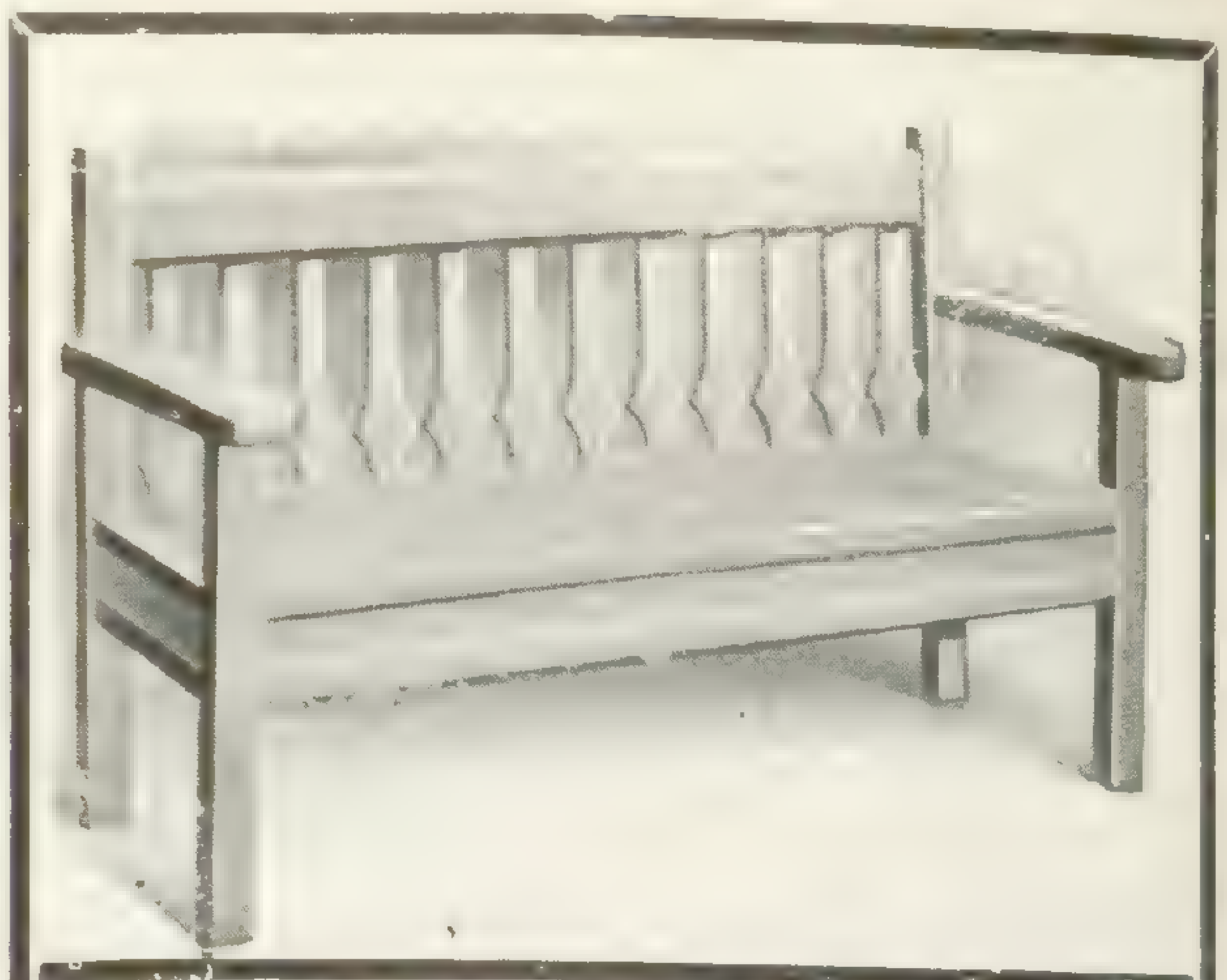

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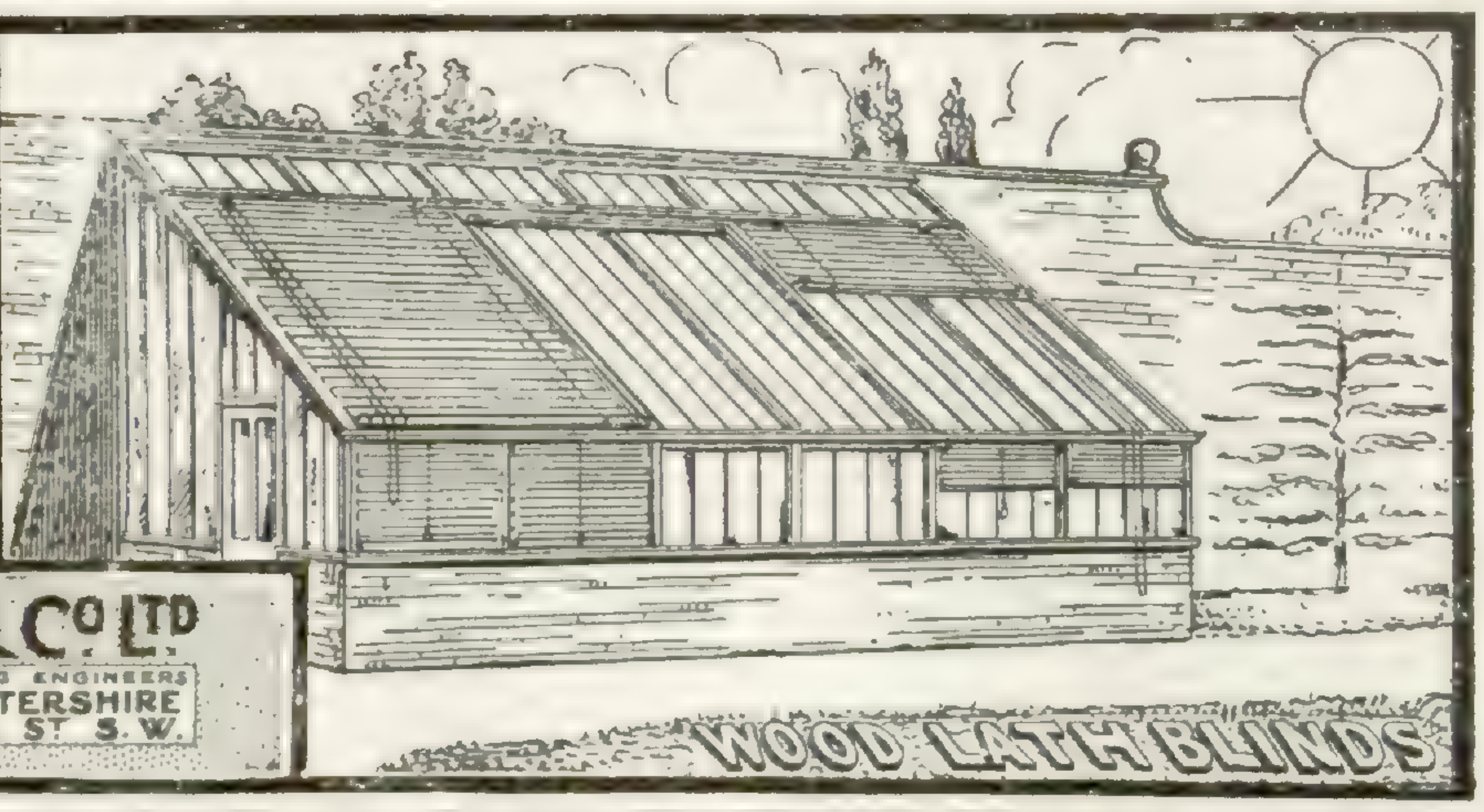

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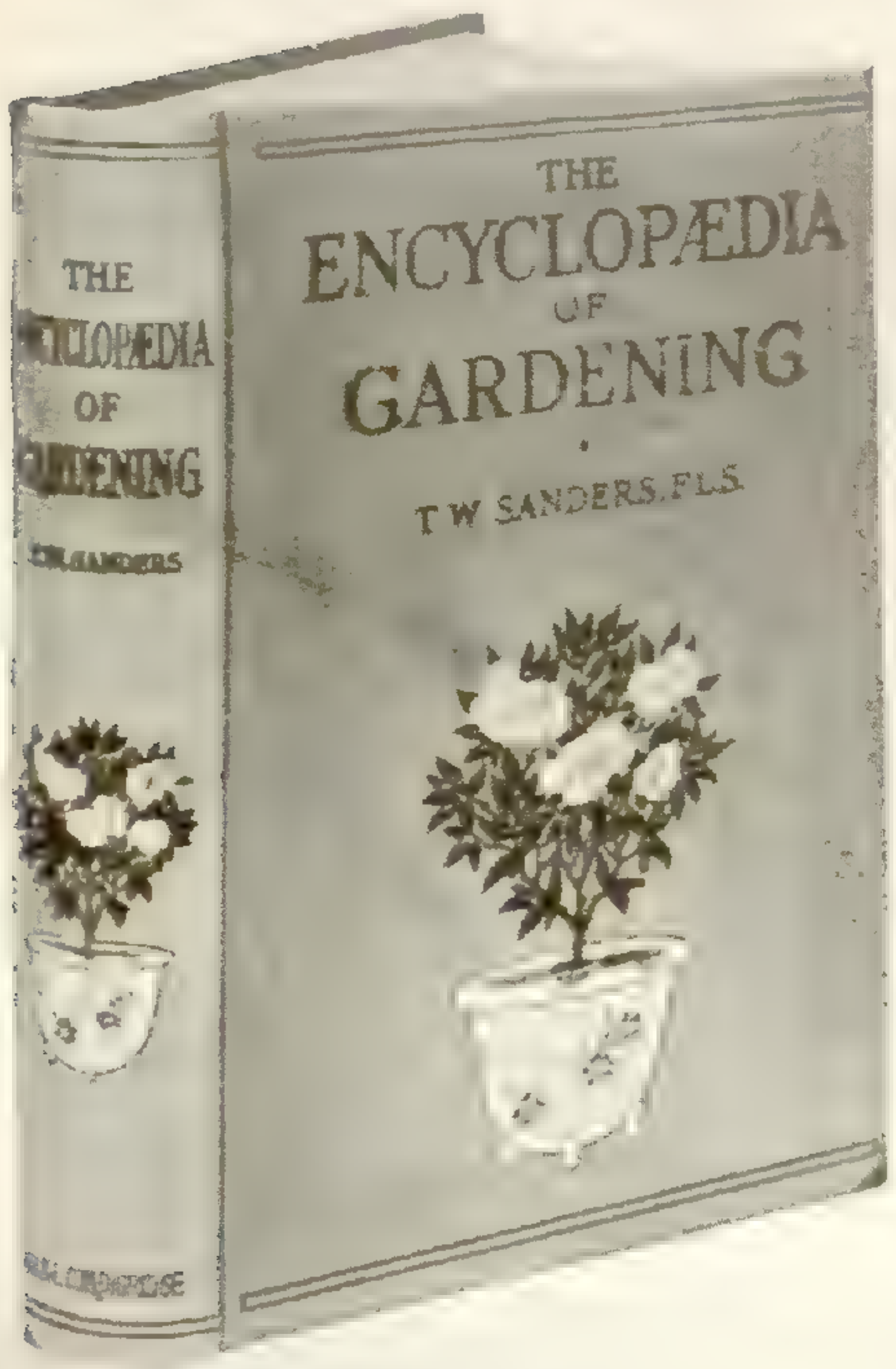

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ORCHIDS AT ASHLANDS, NEWCHURCH.

There are few collections of orchids in the Manchester district that are better known than that of R. Ashworth, Esq., Ashlands, Newchurch, whose gardens I had the privilege to visit recently. Situated at a high elevation, the climb from Waterfoot Station is similar to that usually characteristic of the Lancashire moorsides, but when the ascent is made we leave the busy Rossendale, a thickly populated valley below, and looking out of the front windows, the wide expanse of open moorland is exposed to view towards the north and east. This is not an ideal aspect in which to look for a well-grown and practically up-to-date collection of orchids with the hope of finding the plants in the highest state of cultivation, but I was most agreeably surprised to find, in spite of the bleak position and the smoke and fumes from the thickly-studded chimney stacks in the valley below, one of the best-grown collections of plants to be found in the Manchester district.

LILY POND AND POOLS

At Sandhurst Lodge, the residence of Sir W. J. Farrer, where aquatics are grown extensively and with great success. The arrangement has much to recommend it for gardens where it is desired to group the nymphæas according to colour or growth, and plant them in separate pools.

Mr. Richard Ashworth does not confine his attention to a limited portion of the orchid family, but is a lover of the classes including those commonly known as botanical species. As space will not permit of my going fully into detail, I shall confine my remarks to some of the most prominent kinds in the collection. Odontoglossums have for many years been extensively grown—many noteworthy varieties are present, the plants generally in the cool divisions are in robust health, and, judging from the almost forest-like display of grand flower spikes, a good show of bloom may be anticipated in the near future. The following noteworthy subjects were showing for flower: Odontoglossum crispum Emperor of India, O. c. Robsoniæ, O. c. Mrs. Ruters, O. c. Lucianiæ, O. c. Black Prince, O. c. Coronation, O. c. Rossendale, O. c. Mdme. Linden, O. c. Virginale, O. c. Perfection, and numerous hybrids of recent introduction. In another house were numerous seedlings in various stages of growth, and these gave promise, judging from the recorded parentage, of including some very fine additions. One of the highest-coloured hybrids I have seen was here in flower, namely Odontoglossum Sirene (O. Vuylstekæ and O. c. Graireanum). The flowers were wholly red, suffused with purple, except the broad white margin at the outer edge of the segments. O. Lambeauianum var. Cinderella was of exceptional merit. Some good varieties of O. Waltonensis and O. percultum were also in flower.

Several masdevallias of the different sections were also included in this range, M. Veitchi grandiflora being the most attractive of the plants in flower.

The cattleya house contains many fine examples. My attention was particularly arrested by the numerous albino forms of C. Mossiæ, C. Trianæ, C. Gaskelliana, C. labiata, and the white-sepalled and petalled C. Warscewiczi Frau Melaine Beyrodt. These were represented by practically all the named varieties, and although the plants had been considerably cut up into divisions, they were in a most satisfactory condition of health. Among the large quantity of hybrids I noticed fine plants of Cattleya Armstrongiæ, C. Iris, C. Mantini, C. Fabia, Brasso-cattleya Queen Alexandra, and suspended from the roof were numerous primary and secondary hybrids of the Sophro-cattleya and Sophro-lælia sections.

As in most other gardens where orchids are cultivated in the Manchester district, cypripediums form a prominent feature, and conspicuous among the winter-flowering section were finely-grown plants of C. Germain Opoix, C. Gaston Bultel. Several forms of C. Thalia, C. Falshawiense, C. Bukmani, and C. insigne were represented by all the most prominent kinds, including the albino section. C. callosum Sanderi and C. Maudiæ were also to be seen. Suspended from the roof, grown in shallow pans, a C. bellatulum was especially noteworthy; such finely-cultivated plants are rarely seen. Another pleasant surprise was to find the numerous hybrids of C. bellatulum and C. niveum influence as one of the parents being so well and extensively grown. These included C. Boltoni, C. Venus, C. Daisy Barclay, C. Phœbe, C. Aphrodite, C. Mary Beatrice, etc. Associated with the cypripediums was a finely-grown batch of Miltonia vexillaria, which included many of the best-known forms; these are just producing their flower scapes, and give promise of a grand display. Several fine examples of the different varieties of M. Bleueana were also included.

The dendrobiums are grown suspended from the roof of the stove, and they include most of the best species and hybrids known to cultivation. The most prominent in flower at the time of my visit being D. Bryan, D. Sibyl, D. Ainsworthi intertextum, D. nobile virginale, and the curious D. n. R. Ashworth. The long sepals and petals are white; the elongated lip white with a bright rose disc. The stove included, among other notable subjects, a fine collection of codiums (crotons) remarkably well grown.

In the greenhouse several very fine plants of Lycaste Skinneri were in bloom. The cymbidiums also are most successfully grown, a point of interest as showing how well they may be adopted to the ordinary conservatory conditions of culture. Forced flowering shrubs are intermixed with telling effect among the soft-wooded plants and bulbs flowering at this season. The vines, rose house, tree carnations, and other departments of the garden also reflect credit on the gardener, Mr. W. Gilden. H. J. C.

THE MARGIN OF THE WATER GARDEN.

Water in some form adds greatly to the attractions of the garden, for, although perhaps few of us will echo Bernard Palissy's words, "It is impossible to have a spot proper for a garden unless there be some fountain or stream passing through it," all must recognise the infinite possibilities that the presence of water affords for enhancing the beauty and charm of our gardens. There are certainly many lovely domains where water is absent, but in visiting such there is a feeling that there is something lacking that prevents absolute perfection being attained. It is the absence of water that creates the impression, and one realises how much the prospect would gain were it possible for the grounds to contain a placid lakelet on whose surface blossoming water lilies floated, or a streamlet, now sonorous as it murmurs over its uneven bed, taking a deeper note when it plunges down a rocky fall, or silent as it glides into a shadowy pool, where the foam-flakes eddy beneath arching fronds of gracile lady fern or royal osmunda.

Water is of inestimable value in the garden, not only on account of the plants which may adorn its surface, such as the nymphæas, the yellow villarsia, and the white Cape Pondweed (Aponogeton distachyon) for still pools, and the Water Crowfoot (Ranunculus aquatilis) for slowly-flowing streams, but for the many delightful moisture-loving subjects that may be grouped at its marge.

Much depends on the surroundings of a lake, for it is on these that its effect upon the eye chiefly depends. If they are artistically disposed they heighten the charm of the water and often produce a picture of perfect loveliness, whereas, if the arrangement has not received careful consideration, the probability is that the scene will lack much of its possible beauty. It will be admitted by everyone that planting of some description is absolutely indispensable on the shores of a lake, for a bare sheet of water, with its banks destitute of every description of vegetation, misses one of the chief attractions of still water, that of reflection, since only the passing clouds can be mirrored on its surface. It being conceded that the margins of lakes should be planted, the next question to be considered is the manner of this planting, and the subjects to be employed.

Care should be taken not to overcrowd the margin. Water hemmed in by a barrier of tall and thick-growing subjects is worse than if its circumference were devoid of plants. Things should be naturally grouped, with open spaces here and there, so that the water may be approached from various points, and the effect studied without hindrance from intervening vegetation. A good lesson in grouping may be learned by studying the growth of our wild water plants. In June colonies of wild rhubarb may be seen growing on some half-submerged islet or sandspit, ever swaying with the rapid movement of the water that ridges itself into countless furrows as their strong leaf-stalks break its even flow. In still, shallow backwaters, where the foam-flakes swept by the eddies from the foot of the weir lazily circle, stand sheaves of tall young bullrushes, with yellow, broad-leaved water flags, "Flag leaves that let green water through," and above them, on the bank, the golden glory of the marsh marigolds, while in a shady reach the river's margin is clothed with the water forget-me-not's blue, a colour that seems to pale suddenly as a glint of more brilliant azure passes, and the kingfisher flashes adown the stream.

For noble beauty nothing is finer for the water's edge than the giant gunneras, G. manicata and G. scabra, of which the former is to be preferred, as its leaves are larger, often measuring as much as ten feet across. Polygonum cuspidatum and P. sachalinense, with arching, knotted stems, and heart-shaped leaves, make handsome isolated specimens, their land-grabbing nature, which renders them unfitted for the border, being here innocuous. The monkshoods are good waterside plants, the lately-introduced Aconitum Wilsoni, a beautiful plant with lavender-blue flowers, rejoicing in moist soil, and often attaining a height of seven feet or more. Some of the senecios are excellent for the neighbourhood of water, as they appreciate moisture at the root. Two of the best are of recent introduction. S. tanguticus has palmately-lobed leaves and large flower-heads composed of innumerable small yellow blossoms. In rich, damp soil it will reach a height of six feet, and is a very handsome object by the waterside. The other is S. clivorum, with large yellow flowers. The spiraea family, both shrubby and herbaceous varieties, delight in moisture, and are very pretty when in bloom. Among the best of the herbaceous section are the tall-growing S. gigantea, or camtschatica, the rose-pink S. palmata [illegible], the flesh-coloured S. venusta, and the white S. aruncus, and in the shrubby division S. Lindleyana, S. flagellata, S. japonica Anthony Waterer, and S. Thunbergi are good.

All of the primulas except two species, P. Palinuri and P. sinensis, appreciate moisture, and many succeed to perfection at the water's edge. The stately P. ja

A FINE GROUP OF SPIRÆA GIGANTEA ROSEA

Growing in the water garden in the nurseries of Messrs. R. Wallace and Co., Colchester. This is one of the best of the spiræas for planting in moist places.

nica, which, under favourable conditions, will attain a height of four feet, is a beautiful sight at Enys, in Cornwall, where it grows for a hundred yards along the side of a lake, under lime trees, and when the plants are in full flower the rosy glow reflected from their blossoms into the still lake is very beautiful. Many of these plants are growing with the water well above their crowns. P. sikkimensis is equally fond of the water, and there is no better position for it than by the side of a lake, as then its roots will be always moist, a condition indispensable to the successful cultivation of this primula. There are few more beautiful sights than a large colony of Primula sikkimensis growing by the waterside, with tall stems, two feet or more in height, set with clusters of as many as fifty pale yellow, drooping, fragrant blossoms in the early summer. P. rosea, the gem of the Indian primulas, is one of the most precious of its race. It requires porous soil and abundant moisture, and does best when planted close to the water, so that its roots may be always damp. In a certain garden half-a-dozen plants were procured some years ago, and these have spread to such an extent that there are now hundreds of self-sown seedlings, most of which are growing among the stones at the side of a stream, and are often overflowed.

For the shallow water at the margin of a lake or pond arum lilies (Richardia) form a most exquisite finish, but, although these are sometimes grown in the open as far north as Scotland, it is scarcely wise to recommend them except for the southwest, or Ireland. In a certain lake in Cornwall they grow in their thousands round the shore, and present a delightful picture in the early days of June when in full bloom. Rodgersia podophylla is a strikingly handsome foliage plant. Its large leaves, carried on tall stems, are deeply divided, and of a rich bronze-brown colour. The white flower spike, borne well above the foliage in June, is pretty, and it does best by the waterside. Two new species are R. pinnata and R. æsculifolia. The giant Saxifrage, S. peltata, is a native of California, but, as it dies down in the winter, is rarely injured by frost. In April it throws up a tall flower spike about three feet in height, bearing a large umbel of pale pink blossoms. The lobed leaves appear after the blooms are past, and are a foot in diameter, having a very handsome appearance.

Libertia formosa will do well by the water in the southern counties, and at Abbotsbury Castle is grown most successfully by the waterside. Other good plants for lake margins are globe flowers (trollius), the Summer Snowflake (Leucojum æstivum), yellow and purple Leosestrife (lysimachia and lythrum), Willow Herb (epilobium), Iris sibirica, Iris lævigata or Kæmpferi, Solomon's seal, Arundo donax, mimulus, and day lilies. Golden and cardinal willows should not be forgotten, as their bright colours are extremely valuable for winter effect, and the Royal Fern (Osmunda regalis) flourishes nowhere so well as by the waterside.

Wyndham Fitzherbert.

BOG GARDEN AT DIBDEN.

A charming scene in this Southampton garden obtained by the simple treatment of the water margin and the planting of choice subjects in the more open parts of the woodland.

HARDY ACQUATIC PLANTS.

In an even greater degree than is found to exist in other branches of gardening, the influence of water fascinates with an interest that is perennial. No other section of plants appeals with more irresistible charm than aquatics, and it is certain that much pleasure, combined with healthy stimulus and inspiration, is drawn from the beauty ever present in greater or less degree in every water garden. Our present purpose, however, rigidly discriminates between the water garden of Nature's forming and that designed by artifice; in the latter instance, it is of some importance that the conditions be favourable to the highest development of the plants, and also be present in such a form as to readily further the cultivator's aims, and be under direct control. It is of fairly frequent occurrence to find sumptuous water gardens in which choice subjects have been overrun by weeds or introduced plants of rank growth, owing to their not having been kept within bounds. When, through neglect, the places of choice subjects are thus usurped, what was intended to produce a delightful water scene in time comes to be regarded as a waste expanse and devoid of all beauty.

The question of restraint is of great importance with aquatic plants, for the simple reason that the greater part of their ramifications are concealed from view; indeed, so rapidly do some kinds increase, that everyone conversant with the care of water plants regards an annual thinning out in spring as the most essential part of their culture. Aquatics are not difficult to introduce into water areas, the best means is to plant in the ordinary way, using skeleton boxes or wicker baskets, and sink them to the desired depth. The plants soon root into the natural mud, after which they are capable of looking after themselves. Nearly all of them favour still water, and a layer of rich mud, and currents are best avoided, unless one can introduce some kind of breakwater, and thereby secure a sheltered cove, where several of the stronger kinds would invite success. There is also some advantage if the supply of water is somewhat limited, having regard to the area under water, or, where it can be controlled, as, in general, it is found that with a small supply the temperature of the water is higher and more uniform, therefore most conducive to the development of the better class of aquatics. The depth of water necessary may vary from a few inches up to three feet, in which the more vigorous growing nymphæas will find accommodation. In selecting positions for planting preference should be given the margins, and even the nymphæas should occasionally come close to the edge, so that the lustre and grace of the rounded or pointed petals and the central cluster of stamens may be enjoyed even to their minutest details.

Apart from the nymphæas there is a considerable number of aquatic plants conspicuous for their floral beauty, while in others interest centres in the leaves. To the former group belong Nuphar luteum, a rank growing native plant, with bold, deep-green rounded leaves, with deep lobes at their base. The flowers are ball-shaped and of a rich deep yellow. Like the leaves they stand clear of the water. It is easy to recognise, and increases by means of thick fleshy stems, which root into the mud and soon covers large areas when suitably planted in deep water.

A plant of large proportions, when seen under favourable conditions is the Giant Water Dock (Rumex hydrolopathum), the elongated, lance-shaped, pointed leaves stand clear above the water, and in autumn they become suffused with red which renders them very conspicuous. It succeeds in shallow water and is most suitable for large areas.

Brasenia peltata, commonly known as the Water Shield, is a subject having small rich bronze-coloured leaves floating upon the water, the flowers are purple, and are carried clear above the surface.

One of the most charming of water plants is the Cape Pond Weed (Aponogeton distachyon) also known as the Water Hawthorn, the leaves are long, narrow, and rounded at both ends, and rest upon the water. The flowers are large, furcate, and of a glistening white, except for the conspicuous jet black anthers; it grows under variable conditions—in water from one to two feet in depth, and in currents not too strong. It is one of the most desirable aquatics for small or large gardens, and once established it reproduces itself freely from seed.

Like the previous subject, Villarsia nymphæoides is most commendable. In habit of growth it resembles the nymphæas; the leaves are small, and the flowers are golden yellow, the petals being fringed. A colony of this plant in full flower is worthy of any water area, the flowers stand clear above the water, which renders them doubly conspicuous. This villarsia increases by means of a creeping root-stock, and requires to be carefully restricted, as it soon overgrows its allotted space. It succeeds in medium to deep water.

The Buck Bean (Menyanthes trifoliata) is most at home in shallow water. Its beauty one enjoys most when seen close at hand. The flowers are prettily frilled, and borne upon erect spikes, being most suggestive of a spray of horse-chestnut blossom. The leaves are deep green, and merely stand clear of the water.

The Water Violet (Hottonia palustris) is like the preceding, a native water plant of quaint interest. The leaves are deep cut into fine filaments, and are arranged in the form of a rosette, being slightly submerged. The flowers are white to mauve, and borne in whorls upon spikes which stand clear above the water. It succeeds in water up to two feet in depth.

Hydrocharis Morsus-ranæ is also most suitable for shallow water. The leaves are round to kidney shape, and the flowers are white.

A most distinct and handsome aquatic is the double Arrow-head, generally known as S. japonica plena. It is worthy a position if only for its noble sagittate leaves, but it is also one of the loveliest of hardy water plants, flowering freely and increasing rapidly. It succeeds best in rich mud, with twelve inches of water above the crowns, while the leaves and flowers project eighteen inches above the water level. The native species, S. sagittifolia, is of little importance as a garden plant, the flowers are too fugitive, and its whole energy is soon directed into seed production.

The American Pickerel Weed (Pontaderia cordata) forms fine masses of deep green arrow-shaped leaves. The flowers are in dense spikes of blue, and produced freely into late autumn.

Ranunculus lingua grandiflora is a noble plant, bearing immense buttercup yellow flowers upon leafy stems some four feet in height. It succeeds in deep water and increases rapidly.

Quite unlike any of the foregoing is Myriophyllum proserpinacoides, and esteemed for the great beauty of its finely-divided foliage arranged in whorls around the stems in the form of a cylinder. The stems rest lightly upon, and spread out in all directions upon, the surface of the water, while it develops threadlike fibres which root into the mud. It is not quite hardy, and is best wintered in some sheltered spot or taken indoors during winter.

After the nymphaeas the most effective water-plant is the Banded Rush (Scirpus Tabernæmontani zebrina), a subject having long cylindrical, erect, rushlike leaves, alternately banded pale green and white. This variegation is best developed when grown in shallow water, in a sunny position, and with a restricted root run. It is a most conspicuous object for some distance, and remains so until cut down by frost in autumn.

A distinct fine-coloured grass, requiring similar cultural conditions to the last-named is Glyceria spectabilis variegata. The leaves are ribbonlike, striped with white, red, and pale green, the colour coming best early in spring, and again in autumn.

Other good ornamental grasslike subjects are Cyperus longus and C. vegetus, closely resembling the Umbrella Grass so commonly grown in pots. Juncus spiralis, Scirpus lacustris, the true bullrush, and Typha angustifolia, are also worthy of inclusion when space admits.

I had overlooked the fine British plant Butomus umbellatus or Flowering Rush. It bears many umbels of bright lilac flowers, and blooms over a long season, reproducing itself freely from seed.

The above by no means exhaust the list of hardy aquatic plants, and must be accepted as indicating only the most showy or interesting for private collections. The enemies of water plants are rodents, water slugs, and water fowls, and no great measure of success will ever be attained when these are unmolested. Therefore, every means should be taken to suppress or destroy them as they make their appearance.

Thomas Smith.

Walmsgate Gardens, Louth.

ROSE NOTES.

I was much interested in the extract from the R.H.S. "Journal" relating to roses at Wisley, appearing in your issue for April 16. In every instance the varieties named have behaved in the same way here.

We have almost finished pruning, and must congratulate ourselves on the way our wood has come through the winter, as not a few of my correspondents express considerable disappointment at the condition of the wood of their roses. We were fortunate in our roses being dry when the most severe frosts were about, and I have little doubt this was the chief reason of our escape. Our worst look-out is among the buds upon standards, numbers of which appear to have been frozen, so that I am afraid we shall find many that will sleep long through the early summer, and fail to grow away healthily after being so frosted. On the other hand, several varieties that are by no means the hardiest are breaking well, and promising. In most cases the shoulders of the budded briers cut nice and sound, better than we expected, and the sap is rising rapidly

Brier stocks put in last season are looking better than I remember for many years. The wet settled the soil around them firmly and continued so long before we had any drying winds, that the stems have remained plump. Many of them are already breaking freely, and have just received their final treading up from wind waving. We have been fortunate in that respect, for the storms have been all around us without touching us to any appreciable extent.

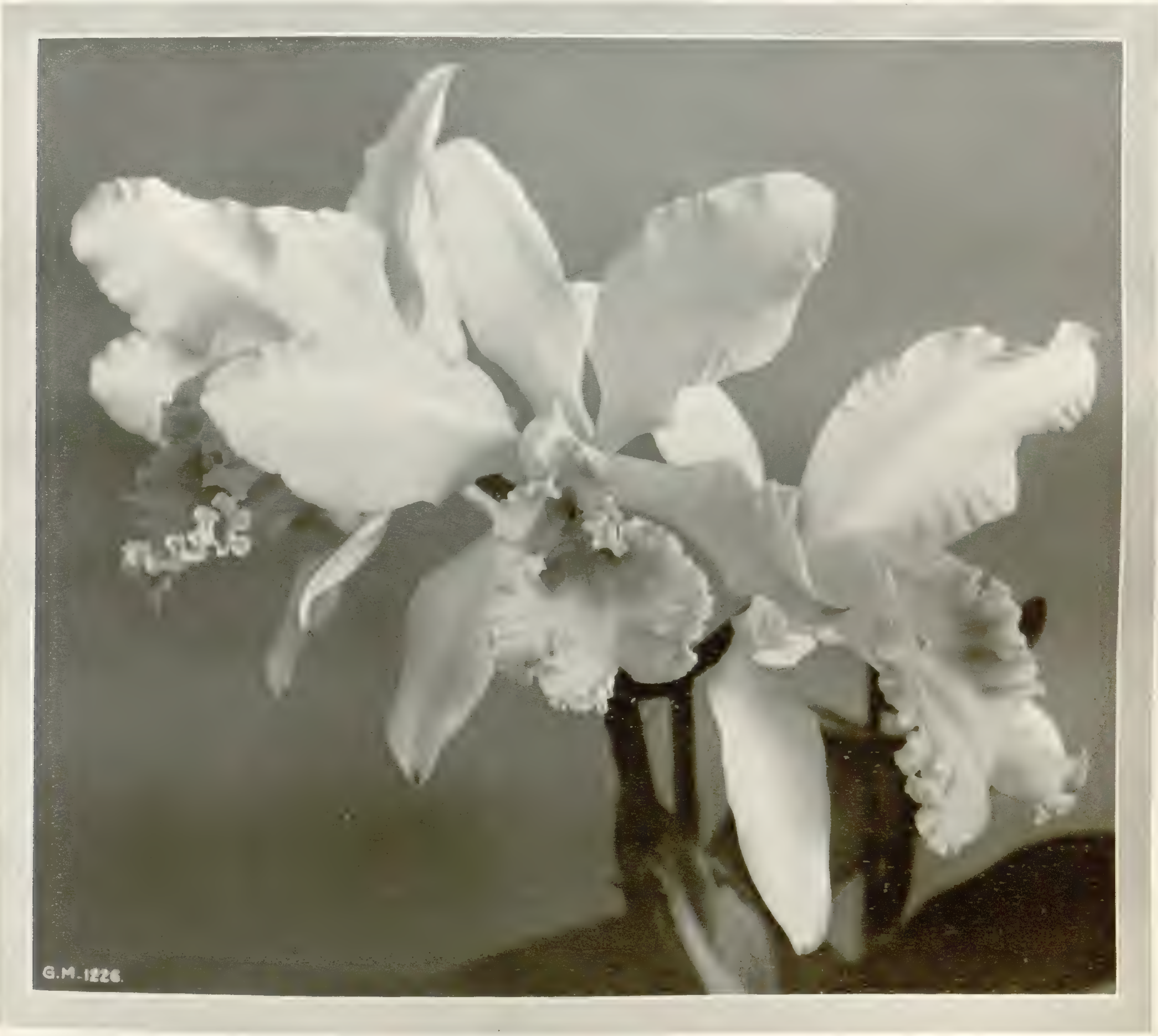
My Maryland is opening well under glass and is decidedly a grand rose. The bloom is carried boldly, and is most attractive in colour, lasts well, and is very sweet scented. I feel sure if your readers tried Gottfried Keller under glass they would continue to force this unique coloured rose. It makes a fine coat flower, the colour being intensified, and the blooms apparently coming a little more double than in the open.

A. P.

Lapagerias.—Lapagerias are unsurpassed among climbing plants for a cool, shady house, as in such a structure they grow freely and bloom profusely. Whether grown in pots or planted out they should have efficient drainage, and a compost consisting of turfy peat and fibrous peat in equal proportions and small quantities of sand and nodules of charcoal. The growth should be trained thinly near the glass, and be syringed freely until the flowers make their appearance. A plentiful supply of water is required during the spring and summer months, and weak liquid manure should be given about once a week during the season of growth. Increase of stock is effected by layering shoots in pots placed in convenient positions, or in the beds towards the end of the summer or in the autumn. The rose-coloured form can be readily raised from seed, but the white form does not always come true when raised in that way. Lapageria rosea and L. r. alba are equally desirable, and in purchasing the first-named it is desirable to obtain a good type, with [illegible] almost scarlet flowers.—P. P

NEW BEDDING OUT.

One of the most praiseworthy of all gardening arts is the effective use of plants that are of temporary beauty out of doors. unless they are so employed they remain little known because they require glass-houses for their culture. Some plants. notably the pelargonium and fuchsia. thrive well in windows. and the gardener should aim at introducing new varieties of these to notice: hardy annuals, whether sown or transplanted, are, of course, excellent for carpets and edges, and none should be allowed space that are not of finest quality.



CATTLEYA DUSSELDORFEI UNDINE WESTONBIRT VAR.

Flowers white, with yellowish throat. F.C.C., R.H.S., May 3. Lt.-Col. G. L. Holford (grower, Mr. H. Alexander), Westonbirt. Tetbury, Gloucester.

Each year the novel becomes more rare and more appreciated, not only in varieties but the method of their massing. One of the prettiest of beds can be carried out in single-plant rows of different named violas, a round shape looking west, and with either no centre height at all or this formed by a low stone urn also filled with violas. This means that named kinds of the plants must be bought, but they are singularly inexpensive. A fine stock can be worked up from them in one season without spoiling the floral display, and if neat labels are provided to tell the names, a great deal of interest will be aroused. When winter bedding follows, the gardener is sure to be requested to repeat this bed in Fancy or Show Pansies.

Roses for bedding out cannot be too highly recommended, especially dwarf polyanthas that are of such profuse and constant florescence. Nowadays, pot trees cost very little and are easily obtained, the bed gaining immediately in attractiveness when they are either sunk or carefully turned out in rows. masses, or, preferably, at wide intervals. I find that the direct planting method is the better, and if the roots are well soaked and spread out into some specially-prepared turf-loam, leaf-mould, and extra rotten manure, there will not be the slightest check experienced. A bed of the dwarf polyantha Mignonette, pale pink, set at twenty-inch intervals. on a carpet of pale blue violas, is certain to be successful. One of the white roses. Ma Paquerette, or White Pet, is even more striking, with a surrounding of pink violas. These roses can be kept low, and by cutting them back after one lot of bloom and giving liquid manure occasionally. they soon become full of blossom again.

Gerbera Jamesoni will be relied upon for a novel effect in countless gardens this year. When well forward pot plants are put out in June, in fairly rich light soil and full sunshine, the result is likely to be magnificent, so freely will the thin-petalled daisy blooms of cream, lemon. orange. scarlet. rose. apricot. crimson be yielded throughout summer and autumn. A bed should be given up to this newly-introduced plant, with, perhaps, some palms or Nicotiana affinis for centre height. and if an edging is needed, nothing will tone better with the colouring than the old-fashioned Echeveria secunda glauca. Another plan is to have groups of gerbera, and sow the rest of the soil with portulaca, double mixed, as this bright little half-hardy annual requires the same soil, warmth. etc.

Last year a bed of everlasting flowers proved a great interest in a villa garden. It was made up of Sea Lavenders or statices. helichrysums, or the familiar crimson. silver, gold, lemon. and dull mauve globe everlasting flowers. rose and white. yellow-centred acrocliniums. the large purple and double white xeranthemums. the Australian everlastings. Rhodanthe Manglesi, pink and gold, and R. maculata rosea and alba, with an edging of Edelweiss (Leontopodium alpinum). A centre mass of honesty had blossomed in spring, and the seed vessels had been allowed to form, so that silver money-sprays towered high during summer to add to the interest of this original bed.

A few rocks and lesser stones strewn about a lawn bed add to the delicate loveliness of tuberous begonias, double and single, and serve to protect them from winds that sweep level ground. To build up two or three high groups of rock, and plant the pockets thus gained, has a very charming effect. Verbenas, ivy-leaved pelargoniums, or Phlox Drummondi might occupy both bed and rock spaces, being graceful trailers. Another notion is to make a green grass mound in the centre of a bed, crowning the summit with flowers. The ivy-leaved pelargoniums can well be used, represented by one or more of its fine modern varieties of salmon, cerise, blood-crimson, or purple-maroon, and the full beauty of the plant will then be seen, both on the level, pegged down, and as a bank trailer.

Crossed arches over a bed mark it out from the others, and often provide welcome height in the garden landscape, and for climbers the azure-blue ivy-leaved half-hardy ipomæa may well be chosen, though the ordinary convolvuluses are, of course, lovely enough for any situation. It is necessary to grow a flower of contrasting colour beneath if the shape of the arches is to stand out clearly as seen from a slight distance. Beneath the pale blue ipomæa cream-coloured begonias would be handsome.

A tall pillar in a bed's centre, with cords or wires reaching almost from its summit and stretched out in tent style, to be pegged down at intervals along the edge, offers a noteworthy feature when climbed by Cobæa scandens, ipomæas, nasturtiums, or common canary creeper, even beneath a canopy of the last might be a bed of purple violas, and the mauve ten-week stocks or heliotrope.

Striking colour effects are possible. For example, an all dark bed could be made with Bidens atrosanguinea, maroon scabious, the Dianthus Mourning Cloak, maroon, edged with silver, and the black bedding pansies, such as The Sweep or King of Blacks. If foliage plants are desired in addition, beet and alternathera are suitable. M. H.

MOSCHOSMA RIPARIA.

This plant came under my notice last year, and favourably impressed me as a valuable one to grow for decorative purposes in a private establishment. The plumes of flowers are very attractive when arranged in groups in the conservatory, and they also lend themselves particularly well to association with Begonia Gloire de Lorraine. To most people the peculiar fragrance the plant gives off is agreeable, being much milder than, but similar to, that of Humea elegans. The cultural details appear simple. Cuttings put in during the spring readily strike root, and if grown in a warm greenhouse make handsome specimens by the autumn; or if the old plants are headed back they will break away into growth again; the roots can be shaken out and repotted in the way fuchsias are usually treated. After the plants have grown and matured their wood they will respond to light forcing, which means that they can be had in flower for three months of the year. A change is always welcome in floral arrangements, therefore I recommend those who have not given this plant their attention to do so.

C. Flack.

NEW PLANTS, ETC.

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ODONTIODA CHARLESWORTHI THEODORA.

For brilliance and intensity of colouring this must rank as the foremost of the odontiodas. It is a grand variety, raised at Rosefield, and its flowers are of good size and of a rich crimson-scarlet, the colour being full of life and sparkle under the influence of sunshine. F.C.C., R.H.S., May 3. De Barri Crawshay, Esq., Rosefield, Sevenoaks.

CATTLEYA DUSSELDORFEI UNDINE WESTONBIRT VAR.

A chastely beautiful cattleya producing large substantial blooms of creamy-whiteness. The large lip has a waved margin and a light lemon-yellow throat. The flowers of this variety are larger than those of any form of C. Dusseldorfei we have seen. F.C.C., R.H.S., May 3. Lieut.-Col. G. L. Holford, Westonbirt, Tetbury.

CATTLEYA MENDELI PEARL McBEAN

A beautiful cattleya, with light rose-purple sepals and petals, the colour showing quite a bluish tinge at the tips of the latter segments. The fine fringed lip has cream-coloured side lobes, with golden throat and deep purple apex. A.M., R.H.S., May 3. Messrs. J. and A. A. McBean, Cooksbridge.

ANEMONE NEMOROSA ALLENI.

A charming plant with rounded flowers that are of large size for the species, some being two inches across. The colour is a pretty shade of pink, approaching lavender. A.M., R.H.S., May 3. Mr. Amos Perry, Enfield.

MACLEANIA INSIGNIS.

The macleanias are closely allied to the thibaudias, and are natives of South America. They are evergreen and shrubby, and need greenhouse or stove culture. M. insignis has clusters of elongated, tubular, pendulous flowers of a bright orange colour. A feature of the plant is the bright bronzy-red colour of the young leaves. A.M., R.H.S., May 3. Messrs. James Veitch and Sons, Lim., Chelsea.

CARNATION MRS. C. F. RAPHAEL.

This splendid carnation has flowers as large as these of a Malmaison variety, but possesses the habit of a perpetual carnation. The flowers are of fine form, size, and substance, deliciously fragrant, and of a bright pleasing rosy-cerise colour. It will make a fine companion for Marmion, which is of similar size and habit. A.M., R.H.S., May 3. Mr. H. Burnett, Guernsey.

POLYANTHUS LADHAM'S BRILLIANT.

A beautiful and effective border polyanthus, bearing bold clusters of vivid crimson flowers, the rich colouring being thrown into strong relief by the golden eye of each bloom. A.M., R.H.S., May 3. Messrs. Ladham and Sons, Shirley, Southampton.

OSMUNDA PALUSTRIS CRISPATO-CONGESTA.

This is the pigmy of the Osmunda family, and one that ought to become very popular in connection with "Japanese" gardens. The whole plant is about six or eight inches high, the neat fronds having crisped pinnæ. The value of the plant is increased by the beautiful bronzy-red colour of the young fronds. A.M., R.H.S., May 4. Messrs. H. B. May and Sons, Edmonton.

VEITCH'S SCHIZANTHUS GRANDIFLORA HYBRIDS.

This is a very fine strain of the popular schizanthuses; the plants are about 2½ feet high, bushy, and free flowering. They are compact, and yet not sufficiently so to be formal or to lose in grace and beauty. The colours range from white to deep crimson and purple, those having bright markings on a light ground being especially attractive. A.M., R.H.S., May 4. Messrs. James Veitch and Sons, Lim, Chelsea.

NARCISSUS COOKSONIÆ.

This is a beautiful variety of the giant Leedsi type. The broad, overlapping perianth segments are cream-white, and the cup is of similar colour, but straighter and rather longer than in most of the Leedsi varieties. Madame de Graaff was one parent. A.M., R.H.S., May 3. Mrs. Norman Cookson (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne.

AURICULAS.

Canary Bird.—A strong growing, free flowering alpine variety, with bright yellow flowers and central ring of white paste. A.M., R.H.S., May 3. Mr. James Douglas. Great Bookham.

Dorothy Cutts.—Another beautiful alpine variety, golden-bronze, with white paste. A.M., R.H.S., May 3. Mr. James Douglas.

May.—A fine new seedling self auricula, its brilliant crimson body colour being heightened by the clear white paste. A.M., R.H.S., May 3. Mr. James Douglas.

HYDRANGEAS.

Hortensia var. Madame Emile Mouillère.—A very handsome hydrangea, with a great head of flower-like bracts, that are pure white, with crenulated margins, and between three and four inches across. The whole head measures fifteen or eighteen inches through. A.M., R.H.S., May 3. M. E. Mouillère, Vendom.

Hortensia var. Ornament.—This is much like the foregoing in size and style, but the splendid floral heads are blush coloured instead of white. A.M., R.H.S., May 3. Messrs. James Veitch and Sons, Lim., Chelsea.

TREE CARNATIONS FOR CUTTING PURPOSES.

The tree or perpetual carnations have now become firmly established in most gardens of any magnitude throughout the country, and during the last few years they have been grown with surprising success for embellishing the household. For several years the American carnations, as they were called after being sent out, did not very strongly impress gardeners or lead to their culture in anything like large quantities. This was due chiefly to the fact that they could not see sufficient return for the space the plants occupied, and did not care to devote a house specially to them. Except in very large gardens gardeners have to carefully consider what to grow to obtain the greatest amount of flowers from a given space. Thanks to the raisers we now have plants of great vigour, with better quality of bloom, while it is also possibly due to the fact that their culture is more perfectly understood by us. We now regard the tree carnation as a most valuable asset in the production of cut flowers throughout the winter and spring months of the year. And it is an open question whether, with the exception of the chrysanthemum, any plant serves us better from an economic standpoint, especially when we consider how continuously they bloom, the length of time the flowers retain their beauty, and the various uses they can be applied to for the house, while no flower is more appreciated for personal wear. If young gardeners are still in doubt about taking up the culture of perpetual carnations, let him dismiss the doubt, as satisfaction will follow if he proceeds on practical lines. C. Flack.

Cholmondeley Castle Gardens.

USEFUL GUIDE TO GARDEN WORK.—A handy all-round guide to work in the garden month by month is the Gardening Year Book, by George Gordon, V.M.H., price 1s. net from booksellers, or by post 1s. 3d., from W. H. and L. Collingridge, 148, Aldersgate Street, London. The book is freely illustrated, and the cultural details thoroughly practical and up to date.

THE FORMATION OF LILY PONDS.

Few subjects are more attractive or call forth more general admiration during the summer and autumn months than a collection, large or small, of the improved nymphæas or water lilies. More especially are they attractive when the position selected is a suitable one, and naturally this is very important, as when the site selected is entirely out of harmony with the landscape generally, the effect is far from satisfactory. I can call to mind a few cases where pools that have been artificially made have, owing to unsuitability of sites, failed to prove satisfactory.

The Position.

Naturally, one must be governed, to a large extent, by the ground one has to treat, and though it is not at all necessary that the location is in a valley or low-lying ground, it is most essential that the pond should, where practicable, be placed in the lowest position, where it will have the appearance of being formed naturally. Very few places, even at high altitudes, fail to possess positions wherein the pools and ponds will suggest that they have been naturally formed. Equally suitable will be a regular or otherwise pond or pool, or an apparently winding stream. Although a few trees will do no harm when growing near water occupied by nymphæas, it should be borne in mind that the latter revel in sunshine, and especially so in the early part of the day.

Forming Pools and Ponds.

Having decided the position, the shape, and the size, the next important step one has to take is the excavation and depositing of the material. A practical man will generally be able to determine how to best use this in the immediate vicinity. Generally, he will, to a very large extent, utilise it in giving a more natural appearance to the pool when finished, as well as materially lessening the cost of making.

The deepest portion need not be greater than four feet, and the shallowest parts from eighteen inches to two feet. The stronger-growing plants I have found succeed best in from three to four feet of water, and the more miniature kinds from twelve to eighteen inches.

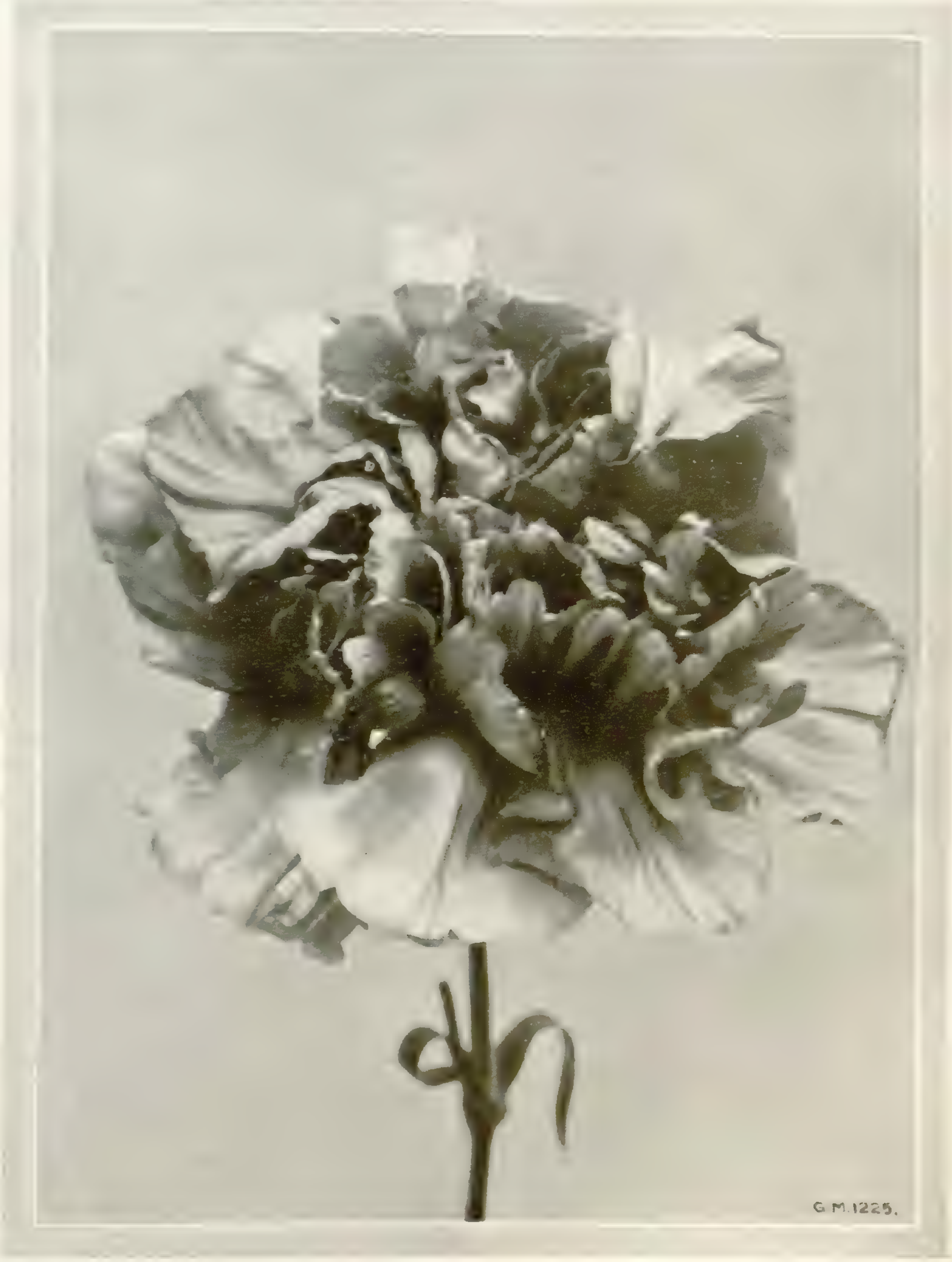
Making Watertight.

This may either be done by puddling or concrete. Where good clay is plentiful the first-named method is much the less costly, but even this requires to be carried out by someone experienced and well versed in the art of puddling. Especially is this so on a high elevation, and where the soil is of a porous character. It has been my fortune to have a great deal to do with this kind of work, and I have always found that unless it is expeditiously carried out the work is seldom a success. Immediately the material is worked up and used, it should be covered with water before it has time to shrink and crack, or in the winter before it has become frozen. The thickness of the puddle is really of very little moment. Three to four inches, if properly put together, is ample, but the most important of all is to make what is known as a puddle ditch around the whole piece of water. This is done by digging a trench, fifteen to eighteen inches wide, just below the level of the bottom of the pool, and two or three feet away from the edge of the bank. This should be thoroughly filled in with good puddle, and if this was more generally done one would hear fewer complaints of leakages in their ponds.

Concrete.

When the cost of construction is of little moment, I most certainly advise using concrete. It has so many advantages over the other method that it is well worth consideration. Among other good points, ponds with concrete bottoms can be easily cleaned out, the dreaded pond weeds can be readily excluded, and, in addition, the work of planting and rearranging the plants at any time is so much more simplified. Provision should always be made by fixing a valve at the lower end of the pool for either emptying it or lowering the water level when required. The concrete should be put together by skilled and practical men, and pockets at intervals should be built for holding the soil and plants. Old disused cattle ponds, etc., are frequently met with in a deplorable condition, even in places where many of the more beautiful water-loving plants, as well as the nymphæas, would find a most suitable home, and add considerably to the attractions and interest of the surroundings. I suggest that they be converted into pools for water lilies and other moisture-loving subjects. E. Beckett, V.M.H.

Aldenham Gardens, Elstree.



CARNATION MRS. C. F. RAPHAEL.

Flowers large, very bright, and deep rosy-pink. A.M., R.H.S., May 3. Mr. H. Burnett, Guernsey.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SHADING.—On the cool orchid houses the ordinary roof blinds will not now be sufficient during the hottest parts of the day to protect the plants from excessive bright light, and the permanent shading should be put on the south side of all span-roof structures containing odontoglossums, masdevallias, and allied genera. This not only protects the plants from excessive heat, but also permits of the roof blinds being drawn up earlier in the evening, the lighter shading being sufficient protection in the late afternoon. The warmer divisions may also be thinly covered at this season with permanent shading. This also greatly assists the plants and helps to maintain a desirable temperature, which it is impossible to obtain in bright weather, when the roof blinds are usually more than is necessary to protect the plants from disfigurement. It also permits the blinds being drawn from the roof earlier in the day, thus affording more light to the plants. Towards the end of the month the eastern sides of the roofs may also be permanently shaded, as this will afford the advantage of early morning light, and yet give sufficient protection to the plants.

SHADING MATERIAL.—We find that a little powdered whiting mixed in milk, with a little salt and linseed oil added, is as durable as anything we have used. Select a bright day, when there is ventilation on the houses, to apply permanent shading to the roofs, as then there is less moisture on the inside of the glass, and thus, to some extent, the streaky appearance caused by the moisture coming through the laps of the glass is almost prevented. A few minutes on a dry day is sufficient for this mixture to set. I must mention that in districts where there are considerable sooty settlements it is desirable that the glass should be clean before the whiting is applied.

DAMPING AND WATERING.—With the more favourable conditions prevailing outside more atmospheric moisture will be required inside. Provided the temperature of the houses is at the normal degree, it is desirable to damp the floors and stages, and syringe between the pots first thing in the morning. In the hottest hours of the day this may be done again, and later, when closing the houses in the afternoon; but, of course, due consideration must be given to the prevailing conditions. Dendrobiums, cattleyas, lælias, and East Indian plants should be examined daily to ascertain whether they require root moisture, and after this has been done the plants will be benefited by being syringed overhead, repeating this when moisture is rapidly absorbed by the atmosphere; but care should be observed that the moisture becomes evaporated from the foliage before the lower evening temperature is reached. Until the last week we have been experiencing excessively cold frosty nights, so much so that it has not been desirable to ventilate at night, but now that the weather promises improvement, the lower ventilators on the leeward side of the house should be brought into use. This will assist in keeping the air in circulation, and prevent any excessive moisture accumulating on the foliage of the plants.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

TREE CARNATIONS. — Young plants must not be allowed to suffer any check through having their roots potbound; they should therefore be transferred to larger pots as soon as they have occupied the soil with roots. Stopping the shoots is a debatable question; many recommend pinching out the points while the plants are in small pots. Other growers claim that plants which are not stopped until they are established in five-inch pots, and about eight to nine inches high, produce a greater number of strong flowering shoots than those that are stopped earlier. At whatever stage the pinching or stopping is done it must be after the plants have recovered from repotting.

CINERARIAS.—Seeds of the various types of cinerarias should now be sown in order to obtain plants for flowering early. The seed pans should be provided with plenty of rough material for drainage, filling the remainder with a mixture of loam, leaf-soil, and sand passed through a fine sieve. Make the surface soil smooth, and sow the seeds evenly and thinly, covering them with a very thin layer of soil. Cover the pan with a sheet of glass, and shade the surface from bright sunshine.

FREESIAS.—When these have finished flowering they should be allowed to complete their growth, and perfect their bulbs preparatory to ripening. They should be placed in a sunny situation, and where they have plenty of air; when the leaves begin to die down water should be withheld, and the pots laid on their sides until autumn, when the bulbs should be shaken out and repotted, selecting the largest for flowering.

LAPAGERIA ROSEA AND L. ALBA.—These climbers are now growing freely, and care should be taken that the shoots do not become entangled. If the plants are trained on a balloon-shaped trellis the young shoots should at first be trained to single strings tied out to stakes extending from the balloon, and after the shoots have become well ripened, and flower buds are appearing, the strings may be cut away, and the shoots trained evenly all over the trellis. Apply weak liquid manure to the roots at intervals, and syringe the plants each day. Lapagerias succeed well when planted out in a border and trained over the roof in the greenhouse, but when grown in a border slugs are troublesome, and protection must be given the young shoots.

NERINES.—When the foliage shows signs of turning yellow the supply of water at the roots should be gradually decreased until, when the leaves have quite died down, the roots may be kept dry. Nerines require a long season of rest, and during that period they should be fully exposed to sunshine in a cool house or frame.

STAKING.—Many plants now require some means of support, and it is bad management to withhold stakes in cases where they are required. At the same time it is a bad plan to use too many stakes. A stake should never be out of proportion to the size of the plant it supports. In the case of quick-growing plants under glass it is better to use a second stake in the course of a few weeks, rather than a large one to begin with. While the ties must be made sufficiently tight to keep the plant steady, it is obvious that allowance ought to be made for increase of size in the growing stems.—W. Staward, Belford Hall Gardens, Northumberland.

THE FLOWER GARDEN.

BEDDING OUT should not be too hastily commenced, and only those plants that will resist a few degrees of frost should be planted during the next week or two. A great deal, however, depends upon the position and surroundings of the garden. Where a mixed style of bedding is carried out, it is well to avoid undue formality in the arrangements. At the same time, the whole should harmonise with the surroundings. Standard plants, varying in height, colour, and habit, according to the character of the plants with which they are to be associated, might be used, disposing these in the general arrangement with a view to the harmonious blending of the whole. Standard fuchsias, pelargoniums, heliotropes, plumbagoes, etc., might be so used, and these, with an undergrowth of ivy-leaved pelargoniums, verbenas, Lady Plymouth pelargonium, dwarf ageratums, petunias, cupheas, etc., or a carpeting of coleus, iresine, mesembryanthemums, sedums, antennarias, echeverias, or other dwarf-growing foliage plants, produce a varied and pretty effect. We have frequently used these subjects in this way, and the beds are practically furnished from the first, without appearing to be overcrowded.

LATE-STRUCK PLANTS should be kept growing freely as long as possible, hardening them off for a few days before planting out. Annuals that have been sown in frames are now strong enough for planting out, and due advantage should be taken of warm showery weather to deal with them. Before planting out it is desirable, in most instances, to give the soil a good dusting of lime, or soot, and a rough raking over at the time of planting is all that is then needed.

SEDUM SPECTABILE is a very useful plant for the flower beds or borders, and it is a wonder that it is not more frequently used, for it is attractive alike in leaf and bloom. It is perfectly hardy, and towards the end of the summer and early autumn months each growth is terminated by a huge cluster of rosy-purple flowers, which usually remain in good condition for several weeks, or until damaged by heavy autumn rains. With the advent of winter the growths die down, and the roots lie dormant during the winter months. It is exceedingly effective in a mass, or as bold rows in borders, or shrubbery edgings, and is easily increased by division during early spring.

THE ROCK GARDEN AND HARDY FERNERY will now need attention. Remove all seed pods and decaying flowers from the earlier flowering subjects. Couch grass is often very troublesome at this season of the year, and should be relentlessly rooted out as soon as it makes its appearance, otherwise it will quickly overrun and destroy weak plants. The walks should be kept free from weeds, but not too rigidly smart and tidy; if moss-grown so much the better; indeed, in the rock garden or fernery this is quite admissable, and appropriate. Ferns from which the old fronds have not yet been removed should receive immediate attention, and additional soil should be given to all that need it, while, if the crowns are still dormant, transplanting may yet be done.

BULBS and other plants growing in the wild garden, should remain undisturbed for a while, and under no consideration should the foliage be cut down before the growth ceases and shows signs of ripening. — W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

MULCHING.—Towards the end of this month fruit trees in the open quarters should be mulched with farmyard manure, laying it on the surface as far as the roots extend. A little intelligence should govern the operation with regard to the quality of the manure used for each individual tree. It is unwise to mulch fruit trees—especially young ones—which make strong, healthy shoots, and bear little or no fruit, with a rich nitrogenous manure; trees of this description should receive a dressing of stable litter, whereas trees that have set good crops of fruit, and also those which are known to bear good crops annually, should be dressed with a richer and heavier manure. As a rule, all small bush fruits, when good crops are anticipated, should be mulched with decayed cow or pig manure. Where strawberry beds have not been mulched this work must not be delayed a day longer; it is wise at this season of the year to use clean stable litter or straw.

WALL TREES.—Protecting material on all peach and nectarine trees can be dispensed with; pear and cherry trees in flower will probably still require further attention, especially those grown on east and north walls. Cordon or horizontally trained pear trees should have their buds rubbed off a few inches below the leading, or extension shoot, to assist them to make vigorous growths, and these should be carefully tied to protect them from being broken off by the wind. Peaches have set their fruits well this season here, and a commencement should be made to remove the badly-placed ones, not thinning too much at this stage. The same method should be adopted when thinning the fruits of peaches and nectarines as that advised in the last calendar for disbudding, exercising patience and care when performing this operation. Proceed with the disbudding of all wall trees as they require it, and keep in check aphis, black-fly, etc., by frequent sprayings with some approved insecticide. Owing to the recent heavy rainfall fruit borders under walls are in a moist condition, and at present there is no necessity to water the trees. However, where liquid farmyard manure is procurable a good soaking should be given to trees that have set good crops. While the borders are in a moist condition this will materially help the trees to make strong healthy growths, and also tend to the production of fine-flavoured fruits.

GENERAL WORK. — Attend to trees that have been recently grafted. Give the grafts a light syringe with tepid water on bright, clear days; where trees have been grafted in exposed positions it is advisable to support the grafts with small, strong stakes, securely tied to both stock and scion; remove all growths that develop on the stocks below. On many kinds of fruit trees "suckers" will soon be making their appearance, and these should be removed as soon as possible. Filberts and cob nuts should also receive careful attention in the removal of all suckers, as these check fruitfulness.—Henry R. Farmer, Cardiff Castle Gardens.

ROYAL SHOW

LIVERPOOL,
June 21st to 25th, 1910.

71st ANNUAL EXHIBITION of Live Stock, Poultry and Farm Produce; Jumping, Horse-Shoeing and Butter-Making Competitions, Agricultural Education, Forestry and Horticulture.

HORTICULTURE
ENTRIES CLOSE ... JUNE 4.
Live Stock Entries close May 20;
Poultry Produce and Competitions,
May 31.

Prize-sheets and Entry Forms will be forwarded on application to
THOMAS McROW, Secretary.

Royal Agricultural Society of England,
16, Bedford Square, London, W.C.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

◆

National Auricula Society (Midland Section).

MAY 4 and 5.

A record success was the eleventh annual exhibition of this section of the Auricula Society. The auricula has been designated by an ardent lover and prominent expert as "such a perfect little gentleman, such an aristocrat of the people, no orchid, no brilliant coloured amaryllis, nothing that the tropics can produce, has the intimate sentiment of this exquisite piece of floral jewellery." This meeting proved to be altogether a sound one for the society, albeit no great growers from the South came forward, and only three from the North essayed to enter the lists, one being Mr. J. C. Dryden, a grower from Northumberland, who forwarded his plants, as, owing to the miners' strike, he could not afford to attend personally, more's the pity, for such an enthusiast.

The exhibition was opened by Miss Violet Vanburgh (of the Prince of Wales Theatre), who referred to the beauteous spring flowers and elevating influence evoked by its culture. In memory of the auspicious ceremony Mr. Richard Holding (the erstwhile hon. secretary) named his premier alpine seedling Violet Vanburgh, in honour of the accomplished lady. There was a large attendance of visitors, many of whom also visited the alpine rock garden and other portions of the well-kept Botanical Gardens, [illegible] now teeming with floral beauty. The quality of the show auriculas was of such a high standard and the competition so keen, that the adjudication was by no means of a perfunctory nature. The first prizes in nearly all the classes were keenly contested. The leading class was for eight show auriculas, dissimilar, and here Mr. W. H. Parton, Hollywood, Birmingham, led with superb examples of Mrs. Henwood, George Lightbody, Favourite, Mikado, George Rudd, Richard Headley, Shirley Hibberd, and Harrison Weir; a close second was Mr. C. Winn, Selly Hill, Birmingham, whose gardener, Mr. J. T. Sheppard, staged [illegible], Mrs. Henwood, Lancashire Hero, [illegible], Mikado, Abbé Liszt, Eucharis, and Henry Wilson; third, Mr. Walter Shipman, Altrincham; and fourth, Messrs. Phillips and Taylor, Bracknell. For six varieties, Mr. Parton repeated his former success with Mrs. Henwood, Mikado, George Lightbody, Mrs. Potts, Shirley Hibberd, and Acme; second, Mr. Shipman, with Shirley Hibberd, Mrs. Henwood, George Lightbody, Mikado, Acme, and Harrison Weir; third, Mr. C. Winn; and fourth, Mr. W. C. G. Ludford. In the class for four plants Mr. Fred Simonite (the son of the deceased Sheffield veteran) won with a superb unnamed dark purple seedling, Shirley Hibberd, Molly Shipman, and George Lightbody; Mr. Francis Grazebrook second with Ruby, Mrs. Henwood, Vesta, and Olympus; Mr. R. Holding, Bournville, third; fourth, Mr. T. M. Eglington, Birchfields. For two varieties Mr. F. Simonite was again to the fore with Mrs. Henwood and Ruby; second, Mr. J. E. Dryden, who had Shirley Hibberd and an unnamed seedling; third, Mr. H. N. Miller, Perry Barr; and fourth, Mr. A. Lawton, Aston.

SINGLE PLANTS.

Green Edges.—Mr. F. Simonite came to the front, and his Henry Wilson was also accorded the premier prize; second, Mr. C. Winn with Mrs. Henwood, who also gained the third prize with Mrs. Henwood. Grey Edge.—Mr. C. Winn first with George Lightbody; second, Mr. Shipman with the same variety; third, Mr. Eglington with Marmion; and fourth, Mr. Shipman with George Lightbody. White Edge.—Mr. C. Winn first with Eucharis; second, Mr. Shipman with Conservative, and third with Acme; Mr. Parton fourth with Acme. Selfs.—Mr. C. Winn led with Harrison Weir; second, Mr. Shipman with Miss Violet; third, Mr. C. Winn with Mrs. Potts; fourth, Mr. R. Holding with Harrison Weir. Selfs: Primrose, Orange, Yellow, or Buff.—Mr. C. Winn led with an excellent Charles Winn (yellow), and was second with Daffodil; Mr. Grazebrook was third with Daffodil; and Mr. G. Danks, Handsworth, fourth with the same variety.

The class for maiden growers brought out four aspirants. For two show auriculas Mr. E. Sanders, Springfield Road, Sparkhill, led with Abbé Liszt and Mikado; second, Mr. C. Reeves, Handsworth, with Shirley Hibberd and Mrs. Henwood; third, Mr. Grazebrook; and fourth, Mr. Arthur Gilbert, Handsworth. For three varieties, dissimilar (local growers), Mr. W. C. Ladford led with Mrs. Henwood, Shirley Hibberd, and Mrs. Potts; second, Mr. Parton, with G. Lightbody, Mrs. Henwood, and Favourite; third, Mr. C. Winn. In the class for young amateurs only, for three show auriculas, Mr. C. Reeves led with William Brocklebank, Gladiator, and Mikado; second, Mr. G. Savory, with Mrs. Potts, George Rudd, and Mrs. Henwood; Messrs. W. H. Edmonds and J. Freeman brought up the rear.

ALPINES.

A resplendent scene was presented by this popular class of auriculas. The premier seedling alpine, Violet Vanburgh, exhibited by Mr. H. R. Holding, was largely noted as a gem of the first water. In the class for eight alpines Mr. C. Winn again distinguished himself with Mary Danks, J. F. Kew, Thetis, Miss Barker, Majestic, Unexpected, Dorothy Westmacott, and Golden Acme; second, Mr. W. Shipman, with Argus, Bluebell, Thetis, Duke of York, Mrs. R. C. Cartwright, Exquisite, Mrs. James Douglas, and Majestic; third, fourth, and fifth positions fell to Messrs. Phillips and Taylor, W. H. Parton, and Ludford, in the order named. For six varieties, Mr. R. Holding came to the fore with Unexpected, Mary, J. F. Kew, Duke of York, Miss Baker, and Majestic; second, Mr. C. Winn, with R. Dean, Mrs. Danks, Edith Winn (a seedling), Majestic, Miss Baker, and Thetis; third, Mr. Shipman; with Messrs. Parton and Eglington fourth and fifth. For four plants Mr. A. Lawton scored with Dean Hole, Argus, J. F. Kew, and Sappho; third, Mr. Wadley, with Thetis, Duke of York, Mrs. Gorton, and one unnamed; Messrs. W. G. Ellison, H. W. Miller, and Tom J. Stevens (the energetic secretary) followed. For two plants Mr. E. Danks led with Mrs. Danks and Modesty; second, Mr. Lawton, with J. F. Kew and Mrs. Martin Smith; Messrs. Grazebrook, Wadley, Dryden, and Ellison followed on.

SINGLE PLANTS.

Gold Centre.—Mr. R. Holding was placed first and second with Mary and Unexpected; third, Mr. C. Winn, with Chas. Winn; fourth, Mr. Parton, with Jack Parton; and fifth, Mr. Winn, with Mrs. Danks. Light Centre.—Mr. C. Winn first with Mrs. J. Douglas; second, Mr. Ludford, with Thetis; third and fourth, with Thetis and Hollywood, Mr. W. H. Parton; Messrs. Holding and Shipman fifth and sixth, each with Thetis.

For two plants in the Maiden growers' class Mr. G. Reeves scored with W. A. Albright and Exquisite; second, Mr. E. B. Conway, with Thetis and Argus; third, Mr. Tom Hughes; and fourth, the Rev. James Holroyde.

In the local growers' class for three varieties Mr. G. Savory led with Thetis, Argus, and Mrs. Danks; second, Mr. A. Gilbert, with Aglaia, Mrs. Gorton, and Thetis; third, Mr. J. Freeman; while Messrs. Tom Hughes, Ellison, and Sanders completed the winning positions.

The premier alpine auricula was Mrs. Marton Smith, from Mr. W. H. Parton.

SEEDLING SHOW AURICULAS.

Mr. E. Danks was first with two plants of 1907 and 1909; second, Mr. Ludford, with David Copperfield and an unnamed variety; third, Mr. C. Winn, with unnamed varieties. For a green edge variety Mr. Ludford was first and third, and Mr. Danks second, both having unnamed varieties. For one grey edge Mr. Danks led with Mr. W. Johnson (premier show); second, Mr. Ludford, with an unnamed variety; and third with Dr. Strong. In the class for four alpines Mr. Parton led with Mrs. Parton, and three unnamed; second, Mr. Winn, with Charles Winn and three unnamed; third and fourth, Mr. E. Sanders and Mr. E. Danks. For two seedlings Mr. H. Miller was first with R. Holding and an unnamed; second, Mr. Freeman; and third and fourth Messrs. E. Sanders and Mr. Tom J. Stevens. For one gold centre Mr. Ludford was first and Mr. Holding second. For one light centre Mr. Holding led with Dolly Sneed, and second with an unnamed variety; third, Mr. Eglington, with Sunrise; and fourth, Mr. Parton, with Mrs. Parton.

Polyanthuses were attractively staged. For six pots (six-inch) of fancy varieties Mr. F. Bostock, Northampton, was first; the Rev. J. Holroyde, Stapleford Vicarage, Notts, second; and Mr. W. G. Ludford, third.

HONORARY EXHIBITS.

These contributed much to the scenic effect of the auriculas and primroses.

Silver medals were awarded to Mr. W. A. Watts, St. Asaph, for a collection of polyanthuses and narcissi; to Mr. C. Winn, for a beautiful assortment of schizanthuses, to Mr. A. R. Brown, King's Norton, for a group of hybrid tea roses in pots, and some cup daffodils; to Mr. H. N. Ellison for a collection of ferns from West Bromwich.

A First Class Certificate was bestowed upon a yellow and a mauve coloured polyanthus from Mr. F. Bostock.

Highly commended was granted to auriculas from Mr. Ludford, Mr. Danks, Mr. R. Holding, and Mr. W. H. Parton.

Dutch Bulb Growers' Society.

At the recent meeting of the Narcissus and Tulip Committees the following awards were made at Haarlem:

Awards of Merit to Narcissus Glory of Wassenaar, a large-flowering yellow variety, with broad trumpet somewhat darker than the pale-coloured perianth; Narcissus Glory of Haarlem, a golden-yellow trumpet daffodil, trumpet of erect habit, with elegantly bended border, and broad, finely formed perianth; Narcissus Chantécler, a new variety, with large, clear citron-yellow coloured trumpet; Single early Tulip Orange Boven, a new dark orange-coloured variety, resembling the well-known variety Prins van Oostenrijk.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, May 3.

Present: Sir John T. D. Llewelyn, V.M.H. (in the chair); Dr. A. Henry, Messrs. A. Worsley, H. J. Elwes, V.M.H., L. Crawshay, J. T. Bennett-Poë, V.M.H., G. Gordon, V.M.H., J. Fraser, G. Massee, V.M.H., and F. J. Chittenden (hon. secretary).

THE LATE MR. G. S. SAUNDERS. — A letter was read from Miss Saunders thanking the committee for the vote of condolence passed by the committee at the last meeting.

SEEDLINGS OF SAXIFRAGA RHEI.—Mr. J. Fraser showed and commented upon a number of seedling forms of Saxifraga Rhei, raised by Mr. C. Read, of Ealing. He thought it likely that Saxifraga Rhei was a form derived from S. muscoides, and that it was in a state of mutation. It had given seedlings of a variety of forms which had received different names, including S. Guildford seedling, S. decipiens forms and so on. S. Rhei is found in a wild state in Transylvania, and many members of the committee considered it possible that the great extent of variation seen in the seedlings was due to segregation of hybrid characters.

POLYANTHUS, ETC.—The Rev. Roland Upcher showed some varieties of polyanthus which he had raised in his garden at Halesworth. They departed considerably from the florists' type of polyanthus, both in flower and leaf, but, in the opinion of most of the committee, they showed no evidence of crossing with other species of primula, pollen of which had been placed upon the stigmas of the parents. Mr. Upcher said no precautions had been taken to prevent the admission of foreign pollen.

Mr. Bartleet, of Shooter's Hill, sent a semi-double flower of a yellow auricula.

Mr. Jacob showed a series of coloured cowslip flowers.

MALFORMED ORCHID.—Mr. Crawshay showed an inflorescence of the natural hybrid Odontoglossum x Leeanum, every flower of which was malformed, all the petals, except the lip, being absent.

Bournemouth Gardeners' Association.

On Tuesday, May 3, a very interesting paper was read by Mr. P. Dowell, Astney Firs Gardens, Bournemouth, before the members of this association. The subject dealt with was "Begonia Gloire de Lorraine."

Mr. W. Reeves ably presided, and introduced the lecturer. It may be stated here that this type of begonia is extensively grown in the Bournemouth district, and that the cultural skill of many growers is apparent at the autumn shows held by the Bournemouth Horticultural Society. Mr. W. Shave, the assistant secretary of the Bournemouth Gardeners' Association, said he had noticed that a different cultivator had won the first prize, during a period of seven years, each year. This goes to prove the fact that there is a very healthy competition between the growers, and further proves that the general standard of excellence is high as regards the actual cultivation of the plants.

Mr. Dowell, having referred to the usefulness of the begonia as a decorative plant, went on to the subject of propagation, and to the general treatment of the plants for show purposes. He favoured propagation from leaves, asserting that the resultant plants were finer than those from stem cuttings. He preferred rather matured leaves taken off with a small heel attached; these, being duly trimmed with a very sharp knife, were inserted round the sides of pots filled with a light sandy compost to within about one inch of the top. The plan allowed of the leaves resting against the rims of the pots, and so preventing loss through damping, the stem of the leaf being very slightly inserted in the compost.

The lecturer recommended that two batches of cuttings be put in, the first in January and the second in March. He also preferred to place them in an open propagator rather than run the risk of damping by putting them in a closed frame. He further deprecated the practice of syringing the cuttings in an indiscriminate manner for the same reason, and advised that the soil be kept uniformly moist. The following are the principal points in the after treatment of the plants.

For the first potting equal parts of fibrous loam and leaf-soil and a small quantity of cow manure which had been previously dried and rubbed through a rather fine-meshed sieve was recommended. Subsequent repottings should be done in due season, the plants being put into five-inch, and then finally into 6¼-inch pots, the same kind of compost being made use of, with the addition of a small quantity of peat if the soil was of a heavy nature. In the growing season the temperature must never be allowed to go below 45 degrees, and some light shade was necessary in very bright, sunny weather. No pinching of the shoots was practised by the lecturer; the shoots were allowed to hang over the rims of the pots to form a base, and the central shoots were trained to form the pyramid.

Very little artificial manure was given, but weak doses of cow manure when the pots were well filled with roots. The shoots should be neatly staked and tied before the flowers formed, and while in bloom the plants must be subjected to a temperature of 55 degrees to 60 degrees. If required for any particular purpose on a given date all flower buds should be removed from the plants up to five weeks of that date.

As proving the general interest taken in the subject dealt with, nearly all the members present took part in the long discussion that followed. Some advocated shade, others not so much shade; a few preferred firm potting and light composts, while others liked a heavier compost and light potting. Altogether, the evening was a very enjoyable one, and was brought to a close by the tendering of hearty votes of thanks to the lecturer and chairman.

United Horticultural Benefit and Provident Society.

The monthly committee meeting of this society was held at the Royal Horticultural Hall, Vincent Square, S.W., on Monday, May 9. Mr. Thos. Winter presided. The Chairman made some very feeling remarks on the death of his Majesty, King Edward VII., and a vote of condolence to Queen Alexandra and all the Royal Family was passed. The Chairman also expressed the hope that a long and prosperous reign may be granted to his Majesty King George V. Seven new members were elected. The death certificates of three members were produced, and the following cheques were drawn in favour of their nominees, viz.: £72 19s. 7d., £44 14s. 11d., and 12s. 7d., being the sums standing to the members' credit in the ledger. Two members over 60 were granted their interest, as per Rule 18, and two members were granted 30s. each from the Convalescent Fund, in addition to their sick pay.

Dundee Horticultural Association.

The ordinary monthly meeting was held, under the presidency of Mr. Wm. Christison, in the Technical Institute, on the 3rd inst., when Mr. M. Chapman, Torbrey Nurseries, Stirling, gave an address on "The History and Introduction of Fruit Bearing Trees and Plants into Britain."

Mr. Chapman dealt in a racy and interesting manner with the grape vine, peach, nectarine, fig, orange, lemon, citron, banana, and the pineapple, nearly all of which he traced from their native habitat to the cultivated varieties now grown under glass in this country. In a wonderful way he described the beauties of the Rhine vineyards, the orange groves of Portugal, and the sunny valleys of the French Alps, and the peach orchards of Maryland and Virginia.

Professor Geddes, F.R.S.E., expressed his delight with the lecture, and could offer no adverse criticism. On the motion of Mr. James Bethel, Mr. Chapman was heartily thanked for his interesting lecture.

The exhibits consisted of a number of twigs of rare-flowering shrubs from Mr. Chapman's nursery; narcissi in new and choice varieties from Mr. David Halley, Roycroft; sweet peas from Mr. D. K. Meston; cinerarias and calceolarias from Messrs. Reed and Nicoll; and border auriculas from the Secretary.

Elstree and Boreham Wood Horticultural Society.

The lecture given on Tuesday, the 3rd inst., was entitled "Weeds and their Eradication," and the lecturer was Mr. J. G. Graham, of The Gardens, Colney Park, an old pupil of the late Mr. Pettigrew, of Cardiff Castle. He dealt with his subject in a lucid and interesting manner, and quoted the number of seeds a plant of many of the commonest weeds to be found in gardens is capable of producing, and the consequent necessity for their removal before the flowering stage is reached. To illustrate his remarks he exhibited a large and splendidly preserved collection of plants commonly regarded as weeds, and also fresh specimens neatly labelled of those now in season. Needless to say, these proved intensely interesting. A good discussion ensued, and the usual votes of thanks terminated a pleasant and well-attended meeting.

DESTRUCTIVE INSECTS.

By virtue of the powers vested in them under the Destructive Insects and Pests Acts of 1877 and 1907, the Board of Agriculture have made the following order, copies of which can be obtained on application to the Secretary, Board of Agriculture, 4, Whitehall Place, London, S.W.:

Notification of Discovery of Insect or Pest.

1.—(1) The occupier of any premises on which an insect or pest mentioned in the schedule to this order exists, shall forthwith notify the fact, with particulars of the time and place of discovery to the officer appointed by the local authority to receive such notices, or, if no such officer has been appointed, to the Board; and, where practicable, a specimen of the insect or pest shall accompany the notice.

(2) An officer of a local authority who receives a notice under this article shall forthwith report the fact to the local authority.

(3) The local authority on receiving in any manner notice of the existence or apparent existence of an insect or pest mentioned in the schedule to this order shall forthwith transmit the information to the Board and take such steps as may be necessary to determine to what extent the insect or pest exists.

Powers of Entry.

2. An inspector or other officer appointed in that behalf by the local authority and any inspector of the Board may, upon production if so required of his appointment or authority, enter any premises on which he has reason to believe that an insect or pest mentioned in the schedule to this order exists or has recently existed, and examine any plant, fruit, crop, seeds, tubers, bulbs, layers or cuttings on such premises.

Action to be Taken by Local Authority.

3.—(1) An inspector or other officer of the local authority or of the Board, acting under their direction, may at any time and from time to time by a notice served on an occupier of premises on which an insect or pest mentioned in the schedule hereto exists or recently has existed, require him to adopt such measures for prevention of the spread of the insect or pest as are specified in the notice.

(2) Where a local authority have consented to pay compensation for such destruction,

the notice under this article may require the occupier of premises on which an insect or pest mentioned in the schedule hereto exists or recently has existed, to destroy by burning or other effective method all or any of the plants, fruits, or crops on the premises, and the local authority shall pay compensation for such destruction subject and according to the provisions in that behalf of the Destructive Insects and Pests Acts, 1877 and 1907.

(3) A notice under this article may prescribe the time within which the adoption of any measure thereby prescribed shall be completed.

(4) An occupier may appeal to the Board against a notice served on him under this article by an inspector or other officer of the local authority, and the Board may after consultation with the local authority, cancel the notice or modify its requirements in such manner as the Board think fit.

(5) For the purposes of this order a notice shall be deemed to be served on a person if it is delivered to him personally or left for him at his last known place of abode or business, or sent through the post in a letter addressed to him there, and a notice or other document purporting to be signed by an inspector or other officer of a local authority or of the Board shall be prima facie evidence that it was signed by him acting under the directions of the local authority or the Board as the case may be.

Penalty on Sale or Use for Planting of Diseased Seeds, etc.

4. Every person who shall knowingly use, or sell for use, for planting any plant, seed, tuber, bulb, layer, or cutting attacked by an insect or pest mentioned in the schedule to this order, or any seed, tuber, bulb, layer, or cutting which has been derived from a plant so attacked, and is capable of spreading the insect or pest, shall be liable on conviction to a penalty not exceeding £10.

Prohibition of Sale of Specimens.

5. It shall not be lawful, except with the written permission of the Board, to import, sell, or offer for sale a living specimen of any insect or pest mentioned in the schedule to this order.

Penalties.

6. Every person shall be liable on conviction to a penalty not exceeding £10, who—

(1) knowingly fails to give such notification as is required by Article 1 of this order; or

(2) fails to adopt such measures for prevention of the spread of the disease as are specified in a notice served on him under this order; or

(3) wilfully obstructs or impedes any inspector or other officer when acting under this order; or

(4) imports, sells, or offers for sale an insect or pest in contravention of this order.

Notification of Order.

7. This order shall be published by the local authority in accordance with any direction given by the Board.

Revocation of Order.

8. The Destructive Insects and Pests Order of 1908 is hereby revoked.

Execution of the Order.

9. Each local authority shall carry into effect this order within their district, and shall appoint such inspectors or other officers for that purpose as may be necessary.

Definitions.

10. In this order—

"The Board" means the Board of Agriculture and Fisheries.

"Local authority" means a local authority having power to execute and enforce the Diseases of Animals Act, 1894, and "district" means the area in which the local authority has such power to act.

Application of the Order.

11. This order shall apply to Great Britain.

Short Title.

12. This order may be cited as the Destructive Insects and Pests Order of 1910.

In witness thereof the Board of Agriculture and Fisheries have hereunto set their Official Seal this third day of May, nineteen hundred and ten.

T. H. Middleton, Assistant Secretary.

Schedule.

INSECTS AND PESTS TO WHICH THIS ORDER APPLIES.

The Vine Louse (Phylloxera vestatrix, Planchon).

The San José Scale (Aspidiotus perniciosus, Comstock).

The Mediterranean Fruit Fly (Ceratiti capitata, Wiedemann).

The Colorado Beetle (Doryphora decemlineata, Say).

The Large Larch Sawfly (Nematus erichsoni, Hartig).

The Potato Moth (Lita solanella, Boisduval).

The Gipsy Moth (Liparis (Oeneria) dispar, Linné).

The Brown Tail Moth (Euproctis chrysorrhœa, Linné).

The Nun Moth (Liparis monacha, Linné).

The Cherry Fly (Rhagoletis cerasi, Linné).

The Narcissus Fly (Merodon equestris, Fabricius).

Black Knot (Plowrightia morbosa, Saccardo).

Wart Disease or Black Scab of Potatoes (Synchitrium endobioticum, Percival).

Tomato Leaf Spot (Septoria lycopersici, Spegazzini).

Melon or Cucumber Canker (Mycosphœrella citrullina, Gressenbacher).

American Pear Blight (Micrococcus amylovorus, Burrell).

HIGHLAND COUNTY COUNCILS AND AFFORESTATION.

At the May meetings of the Highland County Councils now being held, the subject of the afforestation of this division of Scotland is receiving very earnest consideration. Time was when this subject played a very small part in Highland economics, but these days have gone, and leading Highland Chieftains, such as Lord Lovat, of Lochiel, Sir Hector Munro, Bart., of Foulis, and many others are bestirring themselves. These gentlemen know full well how very few industries there are in the Highlands, and the consequent dearth of employment. To obviate this state of matters, the following resolution has been most enthusiastically and with absolute unanimity adopted at several council meetings, including those at Inverness-shire and Ross-shire: "That, whereas schools for forest apprentices have been established in England and Ireland, and no such schools exist in Scotland, which has twice as much plantable land as the whole of the rest of the kingdom, this Council urges the need for the immediate establishment of a school for the training of foresters in a convenient woodland centre. This Council considers the present an opportune moment for bringing this matter to the notice of the Government, as the Development and Road Improvement Funds Act, 1909, provides funds inter alia for instruction in forestry and experiments in afforestation (Clause 1 (b), so that an opportunity is now given for remedying the injustice under which Scotland labours in this particular. That copies of this resolution be forwarded to the Secretary of State for Scotland, the Scotch Education Department, the Chancellor of the Exchequer, the President of the Board of Agriculture, and the Commissioners under the Development Act."

Some very interesting speeches were delivered at the meetings in support of the resolution, the majority pointing out that the soil in the Highlands was more suited for afforestation than the soil in any other part of the three kingdoms. It is also hoped that the adoption of the proposal will lead to a great increase of employment, and tend greatly to stem the stream of emigration which is now flowing so strongly from Scottish rural districts.

Be it noted, however, that the notion widely disseminated some time ago that afforestation would open a suitable field for that class known as the "unemployed," has now been pretty well exploded. Practical men know full well that forestry requires no such labour as may be obtained from the human drift of our large cities. What is required is the work of robust and more or less skilled woodmen—the class of men who are to be obtained alone in our rural districts, and who are best supplied by a fairly extensive system of crofts and small holdings. Herein lies one of the greatest recommendations of forestry as a source of useful rural employment. The work would supply labour and wages to the occupiers of the small holdings at the very season of the year when their labour is not required on their own holdings, and thus obviate the waste of time and energy on the part of these men, which is the bane of the crofting system pure and simple.

We have in the northern division of Scotland vast stretches of hill and moorland admirably adapted for the culture of timber, and forming an area the largest and most suitable for the purpose available in this country, and we have also a large rural population. Afforestation and agriculture, as those interested are well aware, go hand in hand, the planting of timber on a large scale being not only consistent with the maintenance of a considerable agricultural population, but really requiring it.

One pleasing feature in the forward movement in forestry is the evident fact that the public mind at large is at last really aroused to the importance and urgency of its development as a branch of rural industry in Scotland. It is well known that the large company of Scottish landowners interested in the afforestation movement, and who have a personal knowledge of the conditions existing, and prospects offered for it in different parts of the country, who recently paid a visit of observation and inquiry to the North-East of Scotland—duly chronicled in these columns at the time—have expressed themselves as specially pleased at some of the districts they visited, and are satisfied that on many parts of the north-east there are some of the finest and most promising fields open for the development of forestry as a great Scottish industry.

W. K.

FLOWER SHOW SCHEDULES.

We shall be obliged if secretaries of societies will forward us a copy of their schedule for the present year.

Kingston Horticultural Society. — Wednesday, July 27, at the Town Cricket Club Ground.

Thunbergia laurifolia.—This is a stove climber not often met with, but yet where blue flowers are in favour it is a very desirable subject, and one there should be little difficulty in finding a suitable position for. There are frequently span pits with sufficient head room where this plant can be trained over the path, and such a place is a very suitable one. In such a position, and with a not too large root run, this climber will flower almost the year through, and it is a beautiful object. A peculiarity of Thunbergia laurifolia is the way in which fresh flower buds are formed behind the older blooms, and for this reason the flower stems should not be removed until they have completely withered. Mr. Emerson grows this climber remarkably well at Belton, Grantham, where it is only one of several beautiful climbers now so seldom seen.—T. H. Slade.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

DISEASED PLUM SHOOTS.—W. S., Kent: We are having the matter investigated. Grafted plums are not as a rule a great success. The growths were evidently very green and sappy, and suffered greatly during the winter.

SALSAFY.—J. P., Monmouth: The present is a good time to sow salsafy. Select a piece of ground that has been trenched or very deeply dug, but not recently manured—in fact, such a piece of ground as, earlier in the year, you would have selected for parsnips. Early sowing is a mistake, because the resulting plants will rush into bloom at the end of a hot season, and consequently the roots will be useless for food. Sow thinly in very shallow drills drawn one foot apart, and eventually thin the seedlings to eight inches apart. After thinning, the only attention necessary will be regular hoeing to keep down the weeds and encourage growth. Scorzonera may be treated in similar fashion.

SHADING DAFFODILS.—B. D. W., Orpington: When daffodils are grown for exhibition purposes it is quite necessary to provide some kind of shading for varieties having rich scarlet, orange, or crimson colouring in the cup or crown, because these colours bleach rapidly under the influence of bright sunshine. A movable framework of light wood covered with oiled calico forms a very handy and effective method of shading the flowers, and when the daffodils are always grown in beds of a given width the shading framework should be made to fit so that it may be used anywhere as circumstances demand. All the poeticus varieties are the better for a little shading when opening their flowers..

DISEASED TULIPS.—M. M., Dartmouth: The brown velvety markings are due to the presence of Tulip Mould (Sclerotinia parasitica), a fungus pest for which there does not appear to be a real cure. Carefully lift and burn all tulips that are affected, and if tulips are likely to be grown on the same site the soil should also be burned and new, clean soil be put in its place. This is necessary because the sclerotia stage of the fungus is often formed in the soil close to the affected bulbs, and may thus carry on the infection.

WINDSOR PEAR.—F. E. F., Coventry: This old pear is of moderate quality, and it is interesting because in many seasons it produces a second crop of blossom about midsummer, but the resulting fruits are rarely of any value. The variety was mentioned by Parkinson in 1629. Dr. Hogg considers "there can be no doubt that the Windsor pear is of foreign origin, and that it is the Bellisime and Suprême of the early French pomologists; but it must not be confounded with the Bellisime d'Eté of these later writers, and of Duhamel, who has made a sad mess of many synonymes, and on whose authority in these particulars there is no reliance to be placed. It seems at a very early period to have been distributed over Europe. It is mentioned by J. Baptista Porta, in 1592, as being cultivated about Naples, under the name of Pero due Volte l'Anno, and even in our own country we find it flourishing earlier than this, for Sir Hugh Plat, in giving the authority of "Master Hill" who lived about 1563, "Why trees transplanted doe alter," says, "Trees that bear early or often in the year, as pear trees upon Windsor Hill, which bear three times in a year; these, though they be removed to as rich, or richer soil, yet they do seldom bear so early, or so often, except the soil be of the same hot nature, and have the like advantages of situation and other circumstances with those of Windsor. And therefore, commonly, the second fruit of that pear tree being removed, doth seldom ripen in other places. This is the first notice we have of the Windsor pear in England; and it is, doubtless, from the circumstances of those growing on Windsor Hill, that the variety received its name. Early in the season, and before the earliest varieties of our gardens are nearly ripe, there are considerable quantities of the Windsor exposed for sale in the Covent Garden Market, which are imported from Portugal, and are said to be shipped at Oporto. We never could ascertain the name under which they were imported, but have not the slightest doubt about the identity of the variety." This was written in 1884, but we find no better history of this old pear anywhere.

HOLLYHOCK DISEASE.—C. P. L., Leamington: To prevent a recurrence of last year's attack you cannot do better than spray the young growths and leaves at once with weak Bordeaux mixture, following this with other sprayings at intervals of about a fortnight. If any plants appear to be badly diseased, and you will soon be able to determine this, root them up and burn them.

DAIRY COWS.—R. F. F., St. Alban's: Just the sort of book for your particular purpose is "Dairy Cows and The Dairy," by J. Walker, published by Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C., and you can obtain it post free for 1s. 2d. It deals with cows and calves, rearing, feeding, diseases, etc., and tells all about milking, butter, and cream making, and describes the best style of building for a dairy and the necessary fixtures.

POLYANTHUSES AND PRIMROSES.—E. W. S., Doncaster: Primroses and polyanthuses are now so closely allied that the dividing line is hard to find. In garden strains of coloured primroses plants will now and again throw umbels of flowers showing how close is their relation to the polyanthuses or bunch primroses. We do not remember to have seen a blue primrose produce flowers polyanthus fashion before, but we feel bound to add that the blue colouring of the flowers sent is a long way behind the richness of colouring now to be found in true primroses.

SHOW DAHLIAS FOR THE GARDEN.—D. B. C., Sandbach: The National Dahlia Society's revised list of twelve show dahlias which make an especially effective display in the garden on account of their good habit and stiff flower stems is as follows: Crimson King, David Johnson, Gracchus, John Bennett, John Walker, Merlin, Mrs. G. R. Jeffard, Perfection, Queen of the Belgians, R. T. Rawlins, Spitfire, and Tom Jones.

NAMES OF PLANTS.

T. H. P., Sussex.—Eupatorium Weinmannianum.

H. W., Guildford.—A very poor flower; probably Le Rève.

E. J. B., Falmouth.—1, Ficus Parcelli; 2, Centranthus ruber; 3, Primula frondosa.

A. S., Derby.—Looks very much like a hemlock leaf; send flower head and stems later on.

J. B. W., Suffolk.—1, A very poor form of Cattleya Mossiæ; 2, Berberis stenophylla; 3, Cephælis Ipecacuanha.

R. T. S., Birmingham.—1, Acacia dealbata; 2, Dicksonia antarctica; 3, Trillium grandiflorum; 4, Chysis bractescens.

S. H. G., Woking.—1, Osteomeles anthyllidifolia; 2, Cydonia Maulei; 3, Odontoglossum crispum; 4, O. Hunnewellianum.

F. G. G., Oxon.—We are not able to identify the rose sent. Send blooms to the nurseryman from whom you purchased your roses.

MARKETS.

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COVENT GARDEN.

Flowers.

As a consequence of the national mourning coloured flowers have met a poor sale, while white ones have sold readily.

		s.	d.		s.	d.
Acacia	per doz. bun.	8	0	to	10	0
Adiantum cuneatum	per doz. bun.	6	0		8	0
Anemones	per doz.	1	0		1	6
Arums	per doz.	1	6		3	6
Asparagus	per bun.	1	0		1	6
Azalea, Ghent	per bun.	0	6		0	9
Camellias	per doz.	1	6		2	0
Carnations	per doz. blms.	1	6		5	0
,,	per doz. bun.	12	0		18	6
Cattleyas	per doz.	6	0		10	0
Croton leaves	per bun.	1	0		2	6
Daffodils	per doz. bun.	1	0		3	6
Eucharis	per doz.	3	0		4	0
Freesias	per doz. bun.	1	0		1	6
French fern	per doz. bun.	0	6		0	9
Gardenias	per doz.	1	6		2	6
Gypsophila elegans	per doz. bun.	3	0		4	6
Iris, Spanish	per doz. bun.	6	0		8	0
Lapagerias	per doz.	1	6		2	0
Lilac, French	per bun.	2	0		3	6
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		3	6
,, longiflorum	per bun.	2	0		3	0
Lily of the Valley	per doz.	6	0		9	0
Marguerites	per doz. bun.	2	0		4	0
Mignonette	per doz. bun.	3	0		6	0
Narcissus	per doz. bun.	1	0		2	0
Odontoglossums	per doz. blms.	1	0		2	0
Pelargoniums	per doz. bun.	4	0		6	0
Roses	per doz.	1	0		5	0
Smilax	per doz. trails	3	0		4	0
Spiræa	per doz. bun.	4	0		6	0
Stocks	per doz. bun.	3	0		4	0
Sweet Peas	per doz. bun.	2	0		4	0
Tuberoses	per doz. blms.	0	4		0	6
Tulips	per doz. bun.	6	0		15	0
Violets	per doz. bun.	1	0		2	6

Fruits.

Good supplies are offered, and business is fairly brisk.

		s.	d.		s.	d.
Apples, Californian	per case	6	0	to	7	[illegible]
,, American	per barrel	10	0		27	0
,, Canadian	per barrel	10	6		25	6
,, Nova Scotian	per barrel	10	0		18	0
,, Australian	per box	7	0		12	0
Apricots, Cape	per box	4	0		5	[illegible]
Bananas	per bun.	3	0		10	0
Grapes, English	per lb.	2	0		4	6
,, Almeria	per doz. lbs.	4	0		7	6
,, Cape	per 20lb. box	9	0		14	[illegible]
Lemons	per case	6	0		21	0
Melons		1	6		4	0
Oranges Jamaica	per case	9	0		12	0
,, Jaffa	per case	10	0		12	0
,, Valencia	per case	10	0		18	6
,, Navels	per case	8	0		10	6
,, Denia	per case	14	0		27	6
Peaches, Cape	per box	4	0		8	0
,, English	per doz.	12	0		24	6
Pears, Cape	per box	4	0		10	0
,, Australian	per box	7	6		12	0
Pineapples	each	1	6		4	[illegible]
Plums, Cape	per box	5	0		9	0
Strawberries	per lb.	1	0		3	6

Vegetables.

Steady supplies meet a steady demand at fair rates.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	2	6
Asparagus	per bun.	1	4		5	0
Beet	per bush.	1	6		2	[illegible]
Beans, Dwarf	per lb.	0	8		1	[illegible]
Broccoli, Sprouting	per bag	1	0		1	[illegible]
Cabbage	per tally	4	0		5	[illegible]
Carrot, new	per doz. bun.	4	0		7	[illegible]
Cauliflowers	per tally	4	0		9	[illegible]
Celeriac	per doz.	1	6		2	[illegible]
Cucumbers	per flat	4	0		7	[illegible]
Endive	per doz.	1	3		2	0
Horseradish	per doz. bun.	10	0		15	0
Leeks	per doz. bun.	1	0		1	6
Lettuce	per doz.	1	0		1	3
,, Cos	per doz.	3	0		4	0
Marrows, Madeira	per doz.	10	0		16	[illegible]
Mint	per doz. bun.	3	0		4	0
Mushrooms	per doz. lb.	6	0		10	[illegible]
Mustard and Cress	per doz. pun.	0	10		1	0
Onions	per case	6	0		[illegible]	[illegible]
Parsley	per doz. bun.	1	6		[illegible]	[illegible]
Parsnips	per bag	1	6		3	0
Radishes	per doz. bun.	0	8		0	9
Rhubarb	per doz. bundles	0	6		1	3
,, natural	per tally	4	0		6	[illegible]

LONDON POTATO MARKETS.

Plentiful supplies are forthcoming, but trade is quiet.

		s.	d.		s.	d.
Bedfords	per ton	60	0	to	65	0
Blacklands	per ton	40	0		60	0
Dunbars	per ton	85	0		105	0
Evergood	per ton	45	0		60	0
Express	per ton	60	0		65	0
Kents	per ton	65	0		[illegible]	0
Lincolns	per ton	45	0		80	0
Up-to-Date	per ton	65	0		80	0
Teneriffe	per cwt.	10	0		11	6
Jerseys, new	per lb.	0	3½		0	6

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

Date. 1910. May 1 to May 7.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
May 1—Sunday	1 30	49	47	57	47
„ 2—Monday......	0 0	52	50	54	49
„ 3—Tuesday	10 24	47	42	59	35
„ 4—Wednesday .	8 6	45	40	51	40
„ 5—Thursday ...	3 30	45	43	56	35
„ 6—Friday..	8 54	50	45	54	45
„ 7—Saturday ...	13 0	47	40	54	38
Means	(total) 45 24	48	44	55	41

Date. 1910. May 1 to May 7.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
May 1—Sunday	0·04	48	48	48	45
„ 2—Monday... ..	0·12	50	49	48	47
„ 3—Tuesday......	0·11	47	49	48	28
„ 4—Wednesday .	0.09	50	50	48	35
„ 5—Thursday ..	0 13	48	50	48	49
„ 6—Friday..	0.08	49	49	48	39
„ 7—Saturday ...	trace	47	49	48	32
Means ...	(total) 0·57	48	49	48	36

CATALOGUES RECEIVED.

[illegible] LATOUR MARLIAC, TEMPLE-SUR-LOT, [illegible].—M. Marliac's new catalogue of nymphaeas, [illegible], and other aquatics comes opportunely, [illegible] this week devoting a great deal of attention to water gardening. In a four-page supplement to the catalogue M. Marliac describes twenty-five new [illegible] raised by him, their colours ranging from [illegible] through rose, red, and yellow, to brilliant [illegible] varieties.

G. COOLING AND SONS, BATH.—A useful pocket [illegible] of roses in pots, climbers, dahlias, and [illegible] plants.

[illegible] DUNCAN TUCKER AND SONS, 27, CAN- [illegible] E.C.—A handsomely illustrated and [illegible] catalogue of horticultural buildings of [illegible], ornamental and utilitarian. The [illegible] represent work of various kinds executed by this firm in many parts of the United Kingdom, [illegible] from simple frames for "French" gardening up to large and ornate conservatories and water gardens.

[illegible] AND LILLEY, LIM., ERLEIGH ROAD, [illegible].—A descriptive and illustrated catalogue of [illegible], conservatories, frames, and heating [illegible], as well as of portable kennels, poultry [illegible] sheds, stables, sports pavilions, etc., etc.

FORTHCOMING ENGAGEMENTS.

[illegible], May 20.—Special Bulb Show at Haarlem; [illegible].

[illegible], May 24.—Royal Horticultural Society's [illegible] Exhibition at the Inner Temple Gardens; three days.

[illegible] Society Meeting.

[illegible] and West and Southern Counties Show, at [illegible] two days.

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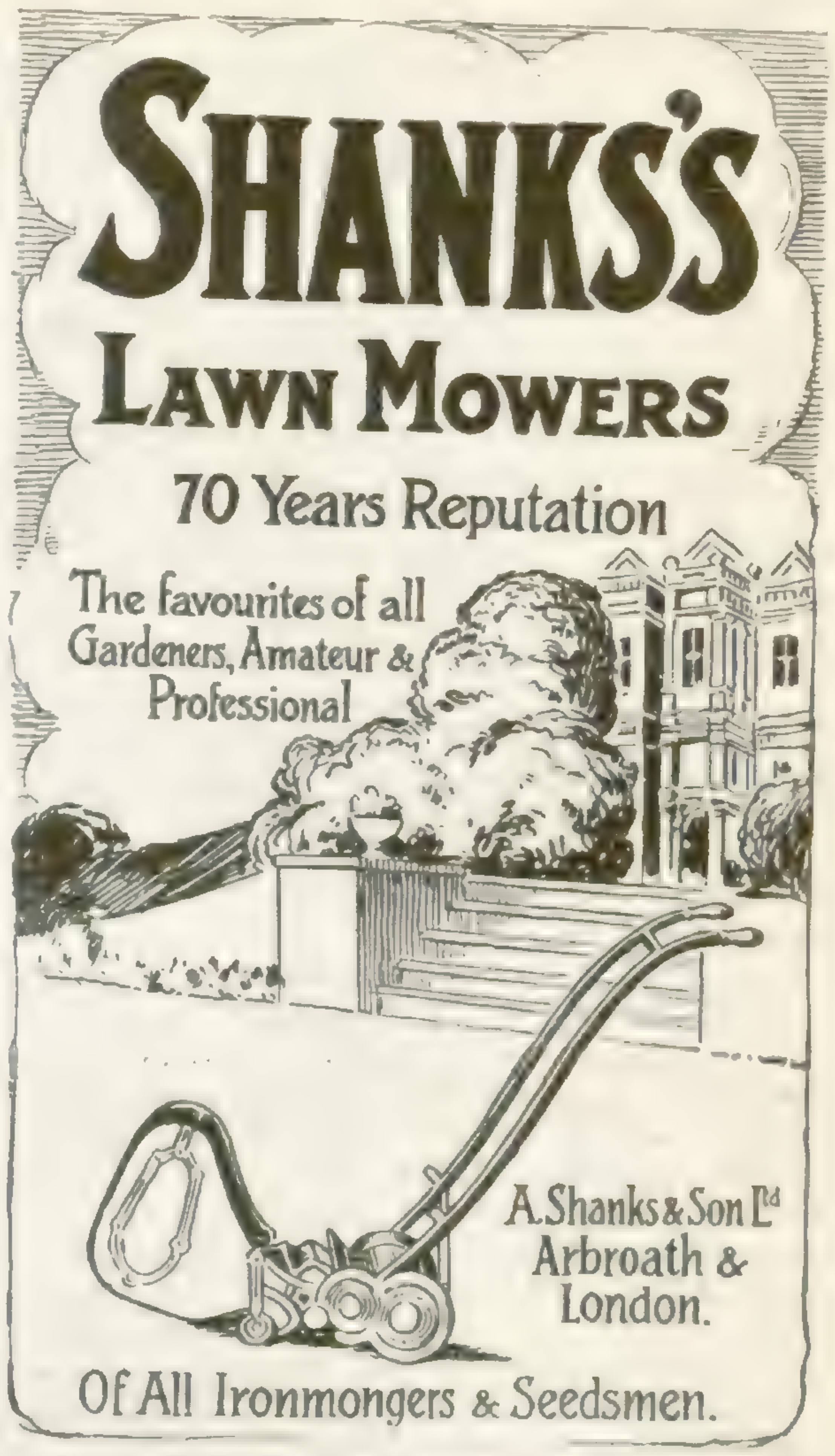
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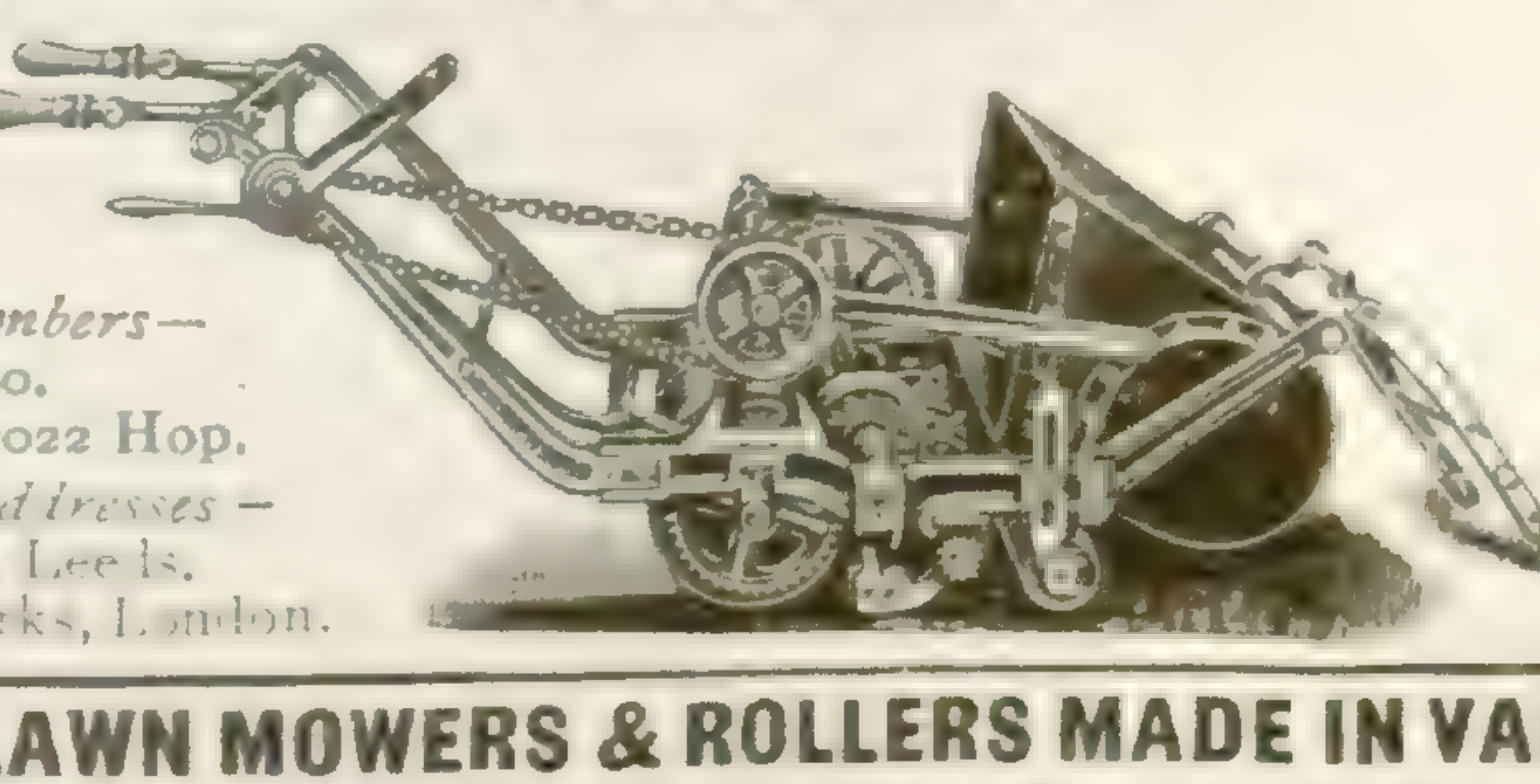

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GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; prize winner; leaving own request; no young children; youngest 13. W. BLOOMFIELD, Staplehurst, Kent.

GARDENER (Head Working), life experience Inside and Out, in good establishment; vines, flowers, vegetables, hard fruit, stove and greenhouse plants; capable and trustworthy; good references; married; no family; age 39. R. GRIFFITHS, 8, Pitt Road, Farnboro', Kent.

GARDENER (Head Working).—W. HULBERT, The Gardens, Clarefield, Maidenhead, highly recommends his Foreman, F. BOOKER, to take charge of small place and Electric Plant if required; life experience Inside and Out; age 27.

GARDENER (Head Working, where more are kept), age 28; life experience Inside and Out in good places with Vines, Fruit, Plants, House Decorations, Forcing, etc.; good references previous places. MIDDLETON, Exbury House, Exbury, Southampton.

GARDENER (Head Working); life experience in Flowers, Fruits, Vegetables, Inside and Out; good references; age 33; married, two children. J. HOWLETT, The Cottage, Culverlands, Farnham, Surrey.

GARDENER (Head Working); life experience all branches; early, late forcing, flowers, fruit and vegetables, specialities, Carnations, Chrysanthemums. References: Crichel, Broomhill, West Grinstead Park, Bidborough Hall, and 7 years J. Douglas, V.M.H., who highly recommends; disengaged; age 32. CHOULS, Credenhill, Streatham.

GARDENER (Head-Working of two or more), life experience in good establishments; highest references; well experienced in Plants, Fruit, Flowers under glass; understands Bee-keeping; married when suited. C. F. REED, Fulwell Park, Twickenham, Middlesex.

GENTLEMAN highly recommends GARDENER (Head Working); age 32; married, no family; life experience in all branches; excellent references from first-class establishments. F. BATT, Newbury Street, Lambourn.

MAJOR HOLROYD, Ropley Manor, Alresford, Hants, wishes to highly recommend his late GARDENER (Head); life experience in all branches of Gardening, Inside and Out; single; age 31 SCREEN, West Street, Marlow, Bucks.

GARDENER (Head Working, where one or two are kept, or good Single-handed); life experience all branches; highest references; married, no family. GIFFORD, Landhurst, Hartfield, Sussex.

GARDENER (Head Working); small or large establishment; thoroughly experienced in all branches, Inside and Out; excellent references from large gardens; 31; married. SLOGROVE, High Street, Meretham.

GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

W. J. SHARD, Esq., 2, Connaught Place, London, S.W., can with confidence recommend G. ADLAM, as good all-round GARDENER, Head or good Single-handed; age 29; 16 years' experience; R.H.S. certificate; South preferred. Adlam, Old Netley, Bursledon, Southampton.

GARDENER (Head or Single-handed), seeks SITUATION; 16 years' experience, Inside and Out; age 32; no family; good references. F. FORD, 26, Castle Street, Guildford, Surrey.

GARDENER (Head or Single-handed), 16 years' general experience; fruit and plant houses; pleasure and kitchen garden; good references; age 30. D. HILLS, 8, Edwards Road, Chislehurst, Kent. (No circulars.)

GARDENER (Head or good Single-handed), 12 years' practical experience in first-class establishments; aged 28; married; abstainer; good references. H. STANLEY, 2, The Terrace, Iffley, Oxon.

GARDENER.—Mr. SYMONDS, Head Gardener, Brome Hall, Eye, Suffolk, wishes to recommend W. CRAWFORD, as single-handed, or where help is given; 8 years' reference; can milk; age 29; married. Apply CRAWFORD, as above.

GARDENER (Single-handed or more kept); life experience Inside and Out; five years last situation; excellent references; age 35; married, one child. LUFF, 7, Alder Road, Mortlake.

GARDENER (Single-handed or otherwise); understands Pigs, Cows, and Poultry; good all-round Man; life experience; good references. H. BUTLER, 21, Oaksford Avenue, Sydenham.

GARDENER (Single-handed or good Second); 11 years' experience Inside and Out; age 26; present place two years and three months; good references; unmarried. V. CLEAVE, Grange Gardens, Broadhembury, Honiton, Devon.

GARDENER (Single-handed or otherwise) seeks SITUATION; age 27; single; experience Inside and Out; good references; abstainer. F. CARPENTER, 19, Pirbright Cottages, Worplesdon, Surrey.

GARDENER, Single, seeks SITUATION as GARDENER (Single-handed or Kitchen), with 4 years' good references last place; disengaged. J. BIRD, Freehold, Hadlow, Kent.

FOREMAN (Inside).—Mr. DYE, Tring Park Gardens, Tring, Herts, wishes to recommend C. BALCHIN as above; 12 years' experience in Fruit, Plants, Carnations, and Malmaisons, House and Table Decorations; age 26; good references.

FOREMAN (Inside), aged 28; life experience; Decorative, Stove and Greenhouse Plants, Chrysanthemums, Carnations; total abstainer; North London preferred. E. H., 18, Aberdeen Road, Upper Edmonton.

MR. WATSON, Gardener, The Lodge, Bushey Down, Tooting Common, highly recommends W. WEST as SECOND; age 30; life experience in all branches; been here two years; married when suited.

GARDENER (Second, Inside or Inside and Out); 10 years' good experience; age 24; can be well recommended; disengaged; married when suited. NORTH, Camden Ridge, Chislehurst, Kent.

F. IBBOTSON, Rolleston Hall, Leicester, wishes to recommend F. JARVIS as JOURNEYMAN (Inside or Inside and Out); age 21; strong and willing; six years' experience.

MR. PAXTON, Branches Park, Newmarket, can thoroughly recommend G. WOOLLARD to any gardener requiring a good Lad as JOURNEYMAN under Foreman; age 19; good worker; 4 years' experience; Bothy preferred.

JOURNEYMAN, age 21, Inside or Inside and Out; six years' experience; can be well recommended, disengaged. J. FRISBY, Salperton Park Gardens, Compton Abdale, Glos.

JOURNEYMAN (Inside, or Inside and Out), seeks SITUATION; age 22; eight years' experience. Address S. WALKER, 2, Wellington Place, Cadnam, near Southampton.

JOURNEYMAN (Inside).—H. DUKE, The Lodge Gardens, Felixstowe, can with confidence recommend H. GRIFFITHS; age 24; been here two years; Bothy preferred.

JOURNEYMAN (Inside or Inside and Out); 5 years' experience; excellent reference; age 20; disengaged. F. SIGLEY, 31, Fountain Street, Leek, Staffs.

JOURNEYMAN (First, Inside), age 22; seven years' experience in Fruit and Plant Houses; highly recommended; Bothy preferred. W. BOORMAN, Whiteland Cottages, Bicester, Oxon.

JOURNEYMAN (Inside and Out), age 2 eight years' good general experience; good ences. W. REYNOLDS, The Vine, Sevenoaks, K

JOURNEYMAN.—J. R. TOOLEY will be pleased to recommend B. COLMAN as above, under a good foreman in glass dept.; age 21; present situation 4½ years. B. COLMAN, Toddington Garden, Winchcombe, Glos.

JOURNEYMAN (First).—S. W. SHERLOCK, Oakfield Park Gardens, Mortimer, Berks, can highly recommend E. JONES, as above; 9½ years' experience in all branches; has been here 2½ years as First Journeyman.

MR. J. SHELTON, Wildernesse Gardens, Sevenoaks, Kent, will be pleased to recommend A. BOOKER as JOURNEYMAN (Inside); age 21; four years' experience. Apply as above.

MR. A. GOODING, Eartham House, Chichester, can highly recommend P. SALLING as JOURNEYMAN (Inside and Out); age 23; very energetic and well conducted. P. SALLING, New Cottage, Woll, Lichfield, Staffs.

MR. S. PRATT, Park Hatch Gardens, Godalming, recommends JOURNEYMAN, age 21; Inside or Inside and Out; five years' experience, two here. A. ATTWOOD, Lacock, Chippenham.

SITUATION required as GARDENER (Under) or GARDEN LABOURER; age good references. E. COBB, Stanford, Hythe, K

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Situations Wanted—*continued.*

IMPROVER, age 18, seeks EMPLOYMENT [illegible] Garden; nearly four years present situa[illegible]; Bothy preferred; can be well recommended. L. [illegible]HAM, Gardens, Maresfield Park, Uckfield, [illegible]

IMPROVER.—Mr. BETHELL, Gardener, [illegible]wyn-yr-Eryr, Llandough, Cardiff, recommends [illegible] age 17; strong and willing; Inside or Inside [illegible]; two years' experience; Bothy preferred.

IMPROVER (Inside).—C. GIBBONS, Inver[illegible] Gardens, Camberley, can with confidence [illegible] CHARLES COOK as above; age 18, [illegible] willing; five years' good character. Bothy [illegible]red.

IMPROVER (Inside).—Mr. E. STUBBS [illegible]nfidently recommend A. CARD, age 18, [illegible] years' experience Inside and Out; used to [illegible] K[illegible] Gardens, Sevenoaks, Kent.

UNDER GARDENER (20) seeks SITUATION; good references and experience. F. [illegible] Paston, North Walsham, Norfolk.

GARDENER (Under); 24; six years' experience Inside and Out; left no fault of my own, on account gentleman giving up; well recommended; six years' good reference. A. ALDERMAN, Trilby [illegible] South Ockendon, Essex.

GARDENER (Under, Inside or Inside and Out), age 23; nine years' experience; good reference: total abstainer. S. EDWARDS, Wingfield [illegible] Gardens, Trowbridge, Wilts.

GENTLEMAN wishes to recommend Young Man as GARDENER (Under) in Kitchen Gar[illegible]n or Kitchen Garden and Pleasure Grounds; age [illegible] good references. BARRELL, Frating, [illegible]chester, Essex.

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YOUNG MAN, age 21, wants SITUATION in garden; 6 years' experience; kitchen garden and pleasure grounds; good character; Bothy preferred. Address W. BRIDGEMAN, 38, Union Street, Rugby.

YOUNG MAN, age 18, as IMPROVER; excellent character and references. L. MONK, care of County Gardens, Chelmsford.

YOUNG MAN (24); well up in Bulbs and Chrysanthemums; willing to make himself useful in general Nursery work. Apply E. SPILKER, Loosterweg L., Hillegom, Holland.

YOUNG MAN seeks SITUATION in Gardens; age 22; with some experience, Inside and Out, well recommended. HYDE, Mrs. Shaw, Lawford Lane, Old Bilton, Rugby.

YOUNG MAN (21); GARDEN LABOURER or could take charge of small establishment; abstainer, non-smoker; good character. HORACE GUNNELL, Great Missenden, Bucks.

YOUNG MAN, age 18, seeks SITUATION in the Gardens, Inside and Out; little experience of Outdoor work; good references; Bothy preferred. R. WHITEHEAD, Draycote, near Rugby.

YOUNG MAN, age 21, seeks SITUATION Inside and Out; five years' excellent references; Bothy preferred. W. HANN, Waverley Road, Weybridge, Surrey.

YOUNG MAN seeks place in Kitchen Garden and Pleasure Grounds or otherwise; age 21, with good references. T. BALDWIN, Court Stile, Cranbrook, Kent.

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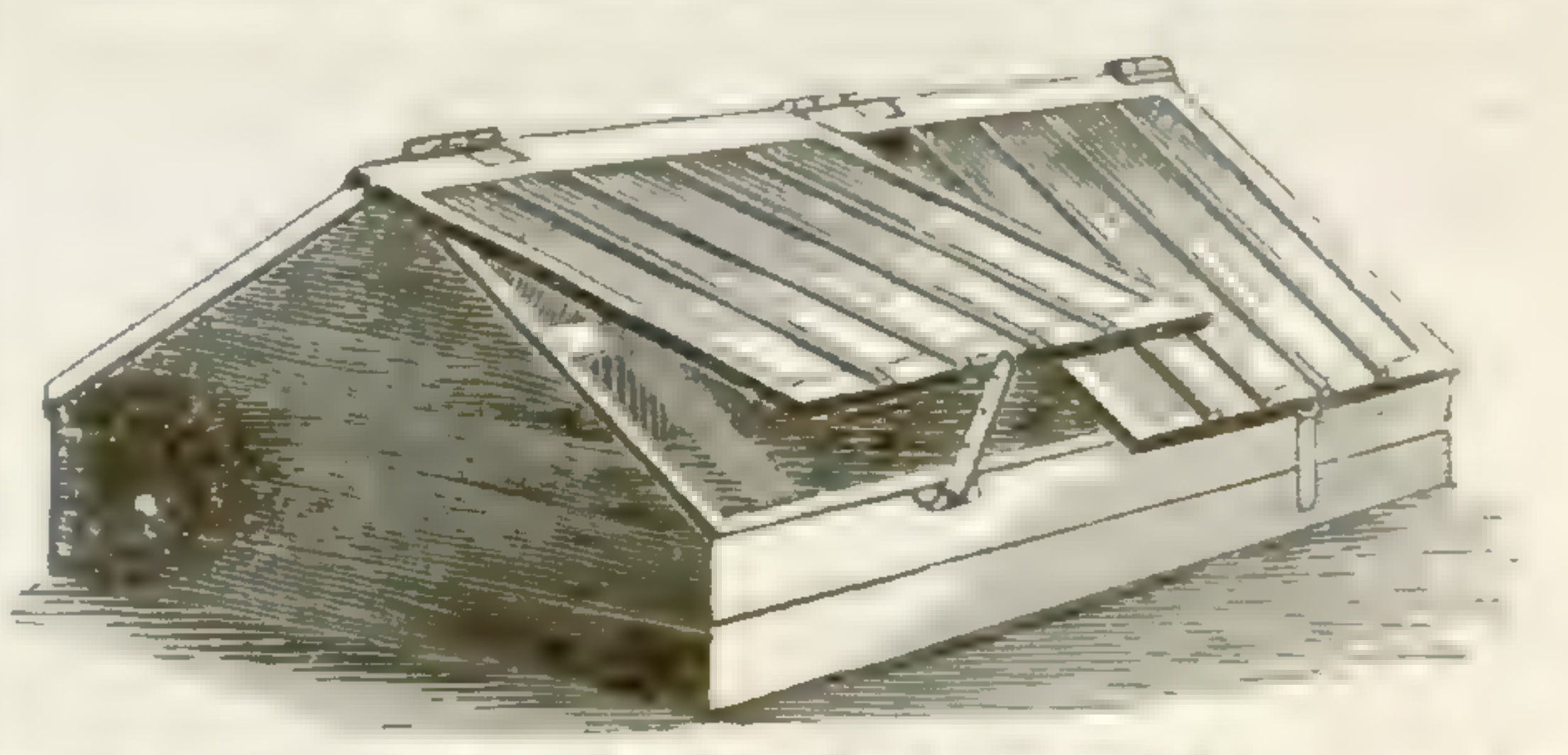

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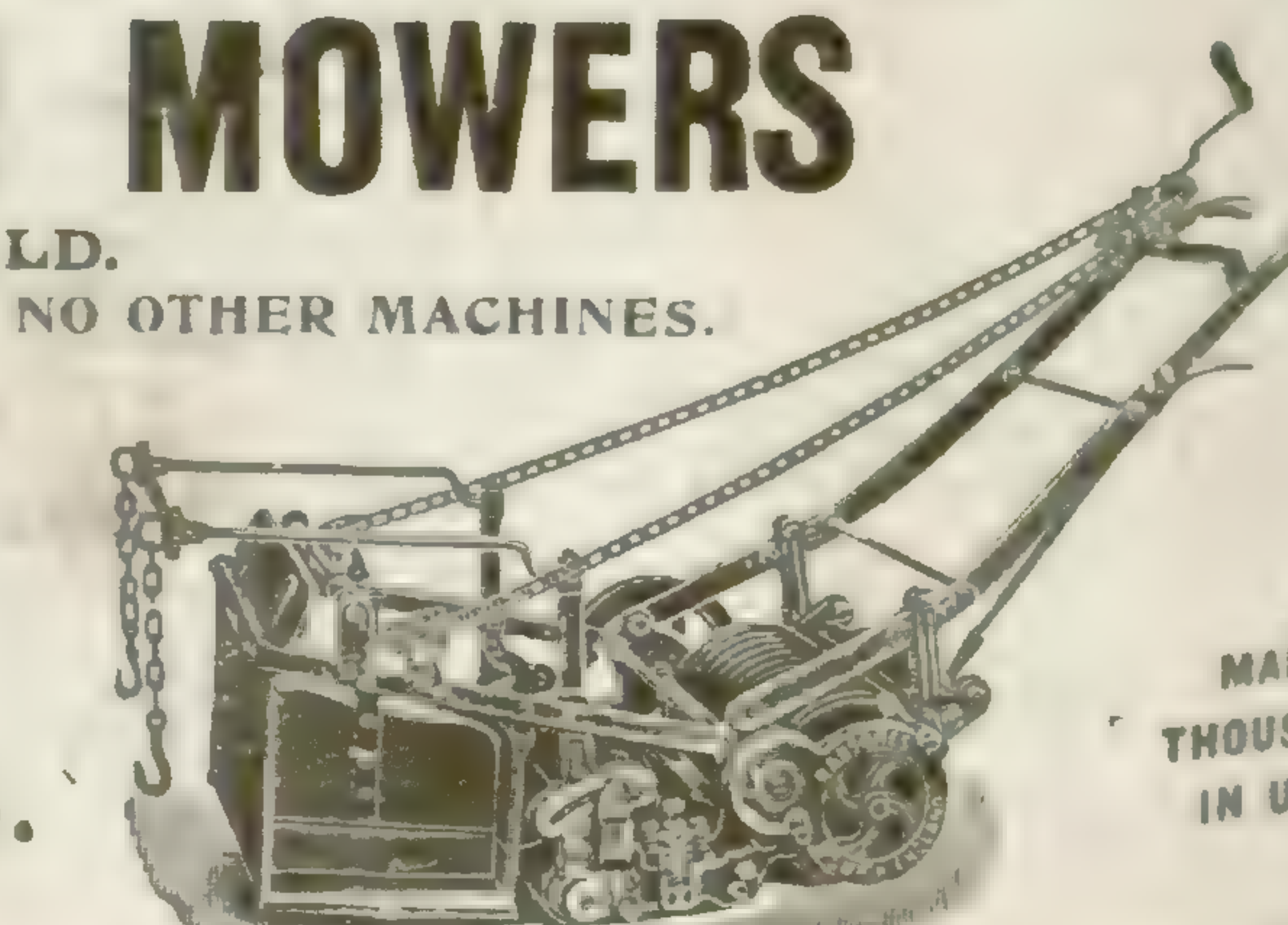

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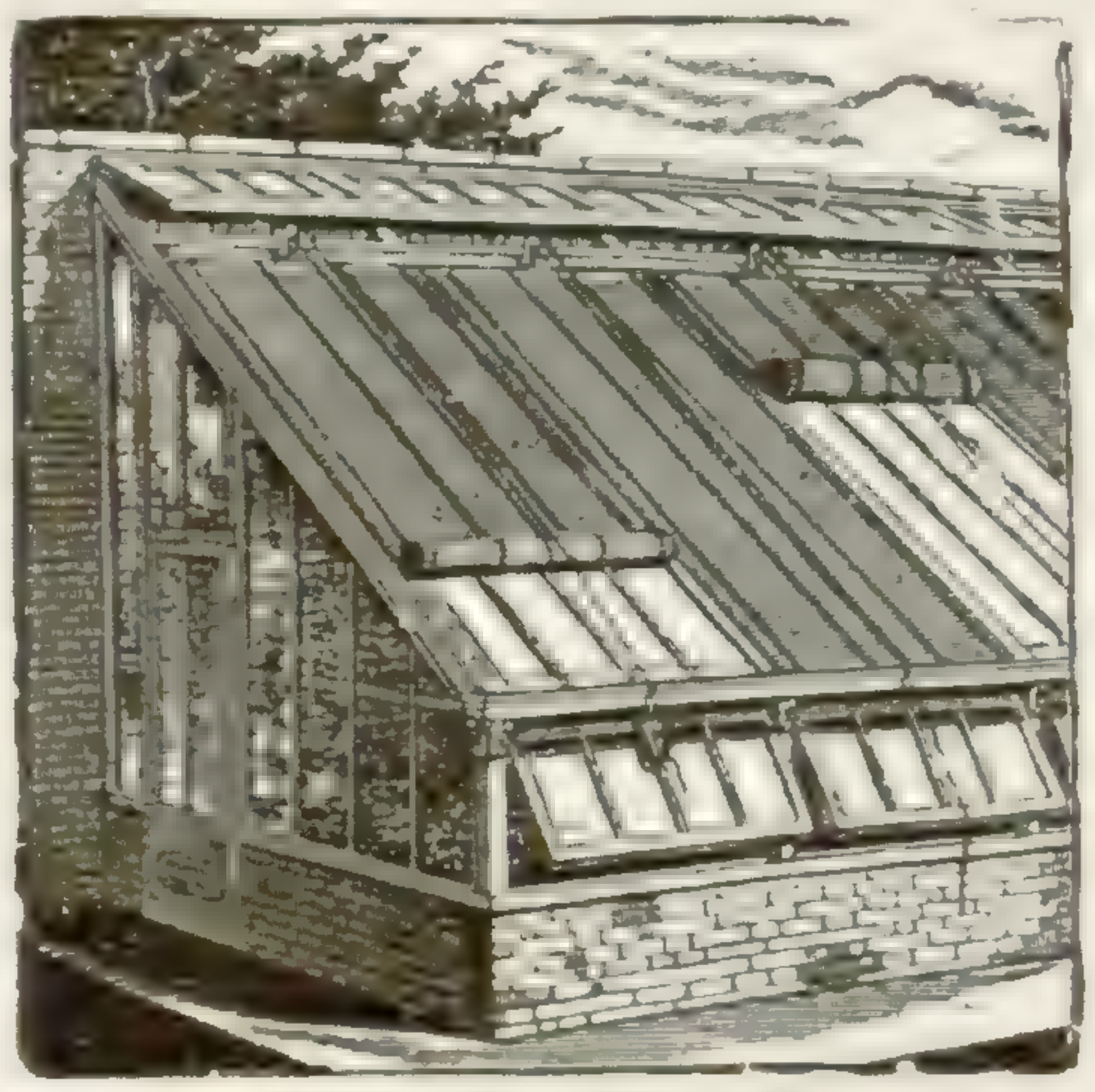

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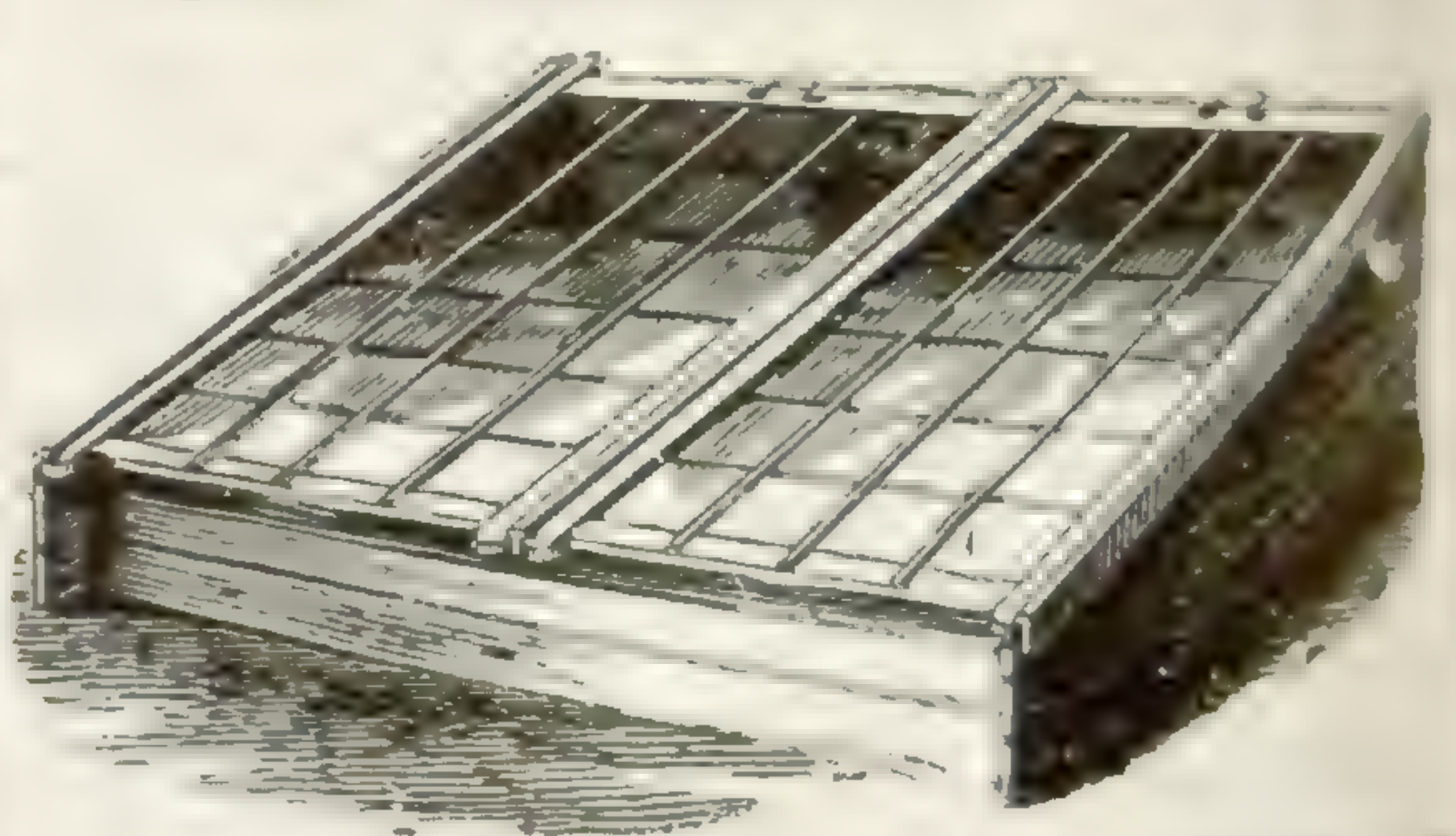

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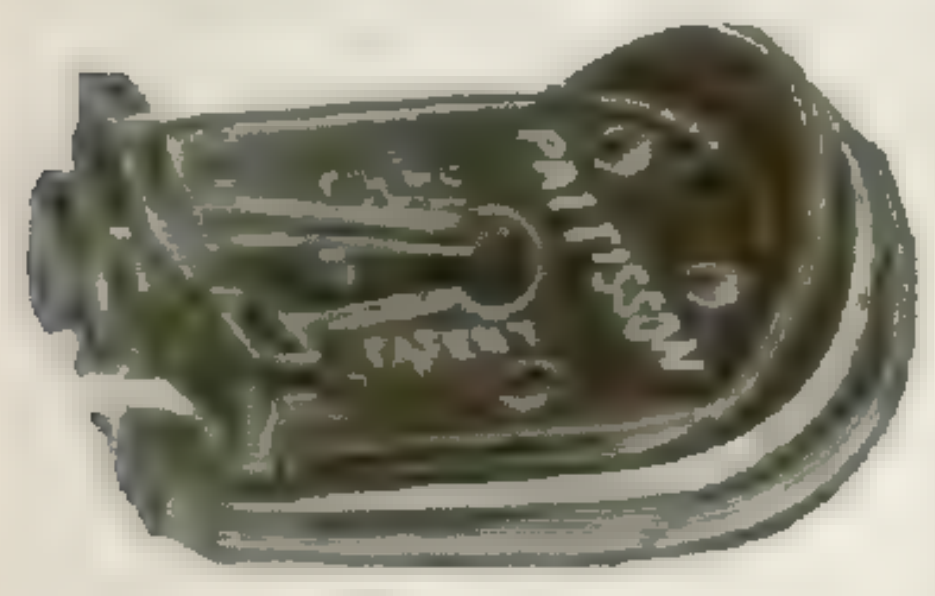

FIG. 1.

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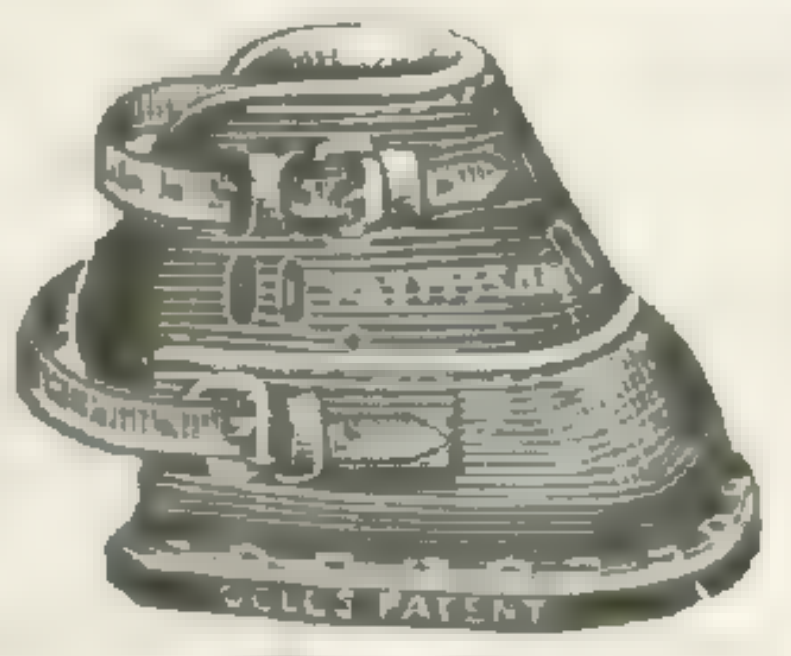

FIG. 2.

PATTISSON & CO., 4, GREYHOUND LANE, STREATHAM, S.W.

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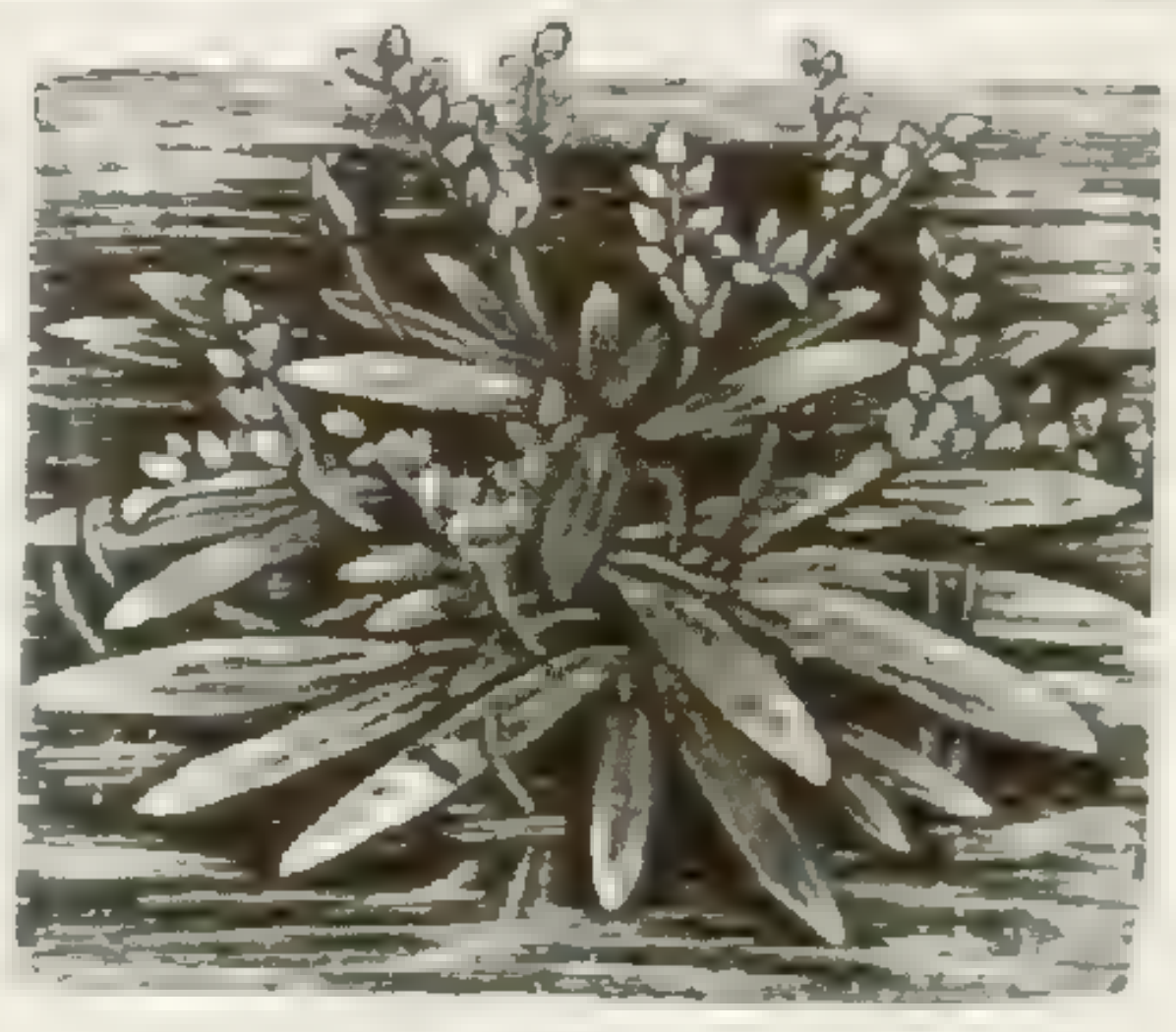

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VOL. LIII.—No. 2,951. SATURDAY, MAY 21, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Sap.

Sap, which is practically the life-blood of plants, differs, however, very materially from the life-blood of animals in its nature, though it performs similar offices as the conveyor of nutriment to the various parts of the organism concerned. In the animal the blood is supplied by the conversion of nutriment taken into the digestive organs. and consists of a somewhat viscous liquid in which float an inconceivable number of corpuscules, which traverse the veins and arteries, and by their means pervade the entire system. taking up in their course the debris of matter which has been used up in the various vital processes and carrying this to the lungs, where it is practically burnt up by means of the oxygen there supplied by the breathing process, and so forming carbonic acid gas, which is then exhaled. The oxydized blood is then returned to the system through the arteries, and replenished by fresh supplies from the digestive system, passes on its round again, and so maintains the vital vigour. These corpuscules, too, consist of two kinds, most of them are mere inanimate discs, but a large number are actual living organisms, amoba-like in character, which are capable of attacking and devouring any inimical germs which have found their way into the circulatory system. This circulation, too, is effected by means of a powerful pump, the heart, which impels the arterial, or revitalised, blood in one direction, and by a sort of reflex action, draws into it the venous, or deteriorated, blood from the veins as a source of supply, the lungs, as we have said, acting as revivifiers. Sap, on the other hand, is supplied primarily from the soil by means of a more or less extensive root system in the soil, this system consisting of an immense number of absorbent points, or feeders, which not merely take up the moisture they meet with, but also such earthy salts in solution as are necessary for the plant concerned, and these points, or feeders, have undoubtedly the power of attacking, to a certain extent, the minerals with which they come into contact, and dissolving them so as to enrich the collected sap very materially. This sap is then conveyed upwards into the body of the plant through the stem or trunk, and through all its ramifications, until it reaches the leaves, which are practically the lungs of the plant. Here, under the vitalising action of light, the materials it has brought with it are combined with the carbonic acid gas which the foliage has the power of absorbing from the air, and by some exceedingly subtle chemical action these combined materials are broken up and recombined to constitute another class of sap entirely, capable not merely of contributing to swell the general structure of the plant, but of forming an infinite number of products, such as starch and sugar, innumerable essential oils, which give their characteristic odours and flavours to the plants concerned, but also boons and banes of innumerable kinds, and of infinite commercial value. This sap, thus altered in character and composition, is then returned to pervade the plant system, and perform varied service in building up the woody structure, forming the flowers, and last, but by no means least, shaping and perfecting the fruit and seed essential for plant reproduction. In this case we find nothing at all akin to a heart or force pump, the circulation here is induced by the transpiration of superfluous water from the foliar surfaces, and the consequent absorption by the cells of fresh supplies from the veins which pervade the leaves, this absorption being transmitted from point to point downwards to the root points aforesaid through the minute, but numberless, channels formed to that end. One great difference between the plant and the animal is that the food of the latter contains a large percentage of useless material which is rejected by the digestive system, while the plant roots only collect what is essential. and practically use it all. Commercially, it is the innumerable vegetable products which the foliage fashions from the sap, foods, fibres, timber, and chemical combinations which interest us mainly, but in recent times the very sap itself, in the shape of rubber and gutta percha, to say nothing of other gums or solidified saps, copal, and so on, has asserted its immense importance. Here the tree is robbed of its very life blood by wounding the bark and collecting the exudation which follows, and it is a very open question how far Nature will resent this, and how long she will refrain from some drastic protest in the shape of blights and diseases, due to the enervation and weakening of constitution inevitably involved. We may well bear in mind Gil Blas' account of Dr. Sangrado's method of treatment, under which all his patients died before they had time to get cured. Verbum sap sat.

MR. R. FOLEY HOBBS.

Mr. R. Foley Hobbs, of Thorneloe, Worcester, is one of the stalwarts in rose-growing circles. He has long been a member of the council of the National Rose Society, and for many years he has been one of the most successful competitors at leading rose shows. His first attempt as a competitor was at Gloucester, in 1895, on the occasion of the N.R.S. provincial show, when he was surprised and encouraged by winning a second and a third prize. At subsequent exhibitions Mr. Foley Hobbs won numerous prizes in the small growers' sections, and he has always endeavoured to stage blooms at the exhibitions of the parent society, but during recent years the Metropolitan Show has been held early, and his garden is a late one, so he has not been able to come forward at the great display. In 1901 Mr. Hobbs had a silver medal bloom of Her Majesty at the Inner Temple Gardens. and at the same place he won first prize for new roses in 1904, coming second in the same class in 1905, but winning firsts, also for new roses, at Gloucester in 1905, and at Edinburgh in 1906. In 1908 he won outright (three times in all) the silver challenge cup offered at Chipping Norton by Lady Algernon Gordon Lennox, turning the tables on Mr. Conway Jones, who held the cup the first year it was offered. In 1909 Mr. Hobbs secured the Ulverston challenge cup for the third time, and so won it outright, beating Rev. J. H. Pemberton and Mr. Park, of Bedale. Mr. Hobbs has won many other leading prizes for roses, and holds no fewer than twenty-five silver medals for "best blooms." In 1898 he became hon. local secretary to the N.R.S., at Worcester, and the efficient services he rendered and his enthusiasm as a grower and competitor secured for him a seat on the council in the following year, a position he fills most admirably.

Floral Tributes to the Late King's Memory.—The great love and esteem in which King Edward VII. was held by his people the world over has found expression in various ways during the past week, and one beautiful method of paying a last tribute to his many admirable qualities found its expression in flowers. Enormous numbers of wreaths and other floral designs, from all grades of society and from all parts of the Empire have been sent to Buckingham Palace and to Windsor Castle, and every tribute, no matter how simple and homely, has been recorded. White flowers have been the most largely used, liliums, arums, carnations, lily of the valley, eucharis, gardenias, and odontoglossums contributing the major portion, but coloured flowers have entered more extensively than usual into the floral tributes, and purple cattleyas and dendrobiums have supplied much of the colour, while scarlet pelargoniums, roses of various hues, carnations, and even yellow orchids have been largely utilised. Florists have excelled themselves in the design and execution of many of the more expensive and elaborate tributes, and it is not too much to say that nowhere and nowhen have flowers so beautifully expressed the deep sentiments of the senders as on this occasion. The Army has sent magnificent floral tributes to its late chief, those from the Royal Artillery and Royal Horse Guards being unusually handsome. It is impossible to detail the gifts or the givers but, large or small, lowly or costly, all were expressions of love for the departed and sympathy with the Royal mourners, and we know of no more beautiful way of expressing that love and sympathy than in flowers

National Rose Society.—At the meeting of the Council of the National Rose Society, held on Tuesday last, it was unanimously resolved to present an address of condolence to Queen Alexandra, who for many years has been the Royal Patroness of the Society.

Japan-British Exhibition.

Owing to the death of King Edward, this exhibition was opened on Saturday, the 14th inst., without ceremony of any kind, and the attendance of visitors on that day and the following Monday was such as to indicate wide-spread interest in the undertaking. The more important features, from the horticultural point of view, are the two Japanese gardens, which have been formed under the direction of a Japanese gardener possessing much constructive ability. Both are of interest, but the most attractive is that known as the Garden of Silence, and this is, in a measure, due to its higher finish and to its having been enclosed by scenic representations of mountains and forests of coniferous and other trees. These are well done, and, while adding to the effect as a whole, they prevent tall buildings in the neighbourhood obtruding on the scene. The other garden, which has received the designation of the Garden of Floating Islands, is of large extent, well designed,and eminently attractive, though a few finishing touches are necessary, especially in the case of the paths, and it requires rather more seclusion than has been found possible to give it to admit of its distinctive charms being seen to the best advantage. The flower beds in the central gardens are filled with summer flowers, the dominant colour being scarlet. In the Elite gardens Messrs. William Paul and Son, of Waltham Cross, and Messrs. Paul and Son, of Cheshunt, have rose gardens that should be immensely attractive in due course, and Messrs. Kelway and Son, of Langport, have arranged for a large display of their pyrethrums in the Colonial garden.

The Temple Show.—The exhibition which will be held by the Royal Horticultural Society in the gardens of the Inner Temple on Tuesday, Wednesday, and Thursday next, has the promise of being fully equal to the high average of recent years. The number of entries are larger than was the case last year, and a greater area of space has been applied for, but as an extension of the latter is impossible exhibitors will, as for some years past, have to be satisfied with an area considerably below their requirements. We shall give a full report, with numerous illustrations, of this great gathering in our next issue.

The Botanical Magazine for May contains a very fine double-page illustration of Cymbidium insigne, an exquisitely beautiful species from Annam; it was distributed under the name of C. Sanderi when imported by Messrs. Sander and Sons, but C. insigne is the correct name. We have frequently described this beautiful orchid. Other plants illustrated in this issue are Primula Forresti, a yellow-flowered species collected in Western China by Mr. Forrest; Nothofagus antarctica uliginosa, a South American beech that is hardy in most parts of England and Wales; Cornus florida rubra, a beautiful shrub with large rose-red petaloid bracts that expand in May, but, alas, it is not hardy except in highly favoured districts; and Acanthopanax Henryi, an interesting hardy shrub, five feet high, with five-lobed leaves, and small flowers, followed in autumn by rounded heads of black fruits.

Wild Flowers are somewhat sparingly represented at the Royal Academy, and the works in which they are treated with more or less success are of interest as showing how delightful are the effects that may be produced with their aid when the brush is handled by the artist who recognises the importance of so painting flowers that there is no difficulty in recognising them. Of commanding importance among works in which wild flowers are prominent, is Mr. J. MacWhirter's "Meadows and Mountains: Tyrol," which has for a foreground a glorious expanse of native flowers in which the brilliant blue Gentiana verna, the deep blue G. acaulis, white marguerites, and various yellow flowers predominate. Beyond these flowery meads rise lofty mountains that, enveloped in the deep blue haze characteristic of the Tyrolese as of other alpine districts, form a delightful background: "There is a quiet spirit in these woods," by Mr. Yeend King, represents this well-known artist in one of his happiest moods. It depicts a woodland scene, with the sun gleaming through the tender leafage, and the ground carpeted with bluebells. "Bluebells at Drewsteignton" is another study of these delightful woodland flowers, and in this the artist, Miss Mary Harding, has achieved much success. Mr. J. W. Waterhouse's "Spring spreads one green lap of flowers" is a work of great merit, in which anemones are admirably treated. "Silver and Gold" is a pleasing study of furze and hawthorn by Mr. F. Walters, and the "Scottish Highlands," by Mr. J. MacWhirter, must have mention for the charm of the wide expanse of heather, both composition and technique affording object-lessons of much value to the younger artists who give their attention to moorland scenery.

The Gardens of Leonardslee will be opened to the public on Thursday, May 26, by kind permission of Sir Edmund Loder, for the benefit of the West Sussex Benefit Nursing Association. We have on many occasions referred to and illustrated these beautiful gardens, and we are glad to give this notification of an excellent opportunity for inspecting them. The rhododendrons, and the water and alpine gardens will be at their best on the date given above. Admission will be 1s. from 2 p.m. to 6 p.m., and 6d. from 6 p.m. until 8 p.m.; admission to the museum will be 6d. extra, and tea will be provided at a small charge. The nearest station is Horsham.

Whit Monday was a beautifully fine day, and until late in the evening the weather was delightfully warm, but after sunset the east wind asserted itself, and the temperature fell considerably. However, it was a glorious day for those who spent the holiday out of doors, and, owing to the national mourning and the obsequies of the present week, fewer folk left the Metropolitan district, and therefore the open spaces in Greater London were all well filled. At Hampton Court the crowd was scarcely so large as usual; the Crystal Palace was well patronised, and 32,062 people visited the Zoological Gardens, an increase of 4,000 over the attendance on Whit Monday of 1909. There was a record attendance at the White City to see the new Japan-British Exhibition, and the Royal Gardens, Kew, were visited by no fewer than 152,000 people, or 50,000 more than on the previous similar holiday.

Progress of the East Anglian Horticultural Society.—The rise and progress of the East Anglian Horticultural Society, formerly known as the East Anglian Horticultural Club, is set out in figures in the neat little booklet containing the society's rules and arrangements for the current year. Twenty years ago the society concluded its first season with a membership of 89, total receipts £23 13s. 6d., balance 3s. 8½d. In 1900 there were 202 members, a total income of £62 5s. 8d., and a cash balance of £76 3s. 6d. At the conclusion of 1909 the membership stood at 337, the total receipts were £102 2s., and the cash balance £135 15s. 7d. In connection with its monthly meetings the society has given prizes ever since 1893, the sum amounting to £32 2s. last year, as compared with £2 10s. in 1893. In no year has there been a balance on the wrong side, and the fluctuations of the cash balance all through have been very small. It is worth noticing that the society has its own Benevolent Fund, from which it makes grants to members in distress.

Distribution of Oxalis cernua.

According to the Rev. Professor George Henslow, Oxalis cernua provides one of the most striking instances of plant dispersion. He stated recently before the Royal

Horticultural Society that this little plant, a native only of South Africa, has now spread to the Bermudas, to the Canary Islands, to Madeira, Malta, and the Mediterranean coast. At Malta the plant has become ubiquitous, taking possession of walls, roadsides, etc., and adapting itself generally to varying circumstances.

Finsbury Square Garden.—With reference to the conversion of this interesting garden into a public open space the "City Press" remarks: "At the end of May, or the beginning of June at latest, the pretty little garden which occupies the centre of Finsbury Square will pass from the possession of the owners and occupiers of that once delightful residential quarter. Thenceforward the garden will be free to the public, and the London County Council will be responsible for its upkeep. The changed character of the square, which is now almost entirely devoted to the offices of business firms, has rendered the change possible, and the Ecclesiastical Commissioners saw the opportunity of giving to London yet another open space in a crowded and busy district. It is perhaps unfortunate that the Commissioners do not know their London better. Did they know it the Corporation might have been asked to accept charge of the garden, and by that means no cost would have fallen upon the ratepayers. However, it matters little which body has charge so long as the public obtain the ground. It is interesting to note in passing that as far back as 1874 the Corporation passed a resolution declaring that every effort should be made to secure and preserve all open spaces in the City. The matter was referred to the Coal and Corn and Finance Committee, with a request to see whether public admission could be secured to the gardens of Trinity Square and Finsbury Circus, and the enclosed ground round St. Paul's. That was practically the beginning of a movement which has proved so beneficial to the workers of the City and its neighbourhood."

Kew Guild Annual Meeting.—We are requested to state that the annual general meeting of the Kew Guild will be held in the Gymnasium, near Kew Gardens Station, Kew, at 7.30 p.m. on Monday, May 23, and that a reunion will take place after the meeting in the large room at the Kew Gardens Hotel. It is hoped that there will be a large attendance of past and present Kewites.

Mr. F. V. Theobald, of the South-Eastern College, Wye, whose work in connection with economic entomology is well known, has been awarded the Grande Médaille de St. Hilaire by the Acclimatisation Society of France in recognition of the value of the service he has rendered by his investigations in connection with insects injurious to garden and farm crops.

The Gardeners' Company has presented a memorial to the Corporation of the City of London, asking them to recognise the company's ancient livery with an unlimited number in accordance with the powers conferred by the Constitution of [illegible], or alternatively to grant an increase of the livery. The company also ask for a grant of higher precedence than that at present conceded.

A New Possible Source of Rubber.—An inferior form of rubber has been produced for a long time past in Little Namaqualand, and it has now been determined that Euphorbia elastica is the plant from which it is gathered. As this plant is plentiful in the deserts, there is a possibility some brilliant financier may make money out of the barren areas of Namaqualand.

AMONG THE ALPINE FLOWERS.

> "And now the young and flowery-kirtled May,
> Decks the green hedge and dewy grass unshorn,
> With cowslips pale and many a whitening
> thorn."
>
> —Bamfylde.

A month of flowers indeed is May, and the lover of alpines culls many a pleasure from the endless array of blossoms which appear to his admiring eyes. Flowers in plenty, accompanied with foliage of the most beautiful hues, meet him at every turn. It is difficult to wander among the alpine flowers at this time without feeling that the riches are indeed embarrassing and cause one to doubt which to select for notice at the present time. One must, however, attempt the solution.

Anemone ranunculoides fl. pl.

Among the scarcer flowers of the time is the double variety of Anemone ranunculoides, an old plant which has recently become available to the lover of the anemone once more. It came into bloom in April, but has lingered in the lap of May, and as this is written is just passing off in the open, and in one of the places it loves—a shady one, where it is screened from the sun by a hedge, but receives plenty of air as well. Like the other forms of this windflower, it is also at home under trees. This double variety is an old plant better known in former times than for some time past. The flowers are of a good yellow, and are not full double, but are in reality semi-double. But this partial doubling gives the blooms not only a different appearance from its sisters, but also has the quality of rendering them more lasting, a merit of some importance with spring flowers. It is more desirable than the single typical form, although not better than the paler yellow variety, called A. ranunculoides pallida. It was with pleasure that I observed this double anemone offered for sale, and I lost no time in securing it for my garden, with the satisfaction of being pleased with it when it bloomed. Planted in September or October, about an inch deep, it flowers well the following season if good tubers are secured at the time of purchase.

Arabis Sturi.

The arabises or rock cresses are not so much valued as they would be were they less common, although few of them can rank among the élite of alpine flowers. In Arabis Sturi we have one of less effect than the more common A. albida or A. alpina, but it is less aggressive in its ways and forms a neat little carpet of foliage, which, in late April and early May, is almost covered with spikes of small white flowers. The whole height of the plant is only three or four inches, and nowhere does it look better than on a flat portion of the rock garden, a good bit below the level of the eye. To see it at its best it should, I think, be looked down upon, although on a slight slope a little higher it would probably be pleasing also. I grow it in a gritty soil, and it is thoroughly hardy and requires little or no attention beyond a slight top dressing among the foliage in spring and autumn.

I am glad to find that Mr. Reginald Farrer, with whom I am not always in agreement, likes this little rock cress. He remarks of it in his "Alpine and Bog Plants," that it "is an uninvited guest here, and is still welcome. He came in something else, and has now made himself quite at home, a neat-habited, rosetty thing, with heads of white blossom." It is said to be a garden plant, raised or introduced in 1897, but I can find little information about it anywhere. One would think that there is some of the blepharophylla "blood" in it, with some of that of A. lucida also; but this is mere conjecture.

Viola gracilis.

So much has been written about this pretty violet that there is but little to say regarding it which can be new. It is, however, mainly for the purpose of recommending it that it is mentioned now. It is in bloom in the open, and its pleasing, good-sized dark blue flowers are highly attractive, while the plant is such a good doer that it is likely to become highly popular. In old days it would have been highly valued as a bedding plant, and as a rock plant, or one for the herbaceous border, this little flower is extremely valuable. It forms a nice tuft of leaves with plenty of the dark blue flowers well raised above the foliage. This viola comes from Greece, and is thoroughly hardy with us. It is very easily cultivated in a loamy soil.

Viola Craven Gem.

The mention of V. gracilis reminds one of a new viola which has come under my notice, and is likely to become a most useful plant either on the rockery or in the border. It is a direct descendant of the wondrously free-blooming Viola papilio, one of the most valuable of the race we have had brought to our gardens for many years. V. Craven Gem originated in a garden in which V. papilio has shown a decided tendency to sport from seeds, and V. Craven Gem is one of the results of this departure from the parental characters. It has, however, larger flowers, which are more of an uniform bright blue than are those of the parent. They are also of better form, although preserving a good deal of the informality of papilio. V. Craven Gem shares, however, the floriferousness which is one of the distinguishing features of the papilio viola, and which makes it an almost perpetual bloomer. In warm gardens there are few months in the year in which it is impossible to see flowers of V. papilio.

Other Flowers.

There are now many other flowers on the slopes and overhanging stones of the rock garden, and one's tale would be long indeed were one but to attempt to specify them and their beauties. Aubrietias are aglow with colour. Alyssums give their gold-dust-like flowers or their small white blossoms, as the case may be. There are snow-white sheets of arabises, with rivalling iberises. There are wood anemones, in white, single, semi-double, and double. We have them in opal, pale blue, and deep blue. Primulas, with allied polyanthuses, auriculas, cowslips, oxlips, and forms of single and double primroses brighten many a corner. Saxifrages adorn many places, brightening them with sheets of white or pink, or sending up spikes of little lace-like blooms. Spring phloxes gladden our sight with their sheets of colour. Such early brooms as Cytisus Kewensis show their lovely flowers, and narcissi nod still from the rock gardens where they are grown. Muscaris and late scillas are gay with their intense colouring, and everywhere we look there are little patches or big masses of the various colours of the floral gamut. Truly the rock garden is beautiful just now, countless treasures appealing to us as we look them through. It is not easy to observe everything, and it is more difficult still to give a faint impression of the variety of the charms they afford us now.

S. Arnott.

FRAME CULTURE OF CUCUMBERS.

Most people who possess a cold frame have, I think, at some period or another attempted the cultivation of cucumbers, and it occurred to me that a few remarks and cultural details might not be out of place concerning the practice, for not only does the cottager (i.e., if he prefers his own produce) have to rely on this method of procedure, but it is also common practice in gardens of large dimensions to augment the supply of this popular vegetable through the warmer months of the year by growing some plants in frames or pots. With reasonable attention, a good crop of fine quality can be obtained.

Whether the frames are heated or not, it is essential that the growth of the plants receive additional impetus by the use of a hotbed of fermenting material. For early supplies a flow and return pipe in a pit does much to promote growth, and also protect the frames at night from late spring frosts; but it is not an absolute necessity if a good hotbed is formed. To ensure a free growth, and only by this can the fruits be expected to mature quickly, and possess those succulent qualities so highly esteemed, it is essential to form a hotbed of long strawy stable litter and leaves. This should be in the proportion of one of the former to three of the latter. The freshest leaves that can be obtained should be used, and for preference oak or beech. The material should be got together, mixed, and turned about several times before being put in position.

The size of the bed must depend upon the dimensions of the frame, allowing a margin of two to three feet all round. Build the hotbed firmly, or the frame will present a sad appearance in the course of a few weeks. Place the frame in position, but do not hurry to plant out until the bed has settled down and the heat is just on the decline. Avoid using too much soil at the time of planting as it is only liable to become sour, and by far the best practice is to add to the bed as required, which is when the tiny white roots appear on the surface seeking nourishment. Therefore, at the time of planting a small quantity of soil is required, just sufficient to cover the ball of roots. This must, of course, be placed in position prior to planting, so that it may become warmed to the same temperature as the frame. Many and various are the mixtures advocated and used for the growth of cucumbers, but I prefer a loam for the staple part, and leaf-mould, which must be mixed in proportion according to the nature of the loam, with a sprinkling of fine charcoal and a little sharp road grit.

The plants should be sturdy at the time of planting, and have been grown near to the glass, and require putting out when the pot has become filled with roots, and before a pot-bound stage is reached. If the plants are growing freely and are likely to become starved, it is far better to give them a shift than allow them to remain in that condition if it is not convenient to plant them out. Planting should be done as quickly as possible, and when the weather is warmest, having first thoroughly hardened off the plants. Two placed in each light will be ample to cover the space, if one is taken towards the top, and the other trained to cover the lower half. The soil should not be allowed to become dry, but caution is necessary against over-watering, and until growth is active promote a moist atmosphere by repeated syringings whenever the weather is bright. Air must be admitted early in the mornings, but cautiously if the weather be bright, as cold winds often then prevail. Close the frame early in the afternoon to take advantage of any sun heat that may follow.

The growths should be thinned and pegged down occasionally, always attending to these details towards the middle of the day or when the weather is warm. Apply top-dressings and keep the plants well watered when in full growth, both with clear and occasional doses of properly diluted liquid manure. Remove old foliage and any leaves that touch the glass. Keep the glass thoroughly clean both inside and out, and cover up each night with mats or other protecting material whenever the weather is cold. Never allow the fruit to remain on the plants after they are large enough to cut, nor overtax the plants with too many fruits.

There are many varieties eminently suitable, but I have found Ideal and Lockie's Perfection excellent for this purpose.

Aldenham Gardens. **E. Beckett,**

A PLEA FOR MALMAISON CARNATIONS.

The Malmaison carnation is indeed the flower of fashion, one which is never out of place or season, whose massive beauty and enchanting colours lend refinement and dignity to its surroundings.

During recent years, since the advent of the perpetual carnation, we have been repeatedly told that the death knell of the Malmaison has been sounded, and all that remained to us who admire the plant was to prepare for a decently respectable funeral. This, however, has not yet taken place, and while I admit that the perpetual is the greatest of all carnations, yet the Malmaison will always hold its position amongst people of good taste. Both classes of carnations can be beautiful, and should be admired for their respective charms, and the success of one should not be measured by the shortcomings of the other.

The fundamental principles of the cultivation of the Malmaison are in our day more fully understood, so that there never was a time when Malmaisons were brought to greater perfection or made to bloom over a longer period, and now that we understand the essentials in the culture of this plant, the thoughtful and intelligent gardener has little difficulty in achieving success.

The main points are undoubtedly the following: Good, clean, healthy stock to start with. The layers potted up in good time so as to receive their second potting and become well established before the winter months. During the dull season allow the plants to rest, cool, dry, airy conditions being the most favourable to the plant during this period, and undoubtedly it is the winter treatment wherein lies the secret of Malmaison culture. Many most excellent results are obtained from plants wintered in frames, with just sufficient heat to dry the air. This, with little water and much ventilating gives the necessary conditions. But what a contrast to the spring season, when the Malmaison rushes away into a vigorous, robust growth, and calls for much water and food. Then the air should also be charged with a certain amount of moisture. The Malmaison must be shaded from the strongest sun during late spring and early summer, or the blooms will suffer in size and colour; but let this be the golden rule in Malmaison growing—never have all the ventilators completely closed.

It will be seen from these few remarks how many more of our gardeners than those who do could grow Malmaisons, which are the most highly appreciated of flowers. In fact, many gardeners do succeed with only a frame, and a house to flower them in.

No special society fosters a love for this carnation, and few could even give a correct definition of what a Malmaison variety really is. The fact, however, that its season of flowering is during Society's height of activity, and that it is highly prized by them, is a great power in its favour. You may drag it, and indeed we know it too often is dragged, in the gutter, yet, even this has not made it common or lessened its dignity.

The main object which I have in view is to draw attention to many of the more recent varieties of Malmaisons, which undoubtedly are far superior to the old varieties, and which are not taken sufficient account of. This may be owing to the fact that in times past several very indifferent varieties have been put upon the market. This has led people to think nothing better than Princess of Wales, Old Blush, etc., could be expected, but if some of the newer kinds were taken up seriously, and the public saw more of them, their good qualities would become recognised.

Maggie Nettlefield is a most striking Malmaison, larger than Old Blush and of very similar habit of growth. The flowers are flesh-pink marbled or veined red; Lady Coventry has been well shown, and is undoubtedly an improvement on the older varieties of that peculiar shade of salmon-cerise colour; Irene is very similar to, and by many preferred to Princess of Wales. The Colonel is a gigantic cherry red, with a sound calyx and strong, erect stem, which has been described by one large private grower as "the perfect Malmaison." Since the dissemination of "Yaller Gal" and "The Queen," which were no doubt most excellent in their day, there has been great progress made; and compare these two varieties with C. P. Little and Lady Mary Hope, and the development of the Malmaison is most marked.

While the Malmaison varieties have a very bright future before them, Marmion has paved the way for better things, which are rapidly following, and shortly we may expect to see nearly every shade of colour represented in this new section of Malmaison perpetuals.

Montagu C. Allwood.

DEUTZIA GRACILIS.

Many inexperienced cultivators either throw away their forced plants directly the flowers on them have faded, or been used, or allow them to lie about in a neglected state until they are practically useless. About twenty years ago I saw some grand plants in a garden in Warwickshire. They were growing in deep loam in a sheltered spot, and looked like rows of gooseberry bushes from a distance; they were exceptionally healthy. I then took charge of some gardens in the south, and, as much forcing was done, I determined to take care of my deutzia plants, as flowering shrubs were much appreciated.

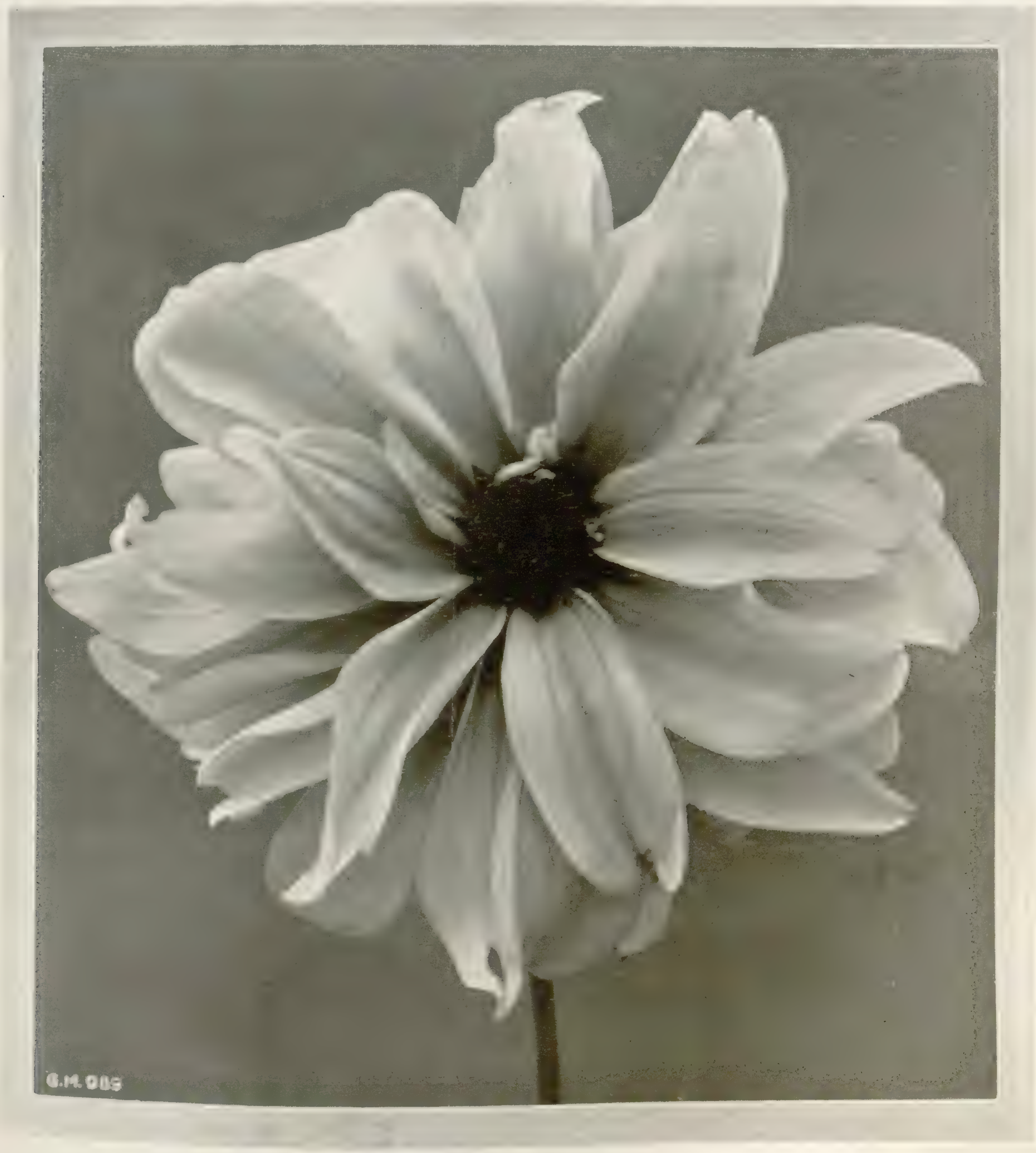
Directly the flowers on the forced plants were used, or had faded, I placed the latter in a frame and had them well cared for; they were duly watered and syringed; old wood being cut away. In the meantime a very warm position in the kitchen garden was selected, trenched, and manured, then they were put out a good distance apart, watered, and heavily mulched. Result: The young shoots made strong growth, which doses of liquid manure improved later in the summer. By the end of autumn finer plants were available than before forcing commenced, and at the end of two years they were fit for forcing again.

G. B.

NEW PÆONY-FLOWERED DAHLIAS.

Mr. J. T. West, of Brentwood, who for so many years has been a very successful grower and raiser of dahlias, and has given the horticultural world many fine cactus varieties, and a delightful series of the little pompon dahlias, would seem to about the last man to enter seriously the work of raising the giant-flowered informal pæony-flowered varieties. Neatness has always been a character developed Mr. West's flowers, and yet he has his attention to the new section, a tion that sets at nought the old florists' and regulations. But in this direction Mr. West has at once ed success, as he has in the cactus and groups. It occurred to him that Dutch friends had originated flowered dahlias, that was no good why the section should be left enly in their hands, and so, understandtendency toward and the need for, for garden decoration, he set about the business of raising new varieties with his usual energy and determination. His chief aim was to introduce new colours, and in this he has been particularly successful, and he has named several of those varieties he has selected for distribution after celebrated painters.

The new varieties that came under our notice last auutmn, and were well shown by Mr. J. T. West on several occasions, are: Burne Jones, with broad rosy-lilac petals and fine golden centre; Dormouse, rich velvety crimson; Lord Milner, yellow edged with white; Norah Lindsay, dove-colour, suffused with pink; Rubens, rose-pink, flushed with salmon; Liberty, brilliant scarlet; Ruskin, pink and crimson, very bright; Turner, rich pink (see illustration); and Titian, bright red. These are from four feet to five feet high, with Rubens somewhat taller than the rest.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NEW PÆONY-FLOWERED DAHLIA TURNER.
Flowers rich pink; raised by Mr. J. T. West, Brentwood.

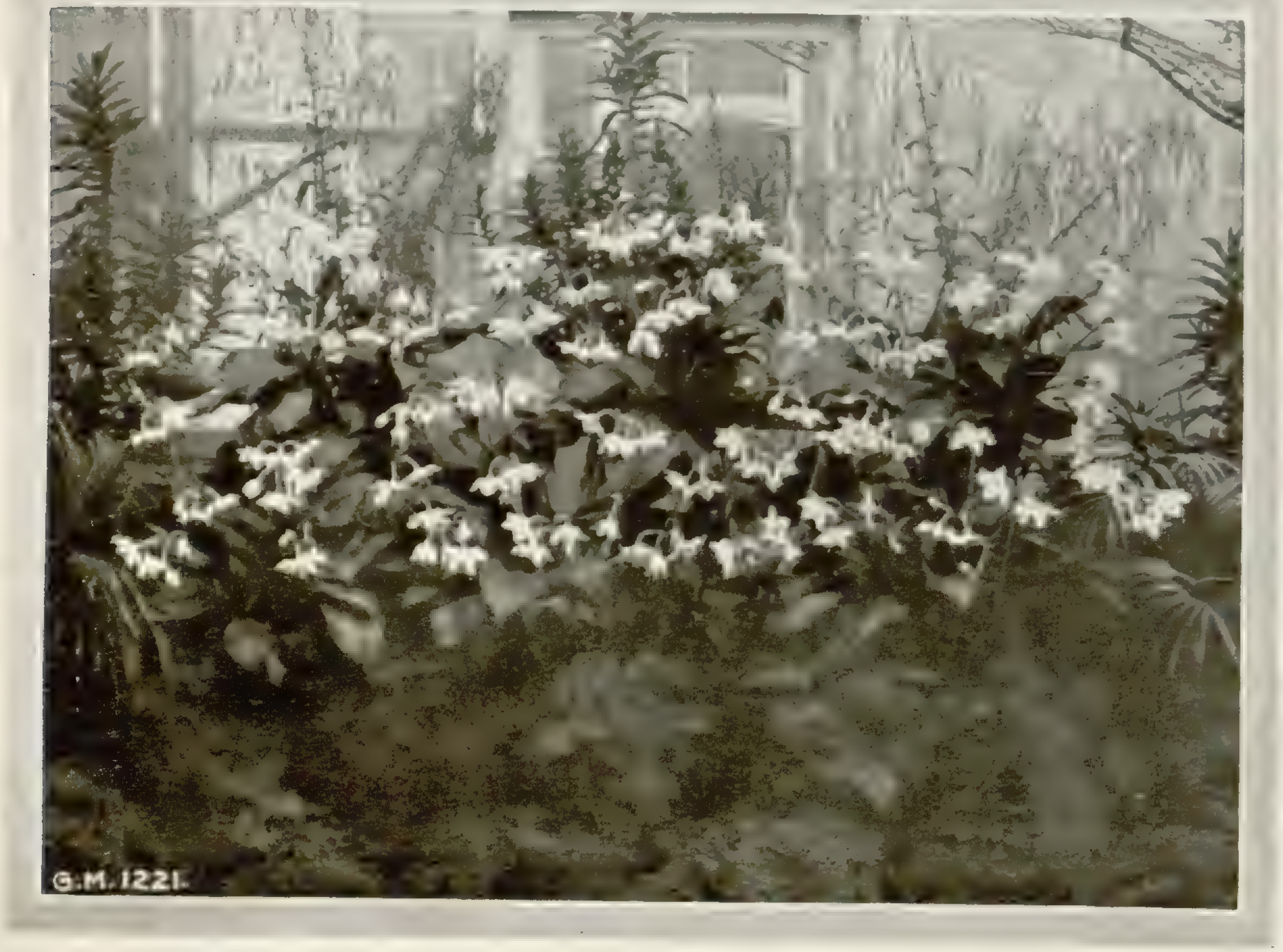
DAHLIAS TO PERFECTION.—A thorough guide to the successful culture of these popular flowers is "Dahlias and Their Cultivation," by J. B. Wroe, price 1s. net, by post 1s. 2d., bound in cloth 1s. 6d., by post, 1s. 8d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

ROSE NOTES.

For the last six years Blush Rambler has been one of the most showy and pleasing roses I have grown. In growth it somewhat resembles Crimson Rambler, but is stiffer and has more thorns. I have it on pillars, arches, and at intervals upon a pergola, and in either situation it is beautiful. The flowers last longer than those of most of the Ramblers, both upon the plant and when cut. The very large pyramidal trusses of blush pink strongly remind one of clear apple blossoms, but are much larger, and of course not so fugitive. The rose has a peculiar and pleasing perfume and is very hardy. I prefer it to the Penzance briars for a high and stiff hedge, and it lasts much longer in flower, while the foliage is clean and sound all through the season. It does not mildew with me, although frequently Crimson Rambler growing by its side has been severely attacked. I like to see the two together, the contrast being so marked. It is also a Gold Medal rose.

Electra is one of the very earliest flowering roses, and a good pillar variety. Somewhat like Aglaia in colour, it is deeper in the bud stage, when it is golden lemon shaded with orange. As the flower opens it passes from pale primrose to almost white. This variety flowers in clusters and lasts some time, and it does best when the flowered growths are cut out each season, and young rods encouraged. In this respect it differs entirely from Aglaia, a variety that is very impatient of the knife, and often condemned when the fault really lies in the pruning.

Florence Edith Coulthwaite and Mrs. David Jardine have been pleasing under glass this spring. Both have succeeded better in pots with me than in the open. The first-named is orange and peach, with peculiar stippling of clear rose on the inside of the petals, which renders it one of the most distinct roses grown. It is of good imbricated form and long lasting. Mrs. David Jardine was introduced during the same year, and is one of the best for forcing where a bright rosy pink flower is required. This rose scarcely produces a blind or flowerless shoot with me, and is very floriferous.



WELL-GROWN EUCHARIS AT BOTLEY HILL GARDENS, HANTS.

Grace Molyneux is another new rose that is forcing well. It blooms freely, and the buds are almost as long as those of Betty, with the same large petals, creamy-apricot with flesh centre, and very sweetly scented. It was also good outdoors last summer. Herman Cœnemann, a very large and pale pure pink, promises well for exhibition, and last year it was exceptionally showy in the open. Herzog Friedrich II. von Anhalt is a very peculiarly coloured rose; salmon, shaded with carmine, coppery-red and cinnamon in the centre. It is of good size and shape, and very fragrant.

Helen Good is a sport from Maman Cochet, a very delicate pink with deeper edges. This must not be confused with Helen Gould, which is a cross between Kaiserin Augusta Victoria and Caroline Testout. Helen Gould with us is too much like Baldwin to show any appreciable difference except in an occasional flower.

Friedrichsruhe (1908) is one of the best dark blood-red H. Tea varieties, and one that will certainly become popular, as it adds depth of colour to this class. It is of good habit, and we find it flowers very freely, not in a mass as in some roses, but continuously. Some growers catalogue this as a Tea, and it certainly favours that class more than many of the hybrids.

Jacques Vincent, a new H. Tea from Soupert and Notting last year, will probably be a good forcing rose, if one may judge of its behaviour this spring. It is unique in colour, coral-red, shaded with yellow, and with a rosy-salmon centre. The long, well-formed buds open into a very large and perfectly shaped flower. The combination of colours is very attractive, and it is one of the freest bloomers; has a vigorous upright habit of growth, and, as seen so far, is one of the most promising new Continental roses. A. Piper.

PLANTING OUT VIOLETS.

Violets intended for culture in frames next winter should be put out as soon as possible. They often do remarkably well in single rows right in the centre, or open part of the kitchen garden. The clumps should be planted quite 2ft. apart, and all runners that show during the summer months must be pinched directly they are large enough to handle, and red spider must not be allowed to infest the leaves. One clump so grown is worth half a dozen (for frame culture) of those grown in an over-crowded state on a hot south border.

I remember seeing some tiny plants on such a border last August; well! I had to look very closely to see them at all. It was pure waste of time and space to so treat the plants; they were nearly devoured by red spider. The soil in which good clumps are to be grown should be made firm while in a fit state before any planting is done. A compact clump will result, but the ground must not be unduly trampled upon afterwards. I believe I was one of the very few who, on its introduction, successfully cultivated that grand single violet Princess of Wales in this country. It is a splendid variety for growing near, and in, towns, as it resists fogs so well.

Geo. Garner.

EUCHARIS AMAZONICA.

The photograph I am sending you shows a group of seven specimens of the beautiful and useful Eucharis amazonica, as they were on January 22 last. The specimens carried from ten to thirteen spikes each, and yet it is more than ten years since either one of them was repotted. They flower three times every year, and my neighbours are good enough to say that such healthy and free-flowering examples have never been seen by them anywhere.

Weak liquid manure and soot water are given occasionally, and under no circumstances are the roots allowed to become dry. The stove or the cucumber-house provide the plants with a suitable position and temperature, and they are never placed in a cool house to rest. Beyond these points of culture, and scrupulous cleanliness, we do not follow any special system of management.

W. Davey,
Gardener to Lady Jenkyns.
Botley Hill Gardens.

CLEMATIS MONTANA RUBENS.

The old well-known Himalayan Clematis montana is one of the most effective plants imaginable when covered towards the end of May with its showy white flowers, and in many a garden it is found covering the fronts of houses, low walls, pergolas, and other supports, where it rarely fails to bear a profusion of blossoms. The variety under notice has, however, only been available for garden decoration during the last few years, for it was only introduced during the first year or two of the present century. It has, however, made rapid headway, and plants are found in many gardens, though really large examples are still scarce.

It was sent home from China to Messrs. Veitch by Mr. Wilson during the time of his earliest visit to China, and was one of the first shrubby plants of his collection to be put on the market. It has much in common with the type, being quite as good a grower and quite as free, but the leaves are very much darker in colour, the stems reddish, and the flowers deeply flushed with red. Two forms appear to be present, the flowers of one being much larger than those of the other. The blooms of the smallest one are similar in size to those of the type. It is a suitable plant either for growing against a wall, pergola, or group of rough stakes in the open ground. At Kew a fine example may be seen in the clematis collection, covering a support of rough branches. This has occupied its present position for the last four or five years, and has blossomed well each year. W. D.

Rose Climbing Devoniensis.—This old variety is not now much planted, and perhaps for this reason is more appreciated when seen in good condition. It has an uncontrollable habit of throwing up strong, stout growths from the base of the plants, consequently when selecting a position for planting it this should be taken into consideration. These vigorous growths quickly cover much space, and from the lateral growths good blooms may be cut. Probably the finest specimen of this rose is to be seen in the conservatory at Courtlands, where it was planted some eighteen years ago, and now covers a space of 44 feet by 12 feet. The fine flowers the plant produces might lead one to think it was a special variety of this rose, but its vigour is probably due to the roots having found something suitable to their requirements in the border.—T. H. Slade.

DUNDEE RAMBLER ROSE.

All the lists of roses are agreed on about four points concerning the popular rose named Dundee Rambler. First of all, the title is given, and then the section to which the variety belongs is invariably given as the Ayrshire. That it is a robust climber is generally stated, and also that the raiser or distributor was named Martin. Respecting the date of introduction, all the lists are silent; while concerning the colour of the flowers, descriptions vary from white to blush and pink. One would like to know something about the man who is credited with being the raiser of Dundee Rambler, while an approximate date of introduction would add to the interest. But this knowledge would not make the rose more beautiful or useful, nor would it help us to cultivate it better. Fortunately, it is one of those roses that asks for very little from the cultivator, and, notwithstanding that it has been long with us, it still holds its own among the hosts of rambling roses introduced during recent years. The annual removal of a certain amount of old wood that has ceased to be productive of flowers, or of stout growths that are crowded, is necessary, and of equal importance is an annual top-dressing of half-decayed manure. On several occasions attention has been drawn to the value of this grand old rose in these columns, and illustrations of its usefulness set forth. In the present issue a further illustration of Dundee Rambler is given, showing the rose filling an otherwise unsightly corner.

P. P.

TREE ROOTS.

At the back of my house, in the field beyond the end of a garden eighty feet long, and therefore fully ninety feet distant, there is a row of sturdy elm trees, and close to the house, and therefore fully eighty feet from the trees, elm suckers persistently assert themselves. The trees I estimate to be about 80 feet high, and are fairly fine specimens. The presence of these suckers is absolute evidence that the roots of those elms extend for 80 feet in the direction of the house, and, assuming a similar extension in all directions, we have a root system of no less than 160 feet in diameter, or about double the height of the trees! It is, of course, a practical impossibility for any tree of such dimensions to be so completely unearthed as to display its entire root system, but were this possible, it would certainly be a remarkable sight, since the underground ramifications are obviously immensely more extensive than the aerial branches, though doubtless of a very different character as regards distribution, an enormous tabular ramification of comparatively [illegible] depth presumably existing, as the elm is not reputed to be a deep rooter.

Although a mental image of such an immense root system fills us with surprise, when we consider the needs of an immense tree as regards water supply in hot, dry weather, it appears obvious that nothing less could cope with them. On such a tree there must be hundreds of thousands of leaves and buds, each and every one of which is greedily absorbing water from below and parting with most of it by transpiration through its myriad pores. Sever a twig bearing a few leaves and expose it to the same hot sunshine as pervades the tree, and in a few minutes the leaves flag and wilt, owing to the needful supply being cut off, a proof that the turgidity of the whole of the foliage is only maintained by a constant supply.

Turning now to the source of the supply, in most cases we might penetrate to the greatest depth the roots reach and only find aparently dry, or, at any rate, merely damp soil, so that it is abundantly clear that an infinite number of rootlets must be necessary in order to collect a sufficiency for that individual tree, to say nothing of the many other root systems which are competing in the same area. When, therefore, we consider a dense forest, and picture to ourselves what the conglomerated root systems are called upon to do, one would imagine that nothing less than an immense annual rainfall could suffice to keep the trees going, and yet we are told that less than 30 inches per annum, i.e., less than $2\frac{1}{2}$ inches per month is sufficient for abundant forestal growth over unlimited areas. To look at water of $2\frac{1}{2}$ inches depth one would imagine it to be scarcely adequate for a single hot day, and we have, nevertheless, to bear in mind that a good proportion of even such a rainfall finds it way to springs, and thence by brooks and rivers, goes back unused to the ocean. In any case, when we consider this vital need of vegetative growth, we the more clearly appreciate the immense benefits which must accrue in dry countries through systems of irrigation.

[Photo: F. Mason Good.

A FINE SPECIMEN OF DUNDEE RAMBLER ROSE.

There is no doubt that trees are developed precisely in proportion to the facilities for growth afforded by their environment; the large elms mentioned above would not be where they are had not the nature of the soil and the amount of rain been such as to permit the development and utilisation of the wide-spreading root system indicated by the far distant suckers. Given fruit trees of highly cultivated heavy cropping varieties, the strain upon these must be enormous in very dry seasons, in order not merely to produce a large quantity of juicy fruits, but also to maintain the foliage in active working condition for the maturation of the crop, for we must not forget that it is the leaves which do all the work.

Here, perhaps, we hear a critical remark anent root-pruning as controverting our arguments, but this is not the case; the root system owes its faculty of collection entirely to the myriads of small feeders, and the removal of old and effete root branches tends to the greater multiplication of these to the consequent benefit rather than detriment of the tree. Nature, too, has a knack, so far as fruit is concerned, of repairing damages by extra produce, and thus when a check is induced by pruning either of underground roots or aerial branches, she endeavours to make up for it by additional fruit buds, i.e., reproductive apparatus.

Chas. T. Druery, V.M.H., F.L.S.

SOIL BACTERIA.

The natural fertility of the soil depends to a very great extent upon bacterial activity. Bacteria are plants. Although they were formerly classed as animals, it is now generally conceded that they are plants. They are single-celled and of simple structure, being composed almost entirely of protoplasm; they differ from higher plants in that they contain no chlorophyl (green colouring matter), and they resemble more closely the yeasts and moulds. There are many distinct kinds of bacteria; about 1,200 different kinds have been isolated and studied, and new ones are being found almost every day.

Bacteria are very small, being invisible to the naked eye, and their food requirement varies according to the species. As a rule, bacteria, like other non-chlorophyllic plants, such as mushrooms, require organic food, although some soil bacteria apparently thrive best only on mineral foods. The food absorbed by the bacteria is used in part in the construction of new protoplasm, and in part to produce energy in the form of heat, motion, and possibly light.

Bacterial secretions or waste products vary with the food, environment, and the organism acting. The strong odours produced in putrefaction, as for example, in a dung clamp, are products of bacterial action. In general the toxin excretions of bacteria are injurious to their own bodies, just as the excrements of higher organisms are injurious to the bodies from which they spring. Thus, if the excretions are allowed to remain in contact with the organism they act as antiseptics. Here we have an example of the beneficial effects of a thorough cultivation of the soil, letting in air and light; of the value of a change of crop grown, and of the beneficial effect of an application of lime to sweeten the soil.

It is to their rapid reproduction that bacteria owe their wonderful influence in nature. They reproduce by simple division of the parent cell. The rate of multiplication depends on the food supply, environment, and species. Recent experiments in the Rothamsted Laboratory have shown that some of them, under favourable conditions, divide, thus doubling their number, in twenty minutes; others in three or four hours. Another method of reproduction or propagation is by spores. Spores may be likened to seeds of higher plants, although they are not identical. The spore is very resistant to external injurious influences. Disinfectants of sufficient strength to destroy bacteria are usually not destructive to spores, and spores require a much higher temperature for their destruction than do bacteria.

Bacteria are omnipresent. They are in the air we breathe, in the crust of the earth, on trees, grass, hay, flowers, fruits, vegetables; in lakes, pools, rivers, oceans, the water we drink, in our food—in fact, they are everywhere, except in the interior of the earth and the upper layers of the atmosphere. The necessary conditions for bacterial growth are moisture, temperature, and absence of bright sunlight. A certain amount of moisture is necessary for all life. Drying is resorted to in the preservation of vegetables, fruits, meat, and even dried eggs are now on sale for food. The seeds of nearly all plants are preserved because of the lack of moisture in sufficient quantity to support bacterial growth.

The temperature requirements of bacteria vary according to the species or variety. In general, disease-producing bacteria require the temperature of their host; fermentation bacteria, the ordinary summer temperature; while some soil bacteria thrive almost at the boiling-point of water. The temperature range is very wide, and consequently we find bacteria germs widely distributed in nature. By controlling the temperature of his glass-houses and frames, the gardener can, in many cases, govern bacterial growth.

Ordinary daylight is not, as a rule, very injurious to bacteria, but bright sunlight has a decidedly injurious effect. Bacteria also require certain mineral foods, such as lime, potash, and phosphates for their full and proper development. The general function of bacteria is the reduction of complex organic compounds to simple substances. Plant life is built up from the mineral substances in the soil and from the gases in the atmosphere.

When life ceases bacteria disintegrate the dead bodies, returning the composing elements to the soil or to the atmosphere, to be again used in the construction of new forms of plant life. Thus the life cycle continues. All that has lived must die, and all that is dead must be disintegrated—that is, the ingredients which are the substratum of life must enter into new cycles of life. The law of perpetuity of life thus depends upon the use of food elements over and over again.

Harpenden. J. J. Willis.

ODONTOGLOSSUM CRISPUM MAGNUM BONUM.

Flowers white, with red-brown spots. A.M., R.H.S., May 3. Lieut.-Colonel G. L. Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

Aspleniums. — This large genus of elegant ferns contains many species that are suitable for a large variety of purposes in the garden. Many are elegant and useful for filling vases, and they stand dry and better than most ferns, especially when grown in cool greenhouses, and not allowed too much pot room. Equal parts of peat, leaf-soil, loam and sand constitutes a good compost for aspleniums. Water freely and shade from bright sun. Sow spores to increase stock. For greenhouse cultivation the most suitable kinds are A. bulbiferum, A. biforme, A. Fabianum, and A. Nidus-avis.—P. P.

SWEET WILLIAMS.

"Sweet William, with his homely cottage smell."
—Matthew Arnold.

The Sweet William (Dianthus barbatus) has been wonderfully improved during recent years, the heads of blossom being almost as large and handsome as those of the herbaceous phloxes, while the colours are in some cases, richer, if not so bright.

MILTONIA BLEUANA HESSLE VAR.
Flowers white, with crimson-purple disc. F.C.C., R.H.S., May 3. W. P. Burkinshaw, Esq. (gardener, Mr. J. Barker), West Hill, Hessle, Hull.

There is one strain called the auricula-flowered, the flowers of which have clear white eyes, with broad bands round them of various shades of crimson and maroon. Some strains of these have perfectly circular flowers, with no indentation where the petals meet. The true florist's flower has other characteristics, which we learn to look for. There are some very fine salmon-pink varieties, besides various other colours more or less familiar to lovers of these old-fashioned flowers. The normal varieties of a good strain grow about a foot and a-half in height, but there are dwarf forms which do not grow more than a foot. The double-flowered forms are of doubtful value, except perhaps the deep velvety-crimson variety, though the heads of blossom last in good condition longer than the single forms, not taking on that dull appearance which is an objection against the single flowers.

The best way to obtain a stock of these beautiful flowers is to buy a packet of mixed seed of the finest strain procurable from a good nurseryman, and this may be expected to yield a large proportion of flowers with good trusses of large round blooms, with smooth edges and well-defined markings. The seed should be sown in April or May in the open on a nursery bed in a sunny spot, which is better than raising them in pans, as the seedlings in such circumstances so easily become leggy and damp off. They should be pricked out six inches to a foot apart in a bed of good soil in an open position, and in the early autumn should be transplanted into their flowering quarters. The Sweet William is a near relative of the carnation, and, like it, does not succeed in damp or shady places. If the soil is heavy there is nothing better to mix with it than old mortar rubbish. In light soils, especially those rich in lime, the Sweet William may be considered a true perennial, but in soils inclining to dampness it is best treated as a biennial, old plants frequently rotting off in the winter.

It is worth while propagating any specially fine varieties, especially doubles, by taking cuttings early in the summer, the best material for the purpose being the short laterals, which are usually produced from the joints, and the shoots which sometimes come up in tufts from the roots of the parent plants.

Alger Petts.

THE ROYAL NURSERIES, EXETER.

Situated amid surroundings of historic interest the nurseries of Messrs. Robert Veitch and Son have long been famous throughout the horticultural world, and no lover of choice trees and plants who visits Exeter should miss the opportunity of making a tour of the three nurseries occupied by the firm. The "Royal Nursery" (headquarters) is situated in the New North Road, almost adjoining the South-Western Railway Station. Here, although hemmed in on all sides by buildings, flourishes a remarkable collection of choice and rare things, embracing stove and greenhouse plants, orchids, hardy perennials, and alpines, and a large collection of flowering and ornamental shrubs and climbers.

Messrs. Veitch have for many years devoted special attention to the choicer trees and shrubs that are capable of adorning British parks and gardens, and many hours might profitably be spent among the good things here to be seen. The collection of Japanese shrubs is particularly fine, and, in view of their increasing popularity, it is worthy of note that at Exeter all that is choicest and best in the way of Japanese plants is grown in quantity. The lovely Japanese cherry, Prunus (Cerasus) pseudocerasus James H. Veitch, claims special mention as a tree that is worthy a prominent place in every garden. Its double flowers are about two inches across, of a pleasing rose-pink, and very freely produced. Stuartia pseudo-camellia, Raphiolepis ovata, and Wistaria multijuga rosea are taken at random as being among the beautiful plants that have been introduced from Japan, to say nothing of the conifers, such as Podocarpus nageia, Sciadopitys verticillata, and hosts of others that are included in the Exeter collection. There is also a nice-looking lot of plants, on their own roots, of Viburnum Carlesi, hailing from Corea. This plant will take a high position among our flowering shrubs, not only on account of its hardiness, but for the delicious scent of its pretty pink blossoms.

Magnolia grandiflora Exmouth variety blooms here beside the claret-coloured M. Soulangeana nigra. Viburnum rhytidophyllum is a handsome shrub with beautiful dark-green corrugated leaves, having a soft felt-like reverse. It bears corymbs of creamy-coloured flowers, followed by red berries. Cydonia Sargenti, Ribes Gordoniana, Eueryphia pinnatifida, Notospartium Carmicheliæ all merit special notice, but thus one might continue indefinitely to name choice shrubs that the Royal Nursery contains. Under glass are to be seen some fine amaryllis, rhododendrons, boronias, perpetual carnations, that most interesting plant Feijoa Sellowiana, with its myrtle-like flowers, but crimson and white in colour; and, indeed, something of everything worth growing; and in the frame yard are batches of Rehmannia augulata Pink Perfection, Calceolaria Veitch's Golden Glory, Erica Veitchi, and other novelties of the firm's introduction were coming along to meet the season's trade.

At Exwick, where the Cleve Nursery is situated, one may be equally interested in the fine breadths of choice coniferæ, ornamental trees, roses, and fruits that grow with that robustness which bespeaks congenial surroundings and painstaking care. Almost as soon as the gate is entered some excellent young Cedrus atlantica glauca arrest attention, and a few yards further on Pyrus malus atrosanguinea blooms with the utmost freedom, and its richly-coloured flowers produce a fine effect. From a considerable distance one has the attention arrested by some fine specimens of Pinus ayacahuite, which is perfectly distinct from any other pine. It is clothed with fine thread-like needles of a glaucous green, and even on young trees, about 3ft. to 4ft. high, cones exceeding twelve inches in length are borne. Abies bracteata, and A. Brunoniana grow here in quantity, and there is also a good batch of Quercus suber and Lucombiana, the Cork oak. Eucalyptus of many kinds stand the winter unharmed at the Cleve Nurseries, as also does Yucca Whippeli, Abutilon vitifolium, and many another plant that more often than not one sees coddled under glass.

Messrs. Veitch have evidently mastered the propagation of such plants as Mutisia decurrens, M. clematis, Dendromecon rigidum, Embothrium coccineum, Guevina avellana, Dracæna indivisa vera, and Romneya Coulteri, for batches of strong young plants, as well as large-flowering specimens, are to be seen in plenty.

Beside the Cleve Nursery is the seed trial ground, where the extensive collections of flower and vegetable seeds handled at the firm's warehouse are tested under quite normal conditions. The evenness with which the rows of peas, onions, and other vegetables were coming along, and the uniformity to type and colour of the wallflowers, polyanthus, and forget-me-nots that were in bloom bore testimony to the quality of the seeds stocked.

The third nursery is called the "Retreat" Nursery, and is situated at Exminster. Here forest trees, rhododendrons, and hardy heaths form leading features, and right well are they grown. Among the many rhododendrons that have claims to notice the new variety, Dr. Stocker, must be specially mentioned. This is a truly handsome variety that will undoubtedly find its way into the best gardens throughout the land. It is best described as white, tinted lemon, and shaded on the outside with red. The nursery being about five miles from Exeter, and about five from the sea, we were not astonished to find here a large collection of Sikkim rhododendrons growing out of doors, large plants of R. Luscombianum, with its large rosy-pink flowers; R. Kewensis, large and almost white; R. Dr. Stocker, of which an illustration is given herewith; a fine specimen of R. Falconeri, and R. Hodgsoni, with their large, striking flowers, and a host of other beautiful species and hybrids. It is worthy of note that the overhanging branches of apple and other trees are a great protection to these shrubs, and it would be quite possible to grow this class of rhododendron in many parts of England, if they were grown in woods where the autumn and spring frosts are broken, and where they would get some shelter from winds.

Here are also to be found large masses of that glorious Calceolaria Veitch's Golden Glory, and it is quite at home; small plants, planted out in September, have each developed three or four large rosettes of leaves, and give great promise of magnificent blooms. There are large breadths also of Erica Veitchi, E. codonodes, and E. arborea, each showing their distinctive habit and period of flowering.

RHODODENDRON DR. STOCKER.

A handsome hybrid introduced by Messrs. Robert Veitch and Son, with large white flowers, faintly flushed with red.

RUBUS SPECTABILIS.

This is the earliest of the many species of rubus to blossom, and it frequently happens that flowers can be found before the middle of April, whilst it is in full blossom by the end of the month. It is a native of California, and belongs to the raspberry group of the genus. During winter it may be readily distinguished from other species by reason of its light brown stems, which are very conspicuous; in fact, where coloured stemmed plants are encouraged, it is well worth including [illegible] the sake of the bark alone. The flowers are rose-purple, and borne from the leaf axils of last year's shoots. They are not very large, being about three-quarters of an inch across. The fruits are orange-coloured, and ripen early in June, but are not of much value, being rather insipid. Planted in light loamy soil it suckers freely, and grows rapidly into a large mass. If the best winter effect is desired it is necessary to prune away the old shoots as soon as the flowers have fallen, in order that there may be nothing to hinder the full development of the young shoots, and detract from them after the fall of the leaves. A hybrid between this and the wild raspberry, R. idæus, has originated, but it cannot be said to be of any value, for it is less decorative than R. spectabilis, and the fruit is not palatable.

D.

NEW PLANTS, ETC.

MILTONIA BLEUANA HESSLE VAR.

This is a very beautiful variety, and its parentage is M. vexillaria Queen Alexandra and M. Roezli. It has very large flowers, the sepals, petals, and greater part of the [illegible] lip being pure white. There is a golden crest, and around this, at the base of the lip, a regular blotch of bright brownish-crimson. A very fine orchid. F.C.C., R.H.S., May 3. W. P. Burkinshaw, Esq., West Hill, Hessle.

ODONTOGLOSSUM CRISPUM MAGNUM BONUM.

A particularly pleasing variety, with large shapely flowers, posed with great regularity upon a long, arching spike. The flowers are white, with a small cluster of brown spots towards the centre of each petal, and a very bright golden crest on the lip. The finest blotched varieties cannot exceed the beauty of such a form as O. c. Magnum Bonum. A.M., R.H.S., May 3. Lieut.-Col. G. L. Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury.

NARCISSUS COLLEEN.

This is a very pretty variety, with broad, slightly reflexed, pure white perianth segments, and a distinct yellowish-green cup. A.M., R.H.S., May 3. Messrs. R. Wallace and Co., Colchester.

REHMANNIA HENRYI.

This species was found by Dr. Henry near Ichang, and subsequently discovered by Mr. E. H. Wilson in the same district. It is a cool greenhouse plant, and may perhaps be hardy in the extreme South of England and Ireland. Both stems, leaves, and flowers are hairy, the latter are wide-mouthed, yellow, with the five lobes white on the upper half. The height of the plant is twelve to eighteen inches, and as the species is easily raised from seed, and seeds are freely produced under cultivation, it may become fairly popular. "Bot. Mag.," t. 8,302.

AQUILEGIA ALPINA.

A robust and somewhat variable species, but the variability refers chiefly to the spur, and therefore does not really affect the plant from a horticultural point of view. It is a perennial species, and one that makes a strong tap root. The flowers are from two to three inches across, and of a rich violet-blue colour, borne in twos or threes above deeply-incised foliage. "Bot. Mag.," t. 8,303.

RHODODENDRON MUCRONULATUM.

This was at one time regarded as a variety of R. dauricum. It is a deciduous species from Central and Eastern Asia, and forms a close-branching shrub that succeeds in sandy peat, and promises to be a good garden subject. The flowers are borne singly, not in trusses, but as the flower buds are in groups of from two to five at the ends of the twigs, there are plenty of flowers of a pale rosy-pink or very light purple shade, the individual blooms being about two inches across. "Bot. Mag.," t. 8,304.

PITTOSPORUM COLENSOI.

This is a handsome shrub for the winter garden, but, except in the Scilly and Channel Islands, it is not hardy in the United Kingdom. The species is closely allied to P. tenuifolium. The small red flowers are freely produced in the axils of the leaves towards the [illegible] the growths, and also terminally. "Bot. Mag.," t. 8,305.

NOTYLIA TRISEPALA.

A curious little Mexican orchid of dwarf, epiphytic growth. It is interesting by reason of its pendulous racemes of tiny pale green flowers. "Bot. Mag.," t. 8,306.

[illegible] AND HOW TO GROW THEM.—An illustrated [illegible] to propagation, culture, and management of [illegible] and in the open air. [illegible] F.R.H.S. Price 1s. net, by post 1s. 2d. [illegible], by post 1s. 8d., from W. H. and L. [illegible], 148 and 149 Aldersgate Street, London

CYTISUS.

These easily-grown, free-flowering plants are very useful for decorative purposes during the winter and spring months, and as they may be grown in pots of very limited dimensions, they may be used in a variety of ways. It is, however, chiefly as decorative subjects that a few words may be of interest to your numerous readers.

Cytisuses may be readily grown either from seed or cuttings. If by the former method, the seed should be sown as soon as ripe in shallow pans or boxes, which should be placed in an unheated frame. The seed is some time in germinating in such a place, but the plants grow away freely when once the seedlings are through the soil. Where seed has to be purchased this is generally sown in spring with others, and is usually placed in a gentle heat to induce it to germinate freely, but where a few plants are allowed to seed ample may be saved each season for all requirements.

When the seedlings are about two inches high they should be put singly in small pots, and as by the time those sown in spring are large enough for potting, the weather will be sufficiently warm for them to be placed in a cold frame, while those sown when the seed was ripe, and allowed to stand in the seed pans through the winter, will be in a fit condition for shifting on in spring. If potted in a light rich sandy soil, they will grow away freely, and soon make sturdy examples that will flower freely the following winter. If small plants are desired they should be pinched a couple of times through the summer to cause them to become bushy, but where pyramids are required allow the leading shoot to grow away, for if a sufficient space be allowed between the plants during the time they are growing side shoots will push naturally. Where larger examples are desired they should receive a shift as soon as the soil in the pots becomes filled with roots.

By growing a good batch of these, and keeping them in an unheated frame, they may be introduced into a gentle heat, so as to induce them to bloom as required. After flowering the shoots may be shortened, selecting some of the best of them for cuttings. These should be inserted in a light sandy soil, and kept close in the propagating case until rooted, when they may be potted off, and, after becoming established, should be hardened off and treated as recommended for the seedlings. Cuttings will root freely if inserted in a cold frame in the autumn, provided frost is excluded, for though cytisus are not quite hardy, they will withstand several degrees of frost. Cuttings rooted thus should be potted up in spring, and grown on for the summer. Plants that have become too large for decorative purposes, after being wintered in a pit, may be planted out in spring, when, in favourable seasons, they will bloom freely through the summer, and by autumn produce seed, which may be found very useful for raising a stock where means are limited for propagating them otherwise. There are not many species suitable for the greenhouse, the oldest kinds are, however, by no means to be despised. C. racemosus and its variety elegans, C. Atheanus, C. Everestianus, and C. filipes being the most useful.

H. C. Prinsep

ERICA VEITCHI.

A beautiful hardy hybrid heath raised by Messrs. Robert Veitch and Son, bearing a profusion of pure white flowers.

WORK FOR THE WEEK.

STOVE PLANTS.

GROWING PLANTS.—Stove plants generally are now growing apace, and the larger crotons, etc., that were potted earlier in the spring have taken firm hold of the soil, and this being the case they may be helped with a little weak liquid manure. To keep crotons growing and in good colour they must not be starved either at the root or by being kept cold, so really large plants that may not have been potted should also be fed with a little artificial manure. Many of the stove climbers that are being flowered in pots, such as allamandas, bougainvilleas, clerodendrons, and other of the more vigorous growers will all be benefited by a regular system of feeding, either with liquid manure or artificials, as advised above.

INSECTS. — A very sharp look out must now be kept for insect pests, and those in charge should endeavour to keep the plants moved, regularly turning them round whenever possible, thus presenting another part of each plant towards the syringe; the plants will grow a much better shape when moved regularly in this way. A bi-weekly spraying with paraffin emulsion or some other insecticide would of course do away with all pests, but these remedies must not be carelessly used or much damage may result. I noted only this past week someone advising the use of cold water in volume as a remedy for mealy bug. This is so provided the plants infested have good hard leaves, such as crotons, gardenias, ixoras, etc. By getting the plants down somewhere near a drain and giving them a thoroughly hard syringing, washing them thoroughly all over with quite clear water, mealy bug may be entirely eradicated. This is the treatment I accorded several specimen crotons I happened to have charge of some years ago, and after three or four such doses, at intervals of ten days or a fortnight, these plants were quite clean. Where stove room is really limited such plants as acalyphas, hibiscus, clerodendrons, etc., may be relegated to a house of slightly lower temperature, but where, of course, they may receive the same kind of treatment as to syringing, etc., as in the stove proper.

GLOXINIAS AND STREPTOCARPUS.—The main batches of these will now be growing freely, and as the flowers begin to push up rather more air may be given, and the syringe used less frequently, though a morning and afternoon syringing among the pots will still be beneficial. Young plants of gloxinias from seed raised early in the year should shortly be ready for 60 or 48 sized pots, these latter being quite large enough for the first season; if kept growing steadily they should make good plants for blooming during the latter part of July and August. Streptocarpus seedlings do not grow quite so quickly, but they may be accorded the same treatment and practically the same compost.

WINTER - FLOWERING BEGONIAS should be potted off into thumb pots or 60's as soon as they are nicely rooted, and when a shelf is available for them, shaded and away from draughts, they will do admirably; failing this then any position in a warm house or heated pit will do, but bear in mind that these plants in their young stage do not like either sun or much air, but love as much heat and moisture as possible, 65 deg as a minimum at night being about right.

FIRING.—Dispense as much as possible now with the fire-heat, turning it off the stoves during the day whenever the weather permits; when it cannot be turned off bank the fire up early in the morning with sufficient damp ashes to prevent it burning through during the day.—Thomas Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

PLANTING VINES.—In cases where it is intended to replace unsatisfactory vines that were forced early in the season, by young plants raised from eyes; or where, for any other reason, young vines of this description are to be planted at the present season, there should now be no unnecessary delay in making the needful preparations. Vines of this kind should be planted in inside borders, made at a sufficiently early date to have become warm before planting takes place; but, if this is impracticable, a liberal quantity of warmed compost should be placed immediately around the roots. Well-rooted vines may be planted at any time during the next few weeks. See that the soil is moist when they are turned out of their pots, and firmly place the balls of soil (surrounded by specially-prepared compost) sufficiently deep in the border for their surface to be slightly covered. Carefully secure each vine to a cane, lightly mulch with short horse manure, and give enough tepid water to settle the soil. For a few days after planting keep the atmosphere of the house moderately close and moist. Syringe the vines with tepid water in the morning and early afternoon, and if necessary shade them on bright days. Vines should be planted at from 4ft. to 6ft. apart, in agreement with the character of growth.

EARLY VINES.—Where grapes are nearing their colouring stage, if the borders require it they should be given enough tepid clear water to moisten them through; and as soon as the colouring commences the atmosphere of the house should be kept dry,and the ventilation by day be considerably increased, in agreement with outdoor conditions. After the fruit is ripe its colour will be better preserved by the vines being lightly shaded; fish-netting or some similar material will answer the purpose. The Black Hamburgh especially deteriorates in colour unless protected from bright sunshine. Keep the vines clear of red spider by a careful use of the sponge.

LATE VINES.—As soon as practicable after the flowers are set, a suitable number of the best bunches should be selected for the crop, the laterals finally secured to the trellis, and their sublaterals stopped. The thinning of the berries should be commenced and persevered with as they become fit. Owing to the length of time these grapes are kept they should be, compared with early varieties, severely thinned, and those that respond to it should have their shoulders looped up, but only by painstaken experience, combined with a knowledge of the character of each variety, can these operations be perfectly accomplished. Once the thinning is completed the borders should be mulched with good farmyard manure, and if required a thorough watering given. From now, and until the fruit commences to colour, the vines should be nourished with manures; the qualities of which should be ascertained before they are used.

EARLY PEACH HOUSE.—Immediately before the fruit commences to ripen give the borders an efficient watering, and do not repeat it until the fruit is gathered. If woodlice are present hollow out halves of beetroot, or mangold wurzel, and place them hollow side down in their haunts; frequently examine these, and brush the lice into a bowl of hot water. Discontinue syringing the trees during the fruit-ripening period, and keep up a circulation of air through the house during the day according to the weather, and in a less degree by night. Gather the fruit at an early stage of ripeness.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

MUSHROOMS.—Beds made at the present time behind north walls will be more productive than those in the mushroom house. No pains should be spared to keep up a constant supply, particularly as the last two seasons have been so uncertain in regard to the natural meadow crops in many parts of the country. Providing the horse droppings have been prepared, the whole well sweetened, and the temperature on the decline, wheel the manure to the foot of the wall facing north, and commence the bed with a width of about three feet six inches at the base, packing the material evenly and firmly in a sloping fashion to a point which will be about four feet up the wall. When the bed is completed by beating and treading, place sticks to ascertain the temperature, and when the latter has receded to 75 or 80 deg. it can be safely spawned. Insert the spawn eight inches apart and three inches deep, replacing the manure over the spawn very firmly. When all danger of excessive heat is past, soil over the bed firmly two inches deep, and place over this a good covering of long stable litter to retain a steady heat and natural moisture. Later attention must be governed by the state of the weather as regards damping and watering. If later on the bed shows signs of premature exhaustion, apply a thorough soaking of warm diluted liquid farmyard manure.

THINNING.—Very frequent mistakes are made through insufficient thinning of vegetable crops. Parsnips should be thinned nine to twelve inches apart, and carrots to three or four inches at the first thinning, delaying the final thinning when one is sure of all danger from fly and slugs is past. The later thinnings of carrots can be used for the kitchen. In both cases ply the Dutch hoe frequently, and give occasional dustings of soot, or even finely-sifted burnt refuse, especially if the ground is of a heavy and retentive nature. Peas and French beans often suffer from the same cause, therefore as soon as it can be seen that they are strong and flourishing, thin them out, giving each plant sufficient room, and fill in any "gaps" that may have been caused by mice or slugs with the plants so drawn. Light dustings of soot are very beneficial to peas. Lettuce should be thinned as early as possible, transplanting them to form a succession. After June comes in it is far better to sow lettuce at frequent intervals, and not rely on transplanted ones. Very little trouble is experienced in maintaining a supply of fine crisp lettuce during very dry weather, if precautions are taken to draw deeper drills, scatter a good dressing of old potting soil along the same, and well soak the drills before sowing; finish off an inch below the ground level.

POTATOES.—The early planted varieties will need every care against frosts. As soon as they appear above ground, well hoe, and work the soil around them, earthing them up when about three inches high. Have them covered with protecting material should frost be anticipated.

TOMATOES.—By the end of the month these should be in their open quarters, therefore they should now be gradually hardened off by placing them in some sheltered position. Wherever it is possible place them against a wall facing south, and if old garden lights are available place them over the plants until well established, as a great gain results from their use. It is now a good time to make another sowing for autumn use under glass. Tomatoes that are fruiting in pots or boxes will need regular applications of liquid manure and frequent sprinklings of artificial manure. Suppress all side growths, remove decayed leaves, and maintain a fresh, buoyant atmosphere.

CAPSICUMS, CHILLIES, AND AUBERGINES can now receive their final potting, using a compost of two parts loam, one part spent mushroom-bed manure, sand, and mortar rubble; pot firmly, arrange the plants near the glass, and maintain a humid atmosphere of about 60 deg.

RIDGE CUCUMBERS. — If thoroughly hardened off plant these in trenches at the end of the month; place eight inches of pig manure in the trench and cover this with six inches of soil. Heavy crops are grown this way.—Geo. Ellwood, Swanmore Park Gardens.

GREENHOUSE MANAGEMENT.—The Amateur's Greenhouse, the popular book by T. W. Sanders, not only treats of the selection and cultivation of greenhouse plants and flowers, but gives full instructions how to build a greenhouse and how to heat it, as well as every detail as to the management of the plants and flowers grown in it. The price of this book of 416 pages is 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

ROSES AND THEIR CULTURE.

The following is the text of the paper read by Mr. W. H. Massie before the members of the Scottish Horticultural Association:

Stocks.

The principal stocks now used for roses are the briar or Dog Rose (Rosa canina) and the Manetti (R. blanda, var. Manetti); but the Sweet Briar (R. rubiginosa), R. multiflora and its variety "de la Grifferæ," and R. rugosa, all of which are supposed by some to possess special qualities of their own, are also occasionally used. The briar or Dog Rose, is either raised from seed or grown from cuttings. The seedling briar I consider the most useful of all stocks, and if we were restricted to one it would be this. Its chief characteristics are lateness, free-rooting, constancy of flowering, good quality of bloom, and long-lasting plants. Later in starting into growth than either the cutting briar or manetti, it frequently escapes injury from late spring frosts and trying cold winds when plants on the other stocks suffer. It is peculiarly well suited for hybrid tea, tea, noisette, and China roses, and its plentiful roots are long and strong and run far and deep in search of nourishment. When young, plants on this stock may not look so strong and vigorous as on some of the others, but when established they are longer-lived, have a longer flowering season, and give blooms of better quality and more refinement. Its one drawback is that it is somewhat more difficult to bud, and it therefore usually gives a lower percentage of "takes" than the others.

The cutting briar is possessed of many of the qualities of the seedling briar, with the additional advantage of being more easily worked. It is somewhat earlier, and not being so deep-rooting it is more suitable for shallow, light soils; but it is more sensitive to drought. It is well suited to hybrid perpetuals, hybrid teas, and the forms of R. Wichuraiana. It has a longer-growing season than the manetti, and, in good seasons, will bloom well into August and be ready for another crop of flowers in the following month. The manetti stock is grown from cuttings, and is the most easily worked and the earliest of all. It is suitable for hybrid perpetuals, with some few exceptions, such as Her Majesty, Madame Eugene Verdier, Sultan of Zanzibar, etc., and also for the varieties of the moss rose, and the climbing forms of R. multiflora. It is suitable for light soils, but it is apt to produce suckers, which are often not recognised by amateur growers, and are allowed to grow and starve the budded rose. Care must therefore be exercised in removing these. In planting roses on this stock it is well to place the bud entirely—say two or three inches—under the surface of the soil, so as to induce the budded rose to establish itself on its own roots, and thus prolong its life. Roses worked on this stock make finer, healthier plants as maidens, but often they do not last more than two or three seasons, and more especially does this seem to be the case when they are used for tea varieties.

The sweet briar is estimated by many as an admirable stock for the tea rose Gloire de Dijon. Rosa multiflora is a vigorous growing stock which is easily propagated by cuttings, but by many it is considered a bad transplanter. It has, however, been used successfully with some of the stronger-growing hybrid teas and teas. Its variety de la Grifferæ is also a very vigorous-growing stock. It is not, however, much used now, though by some it is considered to be very suitable for the strongest growing pillar roses. It is a gross grower, and is apt to smother the bud in the case of the less robust varieties. For standards, strong root suckers of the Dog Rose are the best stocks. These are usually collected from hedgerows, and in some parts of the country where they are plentiful there are those who make a business of collecting them. They should be clean, straight, year-old shoots, from one-half to one inch in diameter, and of a dark-green colour. The smooth, light-green shoots of one-summer's growth are useless. They are cut away from the plant with a portion of the hard roots as well as some of the fibrous roots attached, and they must be carefully trimmed to prevent the production of suckers. They should be selected, and cut to the required lengths—half-standards about 3ft., and full standards up to 6ft. long. The former are chiefly used for the tea and hybrid tea varieties—which are considered to produce finer flowers when grown in this style—and the latter for the forms of R. Wichuraiana, and other weeping varieties. Rosa rugosa is also used by some as a stock for standards, but it is frequently thin and wobbly, and is not so popular as the Dog Rose.

Budding.

The most important thing to consider in order to secure a good "take" of budded roses is the stock, and when one sees a thin inferior crop of roses in a nursery or elsewhere, in nine cases out of ten it is due to inferior stocks having been used. Every care should therefore be taken to plant selected stocks of full size, and cultivate them in such a way as to have them vigorous, healthy, and sappy. In this district August, as a rule, will be found the best time for budding, but something depends on the season, and where large quantities have to be worked they should be commenced as soon as good buds in the right condition can be procured. Vigorous healthy stocks are always in condition in advance of the buds. The buds should be firm and well-ripened, but in full sap, so that the bark will part readily and cleanly from the wood. The selection of the buds is important. Not only should they be taken from the best plants, but those from the middle part of the best flowering shoots should be selected (buds at the top of the shoots are inferior), and, if possible, when the flower has just passed its best. Careful attention to this will not only ensure a better take, but it will actually improve the strain and make the plants more free flowering.

In the case of sports, such as Climbing Mrs. Grant, Climbing Captain Christy, and Climbing Caroline Testout, care should be taken to select buds from true climbing wood, otherwise they will soon revert to the original form. After selecting the buds, expose them as little as possible to the sun till they are fixed in the stock. Dwarf roses should be budded below the surface of the ground, and as close on the roots as possible. In the case of standards, all shoots should be removed, excepting two or three selected ones at the top, and in these the buds should be inserted as close to the side of the stock as possible. In autumn the young shoots on the standards should be shortened back to within six inches of the bud, and in the following April they should be cut close down to the bud, and at this time dwarf stocks should also be cut down to the bud. As soon as the plants come into growth, stakes should be put in and all suckers removed. At this stage a sharp lookout must be kept for caterpillars and green-fly.

General Cultivation.

The ideal soil for roses is a deep, rich, strong loam; but given a fairly good climate, a pure atmosphere, and a soil that is not water-logged, with proper attention good roses may be grown anywhere. Every grower has a different subject to deal with in the way of soil, and trouble should be taken to find out what it is, and the condition it is in, and treat it accordingly. It does little good to say, "Give so much of this manure, and so much of that per yard or per acre," when one knows nothing of the subject on which they are to be used, so I shall only indicate on broad lines what I have found to be useful in this way. When in a healthy, vigorous condition, roses can take a lot of feeding and stimulants, and they give a rich return for them. Good farm-yard manure is the most important of all feeding materials, and it should be forked-in about the plants in late autumn, along with some phosphates (bone meal) and potash. Many roses suffer from want of lime, and this can be applied to the surface in autumn after the forking. When they start into growth in spring two slight dressings of nitrate of soda, at intervals of a fortnight, and at the rate of about 1cwt. per acre, will induce a strong and vigorous growth. From then till the time the buds are well formed nothing will suit them better than applications of liquid manure from the byre.

Frequent stirring and cultivating of the soil is of the greatest importance. Where planted in lines, the "Planet Junior" cultivator is an excellent implement for this purpose, and will easily stir the soil to a depth of two inches. This may be done weekly when weather permits, and not only will this cultivation keep down weeds, but it will encourage the best kind of growth, and give protection against drought. The plants must be kept clean and free from insect pests, and the greatest safeguard against these is to keep them in a robust, vigorous-growing condition. If ramblers can be induced to throw strong, vigorous growths, 8ft. to 10ft. high, few pests will interfere with them. When green-fly, caterpillars, or mildew do appear they should be attacked at once. Spraying with quassia extract will quickly destroy green-fly, and even stop mildew if it is taken immediately it makes its appearance; but if the latter is allowed to establish itself, a dusting of sulphur and slaked lime in equal portions will help to check it. For caterpillars of various kinds, leaf-rollers, etc., hand-picking and destroying is most effective. But against all these and many other pests the greatest protection lies in the encouragement of lusty health.

Pruning.

Rose-pruning can be done at any time after the flow of the sap has ceased till the reawakening of growth in spring, but in our climate, with our danger from spring frosts, it is safer to delay it till the end of March or beginning of April. In deciding on the method of pruning, many points must be taken into consideration, for instance, the class of bloom aimed at, the form of plant desired, the variety and its constitution, and so on. In every case dead and weakly wood should be completely cut away. As a rule, the harder the shoots are cut back in spring, the stronger will be the new growths in summer. If one wants blooms for exhibition purposes, the shoots should be cut back severely; if for garden decoration, where quantity rather than quality is the object, they should be left longer. If the variety is of weak growth, probably it will have been frosted, and the only thing that can be done is to cut its shoots hard back. Maiden roses planted in autumn should be pruned the following spring, and should be cut hard down to within three or four inches of the ground, and always above a bud pointing outwards. In pruning for ordinary purposes, the form of the plant should be regulated and brought into whatever style is desired. All dead wood and all unripe and very weakly shoots, as well as cross shoots, should be cut out and others shortened where necessary, so as to keep the centre of the plant clear for fresh growths. Bushes for decorative purposes need thinning and training rather than pruning. Summer thinning is of much importance, especially in the case of climbers. Directly the plants have finished flowering, undo the ties and cut out all shoots which are more than two years old, at the same time thinning and regulating those which remain, leaving only what are necessary for next season's flower. The selected shoots are then spread out so as to give them every advantage in ripening. If this practice was more frequently followed we would hear fewer complaints of ramblers being frosted back in spring and flowering indifferently than we do.

Exhibiting.

Successful exhibiting of roses demands the same qualities which lead to success in other directions—common sense, careful labour and forethought, with good taste added. To be victorious, the right varieties, of right quality, must be grown, but it must be borne in mind that a well-handled, well-set-up lot will always beat an equally good lot of blooms if they are indifferently staged. Let all details—the preparing of the exhibition boxes, the writing of the cards, the providing of fresh green moss, etc., be considered in advance. The cutting of the blooms must be considered in relation to the weather and the distance from the show. Roses cut in the early morning are certainly fresh and bright, but many experts consider them less reliable than those cut the previous evening. As soon as they are gathered let them at once be placed in water, or if they are to be carried to the boxes in a basket, let the stems be again cut before being put in the water. After being drawn, let the water stand for an hour or two before use, and it should be about 5 deg. lower than the afternoon temperature. Only experience can teach the best age of bloom to select, as some varieties develop more quickly than others. Some sorts must be taken almost in the bud, others half-developed, others fully-developed. Clean, healthy foliage adds much to their attractiveness, though some consider that roses staged with much foliage are more sensitive to heat, and for that reason cut the leaves away, with the exception of one.

Dressing is a somewhat vexed question, but most blooms can stand a little touching up. The point is not to destroy or alter their character, but to preserve their natural beauty. No one can admire a pointed rose with its leaves turned back to resemble a gardenia. Aim at having freshness, colour, form, size, and healthy foliage. The boxes having been mossed, the supports placed, and the tubes filled with water, the blooms are now set up. Evenness, variety, and contrast must be aimed at in arranging. Large blooms should occupy the back line, the smallest the front, and the intermediate between, and the colours should be so contrasted as to bring out the effect of each, and give a pleasing and tasteful appearance to the whole. The back line blooms should stand about six inches above the moss, bearing in mind that high staging detracts from size, and that short-stemmed blooms last better than long-stemmed ones. Some encouragement is now given to the exhibition of long-stemmed roses in vases, which I personally strongly approve of, and there is much scope for the display of taste in their arrangement. As these cannot be carried to the show in water, young blooms should be selected for this purpose, and they should be cut and placed in water for a sufficiently long time to absorb a copious supply. Damp moss may be placed round their stems before they are laid flat in the shallow boxes in which they are carried. The same applies to decorative and single roses shown in bunches. For some varieties of these a certain amount of wiring is required, but as little as possible of this should be resorted to. Single varieties should be cut as young as possible, so as to secure the fresh, golden stamens, which give them one of their most attractive features. When the stamens turn black it indicates that their freshness has gone.

Crossing Roses for the Raising of New Varieties from Seed.

I wish to impress as strongly as I can upon the members of this association the great, important, and attractive field open to them here, and to plead with everyone of those who may have the opportunity to take up this work, if even in a small way. It is a fact that a great number of our roses are the produce of seed not artificially fertilised, and I believe it to be equally true that when we get our Scottish gardeners and amateurs earnestly set to the work of hybridising and improving the rose we shall see varieties raised which are beyond our wildest dreams, and before which the most beautiful sorts we have at present will pale—colours and perfection of form yet unknown, with intoxicating perfume, and hardiness and vigour that will revel even in our climate. So far this work has been left in the hands of a few traders, much occupied in struggling to make ends meet.

The process of fertilisation is a simple, though delicate, one. The varieties to be operated on should be decided upon, and they should be potted so as to be easily under control when required. The implements required are fine forceps, a very fine brush, and a magnifying-glass. When the bloom is getting ready for fertilising, isolate the plant in the greenhouse, remove the stamens in good time, and look carefully to see that not a particle of its own pollen is left, as the smallest grain might be enough to upset all our calculations. If the pollen to be used in making the cross ripens too soon, it can be kept for days in a cool place if hermetically sealed, but, of course, it is best to use it direct from the flower. When the time for fertilising has arrived the pistil becomes sticky from secreted nectar; and even this can be applied artificially by supplying a drop of water and honey mixed. Morning is the best time to operate. Pass the fertilising brush over the pollen and lightly dust the stigmas with it. It is advisable to repeat the operation after an interval of two or three days, as the stigmas sometimes refuse the pollen, especially when the bloom is very full.

In due time the "hips" should appear. They take various colours—red, yellow, and sometimes blackish-crimson. Be careful not to gather the hips till they are quite ripe. Seed may be sown immediately after gathering in autumn, in sandy leaf-mould. Many of the seedlings will flower the first year, but some (usually the best) take longer. The first flowers of the seedling are single, and rarely have two or more rows of petals. Those which show flowers with the largest petals and best colouring should be selected, and they should be transplanted in autumn. As the plants gain in strength their flowers improve, and the best of them may then be budded on the briar or manetti stock, and further pruned.

Lettuce. — In nearly every establishment there exists a greater or less demand for lettuce, and at no seasons are they more welcome than late in winter and during the early spring months. A sowing made in January under glass, placing the seed pans upon a warm hotbed, and growing the seedlings on under cooler conditions, eventually planting them out into frames set upon a hotbed of manure, mature in time to overlap the supply from the crop wintered in frames. A small rapid-hearting lettuce of the Tom Thumb type generally yields the best results from a mid-winter sowing. The plants not only mature rapidly, but the crispness and flavour of the leaves are all one can desire.—Thomas Smith, Walmsgate Gardens.

Cydonia japonica Sargenti.—The uses to which a flowering shrub of moderate dimensions may be put are many, and when the flowers are freely produced, and are of a bright telling colour, the value of such a shrub is great. On this account the strikingly beautiful cydonia above-named must be reckoned among the most desirable spring-flowering subjects available. When grown in the open it forms a low-spreading bush which, even while quite small, produces during April and May a quantity of clear orange-scarlet flowers that show up in a most striking manner against the dark stems and foliage. Planted in the foreground of a shrubbery it provides a welcome note of colour at a time when rich glowing shades are particularly valuable. It is a fit subject for a bed upon a lawn, or for a prominent position on a large rockery. In common with other members of the genus C. j. Sargenti may be grown against a wall, and is one of the best of plants for a position under a bay window, or on a low terrace wall. Its colour adapts it for use against white bricks or light-coloured stone, but it is not seen to advantage against red bricks or stone of a terra-cotta hue. It is not an expensive plant, and therefore deserves to find a place in every garden.—M. A. C.

CAMPANULA PYRAMIDALIS.

This stately plant is said to have acquired the name of chimney campanula from the fact of its being often trained to sticks fan fashion, and used as a fireplace ornament in the summer. If not the most beautiful, it is certainly the most repaying, of the campanula tribe, by reason of the succession of blossoms produced for a period of two to three months. It is a grand plant for the hardy flower border on favourable soils, that is, those inclining to lightness, while as a pot plant for the conservatory, or elsewhere, few things surpass a well-grown specimen some five or six feet high, with ten or a dozen spikes, and such examples are by no means unusual. It does well amongst trees and partial shade seems not unfavourable to it. It is comparatively hardy, but on wet soils it needs to be protected during a severe winter, or even taken up and put in pots.

In some soils it will last several years, though deteriorating after the first flowering, but the most satisfactory way of growing it is as a biennial, and plants which do not flower the year after sowing—there are always some which do not—being kept till the third year, when they will make magnificent specimens.

The principal secret of success is to get plants as strong as possible the first year by sowing in spring in gentle heat (though this latter is not absolutely necessary) in light, sandy soil. The seeds, like those of most species of this genus, are very minute, and need to be covered very lightly. The young plants resent much heat or lack of ventilation, and as soon as they can be handled they should be pricked out into boxes or pans, and as soon as they are big enough put out a foot apart on a prepared nursery border where they will receive a fair amount of sunshine.

If it is desired to grow them in pots throughout a rather unnecessary labour they should be put in small sixties at this stage in a compost consisting of two parts turfy loam and one part leaf-mould, and with this should be mixed some bone-meal at the rate of a quarter of a pound to a peck of soil. Failing this latter, mortar rubbish and basic slag are both good, unless the soil is already of a chalky character. They should be potted on according to the needs of the plant, some of them eventually needing ten or twelve-inch pots if they do well. It is not advisable to move them into larger pots towards autumn, as they stand the dampness of winter better when the pots are well filled with roots, and they can be given their final shift in the spring. The plants should be wintered in a cold frame, and when the spring growth is in full vigour they should be liberally fed. Those put out on a nursery bed may be left there, unless the soil and situation are unfavourable, or, if somewhat grown together, alternate plants may be taken up and put in their flowering positions in the borders, or potted up and put in a cold frame for the winter. This is less trouble than growing them in pots throughout, and they will not suffer from the move if this is done carefully in October in damp weather, as they are moderately fibrous rooters.

Tying the plants when they run up to flower needs some care if their beauty is not to be marred, as there is so little foliage to hide the sticks, and yet some tying up is absolutely necessary, at least for those in pots; C. pyramidalis is a blue flower, but the white variety, C. p. alba, is perhaps the more beautiful of the two for indoor decoration, as it shows up better in a dued light, few plants producing such a telling effect as a well-grown specimen standing in the hall, fireplace, or corner of a room.

Propagation may be effected by taking short young growths from the crowns of the roots with a little piece of the bark attached. These should be put in light soil, in heat, and kept shaded for a time.

ALGER PETTS.

CYCLAMEN CORMS IN LEAF-SOIL.

Different growers have diverse ways of treating their old cyclamen corms after the flowering period is over. Many discard them altogether and rely upon young stock. Undoubtedly, young corms are more valuable than old ones; but the latter are extremely useful. Corms one year old cannot, however, be termed old ones, yet the treatment that I wish to refer to here suits them equally as well as it does very old ones.

A bed composed of well-decayed leaves rubbed through a half-inch sieve is made up in a cold frame, and the corms, after the removal of the old soil from their roots, are planted out a few inches apart in this bed. A thorough watering is given to settle the soil around them, and then the lights are put on, but tilted high both at back and front, so that a current of air passes through. Watering is not done for a month or six weeks, except to prevent the leaf-soil from getting dust dry. But afterwards the bed is kept moist, and the glass lights are put down, air being admitted only at the top, and by the middle of August at the latest splendid growth both of leaves and roots will be made, and the plants may be then carefully potted. This treatment has resulted in fine batches of plants.

G. B.

Linaria reticulata aurea-purpurea.—This is a quaintly beautiful little annual that might well be more often used in small beds or in patches on a sunny border. The flowers, though small, are produced with the utmost freedom, and are of very pleasing colour, rich velvety red and bright golden-yellow being clearly defined in each tiny blossom; these little flowers make a braver show than many things of much larger size. Seed should be sown in rings or patches where the plants are to flower, and if a second sowing is made as soon as the first batch is growing well the flowering period may be extended right through summer and autumn. All that is necessary is to cut away the first-sown plants as they get past their best, in order to give more room for the plants of the later sowing.—M. A. C.

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EXHIBITIONS AND MEETINGS.

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Croydon Gardeners' Society.

Perhaps in no other vocation are the two essentials, theory and practice, brought into requisition more than in the occupation of the gardener, and in a lecture by Mr. R. B. Leech, Wood Hall Gardens, Dulwich, before the members of the above society at the Sunflower Temperance Hotel on Tuesday last, the theoretical part of syringing and damping down greenhouses was clearly defined. Mr. Leech, in introducing his subject, alluded to the importance of this study in the treatment of plant life. Generally speaking, in exotic or temperate houses where plants are grown we are adapting the life of a plant to a different environment than its natural habitat, and therefore to do this successfully we must copy nature as far as possible. The lecturer referred to a lecture a fortnight since on "Leaves," which had been given before the society, and bearing this in mind the members would clearly remember the functions of the leaves to the plant, that had been made so explicit, and he dwelt more especially on the transpiration carried on through the leaf. To assist the plants in this work of transpiration is the fundamental principle of syringing and damping down greenhouses, and no hard and fast rules can be laid down, but the gardener must bring observation and experience into play to do it successfully.

The use of the syringe indiscriminately he deplored, for the constant wetting and saturating the foliage retards instead of augments the action of the roots, because the excess of moisture resting on the plant and in the atmosphere surrounding it clogs the stomata or breathing pores in the leaf, and when this occurs then the other organs of plant structure are thrown out of gear.

Another strong point to be remembered in surcharging the atmosphere around plant life with moisture is that it has a tendency to increase insect and fungoid pests, and there need be no doubt of this when we remember the wet season of last year, when both these pests were rampant.

The atmosphere outside the houses is another great factor to study when syringing, and the quantity of moisture given should be regulated according to that. With a hot, dry atmosphere outside it means that transpiration in plant life goes on more rapidly, and therefore the plant can take more moisture.

How Nature in her perfectness protects her subjects was illustrated with a reference to the Victoria Regia, familiar to all. In this plant the leaves have the stomata placed on the upper surface, and growing on the water as the leaves do, the constant ripples would flood the breathing pores were it not for the upturned edges of the leaf as a protection.

Although not by any means an advocate of withholding moisture from the atmosphere of the houses, the lecturer impressed upon his audience the wrong which can be done by excess. Practical methods of administering moisture will be dealt with a fortnight hence, when Mr. Leech concludes the second part of his lecture.

A short discussion followed the lecture, and Mr. Leech was heartily thanked for his very interesting discourse.

Mr. F. Oxtoby exhibited a number of plants of the white intermediate stock All the Year Round, which were much admired, and a very unique exhibit came from Mr. W. Bentley, who brought a bulb of Chrysolora tulip with four blooms, all of good size.

National Vegetable Society.

At the recent meeting of the above society Mr. A. Dean, V.M.H., presided, and the report of the Sub-Committee was received of the trials of early cabbages at Mr. Poupart's, Marsh Farm, Twickenham, and from Mr. C. Foster, the Times Experimental Station, Sutton Green, Guildford. Nearly forty varieties were tried in various ways from two sowings to test earliness and other points. At this meeting it was decided to place the varieties in groups, and in due course a full report will be issued to the horticultural press, with the Sub-Committee's reports on growth, characters, and the value of varieties for garden purposes. The onion trials at both the above grounds promise splendid results, and owing to the great number of diverse stocks should prove most valuable. The thanks of the society was heartily tendered to Messrs. Poupart and Foster for their splendid work, and their kindness to the Sub-Committees when visiting their establishments, as well as for the time and attention they have given to these trials. Other minor matters were transacted, and it was decided that to better meet the convenience of members meetings should be held earlier in the day than at present.

East Anglian Horticultural Society.

Mr. William Mallett, of Messrs. Hobbies, Lim., Dereham, read a most interesting paper at the May meeting of the above society upon "Roses." He stated that roses were divided into sixteen sections, but he was only devoting his remarks to two of these, viz., the hybrid teas and the Wichuraianas, these being those to which hybridists of the present day had devoted most of their attention. He said that the hybrid tea stood far away in front of others for garden decoration and for forcing purposes. Practically they were the true perpetual-flowering kinds, for one could generally obtain blooms quite into December. To aid the novice Mr. Mallett

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explained the whole procedure of fertilisation and raising of seedlings, casually remarking, however, that he knew of a batch of 3,000 seedlings which only produced six varieties worth recognition at the hands of the N.R.S. The Wichuraianas had sprung rapidly into popularity as objects of real beauty for pillars, pergolas, arches, etc. Moreover, they lent themselves admirably for early decoration as forced plants. A list of the best varieties in both sections was detailed, and, thanks to the kindness of Messrs. Hobbies, Lim., a large collection of the types, in pots, were placed upon the tables; these were frequently alluded to, and much appreciated.

A lengthy and animated discussion followed, in which Messrs. Lewis Smith, C. Matthews, A. Reeves, J. H. Clements, E. Peake, H. Perry, C. Fox, J. Powley, and others took part. Besides the paper, other matters were discussed, including the summer excursion of the society. The exhibition tables presented a gay spectacle. Messrs. Daniels Bros., Lim., Norwich; Frank Neave, Lingwood; F. Wilby, gardener to F. Bainbridge, Esq., Hethersett; and W. Rush, gardener to F. P. Hinde, Esq., Thorpe, contributing most interesting specimens.

In the competitive section Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., Cringleford, secured most points in the first section of the Dawson Paul Challenge Cup, which was for six varieties of hardy flowers. He also had the best strawberries, a dish of wonderfully well-coloured berries. Mr. F. Williams, gardener to Louis Tillett, Esq., Catton, also had some fine fruits. Flowers in general were good. Vegetables were well represented, and in this section Messrs. Daniels Bros.' early pea Express was shown in fine condition.

TREE CARNATIONS IN FLOWER BEDS.

References have been made by some gardeners to the advisability of planting tree or perpetual-flowering carnations in flower beds in the garden. Personally, I would not adopt the plan on a large scale, but I must say that I saw several varieties, including Britannia and Fair Maid, growing splendidly in an Essex garden last year. The plants were very bushy and healthy, and bore flowers freely during the summer months and well into the early part of autumn. As your able correspondent, Mr. C. Flack, says, on page 378, we now regard the tree carnation as a most valuable asset in the production of cut flowers throughout the winter and spring months of the year. I also agree with other remarks made by your correspondent anent this increasingly popular flower. Its cultivation is, as yet, in its infancy, and as time goes on we shall see a vast improvement both in the quality and colour of the blooms, and also in the habit of the plants. An abundant supply of flowers will be available during the greater part of the year. G. B.

Kalosanthes.—The kalosanthes, or crassulas, are among the most useful of bright and attractively-flowered succulent plants, as they are alike suitable for decorations and for specimen culture. They can all be readily increased by means of cuttings of the tops of shoots that have not flowered. The most simple course of procedure is to insert the cuttings in three-inch pots, three in each, and then shift them on without their being separated. The cuttings may be struck at any time during the summer, and should be placed in an unheated frame. Turfy loam, to which a liberal addition of coarse sand, and a small proportion of broken crocks have been added, should be used, and efficient drainage be provided, as they are, like other succulents, especially susceptible to injury from stagnant moisture in the soil. For general purposes the best are Kalosanthes coccinea, remarkable for its large heads of brilliant scarlet flowers, and K. jasminea, which has elegant white jasmine-like flowers. —V.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

CYCLAMEN AT REST.—A. C., Norwich: There is no need whatever to shade the cyclamen that are being rested in a cold frame.

NEMESIA STRUMOSA.—A. C., Norwich: If the plants are strong, sturdy, and well hardened, set them out eight inches apart each way, and they will presently fill up the intervening spaces and provide a fine piece of brilliant colouring.

AMATEUR ROSARIAN.—E. F., Huntingdon: The following definition of an amateur is the one governing the competitions of the National Rose Society, and it is also binding on all societies in affiliation with it: No person shall be allowed to compete as an amateur who sells rose plants (except when giving up possession of the place where they grow, and in the case of new seedlings or sports), rose-blooms, or buds for budding, nor any person in the employ of a nurseryman. Any objection raised as to the rightful qualification of an exhibitor shall be referred to the council for arbitration, and their decision shall be final and binding on all parties.

DESTROYING TREE ROOTS.—J. C. B., Gourock: If you will be more explicit we will do our best to help you. At present we do not understand whether it is tree stumps or roots you wish to destroy, and you do not give us any information regarding the conditions that surround the roots. Give us more particulars, and say whether the trees, the roots of which you wish to destroy, are in your own or a neighbour's garden.

MANDRAKE.—E. D., Macclesfield: The mandrakes or mandragoras are not of sufficient merit to secure a place in gardens, but they are of botanical and mythological interest, while the poisonous roots possess a narcotic principle, and were at one time regarded as of some medicinal value. Mandragora officinarum (or M. vernalis) is the medicinal mandrake, and it is a native of the Mediterranean district, from whence it was introduced in 1548. This may be propagated by means of seeds sown in sandy soil in a cold frame in spring, the seedlings being planted out as soon as large enough. Old plants may be divided in autumn or March, and stock is easily increased in this manner. Mandrakes like deep light soil, and a moderately shaded position. We are not aware that mandrakes are grown in any quantity in any particular part of this country.

DISEASED PLUM SHOOTS. — W. S., Kent: We have submitted the specimens to a mycological expert, and his reply is to the effect that there is not sufficient material to enable him to say what the cause of the death of the pieces of plum stem has been. It is evident the cause must be sought below where the pieces of stem were cut off.

WARTS ON VINE LEAVES.—Our correspondent "G. B." writes: A case of warts on vine leaves greatly puzzled me last year. The vines belonged to an acquaintance, a gardener, who grew and successfully exhibited some of the finest bunches of Muscat of Alexandria that have ever been staged in this country. He declared to me that the vines had been well ventilated, and that the structure had not been kept very moist, and asked if I could give him the reason of the warts forming in such numbers on the undersides of the leaves. My reply was that lack of fresh air was the main cause, but from what he said, the vines had had abundance of it. He is a young cultivator, and is anxious to avoid all drawbacks to the vines. The roots of the vines ramble at will in the natural soil: but so do those of some of my vines, yet the leaves of my vines are free from warts. Perhaps some readers of the Gardeners' Magazine may be able to give other reasons for warts forming on vine leaves than those I have mentioned? If so, their experience would be much appreciated.

YEW HEDGES.—A. C., Norwich: It is not too late to clip yew hedges, but the work should not be deferred long. A hedge may often be greatly improved in the course of a season or two if certain branches are bent down and tied into position over the bare places, and all subsequent growth is also tied into position.

NAMES OF PLANTS.

A. G. G., Southampton.—1, Odontoglossum Rossi majus; 2, Ada aurantiaca; 3, Odontoglossum Adrianæ; 4, Trollius asiaticus.

E. W. A., Newport.—1, Prunus Pissardi 2, Pyrus Malus var.; 3, a good seedling hippeastrum or amaryllis; 4, Coronilla glauca.

B. A., Glastonbury. — 1, Begonia fuchsioides; 2, Lantana hybrida; 3, not sufficient for identification, probably Adiantum æthiopicum.

C. S., Wycombe. — 1, Muscari conicum Heavenly Blue; 2, Odontoglossum triumphans; 3, Cytisus filipes; 4, Selaginella cæsia.

F. K., Aston.—1, Cheiranthus Cheiri; 2, Cydonia japonica; 3, C. japonica, probably the variety Aurora; 4, Arabis albida variegata; 5, Begonia Haageana.

FLOWER SHOW SCHEDULES.

We shall be obliged if secretaries of societies will forward us a copy of their schedule for the present year.

Gresford Rose Society.—Thirty-first exhibition will be held in the Vicarage grounds, Gresford, on Friday, July 8.

Blaenavon Flower Show.—Fourth show to be held in the Park, Blaenavon, on Thursday, August 25.

Cheshire Agricultural Society.—This society has a horticultural section of fifty-three classes; the show will be held on the Roodee, Chester, Wednesday, August [illegible].

Edgware Horticultural Society.—This society offers three challenge cups for roses, two for sweet peas, and one for vegetables: the exhibition will be held at North Lodge, Edgware, on July 16.

. . THE . .

TEMPLE SHOW,

LONDON,

MAY 24, 25, 26,

A FULL

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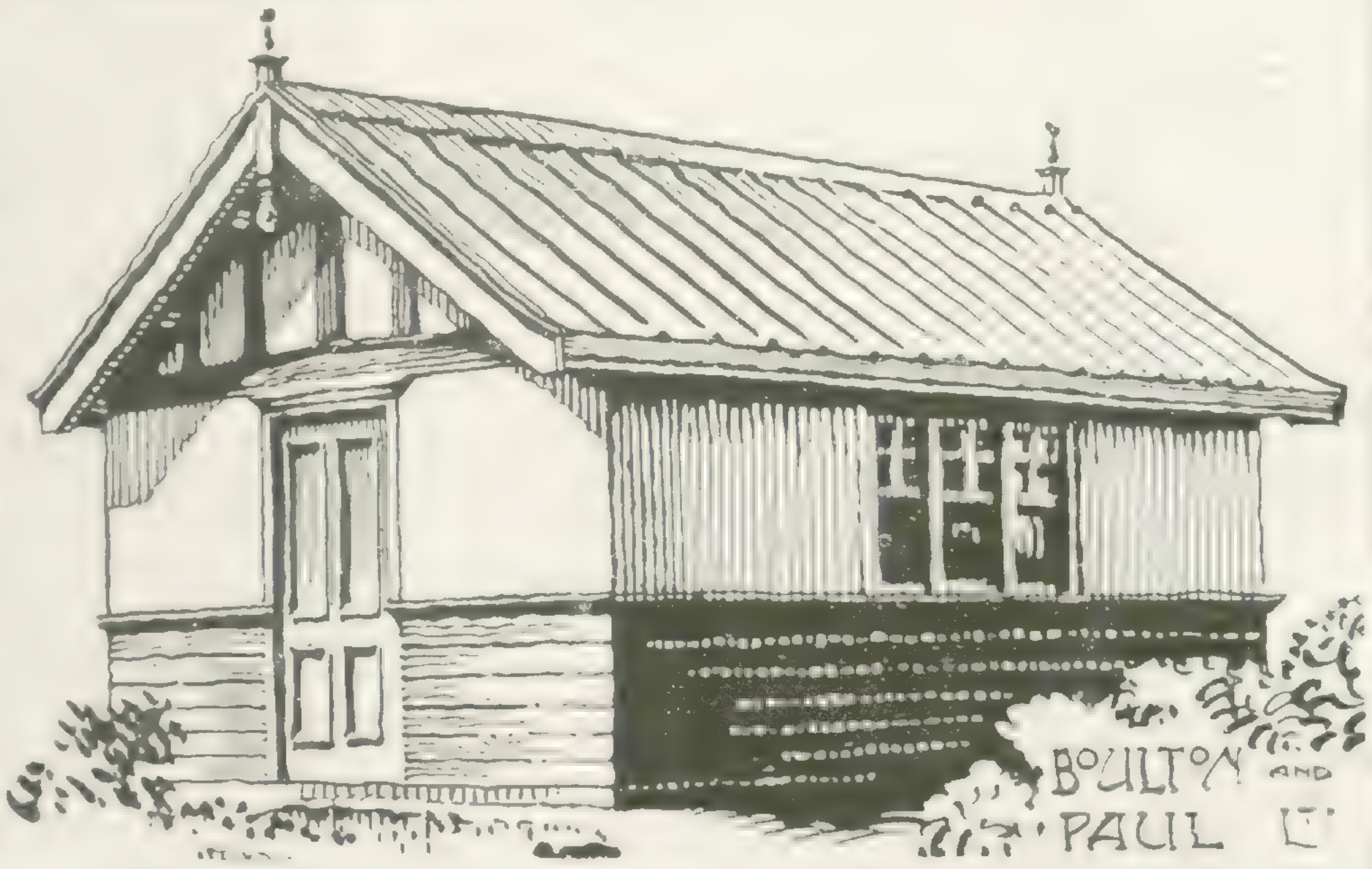

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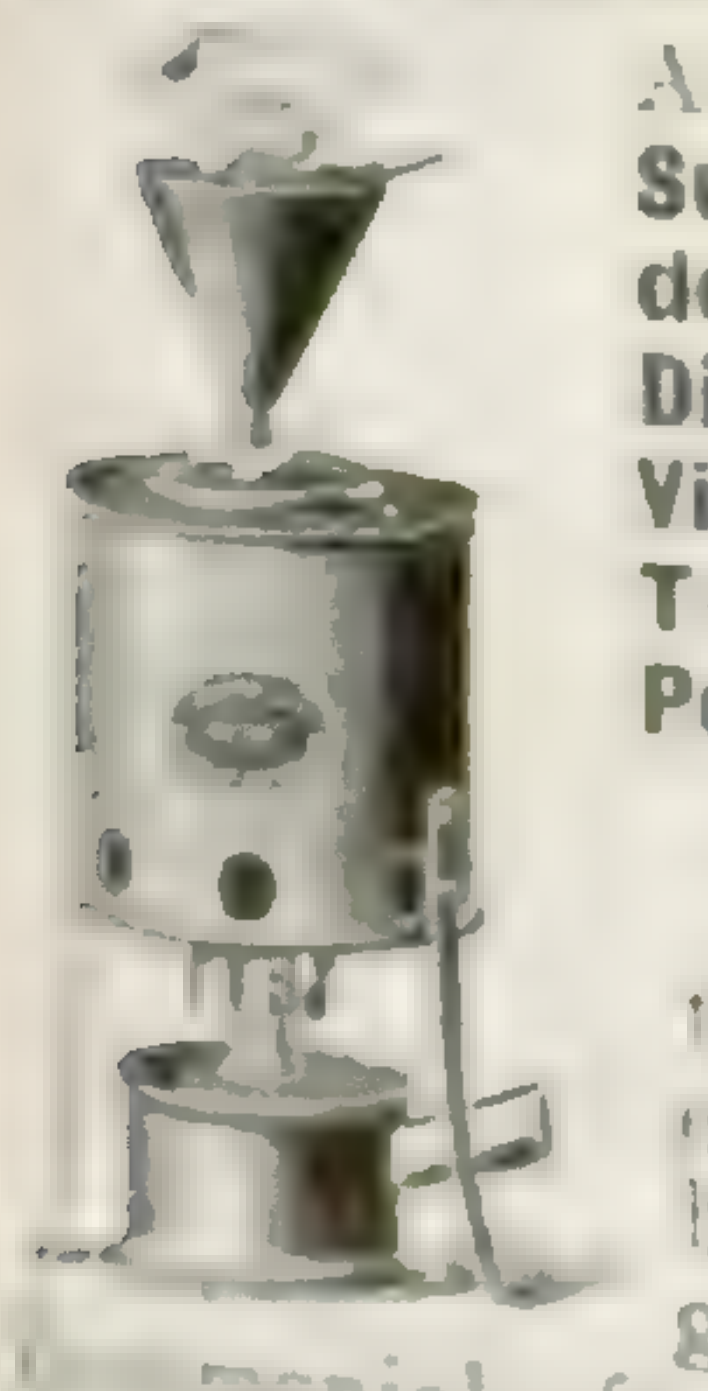

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NICOTICIDE PLANT SPRAY.—½ Pint, **1/2**; Pint, 2[illegible]; Quart, **3/6**; ½ Gal., **5/-**; Gal **10/-**. [illegible] fly, etc. All goods [illegible] paid. Ask your Seedsman, and insist on having same.
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50 X 1 yds.	**4/-** per piece	100 X 1 yds,	**6/-** per piece,
50 X 2 ,,	**6/-** ,,	100 X 2 ,,	**11/-** ,,
50 X 3 ,,	**9/-** ,,	100 X 3 ,,	**17/-** ,,
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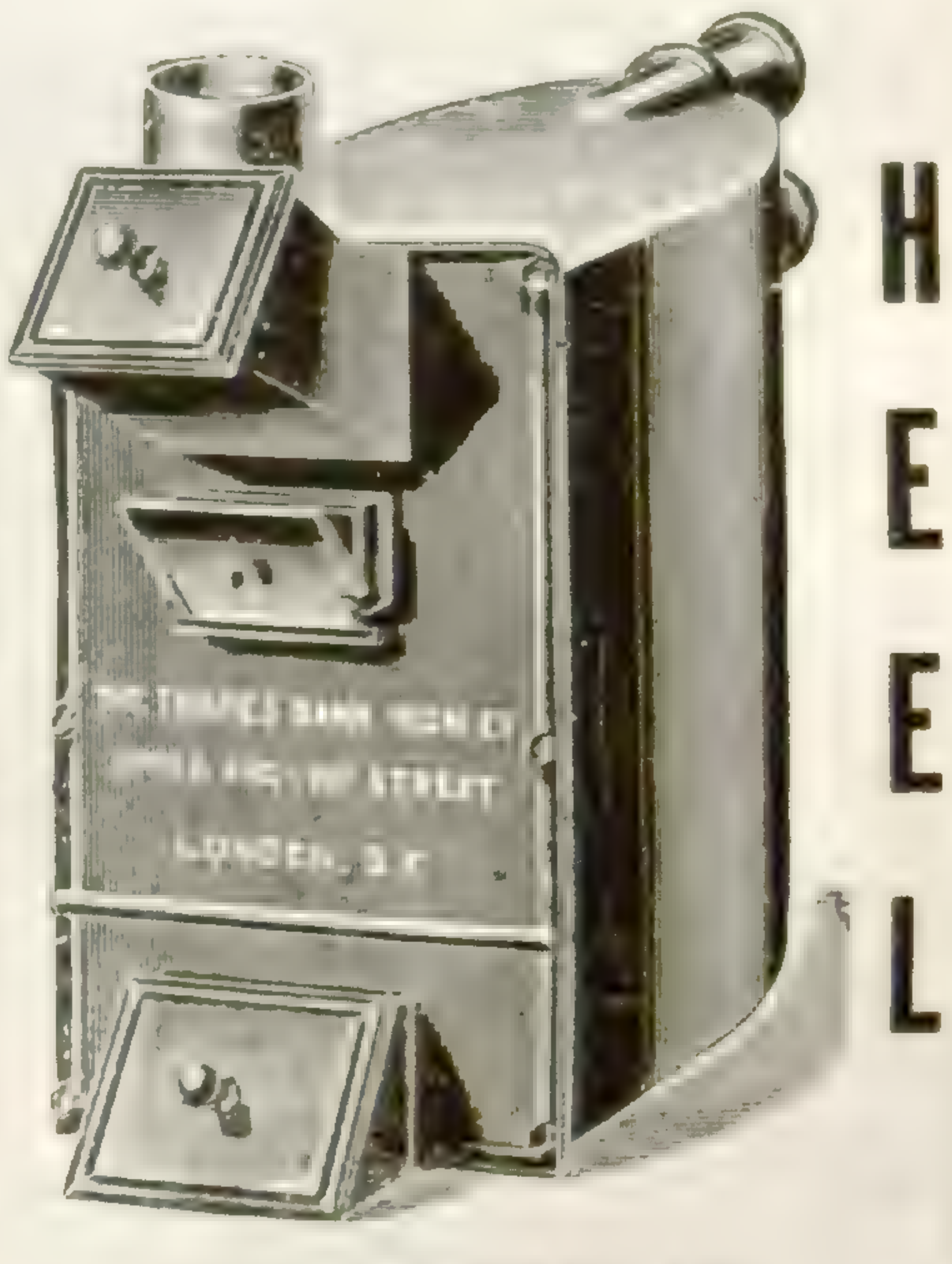

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Flowers.

There has been a very big demand for white and other choice flowers, mauve and purple orchids realising high prices. The national mourning is, of course, responsible for this.

		s. d.		s. d.
Adiantum cuneatum	per doz. bun.	6 0		8 0
Anemones	per doz.	1 0		1 6
Arums	per doz.	2 0		5 0
Asparagus	per bun.	1 0		1 6
Azalea, Ghent	per bun.	0 6		0 9
Camellias	per doz.	1 6		2 0
Carnations	per doz. blms.	2 0		6 0
,,	per doz. bun.	12 0		18 0
Cattleyas	per doz.	6 0		12 0
Croton leaves	per bun.	1 0		2 6
Daffodils	per doz. bun.	1 0		3 6
Eucharis	per doz.	3 0		5 0
Freesiae	per doz. bun.	1 0		1 6
French fern	per doz. bun.	0 6		0 9
Gardenias	per doz.	1 6		3 0
Gypsophila elegans	per doz. bun.	3 0		4 0
Iris, Spanish	per doz. bun.	5 0		8 0
Lapagerias	per doz.	1 6		2 0
Lilac	per bun.	2 0		3 6
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	1 6		3 6
,, longiflorum	per bun.	3 0		7 6
Lily of the Valley	per doz. bun.	6 0		15 0
Marguerites	per doz. bun.	2 0		5 0
Mignonette	per doz. bun.	3 0		6 0
Narcissus	per doz. bun.	1 0		2 0
Odontoglossums	per doz. blms.	1 0		3 0
Pelargoniums	per doz. bun.	4 0		6 0
Roses	per doz.	1 0		5 0
Smilax	per doz. trails	3 0		4 0
Spiræa	per doz. bun.	4 0		6 0
Stocks	per doz. bun.	3 0		4 0
Sweet Peas	per doz. bun.	2 0		5 0

Fruits.

Business is good but not specially brisk.

		s. d.		s. d.
Apples, Californian	per case	6 0	to	7 6
,, American	per barrel	10 0		27 0
,, Canadian	per barrel	10 6		25 6
,, Nova Scotian	per barrel	10 0		18 0
,, Australian	per box	7 0		12 0
Bananas	per bun.	3 0		10 0
Cranberries	per case	6 0		7 0
Grapes, English	per lb.	2 0		4 6
,, Almeria	per doz. lbs.	4 0		7 6
,, Cape	per 20lb. box	9 0		14 0
Lemons	per case	6 0		21 0
Melons		1 6		2 6
Oranges Jamaica	per case	9 0		12 0
,, Jaffa	per case	10 0		12 0
,, Valencia	per case	10 0		18 0
,, Navels	per case	8 0		10 6
,, Denia	per case	14 0		27 6
Peaches, English	per doz.	12 0		20 0
Pears, Cape	per box	4 0		6 0
,, Australian	per box	7 6		12 0
Pineapples	each	2 6		4 6
Plums, Cape	per box	5 0		9 0
Strawberries	per lb.	1 0		2 6

Vegetables.

Good supplies are forthcoming and business is fairly good all round.

		s. d.		s. d.
Artichokes, Globe	per doz.	1 6	to	2 6
Asparagus	per bun.	1 4		10 0
Beet	per bush.	1 6		2 0
Beans, Dwarf	per lb.	0 8		1 2
Broccoli, Sprouting	per bag	1 0		1 6
Cabbage, new	per basket	2 0		3 6
Carrots, new	per doz. bun.	4 0		6 0
Cauliflowers	per crate	4 0		6 0
Celeriac	per doz.	1 6		2 6
Cucumbers	per flat	4 0		7 6
Endive	per doz.	1 3		2 0
Horseradish	per doz. bun.	10 0		18 0
Leeks	per doz. bun.	1 0		1 6
Lettuce	per doz.	1 0		1 3
,, Cos	per doz.	3 0		4 0
Marrows	per doz.	4 0		6 0
Mint	per doz. bun.	2 0		3 0
Mushrooms	per doz. lb.	6 0		10 0
Mustard and Cress	per doz. pun.	0 10		1 0
Onions	per case	6 0		12 0
Parsley	per doz. bun.	1 6		2 0
Parsnips	per bag	1 6		3 0
Radishes	per doz. bun.	0 8		0 9
Rhubarb	per doz. bundles	0 6		1 0
,, natural	per tally	4 0		6 0
Spinach	per ½-sieve	1 6		2 0
Tomatoes, English	per doz. lb.	8 0		10 0
,, Canary	per case	10 0		16 0
Turnips, new	per doz. bun.	4 0		7 0

LONDON POTATO MARKETS.

The demand shows no real advance and prices vary but little.

		s. d.		s. d.
Bedfords	per ton	60 0	to	65 0
Blacklands	per ton	40 0		60 0
Dunbars	per ton	85 0		105 0
Evergood	per ton	45 0		55 0
Epicures	per ton	45 0		55 0
Kents	per ton	65 0		70 0
Lincolns	per ton	45 0		75 0
Up-to-Dates	per ton	65 0		80 0
Teneriffe	per cwt.	7 0		8 0
Jerseys, new	per cwt.	16 0		18 0

CELERY LEAF-SPOT.

According to the Board of Agriculture, "Celery leaf-spot" caused by Phyllosticta apii (Halsted) was first observed in the United States in 1891, and since that date it has repeatedly proved to be a destructive parasite on celery. The foliage is the part attacked, and the disease is readily distinguished among the several leaf parasites of celery by the presence of one or more large blotches on a leaf. These blotches are at first dull brown, afterwards paler, dry, and studded with numerous black points or perithecia, each containing numerous very minute spores. When the spores are ripe the dead portion of leaf on which they are produced crumbles and falls to the ground, carrying along with it the spores of the fungus, which infect the soil and prove a menace to following crops. Numerous spores are also liberated at the moment of maturity, and are conveyed by various agents to adjoining leaves, by which means the disease spreads with great rapidity during damp, dull weather. During 1909 this fungus appeared in Sussex under the form of an epidemic in a field of celery, and much injury was experienced.

A second celery leaf disease caused by a parasitic fungus called Septoria petroselini, Desm., has been long known in this country and on the Continent. In this instance the leaf becomes studded with numerous small, irregularly angular brown spots, each bearing a few very minute black points or perithecia, containing myriads of very slender needle-shaped spores. As a rule, when this fungus attacks celery an epidemic results, due to the rapid production and dispersal of spores.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
1910. May 8 to May 14.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
May 8—Sunday	5 6	48	43	51	36
,, 9—Monday	3 42	42	39	50	31
,, 10—Tuesday	10 36	47	43	54	29
,, 11—Wednesday	5 42	48	44	57	33
,, 12—Thursday	10 0	54	50	60	44
,, 13—Friday	3 0	48	46	57	44
,, 14—Saturday	8 36	56	52	66	47
Means	(total) 46 42	49	45	56	38

Date.	Rain.	Temperature of the Soil At 9 a.m.			Lowest Temperature on Grass.
1910. May 8 to May 14.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
May 8—Sunday	0·08	47	49	48	29
,, 9—Monday	trace	46	49	48	24
,, 10—Tuesday	—	45	48	48	25
,, 11—Wednesday	0·13	46	48	48	28
,, 12—Thursday	0.27	48	48	48	43
,, 13—Friday	0.09	50	49	48	41
,, 14—Saturday	—	50	50	48	42
Means	(total) 0·57	47	49	48	33

CATALOGUES RECEIVED.

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FORTHCOMING ENGAGEMENTS.

TUESDAY, May 24.—Royal Horticultural Society's Great Exhibition at the Inner Temple Gardens; three days.

Linnean Society Meeting.

Bath and West and Southern Counties Show, at Rochester; five days.

WEDNESDAY, May 25.—British Gardeners' Association Annual Meeting, at Carr's Restaurant, Strand, W.C.

THURSDAY, May 26.—Royal Gardeners' Orphan Fund Annual Festival Dinner, Hotel Cecil, at 6.30 p.m. for 7 o'clock; chair to be taken by Sir Jeremiah Colman, Bart.

WEDNESDAY, June 1.—Royal Society of Arts.

THURSDAY, June 2.—Linnean Society.

SATURDAY, June 4.—French Horticultural Society of London.

TUESDAY, June 7.—Royal Horticultural Society; Committee meet at 12 o'clock; lecture at 3 p.m. on "Survivals Among Plants of the Past," by Rev. Prof. G. Henslow, M.A., V.M.H.; Scientific Committee at 4 o'clock.

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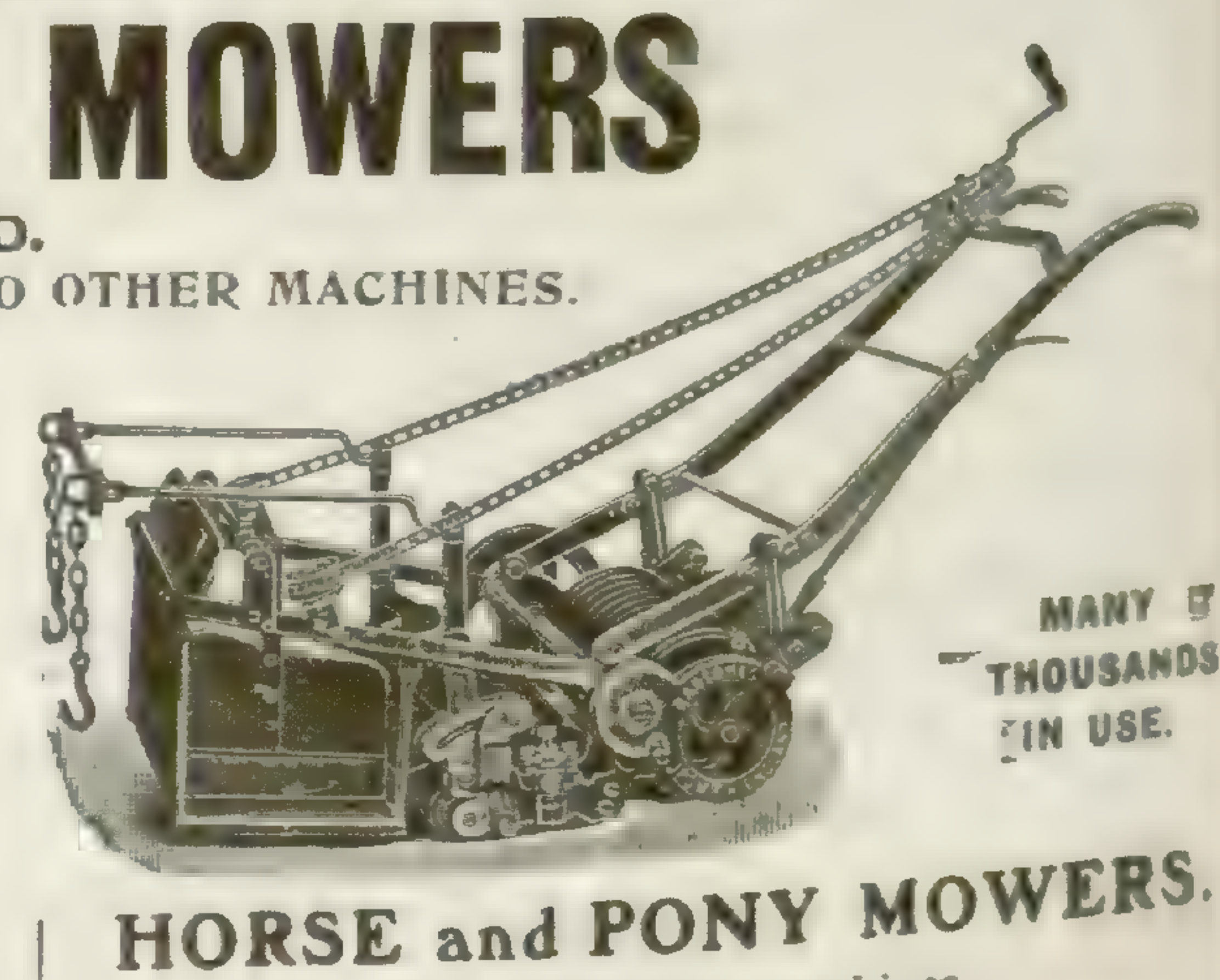

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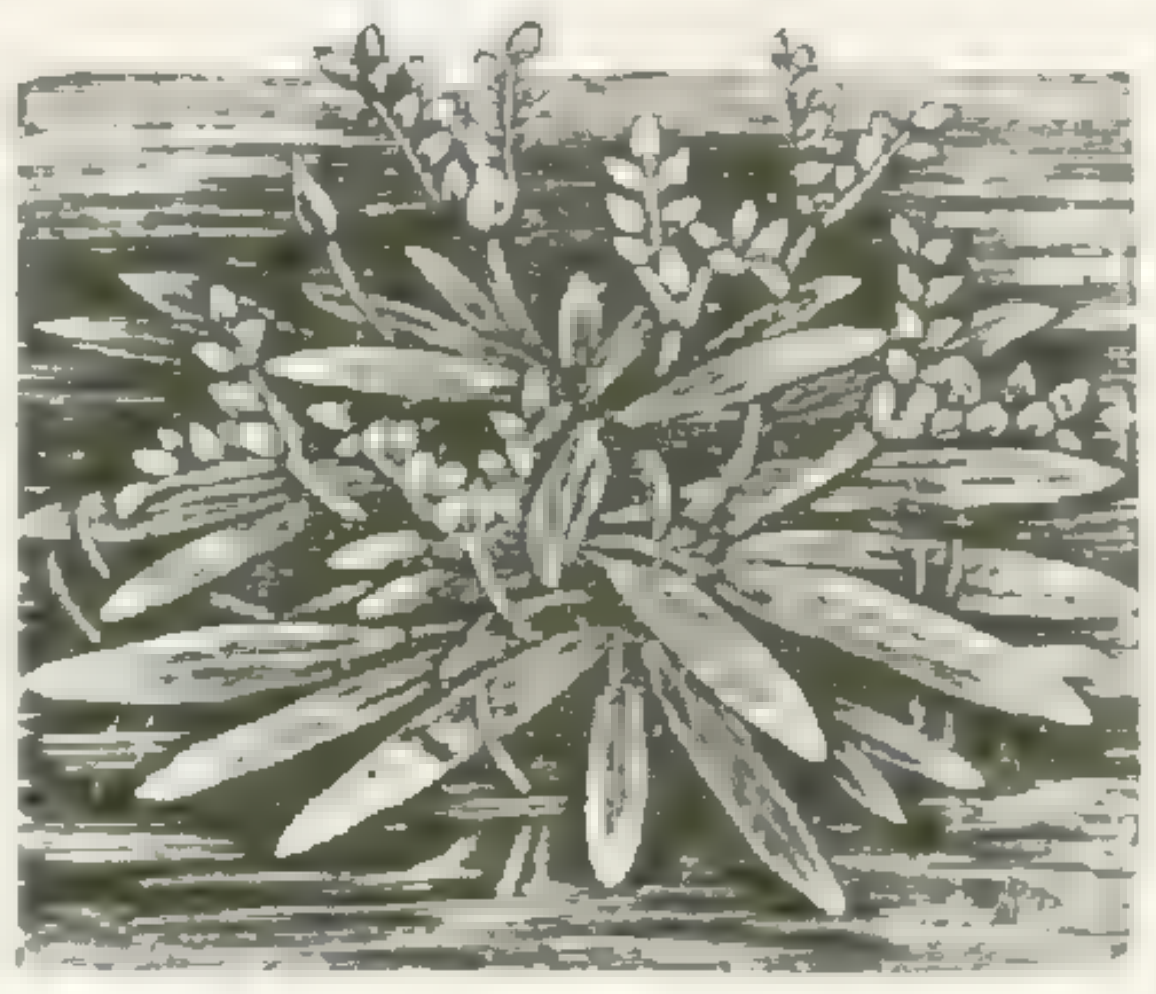

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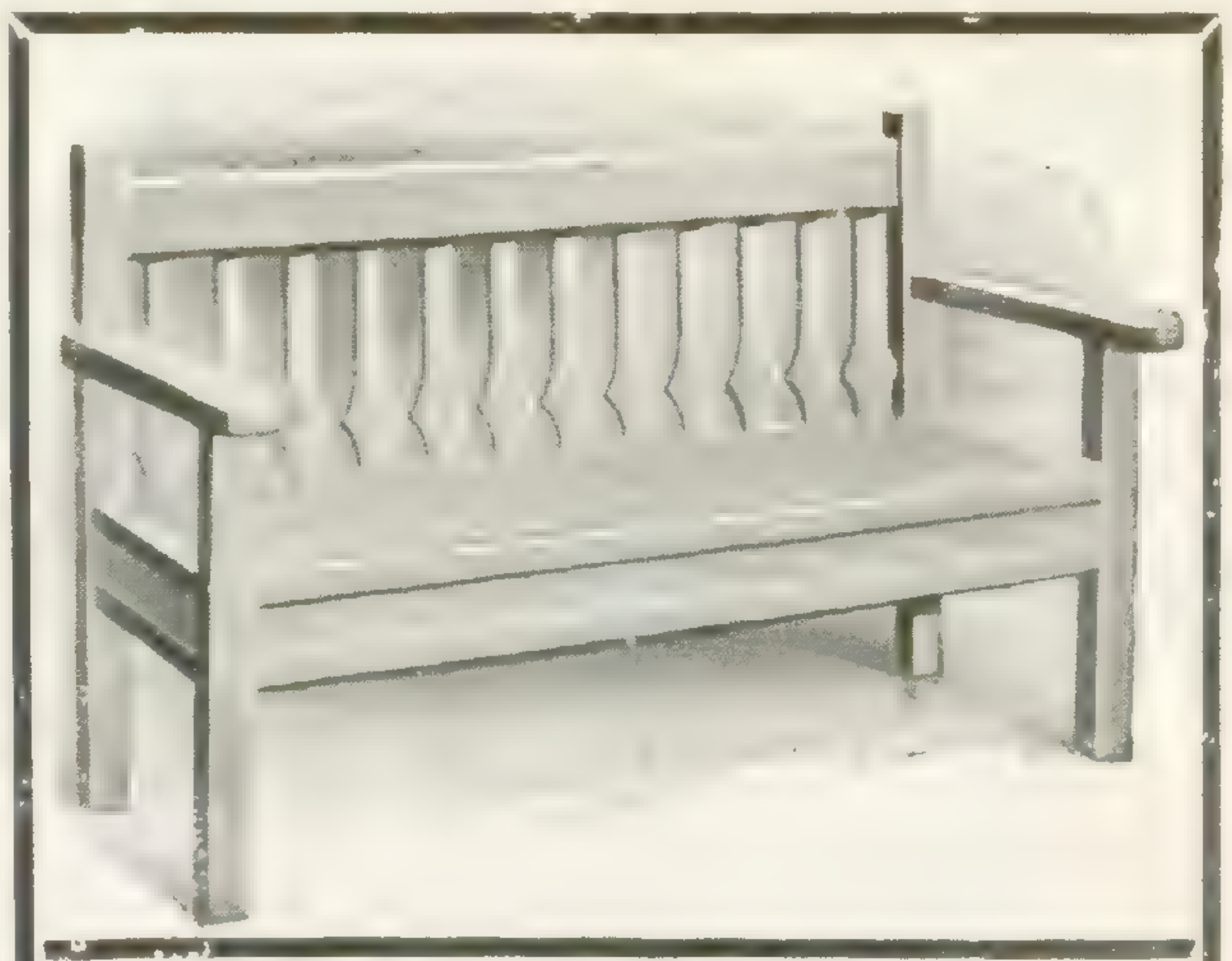

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VOL. LIII.—No. 2,952. SATURDAY, MAY 28, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

The Temple Show.

Rumour has of late been sufficiently busy in suggesting that the great exhibition which has been held by the Royal Horticultural Society in the gardens of the Inner Temple during the past week would be the last of the Temple Shows, to induce some who are not careful in differentiating between supposition and fact to regard the matter as practically settled. This is not the first time rumour has been busily engaged in declaring the Temple Show then being held the last of these remarkable and eminently successful gatherings. The exhibition just held may be the last of its kind in these historic gardens; but we do not pretend to be conversant with what is in the minds of the Benchers of the Inner Temple or the Council of the Royal Horticultural Society, and as we appreciate the value of the old axiom, which declares that "It is not safe to prophesy until you know," we offer no opinion on the matter. There are undoubtedly disadvantages associated with the gardens as a place for the holding of horticultural exhibitions on a large scale, and the greatest of these is an insufficiency of space, for which, unfortunately, there is no remedy. On the other hand, they possess several advantages, and one of the most important of these is their unique position in the centre of London, where they can be readily reached from all sides. Twenty-one years have elapsed since the first of these exhibitions was, by the courtesy of the Benchers of the Inner Temple, held in their gardens on the Thames Embankment, and those who take an active interest in horticultural affairs will agree with us that the Temple Shows have had an enormous influence for good on the fortunes of the Royal Horticultural Society, and have materially contributed to the greatly increased interest in gardening within recent years. It is a point of considerable practical importance to remember that while the Temple Shows have increased by leaps and bounds in usefulness and popularity, many of the provincial exhibitions that once held a high position as aids to the advancement of horticulture have declined in public favour, and, in calling this fact to mind, we would suggest that it might be well to consider whether a change in methods of procedure would not, in some other cases be advantageous. The positions of the Temple and provincial shows are not strictly analagous, but for some time previous to the institution of the former horticultural exhibitions held in London had ceased to be financial successes. Therefore, if the Royal Horticultural Society, by a change of policy, has made its exhibitions successful, it is not unreasonable to infer that a careful change in policy would in other cases prove more or less beneficial. The policy of the Royal Horticultural Society, as regards its spring and summer exhibitions is not to encourage competition for so many plants or cut flowers of specified kinds, but to give cultivators an opportunity of exhibiting the plants or flowers in which they are specially interested, and of presenting them to public notice in such manner as they consider the most desirable. How far a similar policy could with advantage be adopted in provincial centres could only be satisfactorily determined by those fully acquainted with local conditions, but in all cases it would be prudent to make such changes as appear advisable in a gradual manner. Under the new policy that was adopted by the Royal Horticultural Society, concurrently with the founding of the Temple Show, the exhibition of orchids has increased at a rapid rate, and the glorious display that is annually produced by the numerous collections of these fascinating plants constitutes a feature of such surpassing beauty as to at once appeal to visitors, whatever may be the trend of their taste. The interest associated with the orchid collections is greatly increased by the fact that whereas at the earlier of these gatherings species were strongly represented, they are now almost superseded by the many beautiful forms that have been created by the activities of hybridists. The hybridisation of orchids had received attention some time previous to the holding of the first of these shows, but the number of hybrids that had then flowered was not great, but now they are so numerous as to form, with the finer varietal forms of the more beautiful cattleyas, nearly the whole of the numerous collections that have proved so immensely attractive to the visitors. Another feature of commanding importance has been that formed by the collections of hardy flowers, which this year have been particularly well shown. In some instances both plants and cut flowers bore evidence of overcrowding, but the crowded arrangements to which we have referred on some previous occasions were much less common than usual, and by far the larger number of collections were staged with much taste. The improvement in this respect was so great that exhibitors may be heartily congratulated on the success of their endeavours to present their favourites to public notice in such manner as to attract attention, and to give pleasure to those interested in hardy flowers. Roses were, as usual, staged in large numbers, and the groups of sufficient extent to afford scope for the exercise of taste in their arrangement were extremely beautiful. In the several collections the

MR. THOMAS H. MAWSON.

great value of the ramblers for conservatory decoration, when grown as standard, pyramidal, and pillar specimens, was amply demonstrated, and it need hardly be said that the dwarf examples of the hybrid teas, teas, and hybrid perpetuals were well flowered, and highly attractive. As on previous occasions hardy shrubs were admirably represented both as regards numbers and the cultural skill evinced in their development, and they were of special interest, for among them were several that well deserve to be better known than is at present the case. Novelties were also numerous, and of much interest, and these will be described in our next issue, when we shall give illustrations of those of special excellence. In admiring the herbaceous calceolarias and some other of the more popular of the soft-wooded greenhouse plants, it was difficult to repress a feeling of regret that the many beautiful show pelargoniums, which at one time were so highly esteemed for beautifying the conservatory at this season of the year, should have so declined in favour as to have been almost unrepresented. This was a very small matter, and in no way detracted from the exhibition, which amply vindicated the ornamental aspects of British horticulture, and was in every way worthy of the traditions of the society under whose auspices it was held, and reflected the highest credit on all concerned in bringing it to a successful conclusion.

Mr. Thomas H. Mawson, of Windermere, has come very prominently into the front rank of horticulturists during recent years as a landscape gardener and designer of gardens. Though by no means forgetting the claims of natural beauty in gardens, as exemplified by many fine designs in the "natural" style, Mr. Mawson is a lover of the more formal, or Old English style of garden design, and when he has an entirely free hand he provides for sheltering hedges and cosy gardens, where there are formal beds and regular borders of good old-fashioned herbaceous plants. Mr. Mawson has travelled considerably, and he is a capital lecturer as well as a splendid craftsman. On several occasions he has lectured before the Royal Horticultural Society, and his lecture on "Renaissance Gardens," given on October 12, 1909, and printed in the recent issue of the R.H.S. "Journal," is well worth perusal, as it indicates his trend of thought and the inspiration that so largely guides him in his work of designing gardens. Mr. Thomas Mawson is an Honorary Associate of the Royal Institute of British Architects.

Floral Tributes to the memory of King Edward VII. were, as we indicated in our issue of May 21, numerous and beautiful; indeed, it would probably be quite correct to say that never before has a Monarch gone to his last resting-place surrounded by so many evidences of love and affection. The flowers, the Royal and other visitors who came to pay their last respect to the dead, and the enormous crowds of people who attended the funeral in London and at Windsor, all testified to the warm place King Edward held in the hearts of his own people, and in the hearts of his neighbours. There were nearly five thousand floral tributes altogether, and every one sent has been, or will be, acknowledged. They were set out round St. George's Chapel, Windsor, in the Dean's Cloister, and on the Cloister Garth, and here they were inspected by many thousands on Saturday, Sunday, and Monday last. Though the flowers have faded, the good deeds of the King will not soon fade from the memory of his subjects, and though necessarily there must be a period during which black will be worn by many as a sign of mourning, we feel that if coloured blossoms are now permitted in floral tributes of respect, then a reasonable amount of colour in dresses will not mean disrespect. Mr. Bernard Shaw's suggestion that a rosette or band of purple or black would be a suitable sign of mourning strongly appeals to us. Those who would refrain from the wearing of a coloured flower in their buttonhole, or banish coloured flowers from their homes and tables, or allow this beautiful late spring weather to pass without putting their gardens, balconies, and window boxes in order for the season, neither honour the dead King nor show respect to King George V. We know that King Edward loved his gardens, and delighted in bright and beautiful flowers, and we should, therefore, do all we can to brighten home and garden with the products of the florists' genius and the skill of the horticulturist, feeling sure that the late King would have wished it so. The time has now come when we should face once more the tasks of everyday life, and if we do this in the spirit which animates the gracious message of King George to his people, we shall not only testify in the best possible manner our respect to the memory of the late King, but shall honour our present King and do that which is best for ourselves as individuals, and for the nation as a whole.

Gardens in the Dukeries.—In the issues of the "Gardeners' Magazine" for June 11 and 18 we shall give an illustrated account of some of the more noteworthy gardens around Worksop and Ollerton, Notts. These will include Welbeck Abbey, Rufford Abbey, Clumber, and Thoresby Park.

Bushey Park Chestnuts.—The famous avenue of horse chestnuts in Bushey Park fully retains its popularity, and many thousands of dwellers in London and its suburbs have taken advantage of the opportunity for again enjoying the glorious display of flowers the trees annually produce. We have seen the flowers rather better in some previous years, but they suffered less from the unfavourable weather that was experienced early in the month than might have been expected, and the myriads of spikes produced a most beautiful effect. The avenue has a length of rather more than a mile, and a width of 150 feet; originally the road down the middle was 60 feet, but is now only half that width. The chestnuts which form the two inner lines of trees are 40 feet apart, and the number of trees is 274. Behind them are four lines of lime trees on each side. The avenue was formed from plans prepared by Sir Christopher Wren, and the trees were planted in the autumn of 1699, at a cost of £3,300, this expenditure including the making of the road.

Miss Willmott's Book on Roses.—Messrs. Henry Sotheran and Co. announce that Miss Willmott's great work on the roses of the Old and New Worlds is on the eve of publication. The title of the book is the "Genus Rosa," and Miss Willmott has been assisted in its publication by Mr. J. G. Baker, V.M.H., F.R.S., the Rev. H. N. Ellacombe, and the late Rev. C. Wolley Dod, and it has been revised by Professor Sargent and Colonel Prain, F.R.S. The work will contain one hundred and twenty-nine coloured plates, in addition to fifty-six drawings of fruits in black and white, with corresponding letterpress, giving the scientific description in Latin and English, the full synonymy, and detailed information relating to each rose. In addition there will also be an illustrated glossary and index. An account will be given, with illustrations, of the most distinct and interesting species of the roses of the Old and New Worlds; some natural hybrids and a few first crosses and old garden roses, necessary to the complete treatment of the subject. The edition will be limited to 1,000 copies and will be completed in from twenty to twenty-four parts, which will be issued at intervals of one month, at the price of one guinea net per part.

Tulips at Thames Ditton.—For a long series of years the extensive nurseries of Messrs. Barr and Sons, at Thames Ditton have been famous for their annual displays of tulips, but this year the firm appear to have surpassed themselves in connection with these attractive flowers. Certainly in no year has there been a more extensive or varied display, or the flowers more remarkable for their high development. Our readers need not be told that Messrs. Barr and Sons have devoted special attention to the May-flowering tulips, or that they have been highly successful in discovering fine old varieties that had practically passed out of cultivation, and in introducing new varieties. But it is well to bear this in mind, because it enables one to more readily understand that the collection is remarkable for its comprehensive character, as well as for its demonstration of the value of tulips as aids in beautifying the garden. The collection of "Cottage" or May-flowering tulips is so large that it contains all the finest of the varieties in their several shades of colour, and the Darwins, which also bloom in May, are equally well represented. It would be interesting to give the names of the best in each group, but the pressure on our space is very great at the present time, and we shall not fail in the interests of our readers to take advantage of our notes when the planting season arrives.

New Echeverias.—Dr. J. N. Rose and Dr. C. A. Purpus have recently described and figured three new species of echeveria discovered in Southern Mexico. It is believed that two of these—E. gigantea and E. subæpina—may be of considerable horticultural value, and useful in the summer flower garden.

Saturday Half-holidays. — A correspondent of the "Journal" of the British Gardeners' Association addresses an appeal to head gardeners for the adoption, where possible, of the half-day holiday on Saturdays. He writes: "Last year we adopted in the gardens over which I have charge the following scheme, and at the end of the season it was found to be quite practical. From April 1 to October 31 the men came to work one half-hour earlier each morning (so that no time was lost) and left work at twelve o'clock on Saturday. The duty man kept at work Saturday afternoon, but as each man took his turn it enabled them to have three Saturdays off and one on. From a working point I found the half-hour in the morning was worth a great deal more in the garden than the three hours at the end of Saturday, and personally consider it a great economy of labour. The men like it very much, as it enables them to get right away Saturday and Sunday. Where possible the duty man is on Saturday and Sunday together. This scheme could be adapted to almost any garden, large or small, and I feel sure that the employer would if it were pointed out to him or her support the idea."

MESSRS. SUTTON AND SONS' FRENCH GARDEN.

For some considerable time past Messrs. Sutton and Sons have devoted a considerable share of their attention to intensive culture, or what is more popularly known as French gardening, and in the experimental culture at their trial grounds of the vegetables and salading best adapted for this method of cultivation they have achieved much success. Those of our readers who attend the fortnightly meetings of the Royal Horticultural Society will remember the fine collection of lettuces, radishes, and other products grown in accordance with the practice that obtains in the market gardens around Paris, that have from time to time been exhibited by the firm. One of these collections we have had the pleasure of illustrating in these pages, and the several exhibits have been referred to in our reports of the meetings at Westminster.

The success achieved at Reading in intensive culture induced one of the principal residents of Birmingham to suggest that a model French garden, arranged in one of the principal parks of that city, would be of great educational value. This suggestion was acted upon, and, with the permission of the Lord Mayor of Birmingham, Messrs. Sutton and Sons arranged a garden in Warley Park, which was open for inspection on the 16th inst. It was visited on the opening day by the Lord Mayor and Lady Mayoress, and large numbers of the general public, including many of the leading citizens, and the numbers who have visited the garden since the date mentioned have been so large as to show that it has created great interest in the city. We have much pleasure in giving herewith an illustration of the garden when visited by the Lord Mayor and Lady Mayoress and the principal citizens.

The whole of the large garden at Warley Park was prepared in sections in Messrs. Sutton and Sons' trial grounds at Reading, and its removal to Birmingham and rearrangement in Warley Park were by no means easy of accomplishment. All difficulties were, however, overcome, and the citizens of Birmingham given an opportunity of seeing a garden on the lines followed by the French growers in working order. The object in view was, it may be mentioned, to show how the amateur or private gardener may, from a limited area of ground, with the aid of hotbeds, inexpensive frames and cloches, produce tender salads and early vegetables in considerable quantity by adopting the intensive system so largely practised on the Continent.

The garden demonstrated the preparation of the hotbed, and showed the use of the cloche for raising seedlings and bringing on the plants. There were beds covered with cloches sown with the four usual crops (radishes, carrots, lettuces, and cauliflowers), and in these the radishes and lettuces were quite fit for use. Other beds contained cabbages and cauliflowers which had only been planted six weeks, the former being quite ready for use, whilst the latter showed signs of soon "turning in." Amongst the cabbages and cauliflowers were endive, radishes, and turnips. There were examples of tomatoes and vegetable marrows as successional crops, and under the cloches the plants of the two last-named kinds were in bloom, and these, in the usual course, produce fruits much earlier than plants grown without protection. Under other cloches peas were in bloom and setting their pods, and there was also evidence of the value of these protectors in accelerating the flowering of strawberries. In the frames were melons setting their fruits, strawberries were rapidly colouring, and the four usual crops in a more forward state than were those under the cloches.

The garden was throughout of great interest, and the success achieved is deserving of much praise.

MESSRS. SUTTON AND SONS' FRENCH GARDEN AT WARLEY PARK, BIRMINGHAM.

Androsace coronopifolia—It is strange that so elegant and charming a little plant as this easily grown biennial is not made greater use of in gardens. One sometimes sees a little patch of it on a rockery, and plants in pots are often included in exhibits of rock plants, but its merits are sufficient to warrant more than this. The plant makes an extremely good edging to beds of spring flowers, and it may also be used to great advantage as a carpet to beds of muscari, or other bright-coloured flowers of similar height. The neat little umbels of small, satiny-white flowers are sweetly pretty, shimmering in the breeze of a bright spring day, and though fragile in appearance the flowers remain attractive for a considerable period. Seed sown in June will produce good plants for putting out in autumn, and when once a stock is obtained it may be maintained with ease, as the plant seeds with great freedom, and self-sown seedlings will appear in any quantity if the surrounding soil is left undisturbed.—M. A. C.

LATE-FLOWERING PHLOXES.

The phloxes of the decussata group are certainly in the ascendant at the present day, and the varieties in cultivation constitute quite a host in themselves. While one can but express satisfaction that they are so popular, the fact remains that in many gardens they do not usually receive the necessary attention to bring them to perfection.

Often the phloxes are grown in hot, exposed borders, where they lose foliage and vitality, as well as suffer the ignominy of producing inferior trusses and blossoms. A dry soil will give a short flowering season and lustreless flowers. Experience has proved that a retentive, well-worked soil will give the finest plants, while if the phloxes can be grown by the waterside, allowing them the moist conditions which we generally give to the Japanese irises, lythrums, astilbes, and similar moisture-loving subjects, they will revel in it.

Probably there is no plant that suffers more from being allowed to stand in one position for a long period than these late-flowering phloxes, and where it is possible I would advise raising a new stock from cuttings every year, and destroying the older plants after the second or third year. This method will ensure the perennial possession of fine and healthy plants. As an illustration of the value of young stock I may state that I have usually cut the finest trusses from those raised from cuttings in early spring, and planted out as soon as ready. The result has been that these youngsters, with a clean, healthy, single growth, and full of youthful vigour, have grown away rapidly, and have produced in late summer the finest trusses of the year, fit for high-class exhibitions.

In several gardens I know phloxes are grown by themselves in prepared beds and borders, and certainly where a blaze of colour is desired a border of well-grown phloxes will furnish the required feature. But for preference I like them best of all in the vicinity of the stream or water garden, where, in company with less ornate subjects, and the harmonising influence of the water, and soft effects of the surrounding greenery, the phloxes are certainly glorious to behold. The glowing colouring loses somewhat of its brilliancy amid such associations, but its loss is really a gain, for the phloxes show up soft, clear, and decided, each variety at once distinct and beautiful. And the foliage (for well-foliaged stems are the making of them) in the waterside position is deep green, strong, and clothes the stems so well that there is a startling difference between them and their "seared" brethren in the dry border.

TEMPLE SHOW—A FINELY GROWN SCHIZANTHUS,
Exhibited by Messrs. Garraway and Co., Bristol.

With the host of phloxes in cultivation at the present time, and the frequent additions that are made to the number by the French and other raisers, one is apt to grow bewildered in the choice of varieties for the garden, and unless one has the opportunity of seeing and judging the merits of the newer forms, it would be an extremely hazardous task to make a selection. This is especially true of phloxes which come under the blue, purple, lilac, mauve, and violet colours, for unless one can make one's own selection of forms that come under these headings disappointment will assuredly follow.

Two of the best varieties which come under this grouping are Iris and Lord Rayleigh, both rich, yet pleasing, hues. A good dark purple-violet is represented in the newer Tenebres, while the mauve-coloured Sinbad is rendered more pleasing by the possession of a bright carmine eye.

It would be a difficult matter to name the best white phlox. The old favourite Mrs. Jenkins has had its day, and one must seek further if they want a first-class variety. Independence has the strong robust character needed, and the blossoms are pure, and the trusses good, but one looks for something a trifle better. F. G. von Lassburg is one of the finest whites, though one would rather favour the new Dutch variety, St. Moritz, which is of large size, strong growth, and snowy whiteness. Of other whites one can always commend Sylphide, which invariably produces good trusses, and comes amongst the earliest in blossom. Those dwarf whites, Tapis Blanc and Helene Vascarisco, produce splendid trusses, but, in my opinion, it would be far better if they were double the height they are.

Coquelicot and Etna have for long held the leading positions among the orange-scarlet hues, so that one has come to look upon them as indispensable in the garden. The newer Chardonneret, however, will prove a formidable rival; it is a very bright scarlet, with large blossoms. Fire King, too, should be noted as a bright telling colour, and Starlight is a good orange-scarlet of a rather softer hue than Etna.

Pink and bright rose-coloured phloxes are always in demand, and the new rosy-hued George Schneider, with its white centre, and grand blossoms, will meet with wide approval. Meteore, a new pink with white eye, is a serviceable variety. Other recent pinks include Selma, clear pink, with red eye; Sonnenkind, a deep rose; and Ironie, a notable pink, shaded salmon, which is very effective. The favourite Pantheon is still a good recommendable variety, while Le Soliel, although rather small, is very much grown.

Other phloxes of great merit are Josephine Gerbeaux, white and carmine; Jarry Desloges, violet, with a large white centre, M. Lucien Chaure, a good novelty, carmine, suffused soft vermilion, violet centre; Welleda, a giant-flowered rosy-salmon, with violet tintings, and a clear white centre; Jocelyn, a bright orange, with purple centre; and Etoile de Nancy, a clear white, with a distinct rosy edge, and bright carmine centre.

Many of the older standard varieties are still grown in large quantities, and some of them are still of service. One might mention such sorts as R. Wallace, William Robinson, Eclaireur, Jeanne d'Arc, and several others which the majority of gardeners are well acquainted with, as an instance of the value of useful varieties, even if they have been in service for years.

P.

RHODODENDRON INDICUM VAR. KÆMPFERI.

Though this plant is placed as a variety of Rhododendron indicum, it appears to be distinct enough for specific rank, especially for garden purposes, for it is very different from the plant which is so well known in our greenhouses as the Indian azalea. It was described by Maximowicz many years ago, but does not appear to have found its way into gardens until Professor Sargent, of the Arnold arboretum, collected seeds on the Japanese mountains some seventeen or eighteen years ago. Kæmpfer's variety differs from the well-known Rhododendron (or Azalea) indicum by having more wiry growths, with smaller leaves and flowers, its most close relative apparently being the old purplish-flowered R. amœnum or Azalea amœna, as it is more frequently called.

When grown out of doors it forms a low, dense bush, made up of innumerable thin branches, clothed with small evergreen leaves. Each branchlet bears a terminal head of brightly-coloured flowers during early May, the flowers on different plants being red or purplish in colour. For the milder counties it is an excellent subject to plant as a mass in a conspicuous position, for few shrubs are more showy or floriferous. It cannot, however, be said to be altogether satisfactory in places where late spring frosts are experienced, for though it is perfectly hardy so far as winter frost is concerned, a frost about the end of April or early in May is almost certain to injure the flowers and young shoots. It is, however, well worth consideration as a cold greenhouse plant in such localities.

K.

"LOOK AROUND YOU."

Visitors to the Temple Show expect a revelation, and, once again, they are witnesses to it. Whether impressed the more with the visible tokens they observe of Nature's resurrection after the white sleep of winter, or with the skill that is needed to produce and bring to simultaneous perfection such marvels of floral beauty and fragrance, the revelation is no less a wonder and admiration.

Mostly, however, it is to-day's result that is matter for concern. The long yesterday of toil and anxious waiting that have led up to so successful an issue is scarcely thought of; so great is the bewilderment of colour, so overpowering are the odours of the flowers, that the mind of the visitor has no place for other reflections. But the workers know, although they find reward for it all in the delight afforded the beholder by the varied charms and attractions of the display.

"If you would seek us i' the Garden" is as pretty and quaint an invitation as it is classic. We are all there: some to seek, others to reveal. The flowers are there in delicacy of hue, in rare fragrance, fair of form. So also are the fruits of the earth, in all the attraction of perfection, abundance, and taste.

So, too, is the unseen force that has helped to produce such effects. Into the soil in which these plants have grown and matured, vitality and energy have permeated that have been as germs of life and health to them—unceasing in operation, if silent in action—and flower and fruit, and vegetable, too, are eloquently mute testimonies that the right manurial element has been used for the development. So that, "if you seek us i' the Garden," we are there, not indeed to sight, but essentially so. "Look around you," and the occupants of tent after tent, the specimens in the groups, the leafy denizens in the gardens without, bear generous tribute to CLAY'S FERTILIZER.

This is not the only attestation, of course, Other gardens tell the same story. The nurseries devoted to horticulture as commercial enterprises bear similar record, and, if such extensive areas are made to rely for results upon the service of CLAY'S FERTILIZER, so also may the reader of these lines, whether he is responsible for the cultivation of many acres, or whether he finds the delight of his leisure moments in the more limited enclosure adjacent to the country or suburban home.

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For the Exhibitor there is a complete vade mecum provided in the noticeable contribution by the veteran journalist and judge, Mr. John Wright, V.M.H., entitled "GROWING AND SHOWING." If a life-long devotion to horticulture and a repute of the highest be a qualification, then here is the writer and here his work. Points for Exhibiting and Rules for Judging are stated and developed with admirable judgment and deliberation.

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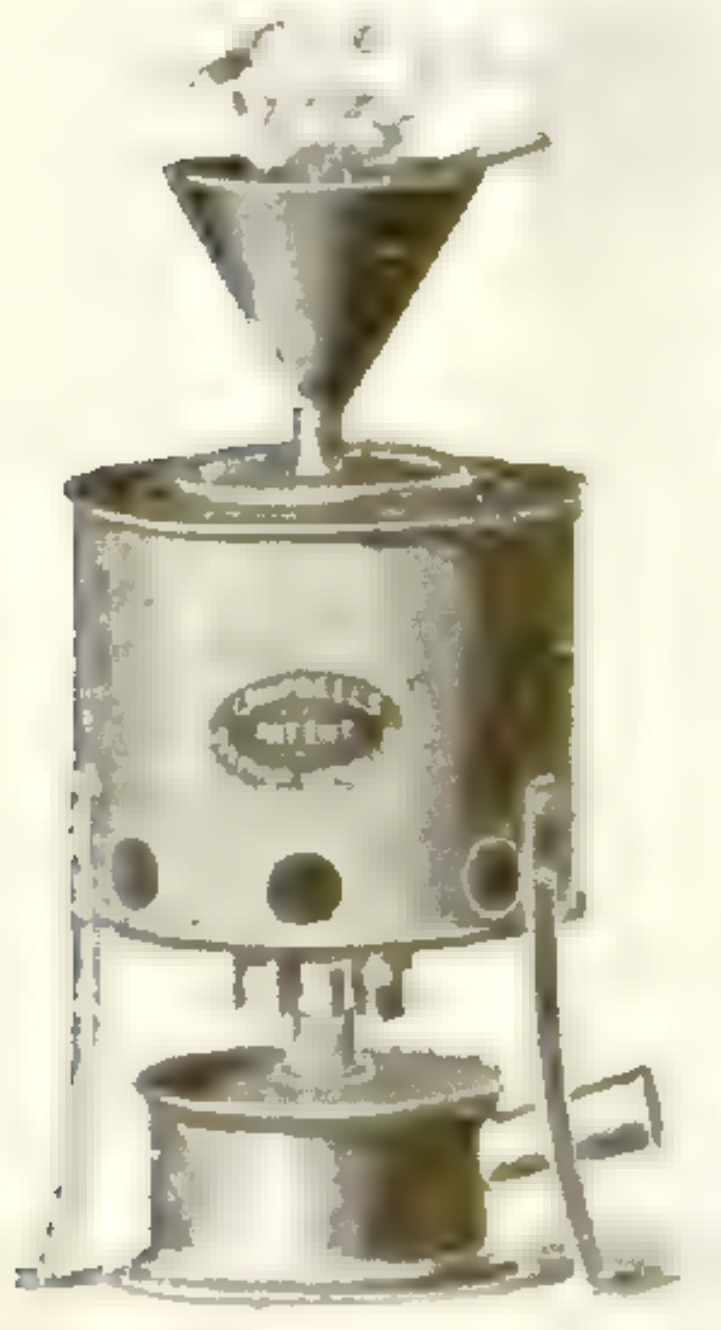

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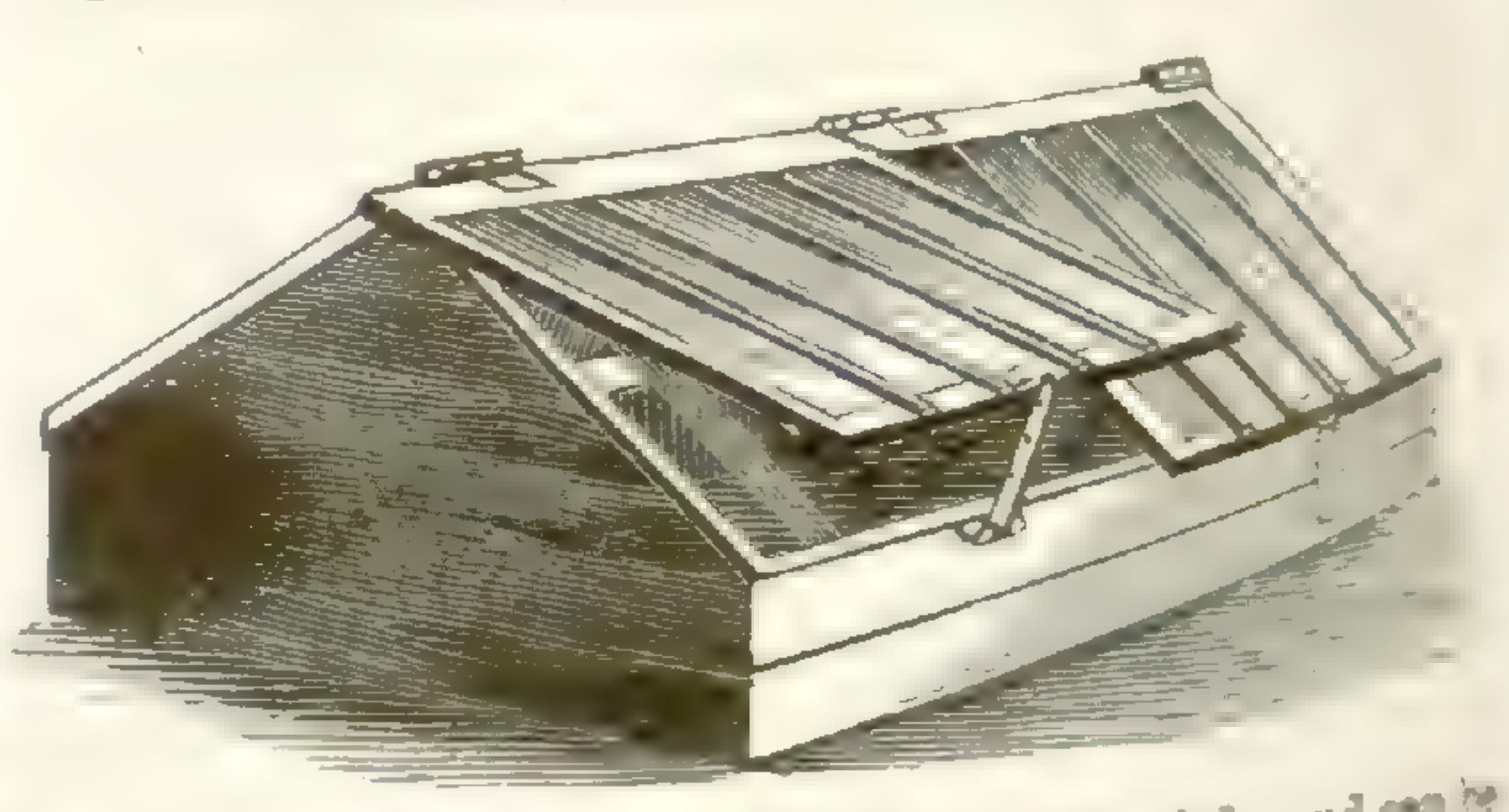

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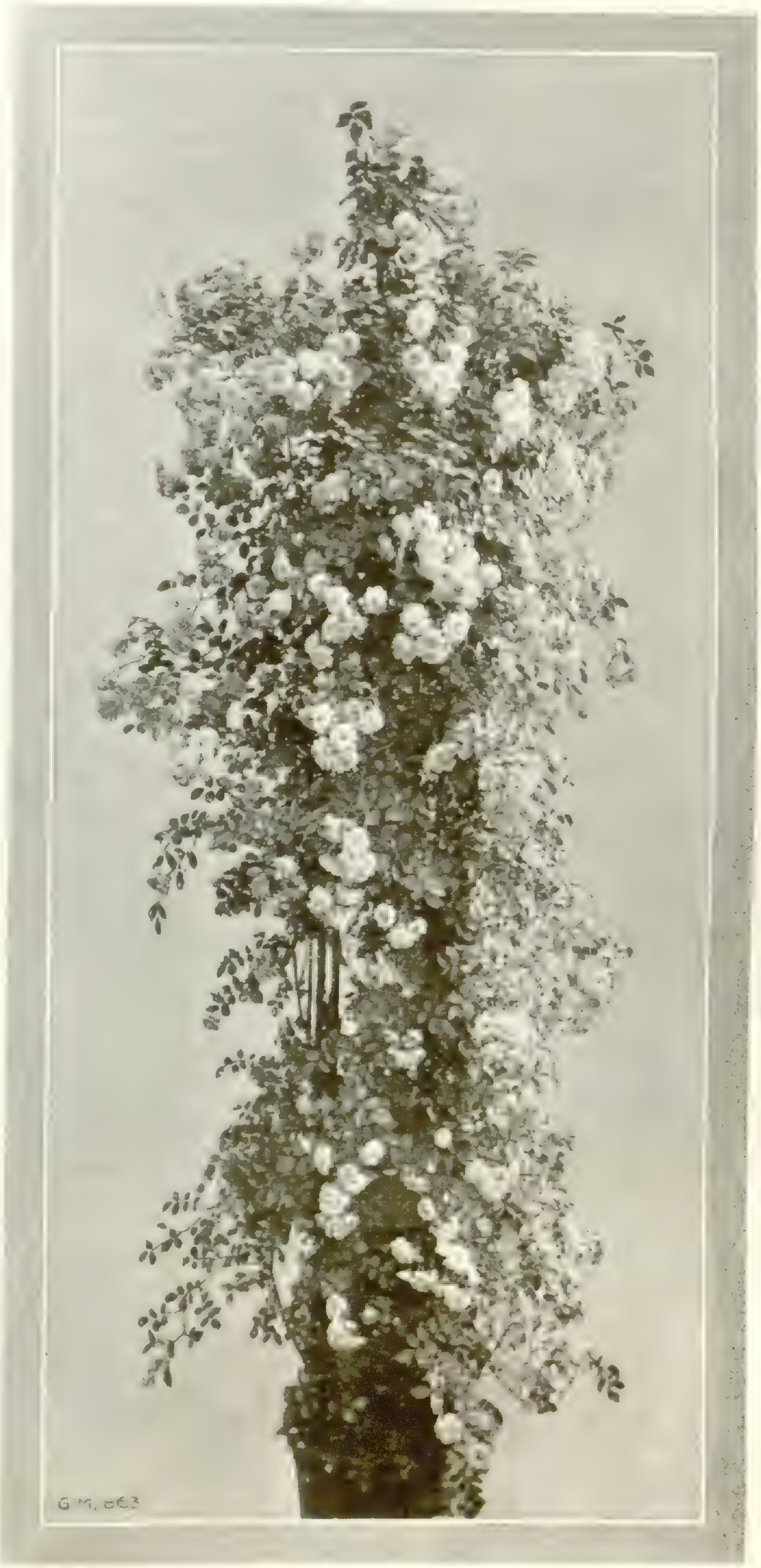
THE MICROSCOPIC PLANT WORLD.

The unaided human eye is very limited in its scope, and only endowed by evolution with the power of conveying to the brain a comprehension of the larger items of its environment. Nature, however, using the term as figurative of the great Creative Power underlying everything, embraces two immense realms outside such optical scope, viz., the realm of the infinitely great and that of the infinitely small. Man, endowed with the marvellous gift of an intellect, has found means to grapple with both of these, to a certain extent, the telescope and spectroscope enabling him, so to speak, to dissect and analyse the vast universe of the stars, while the microscope has permitted him to investigate the world of the minute in the midst of which he exists.

In this latter direction he has learnt that though he probably is alone gifted with an appreciation of the beautiful, there exists an infinity of beauty which cannot be considered as in the remotest degree designed for his delectation, since it is practically of very recent discovery, due to improvements in the instruments employed. Hence it may be reasonably assumed that countless myriads of mankind have in the past been entirely ignorant of its existence, while even to-day it is comparatively very few people who really comprehend the marvels which underlie the surface of what is seen by the unaided vision. We have spoken of the infinitely minute in this connection, and done so advisedly, since the greater the power of our microscopes the wider the horizon becomes which remains to be reached, only in such event to find fresh ones in the distance. When the microscopist has reached his limits, the mathematician comes in, and demonstrates that, inconceivably far beyond his ken, there lies the ultimate molecule, primary atom, ethereal unit, or whatever else it may be termed, billions of billions of which may be embodied on the tiny point he has managed to discern with his highest magnifying power.

It is precisely here, as in the celestial universe, the farthest visible nebula being resolved by the most powerful telescope, faintly, but unmistakably, the more sensitive photographic film will show an infinity of others beyond. To come now, however, to our special theme, we may cite in the first place the microscopic fungi, the blue moulds and others, the spores of which teem in our atmosphere, and are practically ubiquitous wherever organic material exists to enable their colonies to be formed. To the naked eye they are mere patches of discoloration, but under the microscope these patches resolve themselves often into growths of extreme beauty, symmetrically branched, and bearing fruit in the shape of spores arranged in bunches, festoons, or in other ways, so that the tiny patch is seen to be a forest of charming vegetation, bearing such harvests of fruit as no tree of larger growth could rival. Probably every patch chosen at random on different substances, damp wallpaper, old cheese, rotten wood, and so forth, would display an entirely different landscape in miniature, for their name is legion. We may next turn to the diatoms, which certainly rank among the most wonderful examples of hidden beauty.

Here, despite the pure crystalline flints of the beautiful forms which they fashion, we are dealing with an absolute vegetable, and the wonder of it is that, though many thousands of beautifully varied designs are shaped by these organisms, each one is but a mere blot of jelly-like consistency. Within this, during its life, each one according to its kind, secretes, taking a cyclodiscus as one of the innumerable types, a perfectly circular disc of the purest crystal, its surface worked radially with most charming patterns, its edge rimmed and bossed, and, in short, a perfect glass salver, ornamented in such an artistic style as no glass cutter could excel. The more highly magnified the more detail appears, and yet, so minute is the field upon which this work appears, that, individually, it is quite invisible except under a high-power lens, and a thousand or two spread over a microscopic glass slip appears but as a faint dimness. An additional wonder in this connection is the immense abundance of these microscopic artists. Every pond and ditch has its myriads, they abound practically in all waters leaving a sediment, our home aquaria may teem with them, and in many parts of the world they even form geological strata.



TEMPLE SHOW—ROSE LADY GAY.

A finely flowered specimen of this rich pink Wichuraiana, shown by Messrs. Paul and Son, Cheshunt.

We conclude with a more familiar field, viz., the pollen of our flowers. Mere dust as this seems, every grain is a beautiful creation; spread a few of them on a glass slip, and view them under even a lens of moderate power, two or three hundred diameters, and the result, we are sure, will be further research into this infinitely interesting realm of the smaller plant world.

CHAS. T. DRUERY, V.M.H., F.L.S

WORK FOR THE WEEK.

◆

THE ORCHID HOUSES.

CATTLEYAS.—The majority of the cattleyas and allied genera will, at the present season, be in a more or less active state of development, either new growths are being produced, flowers are advancing, or the new roots are pushing from the base of the last made or new growth. Thanks to the endeavours of the hybridists development is with us at all times. Instead of cattleyas having a flowering season extending over a few months in the summer and late autumn, we have plants giving us a continuous supply of flowers throughout the whole year. This serves to indicate the constant attention necessary to provide the conditions best suited to the requirements of the different species, and of the hybrids and bi-generic hybrids that have become so plentiful. Cattleya Mossiæ, C. Mendelli, and the numerous early summer kinds are this season nearly a month later than usual. The unfavourable conditions outside that have been so continuous throughout the whole of this year accounts for their lateness in flowering. As soon as the early flowering cattleyas pass out of flower they usually commence active root action, and therefore any repotting that is necessary should be attended to as soon as the flowering season has passed. It is not advisable to repot cattleyas and their allied genera for the sake of repotting. If the potting compost is in a good state of preservation, and there is ample root space in the pots, all that is necessary is to remove any dead or decaying material on the surface, and replace it with good living sphagnum moss. If repotting is necessary carefully remove all the old potting material; when this has been done the rhizome will be fully exposed; it will be noted that when there are numerous back pseudo-bulbs they will have lost practically all their roots, and are thus dependent for support upon the younger portion of the plants. It will thus be only reasonable to assume that these rootless pseudo-bulbs are likely to be detrimental to the young growths, and there can be no doubt that plants of some age diminish in vigour unless the rhizomes have been severed. As many of these back pseudo-bulbs have dormant eyes capable of producing new growths, it is desirable they should be removed by cutting the rhizome asunder between the pseudo-bulbs about two or three bulbs back from the lead. The pieces thus divided may be put in small pots, with ample drainage, and, in due course, they will usually produce new growth. This is one method of increasing the stock when so desired.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CHRYSANTHEMUMS.—Most of the plants should now have their final potting, an operation that takes some time and should not be hurried, as this detail requires careful attention. The best size of pot to be used is a matter of opinion, and some varieties do better in a smaller size than in a large one. For general purposes 10-inch pots appear to me quite large enough, and even a size smaller will allow ample rooting space for many varieties. If smaller sizes than these are used, it causes additional labour in watering and feeding during the summer months. The crocks and pots should be thoroughly cleaned and dried before using and care must be taken in arranging the drainage material in order to provide the best possible outlet of water. A thin layer of fibrous loam should be placed over the crocks to prevent the finer soil running down between them and checking the escape of surplus water. The potting soil should have been turned over several times to ensure the constituent parts being well mixed together. Let the potting be done as firmly as possible, taking care not to break the ball of roots. After the repotting place the plants in a shaded position for a few days, and spray overhead to prevent the leaves flagging. Subsequently remove to their growing quarters, and provide each with a label on which should be inscribed the date of potting as well as the name.

CYCLAMEN.—These should be removed to an unheated frame, remembering that sunlight is necessary for their well-being. The foliage should not be exposed to very bright sunshine, therefore matting or some light covering should be at hand for shading when necessary. Keep the surroundings moist, or thrips may attack the foliage and do much damage.

FRANCOA RAMOSA.—Old plants of the Bridal Wreath are now pushing up their flower spikes, therefore some support should be given to keep them straight. The plants will derive benefit from applications of liquid manure. Young seedlings should now be pricked off into boxes; afterwards, when large enough, pot them off singly, using 2½ or 3-inch pots, and good fibrous loam, with leaf-soil and sand.

PRIMULAS.—The plants raised from early sowings will be ready for shifting into their flowering pots, using good loam with a moderate proportion of peat added, and leaf-soil; syringe overhead every afternoon, and shade from bright sunlight.

HIPPEASTRUMS.—Plants that have finished flowering should be exposed to full sunshine. Do not hasten the ripening of the bulbs by withholding water, but rather keep them moist, and give them ample ventilation. Applications of weak liquid manure will be beneficial until the decay of the leaves. Care must be exercised to avoid excessive waterings. Young seedlings now ready for potting off singly should be put in 2½-inch pots, using loam, leaf-soil, and sand. Syringe twice daily, and maintain a moist atmosphere.

MANURE.—Most plants are growing freely, and require some manurial assistance, but liquid manure should not be given to plants when the soil is very dry. Whatever the nature of the liquid, it is necessary to be cautious in its use. Dilute it liberally rather than have it too strong. Sheep manure steeped in a barrel with a six-inch potful of soot put through a fine sieve, and well mixed makes a capital liquid, and may be applied twice weekly.—Walter Staward, Belford Hall Gardens.

THE FLOWER GARDEN.

BEDDING OUT PLANTS, with the exception of the most tender kinds, may now be planted. Taking into account the shortness of our summer season, and the consequent transitory character of flower gardening, where tender plants are used, every endeavour should be made to do without these, or, at all events, to use them as sparingly as possible. Plants used for sub-tropical purposes should not be hurriedly placed out of doors, but gradually hardened to the ever-varying changes of our climate; unless this is done many will not be able to stand the direct rays of the sun without becoming scorched, and thus become unsightly for a very considerable time. Care should be taken that all the plants are thoroughly soaked with water before being turned out of the pots or boxes in which they have been growing, and if the soil in the beds is at all dry another watering should follow after planting. If brilliant sunshine [illegible] vails at the time of planting it may [illegible] necessary to shade some of the plants [illegible] are impatient of undue disturbance at [illegible] roots, and so assist them in making a [illegible] start.

ROSES AND OTHER CLIMBERS [illegible] been somewhat injured by late frosts [illegible] prevailing east winds, and this, it is [illegible] to be feared, will render the plants [illegible] prey to the attacks of green-fly and [illegible] It will therefore be advisable to keep [illegible] sharp look-out for the appearance of both of these pests in order that remedial measures may be at once taken. In the application of these considerable force through [illegible] syringe or garden engine will [illegible] in order to dislodge the greenfly [illegible] spraying with an approved fungicide [illegible] suffice for mildew. Should leaf maggots [illegible] come troublesome, the only sure cure is [illegible] pick them off and destroy the leaves [illegible] they are hidden. All roses that [illegible] recently planted should be kept well mul[illegible] and during dry weather be watered [illegible] Clematises and other quick growing [illegible]

TEMPLE SHOW—SPECIMEN HERBACEOUS CALCEOLARIA.
Exhibited by Messrs. E. Webb and Sons, Wordsley.

will now need frequent attention as to direction of growths and tying or nailing in.

NEWLY-PLANTED TREES.—Attention should be given to all newly-planted trees and shrubs, especially azaleas and rhododendrons, in the way of watering, or the restricted balls of earth in which they have been growing will become unduly dry, and this usually means the loss of the plant. Every encouragement should be given to the roots to penetrate the soil of the beds in which they have been recently planted; mulching the surface of the soil will aid in maintaining a uniform state of moisture and temperature of the soil.

ROSA RUGOSA (Japanese Rose) is now a prominent object on the lawns and shrubberies. This is one of the most vigorous-growing roses, the plants making very handsome specimens with but little trouble. Little or no pruning is necessary, a judicious thinning of the branches occasionally being all that is required. Besides being a free-flowering subject, it has the additional attraction of being usually laden with bright orange-coloured fruits during the autumn and early winter months.

TEMPLE SHOW—ANDROSACE HENRYI.

A beautiful species with rose-tinted flowers, exhibited by Messrs. J. Veitch and Sons, Lim., Chelsea.

GENERAL WORK.—At the present time there is no lack of work, and skilful management as to the work necessary to be done at the right time will be needed to keep everything in order. Hoeing, weeding, clipping verges, weeding walks, the removal of dead or decaying flowers, the staking and tying up of perennials and carnations, the pegging down of violas, and all similar work, tends to preserve neatness in this department if promptly done.—W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

RASPBERRIES AND LOGANBERRIES.—Thin out the young growths where likely to be overcrowded by pulling them up, leaving only sufficient in number for next year. The young growths of the loganberry should be tied securely to the wires as they develop. The soil between the rows should be frequently stirred with the Dutch hoe, and, where mulching was put on early in the spring, weeds will have become a source of trouble, and it should be lightly turned over with a fork on a bright sunny day. Where these fruits have not been mulched no time should be lost in carrying out this work. Autumnal fruiting raspberries will be greatly assisted in making strong fruiting canes by frequent applications of liquid manure, and at the same time thinning out the young growths sufficiently to allow sun and air to have free access to those remaining, and thus ensure full development. The raspberry beetle, when in the larval stage, is frequently destructive to the fruits of both the raspberry and loganberry, which causes the fruit to become deformed and shrivelled. It is at this time that the beetle lays its eggs upon the flower buds, therefore a sharp look out should be kept, and, if found, they should be caught by placing tarred boards close to the plants, and also by shaking them into cloths, when they should be immediately destroyed.

BLACK CURRANTS.—The bushes should be frequently syringed with quassia extract to combat the mite and aphis. We have been much troubled here this season with the "night" weevil, which eats the foliage and buds upon the bushes. Constant attention has been necessary, to examine the trees at night with a lantern, and placing cloths under the bushes, giving them a gentle shake into the cloths, when the weevils could be caught and destroyed.

GOOSEBERRIES.—The bushes should be watched, and when there is evidence of an attack of the gooseberry caterpillar, it should be promptly and thoroughly dealt with. Dusting with hellebore powder will kill them at once, but as this is poison the fruit must be well washed before use. We have found it a good plan to syringe the bushes—from this time onward—once a week with quassia extract; this undoubtedly wards off caterpillars, and also the trees are kept free from red spider. As a rule the caterpillar is not so troublesome where heavy cow or pig manure is used for mulching the surface of the soil between the bushes.

PEAR LEAF BLISTER.—This is caused by a minute but most destructive mite, which attacks the young foliage at the present time, raising blisters upon the leaves where they have deposited their eggs, and another generation is soon developed. Spraying with an approved soluble paraffin insecticide is the best means to adopt to combat this pest. At this season of the year the small larvæ of the winter moth will be found upon the leaves of the pear and apple trees, and if the leaves appear curled or joined together, the trees should be carefully examined, and the small caterpillars be crushed between the thumb and finger. Subsequently give the trees a good spraying with an approved insecticide.—Henry R. Farmer, Cardiff Castle Gardens.

French Beans.—To be on the safe side a batch of seeds should be sown in boxes or small pots, independently of those sown outside, for, should late frosts occur, these will be found necessary for planting out to prevent a break in the supply.—G. Ellwood.

Marica cærulea.—This is a handsome stalwart of the stove house, and is a native of Brazil, and of easy culture, requiring a rich loamy soil and plenty of water. The colour of its flowers is a pretty blue, and are borne on a long spike some three or four feet high, and continues to bloom for weeks together, the flowers lasting only for one day, but the pleasure one obtains from these plants is very great. Marica Northiana is very pretty and curious, and sweet scented, but Marica cærulea is better in every way. It is very easy to increase. After flowering the plants produce a growth on the extreme end of the flower spike, and these, if pegged down into soil, will soon root, and make useful plants.—W. D. Pope, Wareham.

UNCOMMON GARDENS.

A flower garden is almost sure to be attractive, but there is no reason why it should not be original, as well as lovely, without the expenditure of any colossal sum. May is the last month, however, in which work can be done with regard to a present-season display; pot roses can be still planted, or sunk in their pots until autumn, while late blooming, and some of the more tender herbaceous plants, are suitable for many situations.

A rockery of roses! How fair a picture does this conjure up before the mind's eye, yet how rarely do we see the idea carried out. The higher the banks that are built up with stones on their surfaces the better will the effect be, and not a single rock should be tolerated that is not grey with age, and, if not already mossed, all ready to become so. The numerous Wichuraiana roses, that blossom freely while trailing long branches downwards instead of being trained to wall or trellis, are especially suitable for large spaces; pegged down teas will thrive among the shelter of stones on sunny slopes, and still smaller openings between rocks will suffice for the dwarf polyanthas, such as Red Pet, White Pet, Mignonette, Ma Paquerette, and Anna Marie de Montravel.

TEMPLE SHOW—H.T. ROSE PORTIA.
A charming variety belonging to the hybrid tea section, raised and exhibited by Messrs. W. Paul and Son, Waltham Cross.

Along a short sunny border why should we not place a succession of arbours, to be entered from the path that runs alongside, or by narrow branch paths crossing the border? If the whole is backed by wall or fence this will make a natural foundation for the arbours, but the latter look, perhaps, more striking, when constructed along the centre of an open border. The supports can consist merely of hop poles, or bean faggots, bent over and bound together; there should be poles and climbers to form the backs, of course, of arbours that stand in the open. Pot clematises and roses might be made use of, but young plants of Cobæa scandens, canary creeper, or climbing convolvuluses can be relied on for profuse clothing this summer. The original colonnade of arbours has a beautiful appearance by the side of a tennis or croquet lawn, and will provide nooks in which to set chairs for spectators, or can be furnished permanently with low, rustic, unobtrusive benches.

Small hills greatly improve a garden scene; it is an error to level most of the land when laying out new pleasure grounds. If a hill is of sufficient size to allow a winding or zig-zag path to be made up one side of it, and this is flanked by borders of tall plants, quite a maze-like effect will be gained; annual giant sunflowers would give a speedy result, and shrubs could be put in later. The summit can consist of a grassy carpet, surrounded by evergreens, with an arbour or summer house in the centre, from which attractive views will be gained. Another hill, sown with grass seed from base to top, would be pleasing sown with patches of cornflowers, poppies, corn marigolds, and white double daisies. In autumn gorse, broom, heather, harebells, primroses, violets, foxgloves, bluebells, and wood anemones could be substituted.

Very few gardens show ornamental streams, though many contain pools, yet the former are, in many cases, easier to construct, and have more charm. Wherever a high bit of ground leads down to a lower one a stream can be made; the easiest manner of gaining the water being to connect the head basin with the roof of the nearest summer house, conservatory, shed, or other building, by an underground pipe; this will conduct the rain water, which will generally prove sufficient for the stream. An overflow pipe connected with a drain must be provided at the other end. A concrete base, covered by pebbles, will ensure a clear appearance of the water There is no exaggerating the beauty of a little streamlet when its edges and low banks are well planted with ferns, ground ivy, primroses, violets, periwinkle, and a host of other favourites.

Where there exists an old orchard let it be turned into a floral garden also: round, or better still, irregular shaped, beds cut out between the trees, if the carpet is of turf, should be sown with Lavatera trimestris rosea and alba, the pink and white mallows, with Gypsophila elegans, Shirley poppies, cornflowers, single white clarkias, etc. Permanent plants to introduce afterwards, sure to flourish even under the drip of widespreading branches, will be golden rods, montbretias, mulleins, phloxes, oxeye daisies, honesty, foxgloves, Campanula macrantha, St. John's wort, and the yellow Welsh poppy.

Banks covered entirely by tropæolums are wondrously effective; the climbing kind should be used, to trail downwards as well as to be trained up from the base; there is now seed offered of about seven differently coloured varieties, all of which have cream and green variegated foliage.

Groups of bold plants look best of all when rising immediately out of the lawn; the lemon-yellow sunflower, Primrose, surrounded by the lemon three-feet miniature sunflower, Diadem, makes a fine group as soon as the plants are a foot high the turf can be relaid almost up to their stems, which prevents any soil from being visible at blooming time.

M. H.

Isatis glauca.—Those who appreciate the elegance and lightness of Gypsophila paniculata—and who does not—cannot fail to be equally pleased with the graceful inflorescence of Isatis glauca, which bears a striking resemblance in habit to the gypsophila, but provides a cloud of golden instead of white flowers. It is a good plant, hardy, and most effective when grown in clumps on a raised border. The foliage is of a glaucous green, and with good cultivation the panicles of bloom attain a great size, rendering them conspicuous from a considerable distance. It is a strong rooted thing that is best established by sowing seed, and transplanting to permanent quarters while still small.—M. A. C

JOTTINGS FROM THE WEST.

When the possibilities of the West Country as a fruit-growing district were first discovered I know not, but it was generations before the comparatively modern plantation method was introduced, and, as if to maintain its early traditions, the West remains a land of orchards. Amongst the latter one sees a mingling of the ancient and the modern, in the shape of orchards in which the trees, some standing erect, some leaning over, and some with trunks flat on the ground, look half as old as time itself, and, by way of contrast, one sees also the modern type of orchard planted within the last few years, and in which the trees are properly staked, securely fenced, and set out in straight rows. It is the latter orchard which takes the attention of people who know how fruit should be grown, but the artist finds more to please him in the orchard of ancient origin.

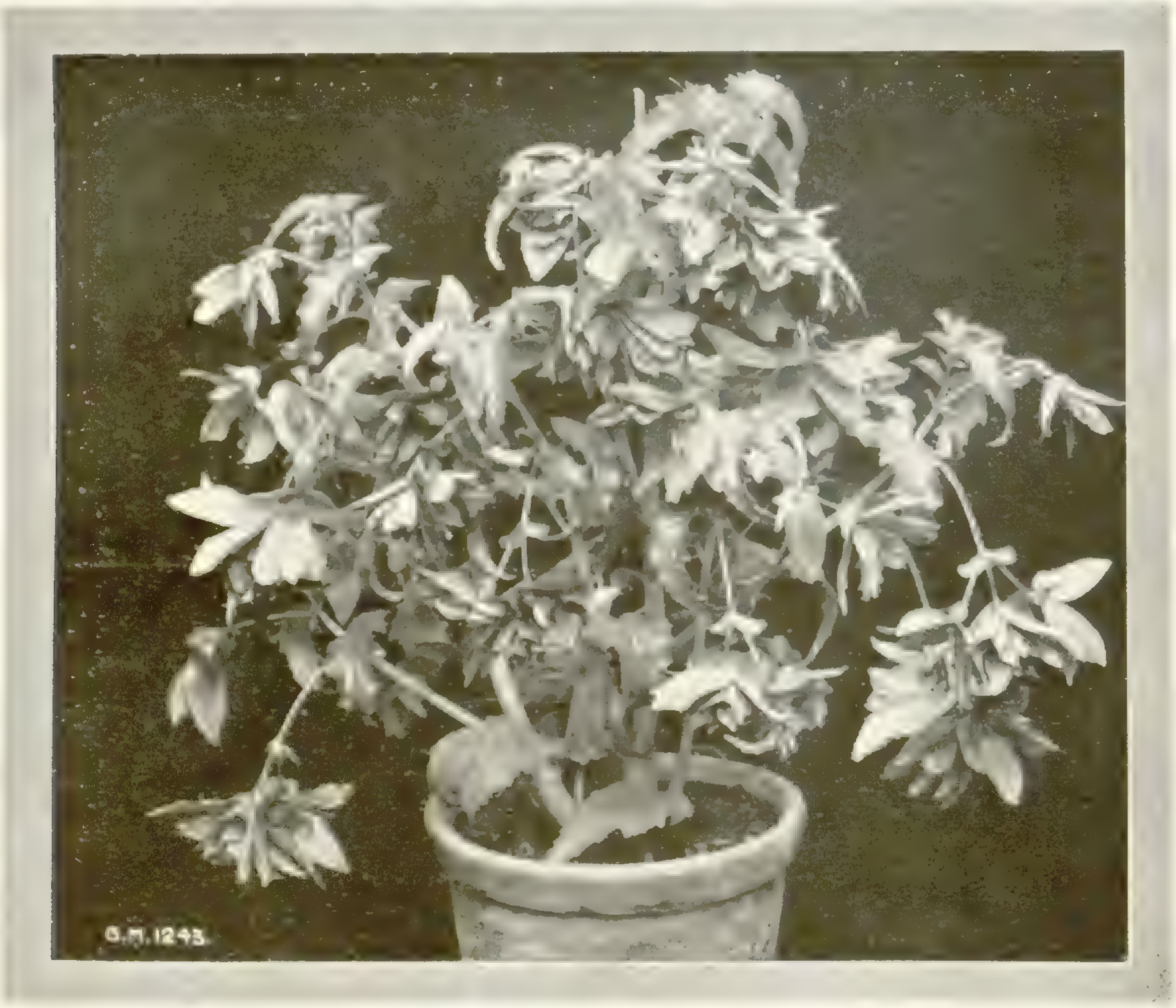
TEMPLE SHOW—DARWIN TULIP REV. H. EWBANK.
A beautiful variety with finely formed flowers of a pleasing heliotrope colour, exhibited by Messrs. Barr and Sons.

I am writing in the month of May, and at this season of the year the West Country can justly boast of its orchards beautiful. Pear trees grow here as they grow in few parts, but they are not the pears of the garden or fruit plantation. Outside the Western counties names like Barland, Butt, Blakeney Red, Moorcroft, and Oldfield are unknown, but these are the varieties from which perry is made, and in the counties of Hereford and Gloucester there are perry pears which in girth and stature are like forest trees. When covered with pearly-white blossoms these mighty specimens are objects of beauty, and their habit of growth lends a particular charm of its own. Not a bit less beautiful than the white blossoms on the pears are the pink flowers on the apple trees, and at the moment of writing the outlook for fruit is very favourable. In West Country orchards one sees varieties of apples that are not known outside the locality, and the names of these are not to be found in any nurseryman's catalogue. The explanation of this is that back in the olden days, when the only object of growing fruit was to make cider, trees were raised from seed, and some of the seedlings bore fruit which made good liquor. That was enough, the apple was named by the raiser, generally after himself or his farm, the fame of the apple spread abroad, grafts were distributed, and the variety became established in the district. Now and then you may come across the trees from which local varieties originated, and antiquated specimens they look, with their hollow stems, twisted limbs, and gnarled branches, but they possess the capacity of blooming as long as a spark of life remains in them, and age and antiquity seem to lend a particular charm in the season of blossom.

Not for one moment did the raisers of good West Country cider apples think that the varieties would ever be collected, classified, and distributed in the form of nursery stock; but even that has come about, and when the National Fruit and Cider Institute was founded a few years ago at Long Ashton, near Bristol, a part of its work was to collect the local cider varieties of repute, propagate them, and distribute trees amongst the contributing counties for the purpose of establishing orchards. These distributions began in the autumn of 1908, and continued in the past season, with the result that some hundreds of trees have been sent out, and a marked impetus has been given to the planting of cider fruit. This is quite as it should be, because, owing to the demand for table fruit, there has been a tendency in recent years to plant dessert and culinary varieties, to the neglect of vintage fruit. One does not, of course, blame the farmer for growing the varieties of apples which bring in the most money, but there is room for both, and many cider casks would be empty and useless if the forefathers of the present generation had not planted vintage fruit.

Not only are trees raised at the National Institute, but cider is made from the varieties collected, and once a year interested persons from the contributing counties are invited to taste the samples. This year the tasters had offered to them some thirty samples of single variety ciders made from the sweet apples of Devon, and the sharp and bitter-sweet varieties of Gloucester, Hereford, and Somerset. Kingston Black, Foxwhelp, Wilding Neverblight, Slack-ma-Girdle, Dabinett, and Twistbody Jersey are a few of the quaint names given to varieties that were tested, and not the least interesting part of the proceedings was the sampling of different blends prepared by Mr. B. T. P. Barker, the able director of the institute, who is recognised in the West of England as one of the best authorities on matters connected with cider making.

"Blight" is a word with a meaning in the West Country, and it is applied in a comprehensive sense to every insect pest which affects orchard trees. Quaint ideas prevail regarding the origin of blight, and there are not a few who think that it is borne on the wings of the wind, like the locusts in ancient Egypt. As a rule, the West Country farmer treats "blight" as one of those evils which cannot be avoided, and he does not trouble to discriminate between woolly aphis, apple sucker, winter moth, and codlin moth caterpillars, and apple blossom weevil, which are his worst enemies. This is perhaps the general aspect; but a change seems to be slowly taking place, and the sprayer has found its way into West Country orchards. As yet it is only a few who spray, and these are the up-to-date men who are tired of leaving so much to chance, and standing the risk of losing their crops. But while a few are going ahead others are sitting on the fence, only waiting to see the results of the spraying before they adopt similar tactics. As an instance, one farmer this year sprayed all his orchards with lime-wash, and the whitened trees gave rise to many critical comments in the district, but, curiously enough, the lime appealed to the critics. Perhaps they remembered that their grandfathers used to whitewash the stems of their trees with some vague object of checking "blight," and, consequently, they were disposed to look more favourably on this simple wash than on the mysterious mixtures prepared by insecticide merchants. Be that as it may, the lime spraying was received with favour, and if it answers there will be more whitened orchards in that locality next spring.



TEMPLE SHOW—BEGONIA LLOYDI.

A remarkably handsome variety with brilliant scarlet flowers, exhibited by Messrs. Sutton and Sons, Reading.

For years past the pruning in West Country orchards has been open to severe criticism. Hundreds of trees have never been touched since the day they were planted, and their heads are mere thickets of dead wood and superfluous growth. Others again have been mutilated at the hands of local pruners in a cruel manner, and of the two evils I think the latter is the worst. In other cases again some attempts have been made at pruning, but with no thought to detail in workmanship, and one sees in dead branches and hollow trunks the results of bad cuts and the leaving of rough ugly snags. But here and there one may see object lessons in good pruning, and, as an example, I was in an orchard the other day which was pruned a couple of years ago for the purpose of competition. Every branch that was severed was cut as close to the limb as possible, the rough edges of the bark as left by the saw were smoothed over with a knife, and the cut face painted over with Stockholm tar. It was a longer process than the rough and ready pruning of the average farmer, but it has paid, and to-day the cuts are healing over in a perfectly satisfactory manner

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Example is better than precept, and the object-lessons of farmers and others who are really interested in their orchards, and realise their value, can hardly fail to have an effect on others who, as the sheer result of training, have grown up to be careless about orchards, though in other ways many of them are really good farmers.

H.

Beetroot.—Now is an excellent time for the main sowing of beet. Ground previously occupied by celery will make an ideal site, as the manure used for this crop will be ample for the beet. All that will be necessary is to fork the plot lightly over, breaking up the soil, and adding plenty of burnt garden refuse. Bring the surface to a very fine tilth, level down, and draw drills one to two inches deep, and fifteen inches apart. Place the seeds in little groups of three, at eight-inch intervals. An even crop is assured by sowing in this way. Blood Red and Cheltenham Green top are very finely-flavoured varieties. To procure exhibition roots holes must be bored three feet deep and eighteen inches apart; fill the holes with fine rich soil. Place three seeds in each prepared place, finally leaving the best plant in possession of the site.—G. Ellwood.

THE SMALLER GREENHOUSE ACACIAS.

The genus Acacia is a very extensive one, most of the species being natives of Australia. Nearly the whole of them are very handsome when in flower, but in order to see the majority at their best it is necessary for them to attain large, almost tree-like, dimensions. On the other hand, there are some that can be accommodated in a small or medium-sized structure, and good flowering examples may be grown in pots from five inches to six inches in diameter. These species are popular with the market cultivator, and during the early months of the year delightful little specimens of some of them may be frequently seen in the florists' shops of London. Chief among the smaller kinds, which are especially adapted for this kind of treatment are Acacia armata, a species of dense bushy habit, the phyllodes, as the false leaves are termed, being ovate, and of a very dark green tint. The flowers, which are of a rich golden-yellow colour, are borne in good-sized heads. They are very fragrant Though this attains the dimensions of tree, it may be well flowered in a small state, on which account it is very popu with the market grower. The dense mass of rich green leafage serve admirably as setting to the golden blossoms. This acac is one of the oldest of the New Hol species, having been first sent here in 180

Acacia Drummondi is a far more slende grower than the last, and more delicate in constitution. The flowers are arranged i bottle-brush shaped racemes, which are partially drooping. The colour is a pleasing sulphur-yellow. The leaves are bipinnate, and of a deep green colour. Being a weaker grower this acacia is greatl benefited by a mixture of peat with th potting soil.

Acacia hastulata, known often in gardens and nurseries as Acacia cordata. I general appearance this is widely removed from any of the other acacias, forming, as it does, long slender shoots, wh are thickly clothed with small, thre tered, sharp-pointed leaves. The cre coloured flowers are small, and are clos packed for some distance along the sho Acacia hastulata was but little known within the last decade or so.

Acacia lineata is a compact bushy species, which is clothed with small narrow leaves. The flowers, like little fluffy balls, are of a rich yellow colour, and borne in great profusion. In any selection of the smaller acacias this must be assigned a place.

Acacia obliqua, also known as Acacia ovata. This is a sturdy-growing, freely-branched species, and very popular as a decorative plant. The leaves are sm ovate, and deep green in colour, while t flowers, disposed in little balls, are ri golden-yellow.

Acacia pulchella is of very slender growth, and in time forms a tangled bush The pretty pinnate foliage gives it a light appearance, and when thickly stu with rich yellow flowers it is remark handsome. The shoots are somewhat A very popular species for growing small specimens.

Acacia Riceana is a very popular species and effective specimens may be grown i six-inch pots. The phyllodes are narrow and only about an inch in length. Their colour is a deep green. The flower he are small, and borne in long, drooping racemes. They are of a creamy-whi colour. This acacia may be flowered freely in a small state.

W. T

THE GREAT TEMPLE FLOWER SHOW,

MAY 24, 25 and 26.

Favoured with glorious weather was the twenty-third great floral display held in the Inner Temple Gardens, on the Thames Embankment, London, by the Royal Horticultural Society, when it was opened on May 24. The exhibition, very probably the last to be held at the famous gardens of the Inner Temple, will long be remembered as one of the finest of a long series of grand horticultural displays. Looking back over the last score of years we find that a great difference has come over the general appearance and composition of the show. In the earlier years stove plants figured much more extensively than they do now, and pelargoniums were a prominent feature. Some of the subjects seen in such perfection of form, colour, and culture during this week were scarcely dreamt of two decades ago. We may call to mind a few instances: there are the rambling roses, especially those of the Wichuraiana group; there are the hybrid orchids in large numbers, such hybrids, bigeneric and others, as the hybridist dimly [illegible] for twenty years ago, when odontiodas had not appeared; the hardy primulas, and the Chinese flowering shrubs, the coloured [illegible], and the modern and elegant forms of [illegible] are all new; the improvements in rhododendrons, tulips, gloxinias, gerberas, and streptocarpuses have come about largely during the last two decades; while alpine and water gardening, and Japanese gardening, are developments of quite recent years, and have been the means of vast improvements in the plants and flowers necessary for such cultures, and has also induced several collectors to risk their lives in the hope of discovering new plants of value—a risk that, fortunately, has been amply repaid, from a horticultural point of view. These, then, are a few of the more striking differences between the Temple Show of 1910 and a Temple Show twenty years ago, in so far as its composition is concerned. There are also differences in arrangement and display. Some old exhibitors have dropped out of the running, and others whose names were unknown in the world of horticulture a score of years ago are now prominently before the public. The positions occupied by the various exhibitors do not vary greatly, but there is a great improvement in the manner in which flowers and plants are displayed to public view.

There were one hundred and thirty exhibitors on this occasion, and they filled every available inch of space in five huge tents, besides covering a very large area in the open. Orchids were grandly shown, and among the outstanding novelties were the albino variety of Cattleya Lawrenceana, shown by Messrs. Charlesworth and Co.; the new Odontioda from M. Vuylsteke; and the handsome Odontoglossum Memoria King Edward VII. from Messrs. Sander and Sons. Among greenhouse and hardy flowers the new plants of special interest included Calceolaria Buttercup (C. Golden Glory x C. [illegible]) from Messrs. J. Veitch and Sons; the Marguerite Mrs. F. Sander, a superb [illegible] flower of the purest whiteness, like a glorified pyrethrum; this was from Messrs. F. Sander and Sons, St. Albans, and bids fair to be a very popular garden and market plant.

ORCHIDS.

The orchids were once again a wonderful feature, and they filled the whole of the centre of the huge No. 5 marquee. By reason of their purity and brilliance of colour, their great variety of form and general elegance, orchids invariably form the central feature of interest at this great show.

Facing the entrance from the No. 4 tent Mr. G. Reynolds, gardener to Leopold de Rothschild, Esq., Gunnersbury Park, Acton, set up a magnificent display of Vanda teres, showing these just as they are grown, in large boxes. This beautiful orchid is invariably a great success at Gunnersbury, and when shown over a groundwork of ferns and backed by palms and asparagus, they show up finely. On this occasion we think Mr. Reynolds showed this vanda in finer condition than ever, and in the group there must have been many hundreds of spikes of pale mauve flowers, each with a yellow marked lip.

G.M.1255.

CATTLEYA INTERMEDIA ACQUINII.
A beautiful form, distinguished by the rich purple markings on the petals, exhibited by Messrs. Charlesworth and Co.

A charming exhibit was well arranged by Mr. J. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Reigate, and it occupied a large space. In the centre, over a groundwork of asparagus, some delightful odontoglossums, oncidiums, and phalænopsis were disposed, with numerous spikes of the bright Odontioda Bradshawiæ at the base. Towards each end of the group miltonias were piled up with a few lælio-cattleyas to relieve them. Between these three eminences an abundance of choice orchids were disposed, and a few of the best were Odontoglossum Thompsonianum magnificum, Cypripedium Maudiæ, C. Olivia, Odontoglossum crispum Colmanianum, O. Astarte, O. Phœbe splendens, Brasso-cattleya Veitchi, Oncidium pulchellum, the bright-yellow Odontoglossum King George V., and Bulbophyllum Lobbi. This was one of the finest displays ever made from the Gatton Park collection.

A superb display was again made by Messrs. Sander and Sons, St. Albans, who had a somewhat bolder and more distinctive exhibit than usual. At either end were huge pyramids, one composed chiefly of wonderful odontoglossums and rare cattleyas, and the other consisting chiefly of miltonias, vandas, Dendrobium Phalænopsis, and Cattleya Lawrenceana. The big central mass was crowned by a very large specimen Cymbidium Lowianum, encircled by Dendrobium nobile album, and fronted below by grand specimen plants of Brasso-cattleya Veitchi, B.-c. Queen Alexandra, and Cattleya Robt. de Wavrin, with great spikes of Odontoglossum amabile Dreadnought, O. Princess Mary, and O. eximium Emperor rising from among them. On either side of the central display were tall, light erections of Phalænopsis Rimerstadiana, and Renanthera Imschootiana, these combining beautifully. In the valleys between these higher arrangements there were Odontioda Vuylstekei Sander's var., O. Cooksoniæ var. Brilliant, O. Prince S. Fushima, Odontoglossum Jasper stupendum, very fine, and O. Memoria King Edward VII., splendidly and heavily blotched with deep dark purple; the yellow O. Landolphus, Miltonia Memoria Baron Schroder, with a deep brown disk, and M. vexillaria Memoria G. D. Owen, with a remarkably deep maroon blotch at the base of the lip, while conspicuously beautiful among all the other good things was the large-flowered, handsomely-marked Odontoglossum crispum Leonard Perfect.

Mr. J. Robson, Bowden Nurseries, Altrincham, contributed a group of well-grown odontoglossums, chiefly white or very light forms of O. crispum and O. Pescatorei, but there were a few heavily blotched and bright forms in the front of the group, one named O. c. Prince Edward having one large red blotch on each sepal, while O. c. Evanerseanum is almost wholly of a rich red-brown colour. Miltonia Robinsoniæ, an elegant plant, resulting from a cross between M. Roezli and M. Queen Alexandra, was another great attraction in this group, having a light red-brown blotch at the base of the white lip. A new exhibitor was Mr. J. Hoat, gardener to J. T. Clifton, Esq., Lytham Hall, Lytham, who had a light and elegant background of Phalænopsis Rimestadiana and white odontoglossums, against which Lælia purpurata and Miltonia vexillaria showed up to great advantage, and in each case the plants were of good size and well flowered. In the low foreground were many delightful things, and a few of the most interesting were Phalænopsis sumatrana, Lælio-cattleya Endora var. Mark Hamburg, Cattleya Myra Peters Clifton's var., and a few choice odontoglossums.

Mr. Edward V. Low, Haywards Heath, had a number of odontiodas, notably O. Vuylstekiæ, and O. Bradshawiæ, an unnamed heavily-marked odontoglossum, the chaste O. crispum Xanthotes Vine House var., the handsome Lælia-cattleya Lambeauianum, with wide expanded purple flowers, and Lycaste Balliæ. Messrs. Wm. Bull and Sons, Chelsea, had two banks of Cattleya Mossiæ, C. Mendeli, Lælia purpurata, and odontoglossums, one on either side of a little dell of brightly-marked odontoglossums, and a group of Odontioda Chelsiensis, the whole of these being overhung by odontoglossums in variety, and Dendrobium Wardianum.

A large exhibit was made by Mr. Hunter, gardener to the Duke of Marlborough, Blenheim Palace, Woodstock. The plumose nephrolepises were used as a groundwork, but the pots were not effectively hidden by them. Phalænopsis Rimestadiana, a quantity of Odontoglossum crispum, Cypripedium bellatulum, Lælio-cattleya Fascinator, L.-c. Luminosa magnifica, Cattleya Empress Frederick, and C. Lord Rothschild, were the chief features. Mr. W. Bolton, Wilderspool, Warrington, brought up a few choice forms of Odontoglossum crispum, and an extraordinary splashed and streaked variety of Cattleya Mossiæ. Mr. Harry Dixon, Spencer Park Nursery, Wandsworth Common, had a small display of odontoglossums, miltonias, and Cattleya Mossiæ.

A beautifully artistic and effective group of orchids was arranged by Messrs. Mansell and Hatcher, Lim., Rawdon, Yorks; indeed, there was no more charming display among the orchids. In the centre finely grown Phalænopsis Rimestadiana were used to crown a high mound of orchids, with bright miltonias, shapely odontoglossums, Odontioda Vuylstekiæ, and Disa grandiflora towards the base. On either side of this there was a big group of the brilliant red Renanthera Imschootiana, each group consisting of from sixty to a hundred spikes. Below these were Cattleya Mendeli Princess Victoria, Dendrobium nobile album, and Odontoglossum Pescatorei. The ends of the group were equally beautiful, Cattleya Mendeli and C. Mossiæ being advantageously displayed, while choice specimens of Odontioda Goodsoniæ, O. Bradshawiæ, Odontoglossum Phœbe, O. crispum Leonora, O. amabile augustum, Brasso-cattleya Schroderæ-Digbyana, and Oncidium Lanceanum were stood well above the cypripediums, etc.

TEMPLE SHOW—BEGONIA EMPRESS MARIE.

A fine variety with large pure white flowers, raised and exhibited by Messrs. Blackmore and Langdon, Bath.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, had a bold exhibit of orchids, and all the plants were set up so as to show their individuality. Dendrobium Wardianum and Lælia purpurata made a splendid background, with D. nobile album towards the sides. The finer forms of Cattleya Mossiæ and C. Mendeli were grouped towards the front with such beautiful things as Dendrobium Parishi, D. barbatulum, Cattleya Parthenia Prince of Wales, C. intermedia cærulea, C. Dusseldorfei var. Undine, Brassia brachiata, and Cypripedium Woottoni.

The large exhibit contributed by Messrs. J. Cypher and Sons, Cheltenham, had a bold central mass of Cattleya Skinneri below a pyramid of fine forms of Miltonia vexillaria. Lælia purpurata was grandly shown, and in great variety, as usual, by the Cheltenham firm. Odontoglossums were a good feature, and there were some brilliantly coloured but unnamed hybrids among them. Miltonia vexillaria Empress Victoria Augusta, M. Bleuana superba, Masdevallia Veitchiana grandiflora, Cypripedium callosum Sanderæ, Lælia cinna-brosa, Phaius Norman, Lælio-cattleya Hyeana, and Brasso-cattleya Imperatrice de Russie, were a few of the finer plants in this collection.

A fine display from a private source was the large and well-arranged exhibit from J. Menteith Ogilvie, Esq., The Shrubbery, Oxford. Large plants, finely-flowered, of Lælio-cattleya Fascinator, L.-c. Canhamiana, and Brasso-lælia Veitchi formed a grand centre for the group, with such choice varieties of Miltonia vexillaria as Chelsensis and virginalis grouped at the base. The ends of the group were pyramids of Miltonia vexillaria and Cattleya Mossiæ, with spikes of odontoglossums arching over these. Then, in between the higher parts of the group, were very choice subjects, such as Cattleya Dusseldorfei, Cypripedium callosum Sanderæ—a fine batch, Renanthera Imschootiana, Odontoglossum luteo-purpureum Vuylstekianum, Odontioda Bradshawiæ, Cypripedium Lawrenceanum, Odontoglossum percultum, and O. crispum Empress of India.

Once again Messrs. Charlesworth and Co., Haywards Heath, had a glorious display. The centre was a mass of richly-coloured Miltonia vexillaria with fine spikes of Phalænopsis Rimestadiana rising therefrom and a unique plant—the long-looked-for albino of Cattleya Lawrenceana, named Mary Regina, was placed in front. This was a very great attraction to the orchid specialists. At one end of the group lovely varieties of Odontoglossum crispum were associated with O. Pescatorei gigantea, O. Phœbe, O. Phœbe Queen of Spain, the [illegible] ous O. Lambeauianum giganteum, and O. luteo-purpureum Vuylstekianum. At the other end Dendrobium Phalænopsis was pleasingly associated with D. nobile [illegible]. Very choice things in the body of the group were Odontioda Charlesworthi, Brasso-cattleya Bradshawiæ, C. Mossiæ King Haakon, L.-c. Golden Glory, Odontoglossum Ceres, O. Thompsonianum, O. Wilckeanum Imper[illegible], Cattleya intermedia Acquini, C. Mossiæ King Alfonso—very fine, C. Mendeli Queen Maud, Cypripedium Maudiæ, and C. caudatum, and the new and brilliant Sobralia Charlesworthi, the lip edged with deep red purple.

Mons. Charles Vuylsteke, Loochristi, showed two superb odontiodas named O. King George V. (scarlet and gold and [illegible]) F.C.C., and O. Royal Gem (A.M.), and two glorious odontoglossums, i.e., O. eximium Empress of India (F.C.C.), and O. [illegible] (A.M.)—two F.C.C.'s and two A.M.'s for four plants! Mr. Richard Ashworth, Ashlands Hall, Newchurch, brought up some splendid hybrid odontoglossums, and a fine form of O. triumphans. Mr. Davis, gardener to J. Gurney Fowler, Esq., Woodford, showed Odontoglossum amabile Fowlerianum with two spikes of lovely flowers. Mr. [illegible], gardener to F. Wellesley, Esq., Westfield, Woking, showed Odontoglossum Armstrong[illegible] with big deep purple-marked flowers. Mr. [illegible] Day, gardener to H. S. Goodson, Esq., [illegible]

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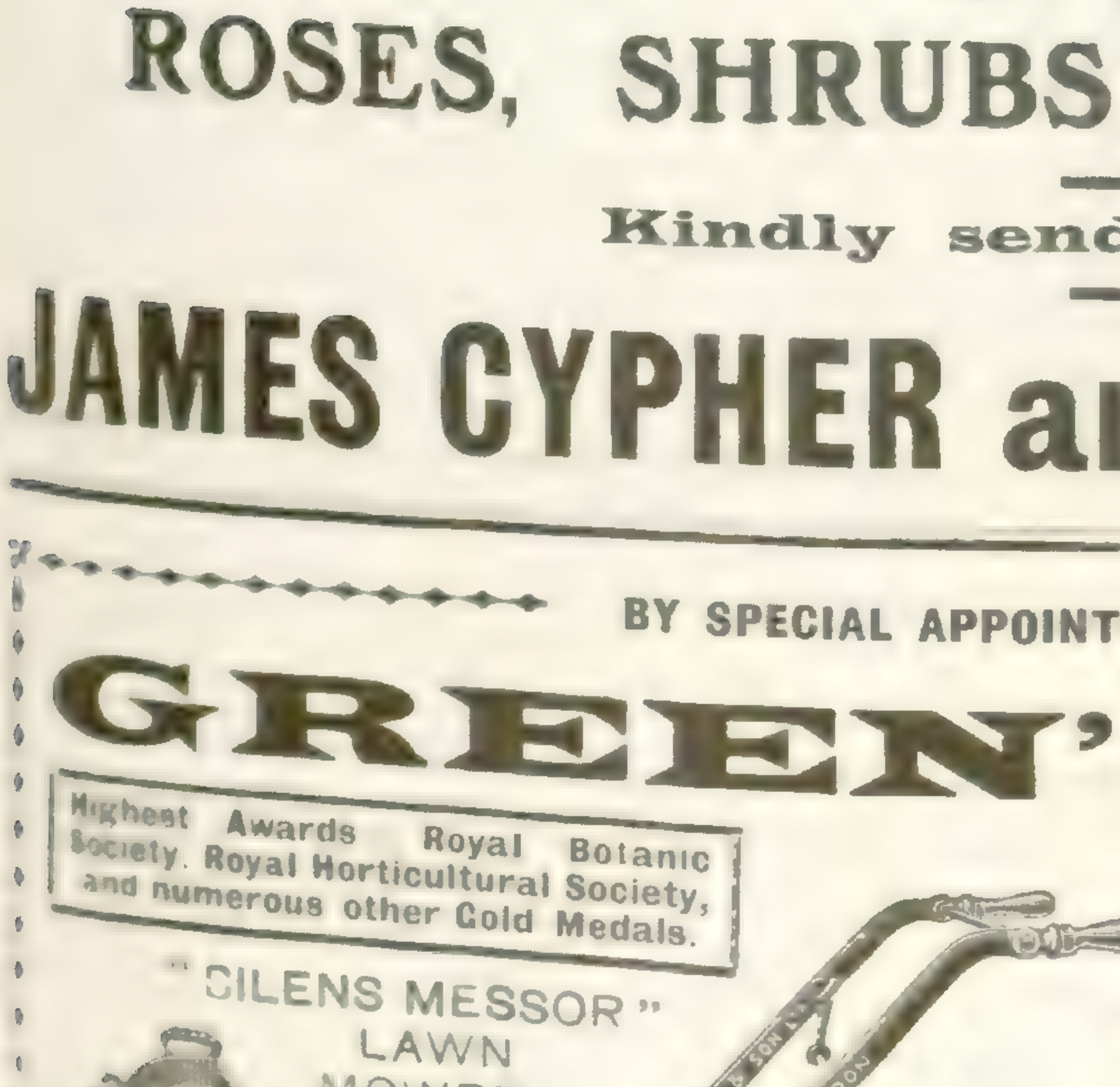

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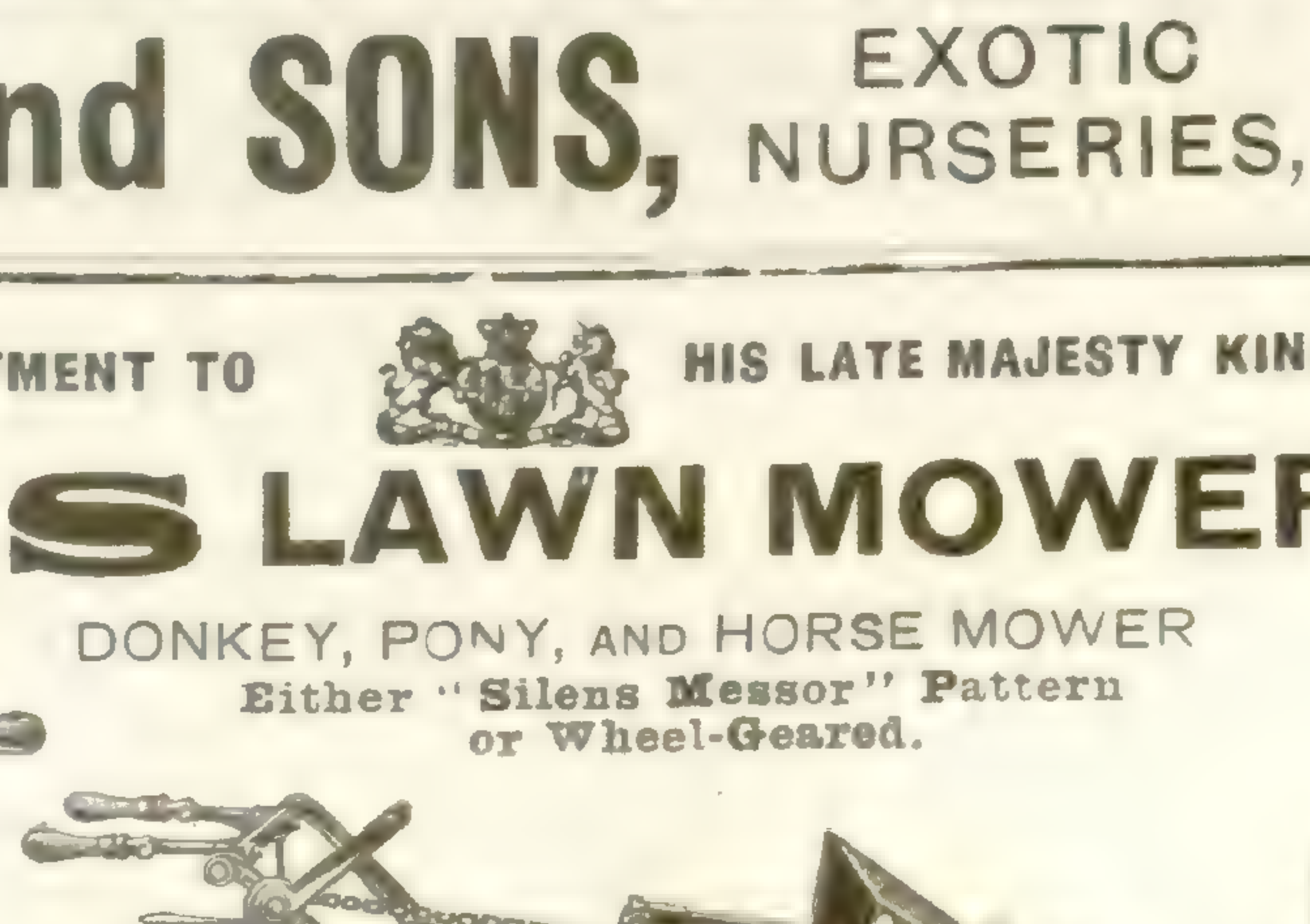

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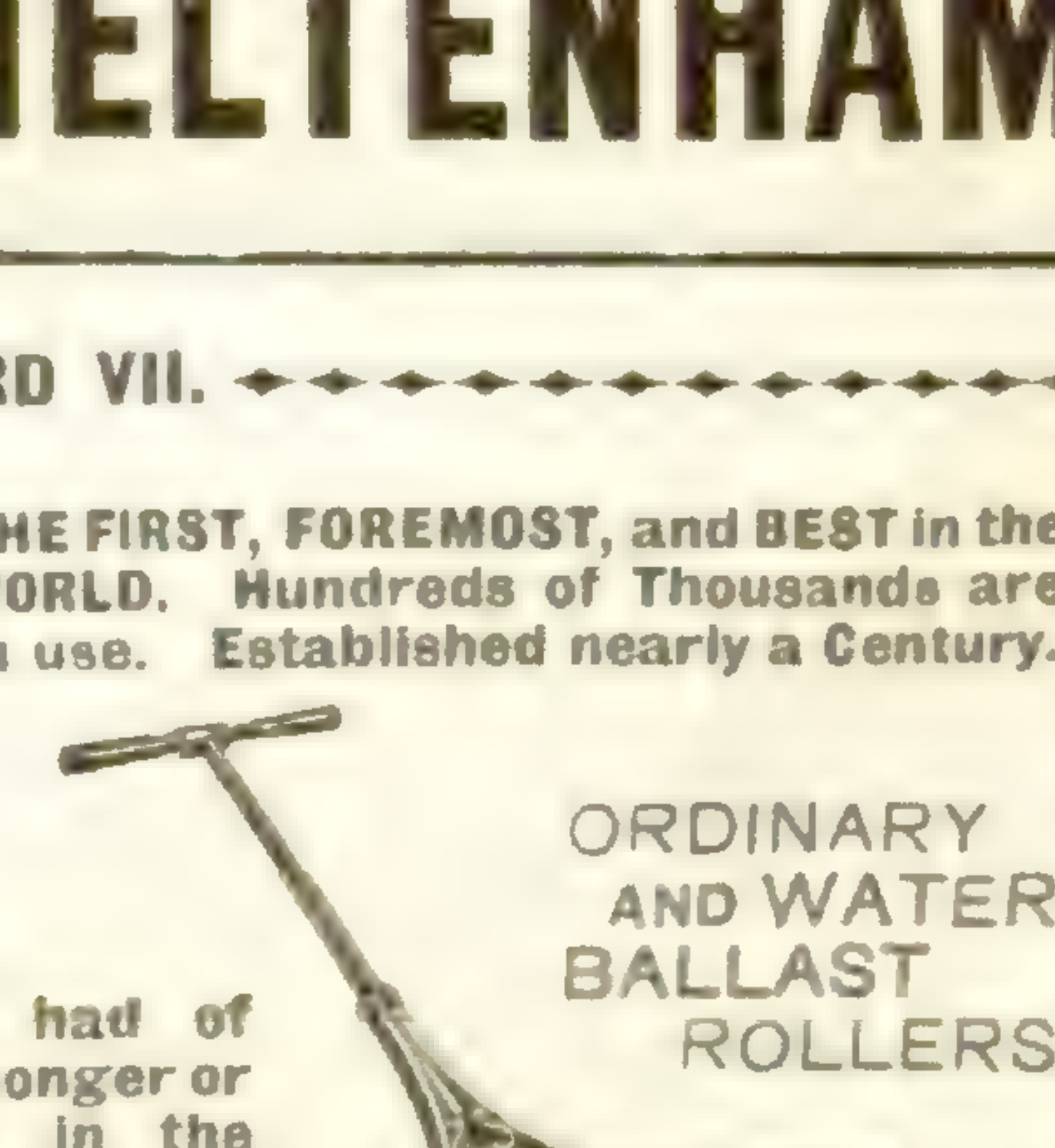

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lawn, Putney, brought forward Odontoglossum amabile Fredericki with wonderfully fine brown markings.

ROSES.

The roses occupy a high position at the Temple Show, and rank with the orchids for the extent to which they are shown, while they have a beauty and fragrance of their own that places them beyond competition with other flowers.

The big and beautiful display of roses made by Messrs. Wm. Paul and Son, Waltham Cross, was, we think, the finest effort this celebrated firm has made. Rambling and pillar roses were in the very pink of perfection, their great racemes of flowers hanging in graceful masses from base to summit, and almost hiding the leafage. Forming a groundwork for these elegant pillars and climbers were choice H.P. and H.T. varieties shown as dwarf bushes. Reverting to the pillars, those that appealed to us most were Coquina, a pink cascade; Delight, a glorified Hiawatha; the blush-pink Elsie, Lady Gay; the bright Excelsa, a finer Crimson Rambler; the elegant pure white Milky Way; the brilliant Hiawatha; with Lady Gay, White Dorothy Perkins, and the new erect-flowering Lyon Rambler. Among the larger-flowered varieties we made special note of Cynthia, Elaine, Rhea Reid, Lyon Rose, the lovely pink Margaret, Albatross, and the new H.T. variety Portia, a lovely pale blush-tinted variety of fine size and substance.

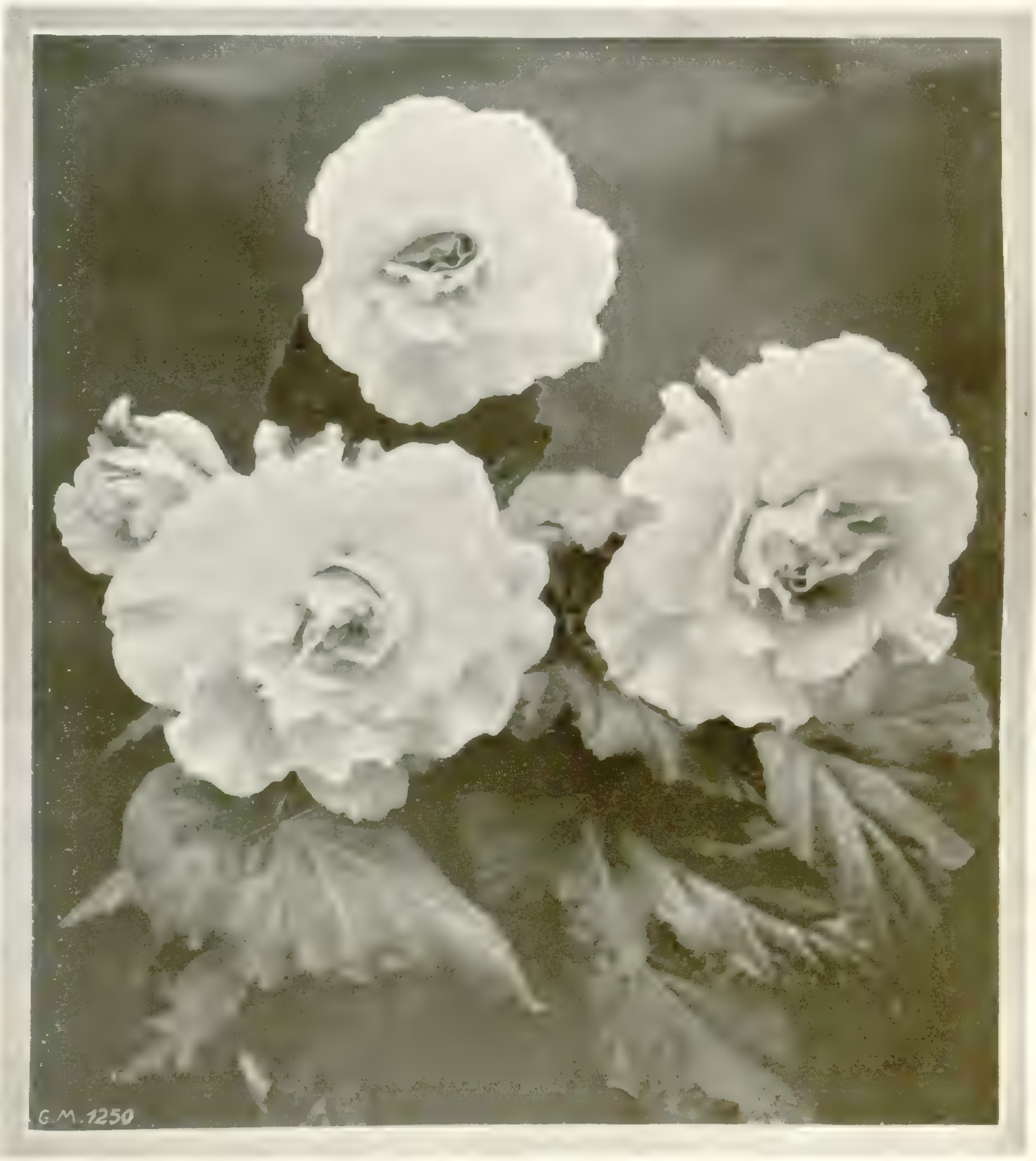
Messrs. H. Cannell and Sons, Swanley, brought up a famous lot of American Pillar roses, a variety with which they created a sensation at the Temple Show of 1909. They showed it even better on this occasion, and its big clusters of large, single, rich pink flowers were very attractive, everyone conceding it to be a lovely rose. Mr. Chas. Turner, Slough, showed a fine lot of standard and pillar roses, the former carrying big fat blooms of fine form and substance. Dorothy Perkins and Crimson Rambler roses formed a background to the whole, but the great features were large, broad, pillar-like masses of Lady Gay and the bright scarlet Hiawatha. In the big tent Mr. G. Prince, Longworth, showed some very pretty roses, the yellow Banksian, Mdme. Jean Dupuy, and Souv. de Pierre Notting all showing up well under spreading, weeping standards of Lady Gay.

A splendid corner group of roses in the big tent thoroughly well upheld the high reputation of Messrs. Paul and Son, Cheshunt. Remarkably fine were the very tall weeping standards of White Dorothy Perkins, Hiawatha, and Excelsa, Lady Godiva, and the pillars of Coquina, White Dorothy, Lady Gay, etc., all smothered with flowers. Very fine were the flowers on the dwarf roses beneath the taller plants, and among these Mdme. Segond Weber, G. C. Waud, Queen of Spain, David Harum, Molly Sharman Crawford, Marquise Sinety, and Neily Johnstone were delightful. It was a superb, brilliant, fragrant, and elegant exhibit.

Messrs. Frank Cant and Co., Colchester, made a fine display with their roses. At the back were specimen plants of White Dorothy, Lady Gay, Minnehaha, Hiawatha, Dorothy Perkins, and others; in the centre was a pretty group of Austrian Copper and Austrian yellow briars, and along the front were stands of cut blooms, staged in the orthodox style. Altogether, the group was a fine one, and worthy of the reputation of the exhibitor. Whenever Mr. George Mount, of Canterbury, shows roses the public has a treat, and this occasion was no exception to many of its predecessors. It is doubtful whether finer Fran Karl Druschkis and Ulrich Brunners have ever been seen at a Temple Show, and Mrs. John Laing was superb. Lady Hillingdon, a new seedling rose, of unique colour, was very much admired, and both Dean Hole, Liberty, and Richmond were beautiful.

Messrs. B. R. Cant and Sons' exhibit from Colchester was almost entirely composed of climbing roses in pots, and a unique collection it was. Evidence of the popularity of this type of rose was obvious from the comments of visitors, and we have yet to see better flowered specimens of Lady Gay, The Garland, Dorothy Perkins, Blush Rambler, White Dorothy, and other favourites of this charming family of roses. Included in the exhibit was a standard of Messrs. Cants' new rose Claudius.

Bamboo flower stands were utilised to advantage by Messrs. Stuart Low and Co. for showing their roses, and the Lyon Rose, a new variety, seemed to lend itself to this method of displaying it. In the annexe between the tents, Messrs. Hobbies, Lim., Dereham, had a line of cluster roses, and they entirely filled one end of the long marquee with this class of roses of varying character. Amongst them were splendidly flowered plants of Minnehaha, Coquina, the popular Dorothy Perkins, Hiawatha, American Pillar, Lady Gay, White Dorothy Perkins, and others. This fine exhibit marked a change in Temple shows from the time when Crimson Rambler occupied a position of solitary state in this branch of the rose family.



TEMPLE SHOW—BEGONIA HON. MRS. RONALD GREVILLE.

A handsome variety, raised and exhibited by Messrs. T. S. Ware, Lim. Flowers white tinted pink.

Messrs. Alex. Dickson and Sons, Newtownards, had an elegant little exhibit of cut roses, which included several fine novelties, namely, Theresa, Nita Weldon, Duchess of Westminster, and Lady Ursula.

BEGONIAS.

Messrs. Blackmore and Langdon, of Bath, again proved themselves to be masters of begonia culture, and it would be impossible to conceive a lot of finer flowers than those staged by the above firm. The plants were all of a healthy character, and freshness was the tone of the group. Just to name a few of the novelties, Pink Pearl, Marie Nicholas, Empress Marie, Lady Tweedmouth, and Mrs. W. L. Ainslie, were remarkably fine. A rather stiffly arranged bank of begonias was shown by Mr. A. L. Gwillim, New Eltham, Kent, but the flowers were very good, and we were rather struck with Sultan, Alice Flood, and Margaret Gwillim.

Messrs. Thomas S. Ware, Lim., Feltham, sent a big lot of begonias, but the flowers would have looked better if the mass had been a little more broken. Individual flowers were exceptionally fine, and particularly so the following novelties: Lady Cromer, a grand flower of flesh-pink tint, King Edward VII., Mrs. W. H. Edwards, Hon. Mrs. Ronald Greville, Duchess of Connaught, Mrs. Eustace Palmer, and Mrs. Andrew Tweedie.

CARNATIONS.

Once more the popularity of the carnation was demonstrated in the presence of wonderful collections of beautiful flowers. A very delightful private exhibit was that staged by Mr. A. T. Paskett, gardener to E. J. Johnstone, Esq., Burr's Wood, Groombridge, Kent, and the plants throughout were object-lessons in good culture. Amongst the varieties we noticed Governor Roosevelt, a velvety-crimson flower; rose pink Enchantress, White Perfection, and Beacon, a fiery red. The mode of arrangement reflected considerable credit on the exhibitor. Messrs. Cutbush and Sons, Highgate, occupied their old position in the big tent with a tastefully-arranged group, in which roses and carnations were conspicuous. Amongst the latter we noticed well-grown plants of Maggie Hodgson, Malmaison Blush, Duchess of Westminster, and King Arthur, a brightly-coloured scarlet flower.

A small, but effective group of carnations was that set up by Messrs. R. H. Bath, Lim., Wisbech. The flowers were exhibited in cut form, and the most effective varieties were Robert Craig, Winsor, Melody, May Day, and Enchantress. Delightfully artistic are the adjectives which best describe the display of carnations from Messrs. Stuart Low and Co., Bush Hill Park. The flowers, each one a good specimen, were tastefully set up in vases with baskets suspended from above and greenery underneath, and the varieties which appeared to attract most attention were Princess Juliana, a new variety of peculiar orange shade; Mikado, quite a unique colour; Baroness M. de Brenen, a new variety of flesh-pink shade; Black Chief, and White Perfection. The scarlet Britannia was conspicuous in the group, and we noticed some magnificent flowers of Malmaison Princess of Wales.

TEMPLE SHOW—GEUM MINIATUM PERRY'S VARIETY.

A handsome form, shown by Mr. A. Perry, Enfield; the flowers large, and the colour rich orange scarlet.

Mr. C. F. Walters, Balcombe, Sussex, put up a tasteful group of carnation flowers, intermixed with sprays of Asparagus Sprengeri. Conspicuous amongst the varieties were Edith Waters, a fine flower, but we did not admire the paper collars round the fine flowers of Malmaison Princess of Wales. The dark Carola took our attention, and Enchantress was shown in good form. Messrs. Young and Co., Hatherley, Cheltenham, staged a fine lot of fresh-looking carnations, which included Mikado, White Lawson, Britannia, Winsor, and White Perfection. A grand lot of flowers were set up by Mr. G. Lance, of Hampton, and the arrangement was quite pleasing. Harlowarden, Mrs. H. Burnett, White Perfection, Beacon, and Britannia were exceptionally good in this collection.

Messrs. W. H. Page, Hampton, showed a nice lot of carnation flowers with a background of roses, which rather added to the effect. Much the same varieties were staged as in other collections, and Pink Enchantress, Union Jack—a dark red, and White Perfection made themselves seen.

The Thatcham School of Gardening, near Newbury, sent a small but choice collection of carnation blooms. Messrs. Jarman and Co., Chard, staged a rather nice new yellow carnation called Mrs. Townsend. Mr. S. Mortimer, of Farnham, bordered his collection of carnations with flowers of a white stock called All-the-Year-Round, but the mixture did not seem misplaced, and amongst the former flowers were good specimens of Beacon, Enchantress, and Winsor. Carnations were well shown by Mr. A. F. Dutton, Iver, Bucks, but the arrangement might have been better, as the group was very scanty at the front. Of the individual flowers we speak in commendable terms.

Very charming was the collection of long-stemmed flowers from the Guernsey specialist Mr. H. Burnett, and every flower bore the stamp of good cultivation. Marmion was shown in fine form, and we also admired Snowball, Fortuna, a pleasing shade of orange-yellow, and Pluto, a deep crimson flower of good substance. It was a happy idea on the part of Mr. C. Engelmann, Saffron Walden, to confine his exhibit of carnations to the dark crimson variety, Carola, and it would be difficult to conceive a more tastefully arranged display of this charming carnation. Another Guernsey specialist who showed a fine lot of flowers was Mr. B. E. Bell, of Castel Nursery; President, Beacon, and Winona were especially good, and there was no fault to be found with the arrangement.

Mr. W. H. Lancashire, carnation specialist, Guernsey, staged some wonderfully fine flowers of White Perfection, Robert Craig, Marmion, Black Chief, and others. The arrangement of the exhibit was also pleasing.

SWEET PEAS.

Messrs. Robt. Sydenham, Lim., Birmingham, put up a very pretty collection of sweet peas flanked with lily of the valley grown in moss fibre. Sunproof Crimson, Prince of Orange, Seafoam, Black Knight Spencer, Elsie Herbert, and Marjorie Willis were the varieties which mostly took our attention. A very beautiful lot of sweet peas, with violas in shallow dishes beneath the vases, came from Mr. H. J. Jones's nursery at Lewisham. We doubt whether finer flowers on longer footstalks have ever been shown at this time of the year, and there was a marked freshness about the blooms. To mention names, Earl Spencer, Mrs. E. Noakes, Helen Lewis, Queenie, King Edward VII., Colleen, and Silas Cole were to us the most striking, and the pretty violas amongst the peas was one of those original ideas in exhibiting which seem to come natural to Mr. Jones.

Novelty in design was a feature of the arrangement of sweet peas staged by Messrs. E. W. King and Co., Coggeshall, as the flowers were arranged in arches as well as the orthodox vases, and a background of carnations added to the effect. Amongst the varieties Mrs. William King, Frank Dolby, Anglian Orange, Anglian Pink, Midblue, Paradise Red Flake, Queen Mary, and Stirling Stent were greatly admired. Quite a pretty little lot of peas were sent by Messrs. Dobbie and Co., Edinburgh, the chief varieties being Masterpiece, Sunproof Crimson, Earl Spencer, and Mrs. Hugh Dickson. Mr. W. E. Alsen, Denmead, Hants, staged an interesting little collection of sweet peas, and the variety which overshadowed the rest was the new orange-coloured novelty Stirling Stent.

STOVE PLANTS.

A large and bold group of splendidly-grown stove plants from Messrs. Jas. Veitch and Sons, Chelsea, proved a great attraction, and as few stove plants were exhibited, the group was conspicuous. It was a finely-arranged display with a few orchids in the centre to lend lightness to the bulkier specimens. The caladiums were fine, notably Roncador, Raymond Lemoinier, Mdme. J. Box, Guil Mar, and Pantia Ralli. Dieffenbachia Bausei, D. Fournieri, Dracæna Godseffiana, D. lineata atropurpurea, a selection of sonerillas and bertolonias, Aralia elegantissima, Croton B. Comte, Anthurium Rothschildeanum magnificum, A. Wardi, Medinilla magnifica, Heliconia illustris, and the elegant Cyrtomium Rochfordi were a few of the finer plants set up.

The centrepiece of a bright group of stove plants from Mr. L. R. Russell, Richmond, was a grand plant of Cynophyllum magnificum; this was backed by fine dracænas, alocasias, and caladiums, while crotons and anthuriums made rich colouring in the front. In another group the bertolonias with their handsome leaves, veined and spangled with silver or rose over green of various shades.

were well shown by Mr. L. R. Russell, Richmond, who also had a pan of the golden-tessellated Macodes petola.

Messrs. J. Peed and Son, West Norwood, had some superbly-grown and grandly-coloured specimens of caladiums, their leading varieties being Roncador, John Peed, the lovely Raymond Lemoinier, Candidum, Marquis of Camden, and the brilliant Triomphe de Comte.

FLOWERING TREES AND SHRUBS.

In their usual place, in the big tent, Messrs. R. and G. Cuthbert, Southgate, put up one of their brilliant exhibits of Ghent and Mollis azaleas. The display was relieved of any sense of solidity by the careful use of Japanese maples, bushes of various sizes and standard specimens. The grouping, too, was excellent, and the harmony of colouring perfect. Of course, Anthony Koster was very much in evidence, but even finer than this was Floradora, a mollis-sinensis hybrid (A.M.), with big rhododendron-like flowers in large trusses, and of a brilliant orange hue. Norma, Baron Edmund de Rothschild, Lady Pigott, and Fanny were other lovely varieties on view.

A bank of glorious rhododendrons was a fine feature in the big tent. This was from Messrs. J. Waterer and Sons, Bagshot, Surrey, and the glorious Pink Pearl was the great attraction even among so many other good things. The scarlet Doncaster and brilliant Charlie Waterer shone brilliantly among the rest.

Flowering trees and shrubs were attractively shown by Messrs. James Veitch and Sons, Chelsea, who had a bold group of graceful wistarias, and fine bushes of Pink Pearl rhododendron. The sulphur-yellow Rosa Hugonis, weeping standards of Cytisus scoparius grandiflorus, the dwarf, rosy, round-flowered Rhododendron Soulei, the rosy Cytisus Dallimorei from Kew, Philadelphus Lemoinei rosace, and Hydrangea arborescens alba-grandiflora were among the fine things in the foreground of the display.

A beautiful group of clematises from Messrs. G. Jackman and Son, Woking, Surrey, showed the value of these splendid free-flowering climbers. Most of the plants were on balloon or oval trellises, and their big bright flowers made a brave show. A few plants had been trained to form weeping standards, notably C. Jackmanni superba and C. viticella alba. The finest of the formally trained specimens were Ville de Lyon, rich rose-red; Fairy Queen, a huge pink flower; Nelly Moser, Mrs. G. Jackman, Lady C. Neville, the deep purple-blue Lord Neville, and the fine Jackmani rubra.

HARDY FLOWERS AND ROCK GARDENS.

From Messrs. Kelway and Sons, Langport, came an interesting collection of pyrethrums and pæonies. Many shades of colour were represented in the former flowers, very striking varieties being Lord Milner, Passion-flower, Firefly, and Lord Roberts.

A very fine collection of hardy flowers was shown by Messrs. W. Artindale and Son, Sheffield, and amongst them we noticed charming little phloxes, aubrietias, and saxifragas nestling in little rocky crevices. Anemone King of the Scarlets was a feature in the rock arrangement, and not the least interesting plant shown was Daphne cneorum, which was much admired.

Trollius giganteus and other forms were shown by Mr. Amos Perry, Enfield, who also staged Eremurus Elwesianus, German irises in variety, and a grand display of tree pæonies. There was no useless repetition in this exhibit, and every plant shown had an interest of its own. Not the least attractive item in the group was the flowers of the new hybrid forms of Gerbera Jamesoni.

Quite a crowd of interested and curious people crowded round the miniature rock garden arranged by Messrs. Bakers, of Wolverhampton. Amongst the gems of the alpine family were dainty saxifragas, blue Edraianthus serpyllifolius major. Chief amongst the first-named plants were the new varieties Miss Willmott, and Codsall Cream.

Cypripediums spectabile and pubescens showed up well, and we noticed also a few quaint anemones, and a general collection of hardy cut flowers.

Mr. Maurice Prichard, Christchurch, had a large, but rather crowded display of hardy flowers, in which were pæonies, irises in variety, Oriental poppies, golden-yellow trollius, pyrethrums, and a charming bank of scillas in varying shades. Many people seemed surprised that bluebells could make such a pleasing show on a table.

All kinds of hardy flowers were included in the collection staged by Mr. R. C. Notcutt, Woodbridge, and amongst other things we noticed some attractive pæonies and tall eremuri. Despite a little overcrowding the arrangement was pleasing.

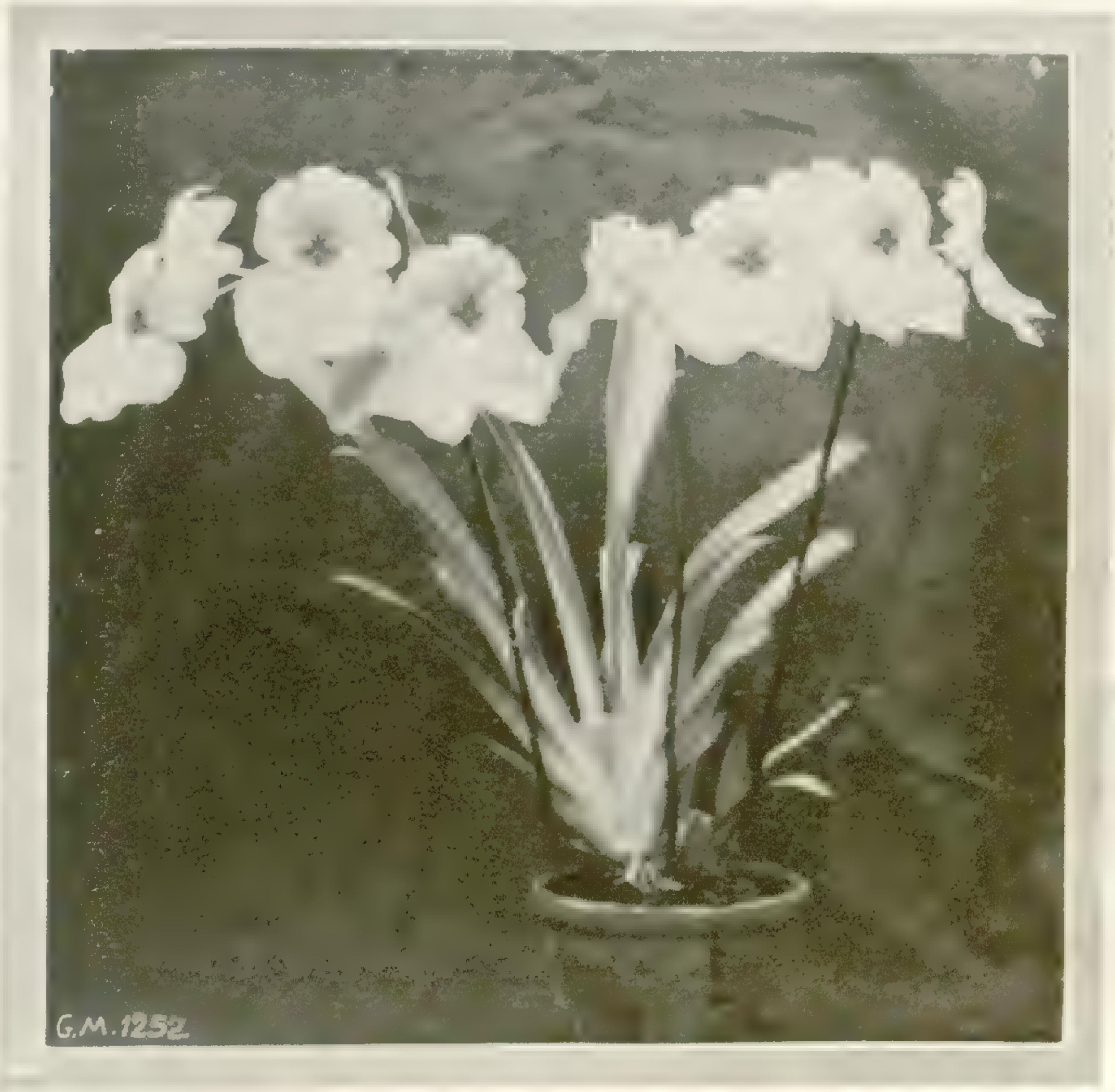
It goes without saying that Messrs. Barr and Son, Covent Garden, had a large and complete display of rock plants and hardy flowers. Pretty phloxes were rubbing shoulders, as it were, with equally charming primulas, and dainty little cyclamens peeped out of their imitation rock crevices. Gladioli Colvillei, The Bride, Peach Blossom, and Ackerman were attractive, and the same remark applies to the Spanish irises and aquilegias.

Sprays of violas and violas in jars were staged by Messrs. Dobbie and Co., Edinburgh, in almost bewildering variety, but by the afternoon of the opening day many of the flowers in the spray showed signs of withering. Pansies were also included in the shape of finely marked flowers, and these helped to make up a very interesting exhibit.

Messrs. Gilbert and Son, Bourne, Lincs., staged a very interesting collection of anemones, amongst which a variety called King's Scarlet was much admired. Another attractive variety was a new single of magenta shade called Fulcor. The new spiræas Queen Alexandra and Peach Blossom were staged by Mr. Van Waveren, Kruijff, Holland.

Cactus dahlias as perfect as one sees in September were set up by Messrs. Carter Page and Co., but somehow dahlias do not seem in place at a May show. Some attractive singles and semi-doubles were shown as well as some pretty phloxes and viscarias.

A large group of hardy flowers from Messrs. Wallace and Co., Colchester, was remarkable for the collection of liliums it contained, these including L. Szovitzianum, L. elegans Orange Queen, L. Martagon dalmaticum, L. japonicum Colchesterense, L. Marham, L. Browni, and the tall bright yellow L. Hansoni. The finer tulips, Cypripedium spectabile, Orchis foliosa, the bright Habranthus pratensis, gladioli of the Colvillei group, Iris Susiana, Incarvillea grandiflora, and pink spiræas, all combined to make up an extremely elegant and brilliant display of choice hardy subjects, the whole crowned by a mass of eremuri spikes. Messrs. Thos. S. Ware, Feltham, had a pretty collection of hardy cypripediums in the No. 4 tent, a selection of saxifragas, Sarracenia flava major, S. Drummondi, and the bright Saxifraga Aizoon rosea.



TEMPLE SHOW—MILTONIA VEXILLARIA EMPRESS VICTORIA AUGUSTA.

A distinct variety with rich pink flowers of large size, exhibited by Messrs. J. Cypher and Sons, Cheltenham.

Rhododendrons in variety formed the background of the exhibit staged by Mr. G. Reuthe, Keston, and along the front was a host of interesting plants of the alpine order. Azaleas were also represented, and conspicuous also were the brilliant flowers of Embothrium coccineum. A number of pretty auriculas in pots were also admired.

Messrs. B. Ladhams, Southampton, had a lot of things crowded into their exhibit of hardy flowers, and the plants which attracted most attention were Meconopsis cambrica plena, and a pretty little pink called Prince Christian. Messrs. George Bunyard and Co., Maidstone, were represented by a group which contained Lilium umbellatum, German irises, pæonies in variety, Trollius Orange Globe, and a dainty little rock garden where bloomed Primula japonica, Dodecatheons elegans and giganteum, Saxifraga pyramidalis, and phloxes. Not the least interesting exhibit of alpines and hardy flowers was that from Messrs. G. and A. Clark, Dover. The usual things were represented, including some very fine pyrethrums, eremuri, Trollius Fire Globe, and others, and the large mournful-looking Iris Susiana. Marguerites White and Pink Perfection in this group were much admired.

Primula japonica, P. pulverulenta, and P. Sieboldi varieties were the leading features in a small group of hardy flowers shown by Mr. A. J. Harwood, St. Peter's Nursery, Colchester. Verbascum Caledonia, with rosy buff flowers, was a fine feature in the group of hardy flowers submitted by Messrs. G. Gibson and Co., Bedale, Yorks; Ranunculus speciosus fl. pl. was another interesting plant. Mr. H. Hemsley arranged a rock garden, and in it set out a wide range of plants. Crinodendron Hookeri, Trollius Orange Globe, Cheiranthus mutabilis, Daphne cneorum, Androsace coronopifolia, Primula pulverulenta, and Gentiana acaulis were a few we made note of.

A bank of rare colour was provided by Messrs. Gunn and Sons, Olton, who had a solid mass of flowers of their Viola cornuta purpurea; this was backed by spikes of Saxifraga pyramidalis, and in the centre was a patch of Viola cornuta alba, which served to accentuate the colour of the deep purple variety. The beautiful sweet sultans, Honeymoon, yellow; The Bride, white; and Bridegroom, rosy, and Bridesmaid, cream, were well shown by Messrs. Jarman and Co., Chard, who also had a neat trailing, variegated pelargonium named Mrs. Newton.

Messrs. J. Forbes, Lim., Hawick, brought up a selection of pansies and violas, a few delphiniums, and some glorious pentstemons, such as Jules Jansen, Dragoon, Galatea, Lady Forbes, Mrs. Michie, Dr. Barrie, and Florian, all very fine varieties. Messrs. A. Young and Co., Elgin, submitted anemones in bright colours, but the flowers were small. Selections of Primula japonica, groups of Cypripedium pubescens, and C. spectabile, liliums, Gladiolus Peach Blossom, pink lupins, Spanish and German irises, and some handsome Oriental poppies came from Messrs. G. Jackman and Son, Woking.

TEMPLE SHOW—TULIP NORMAN KNIGHT.

A handsome May flowering tulip, with flowers large in size and rich in colour, shown by Messrs. R. Wallace and Co., Colchester.

Some glorious lilacs were shown by Messrs. Paul and Son, Cheshunt, but unfortunately the flowers were overcrowded; Souv. de L. Thibaut, President Carnot, Mdme. C. Perrier, and Souv. de Leon Spathe were all lovely varieties. Varieties of Iris Kæmpferi were shown by Messrs. F. Lilley, Guernsey, in company with Spanish irises, lovely forms of Gladiolus Colvillei, ixias, anemones, and tulips. Garden polyanthuses and border auriculas were charming, as shown by Messrs. Storrie and Storrie, Glencarse, N.B., the fragrant yellow auriculas are delightful, while the bold trusses of very large flowers on the polyanthuses proved very attractive.

Messrs. Malletts, Cheddar, had a rock garden, and showed a great variety of saxifragas, daphnes, hardy primulas, etc.; and at one end had a bright group of tulips and gladioli. Messrs. Whitelegge and Page, Chislehurst, showed herbaceous and alpine plants, together with sweet peas, etc., and crowded a little collection of odontoglossums at the end of the group; the combination was not a good one. Mrs. Lloyd Edwards, Bryn Oerog, Llangollen, presented a few fine saxifragas, i.e., S. rosea superba, S. Pencilled Beauty, S. Comet, large and pure white, and the rich and bright S. Rose Beauty. Some delightful St. Brigid anemones were shown by Messrs. Reamsbottom and Co., Alderborough, Geashill, King's Co., Ireland.

Messrs. Seagrave and Co., Sheffield, set up a good selection of violas in a pretty fashion in bowls, with neat sprays of foliage. The Guildford Hardy Plant Company exhibited alpine plants in rock garden fashion, and their Guildford Seedling saxifraga was strikingly pretty. Mr. J. E. Knight, Wolverhampton, was also a large exhibitor of violas. Delightfully fragrant were the stocks Beauty of Nice, Violet Gem, Queen Mary, Queen Alexandra, and the yellow Monte Carlo, exhibited by Messrs. Toogood and Sons, Southampton, the spikes were fine. The eremuri, Primula japonica, P. farinosa, P. Cockburniana, P. Sikkimensis, were prominent beauties from the King's Acre Nursery Company, Hereford.

A very charming display of violas was made by Mr. Howard Crane, Archway Road, Highgate, who set up sweet and fragrant flowers in low pans of a variety; May, Mrs. Crane, Swan, Sultan, Leslie Hancock, Ralph and Lark were all lovely varieties. Messrs. Jas. Backhouse and Son, Lim., York, had a very pretty rock garden, in which they had finely disposed Ramondia pyrenaica, Primula Veitchi, Edraianthus serpyllifolium, Daphne cneorum, hardy cypripediums, Gentiana acaulis and its variety alba, and masses of pure white trilliums and rosy-hued saxifragas.

Messrs. Bees, Lim., Mill Street, Liverpool, had some interesting novelties, chiefly among primulas, and included P. Forresti, P. Sikkimensis, P. Beesiana, somewhat akin to P. japonica, the bright P. Unique, and the very curious plantain-like P. Littoniana, the rosy P. Lichiangensis, the yellow P. Bulleyana, and the white Anemone demissa. Trolliuses were beautifully shown, and in some variety, by Messrs. Jas. Cocker and Sons, Aberdeen, and Anemone alpina sulphurea was well shown by the same firm. From the Craven Nursery, Clapham, Yorks, came masses of Trillium grandiflorum, the lovely little Primula farinosa, Edraianthus serpyllifolium, the minute Androsace pubescens, Daphne rupestris, and other good things. Messrs. J. Cheal and Sons, Crawley, displayed their rosy form of Lupinus polyphyllus, and put up a very fragrant selection of lilacs.

In addition to the plants and cut flowers already mentioned as having been shown by Mr. Amos Perry, this exhibitor contributed the richly-coloured Geum miniatum Perry's variety, Viola Bowles' Blush, and the exquisitely beautiful Lithospermum Heavenly Blue.

TULIPS.

Masses of tulips in bunches do not lend themselves to artistic arrangement, so in reporting this section we can only confine ourselves to the flowers. Messrs. R. H. Bath, Lim., of Wisbech, made a big display, containing many of the gems of the tulip world, varying in colour from La Tulipe Noire, black, to Mrs. Moon, a pretty canary-yellow.

Messrs. Barr and Sons, Covent Garden, filled a long length of tabling with tulip flowers, exhibited in vases, and the brilliant colours of the many varieties were very striking. The quaintly unique English tulips came in for much comment, but the parrot tulips, the lovely cottage tulips, and the May-flowering Darwin tulips, a most delightful section for garden adornment, attracted a good deal of notice.

A highly interesting exhibit of tulips was that from the nurseries of Messrs. Geo. Bunyard and Co., Maidstone. The collection included parrot tulips in variety, as well as bright-coloured May-flowering tulips, and the curious green and yellow tulip viridifolia. Messrs. Hogg and Robertson, Lim., Dublin, included tulips in conjunction with irises and other things, and amongst the former the varieties Zomerschoon, Leghorn Bonnet, and Goldflake were much admired.

The tulips staged by Mr. F. Fitch, gardener to Sir Geo. Faudel-Phillips, Balls Park, Hertford, made a fine display, and this private exhibit compared favourably with anything shown by the trade. The flowers were remarkably fine, and the colours contained every shade to be found amongst tulips. Mr. Fitch also managed to put up his flowers without being so guilty of overcrowding as some other exhibitors.

Highly interesting to the tulip expert was the collection of seedling tulips staged by Mr. A. D. Hall, F.R.S., of Harpenden; none of the seedlings were named, but some of the colours were very pleasing.

Quite a noble display of tulips was that from the nurseries of Messrs. Sutton and Sons, Reading, and the flowers set up in tiers showed themselves off to perfection. They would have looked quite as well if some of the vases had contained fewer flowers, but the numerous beautiful varieties represented came in for a good deal of favourable attention.

Mr. Amos Perry, Enfield, sent a compact but rather crowded collection of tulips, which included both parrot and May-flowering Darwins.

Messrs. Alex. Dickson and Sons, of Belfast, filled a long length of tabling with tulip

ROYAL SHOW

LIVERPOOL,
June 21st to 25th, 1910.

71st ANNUAL EXHIBITION of Live Stock, Poultry and Farm Produce; Jumping, Horse-Shoeing and Butter-Making Competitions, Agricultural Education, Forestry and Horticulture.

HORTICULTURE
ENTRIES CLOSE ... JUNE 4.
Live Stock Entries close May 20;
Poultry Produce and Competitions,
May 31.

Prize-sheets and Entry Forms will be forwarded on application to
THOMAS McROW, Secretary.
Royal Agricultural Society of England,
16, Bedford Square, London, W.C.

CHESTERFIELD FLOWER SHOW
WEDNESDAY, 27th July, 1910.
Affiliated with the National Rose Society.
Special large Marquee for staging Roses.
Schedules on application.
CHAS. WM. HADFIELD, Secretary.

CROYDON HORTICULTURAL SOCIETY.
Affiliated to the Royal Horticultural and National Rose Societies.
The CROYDON FLOWER SHOW will be held on WEDNESDAY, July 6th, in the PARK HILL RECREATION GROUND (by permission of the Corporation of Croydon). Schedules post free.
A. J. ROFFEY, Secretary, 55, Church Rd., Croydon.

WOLVERHAMPTON GREAT FLORAL FETE,
July 12, 13, and 14, 1910.
£900 IN PRIZES.
Schedules on application to the Secretary.

GRAND YORKSHIRE GALA, YORK.
June 15th, 16th, and 17th, 1910.
£800 OFFERED IN PRIZES.
£275 for Orchids, Stove and Greenhouse Plants.
£175 for Pelargoniums, Carnations, Begonias, etc.
£225 for Roses, Cut Flowers, etc.
£125 for Fruit and Vegetables.
FOUR GOLD MEDALS AND PREMIER PRIZE FOR TRADE EXHIBITS.
Entries close 8th June. For Schedules apply to
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HANLEY PARK, STAFFORDSHIRE.
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FOURTEENTH GREAT
ANNUAL FLORAL FETE.
£650 in Prizes, Silver Cups, Gold and Silver Medals.
SILVER CHALLENGE CUP, value £10 10s. offered for "TRADE EXHIBIT"
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Valuable Special Prizes offered by the principal Firms in England.
The Railway Companies will convey Exhibits at one fare for the double journey, provided they remain the property of the Exhibitors.

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WM. POULSON, Secretary.
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NORTHAMPTON MUNICIPAL HORTICULTURAL SOCIETY.

GRAND EXHIBITION OF
FLOWERS, FRUITS, and VEGETABLES,
BEES, BIRDS, POULTRY, and RABBITS.
AUGUST 3rd and 4th, 1910.
At
ABINGTON PARK, NORTHAMPTON.
Prizes to the Value of £300.

Schedules on application to
JAS. B. PALMER, Secretary,
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IPSWICH AND EAST OF ENGLAND HORTICULTURAL SOCIETY.

THE SUMMER SHOW
will be held in the
ARBORETUM, IPSWICH, THURSDAY, July 7th.

SILVER CHALLENGE CUP FOR ROSES
(OPEN).

Applications for space to
HAROLD R. SMITH, Secretary,
16, Arcade Street, Ipswich.

SOUTHAMPTON ROYAL HORTICULTURAL SOCIETY.
SUMMER SHOW, July 5 and 6.
Roses, Sweet Peas, Miscellaneous Plants and Flowers Fruit, and Vegetables.
Trade Exhibits especially invited.
C. S. FUIDGE, Secretary.
7, Silverdale Road, Southampton.

TAUNTON HORTICULTURAL AND FLORICULTURAL SOCIETY.

The next ANNUAL EXHIBITION will be held on THURSDAY, August 11.

Schedule and particulars from—
R. A. GOODMAN,
3, Hammet Street.

THE PERPETUAL FLOWERING CARNATION SOCIETY.

The SPRING SHOW of CARNATIONS will be held in the ROYAL HORTICULTURAL HALL, Vincent Square, S.W., on THURSDAY, June 9th.

Admission from One to Six p.m., One Shilling.

Schedules and full particulars from Mr. E. F. HAWES, Royal Botanic Gardens, Regent's Park, London.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

flowers in bewildering variety, which looked extremely well before the sun became too powerful for them. To name even a portion of the varieties staged would take too much space, but every section of May-blooming tulips was represented by finely-developed blooms.

GREENHOUSE PLANTS.

There were few things in the show that were more admired than the beautiful collection of amaryllis staged by Messrs. Robert P. Ker and Sons, Liverpool. Without exception the flowers were very fine, and many delicate shades of colour were represented. A few of the novelties were Cynthia, The Chancellor, The Queen, Persephone, and Rosey Belle.

Mr. H. J. Jones, of Lewisham, set up some bunches of zonal pelargoniums, and a mass of spiræas, which included the varieties Compacta and Peach Blossom.

Messrs. Webb, of Stourbridge, made a fine display with their calceolarias, gloxinias, and Cineraria stellata. The plants were set up in a kind of bank, and the specimens throughout were stamped with the mark of good cultivation.

Both quaint and beautiful were the sarracenias staged by Mr. A. J. A. Bruce, Chorlton-cum-Hardy, and an Award of Merit was granted to a variety called Willmottæ. The same firm also showed plants of the new blush marguerite, Queen Alexandra.

Messrs. H. B. May and Sons, Upper Edmonton, staged a pretty little collection of clematises in pots, which included the varieties Marcel Moser and Lord Wolseley. The same firm showed also some artificial-looking sprays of zonal pelargoniums. Bottle-brush trees, honeysuckle-scented azaleas, new hydrangeas, boronias, and gerberas—the Transvaal daisy—came from Messrs. Stuart Low and Co., and in the midst of the flowers, under a bell-glass, were fruits of the new fruit, "Lowberry," which is said to be sweeter in flavour than the Loganberry.

Five inches across was the size of one of the flowers staged in the magnificent group of cinerarias exhibited by Messrs. James Carter and Co., Holborn, but there were many others only slightly less, and the colours throughout were unique in variety and brilliancy. Situated at the opening of the tent, this group was the first of the good things which visitors saw when they arrived. The Holborn firm also staged plants of a new white petunia, Queen May, a fine lot of tuberous begonias, and one of the finest lots of gloxinias we have seen for a long time. To complete this charming exhibit was a compact group of streptocarpuses, the flowers of which were most delicate in their colouring.

Interesting and choice in the extreme were the plants staged by Messrs. J. Veitch and Sons, Chelsea, and not the least delightful were the new hybrid gerberas, which were highly approved by the visitors. Gloxinias in various colours were included, as well as Streptocarpuses achimeniflorus, giganteus, albus, and roseus. Other plants which attracted much attention were Calceolaria Buttercup, Exacum macranthum, Cinerarias Snowball and flavescens, Feltham Bouquet, and Decorator. It is safe to say that no other exhibit of its kind in the show contained a greater variety of interesting and well-grown plants.

A group of schizanthus from Messrs. Garaway and Son, Clifton, Bristol, attracted attention, the plants staged being of large size and well grown.

Mr. T. Hobbs, gardener to V. Philips, Esq., Orpington, set up a group of nicely-grown calceolarias, from the appearance of which it was evident that they had received careful attention at the hands of the grower.

We were reminded of past Temple Shows by the group of greenhouse pelargoniums staged by Mr. W. J. Godfrey, Exmouth, and amongst the most striking varieties were Captivation, Black Prince, and Mrs. W. J. Godfrey. The same firm showed some pretty little amaranthuses, and a big lot of the satiny-flowered Oriental poppies.

A healthy-looking group of greenhouse calceolarias was set up by Mr. W. Noakes, Selsdon Park, Croydon, but the arrangement was a little too flat to be fully effective.

A portion of the hydrangeas staged by Messrs. W. Bull and Sons, Chelsea, were starch blue, and the remainder flesh pink, the trusses in each case being very fine.

A bold group of calceolarias, exquisitely coloured, and representing a richly spotted strain, was set up in No. 4 tent by Messrs. J. Veitch and Sons; some of the crimson and strawberry-coloured varieties were very handsome. The Old Man Cactus (Pilocereus senilis), from Messrs. H. Cannell and Sons, Swanley, was an attractive curiosity, but the pink spiræa, Peach Blossom, was far more graceful, while the large batch of the elegant golden-flowered Calceolaria Clibrani showed the usefulness of this hybrid for greenhouse and conservatory decoration.

For many years a great deal of patient work has been done at Aldenham in the improvement of the streptocarpuses, and on this occasion a fine group of these improved varieties was staged by Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House. Some of the flowers are of unusual size, and the plants are neat, and very free flowering; some are blue, others white, some deep rose-red, and others white marked with rose or blue, and some are light blue with deeper throat markings. Mr. H. N. Ellison, West Bromwich, displayed the new plumose nephrolepis in variety, gymnogrammas, davallias, adiantums, and other interesting ferns.

A selection of bright-hued seedling pelargoniums from Mr. Parker, gardener to P. J. Fry, Esq., Abbots Leigh, Bristol, contained a number of huge branched spikes, the secondary trusses extending from the head of the original truss. Dracæna Bruanti Souv. de Francois Buysse, heavily marked with greenish-gold on a green ground, was shown by M. Emile Vergantern, Melle, Ghent; it appears to be a very useful and elegant variety.

Messrs. J. Peed and Son, Norwood, were represented in this section by a long group of streptocarpuses, and a fine strain of gloxinias, some of the flowers being of wonderful size and colour. Mr. G. Gilbert, Queen's Road, Hastings, showed Pelargonium Achievement, with a few other greenhouse plants. Messrs. W. and J. Brown, Peterborough, made a miscellaneous contribution, in which the hybrid Dianthus Napoleon III., with deep red flowers, was conspicuous; Heliotrope Lord Roberts, Gaillardia Lady Rolleston, deep yellow, lilacs, verbenas, etc., also entered into the arrangement.

The bright scarlet Pelargonium Jas. T. Hamilton was finely displayed by Messrs. W. H. Rogers and Son, Lim., Southampton. Yellow arums and a selection of hybrid gerberas were set up by Messrs. Felton and Son, Hanover Square, W. Messrs. Wm. Bull and Sons, Chelsea, made up a bright group of amaryllis associated with aralias; King George V. was an orange scarlet flower of great size.

Across the top end of the big tent Messrs. Sutton and Sons, Reading, had a wondrously gorgeous exhibit that provided a feast of glowing colours. The central feature was a great rounded mound of the firm's new and elegant cinerarias named Reading Gem, and the stellata varieties in a great variety of delicate shades of blush, pink, rose, heliotrope, and blue. The fragrance of this floral mound was delightful. Superb calceolarias, gloriously coloured and carrying masses of big bold blooms, were used to make a mound on each side of the cinerarias. The end mounds were of schizanthuses—a splendid large-flowered strain of these useful flowers, gloxinias, tuberous begonias, and the elegant B. Lloydi; and nemesias, and clarkias were effectively used to fill up between the mounds. Begonia Marie Boucher, a pendant scarlet-flowered variety, suitable for baskets, was shown well by Mr. J. Friend, gardener to the Hon. Mrs. Glen, Albury Hall, Herts, and was represented by big examples in pans and baskets. Some old-fashioned pyramidal Indian azaleas, freely-flowered, were submitted by Mr. Chas. Turner, Slough.

FRUIT AND VEGETABLES.

Fruit trees in pots are a standard institution at the Temple Show, and once again they were well shown by Messrs. T. Rivers and Sons, Sawbridgeworth. Never do we remember seeing more healthily grown trees, and the brightly coloured fruits of nectarines Cardinal, Early Rivers, and Seedling No. 101 looked very tempting. Peaches were represented by Peregrine, Kestrel, a new variety, and a few well-fruited cherry trees completed the group. Hidden away with a bank of carnations on one side, and a group of hardy flowers on the other, we came across a lot of fresh-looking cucumbers from Mr. S. Mortimer, Farnham, who also showed good specimens of tomatoes, Sunrise and Improved Sunrise. Mr. A. J. Harwood, of Colchester, showed some fine heads of asparagus, but the edible portion of the above was not the biggest part.

Messrs. Laxton Brothers, of Bedford, were represented by an interesting collection of picked strawberries in baskets, which looked almost too tempting to be resisted. We were not privileged to taste, but, so far as appearance went, we were much attracted by George Munro, Bedford Champion, and Laxton's Connoisseur. The Thatcham School of Gardening sent a collection of forced vegetables and salads, the quality of which was fair.

In his style, that is too well known to need description, Mr. E. Beckett, gardener to the Honourable Vicary Gibbs, Aldenham House, set up a collection of vegetables with quality so good that we can hardly particularise; but perhaps the things which attracted observers most were some really grand specimens of Sutton's Perfection tomatoes, pearly white Magnum Bonum cauliflower, cucumbers in the best of condition, Duke of Albany peas, and Moore's Cream marrows. To say that it was a grand display for the time of year is no mere figure of speech, and the quality of the produce throughout was equalled by the tasteful mode of arrangement. One expert in our hearing described it as a "very pretty lot," and we agree with him.

FERNS.

A most interesting group of ferns was staged by Messrs. Thomas Rochford and Sons, Broxbourne, the most conspicuous plant in the exhibit being Nephrolepis lycopodiodes, a very compact-growing form. Other ferns which attracted attention were Polypodium sporadacarpum cristatum, and Cyrtomium Rochfordi, a fine type of holly fern with splendid constitution. A fine collection of ferns was exhibited by Messrs. J. Hill and Son, Lower Edmonton, and included in it we noticed splendid pieces of Polypodium Knightæ, Nephrolepis elegantissima, Asplenium marginatum, Balantium culcita, and Davallia fijiensis robusta. Selaginellas in variety was also included in the group, which was much admired.

On the other side of the tent was a grand lot of ferns, exhibited by Messrs. H. B. May and Sons, Upper Edmonton. Delightfully cool looking was the verdant hue of Nephrolepis Marshalli, Davallia solida superba, Polypodium Knightiæ, and Adiantum cardiochlæna. The above were only a few of the different ferns which, as a whole, made up a very interesting group.

OUTDOOR EXHIBITS.

The arrangement of the outdoor groups was altered a little to last year, but the various groups and rock gardens were very much admired. Messrs. J. Cheal and Sons, Crawley, made up a very natural-looking rock garden with flowers blooming in the pockets, and round the outsides were tall acers, lilacs, clematises, and other flowering trees and shrubs. A very fine group of rhododendrons, interspersed with Japanese maples, was set up by Messrs. J. Waterer and Sons, Lim., Bagshot. Brilliant colours were displayed in the flowers, and the group was arranged with much taste.

Mr. L. R. Russell, of Richmond, had a large outdoor group, in which acers, ivies, and flowering trees and shrubs were shown in bewildering variety.

Messrs. Paul and Son, Cheshunt, sent standard lilacs, rhododendrons, and azaleas in variety along with daphnes and other interesting plants. Quite a feature in the outdoor groups was the exhibit from Messrs. J. Veitch and Sons, Chelsea. In this collection was a fine display of Anchusa italica Dropmore variety, charming primulas, schizanthuses, azaleas, calceolarias, and hydrangeas.

Messrs. W. Cutbush and Son, Highgate, surpassed any of their former efforts with an outdoor rock garden. There was a natural-looking pool with plants that grow at the water's edge, and a big bank behind with a cave, containing ferns and flowers, which looked as if they had originated there. The same firm also showed specimens of their well-known topiary work in box and yew.

Very bold in design was the rock garden arranged by Messrs. Pulham and Sons, London, and the stones, water, and plants occupied very natural-looking positions. In the rock arrangements not the least effective was that fixed up by Messrs. R. Wallace and Co., Colchester, and a very unique part of it was a stone pavement, flanked on either side by interesting flowers of an old-fashioned type.

The group of plants set up by Mr. R. C. Notcutt, Woodbridge, was much admired, which was not surprising considering the varied character of the flowers contained in it. Messrs. J. Piper and Sons, Bayswater, were represented by clipped trees, and Messrs. R. and G. Cuthbert, Southgate, had a fine group of May-flowering tulips in pots, in which many charming varieties were represented.

The Pigmy trees from Messrs. Barr and Sons, Covent Garden, did not look a day younger or older than they were a year ago, and the group of ferns, flowering plants, standard heliotropes, fuchsias, and pelargoniums arranged by Messrs. H. B. May and Sons, Upper Edmonton, had a very pleasing effect.

Messrs. W. Paul and Son, Waltham Cross, had a fine group of flowering shrubs, and Mrs. C. Elliott had a rock garden in which the flowers appeared to be growing amid grey stones and granite chippings. The outdoor rockery set up by Mr. M. Prichard, Christchurch, contained many gems of the alpine section, and Messrs. Heath and Sons, Cheltenham, were represented by a rock garden arranged with some taste. Messrs. W. Artindale and Son, Sheffield, arranged a bed of violas, a unique method of presenting these flowers to public notice, and the flowers being of exceptionally high quality, the arrangement received much attention from the visitors.

A big group of bottle-brush trees was set up outside by Messrs. Stuart Low and Co., and the same firm had a pretty arrangement of roses of the cluster type. Standard specimens in full bloom made a background, and underneath were dainty little dwarf plants of Orleans rose, a pretty pink variety.

One of the most interesting of the outdoor features was the Japanese garden, constructed by Messrs. James Carter and Co., Holborn. This was near the Embankment entrance and was a charming arrangement, entered under a bamboo porchway flanked by numbers of dwarfed and aged cupressus, pines, oaks, maples, larch, etc. From the entrance a pathway ran alongside a little central lake to the graceful wooden bridge spanning the water, and across to the exit by a rustic gateway. A further path beyond led to the tortoise garden, an umbrella-like, thatched tea house, and a pretty little rock garden literally foaming with white masses of Saxifraga pyramidalis, and so on round the extreme end of the lake to the exit again. The sides of the lake and the surrounding banks were dotted here and there with Japanese lilies, irises, fuchsias, dwarf pines, maples, etc., while stretching out their necks towards the goldfish in the water were several storks composed of trained larch. Little temples and fine stone lanterns from Japan added other realistic touches to this clever and well-conceived design.

OFFICIAL LIST OF AWARDS.

Gold Medals.—To Leopold de Rothschild, Esq., Gunnersbury Park, Acton (gardener, Mr. G. Reynolds), for Vanda teres; to the Hon. Vicary Gibbs, Elstree (gardener, Mr. Beckett), for vegetables; to F. Menteith Ogilvie, Esq., Oxford, for orchids; to Messrs. Sutton and Sons, Reading, for flowering plants and tulips; to Messrs. J. Veitch and Sons, Chelsea, for flowering plants and foliage plants; to Messrs. H. B. May and Sons, Edmonton, for exotic ferns; to Messrs. William Paul, Waltham Cross, for roses; to Messrs. T. Rivers and Sons, Sawbridgeworth, for fruit trees in pots; to Messrs. Sander and Sons, St. Albans, for orchids; to Messrs. R. Wallace and Co., Colchester, for rock garden and herbaceous plants; to Messrs. Paul and Son, Cheshunt, for roses; and to Messrs. Charlesworth and Co., Haywards Heath, for orchids.

Sherwood Cup.—To Sir J. Colman, Bart., Reigate, for orchids.

Silver Cups.—To Messrs. W. Cutbush and Son, Highgate, cut bushes, alpines, etc.; to Messrs. Barr and Sons, Surbiton, for tulips and hardy plants; to Messrs. J. Waterer and Son, Bagshot, for rhododendrons; to Messrs. J. Carter and Co., Holborn, for Japanese garden and flowering plants; to Mr. L. R. Russell, Richmond, for trees and foliage; to Mr. C. Turner, Slough, for roses and azaleas; to Mr. H. Burnett, Guernsey, for carnations; to Sir G. Faudel-Phillips, G.C.I.E., for tulips; to Messrs.

Hobbies, Dereham, for roses; to Messrs. G. Mount and Sons, Canterbury, for roses; to Messrs. W. Fromow and Sons, Chiswick, for maples; to Messrs. Hill and Son, Edmonton, for ferns; to Messrs. Mansell and Hatcher, Rawdon, for orchids; to His Grace the Duke of Marlborough, for orchids, to Mr. J. T. Clifton, Lytham, for orchids, to Mr. A. Perry, Enfield, for herbaceous plants, etc.; to Messrs. S. Low and Co., Enfield, for orchids, roses, etc., to Messrs. Cuthbert, Southgate, for azaleas; to Messrs. Peed and Son, Streatham, for caladiums, etc.; to Messrs. B. R. Cant and Sons, Colchester, for roses; to Messrs. J. Cypher and Sons, Cheltenham, for orchids; to Messrs. Backhouse and Sons, York, for alpines; to Mr. A. F. Dutton, Iver, for carnations, etc.; to Messrs. J. Veitch and Sons, Chelsea, for trees and shrubs; to Mr. M. Prichard, Christchurch, for alpines.

Silver-Gilt Flora.—To Messrs. A. Dickson and Sons, Belfast, for new roses and tulips; to Mr. G. Reuthe, Keston, for tulips, rhododendrons, and hardy flowers; to Messrs. Artindale and Son, Sheffield, for hardy flowers; to Mr. R. C. Notcutt, Woodbridge, Ipswich, for shrubs; to Messrs. Blackmore and Langdon, Bath, for begonias; to Messrs. F. Cant and Co., Braiswick, Colchester, for roses; to Mr. G. Langhe, Hampton, for carnations; to Messrs. R. P. Ker and Sons, Liverpool, for amaryllis.

Silver-Gilt Banksian.—To Messrs. G. Jackman and Son, Woking, for clematis, etc.; to Mr. W. H. Page, Tangley Nurseries, Hampton, for carnations; to Messrs. Thos. S. Ware, Feltham, for hardy flowers, etc.; to Messrs. J. Cheal and Son, Crawley, for rock garden, etc.; to Mr. A. J. Bruce, Chorlton-cum-Hardy, for sarracenias; to Mr. C. Engelmann, Saffron Walden, for carnations; to Mr. W. H. Lancashire, Guernsey, for carnations; to Mr. E. V. Low, Haywards Heath, for orchids.

Silver Flora.—To Messrs. Bakers, Wolverhampton, for hardy flowers; to Messrs. R. H. Bath, Lim., Wisbech, for hardy flowers; to Messrs. G. and A. Clark, Dover, for hardy flowers; to Messrs. E. W. King and Co., Coggeshall, for sweet peas; to Messrs. Toogood and Sons, Southampton, for stocks; to Mr. W. E. Alsen, Waterlooville, Hants, for sweet peas; to Mr. Howard H. Crane, Highgate, for violas; to Mr. Frank Lilley, Guernsey, for gladioli and irises; to Messrs. G. Bunyard and Co., Maidstone, for tulips and hardy flowers; to Messrs. Hogg and Robertson, Dublin, for tulips, etc.; to Messrs. Jas. Locke and Sons, Aberdeen, for trollius, etc.; to the Misses Hopkins, Shepperton, for rock garden; to Messrs. Thos. Rochford and Sons, Broxbourne, for new ferns; to Mr. H. Hemsley, Crawley, for hardy flowers; to Mr. E. J. Johnstone (gardener, Mr. Paskett), Groombridge, for Malmaison carnations; to Mr. A. D. Hall, Harpenden, for tulips; to Messrs. H. B. May and Sons, Edmonton, for ferns, etc.; to Messrs. H. Cannell and Sons, Swanley, for greenhouse plants, etc.; to Mr. W. J. Godfrey, Exmouth, for poppies, etc.; to The Craven Nursery Co., Clapham, Lancashire, for alpines; to Messrs. L. Hughes Jones and Peers, Thatcham, for salads, etc.; to Mr. B. Bell, Guernsey, for carnations; to Mr. C. Elliott, Stevenage, for hardy flowers; to Messrs. Gunn and Sons, Olton, for violas and hardy flowers; to Mr. A. J. Harwood, Colchester, for asparagus, etc.; to Messrs. Robert Sydenham, Lim., Birmingham, for sweet peas; to Messrs. Bees, Lim., Liverpool, for primulas and alpines; to Messrs. Bull and Sons, Chelsea, for orchids, foliage plants, etc.; to Messrs. Dobbie and Co., Edinburgh, for pansies, violas, and sweet peas; to Messrs. B. Ladhams, Lim., Southampton, for hardy herbaceous plants; to Messrs. Piper and Son, Bayswater, for trained trees and Japanese maples.

Silver Knightian.—Mr. S. Mortimer, Farnham, for cucumbers, tomatoes, carnations; Messrs. Laxton Bros., Bedford, for strawberries; Mr. R. Stevenson, Cambridge, for asparagus.

Silver Banksian.—Messrs. Storrie and Storrie, Glencarse, auriculas and polyanthus; Mr. R. Ashworth, Manchester, for orchids; Messrs. Pulham and Son, Oxford Street, rock gardens; Messrs. Heath and Son, Cheltenham, for rock garden; Messrs. G. Mallett and Co., Cheddar, for alpines, herbaceous, etc.; Messrs. Carter Page and Co., London Wall, dahlias, annuals, violas; Messrs. J. Forbes, Lim., Hawick, herbaceous plants; Messrs. G. Gibson and Co., Bedale, herbaceous and alpines; the Guildford Hardy Plant Nursery, Guildford, herbaceous and alpines; Messrs. Kelway and Sons, Langport, for tree pæonies and pyrethrums; Messrs. Seagrave and Co., Sheffield, violas and pansies; Messrs. A. Young and Co., Elgin, anemones; Mr. H. Correvon, Geneva alpines.

Bronze Flora.—Messrs. W. and J. Brown, Peterboro', for herbaceous; the King's Acre Nursery, Hereford, alpines and herbaceous; Messrs. E. Webb and Sons, Stourbridge, flowering plants; Messrs. Young and Co., Cheltenham, carnations; the Hon. Mrs. M. Glyn, Ware, for begonias; Mr. H. J. Jones, Lewisham, flowering plants; Messrs. Whitelegg and Page, Chislehurst, tulips, alpines, and sweet peas.

NEW PLANTS.

Orchid Committee Awards.

First Class Certificate to Cattleya Mendeli, var. Princess Victoria, from Messrs. Mansell and Hatcher, Lim., Rawdon, Yorkshire; to Cattleya Lawrenceana, var. Mary Regina and Sobralia Charlesworthi, from Messrs. Charlesworth and Co., Haywards Heath, Sussex; Odontoglossum Memoria King Edward VII. and Odontoglossum Memoria Baron Schroder, from Messrs. Sander and Sons, St. Albans; Odontioda King George V. and Odontoglossum eximium Empress of India (O. crispum, O. Ardentissimum), from Mons. Ch. Vuylsteke Loochristi, Ghent, Belgium.

Botanical Certificate to Bifrenaria bicornaria and Lycaste Peruviana, from Messrs. Sander and Sons.

Award of Merit to Cattleya Mossiæ, var. Magali Sander, from Messrs. Sander and Sons, St. Albans; Laelio-Cattleya Luminosa magnifica, from the Duke of Marlborough, Blenheim House, Woodstock; Odontioda Royal Gem (O. Vuylstekæ, O. Ardentissimum) and Odontoglossum Promerens (O. crispum, O. eximium), from Mons. Ch. Vuylsteke, Loochristi, Ghent, Belgium; Cattleya Mendeli Queen Maud, from Messrs. Charlesworth and Co., Haywards Heath, Sussex; Lælio-Cattleya Aphrodite Mark Hambourg, from T. Clifton, Esq., Lytham; Odontoglossum eximium var. Emperor, from Messrs. Sander and Sons, St. Albans.

Floral Committee Awards.

Award of Merit to Rhus typhina laciniata, Mr. R. C. Notcutt, Woodbridge; Rose excelsa, from Messrs. Paul and Son, Cheshunt; Rose Duchess of Westminster, from Messrs. A Dickson and Sons, Newtownards; Begonia Rose Queen, Messrs. Blackmore and Langdon, Bath; Rhododendron Alice, Messrs. J. Waterer and Sons, Bagshot; Sarracenia Willmottæ, Mr A. J. Bruce, Manchester, Cytisus Dallimorei, Royal Gardens, Kew; Marguerite Mrs. F. Sander, Messrs. Sander and Sons, St. Albans; Azalea mollis sinensis Floradora, Messrs. Cutbush, Southgate; Rhododendron Princess Juliana, from Messrs. J. Waterer and Sons, Bagshot.

FORTHCOMING ENGAGEMENTS.

WEDNESDAY, June 1.—Royal Society of Arts.

THURSDAY, June 2.—Linnean Society.

SATURDAY, June 4.—French Horticultural Society of London.

TUESDAY, June 7.—Royal Horticultural Society; Committee meet at 12 o'clock; lecture at 3 p.m. on "Survivals Among Plants of the Past," by Rev. Prof. G. Henslow, M.A., V.M.H.; Scientific Committee at 4 o'clock.

WEDNESDAY, June 8.—East Anglian Horticultural Society.
Royal Society of Arts.
Birmingham Summer Show.

THURSDAY, June 9.—British Gardeners' Association (London Branch) Excursion.

SATURDAY, June 11.—R.H.S. Gardens Club; Annual meeting at Wisley Gardens.

MONDAY, June 13.—United Horticultural Benefit and Provident Society.

WEDNESDAY, June 15.—York Floral Fete and Gala; three days.

THURSDAY, June 16.—Linnean Society.
Dundrum Horticultural Society.

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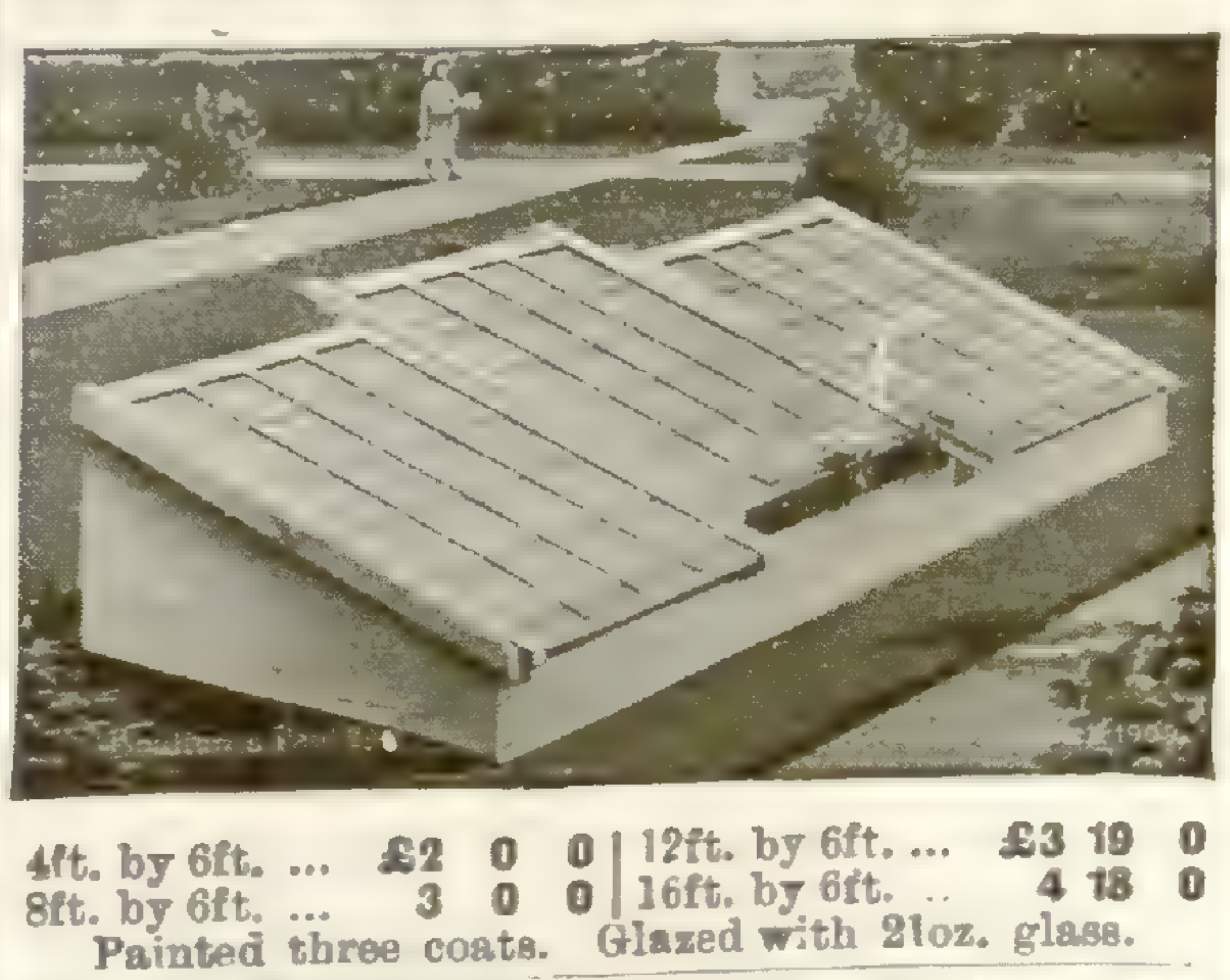

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

CROQUET LAWNS.—B. J., Worcester: We gave a full account of the setting out of a croquet lawn, with all the measurements and distances needed, in our issue of May 1, 1909, on page 339.

POINSETTIA CUTTINGS.—L. F. W., Leicester: If the young shoots are about three or four inches long they are quite fit for removal. Use a sharp knife and remove them with a little heel of old wood attached. Insert them singly and firmly in small pots of sandy soil, and place in a propagating case. They will soon root, and should then be potted and given a light position in a pit or low house.

PUNCTURED CUCUMBER LEAVES.—R. A., Newbury: We are making further investigations, but need more material for this purpose, fully grown leaves being necessary. We believe, however, that the damage is due to the bites of some insect pests, such as earwigs or cockroaches. Set traps for these, fumigate the house, and cut away the affected parts as soon as new growths can be trained into position.

THRIPS ON MILTONIAS.—M. E. G., Repton. Thrips seem to have a special liking for the leaves of Miltonia vexillaria, therefore the plants should be carefully examined not less often than once a week, so that steps may be taken promptly to dispose of the pest directly it is seen. Dipping in a diluted nicotine preparation is the best method to employ, but care must be taken not to allow any of the mixture to enter the compost. If there are flowers on the plants then sponging must be resorted to, following this by dipping at intervals of ten days, as soon as the flowers have faded.

DISEASED IRISES.—J. J., Chelmsford: We cannot tell precisely what is the matter with your irises unless we have the opportunity of inspecting specimens. We can only presume that your soil is heavy and wet, and that as a consequence the plants set out last year suffered considerably from the effects of a cold damp winter. If we are correct, then the best you can do is to remove the surface soil so as to expose the rhizomes to the sunlight, and at the same time lightly fork in a good dressing of lime or crushed mortar rubbish.

CLEANING WATER COURSES.—E. J. B., Bungay: The matter is a very serious one and you should point out that not long since the attention of the Board of Agriculture was drawn to the damage stated to be caused by the neglect of certain occupiers of land to keep clean the channels of water-courses and streams running through their land. It has been suggested that the law which deals with this subject is very little known, and the Board consider that it will be useful to publish, in the form of a leaflet, a short summary of the legal position. For mere omission a man is not, generally speaking, answerable by law; and accordingly, at common law, the occupier of land through which a water-course runs is not, as a rule, under any obligation to neighbours whose lands drain into that water-course to prevent or remove any obstruction of the outfall due to merely natural causes (such as silting up of the channel or growth of weeds), and not caused by any action on his part, though, in exceptional cases, e.g., under an inclosure award, such an obligation may sometimes exist. A statutory remedy is, however, provided by the Land Drainage Act, 1847 (10 and 11 Vict. c 38), and it appears to be applicable irrespective of any existing legal obligation on the part of the occupier of the land; but the statutory duty imposed by this Act arises only on notice given by the person injured, and the Act does not create any statutory liability in damages for the injury caused by the occupier's neglect. Section 14 of the Act enacts that where, by the neglect of any occupier to maintain or join in maintaining the banks, or to cleanse and scour or join in cleansing and scouring the channels of existing drains, streams, or water-courses lying in or bounding the lands of such occupier, injury is caused to any other land, the proprietor or occupier of any land so injured may serve a notice on the neglecting occupier requiring him to maintain the banks or cleanse or scour the channels in question. If he neglects so to do, the occupier of the land injured may, after one calendar month from the service of the notice, carry out the necessary work. The cost of the same or a just proportion thereof is to be paid by the neglecting occupier, and payment may be enforced by an order of justices. Section 15 provides that, unless the drain, stream, or watercourse to be cleansed bounds or immediately adjoins the land of the occupier injured by the neglect, a justices' warrant to enter on the defaulter's land in order to carry out the necessary works must be obtained. This warrant is to be granted if the justices are satisfied that the injury has been caused by the neglect of the occupier whose land is to be entered.

BITTEN DAHLIA LEAVES.—C. E., Bournemouth: The leaves of the young dahlias have been bitten by earwigs. These insects sometimes do a great deal of harm to the tender foliage of dahlias, chrysanthemums, pelargoniums, and other garden plants, especially in districts where they seem to be unusually plentiful. Invert some dirty pots, partly filled with dry hay, on short stakes among the plants, and examine those every day in early morning, shaking the trapped earwigs out into a bucket of hot brine, or other mixture that will quickly kill them.

SWOLLEN JUNIPER SHOOTS.—C. S. F., Matlock: The swollen shoots are evidence of an attack of a fungus known as Gymosporangium clavariaforme or by its popular name of Hawthorn Cluster-cups. The gelatinous yellowish material contains crowds of telentospores that germinate presently, and in turn produce secondary spores. These latter are carried by wind, etc., to a favourable host, such as the damp surface of a hawthorn, apple, pear, or similar leaf, and there they germinate, develop, and produce æcidiospores, which, apparently can only germinate upon the juniper and so commence anew the cycle of the life of the fungus. But the mycelium is perennial in the tissues of the juniper, and if allowed to spread it annually does more damage to the tree, and is the means of spreading the plague to thorns, etc. The great and only satisfactory remedy is to attack the fungus in the juniper tree, cutting back the affected parts well beyond all outward evidences of the attack, and after washing the cut surfaces with sulphate of copper, paint them with Stockholm tar. A sharp watch must be kept upon the junipers in the garden, and whenever a swollen stem suggests further development, use the knife promptly.

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NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

F. F., Monmouth; 1, Metrosideros florida; 2, Viola pedata; 3, Thunbergia alata.

E. A. H., Chester.—1, Alyssum saxatile; 2, Dodecatheon media; 3, Cytisus albus.

N. B. J., Hanworth.—1, Odontoglossum concinnum; 2, Syringa rothamagensis.

M. E. W., Shanklin.—1, Ceanothus dentatus; 2, Veronica Hulkeana; 3, Sarracenia purpurea.

R. A., Guernsey.—1, Pittosporum tobira; 2, Eleagnus longipes; 3, Ruscus racemosus; 4, Cestrum elegans.

A. W., Sheffield.—1, Abies nobilis; 2, A. Douglasi; 3, Cupressus macrocarpa; 4, Cedrus Deodara.

H. D., Potter's Bar.—1, Arabis albida fl. pl.; 2, Trollius asiaticus; 3, Gala Beauty Tulip; 4, Leycesteria formosa.

P. C. S., Wimbledon.—1, Palumbina candida; 2, Panax Victoriæ; 3, Adiantum pedatum; 4, Odontoglossum crispum.

C. R. C., Wraysbury.—1, Gasteria verrucosa; 2, Perilla nankineusis; 3, probably Omphalodes intermedia; 4, Cytisus albus.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
1910. May 15 to May 21.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
May 15—Sunday	9 12	52	51	69	45
,, 16—Monday......	8 6	56	55	72	46
,, 17—Tuesday	0 6	54	52	63	50
,, 18—Wednesday .	9 54	58	55	68	52
,, 19—Thursday ...	4 30	59	57	69	47
,, 20—Friday..	13 48	69	62	70	56
,, 21—Saturday ...	0 5	57	55	66	54
Means	(total) —	58	55	—	50

Date.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
1910. May 15 to May 21.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
May 15—Sunday	—	51	50	48	45
,, 16—Monday... ..	—	54	52	49	40
,, 17—Tuesday......	0·04	55	53	49	46
,, 18—Wednesday.	0.43	55	53	50	50
,, 19—Thursday ...	0.04	56	54	50	45
,, 20—Friday........	—	58	55	50	50
,, 21—Saturday ...	—	59	56	51	50
Means ...	(total) —	55	53	50	46

MARKETS.

COVENT GARDEN.

Flowers.

Business is moderately good, but better than was [illegible]ipated for this week.

		s.	d.		s.	d.
[illegible]iantum cuneatum	per doz. bun.	6	0		8	0
Anemones	per doz.	1	0		1	6
Arums	per doz.	2	0		5	0
Asparagus	per bun.	1	0		1	6
Azalea, Ghent	per bun.	0	6		0	9
Camellias	per doz.	1	6		2	0
Carnations	per doz. blms.	2	0		6	0
	per doz. bun.	12	0		18	0
Cattleyas	per doz.	6	0		12	0
Croton leaves	per bun.	1	0		2	6
Daffodils	per doz. bun.	1	0		3	6
Eucharis	per doz.	3	0		5	0
Freesias	per doz. bun.	1	0		1	6
French fern	per doz. bun.	0	6		0	9
Gardenias	per doz.	1	6		3	0
Gypsophila elegans	per doz. bun.	3	0		4	0
Iris, Spanish	per doz. bun.	5	0		8	0
Lapagerias	per doz.	1	6		2	0
Lilac	per bun.	2	0		3	6
Lilium auratum	per bun.	2	0		3	0
speciosum	per bun.	1	6		3	6
„ longiflorum	per bun.	3	0		7	6
Lily of the Valley	per doz. bun.	6	0		12	6
Mignonette	per doz. bun.	3	0		6	0
Narcissus	per doz. bun.	1	0		2	0
Odontoglossums	per doz. blms.	1	0		3	0
Pelargoniums	per doz. bun.	4	0		6	0
Roses	per doz.	1	0		5	0
Spiræa	per doz. bun.	4	0		6	0
Stocks	per doz. bun.	3	0		4	0
Sweet Peas	per doz. bun.	2	0		5	0
Tuberoses	per doz. blms.	0	4		0	6
Tulips	per doz. bun.	6	0		15	0
[illegible]ets	per doz. bun.	1	0		2	6

Fruits.

Supplies are excellent and the demand steady.

		s.	d.		s.	d.
Apples, Californian	per case	6	0	to	7	6
— American	per barrel	10	0		27	0
— Canadian	per barrel	10	6		25	6
— Nova Scotian	per barrel	10	0		18	0
— Australian	per box	7	0		12	6
[illegible]ots	per box	0	9		1	6
Bananas	per bun.	3	0		10	0
Cherries, Spanish	per box	1	0		1	9
Cranberries	per case	6	0		7	0
Figs	per doz.	3	0		8	0
Grapes, English	per lb.	2	0		4	0
— Guernsey	per lb.	2	0		3	6
— Almeria	per doz. lbs.	4	0		7	6
Cape	per 20lb. box	9	0		14	0
[illegible]	per case	6	0		15	0
Melons		0	8		2	0
Oranges, Jamaica	per case	9	0		12	0
„ Jaffa	per case	10	0		12	0
— Valencia	per case	10	0		18	0
— Navels	per case	8	0		12	6
— Denia	per case	14	0		27	6
Peaches, English	per doz.	12	0		24	0
Pears, Australian	per package	12	0		23	0
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[illegible]nbars	per ton	85	0		105	0
[illegible]good	per ton	45	0		55	0
[illegible]	per ton	45	0		55	0
Keats	per ton	65	0		70	0
[illegible]	per ton	45	0		75	0
[illegible] Date	per ton	65	0		80	0
[illegible]	per cwt.	7	0		10	0
[illegible] new	per cwt.	16	0		19	0

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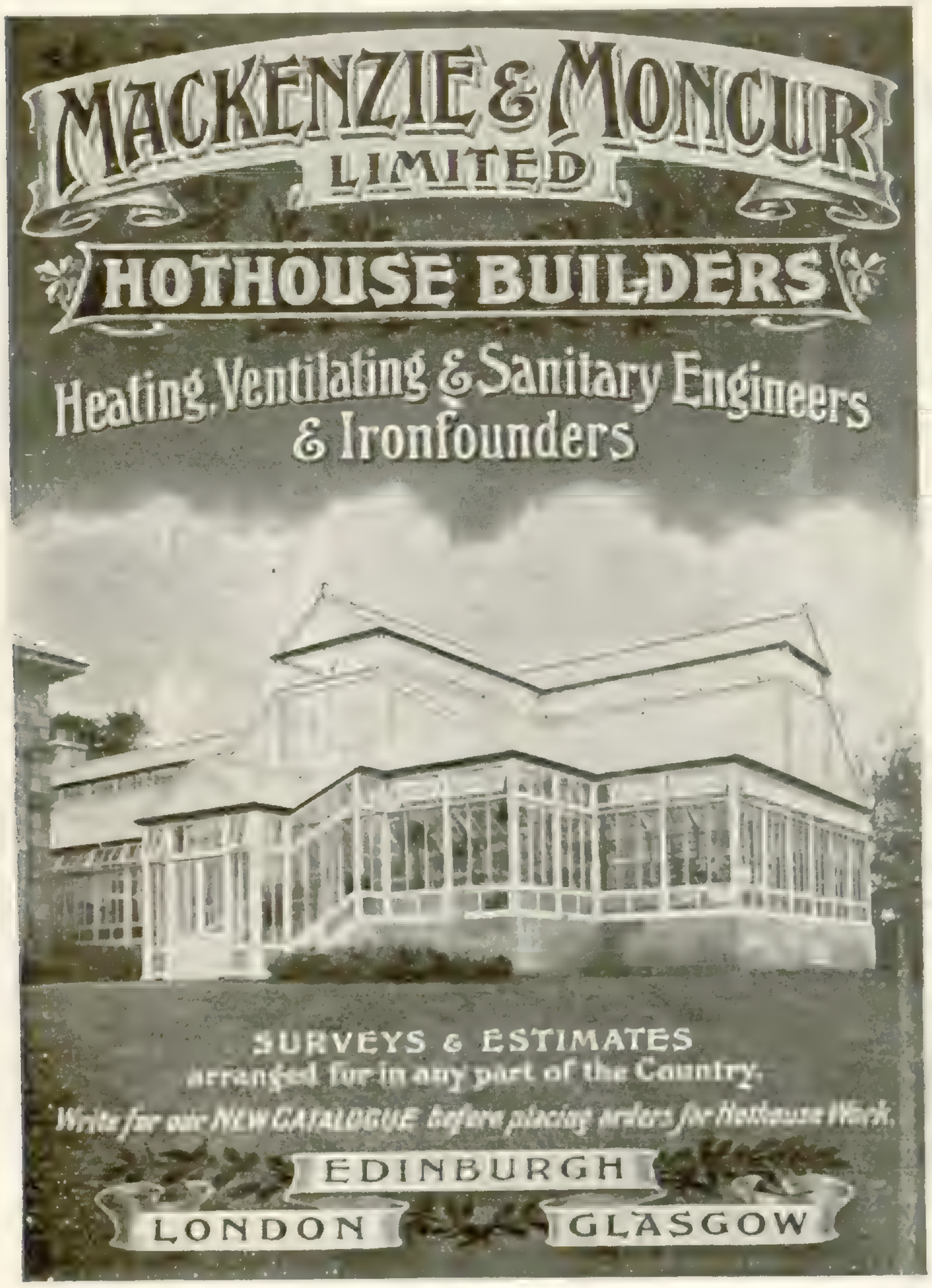
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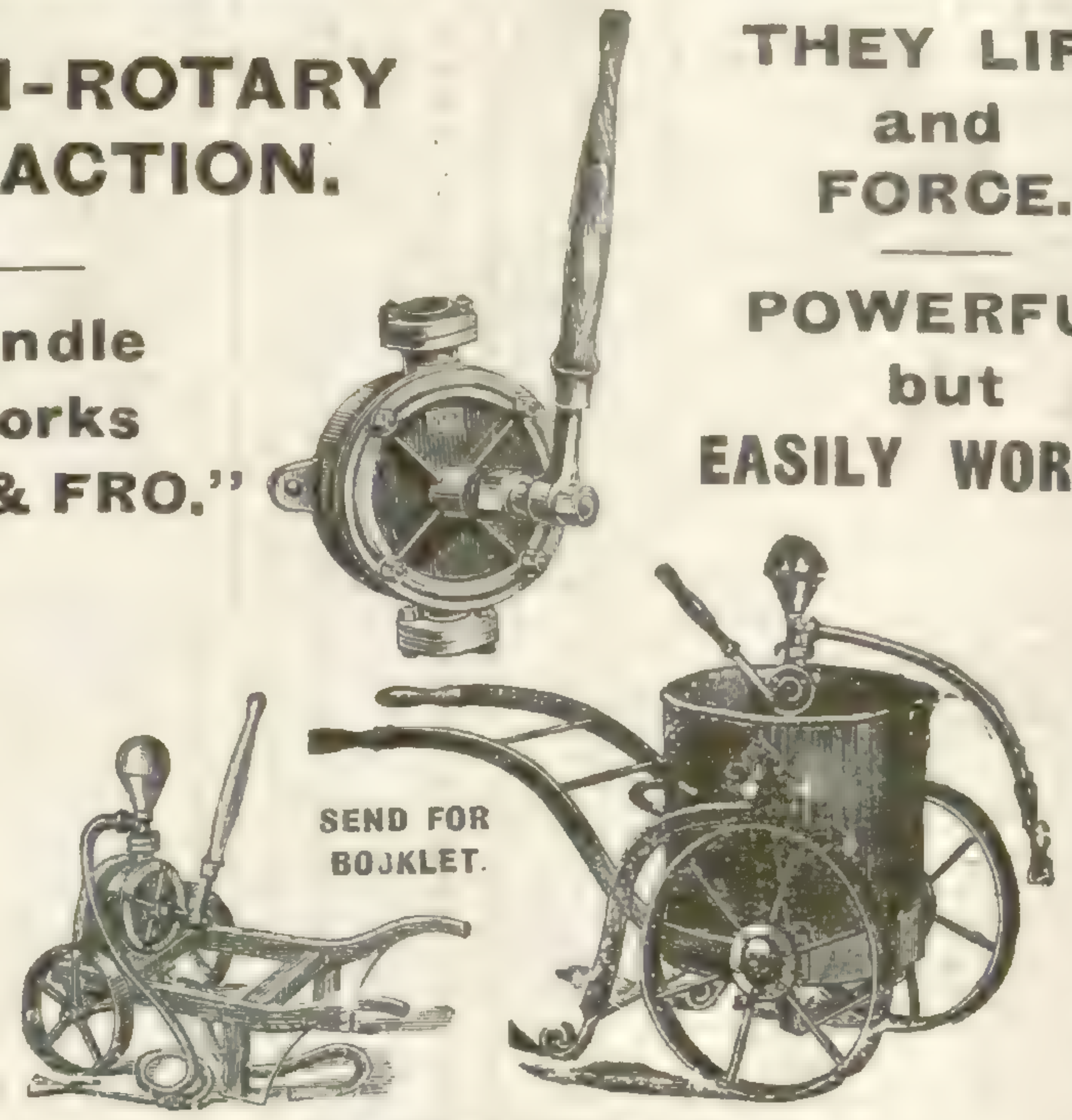

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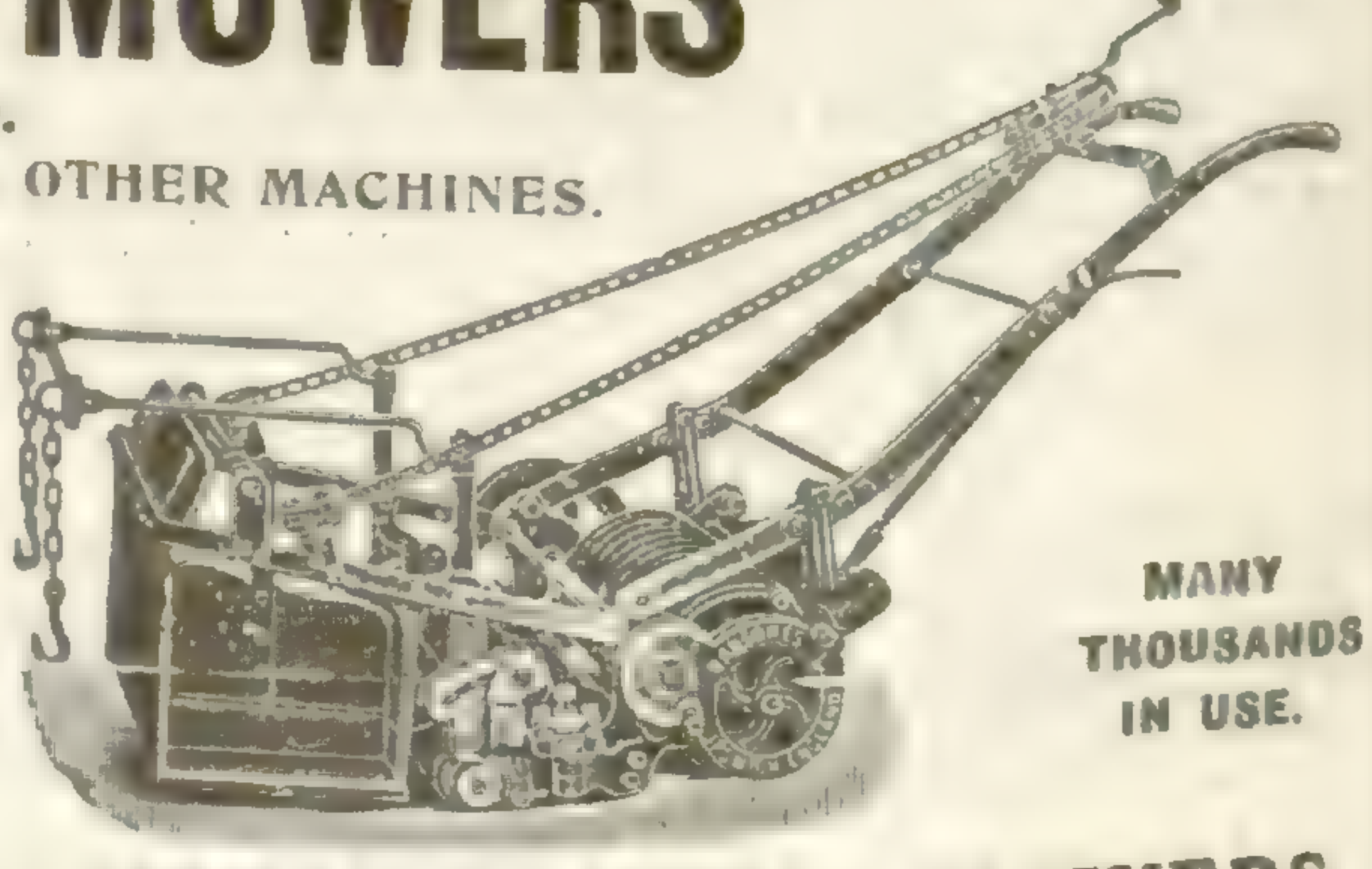

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VOL. LIII.—No. 2,953. SATURDAY, JUNE 4, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Sunshine.

The sudden flood of brilliant sunshine which has burst upon us as a contrast to the too frequent chilliness and dullness of the month of May, as if to mitigate the gloom inseparable from a great and unexpected calamity, may well lead us to consider the utterly inestimable boon which it involves. All too unthinkingly, as a rule, do we bask in its rays and revel in the brighter prospects of verdant foliage and resplendent bloom which it is bringing into being, without considering that in those genial beams of light we behold the veritable hand of the Creator, the one vivifying and stimulating influence by virtue of which we and all organic life outside us live and move and have our being. The sunbeam, properly considered, is the most wonderful of all familiar things, one of the most complex, and one of the most subtle. If we analyse it, break it up into its components by means of the spectrum, a mere prism of cut glass, we find it composed of an infinite number of light waves, which, impelled from the sun, ninety-seven millions of miles away, have undulated across that inconceivable distance in about nine minutes, or less, to exercise their beneficent influence on our planet. These waves, moreover, are not all alike; they vary greatly in length and in nature, and by simply passing a beam through the prism aforesaid, this difference becomes manifested by a sorting out, so that the shorter waves appear at one end of a line and the longer at the other, with a regular gradation in between. By this sorting it is found that each wave length produces its special colour within a certain area, within which appear all the tints of the rainbow, itself an enlarged section of the line we see. Outside that area of light, however, other invisible waves exist which convey the heat, as may be proved by focussing such rays through a lens on any combustible object. This, however, is by no means all; that beam of broken-up sunshine is practically a chart of all the elementary substances existent in the sun, and contributing to its incandescence. The line of colours is traversed perpendicularly by an immense number of thin dark gaps, and every one of these gaps or dark lines has been found to occupy a certain definite place in relation to a certain definite element, so that it has been possible to make a chart infallibly denoting all the elements in the solar complex. This has been proved by the fact that on our earth (originally a part of the sun, and therefore of similar composition, though by virtue of its cooling under different conditions) these same elements exist, and when rendered incandescent, their particular spectrum shows the particular sets of lines proper to them, and occupying the same places as shown by the solar charts. Undoubtedly, in addition to all this, there are potent electrical waves in combination with the heat and light ones, but whether these are separate or, as is more probable, intrinsically identical, is not yet made clear. In any case, the marvellous result is the same—viz., that when these beneficent rays reach the earth's surface their potency, unenfeebled by the enormous journey through the inconceivable cold of space, becomes immediately manifest as genial warmth and vivifying energy. How it is that the great world of vegetation comes in as the one and only medium for the transference of this solar energy to the organic world generally. The beam, falling on the nascent leaf, impels its component cells to absorb the carbonic acid from the surrounding atmosphere, and by inducing transpiration, draws up from the root system fresh supplies of sap. Under its impulse, and by virtue of the material thus supplied, the cells multiply and fulfil their manifold duties of decomposition and re-composition, and thus, bit by bit, build up all the wonderful vegetable products upon which the animal world is dependent for its existence, directly or indirectly; while man himself becomes its debtor, not merely for his food, like the rest of the animal creation, but for the great mass of his luxuries, the production of which from the raw material affords the means of subsistence for myriads of men and, in conjunction with the merely agricultural industries, constitutes the very backbone of human prosperity. Considering all this, the thoughtful mind cannot but sympathise with the old cult of the Sun-worshippers, who even in those far distant days appreciated much of what we have said above; though in these more enlightened times we perceive that even the mighty sun itself is but a dot in the universe, and that the beneficent influence it imparts is but a manifestation of an infinitely greater beneficent, omniscient, and omnipotent Creative Power, which is utterly beyond human comprehension. Therefore, while we enjoy the sunshine and all the blessings it brings, we may well pause to consider what it is, whence it comes, and how it reaches us.

MR. BENJAMIN CROMWELL.

Mr. Benjamin Cromwell, whose portrait it gives us great pleasure to present in the present issue, is well known to our readers by reason of his prowess as a cultivator and exhibitor of stove and greenhouse plants over a long number of years. Mr. Cromwell has also on several occasions contributed calendarial notes to the GARDENERS' MAGAZINE. He is head gardener to Thomas Sutton Timmis, Esq., at Cleveley, Allerton, Liverpool, and has been at these gardens for twenty-seven years. He is fortunate in having an employer who has a very deep love for his garden, and for all that is beautiful in Nature, and who also sees to it that his gardener has sufficient staff and material to maintain the gardens in a very high state of cultivation Mr. Cromwell does the rest, with the result that the Cleveley gardens are probably the finest among the many fine gardens in the Liverpool district. As a cultivator of specimen stove and greenhouse plants Mr. Cromwell has few equals, and no superiors among private gardeners, and his skill in this direction has been demonstrated over a long series of years at the leading flower shows of the Liverpool district, but more especially at the great Shrewsbury Fête held each August; both for twenty specimens and for thirty specimens Mr. Cromwell has again and again won the premier honours, and he frequently scores for fewer and larger specimens in the open competitions, where he has to meet the great trade growers. But other things are not neglected at Cleveley, and, as we have had opportunities of discovering, the various departments of the garden give evidence of the same high order of skilful management as do the plant houses. Mr. Cromwell is no longer young, but he has abundant energy, and his many friends are glad to know that his health is much better than it was a year or two ago.

Floricultural Encouragement at Newcastle.—We are delighted to learn that the North British Academy of Arts (Newcastle-on-Tyne) last month formulated a scheme for beautifying the homes of the poor by encouraging the children in pot plant and window box gardening, prizes being awarded for the best. An influential committee was formed, and so successful have been their efforts that on Tyneside alone more than 2,500 children have entered, and been provided with the necessary seeds by the academy. The sum of fifty guineas has been allocated for prizes, in the hope that not only will the homes be beautified, but a love of Nature inculcated which will have lasting effects in the minds of the children.

Essex Farmers' Visit to Ireland.—The Essex Education Committee have arranged for a twelve days' visit of agriculturists and horticulturists to Ireland in July. The programme is a comprehensive one, and will afford the party opportunities of seeing the organisation and practice of agriculture and horticulture on farms and holdings varying in size from four or five up to three hundred and fifty acres. The sparsely populated districts of the West, the potato growing soils of the South, and some of the more intensely cultivated areas of the North will be visited. One day is devoted to the Loughgall fruit district of 3,000 acres, another to the commercial estate of Sir Josslyn Gore-Booth, Bart., near Sligo, and another to the estate of Colonel Nugent T. Everard, J.P., D.L., at Navan. Co-operative creameries, bacon factories, and a poultry fattening station will be inspected, while among the extraordinary industries to be visited are tobacco and hemp culture, bulb farming, cider making, fruit and vegetable drying, and a school of needlework. Ireland has been such a good customer for pedigree cattle during the past ten years that it is needless to add that some very fine pure-bred stock will be met with during the journey. The schemes of instruction and agricultural institutions of the Department of Agriculture, the work of the Congested Districts Board and the Irish Agricultural Organisation Society figure in the itinerary, while the lighter side is catered for by a week-end at Killarney and a drive down the Vale of Avoca. Mr. B. W. Bull, N.D.A., County Laboratories, Chelmsford, will gladly forward particulars of this outing. The dates are July 14 to July 26, and the party is limited to forty persons.

Finsbury Square Garden.—One of the best-known of London's squares is Finsbury Square, and we understand the London County Council is anxious to take over the garden in the square, and make it a public open space. The owners and occupiers of houses round the square evidently prefer matters to remain as they are, though in so doing there is, apparently, some risk of the Ecclesiastical Commissioners presently building upon the garden. At a meeting held a few days ago at the City of London College the following resolution was defeated by a substantial majority: "That at this meeting the owners and occupiers of the houses round Finsbury Square Garden hereby resolve that, pursuant to the Open Spaces Act, 1906, the owners of the Finsbury Square Garden may convey to the London County Council their estate or interest in Finsbury Square Garden in trust for the enjoyment of the public."

The Selborne Society, of which the late Lord Tennyson was, and Lord Avebury now is, president, has recently been developing its work and increasing its activities. During last year it acquired new offices at 42, Bloomsbury Square, in order to form a home for its library and to provide reading and committee rooms. The objects of the society are to promote the study of natural history; to preserve from needless destruction such wild animals and plants as are harmless, beautiful, or rare; to discourage the wearing and use for ornament of:—(1) the skins and furs of such animals as are in danger of being exterminated, and (2) the skins and plumage of such birds as are not domesticated; to protect places and objects of natural beauty or antiquarian interest from ill-treatment or destruction; and to afford facilities for combined effort in promoting any of the above or kindred objects.

The Gardens in the Dukeries. Among the celebrated gardens of England none are more famous than the group of princely establishments that occupy a very large tract of country around Worksop, and are known collectively as The Dukeries. It has been the aim of almost every young gardener who aspires to a high position in his profession to spend at least a couple of years at one or other of these extensive and well-kept gardens, just as it is the desire of every real garden lover to inspect the fine plant collections and spacious pleasure grounds at Welbeck Abbey, Rufford Abbey, Clumber, and Thoresby Park. However, it is not given to everyone to work in or inspect these beautiful gardens, therefore the next two issues of the "Gardeners' Magazine" should prove particularly interesting and attractive to our readers, because they will contain a freely illustrated and descriptive account of those mentioned. An unusually large sale of these issues (June 11 and June 18) is already assured, consequently all who need extra copies should place their order at once to prevent disappointment.

Epping Forest.—The continued interest taken in Epping Forest is shown by questions asked at a recent Court of Common Council, held at the Guildhall, under the presidency of the Lord Mayor of London. The chairman of the Epping Forest Committee was asked to bring before his committee: — That part of the forest lying between Bury Road and Fairmead, with a view to the advisability of thinning the same, the judicious policy of the committee in existence for the last two years being much appreciated by the public of the district. In reply the Chairman said he was very glad to know that the policy of the Epping Forest Committee, so far as thinning was concerned, met with so much approval from the public living in the district, and he would have much pleasure in bringing the matter to the attention of the committee.

York Gala.—We may remind our readers that the Grand Yorkshire Gala will be held at York on June 15, 16, and 17. There will be special features on this occasion and prizes to the value of £800 will be offered for competition.

Edible and Poisonous Fungi.—With a view to enable residents in the country to distinguish accurately between the poisonous and edible kinds of native fungi, and thus to utilise to a greater extent those kinds useful for food, the Board of Agriculture has published a book containing descriptions and coloured illustrations of seventeen edible and eight poisonous species, all more or less common in Great Britain. The original drawings were prepared by Mr. George Massee, V.M.H., assistant keeper of the Herbarium at Kew, a famous mycologist, who has been greatly assisted by his daughter, Miss Ivy Massee. The book is published by the Board at one shilling, and it should become a popular work of reference. It is stated that, contrary to popular belief, the poisonous kinds of fungi are comparatively few in number, while there are about fifty species which may safely be eaten. In order to recognise with certainty these different kinds it is necessary, however, to know the special features possessed by each species which separate it from all others. The old rule of thumb signs for discriminating between edible and poisonous fungi are absolutely valueless, and no reliance should be placed on the presence of a skin that is readily peeled off as an indication of an edible fungus, or on the statements that a silver spoon placed in contact with poisonous kinds becomes tarnished, or that all fungi growing on wood are poisonous.

Horticulture at Dudley. Although the Dudley Corporation is doing its best to provide allotments for those who desire them, it would appear that horticulture in the district has fallen on evil times, inasmuch as lack of interest or support has led to the cessation of annual exhibitions in the neighbourhood. Both at Gornal and Tipton there used to be horticultural exhibitions each year, and one on a comparatively large scale was held at Dudley, but all these have come to naught. During the last two years the Corporation allotment holders have held an exhibition of their produce, so that there is the foundation for a society. All that is wanted is an energetic and enterprising person to take the matter in hand, and if he has "zeal according to knowledge," we have little doubt that an influential committee and the necessary financial support will be forthcoming. A Wolverhampton contemporary discussing the matter states: "There is more sport in a flower show than some people are aware of, and a community like Dudley without a flower show is simply a howling example of wasted opportunity."

London Playing Fields.—After twenty years of excellent work in the provision of playing fields for the youth of the metropolis, the London Playing Fields Society finds itself under very heavy responbilities, and is appealing for larger financial assistance. Altogether a sum of £33,000 is needed for the purpose of completing the purchase and improvements of the Elms [illegible] Fields at Walthamstow; Fairlop [illegible], Ilford; Prince Edward Playing Fields, Edgware; and Prince George's Playing Field, Raynes Park. The respective areas of these spaces is 34 acres, 30 acres, [illegible] acres, and 50 acres. Mr. F. R. Bush, The Warren, Coombe Lane, Wimbledon, will gladly acknowledge any assistance given, or give particulars concerning the work of the society.

Rhododendrons at Regent's Park.—The annual display of rhododendrons formed by Messrs. J. Waterer and Sons, Lim., of Bagshot, in the gardens of the Royal Botanic Society, Regent's Park, is invariably one of the most beautiful features of the London season. This year it promises to be well up to the average in beauty and extent, and as the firm has many fine novelties the interest of the display will be increased. The exhibition opens on Monday, June 6, and will remain open throughout the month.

Warning to Window Gardeners.—We cull the following from an American contemporary: "A peculiar and unfortunate accident happened in front of the Belmont Hotel, New York, on the afternoon of April 8. John E. Mayhew, an advertising agent, had just left the Grand Central Station, and was passing the hotel when a flower pot fell from the tenth storey, struck him on the head, and broke his skull. He was taken to Bellevue Hospital in a dying condition. We trust that this accident will be a warning to all dwellers in cities. Many times we have noted great carelessness by householders concerning the way they have plants, both in pots and boxes, outside their windows. Doubtless the people who caused the accident are deeply grieved, but that does not improve the situation. Here are some instructive figures: Distance flower pot fell before striking Mr. Mayhew, 120 feet. Weight of flower pot, about 10 pounds. Its velocity when Mayhew was hit, 128.60 feet a second, or about 100 miles an hour. Force of the blow, about three tons—about the same force a projectile from a 6-inch gun has when it strikes an object."

Royal Oak Day at Chelsea.—Everyone knows that "The twenty-ninth of May is Oak-apple Day," but not many know that each year, at the Royal Hospital, Chelsea, there is an Oak Day celebration to commemorate the fact that Charles II. founded this fine institution. The celebration took place on Saturday, May 28, when all the able-bodied men among the 550 pensioners paraded round the statue of King Charles II. The statue was decorated with oak leaves and sprays, but the pensioners did not wear oak leaves, as on former occasions.

French Garden at Warley Park, Birmingham.—We are informed that the French Garden exhibited by Messrs. Sutton and Sons, in Warley Park, Birmingham, during Whitsun week, was inspected by no fewer than 140,000 visitors.

American Lady Gardeners.—It appears that some of the American ladies occupying high positions in Society are disgusted with the high prices of flowers. The Californian ladies object to pay one and a half dollars for an orchid bloom and two or five dollars a dozen for roses produced in that land of sunshine, and to shew their [illegible] seventy of them have joined together, and articles have been signed for the incorporation of the California Ladies' Plant and Flower Company, with a capital of 100,000 dollars. These ladies are going to reintroduce the old favourite La France and other roses, and make things hum generally in the flower trade of the Golden West.

YELLOW FOXGLOVES.

Everyone admires the foxglove, with its handsome spikes of flowers, and there are few finer sights than masses of their tall stems laden with bloom. The range of colour among foxgloves is now very great, but it is to the perennials, and not to the biennials, such as Digitalis purpurea, that we have to look for foxgloves with yellow blooms. They have, besides the difference in colour, the gain of a true perennial character, and, could we import into their drooping blossoms a little more brightness of hue, we would ensure for these perennial digitalises a high degree of popular favour.

Digitalis ambigua, the Swiss yellow foxglove, is a good perennial, sending up its spikes of rather dull yellow flowers to a height of about three feet, and, despite its want of brightness, proving itself a highly useful plant in the border, on the rockery, or in the wild garden. It is thoroughly hardy, and will grow in any common soil, and either in sun or in shade. Seeds are obtainable, and a few seeds can be purchased for a small sum.

It is doubtful whether one ought to include the Rusty Foxglove (Digitalis feruginea), in these notes, seeing that the pale yellow ground colour of the blooms is obscured by the purple veinings which run through the flower. It is more singular than pretty, yet there are not wanting people who confess to some preference for it, which is a true perennial also. It is both curious and distinct, and these are points which some seek for, and will find in Digitalis ferruginea.

Digitalis grandiflora is a fine foxglove, having large and pretty flowers, although the shade of yellow is not a bright one. The blooms are differently shaped when compared with those of D. purpurea, but are in all points pleasing and acceptable. It is of dwarfer habit than the preceding species, for, while D. ambigua grows about three feet, and D. ferruginea about four feet, D. grandiflora only reaches about two feet high. It, also, is easily raised from seeds, and a little clump or group is sure to draw the notice and admiration of the garden lover.

Such flowers as these are so easily grown that the word cultivation seems superfluous. Yet, although they will thrive anywhere almost, they have their places, and among these are positions in shade, as well as in sun. They will, for example, be found good for growing under deciduous trees, and they can be planted to advantage in open woods. On the large rockery they look well, and in the border good clumps will give pleasure. They can be increased by division in spring or autumn, when the plants are large enough, but, undoubtedly, they are best raised from seeds sown in spring in drills of sandy soil, about a quarter of an inch deep, and covered with similar soil. They should be thinly sown, and afterwards thinned out to about two inches apart, those removed being transplanted to a little bed to remain until strong enough for their flowering quarters, into which they can be put in autumn or spring.

Distinct, curious in their colouring, and pretty as well, these yellow foxgloves will appeal to many.

S. Arnott.

STRAWBERRY CULTIVATION FOR MARKET.

The following comprehensive and excellent treatise on the cultivation of strawberries has been issued in the form of a leaflet by the Board of Agriculture. The cultivation of strawberries has of late years greatly extended, and strawberry growing has become an important industry in certain localities. The area in Great Britain returned as under strawberries alone, or with only a very small admixture of other fruits, on holdings exceeding one acre was 28,815 acres in 1908. Of this total 24,601 acres were in England, the leading counties being Kent, Cambridge, Hampshire, Norfolk, and Worcester.

The industry is a very suitable one for small holders, although considerable initial capital is required. It has been found in Hampshire, where strawberry growing is extensively carried on, that a man can often make a moderate living from two acres of land under strawberries, while in many instances a family may be said to be comfortably provided for on a holding of four acres.

Gross returns may be said to lie between £40 and £60 per acre, but may fall as low as £20, while in a favourable season they may rise to as much as £100. Strawberry growing, however, is attended by considerable risks, and the beginner who is only possessed of a limited capital will find that late frosts towards the end of April or in early May may spell disaster to his crop, and involve the loss of the greater portion of his capital.

Soil,

Good heavy land, especially if such land has a warm aspect, makes an almost ideal strawberry soil. Heavy land holds moisture well, and does not require so much manuring as land that quickly "dries out." Soil just too heavy for potatoes also makes good strawberry land. Different varieties of strawberries, however, require somewhat different soils; for example, a heavy soil is more suitable for the Paxton than for either Royal Sovereign or the Laxton, as both these varieties produce an excessive amount of foliage in the second and third seasons when grown in a retentive loamy soil, especially if manure has been liberally employed. Though on the whole heavy soils are preferable to light soils, stiff clay cannot be recommended.

Where other conditions are favourable, but the land at first sight seems unsuitable, it would be desirable to test its strawberry-growing capacity by planting a small area as an experiment, for experience has shown that land not possessing any apparent qualifications may in some cases by suitable cultivation be made to yield heavy crops. Many of the strawberry plantations of Hampshire are examples of this, as they have been formed on heath land which was considered unsuitable for ordinary farming.

In forming a new plantation the ground should be thoroughly cultivated to a depth of 12 or 15 inches, by ploughing and sub-soiling, or by digging and trenching.

Manuring.

Owing to the extent to which strawberries exhaust the land, and to the risk of damaging the bed by subsequent manuring, the soil must be well manured at the outset. As much as 20 to 30 tons of good short dung may be applied per acre when the bed is formed, and 10 tons in the autumn after the second crop is taken. Bone manure may be substituted for the latter dressing, but artificial manures are not in general use.

The cost of farmyard or town manure may be put at about 6s. 6d. per ton, and in addition 2s. per ton for haulage to the ground, and from 2s. to 3s. per acre for spreading, must be allowed, so that the average cost of manuring will work out to something like £9 to £12 per acre.

Planting.

Strawberries may be planted either in the autumn or the spring. If planted in a good soil in September or October a small crop of quite good fruit may be gathered the following year. The importance of this lies in the fact that a small return is obtained a year earlier than if the planting were done in the spring. Many growers, however, consider that September is too early for planting owing to the runners not usually being sufficiently established, and also regard it as undesirable to take a crop the first year. October is probably the most usual time for planting, or else February or March. In planting it is important that the crowns be kept well below the surface of the ground, without being buried. If elevated above the surface the new roots which are continually forming near the surface will suffer for lack of moisture. The plants will throw out runners in May or June. These may be allowed to remain if the plants are strong ones, but if the plants are weak and backward, some growers consider that the runners should be removed at once, each plant being allowed to concentrate its energies on the development of the first truss of flowers. On the other hand, backward plants may thrive later in the season and it is doubtful if the advantages gained by removing runners will pay for the extra labour involved.

The cost of runners varies according to variety and quality, specially layered plants costing from 10s. to 15s. per 1,000, while "runabouts" (ordinary runners) may be bought for 5s. per 1,000. Assuming that there is less waste entailed in the purchase of stocky runners, and that weaklings are often planted in pairs, the average cost of plants per acre is from £4 to £8, 12,500 to 16,000 plants being required for each acre of ground. If planted 2 feet apart each way, nearly 11,000 plants are required per acre, but the distances between the rows and between the plants in the rows may vary considerably; for instance, rows 30 inches apart, and 12 to 15 inches from plant to plant, are common, while on the other hand, "Paxtons" and "Nobles" are planted 2 feet from row to row, and 1 foot from plant to plant, in which case nearly 22,000 plants per acre are required.

Varieties.—Particulars of some useful varieties of strawberries are given below:

Bedford Champion.—A large, handsome, richly coloured mid-season fruit. In much favour with growers, as the flesh is firm, and the fruit bears packing and travelling well.

Givon's Late Prolific.—A valuable dark crimson skinned variety for the last crop. A vigorous and free cropper.

Royal Sovereign.—A large and early variety, of good flavour; excellent for market and forcing.

Sir Joseph Paxton.—A large and prolific mid-season variety, having a good flavour and standing packing well.

Noble.—A large early variety, selling well until others are ready, but soft and bearing packing badly.

The Laxton.—A large, handsome, oval fruit, having a good flavour, but not packing so well as some varieties.

After Cultivation.

Pending the arrival of harvest time, a good deal of labour is involved. Where land is infested with weed seeds, and therefore liable to become foul very quickly, three hoeings are often necessary before the crop comes into profitable bearing, and each hoeing may cost as much as £3 per acre, so that the cost of cultivation, including the removal of runners, from the time of planting to the period when the fruit is fit for gathering—on an average about twenty months—will amount approximately to from £9 to £12 per acre. In some cases the charge for this work may be £15 or even £20 per acre. On a small holding most of this work would be done by the occupier.

Another item of expense is the cost of bedding with straw for the fruit to rest upon. There is no objection to bedding with manure made with straw, provided it be placed on the ground in early spring in order to allow the rains to wash the soluble constituents into the soil, leaving the sweetened or otherwise bleached portions of the straw for the fruit to rest upon. A large number of growers, however, now use clean barley or oat straw at the rate of from 15 cwt. to 1 ton per acre, the cost of the straw being from 35s. to 40s. per ton, with the additional expense of 8s. to 10s. per acre for laying or bedding it between the plants. A large quantity of medium quality straw is now steam baled and sold for bedding strawberries.

A further annual charge is the cost entailed in cleaning the plantations of weeds, clearing up straw, and trimming plants after the fruiting season is over. The cost of these operations may be put at from 10s. to 15s. per acre.

Life of the Beds.—A strawberry plant is usually at its best in its second year. A crop planted in the autumn of 1910 or the spring of 1911 would thus be at its best as regards quality in 1913. In 1914 the yield would be larger, but the quality would have somewhat depreciated, and it would probably be advisable that the beds should be cleared after this crop has been gathered.

The life of a plantation, however, is largely dependent upon the character of the soil and the amount of manure it has received. On heavy soils plantations are sometimes maintained for a period of five years, although this practice is much less common than formerly, whereas on lighter land three years is the usual limit. No advantage is gained by prolonging the life of a plantation beyond the fourth year, and the more successful cultivators now favour young plantations. Old beds are often kept for growing strawberries for jam-making.

(To be continued.)

BUSH PEACH TREES.

I was much interested in Mr. T. Coomber's reference (page 370) to my notes on this subject. I may add that peaches, nectarines, and apricots were all treated in a similar way in two long houses; one being 80ft. long, and the other 130ft. The former was well heated, the latter a cool house. The peaches predominated; the apricots were all grown together at one end of the long house, bushes in the front border and trained trees on the back wall. The apricot fruits from the bush trees were more juicy and richer in flavour than those from the wall trees; and I may here say that the fruits from trees on outside walls were still more juicy and of better quality. The peaches from the bush trees under glass were quite as well flavoured as those grown on the wall trees, the flesh being rather firmer. With regard to the all-round quality, especially in colour and size, if I say that thirty-six per cent. on the wall trees were fit for exhibition, then twenty-five on the bushes would be about the percentage.

The treatment of the young shoots on the bushes will, I am sure, not have the approval of gardeners generally; at least, I do not think it will; but the object was to prevent the bushes outgrowing their available space. Probably three or four fruits would form on a branch of the previous year's growth, and also a number of young shoots. Both fruits and shoots were reduced in numbers until one fruit, and one basal shoot only, were left on the branch; so that the peach appeared to be growing on a leafless branch, or stick. No young shoots were left on the branch beyond the fruit, and the same treatment was meted out to branches which were not allowed to bear fruits on account of over-cropping, all being taken off except a basal shoot. This was quite different treatment to that given to the wall trees. In the autumn all the leafless branches were cut back to the young shoots, and the latter took the places of the fruit-bearing branches, and, in their turn, bore fruit the following year.

This treatment never failed to yield a full crop of fruit, and at the end of ten years the bushes do not appear much larger than when they were first established. The shoots made are comparatively short, but are very strong, and quite bristle with fruit buds when the leaves have fallen. G. B.

TREES IN PLACE AND OUT OF PLACE.

Among many good people who use more sentiment than reason, or who lack knowledge of the facts, it has become a fad to say it is a crime to cut down a tree and that it is always, and under any circumstances, an act of greatest virtue to plant one.

To one who gives thought to the matter, these accepted axioms may be reversed; and we can say with all seriousness and all truth, that there is no town in this country where the judicious use of the axe among the trees in some part of it or another, is not demanded; and, on the other hand, thousands of trees are being planted where no tree should ever be placed.

Each variety of fruit or ornamental tree, when it reaches maturity under reasonably favourable conditions, has its established size or spread of branches. Among the better shade trees commonly planted, this reaches 40 to 50, and even a greater number of feet in diameter. In dense forests we see the trees stretching up and up, after the precious sunshine and air, losing their side branches and becoming a collection of giant telegraph poles with pitiful little bunches of green at the top; nothing beautiful about them, and all smaller and weaker specimens killed out or crippled.

Every tree, to be beautiful, must have room to expand and develop to its proper proportions, and to retain the side branches with which nature always furnishes them under such conditions, unless thwarted by the bungling hand of the hired man with the axe or saw.

Street trees should never be planted to be ultimately nearer than forty feet apart. Most of the better shade trees are slow in growth. It is quite advisable to plant quicker growing trees in between them for immediate effect, to be cut out later when they begin to crowd and injure each other.

Quite often when this time comes, the poorer, quick-growing tree is so much larger and finer looking a specimen, that the owner's heart fails him, and he compromises by hacking off the branches of all, ruining the whole row and, at that, only affording temporary relief, as it must be done again and again. In a few years the poorer and short-lived trees begin to die, and soon only a straggly row of melancholy cripples exists, where might have been noble specimens, good for generations to come.

Trees should never be planted so as to densely shade a building where humans or animals abide. The sun must reach every part of our dwellings for at least a part of the day, or the doctor will be a certain and frequent visitor.

Trees must not be planted in the centre of the lawn, says "Gardening" (America). At the side or the rear is the place for them if they will there have room to develop. A spreading apple tree or two in the backyard is good for shade and for its fruit if it is sprayed to kill the insects and fungous diseases.

If the house is densely shaded, use the axe ruthlessly and open the place up to admit air and light. If two trees are crowding each other, select the best, or best located, and put the axe to the other, unless it is small enough to move.

Don't trim up—cut down. One perfect tree is of more value than a yard full of crippled or stunted specimens.

Royal Botanic Society.—At a meeting held on Saturday last in the Society's gardens, Regent's Park, 78 new Fellows were elected, and 89 candidates were nominated for election at the next meeting. This brings the total of new Fellows for the year up to 400. Those present heard with great pleasure that since the previous meeting £800 worth of debentures had been surrendered to the society.

POTTING COMPOSTS.

A potting compost, as the term implies, is usually composed of two or more constituents, and the successful grower of pot plants has a formula something like a cooking recipe for every kind of plant. As a thrifty housewife has her stores of things always ready to hand for making the various dishes for the family, so a capable gardener has his stores in some out-of-the-way part of the garden from which he can make up composts for all the kinds of plants he expects to grow.

Constituents of Compost.

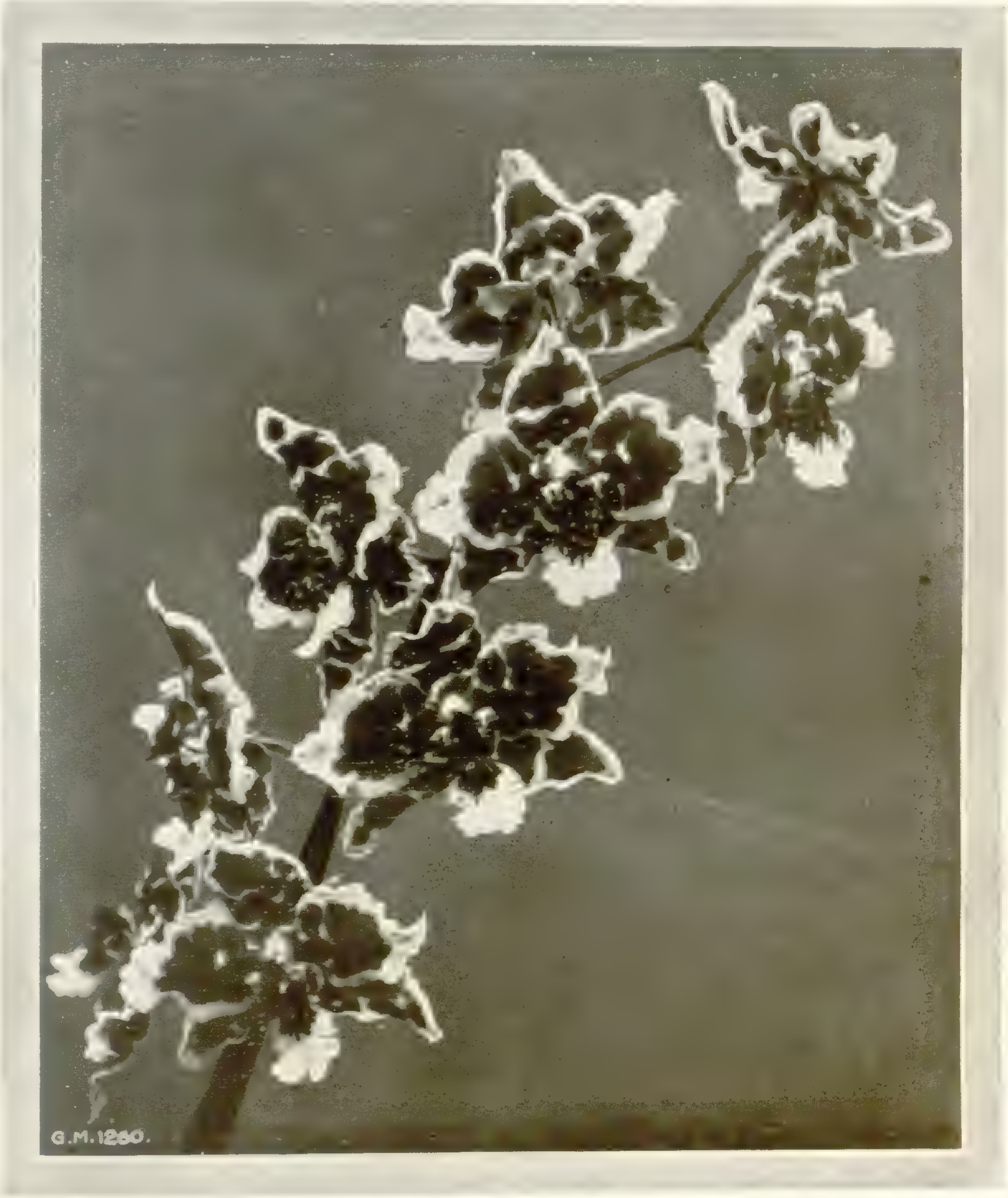
We must, then, first deal with the constituents of some of the principal potting composts, or those likely to be most generally in demand. The first to be mentioned, as it is the basis of most composts, is turfy loam. It is best obtained from a clay soil as the fibrous roots of the grass and the other constituents mixed with it will sufficiently lighten it, and we do not want the water to run through the pot like a sieve. It should be obtained from a rich meadow, and should consist of not more than the top three or four inches of turf—as bought it is often eight or nine inches, which is, of course, not so rich—this should be stacked up grass downwards in the form of a ridge, so that it may not get unduly washed by the rain, and left three or four months at least, and better six months, before it is put into use. Some put alternate layers of stable manure in the stack, and the result is very good when the whole becomes nicely mellow. When laying in a supply, it is well to estimate for two or three years, as loam improves by keeping and does not lose its fibrous character till after that time.

For those who grow plants of the heath family, which includes azaleas, a supply of peat is necessary, and this can be stored for a long time. Another necessary store, and one which will sometimes take the place of peat, is leaf-mould. Oak leaves are always recommended, but most people take the leaves of their own gardens whatever they may be, and these piled up and left for a year, and perhaps turned once or twice, will become excellent light material for potting composts, consisting as it will do, of a mixture of humus and the sand from the sweepings of the gravel paths. An old hotbed makes a very good reserve of rich material, which is always handy. Supplementary constituents, in order of importance, are sand, both silver and coarse, bone meal, basic slag, bone dust, and mortar rubbish.

Mixing the Constituents.

This demands some notice. Some recognised measure should be used, preferably one holding a peck, so that we may know the quantity of compost we have in view, and the amount of the various constituents. A pail is as convenient as anything for the purpose for an amateur, holding a comfortable amount to carry and well adapted for helping to scoop up the loam, leaf-mould, etc. It is advisable to have either a small pail holding about a peck or a large one holding half a bushel, as when mixing artificial manures with the compost a pound to the bushel of soil is a safe amount to use, while without any measure, either of soil or manure, one may easily use the latter at the rate of three or four pounds to the bushel without knowing it, and when one bears in mind that a pound to about forty square yards of surface is at the rate of a hundreweight to the acre, it will be seen what a number of tons to the acre three or four pounds to the bushel of soil will be. It is not necessary to weigh the manure every time, a little experience enabling one to tell what weight a given measure will hold, artificial manures, with the exception of basic slag, not varying very much in the weight of a small quantity. When making a compost, it is a good plan to sprinkle some of the manure over it as each pailful is emptied on the bench, as it ensures a more equal distribution through the mass.

An excellent compost for soft-wooded plants in general, one which might be called a universal compost, consists of two-thirds loam, the remaining one-third consisting of old hotbed material and leaf-mould in about equal proportions. When plants are given their final shift bone meal is a good lasting substance to mix with this compost at the rate of a pound to the bushel. It contains about half its weight of phosphate of lime, as well as some nitrogen.



TEMPLE SHOW—ODONTOGLOSSUM MEMORIA KING EDWARD VII.

F.C.C., R.H.S., May 24, Messrs. Sander and Sons, St. Albans. A striking variety, the sepals and petals being heavily blotched with deep purple on a white or blush ground.

Lime in Composts.

The soil in pots generally tends to become sour after a time, especially if watered with liquid manure, whether the latter is derived from animal manure or from artificial manures containing acid, as most of them do. Lime is a corrective of acidity, combining with acids and neutralising them, and it is well therefore to add it in some form to the compost except where it is to be used for plants which are lime-haters, as, for instance, most plants which like a peaty soil, such as the heaths, many lilies, azaleas, etc. Some plants, on the other hand, are specially lovers of lime, such as wallflowers, stocks, and antirrhinums, and nothing is better to mix with the soil in their case than old mortar rubbish.

The compost mentioned above as suitable for most soft-wooded plants is not so for that universally grown plant which we call the "geranium," as it is too rich, and induces more leaf than blossom. Turfy loam by itself is quite rich enough for them. If one has a heap of turfy loam and manure in alternate layers, as suggested above, that is by itself good enough for most plants without the addition of anything else than bone-meal, or lime in some form or other, according to the character of the plant. (Some samples of basic slag contain as much as 15 per cent. of free lime, besides phosphate of lime). For all young plants in the seedling stage such a mixture of loam and manure stacked together is quite rich enough, nothing needing to be added to it but some sand to keep it open.

Alger Petts.

Gloriosa superba.—Plants of this climber will now be covering a good portion of the roof of the stove, and in many instances will be flowering freely; they should therefore be given liberal doses of liquid manure, and the syringe must be used among the foliage, or thrips will be found troublesome.—Thomas Stevenson.

PLANTING LEEKS.

Few vegetables have come so quickly to the front in recent years as leeks. They make an exceedingly appetising dish, are also comparatively easy of culture, and enjoy the great advantage of remaining uninjured when other vegetable crops perish through frost. On this account a good supply of this highly nutritious vegetable can always be obtained in winter and early spring, when other vegetable supplies are at a premium.

Plants raised from seed in the earlier months of the year, either in the open ground or under glass, should be transplanted as soon as they are large enough to handle conveniently. A light, fairly rich soil, and open situation, is preferable for this crop, and as it is always advisable to provide a liberal quantity of manurial stimulant, this should have been incorporated in the ground during the previous autumn. Leeks are gross feeders, but they do not derive any benefit from fresh stable manure or undecomposed farmyard dung. The manure should always be thoroughly well decomposed. Perhaps the greatest essential in growing good leeks is to get a great length of well-blanched stem. For this purpose earthing up is necessary, as in celery cultivation, and the plants must therefore be put out in trenches, furrows, holes, etc., so that this work will be facilitated in the after-cultivation of the crop.

The young plants of the main crop varieties may generally be put out in June, while those of the later varieties are fit for transplanting in August. This work should be performed, whenever possible, when the ground is moist from a previous shower of rain, otherwise a good watering should be given and the trench or hole allowed to become just moist enough for the ground to be easily workable. Perhaps the most general method of planting is by means of V-shaped trenches. These should be at least six or eight inches deep, and about two feet apart, the plants being inserted at the bottom eight inches apart. This is a very satisfactory method of growing a useful main crop of leeks, and gives very little trouble in regard to earthing up. Plenty of moisture is essential, care being taken to provide this regularly, so that a uniform state of dampness is kept up. Shorten the leaves slightly before planting, and as the plants progress in growth keep the surface soil well stirred with the hoe, drawing the earth up gradually around the stems as the season advances. At first, this should only be done up to the level of the surrounding ground, but when the plants are nearing maturity the stems should be completely earthed in with a sharp ridge of soil.

Not only does this earthing up blanch the stems, thus giving them their very familiar and attractive appearance, but it also tends towards a greater length of stem, and prevents the plants from making too luxuriant a growth of useless foliage. Some advantage may be gained by supplying the plants with liquid manure when they are in full growth, but this should not be applied when the ground is dry, but preferably just after a shower of rain or after they have been well watered.

The method of growing leeks in shallow trenches is the one usually advocated where exhibition stems are required. Such trenches should be about twelve inches deep, and at least six inches of well-decayed manure should be put in the bottom of the trench. This manure must be well trodden or rammed down into the bottom layer of soil, and the seedling plants inserted about eighteen inches apart. It is necessary, however, to have this planting out completed in May, as the leek takes some thirty weeks to mature properly. Abundant supplies of water and liquid manure are, of course, essential for exhibition leeks, and to preserve them clean and unblemished it will be advisable to place sand or collars round the stem before commencing to earth up in the middle of July. Some growers adopt the plan of growing this vegetable in holes made with a large thick dibber. The plants are then placed upright in the centre of these holes, and eventually the soil will fall in, and so gradually earth up the plants without any trouble. It may be well, however, to prepare some specially fine soil and fill up the holes with it.

Leeks are usually ready for the table in September, and with good management a constant supply can be maintained throughout winter and spring, those of the later sowings being available until the end of April. Sowings may, of course, be made in the open ground, a practice which usually answers best in shallow soils or where the subsoil is damp.

As regards varieties, a selection can be made of the following, all of which are useful: Improved Musselburgh, Sutton's Prizetaker, Ayton Castle Giant, The Lyon (a well-known large exhibition variety), and London Broad-leaved Flag.

Old Basing. J. Newsham.

TEMPLE SHOW—ROSE EXCELSA.

A.M., R.H.S., May 24, Messrs. Paul and Son, Cheshunt. A rambling variety of the Wichuraiana type, somewhat like Crimson Rambler, but with larger and more double flowers, in more elegant clusters, and of a bright red colour.

Bougainvillea glabra.—Notwithstanding it is frequently grown as a stove plant, B. glabra, the species most generally cultivated, makes the most satisfactory growth and blooms most profusely when it has a place in the greenhouse or other structure in which an equivalent temperature is maintained. They may be successfully grown either in pots or beds, and should have the principal growth trained up the rafters with the laterals allowed to hang down in a natural manner. The beds and pots must be well drained, and the compost should consist of fibrous loam, leaf-mould, and sand. An abundant supply of water at the roots is necessary during the season of growth, but when the plants are at rest the soil must be kept rather dry. A short time previous to new growth commencing, the side shoots should be pruned to the second or third bud from the base. If the resulting growths are crowded remove a few, and allow those remaining to grow without check.—P. P.

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Eucryphia cordifolia, very beautiful	**10/6**
Eucalyptus Coccifera, good hardy var.	**1/6, 2/6, 3/6**
Eucalyptus Gunni, a good hardy var.	**1/0, 1/6**
Eucalyptus Stuartiana, silver foliage	**1/6**
Eucalyptus viminalis	**0/9, 1/0**
Embothrium coccineum, glowing scarlet flowers	**5/0, 7/6**
Feijoa Sellowiana, most interesting	**3/6** to **7/6**
Fremontia Californica, interesting plant, yellow flowers	**5/0** to **10/6**
Magnolia grandiflora, true Exmouth variety, immense white flowers	**3/6** to **10/6**
Mutisia Clematis, bright red flowers	**7/6**
Mutisia decurrens, a glorious orange colour	**7/6**
Myosotidium nobile, Giant Forget-me-not	**3/6, 5/0, 7/6**
Notospartium Carmicheliæ, New Zealand pink Broom	**2/6, 3/6**
Osteomeles anthyllidifolia, grey foliage and white flowers	**2/6, 3/6**
Phœnix Canariensis, hardy Date Palm	**5/0** to **21/0**
Quercus Lucombeana, true	**2/6, 3/6, 5/0**
Quercus suber, Cork Oak, recently moved	**2/6, 3/6, 5/0**
Rhododendron Dr. Stocker (new), A.M., R.H.S., white flowers, hardy, and a free grower	**21/0** to **63/0**
Ribes speciosum, early summer flowering crimson	**2/6**
Robinia Kelseyi, new Rose Acacia, free flowering shrub	**2/6, 3/6**
Romneya Coulteri, Californian Tree Poppy	**1/6, 2/6, 3/6**
Sophora viciifolia, blue flwrd., hrdy shrub	**2/6, 3/6**
Tricuspidaria dependens, white	**5/0, 7/6, 10/6**
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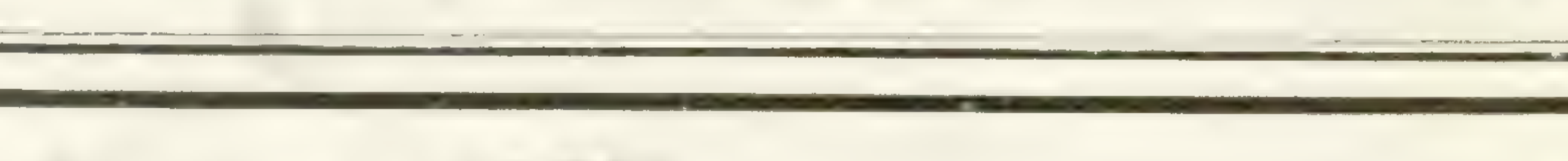

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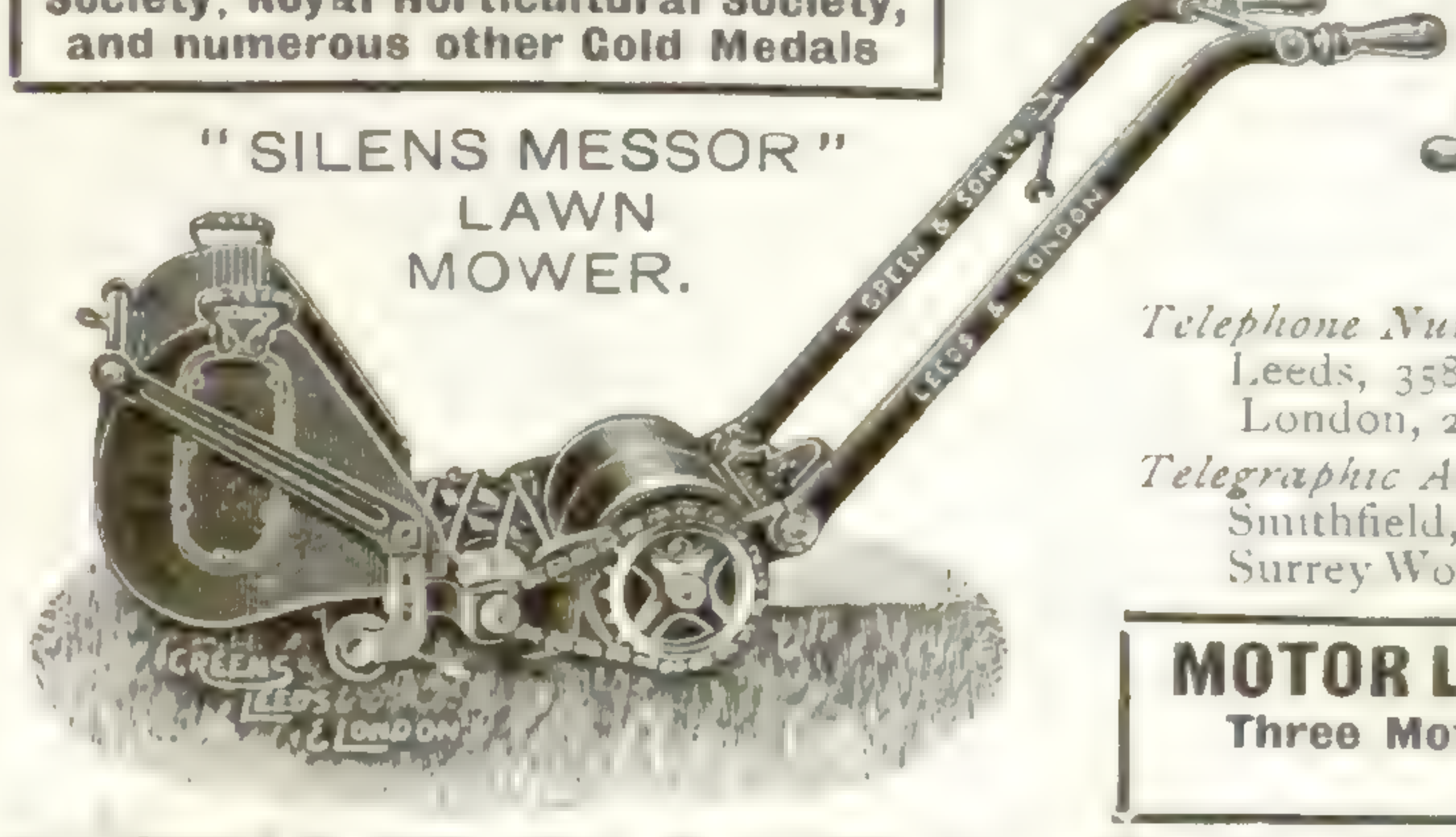

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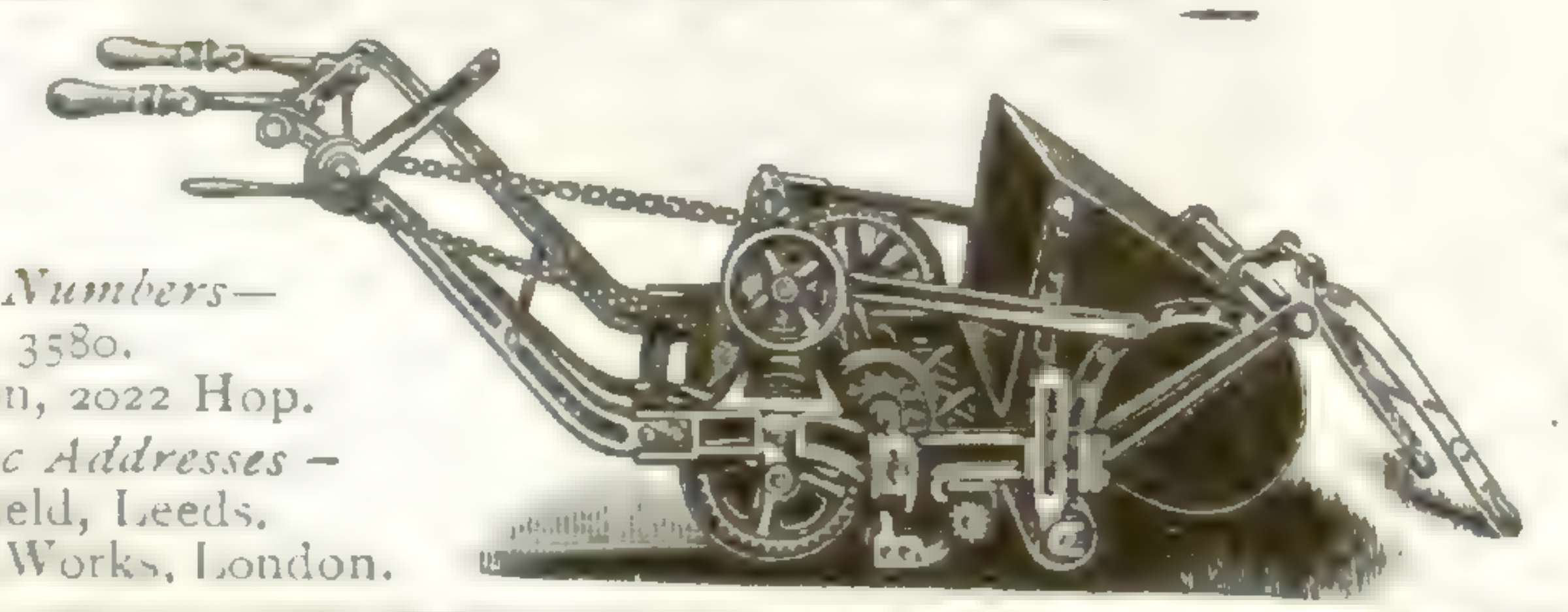

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ROSE GOSSIP.

At the time of writing (May 28) we have several roses in bloom, chiefly teas, in warm corners and on walls. Rêve d'Or, in a neighbour's garden, is quite showy, and promises, ere many days, to be in full bloom. One of the earliest in this district is Mdme. Falcot, while a plant of Charles Lawson is already fine. For many years this plant has been about the first to open, and I never knew it fail. The plant in question is on a friend's house, facing due east, but there is a fair screen of trees a little way off, while it is protected on the north side by an adjoining house. The Scotch briars are in flower. I often think we might well pay more attention to these. They form a pretty low hedge that is green all the season, and much freer from all enemies of the rose than other sections. If they do only bloom once, they are the earliest, and very showy without any suspicion of gaudiness. Then they are no trouble except for a tendency to ramble somewhat by means of their sucker-like growths. The first blooms of roses always attract; and even if not of high quality they are quite as pleasing as when we get such a quantity that choice is difficult.

Some Rosa rugosas are out, and the bushes of these will very soon be full of bloom. Weather does not seem to affect their foliage, and it is singularly free from maggot, which, I am sorry to see so much of already. Then we have a few blooms open of sinica Anemone, and a more delightful single rose, with its glossy green foliage, it would be hard to select.

Much work is springing upon us now. Not alone is there the constant hand-picking of maggot and grub, but in sheltered positions we are inundated with green-fly, and prompt measures must be adopted. For several days now we have had cold north-east winds here—if I except the two or three days of thundery and sultry weather of "comet-time." During the prevalence of cold, and especially easterly winds, I fancy the fly is more troublesome than usual, and seems to increase very rapidly in a sheltered corner. It may be more noticeable because it is in such positions that our forwardest growth is to be found.

Standard roses, more particularly maiden plants, need much care now. There are numerous suckers to remove, both from the stems and around the bud, and the sooner these can be cut away, not only is it better but the work itself is done easier, and in so much less time, while we are conserving the whole of the plant's energies in the desired direction. As the first break from the rose bud advances we think it wise to pinch out the tip, unless there are two or three breaks from the same bud, which not infrequently happens. By heading the maiden growth one secures a stouter wood, and one that will not be so likely to break out later on. It also has a tendency to help the growing bud to unite with the stock more firmly. Such plans should not be adopted where roses are worked upon the standard briar solely with the object of securing a few good flowers for exhibition. For instance, we used to work Louis van Houtte, Duchess of Bedford, A. K. Williams, Monsieur Noman (seldom seen now), and others for the sake of getting a better maiden bloom for exhibition, and in that case they were allowed to throw up the first break without being headed.

I think we might pay more attention to the selection of young growths in the centre of dwarfs and the heads of standards. It is little trouble now, and not only benefits the remaining growth by admitting more air and light, but the bulk of the resulting shoots if allowed to mature would need removal when pruning next spring.

How very widely roses vary in growth in different districts. Liberty, with me, is far from being a satisfactory grower, try it how I may. A few miles off, and apparently in similar soil, a friend of mine grows it as strongly as I can the old favourite General Jacqueminot, and very grand have some of his flowers been. Madame Jules Grolez is another similar case. This beautiful rose does fairly well with me, but with my friend it is a large bush. On the other hand, our Le Progress is three times as strong as his.

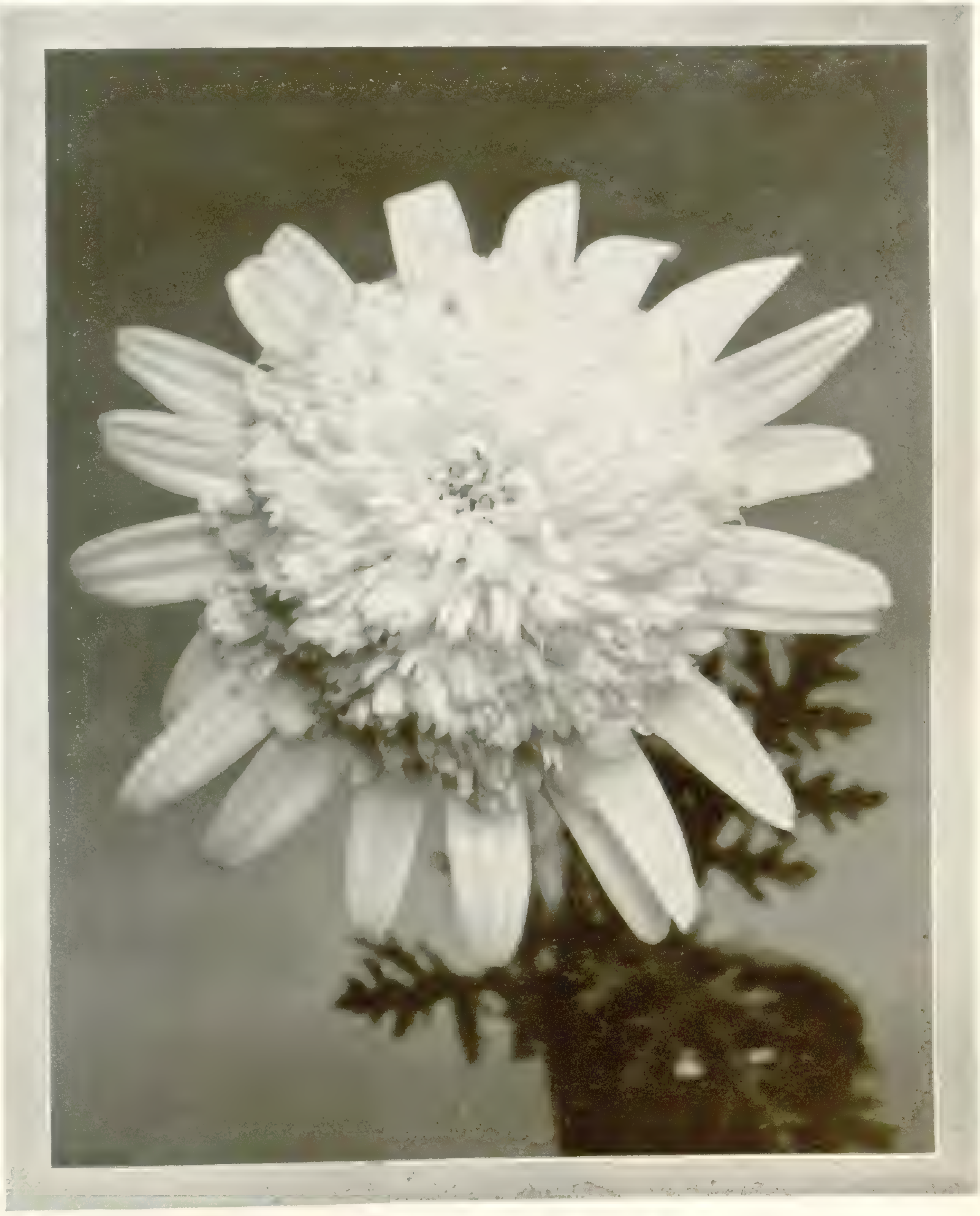
To my mind, this is just the time to apply artificial manures, if they are to be used at all, and to keep the hoe going.

Uckfield. A. Piper.

Onions.—These will now require thinning, and to be settled in by watering as each row is thinned, should it be hot at the time. If the bed needs filling up choose a showery day, if possible, for this work. No hard or fast rule can be laid down as to the thinning distance, it being best to observe from the nature of the soil how far apart we can leave them in the rows. Even at three inches apart the resulting bulbs come to an excellent size and weight.—G. E.

CÆSALPINIA JAPONICA.

This handsome leguminous shrub was introduced from Japan by Messrs. J. Veitch and Sons, and figures of it appeared upwards of twenty years ago, yet it is now comparatively little known. The original plant, or one of the oldest plants, grew for many years in the Coombe Wood Nursery, where it blossomed almost every year. It is of rampant growth, and forms a rather straggling shrub, with long, intensely spiny branches, and large compound leaves made up of numerous small dainty green leaflets. The flowers are borne during July and August in good-sized racemes, twenty-five or more flowers being found in each.



TEMPLE SHOW—MARGUERITE MRS. F. SANDER.

A.M., R.H.S., May 24, Messrs. Sander and Sons, St. Albans. Flowers pure white, about five inches across.

The individual flowers are about an inch across, and yellow in colour, with red stamens, the whole forming a very striking combination. In cold districts the ends of the branches are cut back in winter, but, as a rule, the lower parts of the stems survive. In the event of very severe frost being experienced it would, however, be wise to place a little bracken among the branches and over the roots.

The best position for this shrub is against a low fence, where it can ramble at will, and it should be exposed to full sun. Either sandy or heavy loam suits it. It is difficult to propagate, but succeeds moderately well from layers. W. D.

THE GARDEN OF HERBS.

"Here's flowers for you;
Hot lavender, mints, savory, marjoram,
And marigolds that goes to bed with the sun,
And with him rises weeping."
— Shakespeare.

Floating back from the past, as with a wave of incense, there are many quaint memories and associations, and of these not a few are connected with the old-time flowers of our gardens. In an antique chest, out of which the writer was clearing documents and papers, he came across a sprig of lavender tied with a blue ribbon: it had laid there for probably half a century, for the papers, which belonged to the gentleman owning the chest, were dated fifty years back, yet its scent still lingered amongst the documents, and whether it was a love token or a charm one can but surmise.

TEMPLE SHOW ROSE DUCHESS OF WESTMINSTER.

A.M., R.H.S., May 24, Messrs. A. Dickson and Sons, Newtownards. A beautiful H.T. variety of fine form and size: the colour is rich rose-pink, almost rose du Barri shade, with charming silvery suffusion on the outer petals.

In all well-conducted gardens it is usual to have some portion at least set apart for the cultivation of herbs, and this is best, for ofttimes in other gardens it is a trouble to find what one wants, perhaps it may be some rosemary, rue or lavender, borage or mint, some sage or some thyme, that is required, and the border in the kitchen garden is searched; but is it not better to have a garden specially set apart for the growth of herbs, whether the garden be large or small? For this purpose it is desirable to have a piece of ground in a sunny open position thoroughly dug and trenched; it should then be enriched with old decayed farmyard manure, lime should be incorporated, sand should be added, and plenty of leaf-mould well mixed: the garden should then be neatly bordered with box, which should be allowed and encouraged to grow two feet high at least, a few narrow walks may be permitted, and all the plants should be neatly labelled, and, if desirable, a large label, entitled "The Herb Garden" or "The Herbary," placed in the centre.

Lavender.

We will now refer to the principal herbs which should be planted in the herbary; of these, lavender has, perhaps, been the most popular; its associations come from its perfume. When carefully put away amongst linen and clothes, placed with care in wardrobes, lavender keeps moths at a distance, and produces a lovely fragrance. Its scent, too, is so lasting, perhaps the most lasting of all. A hedge of lavender in a garden is a joy for ever, growing year after year stronger and more pungent, scenting its perfume on a southerly wind with royal largesse, and waving its tall grey feathery flowers in gentle rhythm. Lavendula is the pretty Latin word from which our English one is derived, and the common Lavender (L. vera) grows wild on rocky mountains on the balmy shores of Southern Europe; the Narrow-leaved Lavender (L. angustifolia) is also found there, and is generally cultivated in gardens, growing readily from cuttings taken in spring or autumn; the Broad-leaved Lavender (L. latifolia or L. spica) is also a native of the South of Europe, but it is from the former that the celebrated oil of lavender is made. The oil is procured by the distillation of lavender flowers with water, and lavender water is made from it, and is one of the most popular of perfumes.

Rosemary.

Rosemary is another favourite herb. It grows into a large shrub, varying from four to eight feet in height, and at Christmas its sprigs are used for decorating the dwelling-houses. Herrick, referring to it in his poem on Candlemas Day—

"Down with the Rosemary, and so
Down with the bays and mistletoe,
Down with holly, nay, all,
Wherewith you dressed the Xmas hall."

Rosemary for remembrance is the language of the plant, and Ophelia, speaking to Laertes, in "Hamlet," Act IV., sc. 5., says:

"There's Rosemary, that's for remembrance.
Pray you, love, remember;
And there's pansies, that's for thoughts."

But Kirke White, in a poem, associates the plant with more sombre topics. He writes:

"Come funeral flower, who lovest to dwell
With the pale corse in lonely tomb,
And throw across the desert gloom,
A sweet decaying smell."

There is only one species of rosemary known, namely, Rosmarinus officinalis; it has pale bluish flowers, and grows on rocks and old walls in the countries by the Mediterranean Sea, but is grown here as an aromatic shrub. Oil of rosemary is made from the plant; it is used in preparations said to promote the growth of hair. There is a beautiful white honey from Narbonne which owes its reputation to the flowers of this plant, the bees of the district drawing the honey from its nectaries. It belongs to the natural order Labiatæ, and is allied to the sage. It is easily propagated by cuttings inserted in sandy soil in spring.

Sage.

The well-known herb sage, so popular at Christmas time when used in seasoning, comes next in our list. It also grows wild in the South of Europe. It is one of the renowned salvia family, and is known as Salvia officinalis. It is seen at its best on dry soils, and is easily grown from cuttings; it also contains an essential oil, but is chiefly now used for garnishing. Of wild flowers the Meadow Sage, or Clary (S. pratense), and the Apple-bearing Sage of Europe (S. pomifera) are well known. The peasantry of Crete collect the galls which grow on the latter and sell them for making sweetmeats. The salvias have very beautiful flowers, and are ornaments of the hardy border and greenhouse. Jerusalem sage has a quaint yellow whorled flower of great oddity, but it is not a salvia, but a phlomis.

Rue.

Rue is another herb often referred to, and is the real "herb o' grace." Ophelia refers to it in Hamlet when she addresses Laertes:

"There's fennel for you, and columbines:
There's rue for you; and here's some for me:
We may call it herb-grace o' Sundays:
O, you must wear your rue with a difference."

Rue was called herb of grace because it was formerly used by the priests and monks for sprinkling the people with holy water, and in the time of Aristotle it is referred to as being used as an amulet against witchcraft: in some cases the syrup of rue is used as a stomachic for children's ailments. The Garden Rue (Ruta graveolens) grows in sunny, stony spots in countries bordering on the Mediterranean Sea; it has greenish-yellow flowers, and may be cultivated by cuttings and offshoots in the spring.

Angelica.

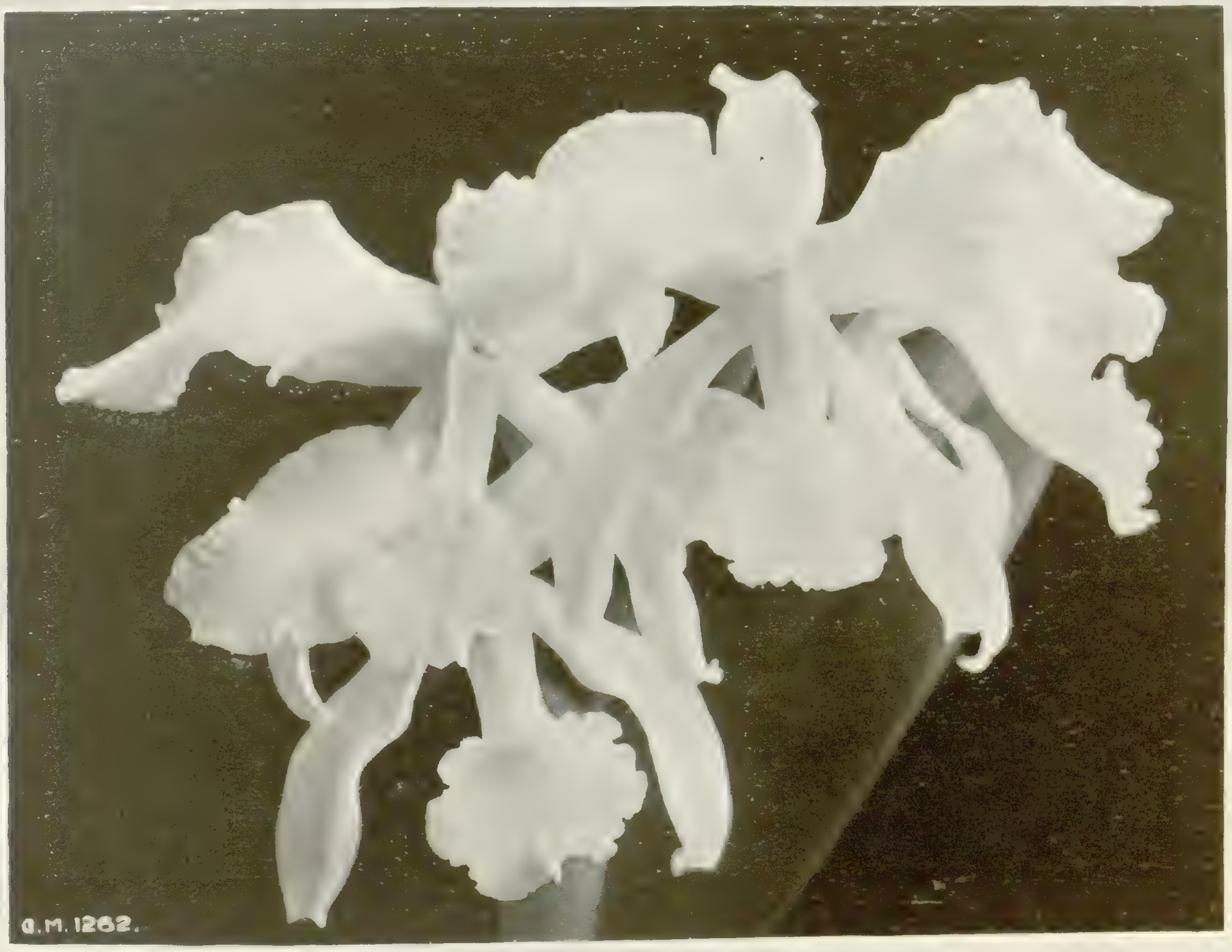
Angelica (A. archangelica) is another handsome shrub, growing to a height of three feet; it is a native of these islands, and is used for flavouring confectionery and liquors; it is called locally ground ash, and may be propagated by seeds sown half an inch deep in April. It derives its name from its supposed angelic virtues in medicine, and was said to possess qualities which prevented the evils of witchcraft. It belongs also to the natural order of Umbelliferæ.

Thyme.

Shakespeare has immortalised thyme in his beautiful lines, so graphically realistic, so charmingly sympathetic, and yet embracing a subject lying at one's feet:

> "I know a bank where the wild thyme grows,
> Where ox-lips and nodding violet blows,
> Quite over-canopied with luscious woodbine,
> With sweet musk roses and with eglantine."

The wild Thyme (Thymus serpyllum) is, however, much smaller than the garden variety, Thymus vulgaris, which grows six to ten inches in height, and was introduced into England three or four centuries ago; it is a native of Spain and Italy. There is another species of the wild thyme, which is called lemon thyme, but it is of smaller growth than the garden varieties. Nearly all the herbs we have mentioned belong to the natural order Labiatæ, or lipped flower order, but these minute differences are rather for the botanist than the general reader. Thyme is used for flavouring, and in medicine as a strong stimulant. Oil of thyme is also obtained by distillation. This plant is easily propagated by cuttings at almost any time of the year except during the flowering season.



TEMPLE SHOW—CATTLEYA LAWRENCEANA MARY REGINA.

F.C.C., R.H.S., May 24, Messrs. Charlesworth and Co., Haywards Heath. A fine albino, and the first one of this species that has yet appeared. Wholly white except for the faintest tint of blush on the apex of the lip and the palest possible yellow stain in the throat.

Fennel and Parsley.

Fennel is useful for its leaves, which are boiled and served up with mackerel and salmon, or other fish, and are used to form a sauce for them. It is allied to dill, and belongs to the Umbelliferous or umbrella-headed plants, such as wild carrot, parsley, and parsnip; it is also a biennial, growing from three to four feet high. Oil of fennel is made from it, and it is a native to some parts of England.

Parsley and its uses are so well known to everyone that it is not necessary to refer to them save to say that no garden should be without it either in summer or winter, as it is one of the best of all seasoning plants.

Dill and Anise.

Dill is a native of the countries round about the Mediterranean Sea; it belongs also to the Umbelliferæ, and is an annual or biennial plant, used as an aromatic, stimulant, and carminative; also like anise in cookery, and in medicine as the well known dill water. The common dill is called Anethum graveolens.

Anise (Pimpinella anisum) is a native of Egypt, and similar warm countries, and from it is produced the famous aniseed; it also belongs to the Umbelliferæ. It is occasionally sown here in gardens for a garnish or seasoning.

Balm and Borage.

Balm (Melissa officinalis) has been naturalised in some places in England, and its stem and leaves are used as a gentle stimulant; it also belongs to the order Labiatæ, and is a native of the Mediterranean coast. It was used in early times for the purpose of anointing, and the following immortal lines were written in reference to this high office:

> "Not all the water in the rough, rude sea,
> Can wash the balm from an anointed king."
> —Shakespeare.

The writer pictures a bed of borage in an old-fashioned walled-in garden one springtime, its deep blue flowers, with dark purple anthers, still lingers in his memory. Borago officinalis is one of the handsomest of the herb family, and its leaves are used in "claret cup" to the present day. Gerard refers to its leaves when he states: "There is also many things made of them used everywhere for the comfort of the heart, for the driving away of sorrow, and increasing the joy of the mind." Its leaves are still used in Germany in salads, and its tender tops are pickled, and occasionally boiled for the table. It is also a native of Europe. Walter Smyth.

(To be continued.)

Brooklyn Botanic Gardens.

Plans are now being made for the new Botanic Gardens and Arboretum which will be located in Institute Park, Brooklyn, N.Y. We learn that the Institute of Arts and Sciences has an annual fund of £400 to £500 for the purchase of plants, while the city will furnish the land and maintain the gardens. Dr. C. Stuart Gager, director of the department of botany at the University of Missouri, has been engaged as director at a salary of £800.

NEW PLANTS, ETC.

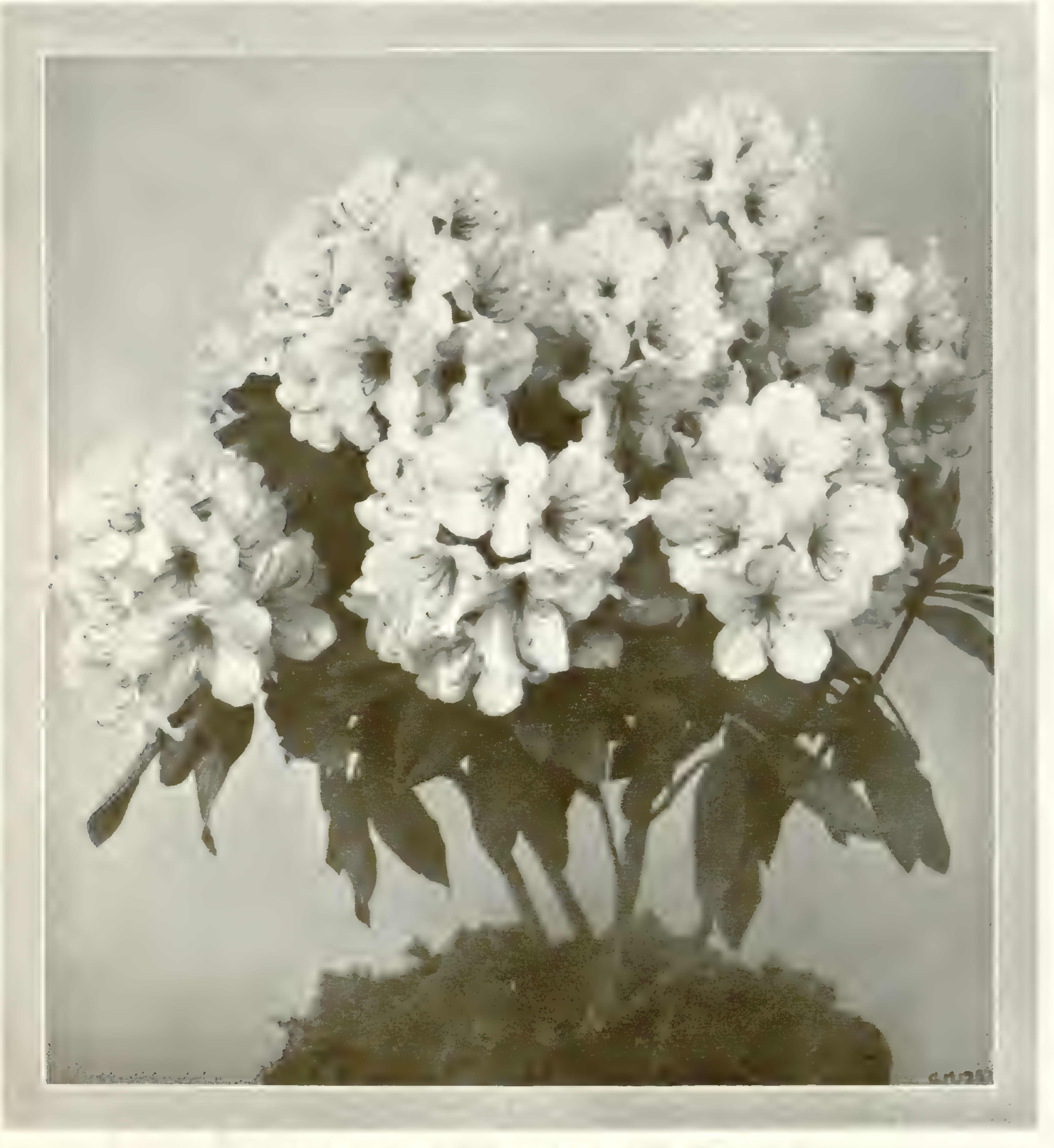
◆

CATTLEYA MENDELI PRINCESS VICTORIA.

This is a delightful form of a fine old species, and it has large, shapely flowers of great beauty. The sepals and petals are white, fading to deep blush after the flowers have been open for a week or two. The white lip has a pale yellow throat, veined with purple, and the broad apex to the lip is charmingly fringed and stained, and edged with rich rosy-purple. Altogether a very fine orchid. F.C.C., R.H.S., May 24. Messrs. Mansell and Hatcher, Rawdon, Yorks.

LÆLIO-CATTLEYA LUMINOSA VAR. MAGNIFICA.

A very brilliant form of a showy hybrid. The sepals and petals have an orange-buff foundation, overlaid with rich bronzy crimson, this colour being most highly developed on the petals. The large lip is very dark old rose colour, heavily marked with deep crimson, and with lighter veins in the throat. A.M., R.H.S., May 24. His Grace the Duke of Marlborough (gardener, Mr. Hunter), Blenheim Palace, Woodstock.



TEMPLE SHOW—RHODODENDRON ALICE.

A.M., R.H.S., May 24. Messrs. J. Waterer and Sons, Bagshot. An exquisitely beautiful large flowered variety, bearing rich rose-pink flowers in large trusses.

LÆLIO-CATTLEYA APHRODITE VAR. MARK HAMBURG.

A bold and handsome variety of this beautiful orchid. It has very large blooms with a spread of about eight inches. Sepals and petals are pure white, and sufficiently substantial to stand up well. The big lip is rich purple with a well-defined wire-edge of rose, and a well-defined white, light yellow-stained throat. A.M., R.H.S., May 24. J. T. Clifton, Esq., Lytham Hill, Lytham, Lancashire.

ODONTOGLOSSUM MEMORIA KING EDWARD VII.

A remarkable odontoglossum of the ardentissimum class, bearing nine large rounded blooms of great substance and wonderful colouring, the greater part of each bloom is deep rosy-purple, almost a soft deep crimson shade, but this is barred and veined lightly with pale rose and white, and round each segment is a border of white, that is flushed here and there with rose. The lip has a crimson base and deep golden crest, and a pure white apex. A grand and startling novelty. F.C.C., R.H.S., May 24. Messrs. Sander and Sons, St. Albans.

ODONTOGLOSSUM EXIMIUM VAR. EMPEROR.

A beautiful and showy odontoglossum carrying ten large blooms of fine shape. The sepals and petals are all of about the same size, rich red-brown, bordered and tipped with blush or soft pink. The lip is of deeper red-brown colour, marked with yellow, and with a pure white apex. A fine form of the cross between O. ardentissimum and O. crispum. A.M., R.H.S., May 24. Messrs. Sander and Sons, St. Albans.

ODONTOGLOSSUM PROMERENS.

A very handsome variety, very like a form of O. crispum. The flowers have very broad segments, white, very heavily blotched in irregular fashion with intense maroon-scarlet, the markings being especially heavy and brilliant on the broad petals. The spike exhibited carried five flowers. A.M., R.H.S., May 24. Mons. Chas. Vuylsteke, Loochristy.

ODONTOGLOSSUM EXIMIUM EMPRESS OF INDIA.

In shape and size this is a very lovely orchid. The ground colour is pale rosy-blush, almost white, but this is chiefly evident as marginal colour and irregular veinings through the solid maroon colouring that occupies the greater part of the sepals and petals. The rather large lip is white, with a few spots of deep maroon-red at the base, close up to the small yellow crest. F.C.C., R.H.S., May 24. Mons. Chas. Vuylsteke, Loochristy, Ghent.

MILTONIA MEMORIA BARON SCHRODER.

A lovely and very distinct variety of Miltonia vexillaria. It has large blooms that are faintly rose-coloured, this colour shading to white towards the apices of the sepals and petals, and the margins of the lip. At the base of the broad lip, on a white ground, is a fine blotch of rich crimson with rays of colour extending into the white area. A charming and distinct variety. F.C.C., R.H.S., May 24. Messrs. Sander and Sons, St. Albans.

RHODODENDRON ALICE.

This is a magnificent addition to our list of hardy rhododendrons, and one that bids fair to become as popular as the lovely Pink Pearl. The new comer has huge trusses of large, widely-expanded, beautiful rich rose-pink flowers, the colouring being slightly paler in the centre of the petals. Some of the big trusses carry as many as twenty blooms, and as a comparatively small plant a yard high will carry a dozen such trusses, some idea of the grand effect the variety produces may be formed. A.M., R.H.S., May 24. Messrs. J. Waterer and Sons, Bagshot, Surrey.

RHODODENDRON PRINCESS JULIANA.

A delightful large-flowered rhododendron, with large trusses of broad, widely-opened flowers of pure white, the edges beautifully waved. As the flowers age they develop a blush shade. It is a grand addition, and with Pink Pearl and Alice forms a grand trio. A.M., R.H.S., May 24. Messrs. J. Waterer and Sons, Bagshot.

CYTISUS DALLIMOREI.

This is a very distinct, interesting, and pretty hybrid, obtained by crossing Cytisus albus with C. Andreanus. It is a very free-flowering, erect-growing shrub, the standard of each flower being pale pink, and the wings deep rose-red; the stamens and the inner side of the keel are pale yellow. In general appearance this pretty new-comer shows very little of the influence of C. Andreanus. In general effect it is a bright rosy-flowered shrub. A.M., R.H.S., May 24. The Director, Royal Gardens, Kew.

SOBRALIA CHARLESWORTHI.

A distinct and strong-growing new species, six feet or more high. It bears large flowers, and has broad mauve-purple sepals and petals that have slightly fringed margins. The lip is very large for the size of the flower, oval in outline, with a rose-purple centre stained and marked along the centre with soft yellow. Around the whole of the lip is a broad wavy border of intense deep maroon-purple. A very striking novelty from Columbia. F.C.C., R.H.S., May 24. Messrs. Charlesworth and Co., Haywards Heath.

SARRACENIA WILLMOTTÆ.

A handsome and bold sarracenia obtained by crossing S. purpurea with S. Stevensi. It grows about a foot or fifteen inches high, and has very broad apple-green pitchers, heavily and reticulately veined with dark and deep crimson-purple. The expanded mouth of the pitcher has a spread of nearly six inches, and a depth of about three inches. It is a very fine addition to a very interesting group of plants. A.M., R.H.S., May 24. Mr. A. J. Bruce, Chorlton-cum-Hardy, Manchester.

ODONTIODA KING GEORGE V.

An exquisitely beautiful bigeneric hybrid, one of the largest and most distinct yet produced. The spike shown bore seven rounded flowers, the largest nearly three inches across. The sepals and petals are rosy, with a purple flush at the tips, and bright red-brown, quite approaching a scarlet hue, all over the centre and base, this colour being broken up by veins of buff, and with a crescent of this colour on the petals. The neat lip has a broad golden crest, is yellow, pink tinged, and spotted with bright red at the base. A very beautiful flower. F.C.C., R.H.S., May 24. Mons. Chas. Vuylsteke, Loochristy, Ghent.

ODONTIODA ROYAL GEM.

Another lovely form, with bright red colouring, broken up into more or less confluent clusters of spots, these growing smaller until towards the margin of the sepals and petals they are tiny speckles. The ground colour is blush, shading to rose at the margins. The lip is white and rose, with a few dark red spots and a bright yellow disc. A.M., R.H.S., May 24. Mon. Chas. Vuylsteke, Loochristy, Ghent.

MARGUERITE MRS. F. SANDER.

This is a charming and delightfully beautiful plant, and one that is almost sure to be very extensively grown both in private gardens and for the market. Many of the plants carried a dozen large blooms of the purest white, and the long stems suggest a great usefulness of this variety for floral decorations. Some of the flowers measured five inches across. There is a circle of about two dozen broad ray petals or florets, forming a setting for the broad, raised, anemone-like centre composed of row upon row of short, fringed, pure white disc florets. The whole flower suggests a glorified and refined pyrethrum, and the deeply cut and elegant leafage below adds grace to it. A.M., R.H.S., May 24. Messrs. Sander and Sons, St. Albans.

ROSES.

Duchess of Westminster.—A broad-petalled H.T. rose of beautiful form and fine size. The colouring is difficult to describe; rose-pink does not properly convey the shade, but rose du Barri colour is nearer the tint seen, but this is charmingly suffused with silvery-rose on the outer petals. A.M., R.H.S., May 24. Messrs. A. Dickson and Sons, Newtownards.

Excelsa.—A showy addition to the rambling section. It belongs to the Wichuraiana group, and bids fair to out-rival Crimson Rambler. The flowers are double and borne in large elegant clusters, and they are of a rich red colour. When they fade the flowers shade into a rosy hue, and not the magenta shade that is so objectionable in faded blooms of Crimson Rambler. A.M., R.H.S., May 24. Messrs. Paul and Son, Cheshunt.

BEGONIA ROSE QUEEN.

A handsome tuberous begonia with blooms of immense size and a delightful shade of rich rose. A further attraction is the beautiful waving of each row of petals. A.M., R.H.S., May 24. Messrs. Blackmore and Langdon, Twerton Hill, Bath.

CATTLEYA MOSSIÆ MAGALI SANDER.

A distinct and beautiful variety with pure white sepals and petals, and bright mauve-purple stains on the apex of the yellow and white lip. A.M., R.H.S., May 24. Messrs. Sander and Sons, St. Albans.

CATTLEYA MENDELI QUEEN MAUD.

This is a pretty variety with white sepals and petals, and a bluish magenta apex to the lip. A.M., R.H.S., May 24. Messrs. Charlesworth and Co., Haywards Heath.

CATTLEYA LAWRENCEANA MARY REGINA.

A beautiful and distinct variety of an old and well-known species. Nearly seventy years ago the typical C. Lawrenceana was introduced, and from then until the present occasion no albino form has ever appeared. In the variety Mary Regina the sepals and petals are purest white, and the lip is of similar whiteness, except for a very faint blush tinge at the apex of the lip and a very pale yellow stain in the throat. F.C.C., R.H.S., May 24. Messrs. Charlesworth and Co., Haywards Heath.

NOTES FROM KEW.

In my notes which appeared in the GARDENERS' MAGAZINE of April 30 reference was made to the typical form of that striking Aroid, Lysichitum camtschatcense, whose golden blossoms were then at their best, and which has now developed its noble tuft of handsome leaves. Close by, in the same structure, namely, in the cool portion of the Temperate House, a plant of the variety album is now bearing several of its white spathes, and very pretty it is when in that stage. Though later in flowering than the typical form, this feature of the white-flowered variety would appear to be only an accidental one, as the specimen appears to have been newly planted. While Lysichitum camtschatcense itself is decidedly uncommon, the variety album appears to be quite rare, at all events, it is the first time that it has come under my notice.

Rhododendron Victorianum is a beautiful hybrid, now in flower in the Himalayan portion of the Temperate House,. and is one of the most striking of all the tender garden forms. Such being the case, it is a matter for surprise that it is not more often met with, for it was raised in Belgium over thirty years ago. It is a hybrid between R. Dalhousiæ and R. Nuttalli, and as a garden plant, at least in a small state. is decidedly superior to either of its parents, being more compact and free flowering. The blossoms, which are for the most part borne three or four in a head, are individually four inches or so in length, and the same across the expanded mouth, the segments of which are recurved in a pleasing manner. In colour they are of a clear milk-white tint, with a suspicion of yellow in the throat. They are deliciously fragrant. As a parent R. Dalhousiæ has given us the popular Countess of Haddington, but R. Nuttalli does not appear to have been much used by the hybridist. Such a delightful form as R. Victorianum should, however, serve to direct attention to the possibility of further triumphs among this noble class of plants.

Much has been written concerning the beautiful and popular Rhododendron Pink Pearl, whose hardiness in most districts is unquestioned. Still, after the plants out of doors have been subjected recently to 10 degrees of frost they cannot be expected to vie with those which have been protected

TEMPLE SHOW—BEGONIA ROSE QUEEN.
A.M., R.H.S., May 24, Messrs. Blackmore and Langdon, Bath. Flowers large, of beautiful form, and rich rose colour.

therefrom. A specimen in the Temperate House shows this variety at its very best, and also serves to direct attention to its great value for cool house decoration at this season.

Clematis aristata Guilfoylei is an Australian species now flowering freely in the cool portion of the T range at Kew; it is a good deal like the New Zealand Clematis indivisa. The foliage is lobed, as in Clematis indivisa lobata, and the flowers are also similar, but less showy, owing to the smaller petals. It, however, possesses one notable feature, and that is the reddish tinge in the centre, which suggests the possibility that in time a coloured form might be evolved. On this point one cannot fail to note that we have now a coloured variety of Clematis montana, which is, however, not of garden origin.

When one remembers the many failures that used to occur in the attempts to successfully cultivate Clianthus Dampieri the presence of thriving specimens year after year at Kew serves to show that its requirements are now better understood than they formerly were. The success achieved at Kew seems to be owing to the employment of seedlings of the common bladder senna as stocks on which to graft young plants of Dampier's clianthus. This, combined with liberal treatment and a total absence of coddling, yields highly satisfactory results.

Kew has been remarkably fortunate in raising some desirable members of the Broom family, and Cytisus Dallimorei is one of the latest to show its charms. Of the Kew-raised forms C. Kewensis is of strictly procumbent habit, and bears cream-coloured blossoms; C. Beani, a low-growing plant, has rich golden-yellow flowers, but the C. Dallimorei is quite a break away. This is, I believe, the result of a cross between Cytisus albus and Cytisus Andreanus. The flowers have a rich velvety keel, with a purplish tinge, and the rest of the flower is more or less of a rosy-pink shade. In the bud state it is purplish-rose. It is of free upright growth, and is undoubtedly a great acquisition to the hardy brooms. K.

Celery.—This is often the most important crop in the kitchen garden, and it is always advisable to maintain a supply from an early to a very late period. No crop appreciates good treatment more than this, therefore every care should be given to the preparation of the trenches and after treatment. Prepare trenches three and a-half feet apart for the early batch, and four feet for the main crop; take out the soil with a spade, one foot wide, and the same in depth; break the bottom up with a fork, and place on this four inches (when trodden) of decayed farmyard manure, finishing off by chopping the sides of the trench on to the manure, and mixing with this some old marrow-bed or similar material, and soot. In heavy soils it is an advantage to put the plants almost on the ground level, leaving only sufficient depth to facilitate watering. Celery will be found to stand the wet winter weather quite safely under this mode of culture. On very light soil, which is naturally drained, a foot below the surface will not be found too low for planting. The early batch should now be quite ready for planting out; place the plants ten inches apart in single lines, and plant firmly. Dust with soot every ten days to ward off the celery fly and to prevent the slugs doing damage. Prick off main crop under old lights, or in sheltered situations, and make one more sowing for planting on the level ground, but not to be earthed-up. In the spring this batch will throw up green succulent stems, which form a most delicious vegetable.—G. Ellwood, Swanmore Park Gardens.

EUCHARIS AMAZONICA.

Some cultivators find this plant a very difficult one to grow, whereas others do not experience the slightest difficulty in securing excellent supplies of the lovely pure white flowers.

About twenty years ago, I remember, when the "mite" was causing so much havoc in many collections, Mr. W. Bardney, then head gardener at Norris Green, Liverpool, took a vast amount of interest in the matter, and gave, through the horticultural Press, his experience of the "mite," and the treatment adopted. I have forgotten the details of the treatment advocated, but I know that Mr. Bardney rendered great service at that time.

Not only did the "mite" prevent some cultivators growing the plants, but others were not able to grow them satisfactorily even when the bulbs were quite free from the pest. I may say that years ago I never experienced any difficult in growing large batches well, but I have never had many under my charge since the time that I new refer to.

There were two notable cases. I shall never forget the struggle in one large garden to grow the eucharis even moderately well, and the failures that occurred, and the ease with which they were cultivated in the other garden. The establishments were situated about a dozen miles apart in one of the northern counties. From the successful collection specimens were selected and taken to the other garden, but in a very short time the new plants looked as dilapidated as the others. As a young man I was greatly interested, and paid a visit to the garden in which the eucharis was so well managed. When I entered the house in which the main batch was growing, I heard some voices, but could not see anyone. Presently, however, some heads poped up amid a thicket of foliage; several young men were seated on empty inverted flower pots engaged in sponging the leaves, but the plants were so huge and healthy that they hid from view men seated as stated.

I had previously been told that tiny bulbs, if thrown down on a bed of soil in one of these houses, would grow. Well, when I entered the structure referred to I noticed a number of small bulbs lying on the surface of the soil in an open propagating frame, and roots were freely entering the soil from them, the leaves had turned to the light, and were growing, too. This collection was entirely free from the "mite." The soil used for the plants was a rather heavy yellow loam.

I have had charge of several collections since that time, and never have failed to grow the plants satisfactorily, but in the "bad" case referred to above I assisted in the work of cultivation, but entirely without success. Now, disease-free plants were kept away from those that were unsatisfactory, but all efforts to grow them well were unsuccessful. The soil was good, fibrous, and a little lighter than that in the other garden

Where the "mite" exists it must be eradicated before the eucharis can be induced to grow, and extreme cleanliness, both of bulbs and foliage, is absolutely necessary; but I am at a loss to understand what there could possibly have been in the soil or the atmosphere that prevented plants, free from the "mite," growing satisfactorily in one place and not in the other.

Perhaps some readers of the Gardeners' Magazine can explain.

George Garner.

SOIL STERILISATION.

Having recently received a series of questions relating to the important subject of soil sterilisation, and being quite unable to answer them at length to each person I beg, through the medium of the Gardeners' Magazine, to make a few remarks which may be of service to gardeners generally.

The sterilisation of the soil, which has been heated to the temperature almost of boiling water by the injection of steam from a high-pressure boiler, has recently received considerable attention, both in this country and on the Continent, especially in greenhouses, conservatories, and glass frames. Some of the most successful growers also sterilise their compost soil for outdoor beds. If this is properly done it destroys all nematodes (eelworms), grubs, and all plant and animal parasites likely to attack the growing plant roots. All organisms of an order higher than bacteria will be killed off, and certain organisms which normally limit the number of bacteria in the soil are destroyed.

From a series of recent experiments made at the Rothamsted Agricultural Station it has been found that when the soil is thus cleared of hurtful agencies the ammonia-producing bacteria increase rapidly, and there is a considerable increase in the production of plant food from the soil and manure employed, followed by an increase of crop of a more healthy character.

In large horticultural establishments at least it will certainly pay to sterilise all soil used, especially where nematodes or other root parasites exist.

The usual method of sterilisation of the soil is to build a large wooden bin about four feet wide, ten to fifteen feet long, and three feet deep, with one side hinged so that it can be let down to shovel out the soil. Iron pipes should be run along the bottom of the bin a foot apart, lengthwise. In a four feet bin there will thus be three pipes, each with one-sixteenth inch holes drilled in their side about one foot apart. Of course, the pipes must be connected outside the bin, and joined to the steam boiler, which can be done with a rubber pipe. Fill the bin loosely with soil, and place on the surface two or three potatoes. When these are cooked the soil has been sufficiently heated. Cover the whole with closely-fitting sacks or similar material to keep in the steam, the latter being turned on at about 80lb. pressure per square inch.

In some recent experiments on soil sterilisation at the Massachusetts Agricultural Station it was found that when the soil was heated to 180 degrees Fahr. it not only killed all eelworms, but penetrated and so destroyed the thick resisting cover of their eggs. J. J. Willis.

Harpenden.

Dracæna Sanderiana.—There are many dracænas suitable for room and other decorations, but for this purpose there is none to compare with D. Sanderiana, when grown three, four, or more plants together in a pot. They make very effective decorative specimens, and develop best when grown in a stove temperature until they reach the required size. Afterwards, with a little hardening by removal to a cooler house, they are fit for use as room plants. This hardening process, however, is not altogether necessary, as I have used many from the warm stoves, and placed them in cool rooms without the plants showing any ill-effects. This dracæna is what may be termed a "safe" plant for decorating, as the combination of colour will not clash with other shades, or offend the most fastidious tastes of those who have an eye for colour effect.—T. H. Slade.

NOTES ON SUMMER BEDDING.

At the time of writing, near the end of May, more or less severe frosts and bitterly cold winds are the order of almost each day, and no one will dream of commencing the work of bedding out until we experience a radical change in the weather. Anyhow, everything possible should be done so that the work may be carried out in an expeditious manner when the clerk of the weather assumes a sane mood.

Beds, borders, and all available space should be dug, manured if necessary, marked out, and labelled. It is advisable to add only a very small quantity of manure at this season, provided the ground received a fair share in autumn; at the same time, nothing but good can accrue from dressings of phosphates and superphosphate of lime, which should be spread over the surface and be dug in after the bulbs have been lifted and stored, or laid in in the reserve garden. There is but little danger of over-manuring the sites that are intended for foliage plants; but in speaking of flowering plants generally, when rich ground and a wet season go hand in hand, there is over-exuberance of growth and a paucity of flowers.

I venture to propose a few suggestions as to combinations of plants for flower beds, in the hope that they may prove of service to those who are strictly localised. A bed that struck me as being exceedingly effective in one of the London parks last season was composed of Antirrhinum Queen of the North, of spotless purity, and the new and exquisite annual Delphinium Blue Butterfly thinly disposed between them; while Viola Lilacina formed a capital framework. Those who have not seen Iceland poppies associated with tuberous begonias should experiment with one or more beds this season, and they cannot fail to be delighted with the result. These silken beauties lend lightness to the whole, and relieve the somewhat heavy appearance in both the foliage and flowers of begonias. For such beds violas appear happy as an edging, or a wide belt of Fuchsia Meteor may be employed. Groups of nine or a dozen Lobelia cardinalis Firefly, arranged on mounds (the mounds being separated from each other by three feet of space), and Antirrhinum Golden Queen doing duty between, with two rows of Royal Blue lobelia as edging, produces a very rich effect. Cockscombs and Viola Niphetos may be brought together, and here a viola of purple colouring may be used as a finish.

Gold and silver leaved abutilons with a few Perilla nankinensis interspersed, and Amaranthus melancholicus ruber outside provide a fine foil to flowering plants in its neighbourhood. Among foliage plants Iresine Lindeni and others are very effective when grown into specimens three feet in height, and they are well worth attention in this way. In a large bed I would recommend specimen plants of Fuchsia fulgens, Hibiscus rosea sinensis, Plumbago capensis, and Cassia corymbosa, with either verbenas or Phlox Drummondi as a carpet. Erythrina cristi-galli in large and strong plants, is both distinct and handsome, and a very fitting companion plant is found in the single blue aster, Callistephus sinensis. One need not dwell upon combinations of specimen fuchsias, ivy-leaf pelargoniums, streptosolons, heliotropes, Solanum jasminoides, etc., with dwarf plants as a carpet, as their merits are now both well known and recognised.

Walter H. Aggett.

WORK FOR THE WEEK.

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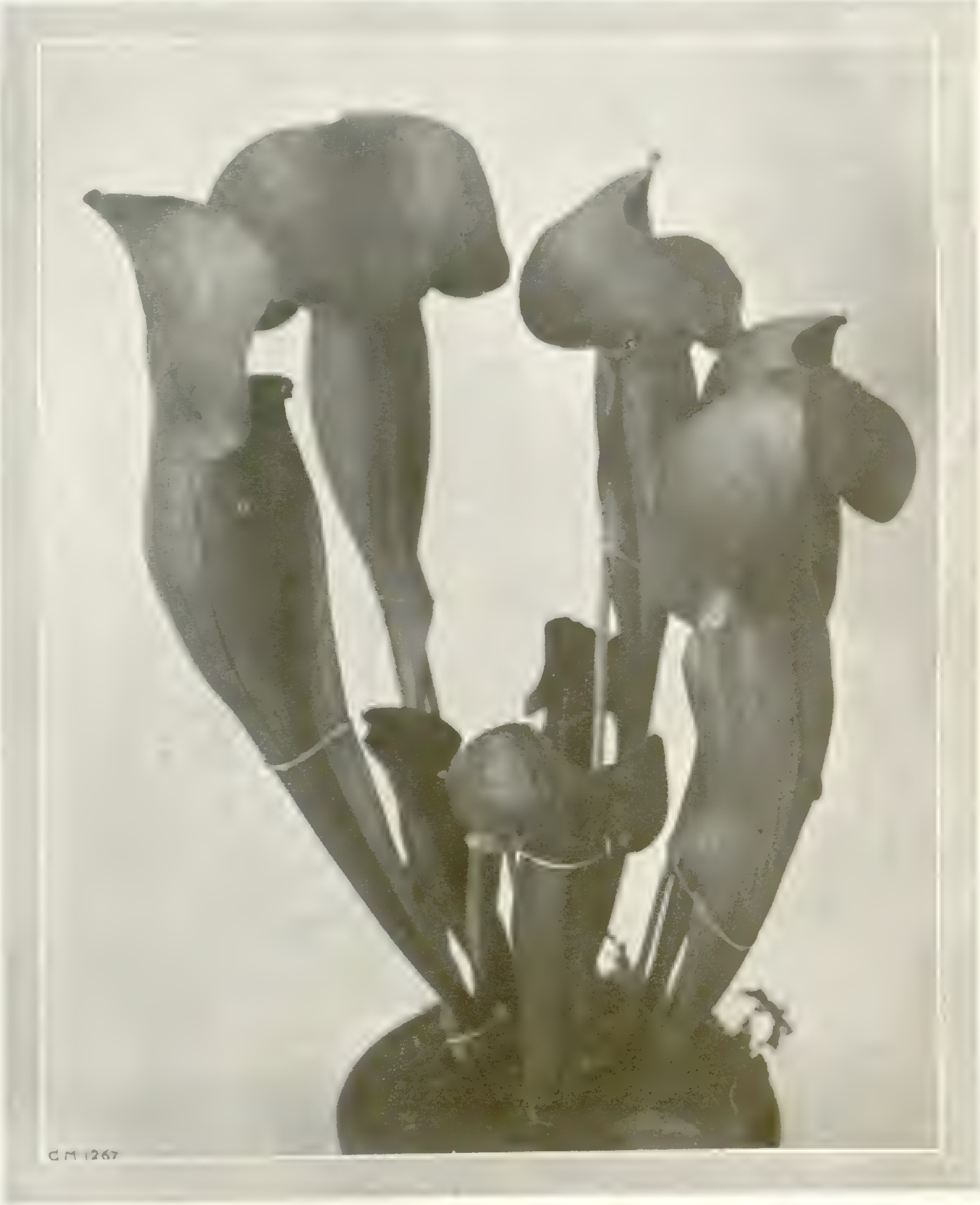
THE ORCHID HOUSES.

ONCIDIUMS.—There are few orchids that are more useful or effective for decorations and exhibition than the various summer-flowering species of oncidiums. One of the most beautiful and useful of the species is O. Marshallianum. Unfortunately, it has the habit of not being able to retain the vigour of the imported plants for many years in succession, and therefore needs replenishing from fresh importations about every alternate year. There can be no doubt that to the free-flowering characteristics of the species can be attributed its rapid decline in vigour.



TEMPLE SHOW—SARRACENIA WILLMOTTÆ.

A.M., R.H.S., May 24, Mr. A. J. Bruce, Chorlton-cum-Hardy. A fine new hybrid between S. purpurea and S. Stevensi. The pitchers are green, finely veined with purple and crimson.

The huge branching spikes of flowers take so much from the strength of the plants that it is rarely they withstand a flowering period without the bulbs showing signs of distress by shrivelling. With this fact before us, cultivators should see to it that the flower spikes are cut as soon as possible after they have become fully expanded, so that the excessive strain may be relieved at the earliest possible moment. It is a good plan to place the plants as soon as the flower scapes have been removed, in a cool, moist position in the odontoglossum house. This should be especially done where they have been taken out of the houses for exhibition purposes. There are many other kinds of oncidiums which are exceedingly useful when grown as specimens. There are few more serviceable for exhibition purposes than O. flexuosum. In our own immediate neighbourhood the pitmen grow this species admirably. It is not at all uncommon to see large specimens, in tubs, exhibited among the specimen stove and greenhouse plants they are so successful with.

SUMMER-FLOWERING ONCIDIUMS.—In the section of summer-flowering oncidiums to which O. macranthum, O. superbiens, O. lamelligerum, O. serratum, etc., belong, we have also useful exhibition and decorative subjects. The long flower scapes should be neatly trained around sticks, so that when the lateral racemes are produced they may display their flowers to the best advantage. Care must be taken to guard against the flower buds becoming attacked by greenfly or yellow thrips. Occasional vapourising and regular sprayings with some safe insecticide will effectually keep these pests in check. This section of oncidiums should have attention as soon as they pass out of flower, and any repotting necessary be done then. The young growths will in most cases have commenced producing their new roots before the plants come into flower. They are vigorous-rooting in most cases, and therefore ample root room should be given. Fill the pots to about one-half their depth with chopped bracken roots, and use a fairly coarse compost of fibrous peat, osmunda fibre, broken leaves, and chopped sphagnum moss, with sufficient broken crocks and sand added to render the compost porous. Keep them shaded, and maintain a humid atmosphere about them until the new roots have become established in the fresh material.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

CALADIUMS.—These are now about at their best, unless they were started very late; if still growing freely a little weak liquid cow manure may be given them, and this will help to keep them going for some little time to come. Where they are required for house decoration some of the most forward plants should be removed to a rather cooler house, and so hardened somewhat before they are introduced into the living rooms; if this is done a few days beforehand they will be found to stand pretty well for several days, but if they are likely to be wanted again it is as well not to leave them in the house too long. Under no circumstances should they be put in before being hardened, or they will flag within a few hours, and a good plant or plants will be spoiled for the rest of the season. Where the small growing varieties are in demand late in the season some of the smaller plants in thumbs or 60's should be moved on into large 60's or 48's before they become too root-bound, and if given a shady position in the stove or even in a cucumber or melon house, they will be found to grow well, and prove useful decorative plants for the table or rooms right on to the autumn.

HARDENING STOVE PLANTS.—As mentioned in the last calendar, stove plants at this season grow very fast, and it may be necessary to provide more room for many of the young plants. Where this is so it is a good plan to shift some of the older crotons, dracaenas, pandanus, phyllanthus, etc., out of the stove proper into a house where they may have a little cooler treatment for a time; from here they may do a good turn in the conservatory or winter garden, as a little later on the temperature in these places will hardly ever fall below 60 deg., so that the plants will keep in good condition for quite a long time, and thus do good service before being finally disposed of. This hardening process also applies to many ferns, which will make a nice change in the scheme of decoration in the house or conservatory during the very hot weather, and it is astonishing what a cool appearance they give to the rooms during the heat of the summer, and what a restful effect they produce after a long season of flowering plants. But it is only during the very warm weather they may be used without being injuriously affected by the change of conditions.

POINSETTIAS.—Early batches should now be rooted and ready for a shift. If rooted in thumbs then a large 60-sized pot will be the best for them, from which they may be transferred later into 32's, these latter being the most useful size for flowering the plants in. A fairly open compost should be used, such as one third each of loam, leaf-soil, and peat, with enough sand and charcoal to keep the whole porous. At this stage pot moderately firm, and place the plants in a fairly warm house or pit, where they may be kept close for a few days and be shaded till the roots begin to run freely, when they may be given more air and inured to the sun-light. It is not wise to let them grow too freely in the early part of the season, or they will become too tall to be useful before November or December arrive.

SEEDLING TORENIAS should be potted as they require it, and the earliest batch, which should be coming into bloom, ought to be removed to a rather drier house, in which the flowers will keep in a better condition, and if necessary they may be used in the conservatory or house.—Thomas Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

FRUITING QUEEN PINEAPPLES.—The fruits upon plants started early in the year as previously advised will be swelling well, but until they commence to ripen continue about once weekly to afford needful supplies of tepid water slightly enriched with manure. Maintain a moist atmosphere by damping as necessary between the plants, and by spraying the plants overhead when the house is closed for the day. Keep up a night temperature of 70 degrees, or slightly more, in mild weather; carefully ventilate the house early on bright days, and close it soon enough to entrap a temperature of 90 degrees, or a little higher, if it is desirable to advance the ripening. In order to prevent the crowns and the leaves being scalded by powerful sunshine, shade with thin tiffany blinds during the middle part of the day. Remove suckers, except those required for propagation purposes, at an early stage of growth. When the fruits commence to ripen keep the atmosphere tolerably dry, increase the ventilation of the house by day, and leave the ventilators slightly opened by night; discontinue watering the plants, and should too many fruits be ripening at one time remove some of them to a tolerably cool house in order to lengthen the supply. As soon as all the fruits are gathered give the plants liberal and painstaking treatment to enable them to develop sturdy suckers.

YOUNG QUEEN PINES that have made considerable root progress in their fruiting pots will demand an increase of root moisture and manurial assistance, but it should be remembered that few plants resent excessive supplies of water so much as the pine does (especially when green) before their pots are well filled with roots. Root growth will be accelerated by keeping the plunging material at a temperature of about 85 degrees, accompanied by other cultural details, such as advised for plants now swelling their fruits, the object being the attainment of sturdy plants. Remove all suckers as they appear.

CHARLOTTE ROTHSCHILD, SMOOTH CAYENNE, ETC.—Plants intended to afford next winter's supply of fruits will, in some cases, be completing their growth, and should at an early date be encouraged to push their fruits; if necessary this may be done by discreetly restricting the supply of both root and atmospheric moisture. In other respects ordinary details of management should be followed, always bearing in mind that the Smooth Cayenne is impatient of powerful sunshine. As soon as the plants raised in seven-inch pots in spring are sufficiently rooted shift them into their fruiting pots, twelve inches in diameter, or, if preferred, plant them in carefully prepared beds. In either case a compost of turfy light loam, relieved of fine particles, and mixed with a little soot and bonemeal, or a suitable artificial manure, should be used, and made firm by ramming. See that the balls of soil are fairly moist, and pull away a few of the bottom leaves before the plants are turned out of their pots, and in the case of potted plants lose no time in plunging the pots. When necessary lightly shade the plants, and carefully ventilate the house; keep the atmosphere moist, and spray the plants overhead in the morning, and again when the house is closed for the day, and above all things be careful not to over-water the plants.

EARLY PEACHES.—As soon as the trees, either in pots or planted out, are cleared of their fruit, give the roots a good watering with diluted liquid manure, and, if necessary, re-mulch the borders. Ventilate the house freely by day, and in a less degree by night, and when the wood has become firm, leave the ventilators fully open, and subsequently, in the case of pot trees, plunge the pots in a sheltered sunny position out of doors. With a view to assist the maturity of next year's fruit-bearing shoots thin out all useless wood, and in necessary cases rearrange that which is left. Keep root suckers carefully removed, and all leaves perfectly clean, and free from red spider, etc., by a thorough use of the syringe.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

BEETROOT.—The main crop will now require its final thinning—from nine to twelve inches apart. If the weather is dry the rows should be duly watered, and the finer particles of soil worked firmly around those plants that are left; in fact, it is much the better plan to carry along during the thinning process a receptacle filled with finely sifted old potting soil, as this will be found to give the young plants a good fillip. Keep a sharp lookout for small birds, which wantonly tear the young plants, and, as a preventive (which also proves very beneficial to the crop) give an occasional overhead dusting of a mixture of three parts sifted burnt rubbish and one of soot. Two light sowings of salt between the lines when the plants are six inches in height helps wonderfully.

RUNNER BEANS.—If the plants raised in pots and boxes are not already put out, lose no time in planting them in the prepared trenches, as previously advised; a foot apart will not be too much if the plants are strong. Plant in double lines, and well water in. To save any trouble from slugs place around each plant a quantity of finely sifted cinder ashes. Stake with very strong sticks, and spray the young plants regularly, particularly when in bloom, as this promotes a good "set" of beans. Sow a row in the open ground for succession, and make the final sowing the first week in July.

CELERY.—Continue to plant out the main crop as ready, well water in, and commence at once to give weekly sowings of soot and lime over the plants to prevent the celery fly from working, as it appears almost useless to scatter these after the maggot appears. An occasional spraying of quassia extract should be given where the fly makes regular visits.

COLEWORTS.—Make one sowing of these now, and another three weeks later, on a well-prepared seed bed, in drills; well soak the drills before sowing. Not half enough of this valuable winter cabbage is grown; it is of high quality, and of a hardy nature. The young plants from the first sowing can be planted on ground which will be cleared of early peas and potatoes without further preparation of the ground beyond a little treading and levelling. Plant at one foot apart, well water in, and at the first hoeing give a good dressing of wood ashes. Rosette colewort is a finely flavoured early variety, and Hardy Green is the best late or winter variety.

ENDIVE.—Make a small sowing for an early supply, and follow this at intervals of three weeks. When large enough to handle plant out in partially shaded ground and water and shade for a few days.

CAULIFLOWERS.—A little sowing of Walcheren and Magnum Bonum varieties made now will provide heads at a very opportune time.

EARLY BROCCOLI AND BRUSSELS SPROUTS must be planted out as soon as ready to succeed those already planted; if only a few rows of each are planted regularly there is no glut of sprouts at one time.

PEAS.—Make sowings in well-prepared trenches; Webbs' Masterpiece, The Gladstone, and Autocrat are excellent late varieties. Mulching must be attended to now the ground is getting warm, for maincrop peas, broad beans, cauliflowers, French beans, etc.—George Ellwood, Swanmore Park Gardens.

Clarkia elegans Firefly.—Of the innumerable annuals that contributed their share to the Temple Show none appealed more strongly to me than did this Clarkia, and for greenhouse decoration I know of nothing to surpass the delightful specimens that formed a part of Messrs. Sutton's magnificent group. The plants exhibited were a yard or more in height, their ascending branches being clothed throughout the greater part of their length with showy blossoms. Under the shade of the tent the exact colour was somewhat difficult to define, but the flowers appeared to be of a warm rosy-red hue, which, though harmonising well, was quite distinct from any of their associates. As hardy annuals the clarkias have of late years made considerable headway, their adaptability for cutting being a very desirable feature, but the better forms might well have greater attention bestowed upon them as subjects for the embellishment of the greenhouse at this season.—W. T.

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etc., etc.

Schedules on application to Secretary,
THOS. BEST,
Bletchley.
May 28th, 1910.

[Page 5 of Schedule, Class 9. Carnations, should read "Eighteen" Vases, not "Eight" Vases.]

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EXHIBITIONS AND MEETINGS.

◆

Royal Gardeners' Orphan Fund.

Although there were some vacant seats, the attendance was good at the annual festival dinner of the Royal Gardeners' Orphan Fund held at the Hotel Cecil, on Thursday, May 26, under the genial presidency of Sir Jeremiah Colman, Bart. The chairman was supported by Messrs. N. N. Sherwood, Edward Sherwood, H. J. Veitch, W. Atkinson, Edward White, G. J. Ingram, J. Douglas, H. B. May, W. Poupart, J. F. McLeod, D. Thomson, G. Monro, E. Rochford, P. R. Barr, W. Cutbush, T. W. Sanders, W. Bates, [illegible] Alderson, W. Thompson, A. Allan, T. Bevan, J. H. Witty, James Walker, D. Ingamells, H. L. Wright, R. H. Pearson, R. F. Felton, C. Dixon, and many other well-known horticulturists.

The tables were splendidly decorated with [illegible], carnations, anthuriums, orchids, ferns, etc., while pillar roses, liliums, palms, etc., were used in the room, and a few elegant pillar roses, Coquina and Lady Gay, were used on the top table.

In a very loyal, pleasantly worded, and sympathetic manner, the Chairman proposed "The King" and also "Her Majesty Queen Mary, Alexandra—the Queen Mother (our patron), Edward Duke of Cornwall, and the other Members of the Royal Family." For many of those present the loyal toasts had a sad meaning and were honoured for the first time since the death of King Edward. They were honoured in a very loyal manner and with deep heartiness.

Sir Jeremiah Colman had a fine reception when he rose to propose "The Royal Gardeners' Orphan Fund." He said that facts and figures were not the most digestible things, and not very suitable for an after-dinner speech, and so he proposed to avoid them as far as possible, especially as the treasurer, Mr. Edward Sherwood, would presently have to deal with figures. He ventured, however, to remind those present that the fund had one hundred and twenty-seven children under its care, and that during the year 1909 the sum of £1,716 had been expended upon the maintenance of orphans of gardeners. This showed that the fund was doing a great work in an unpretentious manner. It proved that the management was economical and to the great advantage of those whom it was intended to benefit. The fund was, therefore, fully deserving of the utmost support. That the science and art of gardening has advanced greatly during recent years was amply demonstrated at the great Temple Show just concluded; and with its advance came the need for an advanced type of gardener, one who would accommodate himself to the wishes of his employers, and not, as in the case of some old-fashioned gardeners, look upon the garden as his own property, and grow what he himself thought fit. No recreation, said the Chairman, was more delightful than that of gardening, as it appealed to the senses of sight, smell, and taste. As one who spent a good deal of his time in life's commercial battle he found nothing more soothing after a busy time than the rest and recreation the garden afforded, and for this recreation one had very largely to depend upon the gardener for the amount of enjoyment obtained. Gardeners deserved all the help they needed, but he thought they might take a little more interest than they at present did in a fund founded and worked for their general benefit. Many appeals were made nowadays in the name of charity, but he hoped there was still a warm corner in the hearts of those present for the Orphan Fund. The height of practical religion was "to visit the sick and the fatherless," and he therefore appealed to all lovers of gardens to make the festival one of the best on record, to give liberally, and so enable the good work to be continued.

Mr. Edward Sherwood, treasurer of the fund, very ably responded to the toast, and thanked Sir Jeremiah Colman for his presence and his admirable and sympathetic speech on behalf of the fund, and for the kindly letter he had circulated on behalf of the festival. He hoped there would be a large response to the chairman's appeal, and that the fund would not suffer because of the sadness and sorrow of the past three weeks. He was the more anxious because for the first time the receipts had not been sufficient to meet the expenditure. The need of funds was great because 127 children were being provided for, and grants were being made to fifteen selected candidates already awaiting election. The amounts received in 1909 fell short of 1908 by about 63 guineas; 1908 was the coming of age year and the response to appeals was so ready that perhaps the committee, having the funds in hand, had placed more children on the funds than they should have done. But, said Mr. Sherwood, they looked forward to more substantial funds to continue the good work. He believed the late Baron Sir Henry Schröder had bequeathed £500 to the fund, and if so this sum would be invested and provide in perpetuity for one orphan in memory of "the Baron." He desired to bring before them one instance of the fund's operations. Not long since the wife of a gardener named Bailey, at Chertsey, gave birth to a child and very shortly afterwards her husband died, and the following day she died also. The eldest child was a lad of fourteen, and the youngest a tiny baby. Four children were taken care of by local charitable institutions, the baby was adopted by a Chertsey lady, one child was awaiting election upon the Gardeners' Orphan Fund, and the lad of fourteen had been received in the School of Handicrafts, at Chertsey, on condition that the Orphan Fund contributed 5s. per week until he was sixteen years of age. The committee had accepted this further responsibility, and therefore begged for a hearty response to the appeals for funds to carry on its work. Mr. E. Sherwood suggested the formation of more auxiliaries, so that gardeners might co-operate, contributing a penny or more per week to the local secretary, and he believed that in this way a great deal could be done. The fund did not exist for the benefit of gardeners round London, but was a national institution, and therefore deserved national assistance.

Mr. C. Armstrong proposed "Gardeners and Gardening" in a pleasant little speech, and Mr. Harry J. Veitch responded, and congratulated Sir Jeremiah Colman upon the splendid exhibit of orchids he had made at the Temple Show, and upon his success in winning the Sherwood Cup. Mr. Veitch also referred to the forthcoming International Horticultural Exhibition to be held in 1912, and expressed a hope that all would work to make that exhibition worthy of those who had done so much in the past to bring horticulture to its present proud position.

Mr. N. N. Sherwood proposed "The Visitors," and in doing so welcomed those present for the first time, and expressed a hope that they would come again, and would also contribute liberally to the fund. The beautiful decorations would remind them of the calling of the majority present, while the aim of the gathering was the assistance of a deserving charity. He was glad to find that the Worshipful Company of Gardeners had contributed to the two great gardening charities, and he hoped the time would come when its funds would permit it to provide for one orphan entirely. Mr. Ebblewhite, clerk to the Gardeners' Company, responded, and said his company hoped to do more in the future, and, among other things, to help make the great exhibition of 1912 a success.

At this point Mr. Brian Wynne, the secretary of the Fund, gave the list of donations, the list included £250 from the chairman, £100 from Mr. N. N. Sherwood and his sons, Mr. W. and Mr. E. Sherwood; Mr. G. H. Cuthbert, £52 10s.; Mr. L. Sutton, £50; Sir Frank Crisp, £27 12s.; Messrs. de Rothschild, 25 guineas; Mr. Anthony Waterer, £25; Mr. J. F. McLeod, 26 guineas; Mr. G. Reynolds, £37 12s. 6d.; Mr. R. Hooper Pearson, £13, Mr. Nutting, £16 5s. 6d.; Mr. Leak, 13 guineas; Mr. D. Thomson, £13 8s.; Mr. J. C. Eno, 10 guineas; Messrs. Barr and Sons, 10 guineas; Mr. W. Howe, 7 guineas; Mr. T. W. Sanders, 7 guineas; Mr. J. Douglas, 7 guineas; Mr. E. White, £5; Mr. H. J. Veitch, 5 guineas; Messrs. J. Veitch and Sons, 5 guineas, etc., etc. The Covent Garden friends excelled themselves, the lists from Mr. D. Ingamells (£105), Mr. H. L. Wright (£71 8s. 6d.), and Mr. W. Poupart (£35 10s.), making a total of £211 18s. 6d. from the market men. Rounds of applause greeted the notification of the chairman's handsome donation and the fine response of Covent Garden, and there was great joy when Mr. Wynne gave out the grand total as £1,134 3s. 4d.—the second highest amount obtained at a festival dinner.

[Just as we go to press we learn from Mr. Wynne that other items received bring the total up to £1,160—this constituting a record sum for a festival dinner.—Ed., G.M.]

Mr. H. B. May, chairman of Committee, proposed the health of "The Chairman," and briefly referred to Sir Jeremiah Colman's long and close connection with horticulture, and his success at the Temple Show. He called attention once more to the case of the Bailey family for the purpose of suggesting the formation of an Emergency Fund that would enable the committee to deal with cases that did not quite come within the purview of the rules of the fund. Mr. May congratulated Sir Jeremiah on the success of the festival, and heartily thanked him for his kind and generous help. The toast was heartily received, and accorded musical honours. Sir Jeremiah Colman briefly responded, and thanked all those who had done so much to make the meeting a success. He referred to Messrs. Veitch, Rochford, Barr, Low, Felton, and others, through whose kindness the tables and hall were so charmingly decorated. After a kindly word of recognition of Mr. B. Wynne's services, the meeting closed with "Auld Lang Syne."

The musical arrangements, under the able direction of Mr. Turle Lee, were excellent, and the songs by Miss Violet Oppenshaw were particularly well rendered.

Royal Scottish Arboricultural Society (Aberdeen Branch).

The quarterly meeting of this society was held in the Aberdeen University Buildings, Mr. Sydney J. Gammell, of Drumtochty, president, in the chair.

The Secretary (Mr. George D. Massie, solicitor, Aberdeen), intimated the addition of a large number of new members among whom were Lord Leith of Fyvie, Sir John Macpherson-Grant (of Ballindalloch), Mr. Ogston (of Ardoe), Mr. William Irvine Fortescue (of Kingcausie), Colonel Ogston (of Kildrummy), and Mr. J. P. Robertson White, advocate, Aberdeen.

PRUNING FOREST TREES.

Mr. C. S. France, Aberdeen, then read a paper on "Practical Forestry, with Special Reference to the Pruning of Forest Trees." Mr. France commenced by referring to the importance of practical knowledge being added to theoretical knowledge in regard to forestry. The tendency at the present time, he said, was to consider the higher and more scientific aspects of the question to the neglect of the practical. It was only this combination, however, that would enable foresters to produce the best results in the cultivation of the different classes of trees grown. One of the most important practical questions with which the lecturer dealt at some length was that of pruning. He referred to the effect of pruning on the broad-leaved or hard wood trees, and emphasised the necessity of pruning being done, wherever it was required, in the early stages of the growth of the tree. He advocated that this pruning should be done in such a way as to enable the wound caused by the pruning to be healed within twelve months. The cutting of large branches, necessitating the use of a saw, was at all times to be deprecated. Cases arose, however, where that rule might have to be departed from to prevent branches unduly contending with the upward tendency of the leader. In such cases the wound ought to be specially treated, and as few branches as possible ought to be cut off. If pruning were done at the earlier stages, the necessity would not be so apt to arise later on for cutting off larger branches. With regard to fir trees, no pruning at all ought to be done, or as little as possible, because these trees were growing in close plantation, and were intended to be grown thus closely together, and Nature would regulate the layers of the branches of the trees. The lecturer was strongly of opinion that in young plantations where a number of dead branches were to be found on trees, it was conducive to the ultimate production of good, straight-grained, and clean timber, or rather timber clean from knots, that those dead branches should be cut off as soon as they appeared, and as close to the stem as possible, so that the succeeding longitudinal layers would be laid on in such a way that the grain of the timber would be uniform. As to conifers planted for ornamental purposes, they required little pruning, because all trees grown merely for the sake of ornamentation ought to be allowed to take their natural course.

NATURAL INCREMENT OF LARCH AND NORWAY SPRUCE.

Mr. John Rule, forester to the Duke of Richmond and Gordon, Gordon Castle, then submitted a few notes on "The Natural Increment to be expected from a crop of larch and Norway spruce in decades from fifty to seventy years." He described his experiences in connection with larch-growing near the top part of the Bin Hill Woods on the Huntly (Aberdeenshire) portion of the Gordon-Richmond estates, the elevation here being about 750 feet above sea level. Until a few years ago, Mr. Rule said, this wood was surrounded by a continuation of the same forest, and, for that reason, the trees were all straight and well-grown up to the top of the hill. The crop was of pure larch, with the exception of a very small sprinkling of Scots fir and spruce. Taking an average of fourteen to fifteen acres, the number of larch was found to work out at 166 trees to the acre. The large-sized timber trees were 75 feet in length to the top shoot, and measured up to five inches in diameter. The plantation was formed during the years from 1839 to 1841, and over the area mentioned very little cutting had been done for the last thirty years, so it could safely be set down as having remained very much the same as to the number of the trees during the two decades from fifty to seventy years of age. Mr. Rule estimated the contents of timber per acre twenty years ago, when the trees were fifty years of age, at 1,428 cubic feet. Ten years ago, when the trees had grown for sixty years, the estimated cubic contents were set down at 2,078 feet, and at the present time, at seventy years, the wood contained 2,676 cubic feet of timber per acre. With regard to spruce, which, planted at the same time, yielded 140 trees per acre, the cubic contents per acre at fifty years' growth, was 2,240 feet. One hundred spruce trees at sixty years of age—forty less per acre being allowed for trees which, it is assumed, may have been taken away or destroyed—were estimated to yield 2,500 cubic feet of timber; and a similar number at seventy years of age 2,800 cubic feet.

Discussion followed upon the papers. Mr. John D. Crozier, forester to Mr. Baird of Durris, near Aberdeen, deprecated the removal of branches from trees in close plantation, and even the disturbance of the humus created by the removal of these branches and leaves from the ground, contending that the humus formed the natural food of the trees, and that its removal or disturbance could not be good for the trees.

The Chairman referred to the practice followed in Bavarian forests, and pointed out that authorities had strongly deprecated the removal of humus from underneath the trees.

Mr. France and Mr. Rule were warmly thanked for their papers, and a similar compliment having been paid the chairman, a very pleasant meeting terminated.

British Gardeners' Association.

The sixth annual meeting was held at Carr's Restaurant, Strand, W.C., on Wednesday, May 25, Mr. John H. Witty, vice-chairman of the Executive Council, in the chair. The minutes of the previous annual general meeting having been read and confirmed, Mr. Hawes moved a vote of condolence and sympathy with the King and Royal Family, on the death of his Majesty King Edward VII. Mr. Thos. Bevan seconded, and the vote was passed in silence with the members upstanding.

In moving the adoption of the annual report, the Chairman referred to the sure and steady progress that had been made by the association. There were now about 1,900 members, and there were signs of quicker progress during the past twelve months. The monthly journal of the association was well edited by the secretary, and published with great regularity. It was doing great work in spreading information of a useful character amongst the gardeners of the United Kingdom, and it was now paying its way. In regard to the badges, he would like to see every gardener wearing one as a mark to distinguish the intelligent members of the gardening craft. So far as the financial position of the British Gardeners' Association was concerned, there was a larger balance than ever to its credit, although the expenses were heavier than usual. The work of the association was growing enormously, and entailed an increasing amount of labour upon their secretary.

Mr. Wrigglesworth, of Sunderland, seconded the adoption of the report in an eloquent speech. Practically no discussion took place upon the report, which, upon being put to the meeting, was carried unanimously.

A discussion arose, however, on the question of giving an honorarium to branch secretaries, and many members took part in it. The general opinion was against the payment of branch secretaries out of the general funds, but there was no objection to the members of any branch recognising the services of their secretary, and the Executive Council would be pleased to help. Mr. Raffill was elected treasurer, Mr. J. Weathers secretary, and Messrs. Tinley and Cowley auditors. Votes of thanks to the gardening Press and the chairman concluded the proceedings.

(LONDON BRANCH.)

The second annual meeting of the above branch took place at Carr's Restaurant, Mr. E. F. Hawes in the chair.

In formally opening the meeting the Chairman sympathetically alluded to the great national bereavement caused by the death of His Majesty King Edward VII.

The annual report was next read. This dealt principally with the work of the branch during the past twelve months. Nine meetings were held at Carr's, the average attendance being fifty. At each meeting the business of the branch had been dealt with, followed by a lecture upon some subject of horticultural interest. Three excursions to places of interest were conducted during the summer, the places visited being Aldenham House, Messrs. Jas. Veitch's nursery at Coombe Wood, and Battersea Park. Two concerts were held by the branch, and these proved very successful and were the means of considerably augmenting the finances. Fourteen new members joined, bringing the total membership up to 185.

The committee desire to thank all those who have so generously assisted in the work of the branch during the year, and to express their appreciation of the liberal manner in which the Horticultural Press has given prominence to the reports and notices of the branch. In moving the adoption of the annual report and balance-sheet, the Chairman congratulated the members upon the progress made, and upon the satisfactory financial condition of the branch. This was seconded by Mr. Winter, who endorsed the chairman's remarks.

The next business dealt with was the election of officers for the coming year. Members heard with regret that it was the intention of Mr. Hawes not to accept the post of chairman, which he has so ably filled since the formation of the branch; after considerable discussion Mr. North was appointed chairman, with Mr. A. G. Barnes as vice-chairman. Five new members were appointed on the committee, and Mr. A. G. Barnes and Mr. V. Cockram were re-elected as treasurer and secretary respectively.

Mr. Feltham then gave an address upon "The Policy of the B.G.A.," which was listened to with interest, and brought forth an equally interesting discussion, taken part in by Messrs. J. Weathers, G. Hemming, T. Winter, and J. Frogbook. A vote of thanks to Mr. Feltham terminated the meeting.

Croydon Gardeners' Society.

Mr. R. B. Leech, Wood Hall Gardens, Dulwich, continued his lecture on "Syringing and Damping Down Greenhouses" before the members of this society a few days ago. The second part of his lecture was confined to the practical side of his subject, and in giving his methods of growing plants in the various greenhouses which come under the gardener's charge. His first lecture was devoted to the theory of this important work, so that the members were well acquainted with the reason why the subject is deserving such close study.

The vineries were the first houses dealt with, and perhaps here the lecturer was inviting the most opposition from his audience, for he deprecated the use of the syringe entirely and only an occasional damping down on the floors. In his experiments during several years he had entirely satisfied himself that providing the roots were well watered and a slight evaporation going on in the troughs over the pipes this was all the moisture required. By this means he had obtained more fruit, of better colour and flavour, and the grapes had kept much better when cut.

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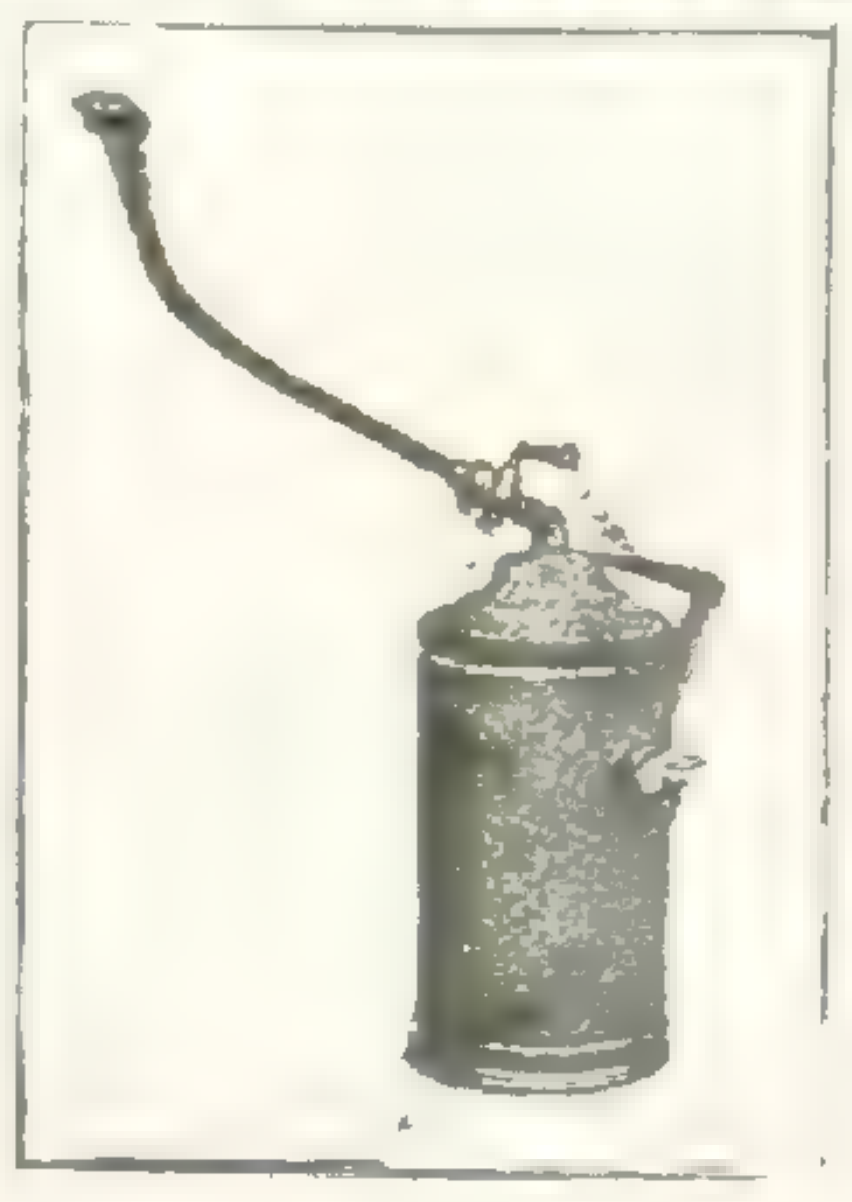

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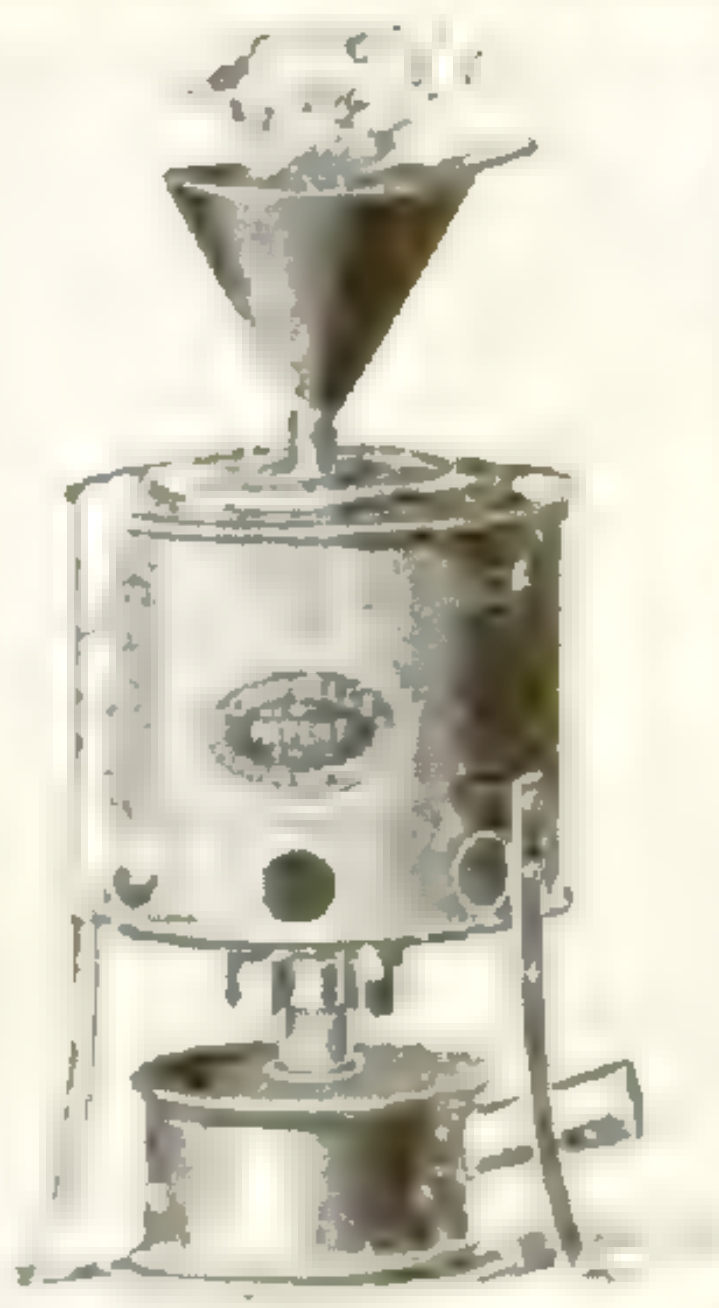

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ment he had found the results just as satisfactory as when continually syringing, and, of course, withholding the syringe meant lessening labour. Strawberries were treated in a similar manner and with better results than a continual damping of the foliage would produce. In cucumber growing the aim is to get fleshy and crisp fruit, so that the use of the syringe and plenty of moisture in the air would be well advised.

Foliage plants, such as caladiums, marantas, anthuriums, and dracænas, he had found to do much better in a buoyant atmosphere than when the house was full of vapour, so that the use of the syringe was not needed when growing them.

Coming to cooler houses, such as those where roses and carnations are grown, he would not think of using the syringe or wetting the foliage in any way, for in the case of roses this continuous moisture accounted to a large extent for mildew. For ferns, too, he advised what he termed the dry system, as the foliage would then be found more leathery and better able to stand removals to dwelling rooms than where succulent growth is obtained by so much moisture. Orchids came under similar treatment, and his results quite justified his remarks.

When speaking of the various plants mentioned he exhibited foliage of each, and the healthy appearance it had helped to convince the most sceptical of the truthfulness of his statements.

Mr. Leech hoped to create a discussion, and perhaps opposition to his methods, but his audience being well acquainted with him and knowing his reputation as a grower, they accepted his advice, and his remarks will no doubt be carefully studied and applied.

The Chairman, Mr. G. H. Dyke, in conveying the hearty thanks of the meeting to Mr. Leech, expressed the extreme gratification all felt for the admirable manner in which he had treated the subject on these two consecutive occasions.

Dundee Horticultural Association.

The University College, Dundee, was the rendezvous of the members of this association on the afternoon of May 21, and in the College gardens Professor Geddes, F.R.S.E., gave many little lecturettes in going round the beds of natural orders and interesting groups of plants. After inspecting the Botanical department in the College, and being refreshed with tea thoughtfully provided by the Professor, numerous microscopic slides were laid out (showing the structure of plants and flowers) for the enlightenment of the company.

Before leaving, Mr. Wm. Christmas voiced the thanks of the company to Professor Geddes for his kind attention, information, and hospitality. The Professor, in reply, said that the friendship between the scientist and the practical man was not what it ought to be, considering their relationship. He hoped that in future they would visit the College oftener and at various seasons when they might find more varied interests, and always a hearty welcome from either Mr. Watson, the gardener, or himself.

Bristol Gardeners' Association.

The first meeting of the new session was held on May 26, at St. John's Parish Rooms, when Mr. Hayball presided over a good attendance. Mr. Shrivell, of Tonbridge, Kent, gave an interesting lecture upon "Manures for Kitchen and Market Gardens." Mr. Shrivell, in conjunction with Dr. Bernard Dyer, has been conducting experiments on his farm, having twelve acres devoted entirely to this work. These experiments have been carried on for sixteen years, with the chief object of finding the cheapest way to grow vegetables. The following crops were dealt with by Mr. Shrivell: asparagus, beetroot, broccoli, celery, onions, and potatoes, also fruit trees, herbaceous plants, and lawns. Fifty tons of London manure to an acre of asparagus produced 922 bundles of $17\frac{1}{4}$ oz. each, but twenty-five tons of manure and 4 cwt. each of nitrate of soda and superphosphate per acre produced 1,254 bundles of 21 oz. each. Similar results were obtained with all other vegetables, plainly proving that nitrate and superphospate, used with farmyard manure, give far better results than manure alone.

A hearty vote of thanks to Mr. Shrivell was given at the close. For three spring cabbages, Mr. Young was first; Mr. Lee second. Three new members were elected.

Broughty Ferry Horticultural Association.

The usual monthly meeting was held recently under the presidency of Mr. James Bethel, when Mr. Wm. Gilchrist, Head Forester, Mount Melville, St. Andrew's, gave an admirable practical address on "Ornamental Trees for Parks, Pleasure Grounds, and Hedgerows." There was a bright and interesting display of exhibits from Roseby Gardens, Arbroath, and The Grange Gardens, Mansfield, as well as a competition for pots of schizanthus for which the president was awarded 1st, Mr. John Bell, Corona Gardens, 2nd, and Mr. D. Eggo 3rd.

OBITUARY.

Messrs. R. P. Ker and Sons, Basnett Street, Liverpool, and Aigburth Nurseries, Grassendale, Liverpool, write: "We regret having to announce the death after a prolonged illness of our senior partner, Mr. Robert Wilson Ker, who passed away at his residence, 72, Upper Parliament Street, on May 3. We have also to acknowledge with sincere thanks the many kind expressions of sympathy received by the firm testifying to the regard and high esteem in which the deceased was held.

"The business, as nurserymen and seed merchants, will be conducted as heretofore, under the same title as founded by the father of the late Mr. Robert Wilson Ker."

FORTHCOMING ENGAGEMENTS.

TUESDAY, June 7.—Royal Horticultural Society; Committee meet at 12 o'clock; lecture at 3 p.m. on "Survivals Among Plants of the Past," by Rev. Prof. G. Henslow, M.A., V.M.H.; Scientific Committee at 4 o'clock.

WEDNESDAY, June 8.—East Anglian Horticultural Society.

Royal Society of Arts.

Birmingham Summer Show.

THURSDAY, June 9.—British Gardeners' Association (London Branch) Excursion.

SATURDAY, June 11.—R.H.S. Gardens Club; Annual meeting at Wisley Gardens.

MONDAY, June 13.—United Horticultural Benefit and Provident Society.

WEDNESDAY, June 15.—York Floral Fete and Gala, three days.

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

DISEASED PEACHES.—W. C. F., Renfrew: Will you please send us further specimens as soon as possible.

DAMAGED GRAPES.—B., Wimborne: Scalding is the cause of the damage to the berries sent, and due, as no doubt you are well aware, to the burning action of sunlight through the globules of condensed moisture on the berries. The remedy is ventilation very early in the morning so that the moisture is dispelled before the sun is powerful enough to cause scalding.

LILAC.—S. E. T., Cambridge: Cut the bushes back to a point where there are several strong young growths; thin out a good deal of the poor wood towards the base, and then encourage the remaining growths by mulching the bushes with half-decayed manure and watering them freely in hot weather. Growths so encouraged should yield fine panicles of flower next year provided the position of the lilacs is a good one. Where lilacs are starved by strong-growing trees and shrubs near them, or are in a shaded position, they do not flower well. An open position, good feeding, and thinning are necessary for the production of large panicles of bloom.

WRITING ON ZINC LABELS.—L. M. E., Winchester: If bi-chloride of platinum is used for writing the names of plants on zinc labels the name will remain legible for a very long period.

LILY OF THE VALLEY.—S. E. T., Cambridge: Early next year, in February or March, when the weather permits, dig up one of the beds of lily of the valley and sort out the individual crowns. Reject all small crowns and cut away any dead portions; then, having made a new bed in which leaf mould has been freely used, plant the crowns singly and regularly four inches apart. The points of the crowns should be two inches below the surface of the soil. A good watering is usually desirable, following this with an inch-deep mulching composed of equal proportions of leaf-soil and old mushroom bed or old-hotbed manure. Every necessary attention in the matter of watering must be given during the summer, and each autumn, after the leaves have died down, give the bed a mulching of very old manure and leaf soil.

SHADING FOR PLANT HOUSES.—M. E. J., Shepton.—In practically every case blinds are much to be preferred to a wash or permanent shading for plant houses, but where there are difficulties in the way of blinds one or other of the advertised materials may well be employed, as these are well prepared and very suitable. A very good green shade is prepared from Brunswick green and skim milk. There are two shades of Brunswick green, and to obtain the desired tint mix them together at the rate of one pound of the light shade to half a pound of the dark shade. To the mixture add sufficient skim milk to reduce it to the consistency of thin paint. Add the milk gradually as the stirring proceeds, otherwise there is a difficulty in mixing it. Apply it with a medium-sized painter's brush, when the glass is dry. Another very excellent light wash is prepared with newly-slaked lime, whitening, and skim milk. The whitening and lime

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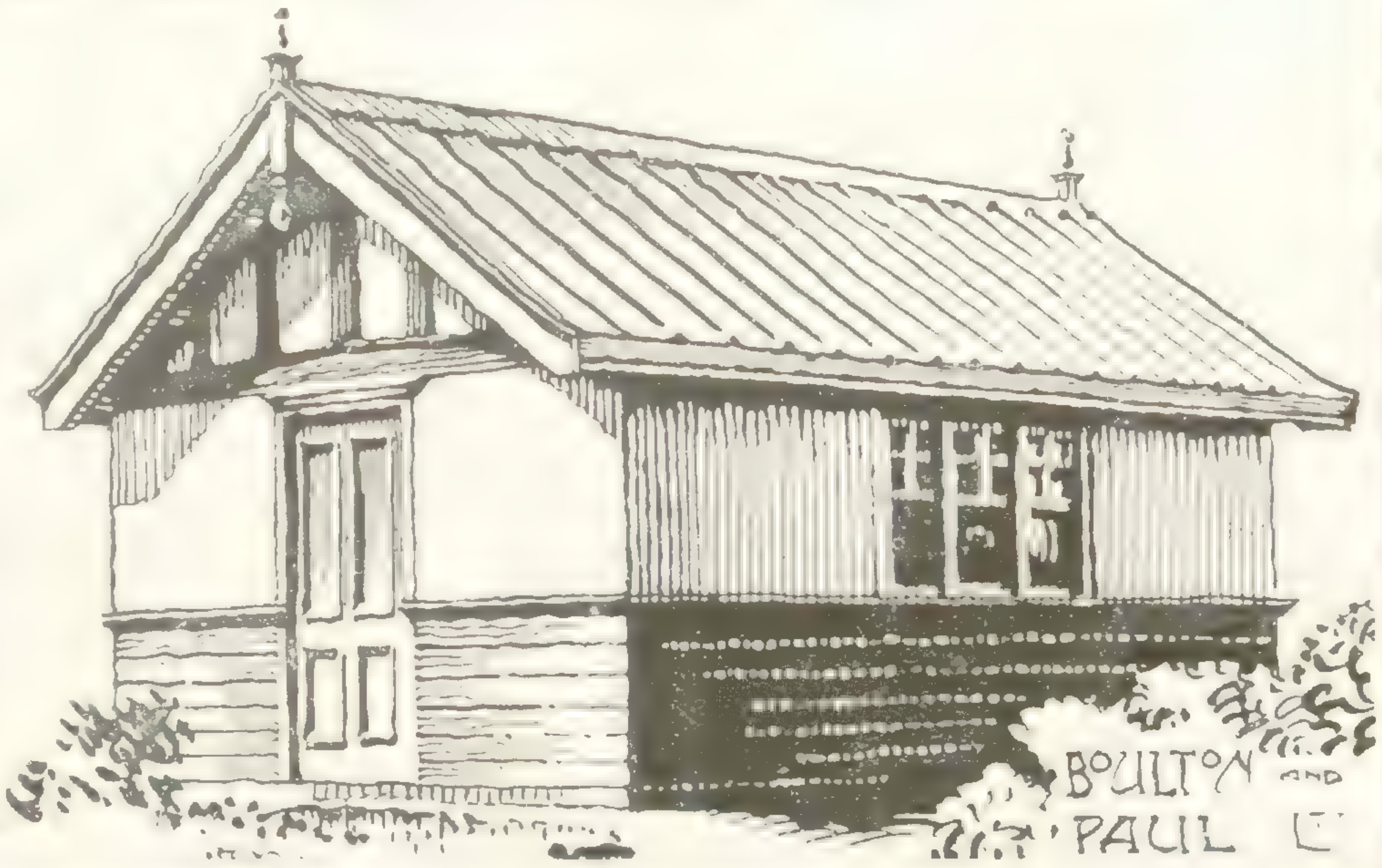

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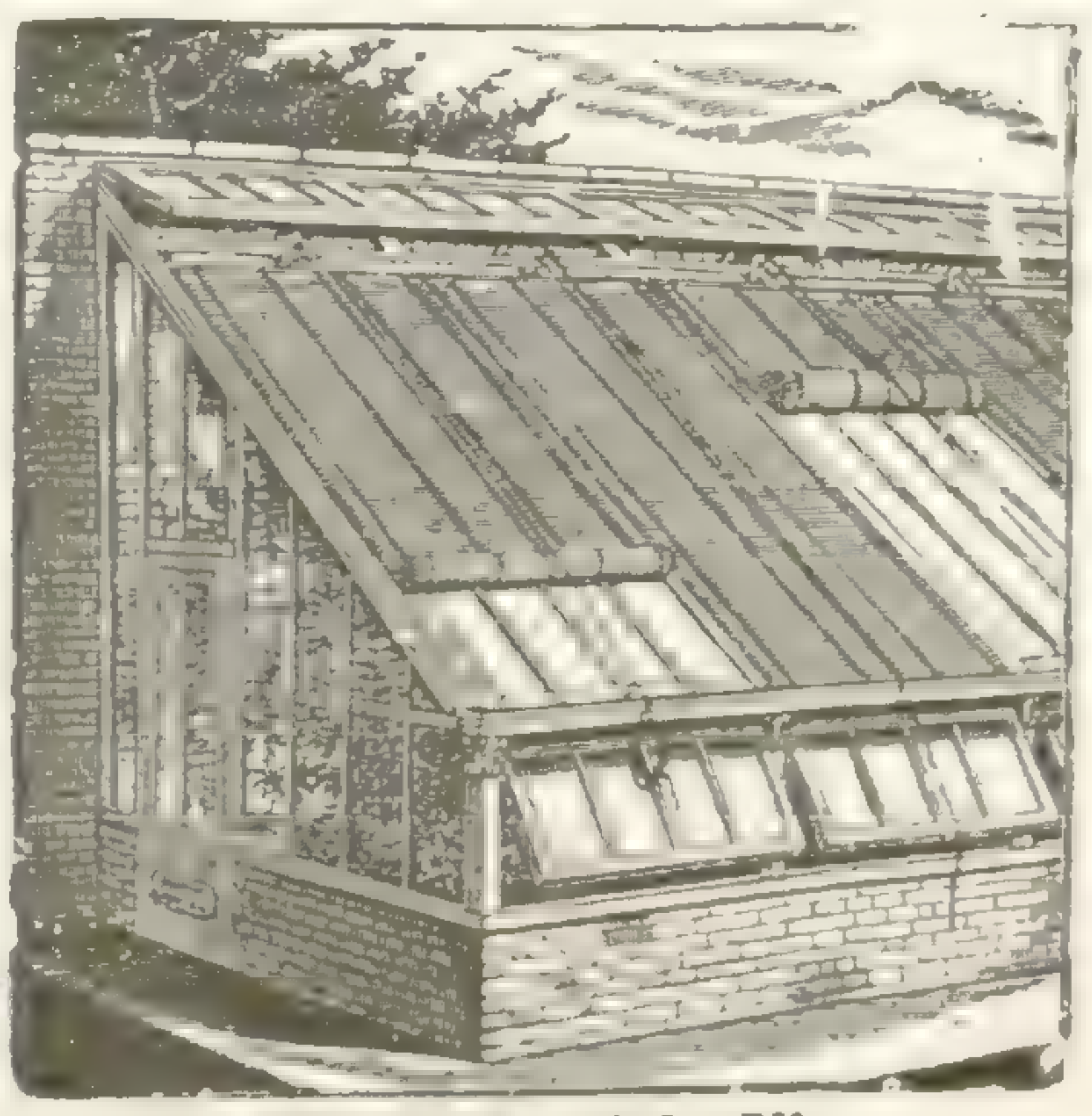

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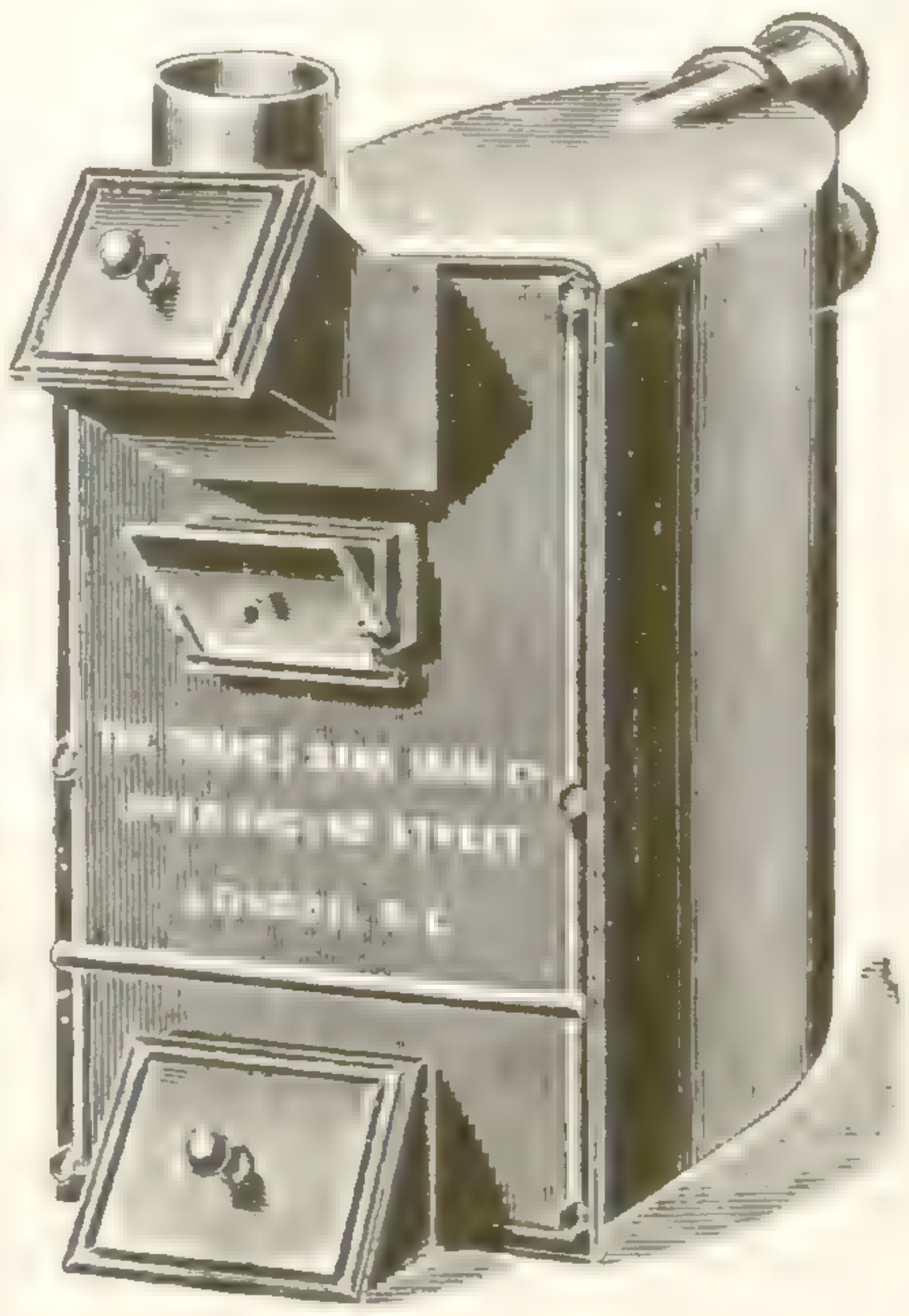
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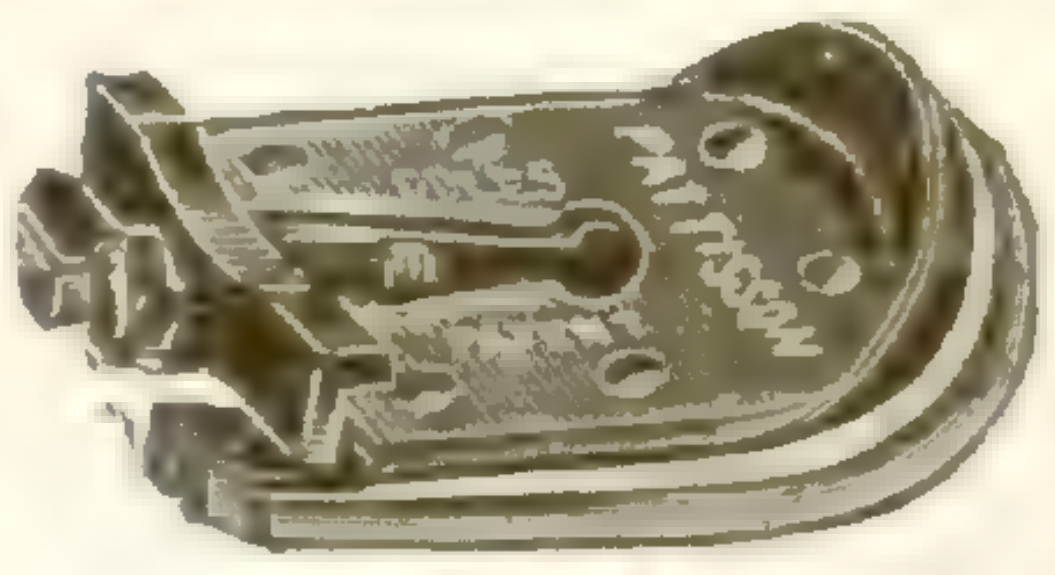

Fig. 1.

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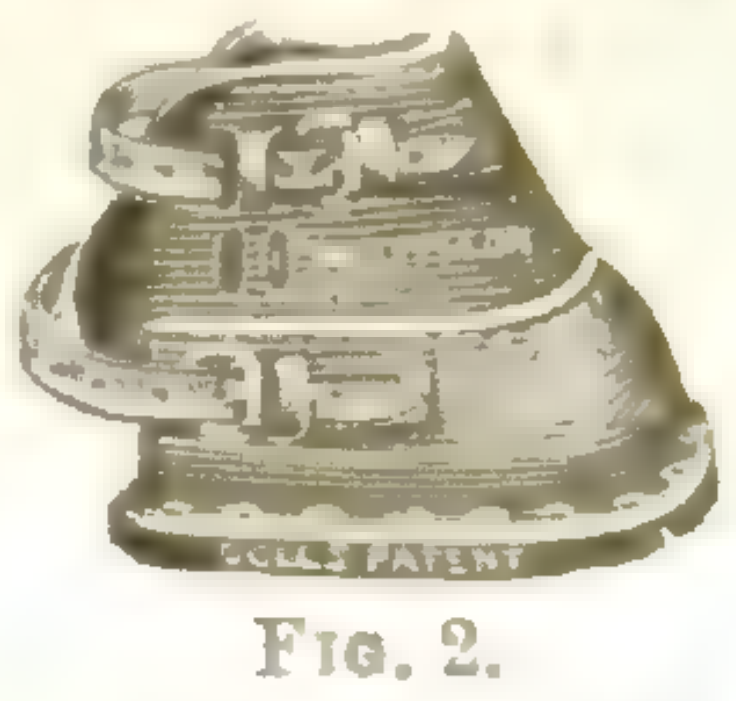

Fig. 2.

H. PATTISSON & CO., 4, GREYHOUND LANE, STREATHAM, S.W.

are mixed together in equal proportions, and enough milk is, as in the case of the green mixture, added to make it of the consistency of paint. Apply lightly and in fine weather, so that it may become dry before exposure to rains. These washes are easily removed in the autumn. Always brush the glass down with a soft dry brush before applying the shading material.

TO DEMOLISH TREE STUMPS.—J. C., Gourock: If the stumps are fresh and still sappy bore one or more holes, two inches in diameter, vertically into them, one of these being right in the centre of the stump. Put two ounces of saltpetre into each hole, fill up nearly to the top with water, and drive in a wooden plug. The holes should be about eighteen inches deep. Late in the coming winter remove the plugs, pour a quarter of a pint of paraffin into each hole, cover with a little straw or brushwood, and set fire to the latter. The stumps will smoulder away without flaming much, and soon be reduced to ashes. This method only holds good when the stumps are fresh and sappy, as the saltpetre then permeates the whole of the mass, and the fire follows after the saltpetre. In the case of dead stumps a good plan is to pour a pint of paraffin over the stump each day for two or three successive days, and then set fire to a small pile of dry refuse wood placed over the stump; if an old sheet-iron chimney or cylinder is available and is placed over such a fire then a strong draught may be produced, and the stump will be more quickly demolished.

PERPETUAL STRAWBERRIES.—F. C. W., Mundesley: During a considerable period some of the French raisers endeavoured to combine the more or less perpetual-fruiting habit of the alpine strawberry with the free-cropping and large-fruited kinds. Little success attended their efforts until about a dozen years ago the Abbé Thivolet of Chenoves was fortunate enough to obtain several perpetual varieties of the desired nature. The first of these was St. Joseph, which continued to flower and fruit from May until October, and though its fruits were not of first-rate flavour they were passable and of fair size. This was followed by the variety named St. Antoine de Padoue, which was an improvement on the St. Joseph, being more perpetual, larger fruited, and of fair flavour. For some time these varieties found a great deal of favour, but they are not much heard of nowadays. Possibly if raisers had continued their efforts the race would have been so improved as to be of considerable commercial value.

QUASSIA SOLUTION.—M. O. R., Wisbech: Soak half a pound of quassia chips in two gallons of water all night and then bring the whole to the boil and keep boiling for at least ten minutes. Strain the liquor, and while it is still hot add half a pound of soft soap. Plants infested with fly should be syringed with the mixture while still warm, and be syringed with clear tepid water about half an hour later.

NAMES OF PLANTS.

J. M., Yorks.—Funkia ovata.

J. M., Yorks.—Specimens insufficient for determination; probably No. 1 is Agathæa cœlestis, and No. 2, Celsia cretica.

T. A., Guildford.—1, Phlox canadensis; 2, Primula farinosa; 3, Cytisus albus; 4, Daphne cneorum; 5, Rhus typhinus; 6, Oncidium pubes.

E. C. C. D., Tunbridge Wells.—The flowering plant is a rubus, probably Rubus deliciosus: the other specimen is a cut-leaved lime, Tilia platyphyllos aspleniifolia.

D. H., Caterham.—1, Asplenium Nidus; 2, Dracaena congesta; 3, Trachycarpus excelsa; 4, Ophiopogon Jaburan variegatus; 5, Polypodium aureum; 6, Bambusa variegata.

S. R., Brandon.—The fringed tulip is one of the Parrot or Dragon varieties, but we cannot give you the varietal names of either specimen. Only in the case of very popular and well-marked florists' flowers is it safe to name a specimen unless one has access to a large collection of varieties.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

DATE. 1910. MAY 22 TO MAY 28.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
May 22—Sunday	9 0	59	55	75	52
„ 23—Monday	13 54	68	67	75	51
„ 24—Tuesday	12 24	60	54	62	48
„ 25—Wednesday	5 48	50	46	58	47
„ 26—Thursday	9 48	50	47	66	46
„ 27—Friday	1 48	59	55	66	47
„ 28—Saturday	9 54	64	58	73	50
Means	(total) 62 36	58	54	68	49

DATE. 1910. MAY 22 TO MAY 28.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
May 22—Sunday	—	58	56	52	50
„ 23—Monday	—	59	57	52	47
„ 24—Tuesday	—	58	57	52	40
„ 25—Wednesday	—	58	57	53	47
„ 26—Thursday	—	56	57	53	45
„ 27—Friday	—	58	57	53	41
„ 28—Saturday	0.09	59	57	54	45
Means	(total) 0 09	58	57	53	45

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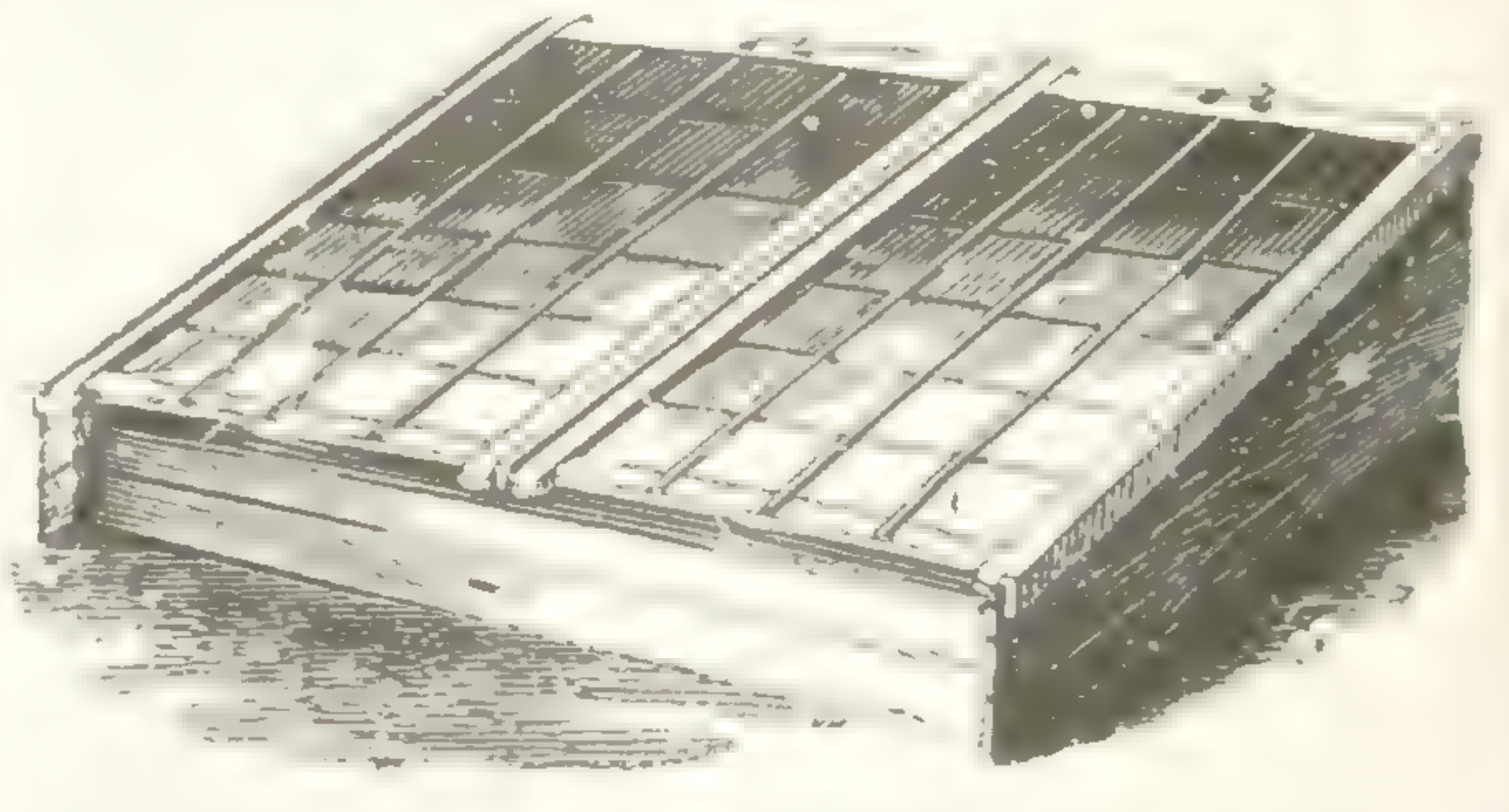

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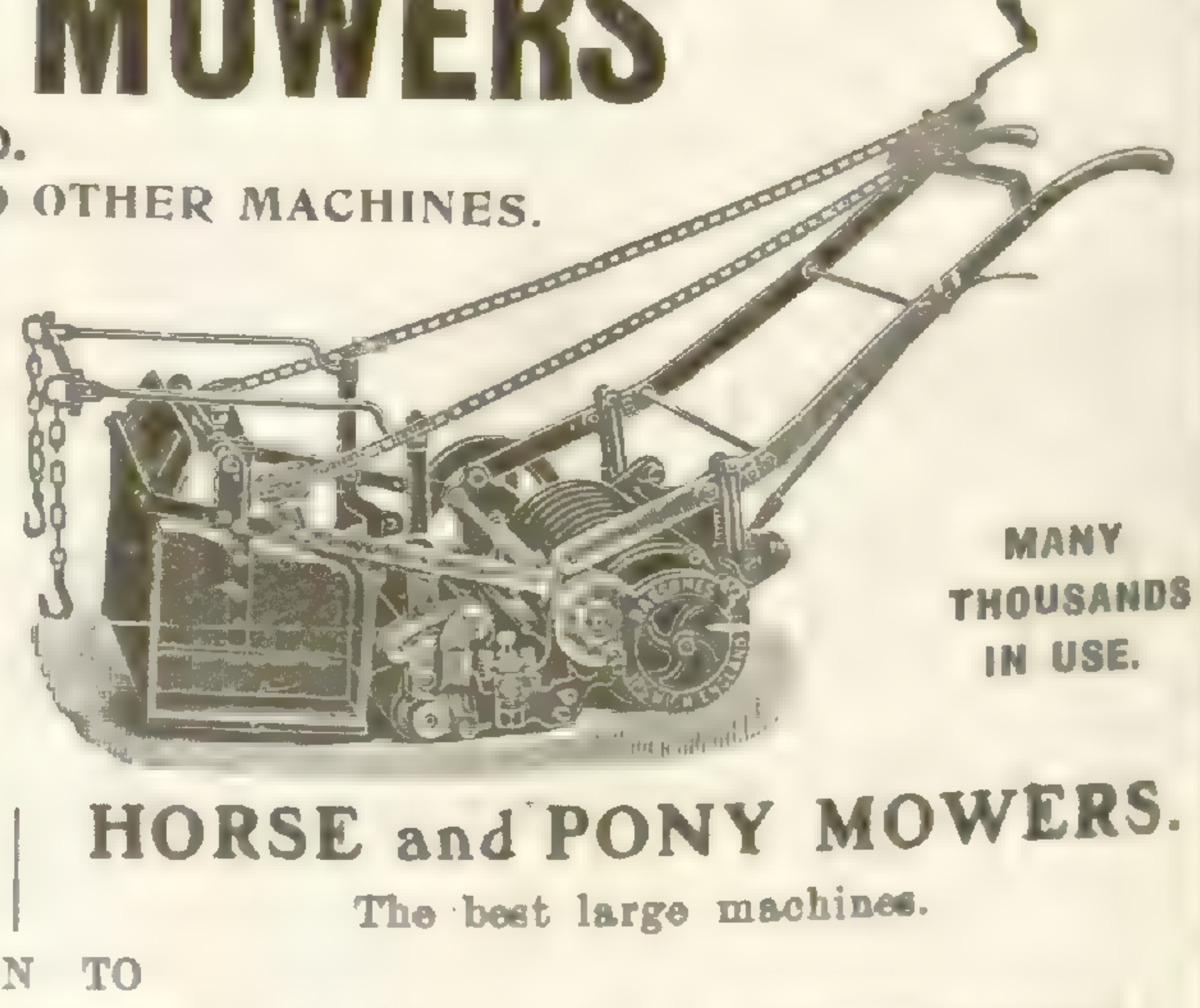

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THE GARDENERS' MAGAZINE.

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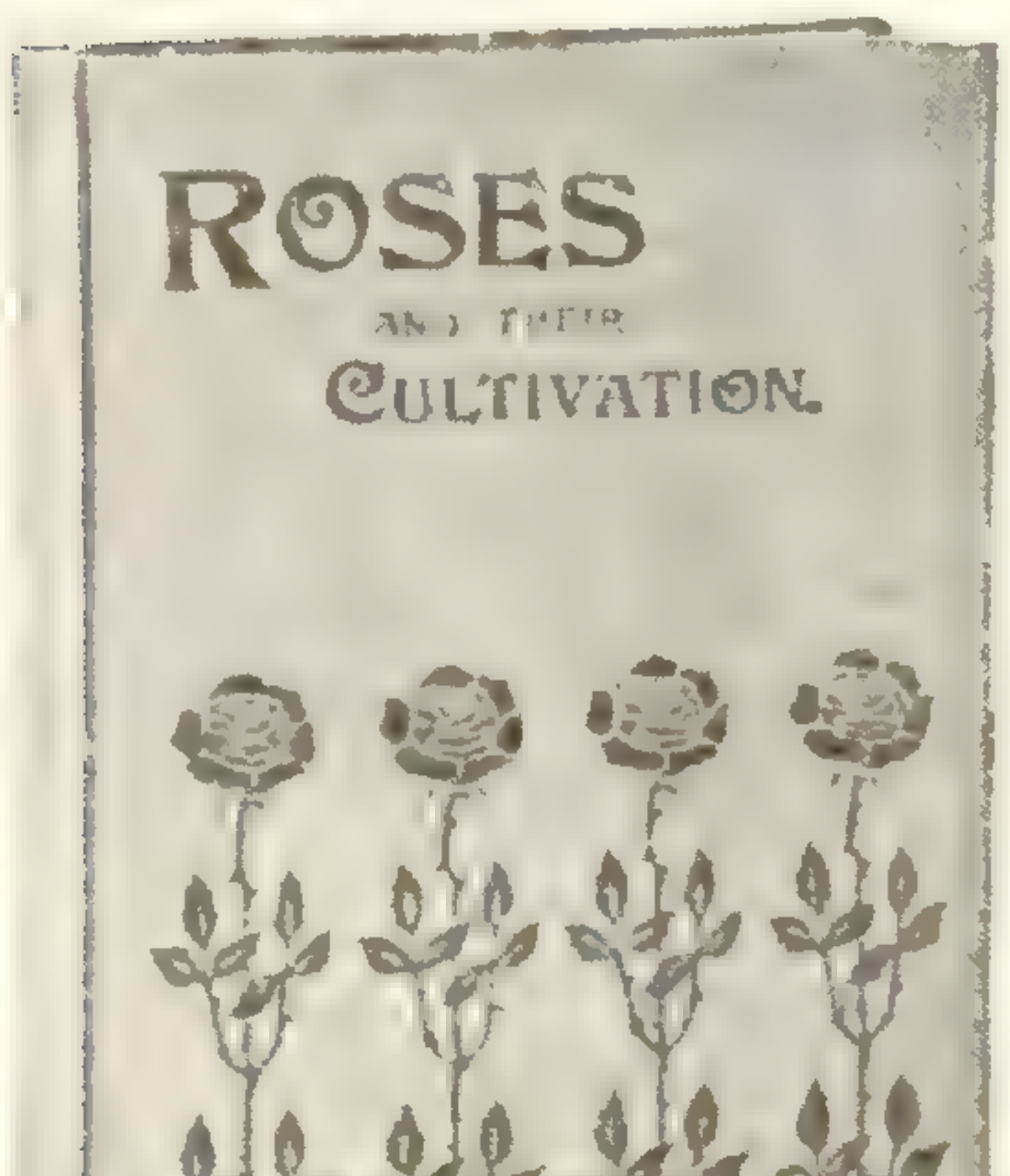

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VOL. LIII.—No. 2,954. SATURDAY, JUNE 11, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

British Ferns.

The recently-awakened popular interest in the beautiful varietal forms of our native ferns undoubtedly justifies a short note of their merits. Half a century ago the discovery by a few pioneer fern hunters of some strikingly beautiful "sports." under wild conditions, and the introduction of these to popular notice, led to a "craze" in that direction, which unhappily induced the trade growers to place upon the market a large number of inferior and defective forms. These at first found a ready market as "curios," but eventually not only entirely swamped the comparatively few symmetrical and beautiful varieties then discovered, but also, as was inevitable, led to a reaction, which until the last year or two has thrown our native ferns entirely into the background. In the interim, however, a continuous coterie of enthusiasts not only maintained their collections, but by dint of persistent search in our ferny lanes, hedgerows, glens, and moorlands, discovered many more charming departures from the normal. These they not only propagated by offsets and bulbils, when such were developed, but also by their spores; and as it is a peculiarity of "sports," as a rule, to breed not only fairly true, but also to produce offspring of enhanced character, the result has been the acquisition of so large a number of fine symmetrical and constantly beautiful forms, that the merely "curious" have become quite ignored. At the present day we have as a consequence a series of purely native ferns with which no other country, or, indeed, all other countries put together, can vie, as regards intrinsic beauty and variety of type. It is this latter feature which is perhaps the most interesting. Exotic species, as we know, also are apt to sport, and many beautiful aberrant forms adorn our conservatories and decorate our rooms; but in the British forms we have quite a number which have sported in a fashion of which no parallels have occurred among the exotics. It is only recently, indeed, in the wonderful strains of Nephrolepis exaltata, which have been developed by bud sports from the first American introductions, that we have found rivals to some of our finest forms of Shield Ferns raised more than a quarter of a century ago, while every now and again new strains of the same genus, and of the Lady Fern, and other species, have cropped up, which really stand alone as examples of beautiful dissection, cresting, or other marked varietal character. At every show worthy of the name in these days, fine collections of Harts-tongues, Lady Ferns, Lastreas, Shield Ferns, and other species, may be seen; the first-named species, normally a simple plain-fronded fern, figuring in hundreds of different types, tasselled, dwarfed, frilled, fringed, and otherwise diversified in such a fashion, that, coupled with its perfectly evergreen and hardy nature, it constitues an ideal fern for cool conservatory or shady garden culture. In the Shield Ferns we have, as in the examples already mentioned, dense plumy fronds, so finely dissected and so redundant in growth as to rival even that miracle of ferny beauty the Todea superba of the Antipodes. The common Male Fern of our hedges and ditches may be seen as a stately tree fern, five feet high, with every terminal a graceful tassel, and by its side we may note a group of delicate dwarfs, crimped and curled and tasselled in like manner, a whole collection of which might be accommodated in a single window. The Common Polypody, which we may see on old wall tops or fringing the hedge banks, with its simple, once-divided fronds, has sported into scores of forms, among which the plumose or extra feathery ones, known as the Cambricum or Welsh Polypody section, are veritable evergreen gems, to say nothing of the many forms of the tasselled section of the same species. The several species, near relatives of the Male Fern, the Broad Buckler Fern, the Lemon-scented Fern, and the Hay-scented Fern, have all yielded crested and crimped and dwarfed varieties on pretty lines; and, in short, hardly one of our forty odd species but has "sported" more or less liberally to swell the ranks of the élite. This being so, and all these ferns being native, and therefore hardy, it is no wonder that now that they are once again presented to the public, minus the unattractive "curio" section, they are rapidly acquiring that popularity which they so undoubtedly merit. Thousands of cool, unheated conservatories, so situated as to lack that liberal sunshine demanded by flowering plants, are admirably adapted, by virtue of their shady position, for the accommodation of British ferns; while thousands of gardens in which the common forms, regarded by the connoisseur as merely the raw material of Nature's masterpieces, are grown in monotonous profusion, might well be improved by the substitution of a score or two of good varieties.

MR. GEORGE H. HOLLINGWORTH.

Mr. G. H. Hollingworth, whose portrait is given herewith, occupies an important position in the West of England as horticultural instructor under the Gloucestershire Education Committee. Though he is still a young man, Mr. Hollingworth has had a varied and thoroughly practical experience, as he was born in a garden, and when in his teens began to learn his business under his father, the late Mr. J. Hollingworth, who was at that time head gardener and bailiff to J. F. Campbell, Esq., Woodseat, Uttoxeter, and one of the best-known growers and exhibitors of grapes in the Midlands. Mr. Hollingworth, sen., was one of those men who believed in youths getting out into the world to gain experience, so he sent his son to Alton Towers, the seat of the Earl of Shrewsbury and Talbot, to serve under the late Mr. T. H. Rabone, who was a soundly practical gardener belonging to what is known as "the old school." After passing through the various departments from kitchen garden to orchid houses, Mr. Hollingworth was promoted, at the early age of twenty, to the post of general foreman, in which he carried out the instructions of his chief, who was also estate steward, and had a large staff of men under his charge. It was while he was at Alton that Mr. Hollingworth began to give expression to his views on horticultural matters in the gardening press, and he attracted the notice of Mr. J. Wright, V.M.H., then editor of the "Journal of Horticulture." This eventually led to an offer from the late Dr. Hogg of a post on the editorial staff of that paper, which proved to be a happy connection, and only came to an end when Mr. Hollingworth was appointed as an assistant lecturer in horticulture under the Kent County Council. After seven or eight years in this capacity he applied for, and obtained, the position he now holds in Gloucestershire, where he has charge of the horticultural teaching in a county where orcharding and fruit growing are industries of importance. The education authorities in Gloucestershire believe in administering a class of education that is adapted to rural needs, and in a few years gardens have been established under Mr. Hollingworth's supervision in connection with a large number of elementary schools in the country. As a lecturer and demonstrator Mr. Hollingworth's services are in great demand, and the fact that the teaching which he imparts is founded on his own practical experience goes a long way towards winning the confidence of the people who attend his classes.

International Horticultural Exhibition of 1912.—We understand that steady progress is being made in connection with the preliminary arrangements for the great International Horticultural Exhibition, to be held in London in 1912. The site of the exhibition has not been officially announced, but it is practically fixed, and the position is a very get-at-able one, with ample room, in pleasant surroundings, and so situated that its enclosure will be an easy matter. At the present moment the chief thing for those to do who are interested is to send along subscriptions to Mr. Edward White, at the Royal Horticultural Hall, together with a promise to guarantee a further sum in case of need.

The New Plants of 1909.—In the form of an appendix to the "Kew Bulletin," there has just been issued a very complete and descriptive list of the new garden plants of the year 1909. The list extends to 85 pages, and includes species, varieties, and hybrids, and is compiled from botanical and horticultural publications; a large number of the new plants have been described in the pages of the Gardeners' Magazine, and references are made to these in the Kew List. The authorities at Kew point out that the number of garden plants annually described in English and foreign publications is so considerable that it has been thought desirable to publish a complete list in the "Kew Bulletin" each year. Such lists are indispensable to the maintenance of correct nomenclature, especially in the smaller botanical establishments in correspondence with Kew, which are, as a rule, only scantily provided with horticultural publications. The Kew list includes not only plants brought into cultivation for the first time during 1909, but the most noteworthy of those which have been re-introduced after being lost to cultivation. Other plants included in the list may have been in gardens for several years, but either were not described or their names had not been authenticated until recently.

R.H.S. Committees' Outing.—Mr. and Mrs. Harry J. Veitch have again invited the members of the Royal Horticultural Society's Committees to East Burnham Park, on the day following the Holland House Show. The hospitality of Mr. and Mrs. H. J. Veitch is proverbial, and the beauty and interest of East Burnham Park are great, while, for the day, and for those who care for it, there is the added interest and mild excitement of a cricket match.

Vacant Land Cultivation.—The society that is devoting its attention to the cultivation of vacant lands by unskilled and only partially employed men, has Mr. Joseph Fels, Wilson Street, E.C., as its prime mover. In the second annual report, just issued, it is shown that the society now has the loan of considerable areas at Fulham, Westminster, Balham, Canning Town, Garratt Lane, Wandsworth, Cricklewood, Leyton, and Perivale. It has over fifty acres under cultivation, and more than four hundred plot holders, all of whom hold their plots rent free, and are advised and assisted by Mr. R. Lewis Castle, the society's expert superintendent. The total value of the produce raised by the men in three years, taken at a moderate average, exceeds £5,000, this including that used and sold at the prevailing retail prices of each district, namely, the prices the plot-holders would have to pay to shopkeepers or hawkers. The total sum expended by this society in the corresponding period to effect these results is less than the men would have had to pay collectively as rent for allotments in the London area at the customary rates. When it is remembered that the whole of the land thus employed had previously been practically waste—in some cases for many years—the advantages are obvious. The men and their families have profited substantially, and help has been rendered without pauperising the recipients. The men have learnt the full value of industry rightly applied to the utilisation of the resources of the soil.

Gardeners' Royal Benevolent Institution.—We may remind our readers that the seventy-first annual festival dinner of this charity will be held at the Whitehall Rooms, Hotel Metropole, London, on June 22, at seven o'clock, under the presidency of the Hon. Harry Lawson, M.P.

Steam Haulage of Market Garden Produce.—Mr. A. W. Smith, the well-known market gardener of Feltham, was recently fined, and had to pay costs, in connection with summonses for using an unlicensed road locomotive for the purpose of hauling his produce to Covent Garden. It was contended that the engines were being used for agricultural purposes, and therefore registration only and not a licence was necessary. The Richmond Bench considered the engines were used for haulage pure and simple, and not solely for agricultural purposes, therefore they imposed a fine of £5, and costs, but agreed to state a case for appeal.

Tree Pæonies in North Wales.—Miss Nelto Williams has very kindly sent us a photograph of one of the tree pæonies growing on the terrace in the gardens at Dendraeth, Penrhyndendraeth, North Wales, but the picture is not, unfortunately, suitable for reproduction. The specimen represented has pink flowers of immense size, stands 5ft. high, and has been eleven years in its present position. This year it has had fifteen blooms expanded at once.

May in the North.—The weather experienced during May this year has, on the whole, writes our Aberdeen correspondent, been finer with us than usual, for we had with one exception limited to a very small area, no squalls of hail, snow, or sleet, such as we often have during some parts of that month. The exception was in the Mintlaw district of Aberdeenshire, where, on the last day of the month, a heavy rainstorm, accompanied by hail, broke. For about a quarter of an hour the rain fell in torrents, and later a heavy shower of hailstones came on, and in a trice the ground and roofs of the houses were white. Short as the visitation was, it must have done much damage to the garden fruit crops now just beginning to form on the bushes. The only other occasion on which we had anything at all of the kind was on the 7th, a very cold day, when some of the rain that fell was of a sleety nature. The total rainfall for the month was about three inches, which is fully half an inch above the average for the last 40 years. As it was pretty well distributed over the month, falling on fully 16 days in moderate quantities, the ground has never been either too dry or badly soaked, although latterly the rain has been perhaps rather too plentiful. We have had a fair amount of sunshine, often quite brilliant and strong, with an almost cloudless sky, alternating with other days that were extremely cloudy. The wind was generally light, never very strong, and varied much in direction. Temperature during the earlier part of the month was rather low, with decided spells of frost on a few clear mornings. The hills have sometimes had a good deal of snow on them. Many of the whin bushes are withered and dead. Laurel leaves have also been quite ruined by the frosts. The latter part of the month, however, was very favourable for vegetation, and grass is now coming away beautifully and with a fine colour. The swallows were late in arriving this year, it being after the 20th of the month before one could count them in any numbers. At the close of the month the trees were all mostly in leaf, except the ash, and even that was opening out its buds.

Botanists and Humour. Botanists are generally regarded as intensely serious folk, but they are on occasion unconsciously humorous. The last thing, however, one would expect from botanists is a journal dealing wholly with the humour of botanical work and study, and yet such a journal has been issued under the title of "The Sportophyte," from the Manchester University, the editor being Dr. Marie Stopes. Jokes, humorous anecdotes in prose and verse, and parodies of serious articles appear, the whole making light reading for odd moments. "Punch" had better look to its laurels now that botanists have seriously entered the field of humour.

Proposed New Open Space for Kilburn.—At a largely-attended and influential gathering held at Kilburn a short time ago, it was decided that an effort should be made to secure The Grange, on the Kilburn High Road, for the public use. The Grange estate consists of about 9¼ acres, and is the centre of a large population. It is estimated that there are 87.2 persons per acre in Kilburn, and 4,000 children under 15 years of age.

There is no open space near by, as Hampstead Heath is two miles away. Local support has been promised, and a public appeal for funds is now being made, for which Mr. W. G. Snowdon Gard, of Rosslyn Hill, Hampstead, is acting as hon. treasurer.

York Floral Fete and Gala.—In our next issue we shall publish a full descriptive and illustrated account of this great exhibition, to be held at York on Wednesday, Thursday, and Friday next.

Eastbourne's New Park.—When the Duke of Devonshire succeeded to his title, he commemorated the event by presenting a pleasure-ground at Motcombe to the Borough of Eastbourne. This has been now laid out, and was opened to the public on Saturday last. The grounds are charmingly situated in the valley of the Bourne, and surround a pretty lake.

Addlestone Rose and Sweet Pea Show, which is fixed for Wednesday, July 6, promises to be exceptionally attractive this year. There are a number of open classes, including one for roses confined to trade exhibitors, in which the award is a challenge cup, at present held by Messrs. B. R. Cant and Son. Sweet peas will, of course, be strongly represented, and the leading growers are arranging to stage exhibits.

Flowers in Motor Cars.—In well-appointed private motor cars it is now quite the proper thing to find one or more vases fixed for the reception of flowers, and, in most cases flowers are placed in them. We have noticed that during the past few weeks almost all such cars have carried a little bouquet of white flowers, but on Saturday last we saw dozens of fine cars in which coloured flowers were carried in the vases, showing that there is a slight relaxation of the outward and visible signs of national mourning.

Origin of Wm. Allen Richardson Rose.—In a lengthy, but very interesting communication to the "Rose Annual" for 1910, E. V. Lucas discusses various attempts to discover the origin of the famous and beautiful William Allen Richardson rose, and gives the history of the variety as sent from America, as follows: "William Allen Richardson was born in New Orleans, La., on February 20, 1819. When he was but two years old his father moved to Lexington, Ky., where he resided until his death, in October, 1892. William Allen Richardson married Miss Mary Short, daughter of Charles Wilkins Short, the botanist, who pursued his favourite studies of botany and horticulture at his country place, 'Hayfield,' some five miles south-west of Louisville. With this congenial companionship, Mr. W. A. Richardson established himself in an adjoining place, 'Ivywood,' and became much interested in the cultivation and propagation of roses. He imported a good many, and in this way became acquainted by correspondence with Madame Ducher (or she may have been called Veuve Ducher), at Lyons, France, who was especially interested in a rose which he sent her of a pale yellow colour, and she wrote Mr. Richardson that she had a sport from this rose in her own garden, which, if successful in propagation, she would name for him; hence the name as applying to the beautiful copperish yellow rose."

Red Gum Wood for Railway Sleepers. It is stated that last year enquiries were received in South Australia for one million railway sleepers, cut from red-gum (Eucalyptus), for America. The contract could not be taken up, because the supply of red-gum for sleepers is rapidly being used up for Australian railways, but it is of interest as showing that even the United States are having to look about for timber supplies. The expenditure of the South Australian/Woods and Forests Department, observes "Nature," has been increased from £10,080 to £17,575. The intention is to encourage in every way the planting of pine, gum, and other trees, even to consider the advisability of offering a bonus sufficient to cover the cost of the necessary attention to the trees for the first four or five years of their existence. Wasteful methods of handling mature timber are still in vogue. We are told that only about one-third of the timber on any given area is properly utilised, the rest being destroyed by axe and fire owing to the unsystematic and wasteful character of the lumbering operations.

Vanilla Culture in the West Indies promises to increase owing chiefly to the passing of a pure food law in the United States. By this law all the materials used in food products must be declared, consequently the public has discovered that a good deal of vanilla is synthetically prepared, and they have decided for the natural product. This has led to a larger demand, and better prices for the produce of the only orchid that has any marked economic value.

EVERGREEN RHODODENDRONS.

Although we have rhododendrons of one kind or another in blossom during the whole of the spring months, June may be said to be the time when the evergreen varieties are at their best, for during that month the numerous varieties and hybrids of R. catawbiense, R. ponticum, etc., are in bloom. A great many estates throughout the country are famous for their rhododendrons, and some proprietors throw their grounds open to the public in rhododendron time. The same thing is done by some of the great nurserymen, and the wide breaks of young plants covered with crimson, red, lilac, white, mauve, or purple flowers, relieved here and there by large bushes or standard plants, are wonderfully effective, and people who are able to visit these places are well repaid for their trouble.

Not content with throwing open their nurseries, however, some nurserymen go a step further, and transport many wagon loads of plants to places where the general public can admire them. Londoners are familiar with the effective exhibitions made by the two firms of Waterer, one of whom, Messrs. J. Waterer and Sons, display their plants in the Royal Botanic Gardens at Regent's Park, and the other, Mr. Anthony Waterer, in Hyde Park. From these two groups anyone who contemplates the planting of rhododendrons can select an ample number to meet his requirements, for most of the best varieties are to be seen, not as tiny plants with two or three heads of flowers, but as large bushes covered with blossoms. Then some of the municipal bodies in large towns have formed fair collections in their parks, while the Rhododendron Dell at Kew is one of the most popular features of the famous gardens.

The practice of planting rhododendrons in thin woodland has been largely adopted in some places with very effective results, and in some instances the plants have become naturalised. This is particularly so with the well-known R. ponticum, for in places which are peculiarly suitable for rhododendron culture it has seeded, and spread from naturally-layered branches to such an extent that large areas have been covered from the few plants which were first introduced. A striking example of this is noticeable at Foxhill, an estate near Frodsham, in Cheshire. Behind the mansion a hill rises to a height of 200 feet or so, which is more or less clothed with pines, the natural soil being sandy peat. About 25 or 30 years ago walks were cut in a zig-zag manner over the greater portion of the hill, and plants of R. ponticum were placed here and there about the margins of the paths. By natural increase these have spread into very large masses, which make a glorious display each June. R. ponticum is one of the very best kinds for planting in woods, independently of its habit of rapid increase, for the colour of the flowers is well adapted to semi-shade. Reds, on the other hand, are not suitable for such situations, but should be placed where they can obtain a really good light, for a mass of some bright red variety in half-shade looks decidedly out of place.

In addition to the two species previously mentioned, R. arboreum and R. caucasicum have exerted some influence in the production of the numerous garden varieties, while a race of fragrant flowered sorts has originated by using the Chinese R. Fortunei as a parent. The Himalayan R. Griffithianum has found favour with some hybridists, but its progeny is better suited to the mild climate of the south-west counties than to places where greater cold is experienced.

The connoisseur amongst garden rhododendrons finds his ideal in the shapely conical trusses of bloom so familiar in R. catawbiense and its varieties, while its exceptional hardiness and bold, handsome foliage are other points in favour of this species. It has, however, been necessary to introduce the blood of other species to obtain variety of colour, but the object of raisers has always been to retain the chief features of R. catawbiense, and in this they have been eminently successful.

When planting rhododendrons the chief care should be that the ground is fairly free from lime, and that it is moderately well drained, for the two things that rhododendrons most detest are lime and sour soil. Although they thrive in peat, peat is not essential to their well-being, for they grow very well in both light and heavy loam. Deep planting is objectionable, and the use of manure in a fresh state is not advised. A surface dressing of rotten leaves forms a valuable asset, for it keeps the roots cool and moist.

Among the numerous varieties the following will be found a good selection: Amphion, rosy pink; Ascot Brilliant, blood-red, large flowers, loose truss; C. S. Sargent, bright red; Chas. Dickens, red; Doncaster, scarlet; Duchess of Bedford, crimson; Duchess of Connaught, white with yellow markings; Earl of Shannon, crimson; Florence Smith, pink; Florence, pink; Frederick Waterer, crimson; Gomer Waterer, white; George Paul, crimson; Helen Waterer, white with red margin; James McIntosh, rose-crimson; James Marshall Brooks, bright red with brown markings; James Nasmyth, rose lilac; John Waterer, crimson; Kate Waterer, rosy crimson with yellow markings; Lady Clementine Mitford, peach colour; Lady Grey Egerton, silvery white; Manglesi, white; Martin Hope Sutton, scarlet; Maxwell T. Masters, crimson; Michael Waterer, scarlet; Marchioness of Lansdowne, rose with dark spots; Marchioness of Tweeddale, pink with brownish markings; Mrs. Anthony Waterer, white; Mrs. R. G. Shaw, blush, maroon blotch; Mrs. Holford, salmon-pink; Minnie, white; Mrs. T. Agnew, white; Pink Pearl, pink; Mrs. E. C. Stirling, white; Sappho, white with dark blotch; and The Queen, white.

W. Dallimore.

THE NEWER LILACS.

Of all spring-flowering subjects in the garden none are more appreciated than the lilac; even the ordinary form of Syringa vulgaris is lovely; but when we consider the great improvement made in varieties during the last fifteen years, or even less, one cannot wonder at the appreciation the newer forms find with those who are conversant with them. Most of these have larger panicles of bloom, while the individual flowers are of greater size and better form than in old varieties, and the colours are more intense and varied.

As an illustration we may take the variety Souvenir de Louis Spathe, and compare it with the type, or even with Charles X. In the newer variety the colour is again intensified, but even this is superseded by Negro in point of colour, for the latter retains its purple blue colour for a longer time; individually, too, the blooms are larger.

Of double and single-flowered varieties it is an easy matter to select four dozen that are quite distinct, and this is quite ample for even a large collection. But seldom do we see lilacs given a fair share of attention; too often they are crowded in the shrubberies, and more often than not given a position under tall forest trees, where they struggle on, and seldom have a chance to display their beauty of colour and form.

To grow lilacs well abundance of space should be provided, in order that the growths may become properly ripened each season, this being necessary to ensure freedom of flowering. Deeply-dug and well-manured stiff soil will grow lilacs to perfection, provided they receive other attention, such as the removal of suckers, which too often spring from the common stock upon which the choicer varieties are grafted. The removal of weakly shoots to ensure the perfect maturation of the stouter ones is also necessary, and copious supplies of liquid manure in May, when the panicles are developing, is of great assistance in increasing the size of the blossoms and improving the colour. Newly-planted bushes should be pruned to within an eye or so of the base with a view to secure a dwarf specimen of good shape, as some varieties are apt to run up in an ungainly manner.

The following are a few of the newer varieties worthy of any collection:—

Double-flowered Varieties.

It seems difficult to realise a finer white-flowered lilac than Madame Lemoine, but the newer variety—Miss Ellen Willmott—is a distinct advance in purity of colour and size of the individual blossoms. The panicle in Madame Lemoine is perhaps longer, and the newer variety is later in developing its flowers, which is an advantage, as the season is thus extended. Jeanne d'Arc is a desirable sort where greater variety is required. President Loubet has carmine buds and deep purple-red flowers. Waldeck Rousseau is a charming variety, with extra large flowers of a rosy-lilac colour, becoming white towards the centre. Maurice de Vilmorin has a thick panicle, and the buds are attractive by reason of their rich red colour, but when expanded they are blue with a white centre. Dr. Troyanowsky has enormous panicles of rosy-pink buds, but the flowers are azure-blue when open. Comte de Kerchove is free-blooming, and a showy variety with rich red buds and rosy-pink flowers. Madame Jules Finger is very fragrant, with satin-rose flowers. Condorcet has the largest panicles of any variety, and the flowers are a lovely shade of blue. Marc Micheli has pink buds that open into blue flowers. Souvenir de L. Thibaut has rose-coloured buds, with a purple-shaded blue flower.

Single-flowered Varieties.

Othello is quite a superior variety, and the blooms are so placed that they do not overlap each other, which gives it a distinct and desirable appearance. The deep claret-coloured flowers have a red border, but when open are pale red. Uncle Tom is of a deep violet-purple. Dr. Mirabel has tall, erect panicles of claret-coloured buds, opening into purple-lilac flowers. Gloire de la Reine has red buds, changing to violet. Professor Stockhart is a lilac shade of blue. Gloire de la Rochelle has rosy-lilac flowers, changing to a light shade of blue. Pasteur has erect trusses of large flowers of a wine-red colour, changing to mulberry-red.

Swanmore Park. E. MOLYNEUX.

STOPPING PERPETUAL CARNATIONS IN SUMMER.

There is a three-fold object in stopping perpetual carnations during the summer. Stated briefly, it is to encourage continuity in blooming, to preserve and build up the plant's energy, and to obtain a shapely plant.

There is no wisdom in allowing your plants to make a lot of unnecessary top growth, and then go to them one morning and make a wholesale slaughter. This is simply wasting their energy, and causing a check, and it also encourages the plant to crop all at once instead of producing a continuous supply of bloom. It is only natural that if the growths of a variety are all stopped at one time they will flower together. The object should be to go over the plants, say, twice a week, just stopping what growths are in a fit and proper condition to be so treated.

If plants are out in the open it is never wise to stop them during dull rainy periods, as the growths are very much more soft and sappy, do not break so evenly or produce so many breaks, and it also causes a greater check to the plant.

There is one golden rule which it behoves all carnation growers to have deeply impressed on their memory. Never pull out the point of a growth. Such stopping is premature, and results in a number of weak breaks. If the growth is long enough to be stopped break off the top, if not leave it. Naturally, one asks: When is a growth of sufficient length to be stopped? and I say, as a general rule, when one can remove two developed leaves and leave six good joints or sets of leaves on the plant or branch. But, with the long, loose-growing varieties it is best to pinch the growth in a little harder.

I hope I have made myself explicit. After the young plant has received its first stopping it produces side growths, which, as a general rule, should be treated as stated by stopping them as they become long enough to be so treated.

Then we come to the final crux of the whole subject, i.e., when to cease stopping so as to obtain the best results during the winter. The perpetual carnation is perpetually flowering simply because it is perpetually growing, but, naturally, the winter growth is much slower than the summer growth, and if it is stopped too late in the summer it will have too much to do in the fall to produce bloom by the winter. On the other hand, if it is not stopped sufficiently late it will produce a quantity of blooms in the autumn, when they are not so highly prized.

Again, varieties vary, and each requires special study, while latitudes also have to be taken into consideration. It will be understood that those who grow carnations for a living have worked this matter down to a fairly fine proposition, and it is this which prompts me to write on this matter.

All the British-raised varieties, such as Britannia, Mrs. Burnett, Black Chief, Rose Doré, Rival, etc., are best if potted early and flowered in seven-inch pots. These should be left until they elongate for flower, or are some six inches high, with eight or nine good joints to break from before being stopped. This will be about May or early June, and beyond stopping, say, one odd side growth in each plant, they are best allowed to make straight off for bloom. None of our present varieties grow so quickly as the Americans in the winter, and they will not stand a second stopping and also produce early winter bloom.

Such varieties as Enchantress, White Enchantress, Rose Pink Enchantress, Beacon, Helen M. Gould, Afterglow, Aristocrat, Sarah A. Hill, Winona, White Perfection, etc., should be stopped until the end of July.

Winsor, Mrs. T. W. Lawson, Red Lawson, White Lawson, Victory, May Day, etc., should be stopped until late August.

Of course, there are many other varieties, but the above include the best, and will suffice to give an idea of the irregularity of stopping. At no time should more than one growth be stopped on a plant at once. It must be understood that the actual growth you stop will not produce flowers until some five to six months later, and that is, perhaps, the best guide.

MONTAGUE C. ALLWOOD.

SAVING SEED POTATOES.

Seeds are required to be ripe when they are harvested. This condition applies to nearly all kinds of seeds, so that probably some readers of the GARDENERS' MAGAZINE may be surprised to learn that many unripe potato tubers remained sound when matured ones rotted. I am referring to those of early varieties. I was, when quite a youth, assisting the owner to lift and store some kidney potatoes, but the tubers peeled to such an extent that, after lifting about two bushels, work ceased, and the tubers were allowed to remain in the ground until they were ripe. The lifted tubers, both large and small, were spread out thinly on the floor of a dry loft in the buildings, and were allowed to remain there until the following spring. Very little care was bestowed upon them for some time, and, owing to exposure, they turned quite green.

In due course the remainder of the crop was lifted and carefully stored, the skins being well fixed. The seed tubers were stored, but nearly all, if not quite all, decayed. Then attention was turned to those unripe tubers as they were all that were left of that particular variety, and frost was carefully excluded. Short, sturdy sprouts grew, and not a single tuber rotted or showed signs of disease. Probably disease had set in and laid a firm hold upon the tubers lifted later in the season, but at the time they all appeared to be sound.

Ever since that time, in dealing with my own seed tubers, I have spread them out thinly on mats under well-tilted frame lights, and carefully turned them over several times until the skins are firm and turning green. Then I store them in shallow boxes and on shelves exposed to the light, not covered, but kept safe from frost. Seed of late sorts are similarly treated as far as possible, and they have, so far, kept sound, while close-stored tubers have rotted badly. G. B.

NARCISSUS COLLEEN.

Very many new and beautiful daffodils have appeared during the season just closed, but so great have been the improvements made in the last few years that the standard of judgment has been raised correspondingly higher. The consequence is that comparatively few varieties pass muster before the Daffodil Committee of the Royal Horticultural Society, and when a variety does secure an award or certificate, there can be no question as to its merits. Colleen is one of the few that gained an Award of Merit in 1910. It is a charming variety, with broad, thick perianth segments of the purest whiteness, its slightly reflexing form indicating descent from one of the finest forms of the poeticus family. It has good size as well as an excellent form to recommend it, and the purity and substance of the perianth are enhanced by the flattish and moderately broad cup, which is of an unusual shade, and extremely attractive. The colour of the cup is green, with a yellowish tinge, and it is this charming green shade that suggested the name of Colleen, a name very well known to our friends in the Emerald Isle. Colleen secured its Award of Merit on May 3, when exhibited finely by Messrs. R. Wallace and Co., of Colchester.

ROSES ON WALLS.

It is not often that one sees hybrid perpetuals trained as climbers on walls. When I was a youth I took some plants of Prince Camille de Rohan, Duke of Edinburgh, and several other varieties, with me when I had a holiday, and planted them in a border close to the walls of the house—my home. They were nice plants in 6in. pots, and were just right for planting out. As years went by the roses were trained to the wall, and treated as climbers—my people could not bring themselves to the point of hard pruning.

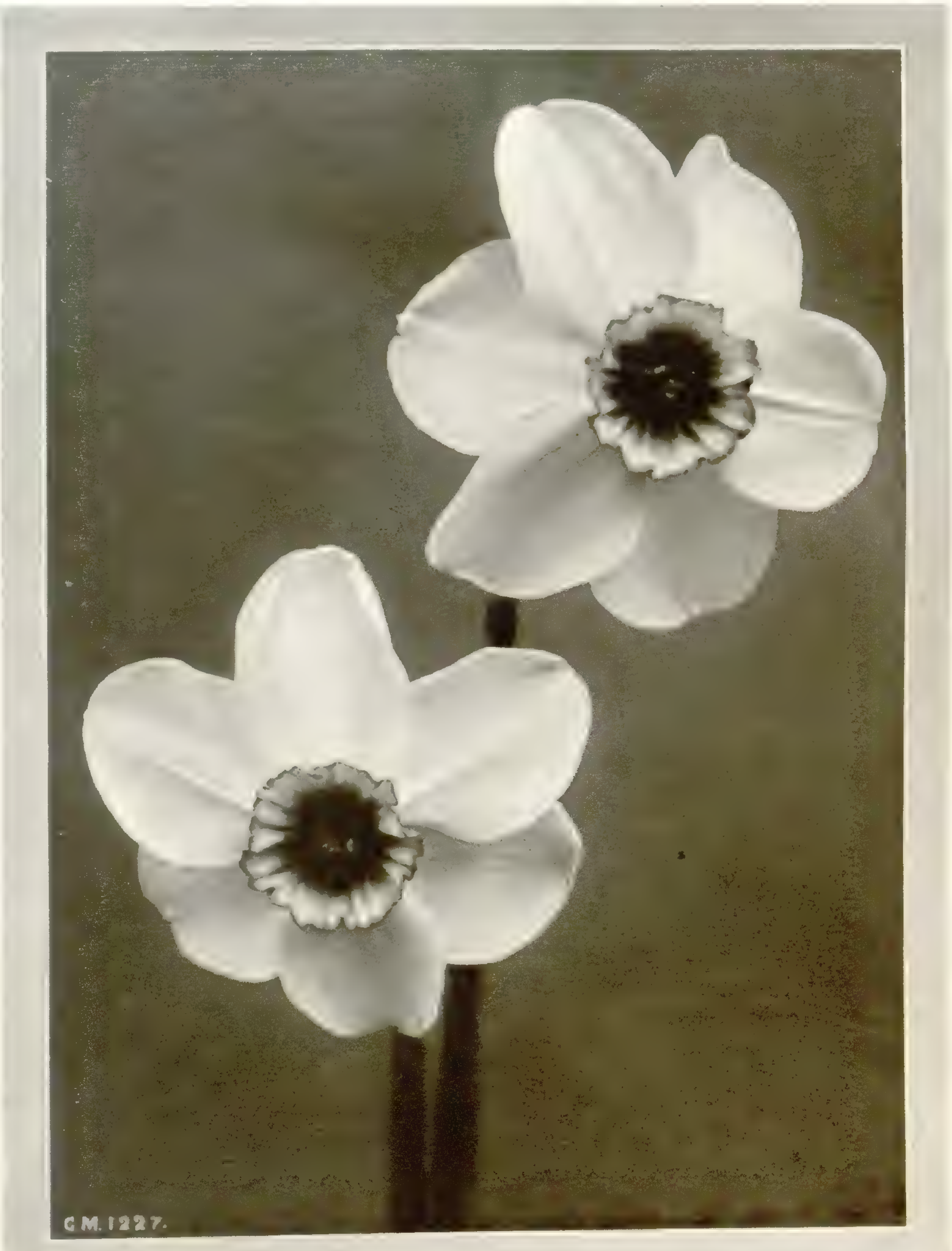
In due time, the whole of the front of the house—nearly 60ft. long—was well covered with the branches, and the blossoms were greatly admired by the passers-by, as well as by friends. I never saw any hybrid perpetuals flower so profusely as these did. In fact, they were the cause of the house being renamed. It was, owing to the roses, called "Rose Farm."

Roses growing in borders near walls rarely get sufficient supplies of water. As a rule, several different kinds of climbing plants are grown in the same border, and the soil quickly gets thoroughly permeated with roots. Less attention is given to the training of roses and clematises on walls than other kinds of plants; and when the roots of roses are starved the branches suffer, too, being weakly, with discoloured leaves which fall an easy prey to red spider.

Experienced cultivators never allow their wall roses to suffer, but there are others who do not give the matter much thought. Even when the rainfall is comparatively heavy plants in wall borders rarely get enough, except in cases where there is no guttering fixed; then the soil becomes saturated.

The soil in the border, if dry, should be well drenched with clear water, and a few hours afterwards given a thorough watering with diluted liquid manure. Weekly doses will not be too frequent, and if a surface mulch of rotted manure and lumpy, turfy loam, mixed, be put on, and the foliage kept free from insect pests, the roses will be more satisfactory than ever they were.

G. B.



NARCISSUS COLLEEN.
Flowers white, with yellowish-green cup. A.M., R.H.S., May 3. Messrs. R. Wallace and Co., Colchester.

ERYNGIUMS OR "SEA-HOLLIES."

Among the eryngiums are found a number of extremely ornamental border plants in which the general character of the flower heads give them somewhat of a thistle-like appearance. The hardiest members of the genus are European plants; two of the species, namely E. campestre and E. maritimum, are indigenous to the British Isles. The latter is a meritorious subject, well worth a position in every garden, as it succeeds under a variety of conditions and produces its glaucous-blue flower heads upon stems some 18 inches high during July and August. E. maritimum is, however, surpassed in beauty by E. alpinum, a species that reaches an average height of two feet: the stems and involucres are of the richest blue, and are quite conspicuous in the border among other subjects; the radical leaves are cordate in shape, while the bracts are finely serrated.

The finest colour among eryngiums is found in E. amethystinum, a species having flowers, bracts, and stems of a most intense steel-blue; the bract leaves are much longer than the flower heads, and are deeply cut into fine filament-like strips. It grows about 18 inches in height, and is much looser in habit than E. alpinum. E. Oliverianum is one of the most reliable and free flowering species, being a vigorous grower, up to 4 feet in height; in flower it is most conspicuous owing to the number of bracts which compose the involucre; the flower heads are slightly heavier than in E. amethystinum, and also longer than the cone-shaped heads borne by that species. E. Bourgati grows to a height of two feet, and produces smaller flowers of a deep blue colour; the bract leaves are erect and appear to contract around the central cone. E. planum is a most desirable dwarf subject, yielding quantities of small, round, vivid blue flowers on stems of the same colour; the bract leaves are narrow and flat. It is an excellent subject to plant in masses, being at its best throughout July.

E. giganteum produces massive stems and large flower-heads of a silvery-blue colour; the bracts and stem-leaves are deeply serrated, and the bracts are scarcely so long as the central head of flowers; the radical leaves are cordate, having the margins finely serrated, and they are carried upon long foot stalks. E. giganteum attains a height of 4 feet, and is an excellent subject to form bold groups. E. pandanifolium is chiefly notable on account of its leaves, which frequently attain a length of 6 feet. It is generally seen to best advantage as an isolated specimen, although it is not without merit when planted as a colony in the wild garden. The flowers are small, globe-shaped, and of a purplish colour; the bract leaves are inconspicuous.

Eryngiums succeed in any light, well-drained soil, and the richest colouring is generally obtained when they are planted in sunny positions. Of those enumerated E. pandanifolium is the only species of questionable hardiness, and it is best treated as if only half-hardy, affording it some protection in winter. They never display their fulness of beauty the first season, and, once they become established, it is not advisable to disturb them, as they gradually increase in strength and beauty. The simplest and safest means of increasing eryngiums is by seed, which generally ripens on home-grown plants, and is best sown in pans or boxes as soon as gathered, and wintered in a cold frame; the seed germinates in spring, and the seedlings are subsequently transplanted to a nursery bed in the open. Division of the crowns and root cuttings may also be practised as a means to increase the stock; both methods are slow, and generally result in weakening the plants for some considerable time.

Thomas Smith.

THE GARDEN OF HERBS.

(Concluded from page 431.)

◆

Marjoram and Savory.

There are three varieties of marjoram, the Common Marjoram (Origanum vulgare); there is also the Winter Sweet Marjoram (O. heracleoticum), and the pot Marjoram (O. Onites), all of which are useful as herbs either for infusion or fomentation.

Summer Savory (Satureia hortensis) is an annual plant, which is nearly allied to thyme; it is used for flavouring dishes, and is cultivated in kitchen gardens, growing to one foot in height. Winter Savory (S. montana) is a perennial, and is useful for the same purpose as the summer variety; it can be increased by cuttings and slips.

Rampion and Southernwood.

Rampion (Campanula rapunculus) has beautiful pale blue bell-shaped flowers, and is grown for its roots, which are used as a salad more on the Continent of Europe than in this country.

Who is it who has not seen and remembered this pleasant herb, Southernwood (Artemisia abrotanum)? It is still cultivated in old-fahsioned gardens for its pleasant aromatic odour and perfume.

Wormwood and Tarragon.

Wormwood is also an artemisia; it is A. vulgare, and, as its name implies, is useful for removal of troublesome parasites in children and in domestic animals. It also possesses tonic and stimulating propensities.

Tarragon is another artemisia, A. dracunculus, and is used for flavouring vinegar and sauces.

Hyssop and Horehound.

The common Hyssop (Hyssopus officinalis) has beautiful blue flowers, and grows one and a-half feet high; it has an agreeable aromatic odour, and the leaves are used for culinary purposes, such as seasoning. This is not the hyssop referred to in the Bible, it being a quite different Eastern plant.

Horehound (Marrubium vulgare) is found on wayside places occasionally, but, on the whole, is rare in this country; it is used as a tonic remedy for coughs; it acts also as a stimulant and laxative. Besides these we have also

Burnett and Dandelion.

Burnett (Poterium sanguisorba), derives its name from a drinking vessel, its leaves being used in cool tankards and in soups and salads; it is still cultivated in our old gardens.

The dandelion is the well known weed so difficult to eradicate from one's garden, yet, we are told, it is useful as a liver medicine.

Miscellaneous Herbs.

Chives and skirret are, more strictly speaking, vegetables, as they are useful chiefly for the roots. The following are all annuals, and their uses are given in the list at the end: Basil, carraway, chamomile, chervil, coriander, mallow, marigold, orache, purslane, and tobacco. Regarding the latter, which although not cultivated in our gardens as a herb, is yet spoken of by Kingsley with esteem as "the soveraine herb" and Salvation Yeo in "Westward Ho!" he describes it as—

> "A lone man's companion,
> A bachelor's friend,
> A hungry man's food,
> A sick man's cordial,
> A wakeful man's sleep, and
> A chilly man's fire."

Yet it must be approached with caution as to some it may be more of a poison than a remedy or benefit.

Regarding the cultivation of the above. The annuals may be sown about the end of April, and thinned out later, and the perennials from April to June or July for the following year's use, when success will be more certain, these latter being placed in their permanent quarters in October. When herbs are ripe for cutting and drying they must be tied in bundles for future use. The drying should be done in shade, never in hot sunshine or before a fire.

A List of Herbs.

Giving English and Latin Names and their uses.

ANNUALS.

Anise (Pimpinella anisum).—An aromatic plant; its leaves are used for seasoning.

Basil large or sweet (Ocymum basilicum).—For flavouring soups.

Caraway (Carum carui).—Principally used for flavouring.

Chamomile (Anthemis nobilis).—Used for medicinal purposes.

Chervil (Chœrophyllum sativum).—Very fine for salads.

Coriander (Coriandrum sativum).—Used in soups and salads.

Mallow, curled (Malva crispa).—So called from its emollient qualities.

Marigold, pot (Calendula officinalis).—Its flowers are used in soups.

Orache (Atriplex patula).—A summer herb much esteemed in France.

Purslane, green and golden (Portulaca oleracea).—Its young shoots are used in salads.

Savory, Summer (Satureia hortensis).—Much used for seasoning).

Tobacco (Nicotiana Tabacum).—Used for smoking.

BIENNIALS.

Borage (Borago officinalis).—Used in salads and in claret cup.

Dill (Anethum graveolens).—Leaves used in sauces and pickles.

Rampion (Campanula rapunculus).—Used for salads.

PERENNIALS.

Angelica (Angelica archangelica).—Eaten like celery.

Balm (Melissa officinalis).—Chiefly used as an infusion.

Burnett (Poterium sanguisorba).—The leaves have the flavour of cucumber and are largely used for salads.

Cardoon (Cynara cardunculus).—Grown for use like celery.

Chives (Allium schænopraeum).—Used as a substitute for onions.

Dandelion (Taraxacum officinale).—Used as a liver medicine.

Fennel (Fœniculum vulgare).—Used in fish sauce and for garnishing.

Horehound (Marrubium vulgare).—Used for asthma and coughs, possesses tonic properties.

Hyssop (Hyssopus officinalis).—Leaves and shoots used as pot herbs.

Lavender (Lavandula vera).—Esteemed for its aromatic flowers.

Marjoram, sweet and pot (Origanum vulgare and O. Onites.—Used in soups and for seasoning.

Rosemary (Rosmarinus officinalis).—Sprigs are used for garnishing and the leaves are used in summer drinks.

Rue (Ruta graveolens).—Leaves are used for garnishing; excellent for poultry.

Sage (Salvia officinalis).—Leaves are used for stuffings and sauces.

Savory, winter (Satureia montana).—Much used for seasoning.

Skirret (Sium sisarum).—Tubers boiled and served up with butter; also used in stews.

Sorrel (Rumex acetosa).—Principally used to impart an acid flavour to salads.

Southernwood (Artemisia abrotanum).—A well-remembered sweet scented herb.

Tarragon (Artemisia dracunculus).—The leaves are used for salads and pickles.

Thyme (Thymus vulgaris).—For soups, sauces, and stuffings.

Wormwood (Artemisia vulgare).—Used in drinks as a tonic.

Penny Royal (Mentha pulegium).—Used medicinally.

The Language of Herbs.

Name and Meaning.
Rosemary—Remembrance.
Rue—Disdain.
Thyme—Activity.
Lavender—Distrust.
Sage—Domestic virtue.
Fennel—Worthy of all praise.
Angelica—Inspiration.
Marigold—Jealousy.
Mint—Virtue.
Basil—Hatred.
Mallow—Beneficence.

Name and Meaning.
Camomile—Energy in adversity.
Borage—Bluntness.
Balm—Sympathy.
Dandelion—Oracle.
Hyssop—Cleanliness.
Marjoram—Blushes.
Sorrel—Affection.
Southernwood—Jest, bantering.
Wormwood—Absence.
Penny Royal—Flee away.

A Calendar for Herbs.

This is arranged for the South of England and Ireland. The North would be a fortnight later.

January.—A small hotbed should be made by which such herbs as mint, tansy, and tarragon may be forced.

February.—Seed may be sown of the following in warm borders: Borage, burnett, angelica, thyme, marjoram, savory, and such-like.

March.—Seeds of all herbs may be sown, and cuttings may be planted of shrubby kinds.

April.—All herbs may now be planted.

May.—Sowing and planting may still be done, and beds of mint made up.

June.—Seedlings from the sowings made in February and March may now be planted in their permanent quarters.

July.—Herbs that are ripe may now be gathered and dried.

August.—Increase many herbs by cuttings, and gather and dry the same as July.

September.—Sow chervil for winter use.

October.—Clear the herb garden of weeds, and give it a top-dressing for winter.

November.—Put leaves over the bed to remain during winter.

December.—Keep the box edging and walks neat and tidy.

Walter Smyth.

Epacris.—In some few gardens a small collection of epacrises is grown, and where their cultivation is a success and the flowers are produced during the winter and the early part of the spring, these elegant greenhouse plants are useful for giving colour in the conservatory, where it is especially appreciated. They may be successfully cultivated by using fibrous peat and sand and well-drained pots, giving them a light position where they will enjoy abundant ventilation, and watering them carefully. Use well drained pots, and press the new soil very firm, as in consequence of the solidity of the old ball of soil the water fails to moisten it when surrounded by loose soil. The finest epacris are Coccinea major, crimson; Eclipse, red and white; Hyacinthiflora candidissima, white; Hyacinthiflora carminata, carmine; Lady Panmure, white and rose; Miniata splendens, crimson and white; Mont Blanc, white; Rose Perfection, and Rubra superba, purplish red.—P. P.

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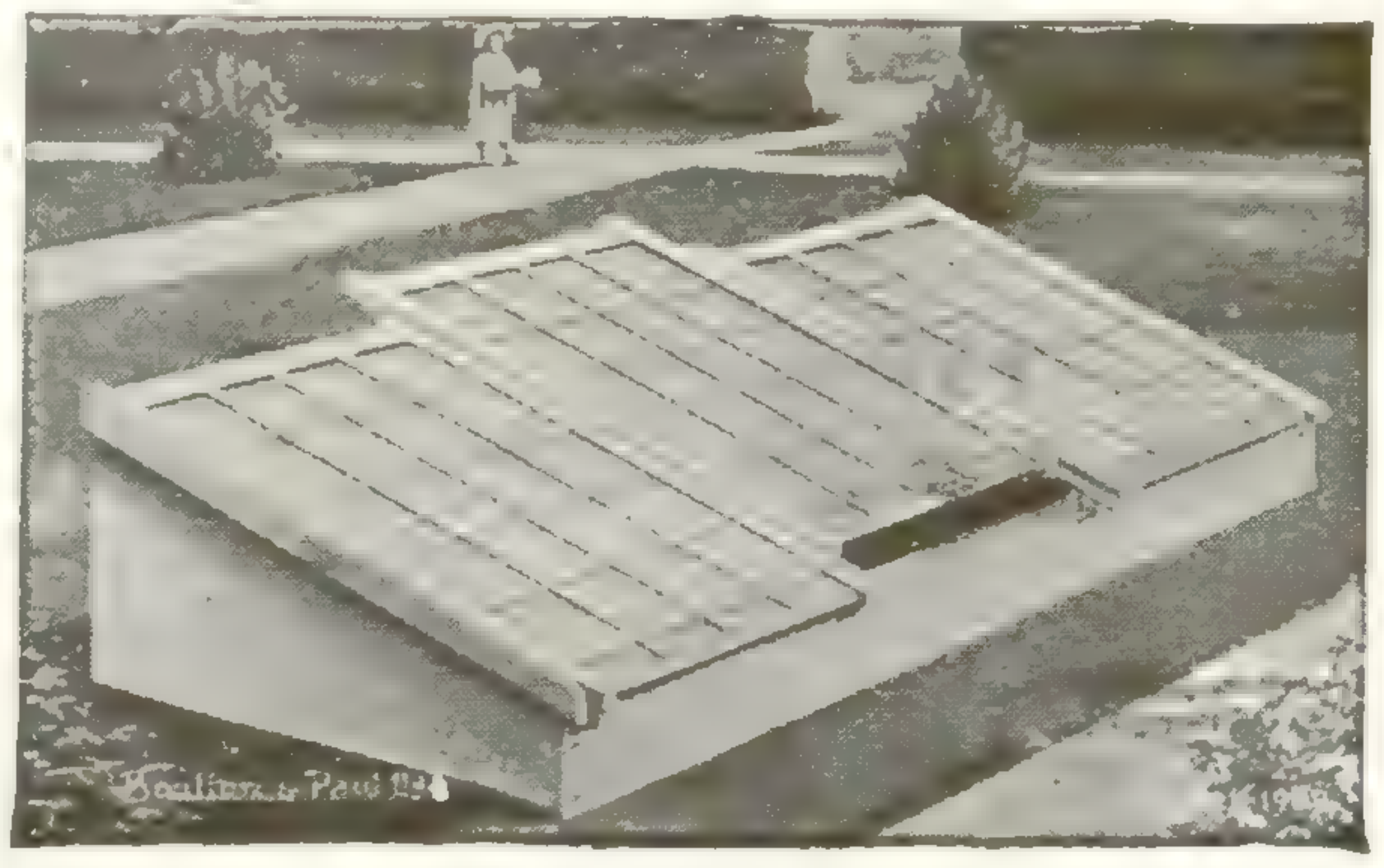

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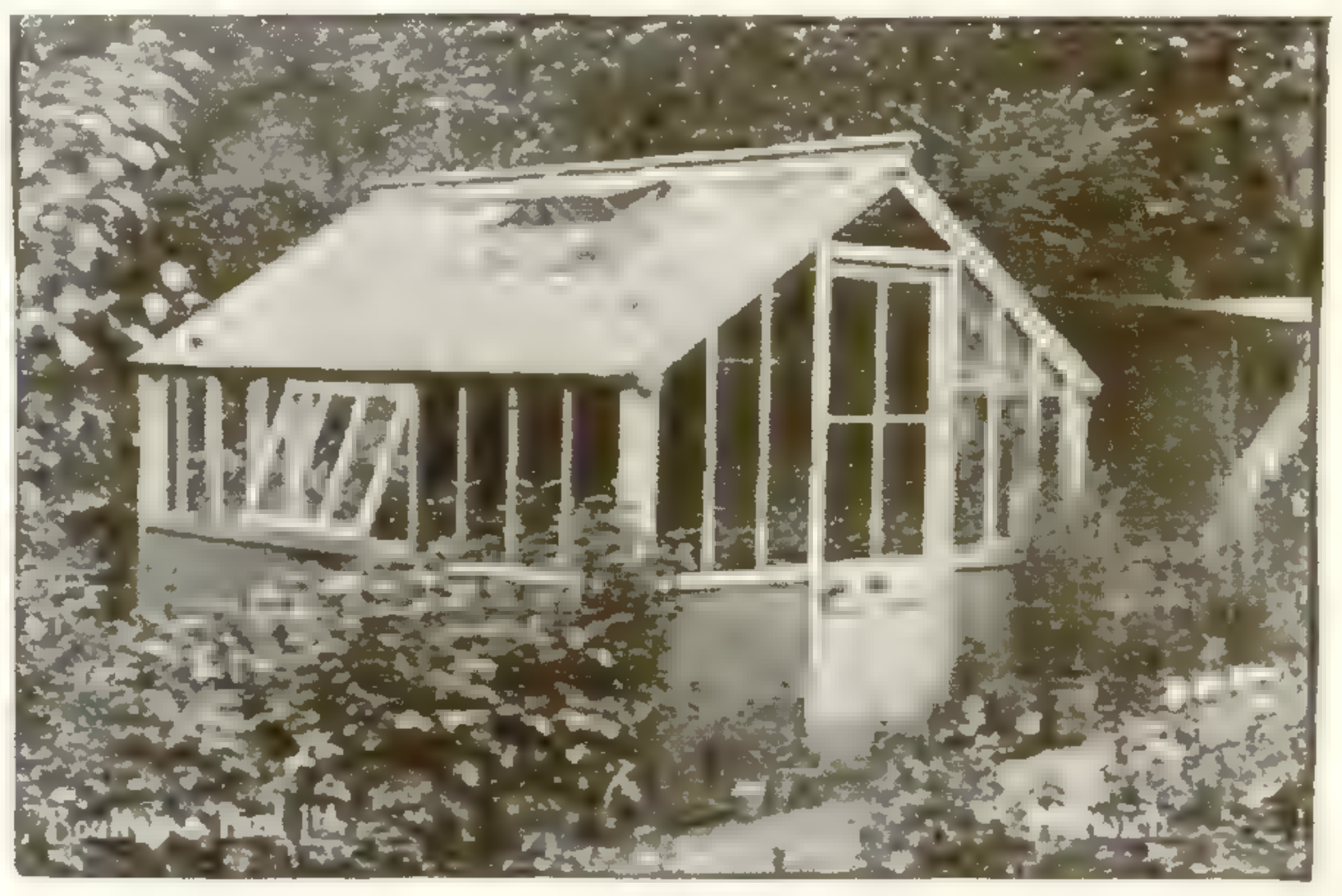

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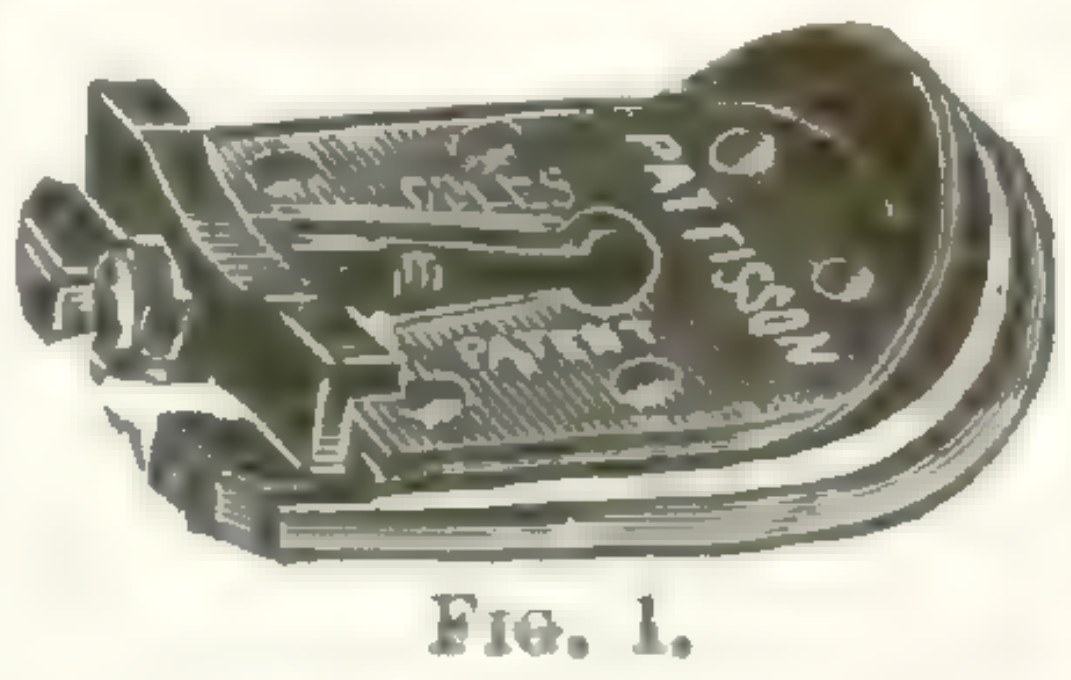

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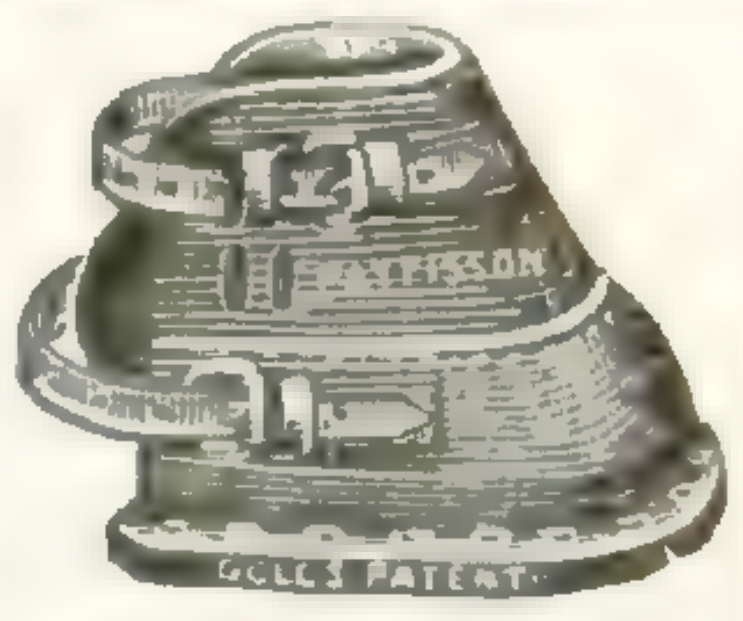

FIG. 2.

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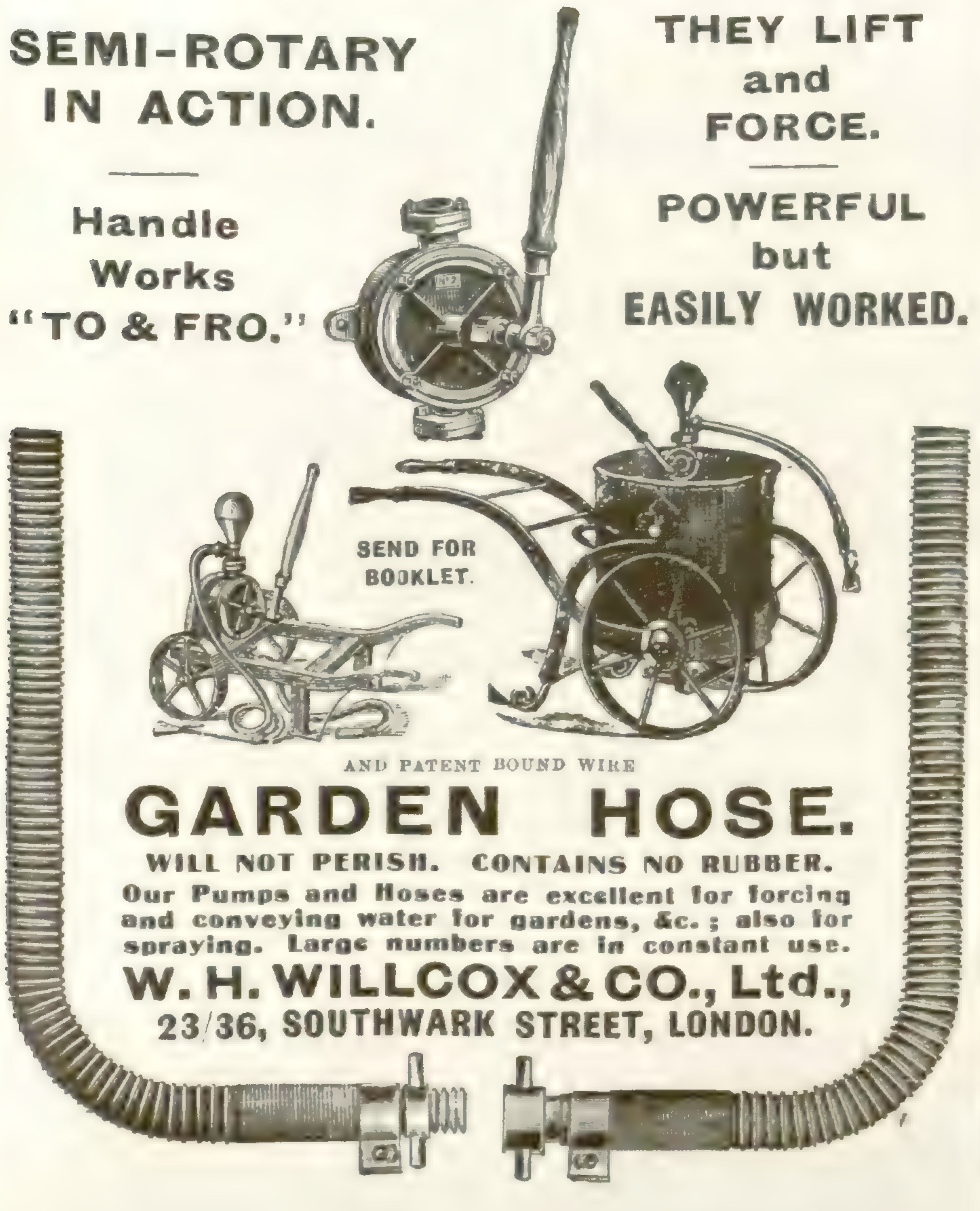

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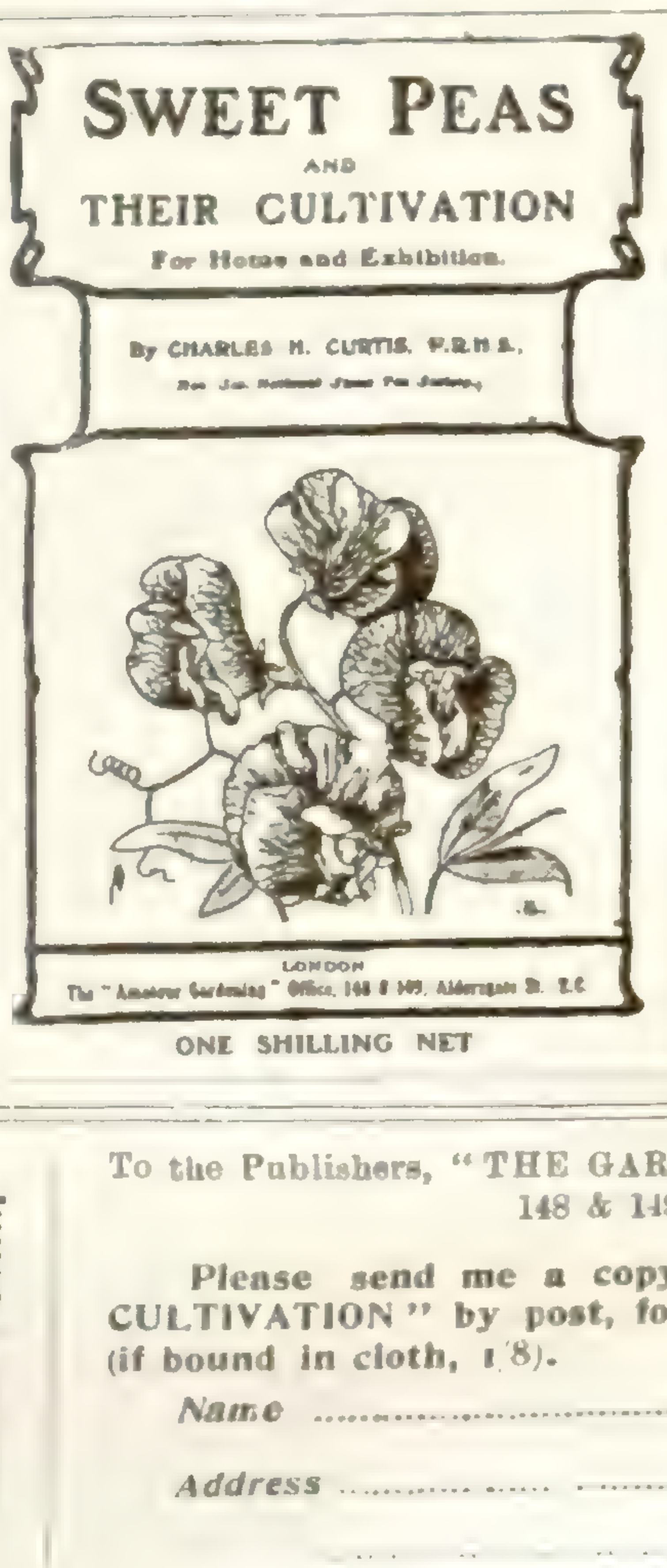

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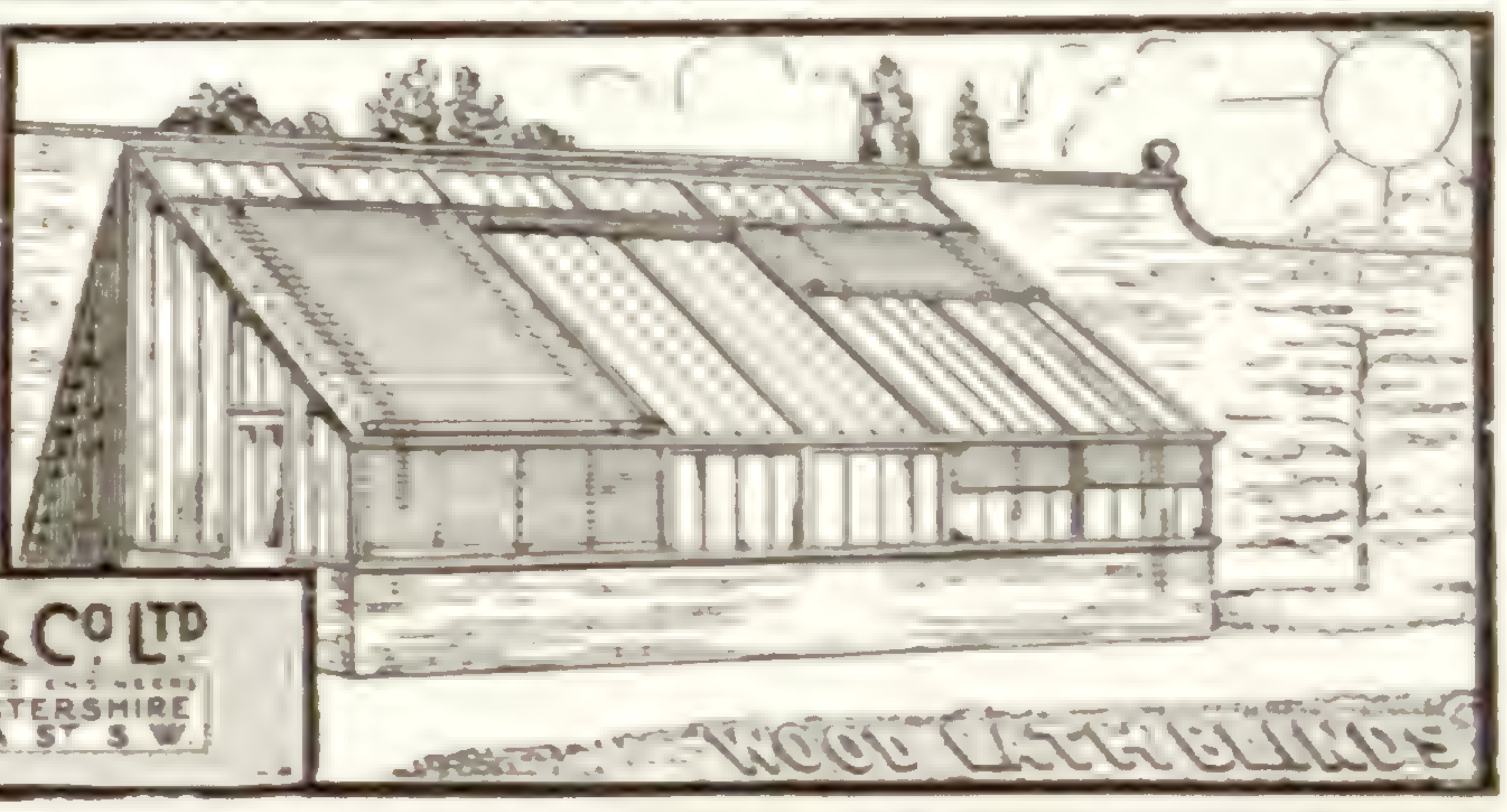

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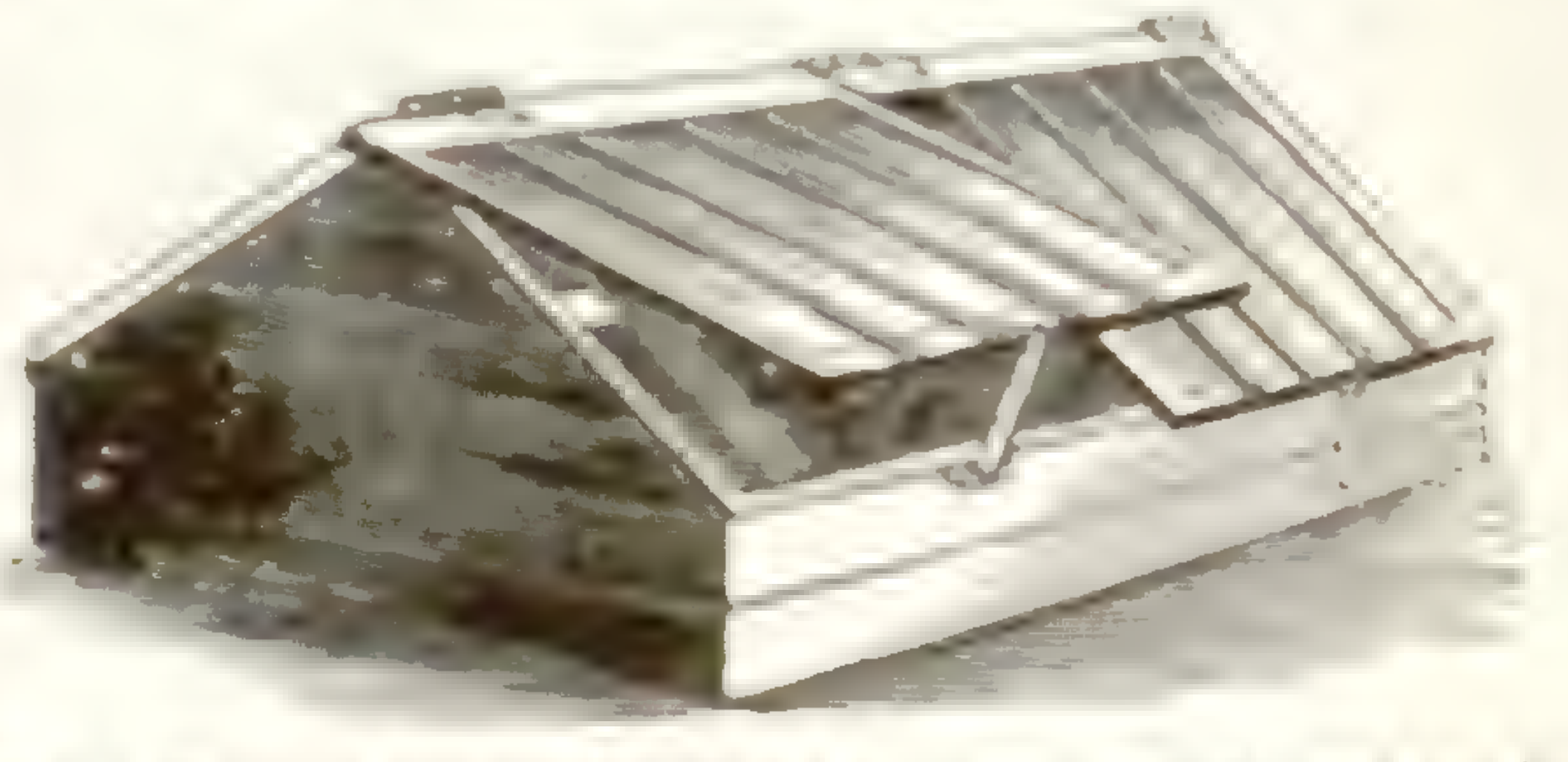

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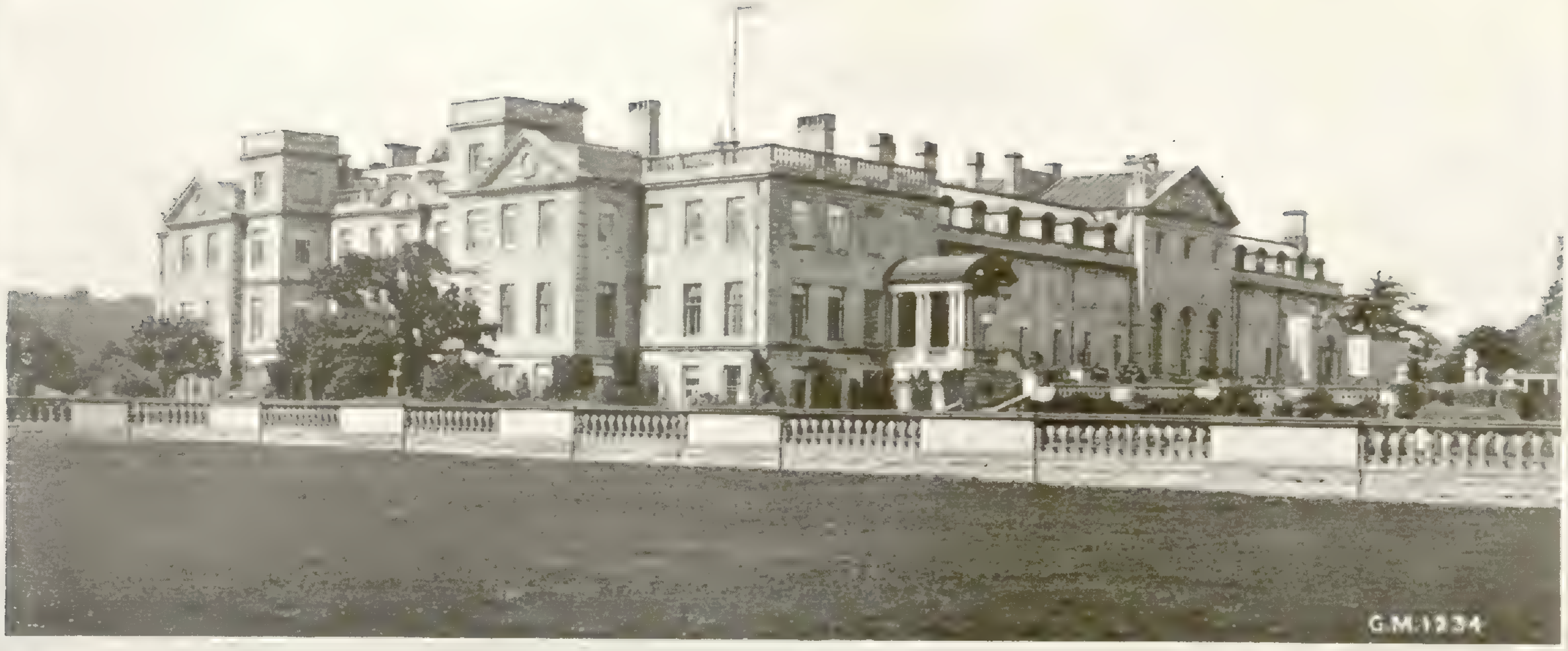


WELBECK ABBEY FROM THE SOUTH-EAST.

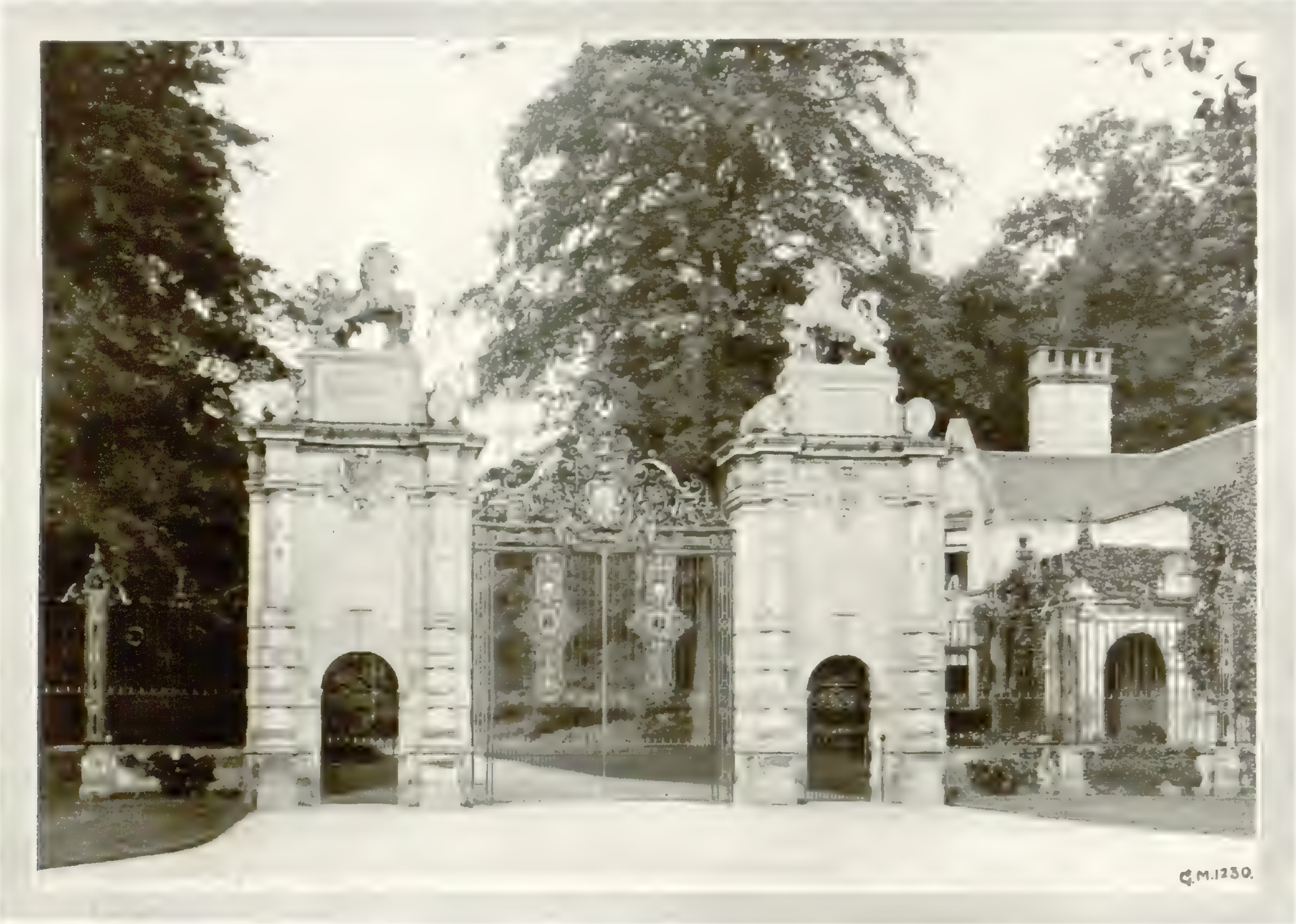
SOME GARDENS IN THE DUKERIES—I.

Sherwood Forest, so rich in traditional lore, and remarkable for its noble trees, more particularly oaks, originally occupied about one-fifth part of the county of Nottingham, and its boundaries extended from Newstead Abbey on the west to the town of Worksop on the east, a distance of about twenty miles. Its breadth varied from five to seven miles, and the area was about 95,000 acres; but at the present time a large portion, probably two-thirds, of this acreage is under cultivation. As much of the cultivated part is devoted to noble parks and rolling meadows, more or less finely timbered, the tract is remarkable for its distinctive beauty and arborescent charms, and is probably quite unsurpassed for its manifold attractions by any other similar tract in the United Kingdom. The forest of Sherwood belonged to the Crown from the reign of Henry II., long enjoyed a high degree of popularity as a Royal hunting ground, and, according to traditional lore, was the scene of the activities of Robin Hood and his "merrie men." It would not be without interest to refer to some of the traditions associated with this adventurous band, but the many matters immediately associated with horticulture that require attention most effectually prevents that being done. It may, however, be mentioned that on the west side of the forest there are traces of Robin Hood, one of the most noteworthy of these being the cave bearing his name cut out of the red sandstone rock, with primitive columns and arches. This is supposed to have been used as a stable, and southwards are some oaks associated with his name, one being known as "Robin Hood's larder," the supposition being that the large hollow trunk was utilised as a larder for the spoils of the chase. Within the original boundary there are many oaks of more or less interest for their vigour and splendid development, and others for their great age and the traditions associated with them; but as considerable space would be necessary to deal with them in a manner that would be at once interesting and useful, reference to them must be reserved for some future occasion.

The road connecting Mansfield with Worksop passes through a group of wide-spreading estates, and these, having originally had ducal owners, gave to the district the name of "The Dukeries." These domains occupy a part of the area in which the ancient traces of Sherwood Forest have been the best preserved. Certainly this part of the forest, with its magnificent trees, its great breadths of forest vegetation, its rolling meadows and noble parks, is rich in attractions, and it is not surprising that it should have become the home of several great families, or that it should be highly popular with the residents of Sheffield, and other of the large populous centres within a comparatively short railway journey. To those who enjoy the open country, with its manifold charms, a day amid the forest glades and wide-spreading parks gives an amount of pleasure that would be difficult to overestimate. Full advantage is evidently taken of the facilities which the Great Central Railway, with the judgment characteristic of its management, affords the dwellers in Sheffield and other populous centres on its system to visit the district at a small cost. In the forenoon large numbers may be seen leaving the Worksop Station for the various vehicles in waiting, and later in the day may be met with driving along the private as well as the public roads in the most joyous of moods. The more important of the seats are connected by broad grass drives, having a carriage-way on one side, with gates here and there to maintain their privacy, with locks, of which the several owners have keys. More delightful drives during the summer months it would be difficult to imagine; and it was especially gratifying to learn that owners of carriages and other means of conveyance resident in Worksop are readily given permission to use the private roads in driving parties of visitors through the district, a privilege that is much appreciated. I saw a dozen or more such parties driving along the private roads during the short time I was in the Dukeries, and they appeared not only to be fully enjoying the beautiful scenery, but were showing their appreciation of the kindness of the owners of the estates by respecting their property. With this short sketch of the characteristics of Sherwood Forest at the present time, it becomes necessary to give attention to the gardens of some of the more important of the seats that have given the distinctive name to the district, and the first to claim notice are those that form so glorious a setting to Welbeck Abbey, the Nottinghamshire seat of the Duke and Duchess of Portland.

Welbeck Abbey.

Welbeck Abbey is rich in historical associations, of special interest for its magnificent architectural features, and remarkable for the extent, beauty, interest, and high keeping of its gardens, which from time well nigh immemorial have been regarded as of commanding importance among the horticultural establishments in this country. However much they may have justified the high estimation in which they were held in former times, it is quite certain the justification was never so ample as at the present day. Both the Duke and Duchess of Portland appreciate to the full the pleasure that well-planned and highly kept gardens are able to afford, and it is evident they have not been sparing in time, thought, or money to make the gardens that surround their historic mansion as interesting and as attractive as possible. They have not been satisfied with the traditions of their gardens, and these are great, but have had them so modified and enlarged as to adequately represent the more advanced ideas of present-day gardening, and to have the glass structures and other buildings that belong to what may be described as the utilitarian part of the gardens so modernised as to ensure the highest degree of efficiency, and to afford those in charge opportunities of displaying their skill. This was the second time the writer had visited Welbeck Abbey, and as the first visit was paid some years previous to the recent improvements being made,



PRINCIPAL ENTRANCE TO PARK AND GROUNDS, WELBECK ABBEY.

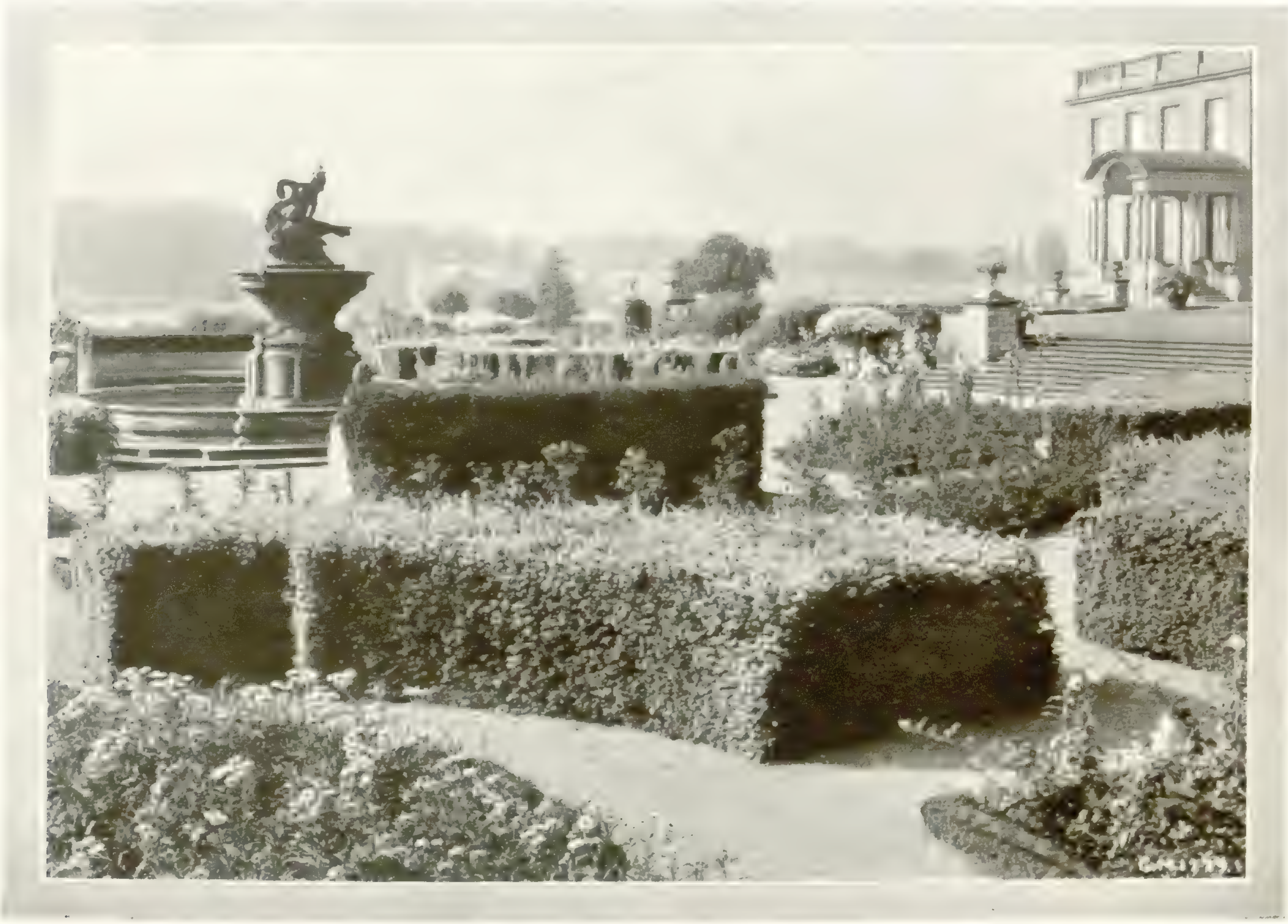
the transformation appeared little less than marvellous. Improvements have been many, but probably none have been of greater importance in the flower gardens and pleasure grounds than the remarkable extension of hardy flower culture. Next in importance probably ranks the increase in the cultivation of both dwarf and rambling roses. In the department devoted to the production of supplies of fruits and vegetables, the replacement of the older of the plant and fruit houses with structures of modern design at once attracts attention. It is impossible to visit the Welbeck Gardens without being impressed by their area, their beauty, and their many interesting features; but in sitting down to give a brief description of them the thought uppermost in the mind is that, as they are so varied, and the several features are on so vast a scale, a lengthened stay is essential to becoming sufficiently acquainted with their varied characteristics to do justice to them.

Welbeck Abbey, with its immense area of arable and grass land, and its magnificent tracts of woodlands, is situated about four miles from Worksop, and not far distant from the boundary of Derbyshire, and occupies a prominent position in one of the finest parks in England. The park is of immense extent, as evidenced by the fact that some of the lodges are four miles distant from the Abbey, and is remarkable for its noble oaks, splendidly developed limes, and magnificent chestnuts—the oaks being of special interest, for among them are several of exceptional dimensions and of considerable historic importance. It would be foreign to the object of these notes to give a history of the Abbey and its surroundings. But it should be mentioned as a matter of some interest that Welbeck was, previous to the Norman Conquest, held by the Saxon Sweyn, and that it subsequently passed to the Flamang family as part of Cuckney Manor. Here a grandson (Thomas de Cuckney) of Joceus de Flamang founded an abbey in the reign of Henry II., and effected a settlement of Præmonstratension or White Canons from Newhouse, Lincolnshire, their first home in England. The Abbey was dedicated to St. James and endowed with large tracts of land, and in 1329 the Bishop of Ely added to its possessions by settling the Manor of Cuckney upon the house. Two centuries later the Abbey at Welbeck was made the head of the order, and so it continued until, at the dissolution, it was granted to Richard Whalley, and subsequently it passed into the possession of Sir Charles Cavendish, one of the founders of the noble family by whom it is owned at the present day. By Sir Charles Cavendish the conversion of the Abbey into a noble mansion was commenced, and this work was continued by his son, Sir William Cavendish, who built the greater part of the structure. Need it be said that since that time the mansion has been materially altered and much enlarged. The more important of the alterations and improvements were effected during the past century; and, as already intimated, the great beauty of the gardens and grounds are largely due to the improvements that have been made within the past twenty years or so. The Abbey, as well-known, is unique in its magnificent apartments that are below the ground level and its underground approaches, that owe their origin to the constructive genius of the fifth Duke of Portland, who succeeded his father to the title and estates in 1854.

The Abbey is approached from various points of the compass, but the principal carriage drive is that which enters the park from the road that skirts the south-east side of the park and connects Worksop and Shireoaks Hill. The lodge gates at the entrance to this drive, which were erected in 1894, are bold in design, of great beauty, and in keeping with the stately mansion and the noble park. The finely carved pillars and lions by which they are surmounted are of white stone, and the gates are of hammered iron, the illustration affording ample evidence of their representing this art at its best. Need it be said that, in passing along this drive, several miles in length, a succession of views of surpassing beauty are obtained, but it should be mentioned as a proof of the strenuous endeavour made by the noble owners to beautify the surroundings of their fine seat, that great masses of flowering plants of diverse character have been formed in suitable positions alongside the drive where it intersects the woodlands. Near the Abbey much has been accomplished in the naturalisation of various bulbous plants, and the myriads of bluebells, daffodils, and a few other subjects that carpet the woods, must during the spring season produce a series of pictures of wondrous beauty.

The gardens and pleasure grounds which form a setting to the Abbey have so large an area, and include so great a diversity of features, that in a comparatively brief reference it is practically impossible to convey an adequate idea of their several characteristics. The magnificent lake, some three miles in length, constitutes a most interesting feature. Away to the south-east of the Abbey the lake is of great breadth, and, narrowing on passing to the east of the mansion, it curves northward, and for a considerable distance forms the boundary to the pleasure grounds to the north of the Abbey. That full advantage is taken of the opportunities it offers for the cultivation of moisture-loving plants goes without saying; but it must be mentioned that the weeping ash has been freely utilised in beautifying its margin. Usually we find the weeping willow exclusively used in fringing the margins of lakes and the banks of streams, and admirably adapted is the tree for the purpose; but the weeping ash, when planted some thirty or forty feet apart, is, as so well shown here, remarkably effective and pleasing.

The spacious terrace with its handsome



HEDGES OF GOLDEN YEW AND FLOWER BEDS ON EAST TERRACE, WELBECK ABBEY.

balustrade that extends along the east and south fronts of the abbey, is a quite modern addition, and adds immensely to the attractions of the gardens. On the east side the terrace is of sufficient area to allow of the formation of a geometrical garden of large size, and a considerable breadth of grass. On this terrace there is a magnificent fountain surrounded by formally cut hedges of golden yew, with spacious beds of roses, lilies, and various other subjects that find favour for flower garden embellishment at the present day. As an additional contribution to the attractions, Mr. J. Gibson uses rather freely finely grown specimens of hydrangeas and agapanthus, the majority being of immense proportions.

Not far distant from the east terrace, and on the north side of the mansion, is the rose garden, a comparatively recent addition to the grounds. This garden is somewhat formal in design, with beds in the grass, and is intersected by broad flagstone walks. On either side of the central path is a line of pillars of rambling roses which have now clothed their supports, and in their season produce a display of great beauty. Prominent among the ramblers are the well-known and highly appreciated Dorothy Perkins and Lady Gay. Of one of the lines of pillars I gave an illustration in the GARDENERS' MAGAZINE of October, 1909. Behind are the pillars and beds of dwarf roses, wherein are the finest of the hybrid teas and hybrid perpetuals, and these grow so vigorously, and bloom so profusely as to afford proof that they have the advantage of cultural skill of a high order. Contiguous to the rose garden are several large, well-developed Cedars of Lebanon, which add much to the charm of this part of the gardens.

Proceeding in a north-westerly direction through the grounds, the magnificent borders of hardy herbaceous plants are reached, and these unquestionably constitute an important, and certainly one of the most attractive, of the many features of the Welbeck Abbey Gardens. An illustration of them is given herewith, and, with its aid, the reader will have no difficulty in obtaining a clear idea of the general scheme without lengthy description. This much the illustration readily accomplishes, but fails, and necessarily fails, to convey an adequate idea of the marvellous effectiveness and surpassing beauty of these two borders. The whole area is so vast that they lose much of their importance, as do the plants, although arranged in bold masses, and rising in many instances to a height of eight, ten, or more feet. Foxgloves rising to the height of eight feet, and groups of delphiniums nine feet high were plentiful. The illustration of a portion of one of the borders that was given in last year's volume shows to great advantage the development of the plants, but necessarily it fails to give any idea of the scope of hardy plant culture as carried out at Welbeck, or of the manner in which the marvellous borders are arranged. It will be seen that they have been formed on either side of a broad space between two rows of limes that range from forty to fifty feet in height, and make a remarkably fine avenue. The borders have a total length of nearly a quarter of a mile, and a width of eighteen feet. They are interrupted in the centre by a circular space enclosed with a yew hedge, and provided with garden seats, and the opportunity thereby afforded for rest adds greatly to the enjoyment of the immense displays of flowers that are produced in the borders. At the extreme end of the avenue, and set some distance back from it, are pillars clothed from ground line to apex with Dorothy Perkins rose, which arrest attention immediately the resting-place is passed, and, as seen from a distance, they present during the season of flowering the appearance of a huge cascade of flowers and foliage. The borders are planted with the view to their being in their most attractive guise from the end of June onwards, and, as unremitting attention is paid to the removal of the flowers as they lose their beauty, the plants do not have their energies overtaxed by seed production, and they continue to bloom freely until the autumn is well advanced. Her Grace the Duchess of Portland takes the greatest interest in the arrangement of these magnificent borders, and the harmonious blending of colours is, Mr. Gibson informs us, wholly due to her great taste.

Beyond the avenue that encloses these hardy plant borders are coniferous and deciduous trees in great numbers, and among them are many of the more beautiful kinds in a high state of development. Not less remarkable are these, and, indeed, other parts of the grounds, for their wealth of evergreen and deciduous shrubs, and an enumeration of any considerable proportion of them would necessitate the preparation of a comparatively long list. Of special interest is the broad avenue of the richly coloured Retinospora obtusa aurea, of which a portion is herewith illustrated. This avenue follows the line of one of the underground roads leading to the Abbey, and the large, well-formed trees glow like burnished gold in the summer sun, and in the dullest part of the year their rich colouring lights up this part of the grounds in a marked manner, and brings into strong relief the great value of the golden coniferous trees in garden scenery.

Flowers are by no means confined to the pleasure grounds, and on entering the kitchen garden the visitor has evidence of this in the great borders of hardy flowers, the huge beds of carnations and roses, and the breadths of sweet peas. Here the attractions are many, and the gardener keenly interested in the utilitarian side of his work would have no difficulty in spending a considerable period without experiencing any lessening of interest. The kitchen garden is about a mile from the Abbey, and proportionate to, and in every way worthy of, a great ducal establishment. The area within the walls is twenty-two acres, and their total length two miles, and these are for the most part clothed with fruit trees that are in so fruitful a condition as to bespeak skilful management. With a full acquaintance with his successes as a cultivator of fruits and vegetables one might, to use a common form of speech, say that here Mr. Gibson is at home. It would, of course, be true, but it would not be a proper statement of the case, because Mr. Gibson is equally as much at home in carrying out the wishes of his noble employers in the flower garden and pleasure grounds as in the production of abundant supplies of high-class fruits and vegetables.

BORDERS OF HARDY FLOWERS AT WELBECK ABBEY.

The kitchen garden is connected with the Abbey by a drive that passes through it on the northern side, and immediately in front of the principal ranges of fruit houses. This road from its entrance to the department to its exit therefrom is six hundred yards, and on the left or north side there is a broad border devoted to hardy perennials, and on the right is a breadth of velvety turf on which are beds of dwarf roses and numerous pillars clothed with rambling roses—that beautiful variety Mrs. Flight being particularly noteworthy. Immediately in front of the glass structures are narrow borders filled with various flowering plants. This range of houses is divided in the middle by Mr. Gibson's handsome residence. Were one to attempt a detailed description of the glass department at Welbeck more space would be necessary than is occupied by the whole of these notes, and for the present purpose it will suffice to indicate the general features. A considerable amount of rebuilding has been done in the fruit department since Mr. Gibson assumed charge of the gardens, and a number of the vineries and peach houses in which may be seen heavy crops in their several seasons, were built by Messrs. Mackenzie and Moncur, of Edinburgh, and these splendid structures fully maintain the high reputation the firm has so long enjoyed.

There are a dozen or more vineries, several of which are wholly devoted to Muscat of Alexandria, Black Hamburgh, or Gros Colmar, and a few other of the varieties most in request. Some contain early varieties in association, and in like manner late varieties that succeed under the same conditions may be found in other structures. We need not further particularise varieties, except to say that Lady Downes, one of the best of the late black grapes, is extensively grown, a fact of some importance, seeing how frequently the handsome but indifferently flavoured Gros Colmar is allowed to occupy nearly the whole of the space available for late-keeping black grapes. The new vineries have, of course, been planted by Mr. Gibson, and some of the others have been replanted by him. The crops that are annually produced fully justify the course of procedure followed. One need not dwell upon the heavy crops of Black Hamburgh, the fine finish of the Muscat of Alexandria, or the points of excellence of other of the grapes, but it should be mentioned that Mr. Gibson appears to have a strong objection to having fruitless vineries, or to cropping young vines before they have sufficient strength to bear the burden of a crop. He accordingly utilises temporary vines, and plants two sets in addition to the permanent occupants. The vines forming one set are cropped the first year and then removed, and the second set comes into bearing and remains until the permanent vines are fully established and able to carry good crops. This practice, simple as it is, must result in an enormous addition to the grape supply where, as at Welbeck, the number of vineries is large.

The structures devoted to peaches and nectarines, to figs, to cherries, and to pot fruit trees are numerous, and not less interesting than are the vineries; but there is no occasion to particularise, and to indulge in praise would be superfluous. Note was made in one house of trees only two years planted that were carrying heavy crops, but a practice is made of so preparing trees on the open walls that they can be used in replacing those under glass without their suffering an appreciable check in the operation. It may also be mentioned with advantage that, in the cultivation of figs, to which several houses are devoted, the roots are kept somewhat confined, and water rather sparingly used, with the result of the crops being heavy and the flavour of the highest excellence. In addition to the fruit houses of the usual character, there are several glass cases. One that has a length of two hundred and fifty yards has peaches and nectarines trained over the back wall, and cordon cherries and plums in the front; another with a length of four hundred and twenty yards contains apricots, plums, peaches, and nectarines. These are unheated, and large supplies of fruit are obtained from the trees which have their home within them.

Chief among the more notable additions that have been made to these gardens within recent years are the numerous span-roof plant houses that have been built in the north-east corner of the kitchen garden. These are forty or fifty feet in length, and of a height and width best suited to the cultivation of the various classes of plants suitable for decorative purposes, and, indeed, for various other choice subjects. They are arranged in a block, and parallel to each other, and connected at the north end by means of a broad corridor, herewith illustrated. The length is ninety-six yards, and sixteen feet wide and twelve feet high. This corridor serves a double purpose; in the first place, the plants can be carried from one house to the other, and from the glass structures to the potting shed, without their being taken outside, a matter of no small importance during the winter and spring months. In like manner visitors can pass from one house to the other without their having to be exposed to outdoor conditions before they have completed the tour of inspection. The second purpose is the display of flowering and foliage plants of decorative size. The illustration shows how fully the corridor is taken advantage of for this purpose, and how attractive are the displays that are produced. This fine block of houses, with their connecting corridor, were built by Messrs. Messenger and Co., of Loughborough, and heated by two steel Cornish boilers. The arrangements for the water supply are excellent; the rain water is collected in tanks, and from these it is, with the aid of a gas engine, pumped up into a tank eight or ten feet above the ground level, and from this it passes by gravitation through the houses.

A FINE AVENUE OF RETINOSPORA OBTUSA IN THE WELBECK ABBEY GARDENS.

The fruit houses also are heated by two Cornish boilers, and to allow the fullest freedom in regulating the heat, the mains are carried under the road that runs along in front of the houses. One would be sufficient, with additional stoking during severe weather, but Mr. Gibson prefers to have a reserve, and to be placed in a position that renders the driving of fires unnecessary.

In walking through the kitchen garden it is seen that all the principal vegetables are grown on a large scale, as for example, an area of an acre or more being devoted to asparagus. Note also is made of great breadths of sweet peas, and big beds of carnations and roses, these presumably being grown for the supply of cut flowers. Another noteworthy feature of the department is the fruit arcade, two hundred and fifty yards long, over which apples are trained, and bear well. So one might continue, but the limits of space have been reached, and these notes must at once be brought to a close.

George Gordon.

⁂ The second portion of the account of "Some Gardens in the Dukeries" will appear in our issue of June 18. There will be a large number of illustrations accompanying the description of the gardens at Clumber, Thoresby Park, and Rufford Abbey.

Hippeastrum pratense.—This was originally named Habranthus pratensis, and as such it is still generally met with except in botanic gardens. Compared with the present-day garden varieties of hippeastrum it is a quite tiny flower, but at the same time an exceedingly pretty one. The flower spike, which is fairly stout, reaches a height of a foot to eighteen inches, and bears two to four flowers of a bright scarlet colour with a greenish centre. It is a native of Chili, from whence it was introduced by William Lobb in 1840, and it first flowered at Exeter two years later. In a state of nature this hippeastrum is said to often occur on the sides of mountains, and under cultivation in this country it is hardier than most members of the genus. It will often succeed if given much the same treatment as the Belladonna lily, that is, planted in good loam in a well-drained border and in a warm, sheltered spot. I am not aware that this hippeastrum has ever been employed by the hybridist in the production of new varieties, but for its own intrinsic merit it is a plant well worth growing. It was recently shown in good condition at the Temple Show.—W. T.

CREEPING COTONEASTERS.

There are three cotoneasters or rock-sprays—as they are familiarly spoken of—that are quite indispensable for furnishing rock gardens and similar positions. The great merit, common to the group, is that they follow the contour of whatever surface they come in contact with, be it soil or rock, and so it frequently happens, when the site is particularly rugged, that these entirely merit their common name, as the stems and branches issue from the rockwork in the most fantastic forms, and when in flower are floral rock-sprays in fact. Cotoneaster adpressa is a comparative newcomer, the young stems are red, and are clothed with small oval box-like leaves, which are deciduous; the leaves take on a ruddy purple colour in autumn, and remain on the plants until December. In this species the stems are not quite so susceptible to surface contact as in C. congesta, the garden name by which C. microphylla glacialis is known; in this subject we have one of the finest rocksprays, the young stems are bright red, and clothed with rich evergreen foliage, which exhibits great diversity of colouring, according to the season; in spring, light bronzy-green, and in autumn and winter of varying shades of purple; so closely do the stems follow the surface that it forms the most perfect replica of whatever it creeps over. Cotoneaster rupestre completes the group. In habit it resembles the last-named; the leaves are dark green in colour and rarely vary, except when in a young state; they are more or less margined by a soft whitish tomentum. Of the trio it produces the most conspicuous flowers, which resemble those of the hawthorn on a very small scale, and crowd the branches in immense numbers during May and June. These cotoneasters succeed in ordinary garden soil, and reach their highest development in positions fully exposed.

Walmsgate Gardens. Thomas Smith.

SPINACH.

There are two distinct varieties of spinach, namely, the smooth-seeded and the prickly-seeded. They are distinguished chiefly by their different periods of growth, the former being generally classed as summer spinach, and the latter, or prickly-seeded, as winter spinach. There is no easier vegetable to grow on ordinary good garden soil, but the best crops are usually secured on soils of a moderately light texture, sowings of the summer varieties being made at intervals of ten days from March to the end of June, and of the winter kinds in August and September. The vegetable itself is generally well appreciated for culinary purposes; most people find it decidedly appetising when made up in one of the many tempting and agreeable dishes, and there are few who are quite averse to it.

CORRIDOR TO NEW PLANT HOUSES, WELBECK ABBEY.

One or two advantages connected with this particular culture should commend themselves more generally to amateur growers and others. The crop has much general utility, it makes a rapid growth, it is not liable to disease or insect attack, and the winter spinach provides a large bulk of foliage for gathering in the winter months, when there is usually a great scarcity of greenstuff. And even from these same plants a still greater amount of green can be secured as soon as the warmer days of spring advance. Of varieties, Victoria, or Long-standing, is a useful summer or round-seeded kind, and enjoys the additional advantage of not seeding until a fortnight after other sorts. New Zealand also produces a wealth of green succulent herbage in summer; this variety should be sown in February, in heat, and transplanted in June. Sutton's Long-Standing Prickly is a good winter spinach.

Deep digging and liberal manuring is essential for both kinds. For the summer varieties the ground should preferably be somewhat moist, otherwise there is a necessity for frequent waterings. Sometimes it is advisable to choose a warm, protected border for the earlier sowings, the drills being rather shallow, say, about one inch deep, and the seeds inserted at a distance of from twelve to eighteen inches apart, according to the variety sown. One foot will, however, be ample for the round-seeded varieties, but for the winter kinds, which develop a more luxuriant growth of foliage, more space will be needed. The latter are also sometimes broadcasted in four or five feet beds, one foot apart. Whenever practicable the seed should be sown just previous to a shower of rain or immediately afterwards, as germination will then be accelerated, and a better "plant" secured than when continuous drought prevails. If the weather is inclined to be dry it will be advisable to give a thorough watering to the drills before sowing; some growers even steep the seed in water for some five or six hours previously. In the latter case, however, there must be no lack of moisture afterwards.

Successional sowings may be made up to June, and, as the summer crops soon run to seed, it will be advisable to carry these sowings on as far as the month of August in order to ensure a constant supply. In the same month, and in the beginning of September, the winter kinds may be sown, and for these the warmest situation should always be chosen. In this way the young plants will be afforded the greatest possible amount of sunshine, which will enable them to become thoroughly hardened for the rigorous weather they will have to withstand later on. These sowings will, of course, depend largely upon the season and locality. A practice with many growers, and one that seems to answer very well in rich soils, is to sow summer spinach in a single drill between rows of peas or beans.

The after-cultivation of spinach consists of thinning out the seedling plants as soon as they have made three or four leaves. The plants should then be left about two inches apart in the rows, and when at a more advanced stage of growth they may be still further thinned out to about six inches apart in the rows for the summer kinds, and nine inches for the winter kinds. Or, as an alternative, a first gathering may take the place of the second thinning, every other plant being afterwards cut out. Plenty of moisture is required by this crop in dry weather, and every care should be taken to keep the ground well stirred between the rows. When gathering, the largest leaves should be cut first, leaving the yet undeveloped foliage to come on in succession. The plants must not, however, be entirely denuded of their foliage, as, if this is done, they cannot continue in a robust and prolific growth. Regular gatherings are essential, as this promotes the health of the plant. In the summer months the plants may be cut close to the root.

Old Basing. J. C. Newsham.

Insect Depredations in Forests.—According to a recently issued bulletin, very extensive damage is done to the trees in the North American forests by insects. Dr. A. D. Hopkins, the officer in charge of Forest Insect Investigations, estimates the loss due to insect pests at 1 per cent. annually of the total stand of merchantable timber of the United States, this being equal to a total loss of about £13,000,000. One of the most destructive of the pests is the large larch sawfly (Nematus Erichsoni), which has of late been doing considerable damage to larch plantations in this country.

THE CULTURE OF LATE PEAS.

To what date the season of garden peas may extend, depends a very great deal upon the climatic conditions that prevail during late autumn. With ideal weather and the best possible culture, together with suitable varieties, peas may be obtained up to the end of October, and sometimes later. It is, therefore, advisable to make late sowings in the hope of these perfecting and producing a few dishes of this ever-popular vegetable.

To produce late peas at their very best, it is most essential that their cultural requirements be well looked to, as unless strong and vigorous haulm is formed it is hardly reasonable to expect anything like satisfactory results. Therefore every means should be directed towards producing a healthy, free growth that will render the plants less susceptible to the attack of insect and other pests. Every gardener endeavours to produce an unremitting supply of peas over as long a period as possible, and makes frequent sowings in various sites from now until the end of June.

The preparation of the ground, as I have previously hinted, is a most important item. No crop pays better for good cultivation than peas, and when this is given the ensuing crop also reaps additional benefit. Deep cultivation is necessary, and a thorough enriching of the soil with decayed manure. I practise, and strongly advise, the formation of trenches similar to those prepared for celery, as by adopting these means, the plants may be much more copiously supplied with water, if this is necessary. Take out the trenches, if possible, some little time before the time of sowing, and fork up the bottom well; treat liberally with rotten manure or other decaying vegetable refuse, turn back some of the finest of the soil, and leave a good tilth on which to sow the seeds. If the seeds appear to be satisfactory avoid overcrowding, which is a common practice, I fear, with many growers, and one which does much to foster attacks of mildew, owing to the starved conditions that must necessarily follow. One must, however, remember that there are many pests with a particular liking for these seeds, and it is always possible to thin the seedlings when well above ground.

When the plants attain a height of three inches or thereabouts, they should be staked in a secure and workmanlike manner, with suitable cut sticks, according to the height they are likely to grow. Mulching is another important item of a dry season, and does much to minimise labour in watering, as well as greatly benefiting the crop. This is best supplied when the ground is moist, and not omitted until the soil is thoroughly parched up. When the plants are growing freely, stimulants are readily absorbed, and should be applied at intervals, but never when the ground is in a dry state. Farmyard liquid manure, properly diluted, is very nourishing, and this can be varied by occasional applications of a good artificial vegetable manure, and dustings of soot, which will prove most effective in showery weather.

Under good conditions insect pests are not, as a rule, troublesome, although mildew is sometimes prevalent, and, in some seasons, more so than others. Birds soon play havoc, especially hawfinches, and must be kept at bay. Mice are troublesome when the seeds are sown, and traps must be set, or the seed steeped in a mixture of red lead, and guards or cotton should be placed over the rows to keep birds away. Varieties are numerous, and each firm has its own particular favourites; localities alter the cropping properties of varieties in a marked degree, and I would therefore advise those who know a good late pea, suited to the locality, to stick to it. Two excellent varieties that can be generally relied upon to produce good results are Autocrat and Masterpiece. E. Beckett.

Aldenham Gardens.

EELWORMS.

Eelworms or nematodes in garden and greenhouse soil constitute a serious and troublesome pest for which it is extremely desirable to find some simple and practical remedy. Experiments on various methods of destroying eelworms have been carried on for many years by Dr. G. E. Stone, of the Massachusetts Experiment Station, says the "Weekly Florists' Review," and a recent report of that station gives some of the practical results of these experiments.

Doctor Stone points out that the use of lime is advocated for destroying the eelworms, but his experiments show that lime has little or no value for this purpose. In fact, it was found possible to keep eelworms alive for several days in a saturated solution of limewater. He considers: "Undoubtedly the application of lime to greenhouse soil improves it by modifying its acidity, but eelworms will thrive in soils which are not acid."

The use of formalin has been recommended, but the experiments at the Massachusetts Station indicate that this is not effective in killing the worms, and besides cannot be used on soils containing growing plants on account of the injury likely to result to the plants.

"Of late years formalin has been recommended as a remedy for eelworms in violets. This is used by applying it to holes made in the soil where the plants are growing. The formalin being volatile, the gas penetrates the soil, and is said to kill the worms. Our experiments with it would not seem to warrant the use of this method of treatment, as formalin is injurious to plants, and there is reason to believe that it would not affect in the least the eggs of eelworms, which are fairly well protected by a resistant covering," says the report.

The methods used with more or less success at the Massachusetts Station for destroying eelworms in greenhouse soils were as follows:

Sterilisation.—This is one of the cheapest and best methods of destroying eelworms in greenhouse soil. It is necessary that the soil be heated to at least 180 degrees, and a higher temperature is better. This is accomplished by driving steam through the soil by a system of perforated pipes.

Freezing.—If the soil is frozen for any length of time the eelworms are destroyed, and some use has been made of this method by practical growers. As a rule, the soil is removed from the house and frozen in bulk out of doors.

Desiccation.—Drying the soil is destructive to eelworms, but it is difficult to dry soils sufficiently in deep benches to make this method effectual. The application of unslaked lime, however, will materially aid in drying the soil, by virtue of the water-absorbing qualities of the lime.

Trapping, or the catch-crop method.—It has been found in Germany that sowing very susceptible crops, like mustard or rape, on soil contaminated with eelworms, and, after the females have become encysted in the roots, pulling up the plants and exposing them to the drying rays of the sun, is capable of reducing the worms to some extent in contaminated soils. We have found, however, that two or three catch crops are much better than one.

The Massachusetts experiments indicate that in some instances simply flooding the soil may prove a successful means of destroying the eelworms, and that manure infected with eelworms may be safely used on garden and greenhouse crops if left for a sufficient length of time in water.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

GENERAL REMARKS.—The cold nights which were experienced during the spring and the sunless weeks during the month of May, have not been favourable to growth, and consequently most of the plants are some weeks later than usual both in the production of growth and in their flowering season. I understand these remarks may be applied generally throughout the country, therefore those in charge of plants must endeavour to counteract those retarding influences which necessarily follow a long season of unfavourable conditions. A great deal may be done by the discreet use of artificial heat, by keeping the temperature slightly above the normal at night, and during the day time making use of all the available light. During late years the summers have been all to short for the benefit of cattleyas and other orchids which derive so much benefit from sunlight, and there has consequently been a tendency to produce soft or sappy growths, and the plants not only fail to display the best qualities in their blooms, but their constitution is undermined and they are thus the more prone to disease and insect attacks. Even in situations most favourable to the cultivation of orchids these disadvantages are severely felt, and the detrimental effects are far more serious in the unfavourable surroundings of large towns and smoky manufacturing districts.

SHADING.—After a period of dull weather sudden changes to bright sunshine are not always advantageous to the plants, especially in the cool divisions. It is advisable that the permanent shading should now be put on the roof glass. This may be done by spraying with a syringe or by means of a whitewash brush; we find whiting mixed in churn-milk or ordinary skim-milk, with a little salt added, to be the most serviceable shade for this purpose. There is a very considerable advantage derived from permanent shading on all the divisions, but for cattleyas, dendrobiums, and other light-loving plants, only a thin sprinkling is necessary, just sufficient to reduce the scorching effects of the sun early in the day before the blinds are required. It also enables the operator to raise the blinds earlier in the day, thus affording additional light and raising the temperature after the houses have been closed. This also means a reduction of artificial heat.

DAMPING must now be carefully attended to. Dry atmosphere and other unfavourable conditions give every encouragement to insect pests, and also retard growth of practically all the epiphytal orchids. Ventilate freely whenever the outside conditions permit, but care must be observed to prevent draughts coming in direct contact with the plants. On warm nights a little ventilation should be put on the leeward side of the house to keep up a free circulation of air.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

SOUVENIR DE LA MALMAISON CARNATIONS.—The main batches of these plants are now fast approaching their flowering stage, and it will be necessary to see that the bands by which the flower stems are tied are not too tightly fastened, otherwise the stalks will snap as growth develops. Remove the lateral flower buds as soon as possible, and also afford the blooms requisite support before they have fully opened. The Ascott is one of the best supports for this purpose, and it can be procured in various colours to suit the different varieties. Shade the blooms from strong sunshine or they will quickly lose their colour. Keep the house cool, and well ventilated, and on very hot days damp the staging between the pots as well as the floors. Plants that have passed out of bloom should be placed out of doors to harden the young growths before layering commences.

LONICERA SEMPERVIRENS. — For training up the rafters of a cool greenhouse or covering a sunny wall in the corridor or conservatory, few plants are more suitable than this lovely North American honeysuckle. The terminal clusters of trumpet-shaped flowers, which are produced in spring and on through the summer months, hang in great profusion. The flowers, which are a brilliant shade of orange-scarlet, with yellow interior, contrast well with the leaves. When growing freely this climber should be supplied with copious waterings, and occasional applications of liquid manure, and be kept free from attacks of red spider.

PRIMULAS.—The secret of success in primula culture lies in steady and continuous growth throughout the whole period of their development. They must suffer no check through drought or an excess of water. If repotted before they need it, or left in small pots too long, or allowed to remain in a position that causes the foliage to become drawn, trouble is sure to follow, and when once primulas have received a check they do not readily recover. Extremes of temperature should be avoided. Coolness in summer is desirable, and when established the frame lights may be removed from them at night so that the dews may refresh them. Just enough warmth is required in winter to keep the roots active. Some growers, with a view to producing large specimens, sow seeds in September. But for a main batch March is early enough, and, if careful attention is given the plants, they can be had in the best form by November and onwards. Now that pits and frames are capable of affording ample room there is no need for overcrowding the plants.

AZALEAS.—These should be examined, and if potting is needed, carry the work forward without delay. Those that do not require potting should have the drainage examined in case it has become clogged. Azalea mollis should now be planted out in a shady, moist piece of ground where they will not lack water.

PITS AND FRAMES.—Most of the bedding plants will have been removed out of doors, and thus ample room will now be afforded for begonias, celosias, salvias, petunias, etc., all of which will be required during the next few months in the conservatory. The frames should be made thoroughly clean and be closed early in the afternoon. Use the syringe freely to create atmospheric moisture.

WATERING.—Water is one of the chief necessities of plant life, and success in plant culture very largely depends on the discretion that is shown in determining the quantity of water required by each plant. To serve all plants alike is a bad practice, but a common one in some gardens during busy times. Newly-potted plants should be given a good soaking to settle the soil about the roots soon after the operation; but following this, only a moderate quantity will be required until the roots have permeated the new soil, and when plants have filled their pots with roots care must be taken that they do not suffer from lack of water.—W. Staward, Belford Hall Gardens.

THE FLOWER GARDEN.

HARDY PERENNIALS and similar fast-growing border plants now require a good deal of attention; suitable supports should be given, tying the growths loosely but securely. Avoid bunching the growths together, as is so often practised by the careless and indifferent workman as an excuse for getting over the work quickly at a time when other work is pressing. Watering will be needed by all plants that have been planted this season. On no account allow these to suffer from drought. All bare places in the herbaceous borders should be filled up with suitable plants without delay, and there is no branch of flower gardening with a wider range for the display of one's ideas than the mixed herbaceous border, which never fails to produce a feeling of interest and enjoyment the season through.

ROSES growing in raised beds or on sloping borders require a mulch on the surface much more than beds on the level; half-decayed manure is undoubtedly the best material to use, the plants being benefited by the manurial matter washed down to the roots by rain, and the soil will be kept in a more uniform state of moisture, which, in the case of newly-planted roses, will greatly assist the roots to establish themselves in their new quarters. If manure cannot be had, or its presence would be considered objectionable, a very good substitute may be found in half-decayed leaves, or cocoanut-fibre refuse; either of these will prevent a too rapid evaporation of moisture from the soil. In light or naturally well-drained soils the beneficial effects of liquid manure on roses at this time of the year is shown, not only in the increased vigour of the plants, but an increase in the size and colour of the blooms. Many of the artificial manures now sold may be applied in a liquid state, but care must be taken to apply these at the correct strength, or in a weak solution and often, rather than overmuch at any one time. For syringing purposes, and a check to green-fly, clear soot water is an excellent thing to use.

LILIUM TIGRINUM and others of similar growth will require staking and tying as growth increases, otherwise serious damage might accrue with the advent of high winds or heavy rains. Where needed, a mulching of decayed manure might be given these, and during a spell of dry weather careful attention should be given to watering, especially if they are showing the least signs of distress.

DAHLIAS may now be planted out, unless the weather be distinctly unfavourable. Care should be taken to see that these are sufficiently moist at the roots before turning them out of the pots. If the soil is inclined to be heavy and cold a portion of prepared light rich soil should be placed immediately around the roots, as this will materially assist in giving the plants a quick start. If, as is now usually the case, the plants have been grown in six-inch or eight-inch pots, and the consequent top growth is sturdy, and several inches in length, it will be necessary to stake the plants as planting proceeds, but take care that the tuber is not pierced by the point of the stake, or losses may occur.—W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

STRAWBERRIES.—The plants are flowering profusely, and there are every indications that good crops will be general in this locality; this season the flowering period was late, and so no damage to the flowers has resulted from frost. All weeds should be removed from the plantations, and the work of protecting the fruit with fish netting should be done at once. Strong stakes should be driven into the ground twelve feet apart, leaving them about three feet above the level of the soil. Some long strips of two-inch quartering will be required to nail upon the top of the stakes, so that the nets can be placed over them. This entails a little trouble in the first instance, but one is amply repaid for the labour thus involved by being able to have free access to the plants at all times, both for thinning the flower trusses, and gathering the fruit. If large fruits are desired for dessert, the fruits should be moderately well thinned as soon as they have set; applications of liquid farmyard manure are beneficial for the production of finely developed well flavoured fruits, but the liquid manure should be applied at some little distance from the plants, so as not to come in contact with the fruit, or the flavour will be impaired. Plantations made late in the past spring should have their flower trusses removed to ensure good strong fruiting plants for next year. Varieties such as St. Antoine de Padoue and St. Joseph should have their flowers removed, as this will ensure good crops of fruit late in the summer, when the perpetual fruiting varieties are appreciated for dessert.

TREES ON WALLS.—It will be necessary to give constant attention to all fruit trees grown on walls; the final disbudding of the young shoots on all trees that require it should be finished as soon as possible. These remarks apply particularly to peach, nectarine, and Morello cherry trees. It is a common mistake to leave too many young growths, and, consequently, it is impossible for the wood to develop and ripen; the young growths should be disposed over the trees, so that the sap may become equally distributed, and promote healthy, well-developed wood. To form a well-balanced tree all young growths should be carefully tied in before they become too long. Many of the stone fruits will require to be gradually thinned, but defer the final thinning until the stoning process is well advanced. Shoots that are required for extension, on figs, sweet cherries, and apricots, should be made secure, at the same time laying in young growths their entire length to fill up vacant places, or to replace useless branches; all other shoots should be pinched at three or four leaves to form fruit spurs. The trees should be kept free from aphides, black-fly, and red spider; syringing the trees during favourable weather with clean tepid water, applied forcibly with the garden engine, will greatly assist in keeping them free from these pests. Up to the present time it has not been necessary to water trees grown against walls with clear water, but at the same time the borders should be carefully examined, and if found to be at all dry a good soaking of clear water should be given. Where figs have set their fruits well they will soon require copious supplies of water at the roots.—Henry R. Farmer, Cardiff Castle Gardens.

THREE GOOD BEDDING CALCEOLARIAS.

The calceolarias of tall growth are extremely valuable for bedding purposes, and the decoration of the flower garden in summer, and it will be noted that they are allotted prominent positions in the London parks and gardens. Calceolaria amplexicaulis has sulphur-yellow flowers and light green foliage, and the effect produced by it is altogether soft and pleasing. I would advise that it be associated with Salvia patens, with lilac or purple-flowered violas as a carpet.

C. Burbidgei is a bold variety, with ample foliage and fine golden flowers, and, as seen in large specimens, is exceedingly effective. I noted a very large bed last season tenanted by plants arranged four feet apart, Verbena Defiance, brilliant scarlet, doing duty as a carpet plant, while Verbena Blue Perfection formed a wide belt and framework, the whole making a strikingly effective combination.

C. integrifolia makes a fine bush in the open garden in South Devon, but I am afraid that it would come to grief in any other than similarly favoured parts. It produces large branching panicles of rich golden yellow flowers, while the foliage is distinct, being firm in texture, with a roughened surface. Plants from six-inch pots and about two feet in height develop into effective specimens by the beginning of August, but two-year or three-year-old plants, cultivated in large pots and plunged, are vastly preferable.

Walter H. Aggett.

For pretty gardens and lovely flowers read The Flower Garden, by T. W. Sanders, F.L.S. An up-to-date work on the formation, planting, and management of the garden, with description and cultivation of flowers and plants adapted for outdoor culture. Price 7s. 6d. net, by post, in box. 8s., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

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LEICESTER.—ABBEY PARK FLOWER SHOW on 2nd and 3rd August next. Open Class, Group of Plants, £20, £15, £10, £6. Liberal prizes for Collections of Fruit, Displays of Roses, etc. Silver Cup and Gold Medals for non-competitive exhibits. Schedules from JOSEPH BURTON, Superintendent.

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EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

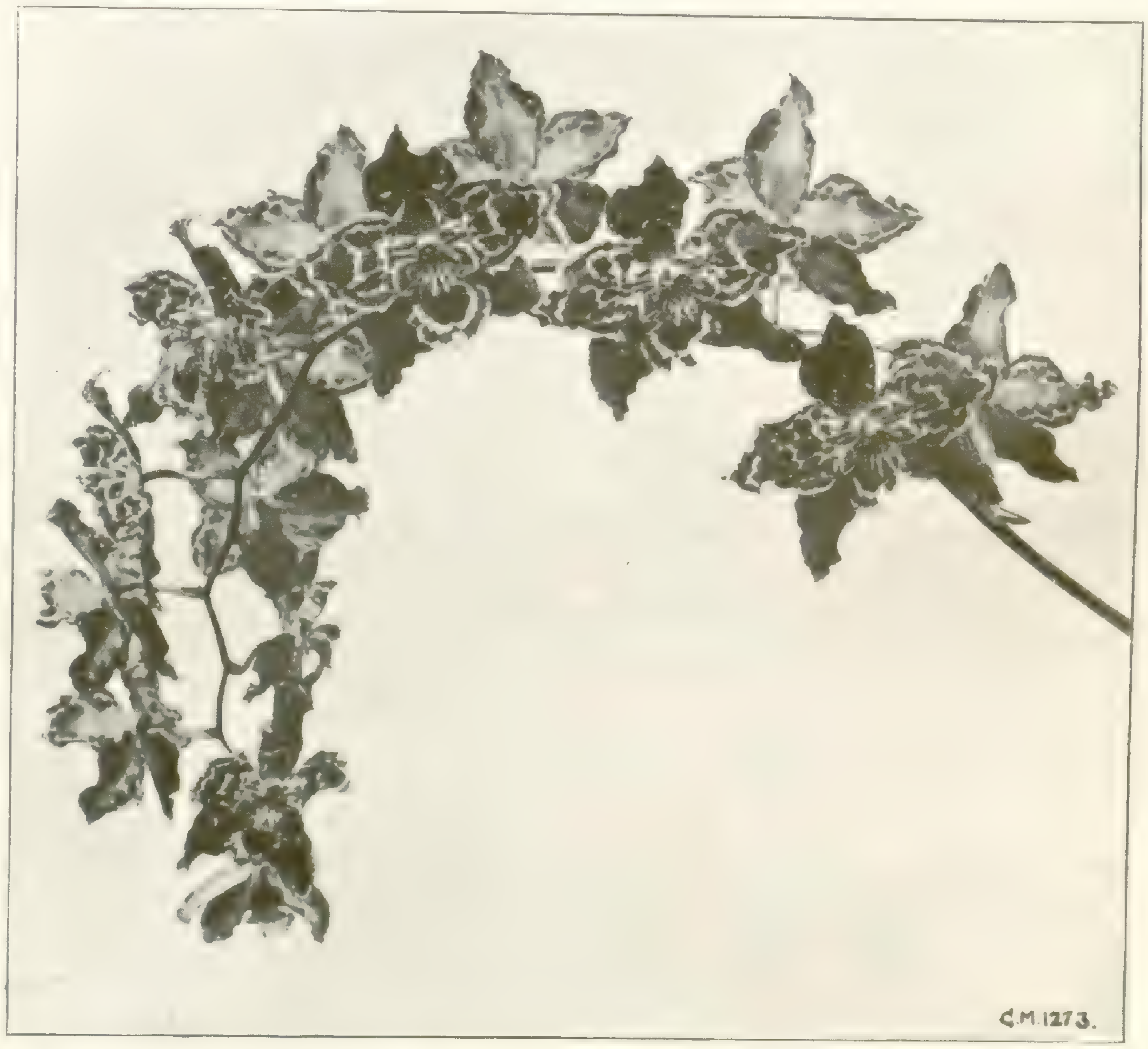
JUNE 7.

Every bit of space was again occupied in the Royal Horticultural Hall, and there was a great crowd of Fellows and visitors to see the packed display. The thundery weather and the dense crowd of people combined to make the hall unpleasantly warm during the earlier part of the afternoon, and all the doors had to be opened to cool the place. Hardy flowers, roses, orchids, and vegetables were the leading features, apart from the large set of exceptionally fine and accurate paintings of orchids staged along the end of the hall by the artist, Miss M. Walters Anson, of The Broadway, Streatham. We do not remember to have previously seen such beautiful, minutely accurate, and altogether life-like representations of orchids before. The finest of the new orchids displayed within the last year or so were depicted, and from cattleyas to vandas all were alike good. On the recommendation of the Orchid Committee the Council awarded Miss Anson a gold medal.

FLORAL COMMITTEE.

This body had a busy time. The majority of the members sat for an hour and a half, under the presidency of Mr. H. B. May, judging new plants; while another and smaller body, with Mr. William Marshall as chairman, judged the fifty groups entered on the Floral Committee books. Fifteen Awards of Merit and thirty-two medals were granted.

A rare display of irises was made by Messrs. Barr and Sons, Covent Garden, who also showed the charming Lupinus polyphyllus Moerheimi and L. p. roseus. In the large display made by Messrs. W. Cutbush and Son, Highgate, the eremurus spikes over a groundwork of Campanula glomerata dahurica was the central feature; Anemone sulphurea, Geum Apricot, and the white wistaria were other notable plants. Carnation Queen Mary (A.M.) also came from the Highgate firm. Miss Hemus, Holdfast Hall, Upton-on-Severn, had a glorious display of fragrant sweet peas set up in large bunches; Helen Lewis, Elizabeth Hemus, Paradise Apple Blossom, Bronze Paradise, Evelyn Hemus, Guy Hemus, lavender; Marjory Hemus (A.M.), lavender and white; and Cerise Paradise (A.M.), lovely soft pink, were the pick of the collection. Mr. T. Stevenson, Woburn Place Gardens, Addlestone, gained an A.M. for Sweet Pea Prince of Orange, a very bright large-flowered variety.



ODONTIODA ST. FUSCIEN VAR. IMPERATOR.
F.C.C., R.H.S., June 7, Mons. Graire, Amiens, France. Flowers brilliantly coloured with rich crimson red on a creamy-yellow ground.

Mr. A. T. Paskett, gardener to E. J. Johnstone, Esq., Burrs Wood, Groombridge, put up a glorious group of Malmaison carnations, showing cut blooms and flowering plants, and making a grand exhibit. Lupins in a great variety of colours were shown by Messrs. Bakers, Wolverhampton, the rosy and blue forms being the chief attraction; Mertensia elongata (A.M.) and Oriental poppies were also well represented, the rich orange-salmon Queen Alexandra being very brilliant. Messrs. Jas. Veitch and Sons, Chelsea, brought forward their new hybrid Calceolaria Buttercup, Rehmannia angulata, Pelargonium White Queen (A.M.), Kalanchoe flammea, and a splendid selection of streptocarpuses—the pink and rose and blue shades all commanding a great deal of attention. The same firm had cannas, gloxinias, Exacum macranthum, and other good things. Columbines were splendidly shown by Messrs. Dobbie and Co., Edinburgh and Marks Tey; the golden-cupped forms and the lovely lavender shades were charming, and the size and elegance of the flowers were grand.

Among the carnations shown by Messrs. Stuart Low and Co., Enfield, the new perpetual-flowering Malmaison variety named Princess Juliana, salmon buff, was conspicuously good; the new frilled, double pink, named Gloriosa, was another good thing, and the Lyon rose proved a great source of interest. The Lowberry figured among the flowers in this group. Mr. W. H. Page, Tangley Nurseries, Hampton, put up a delightful exhibit of weeping standards of Dorothy Perkins and Hiawatha roses, associated with magnificently-grown plants of Lilium longiflorum and Spiræa Peach Blossom, equally well managed.

A grand group of rambling roses, in pots, was made by Messrs. Thos. Rochford and Sons, Broxbourne, and it provided the great feature of the exhibition. The plants were in all cases magnificently grown and flowered, and were trained as pillars, arches, weeping standards, and bushes. The leading varieties were Hiawatha, Dorothy Perkins, White Dorothy, Mrs. W. Flight, American Pillar, and Crimson Rambler. The two large end arches of Dorothy Perkins were remarkably fine. A bank of rhododendrons from Messrs. John Waterer and Sons, Lim., Bagshot, provided a splendid blaze of colour; the varieties that appeared to attract most attention were Pink Pearl, Gomer Waterer, Kate Waterer, Michael Waterer, and Doncaster.

The varieties of Lupinus polyphyllus shown by Mr. Amos Perry, Enfield, were charming, especially the rose and the yellow shades. Pyrethrum Auricule, single, rose; Papaver Queen Alexandra, hybrid hardy mimuluses, Hemerocallis aurantiaca, and the grand Iris Sir Michael were among the choicest things in the group. Mr. W. J. Godfrey, Exmouth, brought up cut flowers of a great number of handsome show pelargoniums; Ruby, H. S. Davy, Attraction, Market Favourite, Bridesmaid, Glenholme, Gretchen, and Godfrey's Success were a few of the finest in colour and form. Mr. Godfrey's Oriental poppies in art shades of red and pink found favour with the ladies.

Mr. C. Blick, Hayes, showed carnations delightfully, and he had exceptionally beautiful blooms of Mrs. Everard (Martin Smith), white; Miss Willmott, red; Lady Hermione, pink; and Outlaw, a yellow fancy. Messrs. Robert Veitch and Sons, Exeter, brought up Robinia Kelseyi (A.M.), Edwardsia grandiflora, with its orange-coloured flowers; Ozothamnus rosmarinifolius, Calceolaria Golden Glory, Rehmannia angulata Perfection, and Fabiana imbricata. Messrs. Kelway and Son's pyrethrums were good, and the rich single crimson-scarlet varieties, James Kelway and Langport Scarlet, outshone all the rest; Snow White (A.M.) is a lovely thing of purest white. The delphiniums were not yet at their best, but the lupins were good. Some lovely roses were once more set up by Messrs. G. Mount and Sons, Canterbury, and the varieties Lady Hillingdon and Mdme. Abel Chatenay were much to the front. In Mr. M. Pritchard's collection of hardy flowers, paeonies were present in great quantity; Primula Bulleyana, P. Littoniana, and P. sikkimensis, and a number of interesting hardy orchids, and Ornithogalum arabicum were also present. Messrs. G. Bunyard and Co., Maidstone, submitted a number of fine lupins and poppies and German irises; they also showed Dianthus Napoleon III., D. Atkinsoni, D. Marie Parc, and other interesting dianthus hybrids.

The sweet peas from Messrs. S. Bide and Sons, Farnham, included Mrs. A. Ireland, Frank Dolby, an improved Helen Lewis, Mrs. Routzahn, Mrs. Henry Bell, and several seedlings. Bougainvillea Sanderiana, crowded with brilliant bracts, and surrounded by Blush Rambler, Kathleen, and Tausendschon roses, smothered with flowers, were used by Messrs. W. Paul and Son, Waltham Cross, to fill one corner of the hall. Messrs. B. R. Cant and Sons, Colchester, had a grand box of blooms of their new rose Claudius, with a few clusters of rambling varieties. Standards of fuchsias, Salvia splendens, Abutilon Thompsoni, and Pelargonium Clorinda, from Messrs. H. B. May and Sons, Edmonton, were displayed over verbenas, heliotropes, abutilons, and marguerites.

Messrs. Paul and Sons, Cheshunt, put up a bank of roses in pots, and their collection included such varieties as Buttercup, American Pillar, Veilchenblau, Excelsa, Snowstorm, White Dorothy, and Jessica. Catalpa speciosa pulverulenta, having light green leaves freely speckled with creamy white, also shown by the Cheshunt firm, is a very attractive hardy tree. Big sheaves of noble eremurus spikes marked the display of hardy flowers from Messrs. W. Artindale and Son, Sheffield, but the violas set up by this firm were an even greater attraction. Mr. F. Lilley, Guernsey, brought over Spanish and German irises and an interesting set of ixias and brilliant sparaxis.

Messrs. R. Wallace and Co., Colchester, were large exhibitors of hardy flowers, and in addition to pyrethrums, poppies, eremuri, and pæonies, they had a fine selection of irises that included two new varieties, Isoline (A.M.), and Italia (A.M.), the latter rich purple-blue, and the former soft bronzy-yellow and purple. Among others who contributed hardy flowers we may mention Messrs. G. Jackman and Son, Woking; Messrs. J. Cheal and Sons, Crawley, who showed Cytisus scoparius Lemon Queen in good style; Mr. G. W. Miller, Wisbech, who displayed a lovely pink double pyrethrum named Queen Mary; Mr. C. Turner, Slough; Mr. G. Reuthe, Keston, whose hardy cypripediums and rhododendrons were good; Messrs. H. Cannell and Sons, Swanley, who contributed aquilegias, thalictrums, etc.; Messrs. T. S. Ware, Lim., Feltham, who had a pretty group of the double Welsh poppy and a sheaf of spikes of the lovely Rose Doré antirrhinum in their exhibit; Mr. Elliott, Stevenage; Messrs. G. and A. Clark, Dover; Mr. A. T. Harwood, Colchester; and Messrs. J. Peed and Son, Norwood, who also displayed their fine strain of gloxinias.

The new Rose Queen ivy-leaved pelargonium was brought up by Mr. W. R. Newport, Hillingdon; while heliotropes, delightfully fragrant and well-grown, from the King's Acre Nursery Company, Hereford, made a pleasing group, which contained a variety named Favourite (A.M.), with big, spreading heads of large pale flowers. The bertolonias, anoectochilus, cyrtodeiras, and other low-growing stove plants, with very elegant and brightly-marked leaves, formed an interesting group, staged by Mr. L. R. Russell, Richmond.

ORCHID COMMITTEE.

The Orchid Committee had eleven groups to consider, and a goodly number of plants were submitted for awards. One F.C.C. and two Awards of Merit were granted.

Messrs. Sander and Son's group of orchids, from St. Albans, contained a number of good things, notably Phalænopsis Rimestadiana, Brasso-cattleya Veitchi, Lælio-cattleya Fascinator, Oncidium crispum, Phaius Oakwoodiensis, Ærides Houlletti, L.-c. Canhamiana Rex, and Cattleya Dusseldorfei Undine. A little batch of finely-grown plants of Cypripedium Lawrenceanum Hyeanum, C. callosum Sanderæ, and the hybrid between these two, C. Maudiæ, came from Mr. F. Menteith Ogilvie, The Shrubbery, Oxford. From Sir Jeremiah Colman's collection at Gatton Park, Reigate, Mr. Collier brought up the bright Odontoglossum triumphans aureum. Messrs. J. and A. McBean, Cooksbridge, contributed some good miltonias, beautiful odontoglossums, and a splendid example of Lælio-cattleya Canhamiana. Mr. Edward V. Low, Haywards Heath, showed Cypripedium Maudiæ in fine style, and Odontioda Goodsonæ. Some very pretty and distinct forms of Cattleya Mossiæ were staged by Messrs. Stanley and Co., Southgate. Mr. Alexander, orchid grower to Lieut.-Col. G. L. Holford, Westonbirt, Gloucester, had grand specimens of Miltonia vexillaria virginale covered with blooms, and the lovely M. v. Snowflake (A.M.), with five spikes; Cattleya Queen of Sheba, a hybrid something like C. Whitei, and L.-c. Lustre superba; a Cultural Commendation was awarded for the miltonias.

Messrs. Charlesworth and Co., Haywards Heath, had a lovely display of Lælio-cattleya Fascinator, grandly flowered; Oncidium crispum, Odontoglossum luteo-purpureum Vuylstekeanum, Lælia purpurata alba, Odontioda Charlesworthi, O. Bradshawiæ, and the graceful Oncidium pulchellum. Handsome and well-grown plants of Cattleya gigas, about a score of them, were shown by Mr. Jensen, Lindfield, Haywards Heath, and their big purple and mauve flowers attracted a great deal of attention. M. Mertens brought over some finely-coloured odontoglossums from Ghent; and De Barri Crawshay, Esq., Sevenoaks (gardener Mr. Stables), showed Odontioda Gattonensis (A.M.), a bright and effective hybrid between O. polyxanthum and Cochlioda Noetzliana. Mons. Graire, of Amiens, had a grand plant of Odontioda St. Fuscien Imperator (F.C.C.), a splendid form of the hybrid between O. Adrianæ and Cochlioda Noetzliana; this had a long arching spike of flowers like red odontoglossums. Boxes of finely-grown and remarkably well-flowered plants of Vanda teres were brought up by Mr. W. H. Smith, gardener to W. D. James, Esq., Chichester; the flowers were large and of unusually fine colour. Cattleya Mossiæ and C. Mendeli in variety were charmingly shown by Messrs. Stuart Low and Co., Enfield, with numerous odontoglossums and oncidiums. Mr. H. Little, Baronshalt, Twickenham, contributed a group of varieties of Lælia purpurata, an orchid that has been a great favourite of his for a long number of years; L. p. grandis, and L. p. Russelliana were notably fine forms.

FRUIT AND VEGETABLE COMMITTEE.

A collection of superbly-grown vegetables, staged by Messrs. James Veitch and Sons, Chelsea, afforded a pleasant relief from the bright hues of the flowers. The display attracted a great deal of attention, and deservedly so. A few of the leading dishes included Early Favourite, Stanstead Park, All-the-Year-Round, and Marvel lettuces; Ellam's Dwarf Early, Veitch's Incomparable and Earliest of All cabbages; Sunnybank and Perfection tomatoes; Snowball and Early Dwarf Forcing cauliflowers; Selected Gradus peas; Duke of York, Midlothian Early, May Queen, and Express potatoes; and Market Gem and Perfection cucumbers. Radishes, carrots, turnips, spinach, and a whole host of other vegetables and salading were included in this fine exhibit.

CERTIFICATES AND AWARDS.

First-class Certificate.—To Odontioda St. Fuscien var. Imperator, from Mons. Graire, Amiens.

Award of Merit. — To Sweet Peas Cerise, Paradise, and Marjory Hemus, from Miss Hemus, Upton-on-Severn; to Sweet Pea Prince of Orange, from Mr. T. Stevenson, Woburn Place Gardens, Addlestone; to Pyrethrum Snow White, from Messrs. Kelway and Son, Langport; to Robinia Kelseyi, from Messrs. Robert Veitch and Son, Exeter; to Heliotrope Favourite, from the King's Acre Nursery Company, Hereford; to Clivia King George V., from Mr. G. W. Miller, Wisbech, to Ranunculus Evening Star, from Messrs. G. and A. Clark, Dover; to Mertensia elongata, from Messrs. Bakers, Wolverhampton; to Zonal Pelargonium White Queen, from Messrs. James Veitch and Sons, Chelsea; to Irises Isoline and Italia, from Messrs. R. Wallace and Co., Colchester; Miltonia vexillaria Snowflake, from Lt.-Col. G. Holford (grower, Mr. Alexander), Westonbirt, Gloucester; and to Odontioda Gattonensis, from De Barri Crawshay, Esq., Rosefield, Sevenoaks.

MEDALS.

Gold.—To Miss Walters Anson, Streatham, for paintings of orchids; to Messrs. Thos. Rochford and Sons, Broxbourne, for roses in pots.

Silver-gilt Knightian.—To Messrs. James Veitch and Sons, Chelsea, for vegetables.

Silver-gilt Flora.—To E. J. Johnstone, Esq. (gardener, Mr. Paskett), Groombridge, for Malmaison carnations and sweet peas; to Messrs. J. Veitch and Sons, for greenhouse plants; and to Messrs. Charlesworth and Co., Haywards Heath, for orchids.

Silver-gilt Banksian.—To Miss Hemus, Upton-on-Severn, for sweet peas; Mr. Amos Perry, Enfield, for hardy flowers; Mr. L. R. Russell, Richmond, for stove foliage plants.

Silver Flora.—To Messrs. W. Cutbush and Son, Highgate, for hardy flowers; Mr. W. H. Page, Hampton, for liliums and roses; Mr. M. Prichard, Christchurch, for hardy flowers; Messrs. J. Waterer and Sons, Lim., Bagshot, for rhododendrons; Messrs. Stuart Low and Co., Enfield, for orchids; Messrs. Sander and Sons, St. Albans, for orchids; Mr. H. Little, Twickenham, for orchids; W. D. James, Esq., Chichester, for Vanda teres.

Silver Banksian.—To Messrs. J. and A. McBean, Cooksbridge, for orchids; to Mr. Jensen, Lindfield, for orchids; Mr. C. Blick, Hayes, for carnations; Messrs. Dobbie and Co., Edinburgh, for aquilegias; King's Acre Nursery Company, Hereford, for heliotropes; Mr. F. Lilley, Guernsey, for irises and ixias; Messrs. S. Low and Co., Enfield, for carnations, etc.; Messrs. H. B. May and Sons, Edmonton, for flowering plants; Messrs. G. Mount and Sons, Canterbury, for roses; Mr. G. Reuthe, Keston, for hardy flowers; Messrs. Robert Veitch and Son, Exeter, for choice shrubs, etc.; Messrs. R. Wallace and Co., Colchester, for irises, etc.; and Messrs. Thomas S. Ware, Lim., Feltham, for hardy flowers.

Bronze Flora.—To Messrs. G. Bunyard and Co., Maidstone, for hardy flowers; Messrs. Paul and Son, Cheshunt, for roses; Messrs. W. Paul and Son, Waltham Cross, for roses; Messrs. J. Peed and Son, West Norwood, for gloxinias, etc.; and Mr. C. Turner, Slough, for poppies, etc.

Bronze Banksian.—To Messrs. H. Cannell and Sons, Swanley, for hardy flowers; Messrs.

B. R. Cant and Sons, Colchester, for roses; Messrs. G. and A. Clark, Dover, for hardy flowers; the Misses Hopkins, Shepperton, for hardy flowers; Messrs. G. Jackman and Son, Woking, for hardy flowers; and to Messrs. Kelway and Son, Langport, for pyrethrums, etc.

Royal Counties.

The jubilee show of the Royal Counties Agricultural Society, held in Winchester, and opened on June 7, contained features of interest to horticulturists. A new section was that of forestry, which was of an interesting nature.

Messrs. Toogood and Sons, Southampton, had an effective exhibit of flowers and vegetables. Among the former were huge masses of Salpiglossis sinuata, gladiolus, sparaxis, ixias, climbing roses, marguerites, and a very fine display of their Princess Ena Stock, which they showed so well at the recent Temple Show. Amongst vegetables, tomatoes, cucumbers, and French beans were conspicuous. The Messrs. Toogood were entrusted with the decoration of the outside of the council tent, which they effectually beautified with well-grown pillar roses, stocks, salpiglossis, etc.

Messrs. Sutton and Sons, Reading, had their usual handsome structure, inside of which were displays of vegetables and flowers. Chief among these were handsome tomatoes, potatoes, cucumbers, broad beans. Globe artichokes, cabbages, and lettuce, masses of double tuberous begonias, gloxinias, calceolarias, schizanthus, etc. In effective mounds outside were masses of Cineraria stellata, nemesias, single petunias, rhodanthes, etc., edged with an effective dark blue lobelia.

Messrs. E. Webb and Sons, Stourbridge, had a display of calceolarias, clarkias, gloxinias, and Cineraria stellata; while cauliflowers, tomatoes, cucumbers, kidney beans, etc., completed an interesting exhibit.

Mr. C. W. Breadmore, Winchester, had a superb array of sweet peas, all of out-door growth; very noticeable were such varieties as Mrs. C. W. Breadmore, Etta Dyke, Freda (an improved white), Elsie Herbert, Constance Oliver, Princess Juliana, Dusky Monarch, Mrs. Townsend, and A. N. Dickson. Messrs. E. Hillier and Sons, Winchester, were responsible for the embellishment of the president's (Earl of Northbrook) private tent, in front of which they arranged an old English garden. The paths were composed of old London flagstones, from between which were growing dwarf hardy plants. Rambling roses draped the front of the tent, trained over a rustic fence, while specimen and standard box trees added to an effect completed by a dwarf English yew hedge. Adjoining this, under huge chestnut trees, this firm arranged shrubberies, ponds, etc., all planted with choice shrubs and flowers.

Messrs. B. Ladhams and Son, Shirley, Southampton, had an artistically arranged rockery planted with choice hardy plants, consisting of masses of irises, heucheras, Aster alpinus, Aquilegia Stuarti, trollius, hemerocallis, aubrietias, etc.; they also had a mass of cut blooms of pyrethrums and poppies of well-known desirable varieties.

Newbury Gardeners' Association.

Newbury Gardeners' Association were exceptionally favoured on Wednesday in their first excursion. Thanks to the kind permission of the Earl and Countess of Carnarvon they enjoyed the privilege of visiting the beautiful gardens at Highclere Castle, and the famous shrubberies at Milford. The weather, which had appeared none too promising in the morning, proved pleasantly fine, and with genial sunshine lightening up the landscape, the gardens and grounds were seen in their early summer beauty. It was, of course, too soon for the roses to be in bloom, but there was, nevertheless, no lack of colour, and great delight was found in the full, fresh foliage of the splendid trees for which Highclere is famous, while the Milford shrubberies were almost at their best.

It was not surprising that the party should be a large one, numbering about eighty, and comprised almost exclusively of members of the Association. They journeyed by road and rail, some cycled, others walked long distances in order to participate in this pleasurable programme.

Entering the park by way of Chericot Lodge, the party was first taken around the pleasure grounds surrounding the stately Castle, situated amid woodland scenery not to be excelled in the Kingdom. The broad expanse of undulating turf serves as an effective setting to Barry's graceful architecture, while stretching to the south the wooded slopes of Siddown Hill, crowned by "Heaven's Gate," provide as fair a scene of rural beauty as any would wish to see. Here and there about the lawns are those magnificent cedars of Lebanon, for which Highclere is famous, their branches stretching out and providing, on a hot day, grateful shade and a delightfully cool resort. On every side the eye was charmed with the delicate tints in which Nature clothes herself in the first days of June. Here a hawthorn, a mass of snow-white bloom, and rising behind in effective relief a copper beech with the sunshine gilding its leaves of bronze. Sometimes a glimpse of golden laburnam, with a background of oak and beech in the freshest verdure. Groups of azaleas afforded gorgeous colour, which stood out prominently against the green turf. The visitors were particularly drawn to a bed of the new rhododendron Pink Pearl, in splendid bloom, massive bunches, yet beautifully delicate in tint and graceful in formation. There was unstinted admiration for this example of skilful cultivation.

In the houses and kitchen garden great improvements are being made, and high culture is the order of the day. The party presently returned to the Carnarvon Arms, where, in the Magistrates' Room, through the hospitality of the Earl and Countess of Carnarvon, tea was provided. Mr. Blake, on behalf of Lord and Lady Carnarvon, offered a hearty welcome to Highclere, and then the Chairman expressed the general feeling of gratitude to the Earl and Countess of Carnarvon for their great kindness in allowing the Association to visit their magnificent park and beautiful gardens. Such a privilege was of great assistance to a young society such as this, and ought to be the means of securing many new members. They had seen much of the newest and best in horticulture, and the visit must prove of great benefit to all of them as individuals. They asked Mr. Blake to convey to the Earl and Countess their grateful thanks for allowing them to spend so pleasant a day.

The place for the next excursion was discussed. After detailed consideration, a large majority favoured a joint excursion to Chilton and Littlecote in about five weeks' time.

Elstree and Boreham Wood Horticultural Society.

Mr. W. J. Pritchard, the hon. secretary of this society, delivered a most interesting lecture to the members on Tuesday, the 31st ult., on "Floral Decorations for the Home." The lecture was given in the Dining Hall, Elstree Schools, by kind permission of the head master. The lecturer had arranged to illustrate his remarks by a varied display of flowers, the most conspicuous design being a dinner table of Enchantress carnations and Asparagus Sprengeri; one of yellow Azalea mollis, and others of tulips, roses, carnations, etc., were all excellent. The lecture was full of interesting and instructive remarks, and the lecturer appeared to be thoroughly conversant with the subject he had chosen, and at the close was warmly applauded. Votes of thanks to the lecturer and the chairman, and the enrolling of several new members, brought an enjoyable evening to a close.

There is no better guide to the kitchen garden than Vegetables and their Cultivation, by T. W. Sanders. It is a complete treatise on the general management of the garden, and the successful culture of vegetables, saladings, and herbs for home use. Price 5s. net, by post, in box 5s. 6d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

STRAWBERRY CULTIVATION FOR MARKET.

(Concluded from page 426.)

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Gathering and Marketing.

Gathering the Crop.—An average yield of strawberries taken over a series of years may be estimated at 1,000 baskets per acre, each basket containing from 4 to 5 lb. of fruit. Excluding the special prices obtained for the few very early consignments, the price per basket in a good season may be put at 1s. 3d., while in a bad season it falls as low as 10d.; a fair average under all conditions is probably 1s.

The cost of gathering the fruit is an item of considerable expense, and will vary from ¼d. to ½d. per lb., or, on an average, 1½d. per gallon, in addition to which is the expense of carting the produce to rail, freight to market, and salesman's commission.

Marketing.—Where the industry has become extensive, the railway companies usually provide fruit vans for the carriage of the fruit to the large markets, and much may be done in the direction of reducing the cost of transit by small holders combining to send their consignments in large lots.

The varying capacity of baskets and their disposal when empty are matters of some difficulty. In the South of England the slender wicker basket is in common use, but its varying capacity and the difficulty of estimating the exact weight of contents detracts from its usefulness. The buyer also has objected to the trouble of returning the wicker baskets or paying a charge of 2d. in lieu thereof, and a new form of chip basket has been introduced which promises to meet this difficulty. These baskets contain a definite and uniform weight (5lb.), and it is proposed that they should be sold with the fruit at an inclusive price, a practice largely adopted by the majority of continental growers. The cost of the baskets, which amounts to 1d. each when purchased in 50-gross lots, will, it is claimed, be amply covered by the extra price realised owing to the buyers knowing exactly what weight of fruit they are purchasing. Further, many growers maintain that the fruit is damaged during transit when packed in the wicker baskets, their rough and irregular interiors bruising the fruit inside; the chip basket, made of smooth light veneer, obviates this difficulty and presents a much safer and more compact form of package.

Insect and other Pests.

Like all other plants which are raised to a high standard of cultivation, strawberries are assailed by a variety of insect pests, among the most prevalent and destructive of which is the wireworm. Where new ground is broken up and not over-deeply trenched, the grubs commence their ravages on newly-formed plantations, and continue to work havoc among the roots so long as the plantations exist. When new plantations immediately succeed old ones, the young plants are often completely destroyed.

The Green Rose-Chafer (Cetonia aurata) is also very injurious. As a grub it feeds on the roots, while in the perfect state as a beetle it causes considerable injury to the blossoms by piercing a hole just below the flower buds, causing them to become detached from the parent plant; the stamens of the flower are destroyed by the biting off of the anthers.

The Otiorhynchus Weevils (O. sulcatus, O. picipes, and O. tenebricosus) do considerable damage, the grubs feeding on the roots and the weevils on the shoots and runners.

The ground Beetles Pterostichus vulgaris, Steropus madidus, Harpalus ruficornis, and Calathus cisteloides, feed at night on the fruits. Occasional damage is done by other beetles and by the caterpillars of some moths.

Slugs and snails are also enemies of the strawberry, both fruit and leaves being attacked.

Eelworms (Tylenchus devastatrix Kuhn., and Aphelenchus fragariae Ritz. Bos.) also cause much loss among strawberries, the former damaging the roots and crown of the plant, while the latter species causes a somewhat cauliflower-like growth and prohibits the proper development of the buds.

Strawberry Leaf Spot (Sphaerella fragariae Tul.) causes dark brown spots to appear on the leaves. These spots gradually increase in size, becoming whitish at the centre and surrounded by a red margin. The leaf then turns yellow and soon dies, and as the disease spreads quickly, much injury follows. As soon as the disease is observed, the plants should be sprayed with Bordeaux mixture—10lb. sulphate of copper and 8 to 10 lb. of lime in 100 gallons of water. Later in the season, after the fruit has been removed, the foliage should be mown, and allowed to dry; the beds should then be covered thinly with straw and burnt over. This may appear a drastic method, but experience has shown it to be highly successful, and followed by a luxuriant growth of healthy and vigorous foliage.

Strawberry Mildew (Sphaerotheca Castagnei Lév.) has caused serious loss to strawberry growers during recent years. The fungus completely covers the fruit with a dense white mildew, resembling and closely allied to the summer stage of the American Gooseberry Mildew (Sphaerotheca mors-uvae). It is usually only observed by the grower on the fruit, but generally occurs first on the under surface of the leaves, where it is not so conspicuous. Growers should be careful not to overlook this point, but to examine the leaves regularly, as it is only at this early stage that remedial measures can be satisfactorily adopted. Where the disease appears, the plants should be sprayed with Bordeaux mixture, and a sprayer which will reach the under surface of the leaves should be employed, while the soil should also be wetted. When hops are grown, great care should be taken to prevent this fungus spreading to the hops, as it causes hop mildew.

TRADE NOTE.

In the old days bast was commonly used as a tying material in gardens, and old Russian mats were unravelled so that none of it should be wasted. Then raffia became popular, and still is very widely used both in its natural and green-dyed state. But latterly several other materials have been placed before the public for tying purposes, and they have met with great favour, chiefly because of the handy form in which they are supplied, their durability, and the fact that as they are in very long lengths there is not so much wastage of "ends" as in raffia. One of these new materials is Greentwist, manufactured by Messrs. Robertson, Ireland, and Co., of Dundee. This is a green string-like substance, soft, durable, and easily manipulated, and put up in handy balls, each ball containing about two hundred yards. Either for chrysanthemums or tomatoes, or for the finer purposes of conservatory and exhibition plants, Greentwist is equally valuable, and commends itself alike to professional and amateur gardeners.

FORTHCOMING ENGAGEMENTS.

SATURDAY, June 11.—R.H.S. Gardens Club; Annual meeting at Wisley Gardens.

MONDAY, June 13.—United Horticultural Benefit and Provident Society.

WEDNESDAY, June 15.—York Floral Fete and Gala, three days.

THURSDAY, June 16.—Linnean Society.
Dundrum Horticultural Society.

TUESDAY, June 21.—Royal Horticultural Society; Committees meet at 12 o'clock; lecture at 3 p.m on "Fifty Years among Pansies and Violas," by Mr. W. Cuthbertson and Mr. Jas. Grieve.
Oxfordshire Horticultural Society.

WEDNESDAY, June 22.—Royal Agricultural Society's Show at Liverpool, four days.
Stillorgan and Foxrock Horticultural Society.

TUESDAY, June 28.—Isle of Wight Rose Show.

WEDNESDAY, June 29.—Richmond Flower Show.

THURSDAY, June 30.—Birmingham Rose Show.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

ROSA MOYESI.—S. J., Doncaster: This is a Chinese species introduced to cultivation by Messrs. James Veitch and Sons. It has deep red flowers about three inches across. It is of very distinct habit, and will probably be valuable to hybridists. Rosa Moyesi was described and figured in the GARDENERS' MAGAZINE of June 20, 1908.

SLUGS, ETC., IN ORCHID HOUSES.—J. T., Feltham: Persistent trapping with small heaps of brewer's grains, lettuce and cabbage leaves, and anything else that will entice slugs, must be adopted, and every night the house must be searched with the aid of a lantern. Hollowed halves of potatoes or turnips, laid hollow side down on the shingle, and also on the pots, will attract slugs and woodlice, and must be examined once or twice a day. A dirty pot partly filled with dry, dirty moss, and placed in dry corners, will entrap woodlice, and arsenical paste, to be obtained from the sundriesmen, will answer for cockroaches and beetles. The great thing, however, is persistent effort over a considerable period, and constant watchfulness and cleanliness.

VIOLAS FOR GENERAL PURPOSES.—S. M. D., Potter's Bar: Quite apart from any value they may possess for exhibition purposes, the following varieties are of great value in the garden by reason of their good habit, freedom of flowering, colour, purity, and form: Pencaitland, white and yellow; Snowflake, Alexandra, Countess of Hopetoun, Duchess of York, and Marchioness, white; Sylvia, Mrs. A. D. Parker, creamy white; Cream King, cream colour; Primrose Dame, Ardwell Gem and Sulphurea, primrose; Walter Welsh, Redbraes Yellow, Royal Sovereign, King Cup, Bullion, and Grievi, yellow; Florizel and Kitty Bell, lavender; Maggie Mott, Mauve Queen, and Blue Duchess, light blue; Councillor Waters, Ophelia, Admiral of the Blues, Royal Scot, True Blue, and Archie Grant, deep blue; Wm. Niel, Blue Cloud, Crimson Bedder, Glencoe, and Mrs. Chichester are good fancy varieties for bedding and garden decoration generally.

NATIONAL DAHLIA SOCIETY.—F. J. C., Salisbury: This society consists of three classes of members, namely, Fellows paying annual subscriptions of not less than one guinea; Associates paying annual subscriptions of not less than half a guinea; and ordinary members paying annual subscriptions of not less than 5s. The minimum subscription for an exhibiting nurseryman is 10s. 6d. for each show; for an exhibiting amateur the minimum subscription is 5s. for each show. Mr. E. F. Hawes, Royal Botanic Gardens, Regent's Park, N.W., is the hon. secretary.

MUSCAT GRAPES.—H. J. C., Gravesend: It is very rare that Muscat of Alexandria and Black Hamburgh grapes are a success when grown together in the same house over a long period. The Muscat requires a longer season and more heat than the Black Hamburgh, consequently whichever variety is favoured the other must suffer. Under the circumstances the best thing to be done is to train up young Muscat rods from the base to take the place of the old rods, as the younger canes will be more vigorous, and be better able to stand the conditions afforded the black grapes. We should be inclined to keep the house under conditions suitable for Muscats and let the Black Hamburghs take their chance, especially as they would ripen the earlier, and take kindlier to the warmer conditions than the Muscats would to the cooler treatment.

INFESTED RANUNCULUS LEAVES.—G. A. W., Chippenham: The ranunculuses have been allowed to get very dry, consequently the leaves have suffered from an attack of green-fly, an insect plentiful on the specimens sent. This attack would be bad enough alone, but the plants have another enemy, a leaf miner akin to those that attack celery, marguerites, and parsnips. The flies deposit their eggs during warm spring weather, and the grubs feed in the leaf tissues, making long irregular tunnels between the upper and lower epidermis, and so severely reduce the power of the leaf to manufacture food, and, consequently, the vitality of the plant is greatly lowered. The grubs soon pass through the various stages from egg to perfect fly, so that two or three broods may occur in a season. In the case of the latest brood, in autumn, the maggots turn to pupæ, and remain in the soil during the winter. If you have sufficient patience, and the bed is not a large one, every leaf should be examined, and every grub in each leaf be crushed between finger and thumb. Any insecticide strong enough to kill the grubs would also kill or further injure the leaf. A safe and quick method is to cut off and burn all infested leaves, but probably the cure would be worse than the disease in your case, if most of the leaves are as badly infested as those sent us. Frequent sprayings with a quassia and soft soap solution will render the leaves distasteful to the fly, but frequent light dustings of old soot over the leaves while the latter are damp with dew or rain, is an excellent method, and is found to be very successful as a preventive in the case of celery. When the ranunculuses are lifted remove and burn the top four inches of soil to kill the pupæ, and plant the tubers in new clean soil another season. Meanwhile keep a look out for infestation in other ranunculuses, remembering that buttercups are often badly infested with the leaf miner, and if allowed to develop in hedge or garden would provide a source of future attacks.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

W. G. R., Ventnor.—A flower of the salsafy, Tragopogon porriifolium.

A. B., Ashbourne.—1, Leucothoe Catesbæi; 2, Skimmia japonica; 3, Daphne cneorum; 4, Spiræa prunifolia flore pleno; 5, Prunus japonica flore albo pleno; 6, Caragana arborescens; 7, Spiræa Thunbergi; 8, Vaccinium myrtillus.

FLOWER SHOW SCHEDULES.

We shall be obliged if secretaries of societies will forward us a copy of their schedule for the present year.

Warwickshire Horticultural Society.—Annual summer fête on July 20 and 21 in the Cricket Grounds, Butts, Coventry. Nearly £200 offered in prizes.

Kingstown Horticultural Society.—Second Summer Show on August 17, in the People's Park, Kingstown.

Chester Paxton Society.—Chrysanthemum and Fruit Show in the Town Hall, Chester, on November 16 and 17.

Purley Rose and Horticultural Society.—Summer Show on July 9, in the grounds of Upper Woodcote, Foxley Lane, Purley.

Reigate Rose and Sweet Pea Society.—The fifth annual exhibition will take place on July 6, at Brokes Lodge, Reigate.

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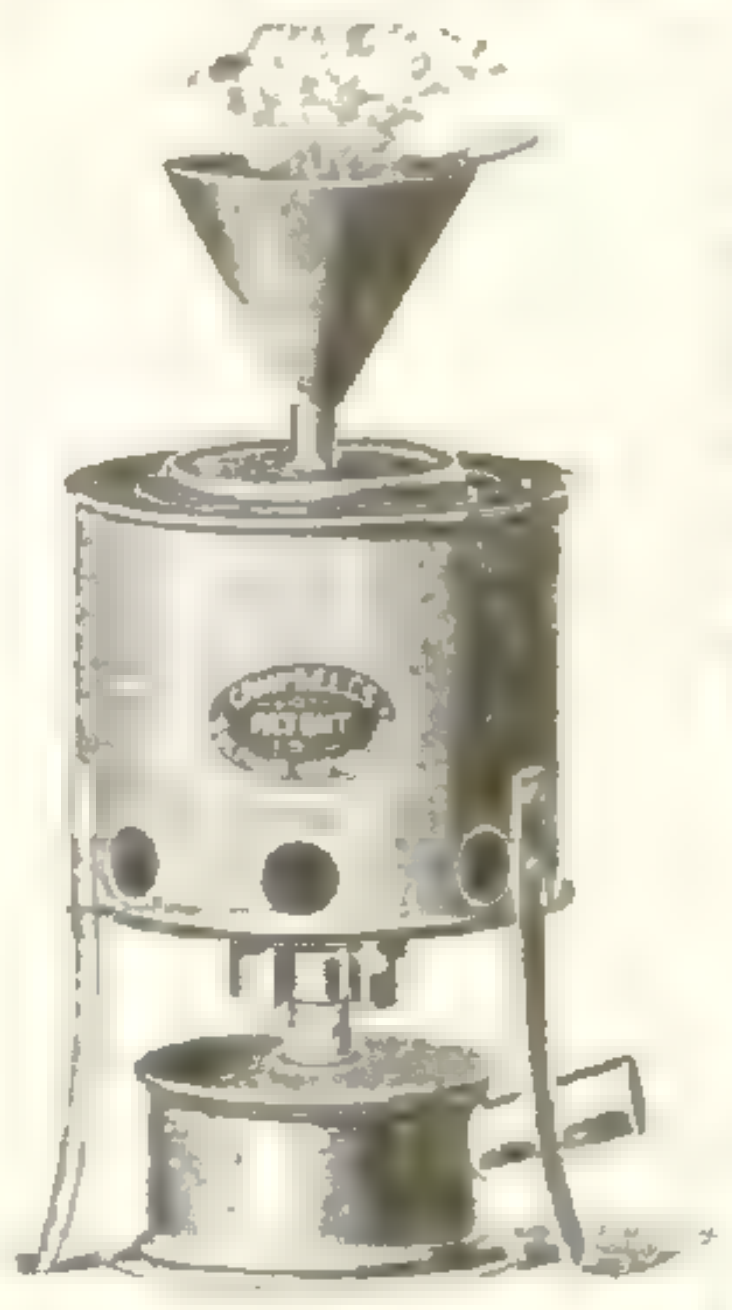

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OBITUARY.

◆

M. ERNEST CALVAT.

Just too late for insertion in our issue of June 4 we received the unwelcome intelligence of the death of Mons. Ernest Calvat, of Grenoble, a gentleman well known to a very large circle of British horticulturists, and one whose fame as a raiser of fine chrysanthemums has gone throughout the world. Born in 1852, the son of a former Mayor of Grenoble, M. E. Calvat received a liberal education at home, and completed his studies in London. Returning to France he entered and subsequently became the head of a large glove making business established by his father. Taking up horticulture as a hobby he, in 1887, turned his attention to chrysanthemums, and finding the climate of Grenoble was very favourable to seed raising he soon began to improve the flower. Already the British idea of an exhibition Japanese chrysanthemum was a long way ahead of that entertained on the Continent, but M. Calvat soon reached and surpassed the achievements of most other raisers, and for many years his new varieties were awaited each season with a good deal of interest and excitement. His novelties become very popular, and produced flowers of the finest exhibition form and size, but many of them were not easily cultivated by the majority of growers. In 1893 the beautiful variety Mdme. Carnot appeared and captivated everyone. In later years M. Calvat continued the work, gave up his glove business, and devoted his attention not only to the production of new varieties but to the provision of thousands of big blooms for the Parisian florists.

Many honours fell to M. Calvat, including medals and certificates from our own National Chrysanthemum Society. He gained the Grand Prix d'Honneur at Paris in 1908, and was made Chevalier of the Mérite Agricole. He was also an officer of the French Academy, and a Knight of the Order of the Crown of Italy. Among chrysanthemum lovers the world over M. Calvat and his work will long be kept in memory, while all who knew him personally will always remember him as a quiet, courteous, and genial gentleman, whose acquaintance it was an honour to possess.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

Date. 1910. May 29 to June 4.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
May 22—Sunday	0 24	57	55	64	54
,, 30—Monday	9 54	55	47	60	46
,, 31—Tuesday	1 6	52	50	58	50
June 1—Wednesday	4 18	56	54	65	49
,, 2—Thursday	4 36	56	55	65	49
,, 3—Friday	13 42	61	53	70	47
,, 4—Saturday	1 0	57	54	66	44
Means	(total) 35 0	56	52	64	48

Date. 1910. May 29 to June 4.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
May 29—Sunday	0·04	59	58	53	53
,, 30—Monday	trace	57	57	54	43
,, 31—Tuesday	0·09	57	57	54	45
June 1—Wednesday	0·06	56	55	54	43
,, 2—Thursday	trace	57	56	54	43
,, 3—Friday	—	57	56	54	40
,, 4—Saturday	—	59	58	54	39
Means	(total) 0·19	57	56	54	44

MARKETS.

◆

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Flowers.

Business has improved and the demand is fairly good all round, but supplies are large and prices do not advance.

		s. d.	s. d.
Adiantum cuneatum	per doz. bun.	6 0	8 0
Anemones	per doz.	1 0	1 6
Arums	per doz.	2 0	3 0
Asparagus	per bun.	1 0	1 6
Azalea, Ghent	per bun.	0 6	0 9
Carnations	per doz. blms.	2 0	6 0
,,	per doz. bun.	12 0	18 0
Cattleyas	per doz.	6 0	12 0
Croton leaves	per bun.	1 0	2 6
Daffodils	per doz. bun.	1 0	3 0
Eucharis	per doz.	3 0	4 0
French fern	per doz. bun.	0 6	0 9
Gardenias	per doz.	1 6	2 0
Gypsophila elegans	per doz. bun.	2 0	3 0
Iris, Spanish	per doz. bun.	4 0	6 0
Lapagerias	per doz.	1 6	2 0
Lilac	per bun.	2 0	3 0
Lilium auratum	per bun.	2 0	3 0
,, speciosum	per bun.	1 6	3 6
,, longiflorum	per bun.	3 0	7 6
Lily of the Valley	per doz. bun.	6 0	12 6
Marguerites	per doz. bun.	2 0	5 0
Mignonette	per doz. bun.	3 0	6 0
Odontoglossums	per doz. blms.	1 0	2 6
Pelargoniums	per doz. bun.	4 0	6 0
Roses	per doz.	1 0	4 0
Smilax	per doz. trails	3 0	4 0
Spiræa	per doz. bun.	4 0	6 0
Stocks	per doz. bun.	3 0	4 0
Sweet Peas	per doz. bun.	2 0	5 0
Tuberoses	per doz. blms.	0 4	0 6
Tulips	per doz. bun.	6 0	15 0
Violets	per doz. bun.	1 0	2 6

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		s. d.		s. d.
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,, American	per barrel	10 0		27 0
,, Canadian	per barrel	10 6		20 0
,, Nova Scotian	per barrel	10 0		18 0
,, Australian	per box	7 0		20 0
Apricots	per box	0 9		1 6
Bananas	per bun.	4 0		10 0
Cherries, Spanish	per box	1 0		2 0
Cranberries	per case	6 0		7 0
Figs	per doz.	3 0		8 0
Gooseberries	per peck	1 6		3 0
Grapes, English	per lb.	1 6		4 0

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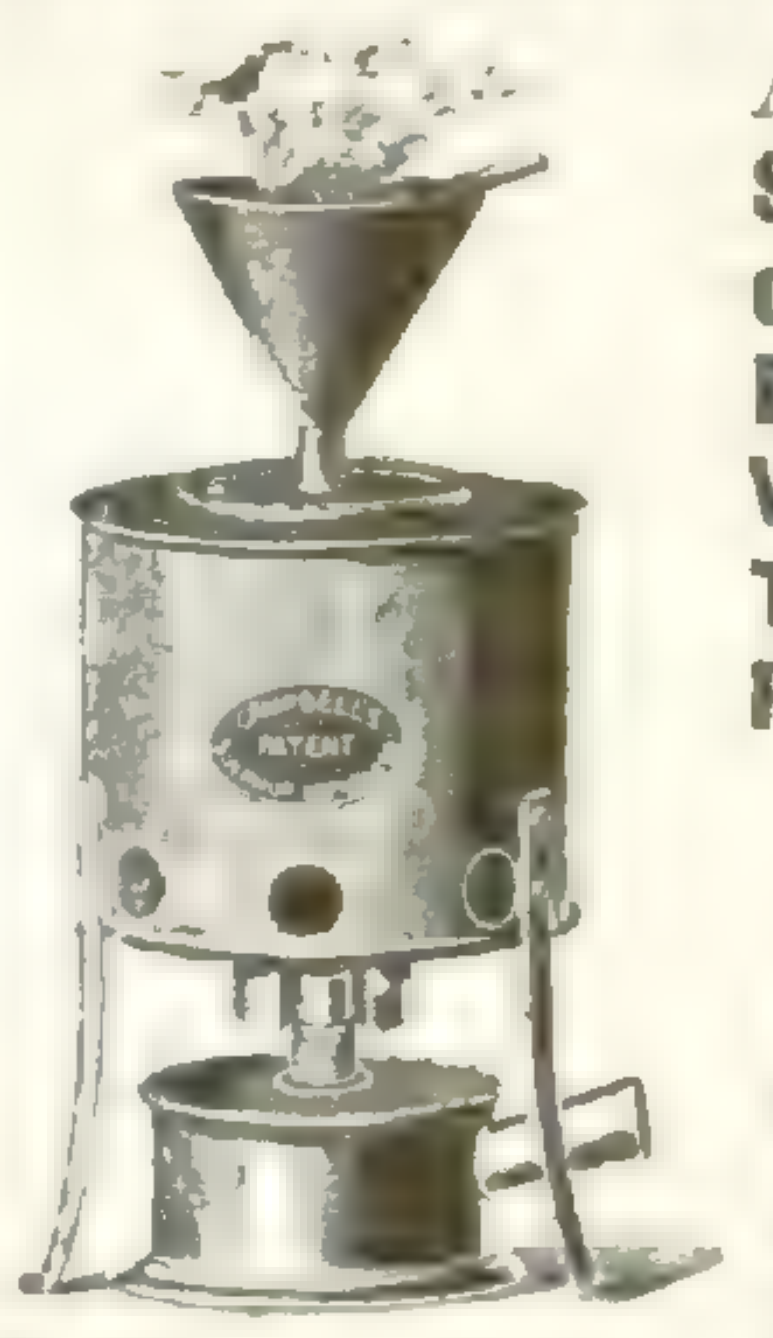

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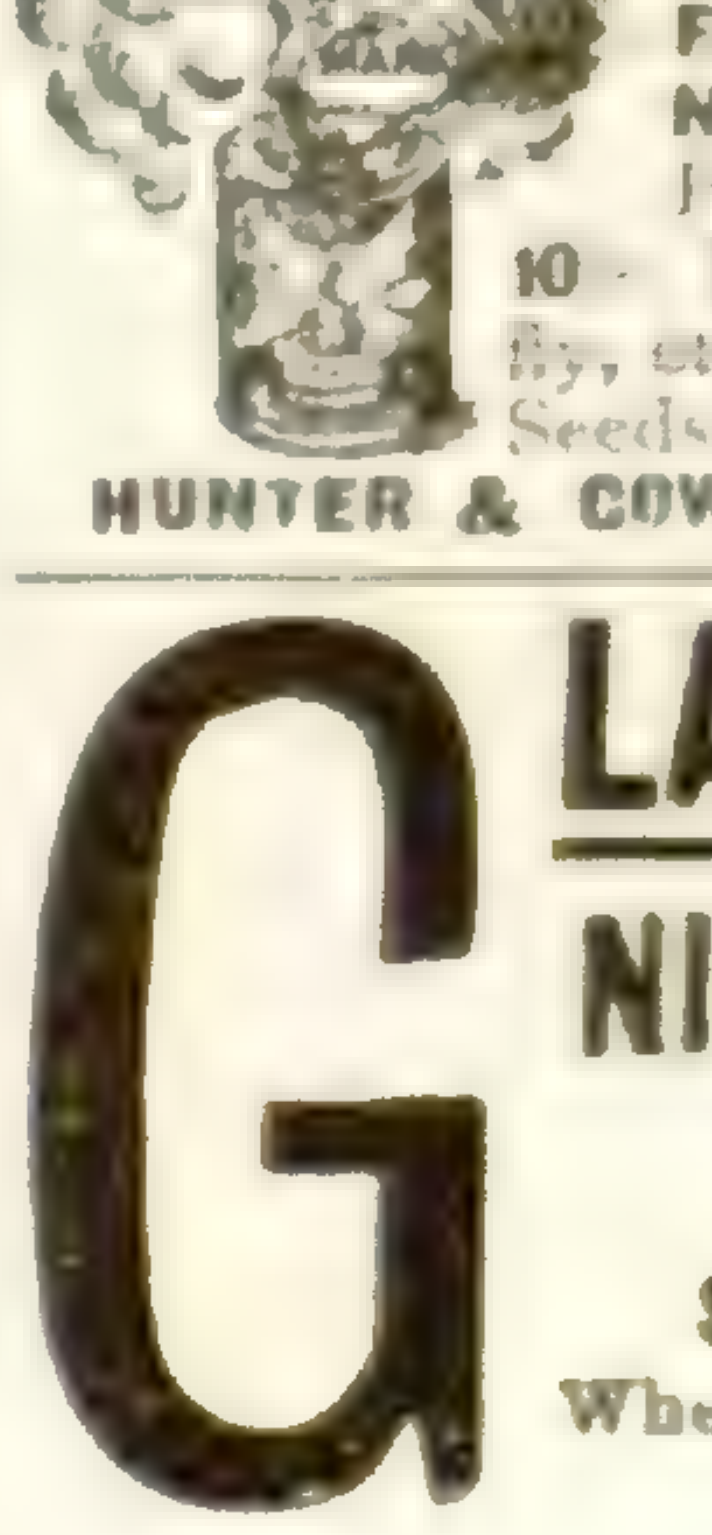

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VOL. LIII.—No. 2,955. SATURDAY, JUNE 18, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

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Water.

Water, though one of the most familiar of the so-called elements, is certainly seen to be one of the most wonderful when carefully considered. In the first place, not only can it be resolved into its two constituent gases, oxygen and hydrogen, which, when commingled in gaseous form constitute a most explosive mixture, but even without this resolution into gas, it can assume an equally invisible form as aerial vapour. In the second place, we may behold it in the form of visible vapour, consisting of isolated floating minute drops of water, which may be piled up literally mountain high in the form of towering cumulus clouds, or may pervade the atmosphere as formless fog. Thirdly, we see it in what may be termed its proper water or truly liquid form, in which it covers by far the major part of the world's surface in the shape of oceans, and dots and seams the land itself with lake and river, or their minor forms of pond and brooklet. Finally, we may see it as a hard, brittle, intractable solid in its frozen form of ice, or as an accumulation of myriads of delicate crystals of infinite hexagonal design in the shape of snow. There is, however, still another aspect of water, which, though familiar enough, is more apt to be overlooked, and that is as an essential constituent of many so-called solid bodies, and it is this aspect of water with which the horticulturist, agriculturist, and the garden lover generally are brought most into contact. Nature uses water to an enormous extent as a padding for her vegetable creations; give her a few ounces of salts and a bucket of water and she will build you up gourds, melons, pumpkins, or cucumbers galore, one-twentieth part alone of whose solidity shall be really solid, and all the rest shall be pure water. All succulent vegetation is similarly a mere framework or skeleton inflated with watery bladders. Go to a museum and see the components of our very selves, and mark how big is the vessel of pure water which represents that item in our being. Water, viewed from this standpoint, is the first essential of life. The cell, the universal life basis, is but a tiny bag of water enriched by self-absorbed nourishment, and endowed with whatever potencies it has derived from the parental source as it perfects itself, divides, and multiplies to perform its varied offices, simple or complex, according to the organism of which it forms a creative part, it must have water, water, water at every stage, or its operations cease. The sap of plants, the blood of animals, up to our own vital supply, are nothing but water charged with nutrition, and carried, in the one case, by absorption and transpiration, and in the other, by the pumping action of the heart to feed and assist in building and repairing the vital machinery of the organism concerned. We drink when we feel thirsty by virtue of the fact that the sensation of thirst is given us as an indication that the internal supply of water is running short, and many an unfortunate traveller can tell us of the agony which results when it cannot be replenished. How essential a constant supply is to plant life can be easily evidenced by severing the branch of a tree, or shrub, or even a flower, and noting how rapidly on a hot day the leaves or the flower will wilt and droop, and eventually even shrivel into comparative nothingness as regards substance. How beneficial then must the scheme of Creation appear to a thinking mind, when it reflects upon the wonderful arrangements existing to secure the distribution of water far and wide to meet all these vital needs. Thanks to the diversity of the forms water is capable of assuming, we find it transformed under tropical suns from the liquid to the aerial vapour form, and carried from tropical oceans northward and southward, sometimes as invisible vapour and sometimes as dense masses of cloud, eventually, under the cooler conditions of temperate climes or arctic ones, resuming the liquid form as rain or snow, irrigating the thirsty plain or adding another layer of snow to the mountain summits, but in either case bound to return sooner or later by glacier or river to the mother ocean, to do the same work over and over again. Meanwhile there are agencies at work to keep the main reservoirs, i.e., the oceans, from becoming stagnant, as they would do if ever motionless. The winds and tides agitate the surface, and to restore the balance upset by the drain from the tropics, which we have alluded to as a typical factor in the rain supply, though by no means an exclusive one, there is, in addition to surface currents, a constant slow drifting of the great body of bottom water from both polar regions to the equator, due to the cold water of melting snow and ice being heavier than the warmer water at the surface. Verily, the ways of the Creator are wonderful.

MR. ALEXANDER MACMILLAN,
The Neill Prizeman of 1908-10.

Mr. Alexander Macmillan, of Edinburgh, has been awarded by the Council of the Royal Caledonian Horticultural Society the Neill Prize for the biennial period 1908 to 1910. This prize is one which was directed by the late Dr. Patrick Neill to be awarded to any distinguished Scottish botanist or cultivator. Mr. Macmillan was born about 75 years ago, and his first experience in gardening was gained in a market garden near Port Glasgow, where he served his apprenticeship. Thereafter he went to Edinburgh, going from there to various places in England and Scotland. During the last 16 years of his active life he was gardener at Trinity Cottage, Edinburgh, and it was here that most of his experiments in the hybridising of rhododendrons was carried on. That Mr. Macmillan well deserves the honour conferred on him by the society will be fully acknowledged by all who are acquainted with the excellent work he has accomplished. His earliest experiments in plant improvement were with pelargoniums, and later on he turned his attention to chrysanthemums. He was the first to advocate the holding of a chrysanthemum show in Scotland, and, by his writing and the chrysanthemums he exhibited, did much to stimulate an active interest in the highly successful show which is held annually in Edinburgh. When at Trinity Cottage Gardens Mr. Macmillan devoted his attention to greenhouse rhododendrons, and the results of his well-devised efforts are now distributed over the country. Among other varieties he raised are James Whitton, Nathaniel Bryson, and Mrs. Macmillan. Mr. Macmillan gained a Banksian medal at Keswick in August, 1892, and also gained medals at the International Exhibition in 1892, and Gardening and Forestry Exhibition in 1893. He was also a prize-winner for chrysanthemums at the Royal Aquarium in September, 1903. He holds silver medals from the Royal Caledonian Horticultural Society and the Scottish Horticultural Association, and five First Class Certificates from the former and an equal number of Cultural Certificates from the latter.

Sir George L. Holford, K.C.V.O.—Our readers will learn with very great pleasure and interest that Lieut.-Colonel G. L. Holford, C.I.E., of Westonbirt, Tetbury, Gloucester, has been promoted to be a Knight Commander of the Royal Victorian Order.

New Forestry Museum at Kew.—The new museum at Kew, which has been provided for the display of the products of the forest and of objects relating thereto, has been opened to the public, and should prove a valuable addition to the Royal Gardens. This museum, which is officially known as No. 4, occupies the site of Cambridge Cottage, long the Kew residence of the Duke of Cambridge, and is on the north-east boundary of the gardens, and therefore not far distant from Kew Church. On the death of the Duke of Cambridge in 1904, the late King Edward VII. commanded the cottage and grounds to be added to the Royal Gardens. Appreciating the importance of forestry as an industry in the United Kingdom, the authorities decided to devote it to the timber of trees of economic value grown in this country, with specimens of their fruits, branches, etc. In adapting the building to its present purpose, three spacious rooms and a corridor have been provided, and of these the largest is about 50 feet in width and 60 feet in length. In this there are trunks of the principal timber trees grown in this country, with planks and cross sections. The next largest room also has a length of 60 feet, but the width is 36 feet; and in this there are glass cases down the centre and on the sides in which cones of coniferous trees, seeds, bark, dried shoots, photographs illustrative of the summer and winter aspects of various deciduous trees, etc., are arranged. The old boundary wall to the grounds remains, and access is obtained to the museum by means of new gates immediately opposite the iris garden.

The Young Naturalists' League.—Will you allow me, writes Mr. W. Percival Westell, F.L.S., from Chester House, Letchworth, to make known the existence of this league through the columns of your paper? The league was founded by me twelve months ago, and on it first birthday celebrated a membership of over three thousand. In view of the interest now taken in nature study in our schools, and the recognition accorded to it by education authorities, I am desirous of making the aims and objects of the league more widely known, and its work more useful and far-reaching. The time has now arrived for the appointment of branch honorary secretaries, especially schoolmasters and mistresses and those having control of boys and girls, but membership is not restricted to school children, as we welcome anyone who is desirous of joining or supporting the society in any way. I shall be glad to hear from anyone willing to help me in the promotion of this league, and to forward full particulars concerning same on application. My name will be known to many of your readers as a naturalist, and it is because of the real interest I take in the nature study movement, the success the league has already attained, and the good its extension is capable of doing, that I am desirous of widening its sphere of influence through the agency of your valuable medium.

A Gardener's Record Service.—A large gathering, representative of the tenantry and employees on the estate of Kininvie, Dufftown, Banffshire, waited upon Mr. William Munro, Kininvie House Gardens, the other evening, and presented him on his retirement with a well-filled purse of sovereigns. The Chairman, in making the presentation, expressively voiced the sentiments of the subscribers when he said that Mr. Munro retired amid every manifestation of respect and esteem by all who knew him, and added the fervent hope that their old friend might have before him a long and pleasant eventide. Mr. Munro very feelingly replied, thanking all sincerely for their great kindness to him. For the long period of 55 years Mr. Munro has followed his profession, and the past 37 years he has spent with Colonel Leslie, of Kininvie, and the previous 18 years with Colonel Marshal, of Dandaleith, Banffshire. The gathering spent a very pleasant social hour, leavened somewhat with a touch of sadness at the thought of parting. It should also be noted that Mr. Munro has been the recipient of very handsome and costly parting gifts from Colonel Leslie and his family, gifts which have given him very great pleasure and satisfaction at the close of his long spell of duty well done.

Weather in the Spring Season.—The summary of the weather during the months of March, April, and May, which form the spring quarter of the year, that has been issued by the Meteorological Office, shows that the mean temperature at Greenwich was 0.3 dgrees above the average. In the East and North-East of England only did the temperature exceed 80 degrees in the shade, and the highest temperature was 83 degrees in the East of England, and the lowest was 20 degrees in the South-West of England and the North of Scotland. With regard to rainfall, the number of rainy days exceeded the average in all districts except in the Channel Islands and the East of Scotland; and the aggregate rainfall for the thirteen weeks showed considerable variation in different parts of the United Kingdom. The total amount of rain registered was in excess of the average in the North and the East of Scotland, and in the East, South-East, and North-West of England. In other districts there was a deficiency. The difference from the average was nowhere large. The largest amount of rain registered was 12.91 inches, in the North of Scotland, and the smallest amount was 4.87 inches, in the midland counties. The duration of bright sunshine was about equal to the average, there having been an excess of 28 hours in the South-West of England, and a deficiency of 40 hours in the South of Ireland.

An Interesting Departure in Nature Study.—A new feature of Messrs. Sutton and Sons' stand at the Royal Agricultural Society's Exhibition at Liverpool next week will be a Nature Study exhibit on somewhat different lines, and of a highly educational character. It will include cases of garden and farm pests, depicting the ravages of the asparagus beetle, mangold fly, cabbage moth, carrot fly, celery fly, stem eel worm, onion fly, pea and bean weevil, wireworm, millepede, Hessian fly, and many others. Another part of the exhibit will show about 100 farm weeds, each subject being a complete, dried and mounted, plant—i.e., root, stem, leaf, flower, and seed, all botanically arranged with brief descriptions. The useful grasses and clovers will be treated in a precisely similar manner. The weed grasses will be shown actually growing and most of them in flower, as will also be the useful agricultural grasses and forage plants. Sixty leaves will be shown, representing as many different varieties of grasses, descriptive of the remarkable differences existing in their shape and venation. The idea will be carried still further by some carefully prepared dried specimens, showing the divergent root-growth of several of the commoner sorts of grass. Broomrape, dodder, and ergot, parasitic and fungus pests, will be clearly demonstrated, while poisonous (or reputed poisonous) plants, collected, arranged, and named by the firm, will be shown.

Interesting Mesembryanthemums.—Dr. R. Marioth has recently described several new South African succulent plants, and among them are two or three mesembryanthemums of quite exceptional interest. The most noteworthy of these is Mesembryanthemum mitratum, which was discovered in the desert belt east of Port Nolloth. The plant bears at the end of the apparently dead branches a fleshy knob, consisting of two closely-joined leaves, between which the flower appears. Flower and fruit then obtain nutriment from the sap of the knob until fully developed, when nothing is left of the latter except its skin. Another species takes the same care of its flowers and fruit, nursing them within its own body; but it buries itself entirely in the ground, and shows only the apex of its few leaves. As the ends of the leaves are flat, and flush with the ground, and the colour similar to the brownish gravel, it is very difficult to detect them when they are not in flower.

Turin International Exhibition, 1911.—To celebrate the 50th anniversary of the proclamation of the Kingdom of Italy, an international exhibition will be held at Turin, in April, 1911, and remain open for a period of about seven months. The exhibition grounds embrace the whole of the Valentine Park, and have an area of 247 acres. The site secured for the British section occupies a prominent position, and has an area of about 220,000 square feet. The exhibits will be arranged in twenty-six groups, and those connected with gardening, farming, and forestry, will have a place in Groups 15 and 16; and if the numerous classes are well filled, they should be of much interest to those who are in any way concerned with these industries. Full information relating to the exhibition may be obtained from the Director of the Exhibitions Branch, Board of Trade, Westminster, S.W.

GRAND YORKSHIRE GALA AND FLORAL FÊTE.

The fifty-second grand Yorkshire Gala and Floral Fête, held in Bootham Park, just outside the old Bootham Bar, in the City of York, on June 15, 16, and 17, must be regarded as the finest of a fine series. A few years ago everyone was regretting that the floral display in connection with this annual event (and this is the great attraction) was declining, but there came the Jubilee Show in 1908, when a great effort was made to revive old glories, and with splendid success. In 1909 there was another grand exhibition, and the one held during the present week was a brighter and more beautiful one than either of the last two. The high quality was surprising, and in every department there was an excellent display. Groups, orchids, hardy flowers, greenhouse flowering plants, carnations, roses, and pelargoniums were all magnificently staged, and the great tents were crowded with plants and flowers, while some exhibits had to be accommodated out of doors.

GROUPS.

Six prizes, making a total of £70, are offered in the class for a tastefully-arranged group of miscellaneous plants occupying a space of 300 square feet. Here there were five competitors, and the premier award fell to Mr. J. Donoghue, gardener to J. Pickersgill, Esq., Bardon Hill, Weetwood, Leeds, who had a delightful design executed with fine plants. The background was of tall palms, rambling roses and white liliums, with acalyphas and crotons at the base. In the centre of the foreground there was a trophy of white odontoglossums with a few yellow oncidium spikes rising from them. Specimen crotons marked the corners, and specially fine tall examples of these showy foliage plants stood clear above the small caladiums, bertolonias, ferns, cattleyas, miltonias, and Rex begonias forming the groundwork of the display. A pair of tall Humea elegans, and a pair of elegant pillars of Hiawatha rose further enhanced the grace and beauty of the front of the group.

Mr. W. A. Holmes, West End Nurseries, Chesterfield, was placed second with a bold effort, in which crotons were rather too freely used, and flowering plants hardly well enough represented. Besides the crotons and palms, the chief subjects were caladiums, dracænas, pillar roses, and Kalanchoe flammea. Third award fell to Mr. W. Vause, Leamington, who associated crotons, palms, pillar roses, liliums, caladiums, and a few orchids in pleasing fashion, but there was a little suggestion of overcrowding. Messrs. Simpson and Son, Brook Street, Selby, were placed fourth, and Mr. G. Cottam, Alma Gardens, Cottingham, fifth.

In the smaller group class, the space occupied being 200 square feet, there were also five competitors, and here Mr. Walton Curtis, gardener to James Blacker, Esq., Thorpe Villas, Selby, was awarded chief honours for an elegant group, in which light pillar roses of Dorothy Perkins, Blush Rambler, and Hiawatha took a prominent part, with crotons, alocasias, cattleyas, odontoglossums, etc.; Mr. W. Holmes, Chesterfield, was second with a light and unusually well-finished group, great care having been taken to make the margins as elegant as the centre; Mr. J. Donoghue was third, and Mr. Vause fourth.

SPECIMEN PLANTS.

Messrs. J. Cypher and Sons, Cheltenham, had matters pretty much their own way in the classes for large specimen stove and greenhouse plants. They were first for nine flowering specimens with big, handsome examples of Erica ventricosa magnifica, E. Cavendishi, Frinciscea eximia, Ixora Shawi I. Williamsi, Pimelia diosmæfolia, Anthurium Scherzerianum, A. S. major, and Azalea Modele; Mr. W. Vause second with smaller examples. For six specimens, Messrs. J. Cypher and Sons were again first with fine ericas and a big Statice intermedia; Mr. W. Vause second. For three specimens, Messrs. J. Cypher and Sons led with Erica Cavendishi, E. ventricosa magnifica, and Anthurium Scherzerianum; Mr. Vause second.

Mr. Vause had the best single specimen stove plant, a big Anthurium Scherzerianum. Messrs. J. Cypher and Sons scored for a specimen greenhouse plant, with a large Erica ventricosa magnifica; and they led in the class for six ornamental foliage plants with giant examples of Kentia Fosteriana, K. Belmoreana, Latania borbonica, Croton Evansiana, and C. Warreni; Mr. Vause second. For three specimens the Messrs. Cypher scored with grand palms and a great bush of Croton Mortefontainensis, with Mr. Vause second.

In the classes for flowering plants of popular florists' flowers, Mr. P. Stancliffe, Solberge, Northallerton, was an excellent first for eight calceolarias; Mr. W. Etty, gardener to the Rev. Canon Argles, St. Clement's Rectory, York, second; and Mrs. Akenhead third. Mr. A. Leetham and Mr. P. Stancliffe were first and second respectively for three herbaceous calceolarias. Dr. R. Appleton, The Bar House, Beverley, led in the open class for eight gloxinias, and was closely followed by Mr. T. F. Wood, Old Nunthorpe, York. Eight tuberous begonias proved another strong and popular class, and here the prize winners in order of merit were Mr. Thos. Winn, Mrs. Akenhead, and Mr. J. S. Linfoot, gardener to Mrs. Ferrier, Fulford Croft, York.

[Photo: W. Hayes, York.

GRAND YORKSHIRE GALA AND FLORAL FETE:
Display of Hardy Flowers by Messrs. Dicksons, Lim., Chester.

ROCK GARDEN CLASS.

Once again the class for "a group of hardy herbaceous and perennial plants, with background of decorative plants, bamboos, etc., with a pool of water nymphæ, water plants, etc., arranged for natural effect, cut flowers allowed," was a great attraction. The space allowed was 30ft. by 10ft.; there were four competitors. Messrs. Jas. Backhouse and Son, Lim., York, were winners of the first prize, and they had a bold rock garden arrangement with a little stream along the front, this running under small stone pathways in several places. The rockwork was crowned with rambling roses, bamboos, Japanese maples, rhododendrons, and eremurus spikes. At either end the descending rockwork was clothed with bamboos, Hydrangea paniculata grandiflora, roses, and liliums. The bold central rockwork contained colonies of saxifragas, campanulas, erigerons, dianthuses, spiræas, etc., with small Alpine conifers on prominent points. In little shady nooks were Cypripedium spectabile, Primula sikkimensis, scolopendriums, and Adiantum pedatum, while on narrow rock ledges were the Edelweiss, alpine phloxes, lychnis, etc., and nymphæas dotted the water. The whole arrangement was extremely pretty, and the water falling into the stream at one end added to the pleasing effect. Messrs. W. Artindale and Sons, Sheffield, were placed second. They had a deep rocky valley with a pool at the bottom, and across the valley was a rocky bridge draped with single rambling roses that seemed rather out of place. Maples and roses and eremuri provided the background, and small conifers were largely used in the general scheme. In the foreground, and close to the water, were bold colonies of Primula japonica in a variety of colours, and P. sikkimensis, while a little higher up were Incarvillea grandiflora, Phlox canadensis, saxifragas, lithospermums, campanulas, and Viola cornuta. Mr. S. Pickering, Rosslyn Street, Clifton, York, was third, and had a rather large central pool with irises and hemerocallis as a leading feature; Mr. G. Cottam, Alma Gardens, Cottingham, had a water garden, with irises, funkias, campanulas, and spiræas boldly grouped in and around the large pool of water.

ROSES.

Cut roses were better than they have been at York for several years. In the premier class for seventy-two blooms Mr. J. D. Hutchinson, Kirby Moorside, won chief honours, and his finest examples were of Caroline Testout, Frau Carl Druschki, Maréchal Niel, Mdme. Jules Gravereaux, Etienne Levet, Mrs. J. Laing, and Prince Arthur. There were five competitors, and the later awards fell in order to Mrs. Mainwaring, The Lodge, Bembridge, Isle of Wight; Messrs. G. Mount and Sons, Canterbury; and Messrs. D. Prior and Son, Colchester. For forty-eight blooms, four entries, Messrs. D. Prior and Son, Colchester, led the way, and showed good flowers of White Maman Cochet, Lady Mary Fitzwilliam, Bessie Brown, Dr. Campbell Hall, Duke of Edinburgh, Richmond, and Medea; Mr. George Prince, Longworth, Berks, second; Messrs. G. Mount and Sons, third. Messrs. W. and

J. Brown, Stamford, scored for thirty-six roses, and showed good blooms of Maréchal Niel, and Souvenir de Pierre Notting; Messrs. G. Mount and Sons, second; Messrs. D. Prior and Son, third; and Mr. G. Prince, fourth.

Mr. G. Prince led for two dozen roses, and his set consisted largely of tea-scented varieties; Messrs. D. Prior and Son, second, and Mrs. Mainwaring, third. Mr. Prince was also first for eighteen blooms, and here he had Comtesse de Nadaillac and White Maman Cochet in good form; Mrs. Mainwaring, second, and Messrs. D. Prior and Son, third. For a dozen white or yellow roses, Mr. G. Prince scored with The Bride, Souvenir de S. A. Prince, Mrs. Aaron Ward, White Maman Cochet, and Comtesse de Nadaillac; Messrs. G. Mount and Sons, second, and Messrs. D. Prior and Son, third. In the amateurs' class for eighteen blooms Mr. W. Hutchinson, Kirby Moorside, led from four other competitors, but the flowers were, on the whole, poor.

ORCHIDS.

Orchids were unusually well shown, and there was an excellent competition in most classes. There were two entries in the class for a table of orchids, plants, and cut flowers, tastefully disposed with ferns and moss. The best was from Messrs. J. Cypher and Sons, Cheltenham, who were awarded the first prize for a pretty exhibit composed of odontoglossums, oncidiums, cattleyas, sobralias, brassias, Vanda teres, and a few choice cypripediums. Mr. W. Bolton, Wilderspool, Warrington, was placed second, and he had a rather ugly arch of netting covered with moss, into which orchid flowers were inelegantly stuck.

[Photo: W. Hayes, York.

GRAND YORKSHIRE GALA AND FLORAL FETE:
Display of Perpetual Carnations, by Messrs. Young and Co., Hatherley, Cheltenham.

Messrs. J. Cypher and Sons were placed first for ten orchids, with handsome examples of Miltonia vexillaria, Lælia purpurata, Cattleya gigas, Lælio-cattleya Canhamiana, L.-c. C. superba, L.-c. Aphrodite, L. tenebrosa, Oncidium macranthum, Epidendrum prismatocarpum, etc.; Mr. Barker, gardener to W. T. Burkinshaw, Esq., West Hill, Hessle, second, his Cattleya Jupiter and L.-c. Aphrodite being very good; Mr. W. Bolton, third. Messrs. Cypher were also to the front in the class for half a dozen specimen orchids, and here their leading plants were L.-c. Aphrodite, L.-c. Canhamiana, and L. purpurata. Mr. J. T. Barker, second; and Mr. Vause, fourth.

The best three orchids were from Messrs. J. Cypher and Sons, who had Miltonia vexillaria, Odontoglossum crispum, and L.c. Canhamiana, the latter carrying fourteen flowers; Mr. J. T. Barker, second; Mr. Jas. Sunley, third. The best specimen orchid was a pretty plant of Lælia tenebrosa Walton Grange var., from Mr. J. T. Barker, who was also first in the amateurs' classes for half a dozen orchids and for three orchids, but several of his plants showed evident signs of travel.

FLORAL DESIGNS.

Messrs. Perkins and Sons, Coventry, led for a pair of ball bouquets, with elegant and brilliant designs in cattleyas, odontoglossums, oncidiums, etc.; Messrs. Aldis and Rowntree second. The same order of merit was followed in the class for two hand bouquets, both firms showing charming designs in orchids. For one bouquet Messrs. Perkins and Sons and Messrs. Aldis and Rowntree were first and second respectively for orchid bouquets, with Messrs. E. J. Simpson and Son third with a bouquet of cattleya flowers. For a bouquet of roses Messrs. Aldis and Rowntree were first, Messrs. Perkins and Sons second, and Mr. F. M. Bradley, Peterborough, third.

Messrs. Perkins and Sons, Coventry, were easily first for a basket, with odontoglossum and cymbidium spikes and cattleyas and cypripediums. Mr. F. H. Ward second with pink carnations. Messrs. Perkins and Sons were also victorious in the class for two bridal bouquets; Messrs. R. Simpson and Son, second; and Messrs. Aldis and Rowntree, third, white orchids, carnations, and lily of the valley being the flowers chiefly employed.

HARDY FLOWERS.

The collection of hardy border flowers arranged on a space of 15ft. by 6ft. made a magnificent display,as there were five of them, and they provided a grand bank of brilliant colour. Premier award was won by Messrs. W. Artindale and Son, Nether Green, Sheffield, who put up great sheaves of fresh flowers of Eremurus himalaicus, Verbascum Caledonia, Lilium longiflorum, Lupinus polyphyllus roseus, Spiræa Queen Alexandra, Pæony alba maxima, fine single and double pyrethrums, Incarvillea Delavayi, and Spanish irises; Messrs. Harkness and Son, Bedale, came second, and they had poppies finely represented; Messrs. G. Gibson and Co., Leeming Bar, third; and Mr. G. Cottam, fourth.

Messrs. G. Gibson and Co., Leeming Bar, scored for two dozen bunches of hardy flowers, their chief kinds being the Rose Queen lupin, pyrethrums, Geranium ibericum, verbascums, and poppies; Messrs. G. Longster and Sons, Derwent Nurseries, Walton, second; Messrs. Harkness and Sons, third; and Messrs. W. Artindale and Son, fourth.

In the twelve-bunch class Mr. W. Hutchinson was to the front with Incarvillea Delavayi, Iceland poppies, Hemerocallis flava, liliums, lupins, pyrethrums, and pæonies; Mr. M. Furness, Monk Fryston, South Milford, second; and Mr. A. R. Searle, gardener to the Duke of Northampton, Castle Ashby, Northampton, third.

Mr. Walter Pybus, Monkton Moor, Leeds, led for a group of twenty alpine or herbaceous plants in pots, Mr. Pickering coming second, and Mr. J. Nicholson third.

PELARGONIUMS.

The pelargoniums made a rare blaze of colour, but they were not represented in the wonderful style that prevailed at York a score of years ago. On this occasion Mr. G. Lee, York, led for six show pelargoniums with low, flat-trained examples of Duchess of Bedford, Madame Thibaut, Mrs. Roylett, T. Dedd, Kingston Beauty, and W. E. Gladstone; Mr. W. F. Crowther second, and Mr. H. Pybus third. For a dozen zonal or nosegay varieties, Mr. H. Pybus, Monkton Moor, Leeds, was placed first for freely bloomed, medium-sized specimens, Circulater, Mrs. Newdigate, Pres. Thiers, Mrs. Ketley, and Distraction being his best varieties; Mr. James Sunley second. Mr. Pybus was easily first for six specimens, his Mrs. Ketley, Mrs. Newdigate, and Rev. Atkinson being smothered with their gay blossoms; Mr. G. Lee second, and Mr. J. Sunley third. For three zonals Mr. H. Pybus scored with Mrs. Ketley, Mrs. Paul, and D. Kotch; Mr. Lee second. For six double varieties the awards fell in due order to Mr. J. W. Clark, Skelton Street, York; Mr. W. F. Crowther, and Mr. H. Pybus. All staged low, flattish specimens.

GROUPS OF FLORISTS' FLOWERS.

Premier award for a collection of roses in pots, grouped for effect on a space 15ft. by 7ft., was won by Mr. J. E. Skaife, Clarence Street, York, who had a charming exhibit, with pillars and weeping standards of Dorothy Perkins over dwarf bushes of popular H.P. and H.T. varieties, with an edging of the dwarf Mrs. Cutbush; Mr. W. Todd, York, a good second, with a pretty background of rambling roses; and Mr. W. Longstaffe, Garth Terrace, Burton Lane, York, third. In the class for a group of twenty roses, in pots, Mr. H. Pybus was easily first, with Mr. J. E. Skaife second, and Mr. W. Longstaffe third.

For a collection of plants in or out of bloom, arranged for effect on a space of 12ft. by 6ft., Mr. F. H. Ward, Scarcroft Nursery, York, led with a bright display of carnations, liliums, rambling roses, and odontoglossums over a groundwork of schizanthuses and ferns; Mr. J. Blacker, Selby, second; and Messrs. R. Simpson and Son, Selby, third; there were six competitors. The best group of pelargoniums was staged by Mr. J. R. Wedgwood, Burton Lane, York, who was followed in order by Mr. G. Lee and Captain Walker. Mr. J. Donoghue scored for a group of carnations with Malmaisons and Yaller Gal in fine form. Mr. Walls, gardener to Mrs. Craven, Moslyn, The Mount, York, had the best group of gloxinias, and his plants and flowers were finely developed; Captain Walker second, and Mr. T. Winn third.

Tuberous begonias were largely shown, and well; Mr. T. Winn, Ratcliffe Street, York, was first for a group that contained ample evidence of high cultural skill; Mr. Leadill, gardener to Mrs. M. G. Akenhead, Acomb, York, second; and Mr. T. Douthwaite, gardener to Miss Barstow, Garrow Hill, York, third. Calceolarias proved another strong class, and there were numerous groups of these very attractive flowers; Mr. A. Leetham, Mr. P. Stancliffe, and Mr. J. Rowntree had excellent displays, and received prizes in the order given.

FRUITS AND VEGETABLES.

The chief fruit class was for a decorated table of ripe fruit, the space allowed being 10ft. by 4ft. 6in., and not more than fourteen or fewer than ten dishes permitted. The

(Continued on page 477).

DOUBLE-FLOWERED IVY-LEAVED PELARGONIUMS.

The different pelargoniums of the Show and Fancy sections, once so popular, have within the last few years almost dropped out of cultivation. As a set-off, however, the members of the ivy-leaved class, with double or semi-double flowers, have made great headway in popular favour, and deservedly so, as they possess many desirable qualities, and can be put to a great number of uses.

The first of this class originated in Germany, namely, the variety Konig Albert, which was distributed in the year 1875. It was sent out at 15s. per plant, and large numbers were sold at that rate. The difference in the price of new plants then and at the present time is very marked, for many new pelargoniums were sold at a guinea each, a sum which would now be simply prohibitive. The flowers of the variety Konig Albert were of a deep lilac tint, and the new varieties sent out for three or four years after were very similar. By the early '80's, however, a much wider range in colour and in habit was to be found among the ivy-leaved pelargoniums, and they then entered upon a period of popularity which has gone on increasing until the present day.

Vast numbers in all sizes and stages are now brought into Covent Garden Market, and may be met with in every London street. Cultivators for market grow only the varieties that will sell best, and it is very singular that the three most popular kinds, namely, Galilée, Madame Crousse, and Souvenir de Charles Turner, were sent out in the '80's, the most recent of the three being Galilée, which was distributed in the Jubilee Year, 1887. A great number of new varieties have been raised since then, but the position of these old kinds appears to be unassailable. I recently noticed the mention of a comparatively new variety, Countess de Grey, which was said to have every indication of superseding Madame Crousse, but this I should very much doubt.

As above mentioned, these ivy-leaved pelargoniums can be put to a great number of different uses. In the first place, their more or less procumbent habit renders them of great value for growing in hanging baskets, and also for furnishing large outdoor vases during the summer months. For clothing greenhouse walls or pillars therein the more vigorous kinds are well suited. Again, these pelargoniums are extremely useful for growing in window-boxes, draping balconies, or for purposes such as these and where a succession of flowering plants has to be maintained throughout the year, they can be depended upon to contribute their share, either in five-inch pots, as the market grower treats them, or as larger examples.

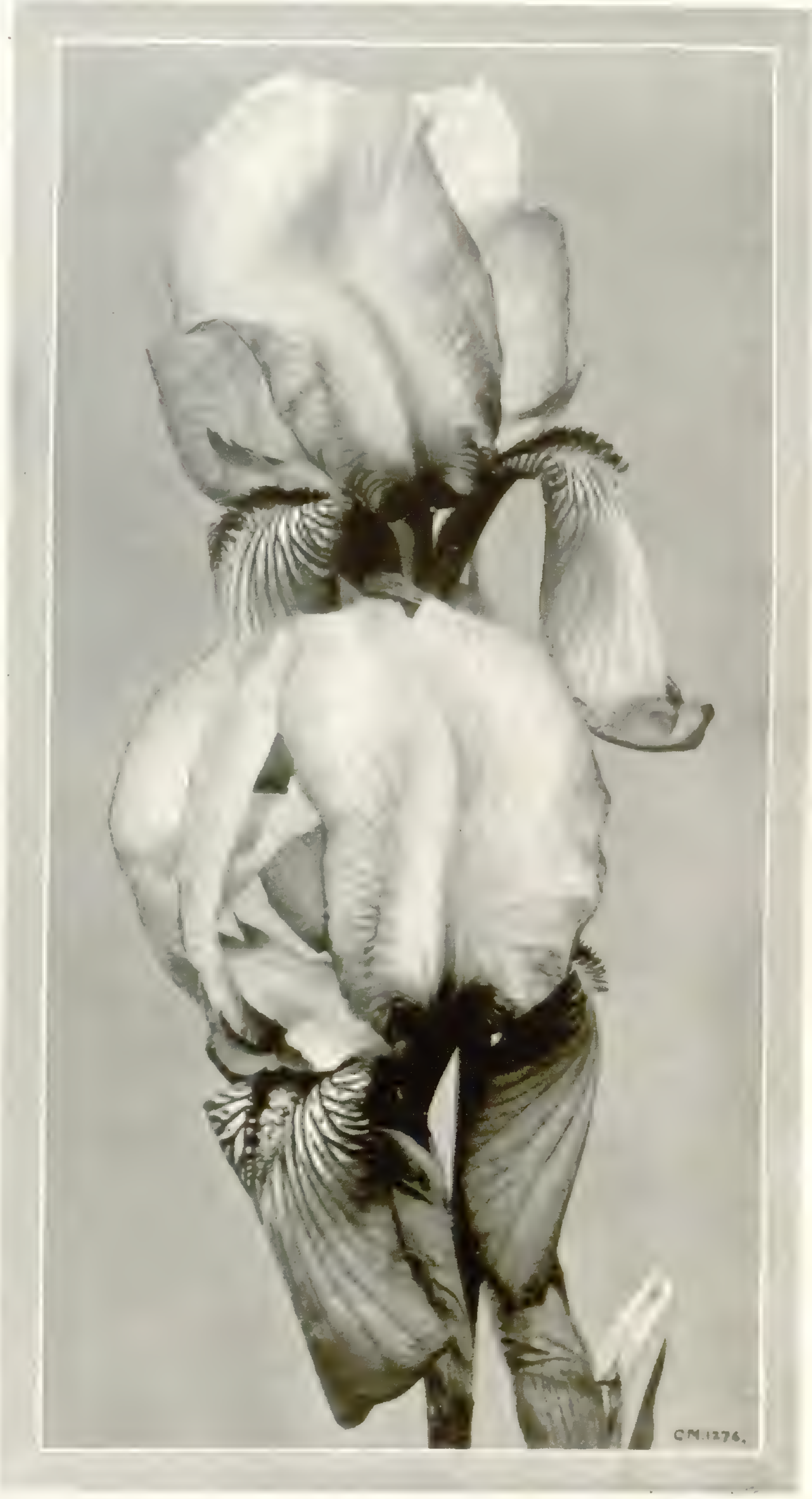
Trained around a few sticks, these ivy-leaved pelargoniums will, if shifted into ten-inch pots, soon form good-sized bushes, which will continue to flower throughout the entire season. Even now the possibilities of these plants are by no means exhausted, as some of them are very satisfactory when bedded out during the summer months, and where the custom prevails of plunging flowering plants at this season in the open turf, large examples of ivy-leaved pelargoniums readily lend themselves to this mode of treatment, flowering freely till the nights get cold.

With the exception of aphides, insect pests give but little trouble, and the "green fly," as it is popularly termed, can be readily kept down. All the varieties quickly respond to stimulating manures, but care should be taken not to carry feeding to excess, otherwise it is very apt in some instances to set up a diseased, gouty condition, which is difficult to cure. When all are treated alike, some varieties are far more liable to this ailment than others.

As varieties are quite numerous, and different tastes prevail, it is impossible to make a selection to suit everyone, but the following are all good and distinct: Carlos Uhden, rich rose-pink; Colonel Baden Powell, blush-lilac; Corden's Glory, scarlet; Corinthienne, pale blush, feathered crimson; Devonshire Lass, salmon-pink; Galilée, bright magenta-rose, very good habit; Giroflée, magenta-purple; Gringoire, crimson-purple; Hector Giacomelli, pink, blotched crimson; Jeanne d'Arc, almost white; Leopard, lilac-pink, heavily blotched and feathered with crimson, very distinct; La France, lilac; Madame Crousse, soft satiny-pink; Mrs. Hawley, rosy-cerise; Murillo, deep crimson; Princess Victoria, very pale lilac; Queen Alexandra, blush-pink, marked crimson on upper petals; Queen of Roses, bright rose; Resplendent, bright crimson-scarlet, very free-growing; Ryecroft Surprise, synonymous with Beauté Supréme, salmon-pink; Sabrina, light scarlet, very large, especially good for walls; Scarlet Crousse, bright red; Souvenir de Charles Turner, deep pink; The King, dark cerise; and The Queen, soft salmon.

Besides these there are a few obtained by crossing the zonal and ivy-leaved sections, the result being varieties about midway in habit between the two groups. One of these, namely Achievement, with salmon-pink flowers, is much grown; others of the same class are Millfield Gem, which is similar to Alliance, blush; James T. Hamilton, carmine-crimson; Chingford Rose, lavender-rose; and Papa Chapfer, deep scarlet.

W. T.



IRIS ISOLINE.
A.M., R.H.S., June 7. Messrs. R. Wallace and Co., Colchester. Flowers soft yellowish bronze, rose and orange.

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ODONTIODA ST. FUSCIEN VAR. IMPERATOR.

A very fine variety of the cross between Cochlioda Noetzliana and Odontoglossum Adrianæ. It has large odontoglossum-like flowers, borne on a spike of considerable strength. There were fifteen flowers, all of a bright and effective crimson-red colour, with mottlings on a ground colour of a buff or creamy shade. F.C.C., R.H.S., June 7. Mons. Henri Graire, St. Fuscien, Amiens.

ODONTIODA GATTONIENSIS. ROSEFIELDIENSIS.

A charming and brilliant variety of the hybrid from Cochlioda Noetzliana and Odontoglossum Kegeljani (polyxanthum). The original hybrid was raised at Gatton Park, Reigate, but the present form is a great advance. The flowers are of good size, and of a curious scarlet shade, the colour being so "thin" in some parts of the bloom as to show the underlying yellow colour. In a good light the flowers are extremely effective. The creamy-white lip is stained with red. A.M., R.H.S., June 7. De Barri Crawshay, Esq. (gardener, Mr. Stables), Rosefield, Sevenoaks.

MILTONIA VEXILLARIA VAR. SNOWFLAKE.

A very beautiful variety, with flowers of largest size, and pure white, save for the yellow blotch at the base of the lip. A.M., R.H.S., June 7. Lieut.-Col. Sir George Holford, K.C.V.O. (grower, Mr. Alexander), Westonbirt, Gloucester.

IRISES.

Italia.—A very fine, large-flowered hybrid, raised by the late Sir Michael Foster. The colouring is deep purple-blue, paler on the falls, and there is a golden crest or beard. A.M., R.H.S., June 7. Messrs. R. Wallace and Co., Colchester.

Isoline.— Another beautiful hybrid, with fine spikes of large flowers. The standards are very broad, yellowish-bronze with a pink suffusion, and the falls are deep rose and soft orange, while the crest or beard is dark orange. A.M., R.H.S., June 7. Messrs. R. Wallace and Co., Colchester.

CARNATIONS.

Mrs. Everard Martin Smith.—A splendid large-flowered border variety, of great substance, grand form, and the purest whiteness. A.M., R.H.S., June 7. Mr. Charles Blick, Hayes, Kent.

Queen Mary.—A richly scented border carnation of deep maroon colour. It is said to be distinctly perpetual in growth and bloom during the summer season. A.M., R.H.S., June 7. Messrs. W. Cutbush and Son, Highgate, N.

Edith Waters.—A fine perpetual-flowering variety, of large size and good substance and form. The colour is similar to that of Mrs. T. W. Lawson, but deeper and brighter. A.M., R.H.S., June 7. Mr. C. F. Waters, Balcombe, Sussex.

SWEET PEAS.

Prince of Orange.—A splendid waved variety, of large size, and of a rich cerise-scarlet shade of colour. A.M., R.H.S., June 7. Mr. T. Stevenson, Woburn Place Gardens, Addlestone.

Marjory Hemus.—In this variety the colouring is rich lavender-blue, and white. A.M., R.H.S., June 7. Miss Hemus, Upton-on-Severn.

Paradise Cerise.—A pretty and waved sweet pea of good size, but the colour is rich pink or salmon-rose, rather than cerise, at least that is our idea of the colour. A.M., R.H.S., June 7. Miss Hemus, Upton-on-Severn.

ROBINIA KELSEYI.

A useful hardy shrub or small tree from North America. It has elegant leafage, and produces its deep rose-coloured flowers in short racemes on the previous year's growths. A.M., R.H.S., June 7. Messrs. Robert Veitch and Son, Exeter.

CLIVIA KING GEORGE V.

An effective variety, with large trusses of yellow flowers. We doubt if this is sufficiently distinct from other of the yellow-flowered forms in cultivation. A.M., R.H.S., June 7. Mr. G. W. Miller, Wisbech.

HELIOTROPE FAVOURITE.

A fine variety, with large, abundant leafage, crowned by very large heads of pale heliotrope-coloured flowers. Very fragrant. A.M., R.H.S., June 7. King's Acre Nursery Company, Hereford.

PELARGONIUM WHITE QUEEN.

A single pure white variety, of compact habit and very free flowering. A.M., R.H.S., June 7. Messrs. James Veitch and Sons, Lim., Chelsea.

PYRETHRUM SNOW QUEEN.

A single variety of great beauty; the flowers are large, pure white, with a quite pale cream-yellow disc. A.M., R.H.S., June 7. Messrs. Kelway and Son, Langport.

MERTENSIA ECHIOIDES ELONGATA.

This very pretty hardy plant grows about a foot high, and is of tufted habit. It is said to grow freely if given moderate shade and plenty of leaf-mould. The drooping flowers are rich blue. A.M., R.H.S., June 7. Messrs. Bakers, Wolverhampton.

A STROLL ROUND MY FERNERY.

To the British fern lover the month of May is undoubtedly one of the most interesting periods of the year. At that time, if the owner of the fernery be one of the thorough-going kind—that is, one who goes in for selective cultivation and improvement of type—he will begin to see the results of his previous year's sowings, or in the case of slower-developing varieties, those of the year before that; and he will be unfortunate indeed if nothing of special interest turns up. If he be a fern-hunter as well, and has secured any prizes, or possible prizes, last season, these will now be displaying their new growths, and either enchanting him by confirmation of his dearest hopes, or, on the other hand, as will happen to the best regulated expert mind, he may be disenchanted by finding his swan to be but a goose, and possibly a second-rate goose at that.

Happily, however, the stroll which I am describing presents but few disappointments amid a number of successes. First of all, the new section of Shield Ferns, raised from Polystichum aculeatum pulcherrimum, among which two have already received first-class certificates, is surpassing all expectations, and I have now the pleasure of surveying a row of more than a dozen most beautiful forms, displaying very varied characters, and inheriting—which is a very great point—the particularly robust constitution of the parent. One of the best originated in the sowing made by Mr. C. B. Green, amongst the batch he raised, and from which he kindly gave me a bulbil: this has yielded me a very string plant, and, curiously enough, a prospect of a good batch as well, since the said bulbil broke in the first place into no less than seven centres, of which six were successfully made into independent plants. Five of these have retained their individuality, developing normally into single crowns; but of the other two, one has its crown split up into a bunch of secondary ones, apparently about a dozen, and another has two of its fronds with small bunches of bulbils a short way up, so that at least a score of this beautiful variety are in prospect already. Strange to say, the original plant has shown no signs of bulbiferousness, save in the one instance.

Thanks to the cool and moist spring, the development of all the ferns in my collection of some 500 varieties, and far more specimens, has been greatly favoured, and in all directions the growth is vigorous and healthy. The superbum section of Lady Ferns, which originated here, is simply magnificent. Athyrium f.f. plumosum Druery, the queen of the collection, is already four feet high, and its numerous sisters, crested and uncrested, surround it with a galaxy of beauty.

These, however, are old friends now, and by way of diversion I turn to some possible new ones, a pan of seedlings of a prettily-crested Marsh Fern (Lastrea thelypteris), found by a lady in the United States, but of which I made a sowing, to acquire, if possible, a British-born improvement. As a result, among some scores of replicas of the parent form and a few normals, I have four young plants, which, instead of small tassels at tips of fronds and side divisions, are practically all crest, and promise to be great acquisitions in that species, of which hitherto there has been no British variety found. Right and left of me, as I stand, there are two splendid specimens of the Male Fern. The King of the Male Ferns, with a trunk nearly two feet high, and a circlet of fifteen finely-tasselled four-feet fronds, and L. f. a. polyductyla Wills, with rather less than five-feet fronds, and considerably larger tassels, are two of the finest and boldest forms we have. Opposite me is a recent acquisition, no less than an actual division of the original find of the clarissima Lady Fern of Col. Jones, upon which "apospory" was first discovered over a score of years ago, the result of which was the raising of some hundred plants of a hitherto barren fern.

These plants so raised are now in every collection of note, but, curiously enough, always develop a twist in the fronds, while the original has them not only perfectly flat but much more robust, reaching nearly five feet in length and 26 inches wide, a truly regal fern, which I have longed for twenty years to acquire, but only did so this year by favour of Miss Jones. The more interesting part of my fern collection lies along the left-hand staging, devoted mainly to my own "finds," or others of special interest, the former numbering some dozens, each with its interesting record. We may, however, mention A. ff. revolvens, with almost tubular fronds and ringlets at all tips. A. ff. cristatum Kilrushense, with long pendulous tassels, admittedly the most beautifully crested form found wild; an improved form of Athyrium ff. plumosum Drueryi, a tasselled form of A. ff. Kalothrix, a ramo-cristata variety of Hartstongue found in Cornwall, and several other good "sports" of the same species found there and elsewhere. Lastrea montana plumosa Drueryi appears as a fine specimen, showing how well this neglected species is adapted for pot culture under glass. On the opposite side a series of shelves afford accommodation for a representative group of Polypodium vulgare, some twenty-five of the best varieties figuring there. Since, however, between 500 and 600 pots and pans, mostly containing different varieties, are under this glass roof, to say nothing of the plants in the open, it is clear that nothing but a faint idea can be conveyed of the interest involved in a stroll round and about it, as contrasted with what would be experienced in a popular fernery containing, at the best, perhaps a dozen of the common kinds, repeated by the score.

Chas. T. Druery, V.M.H., F.L.S.

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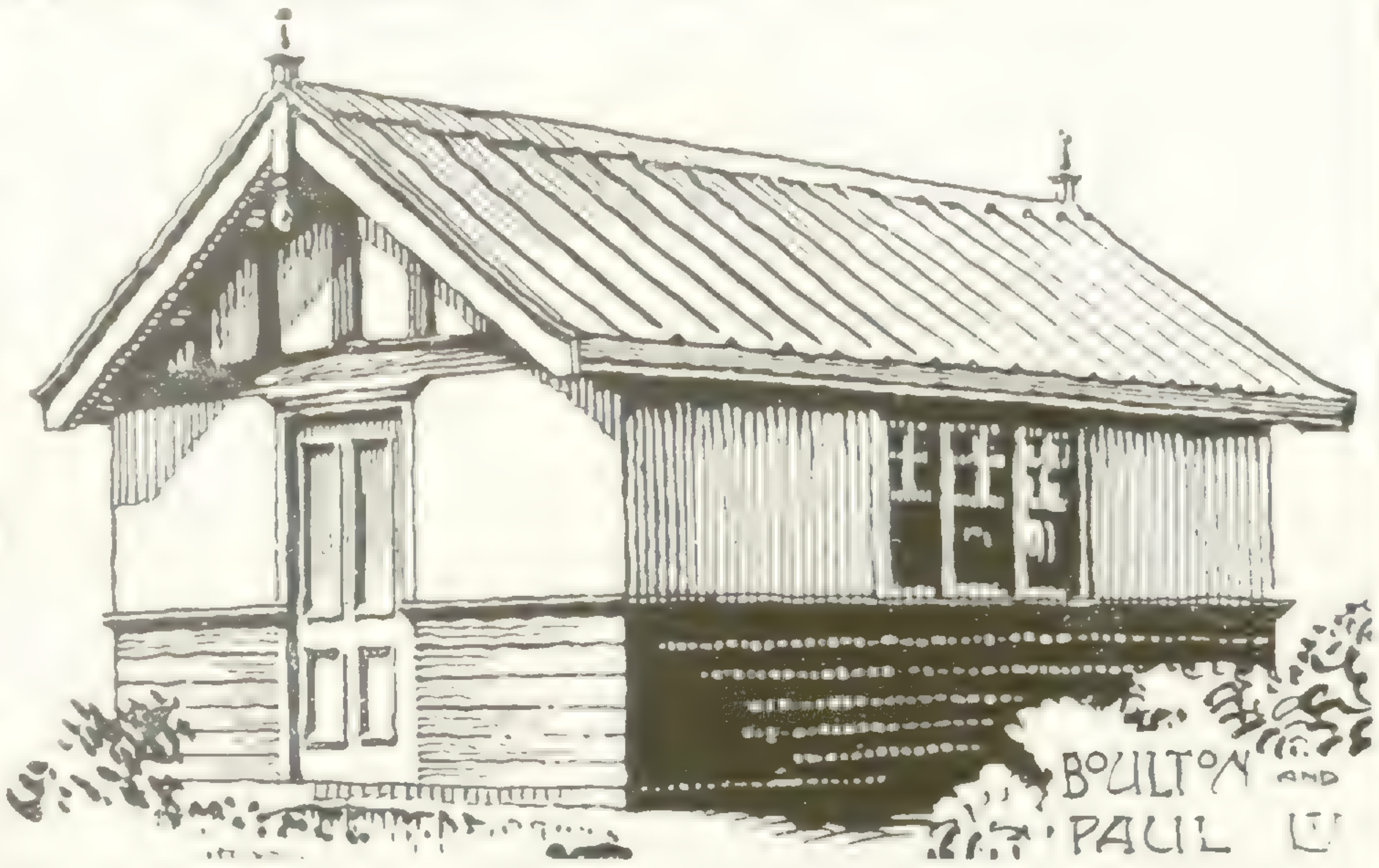

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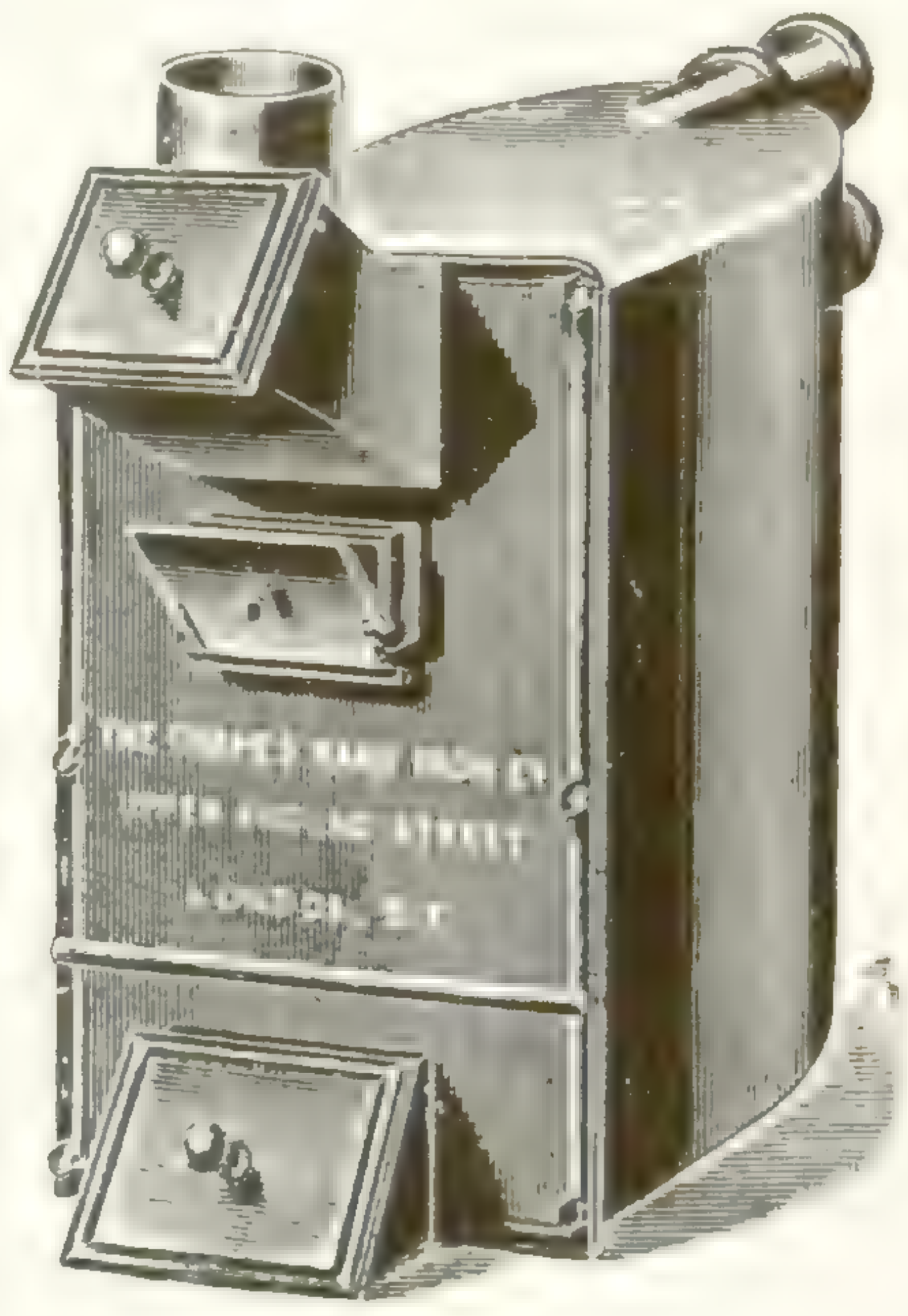

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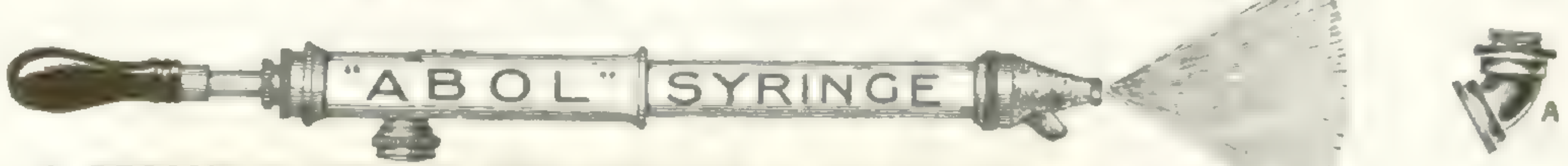

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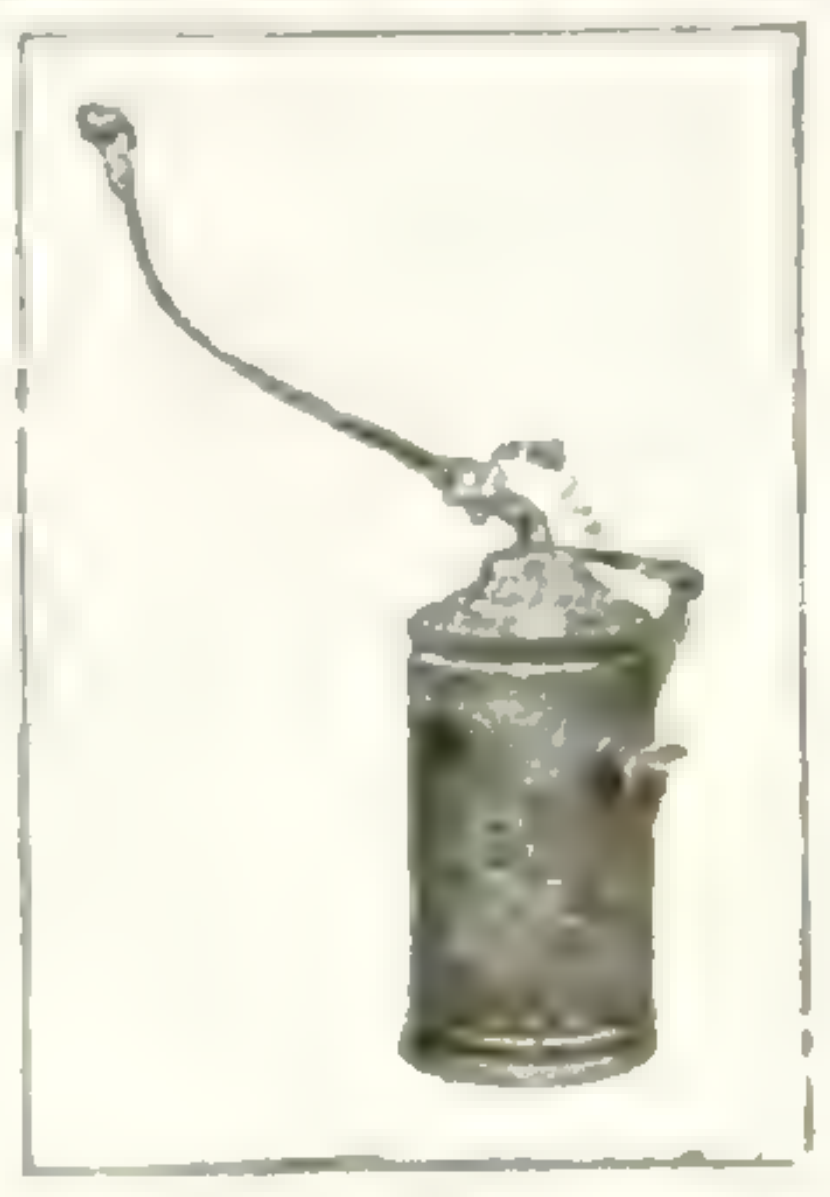

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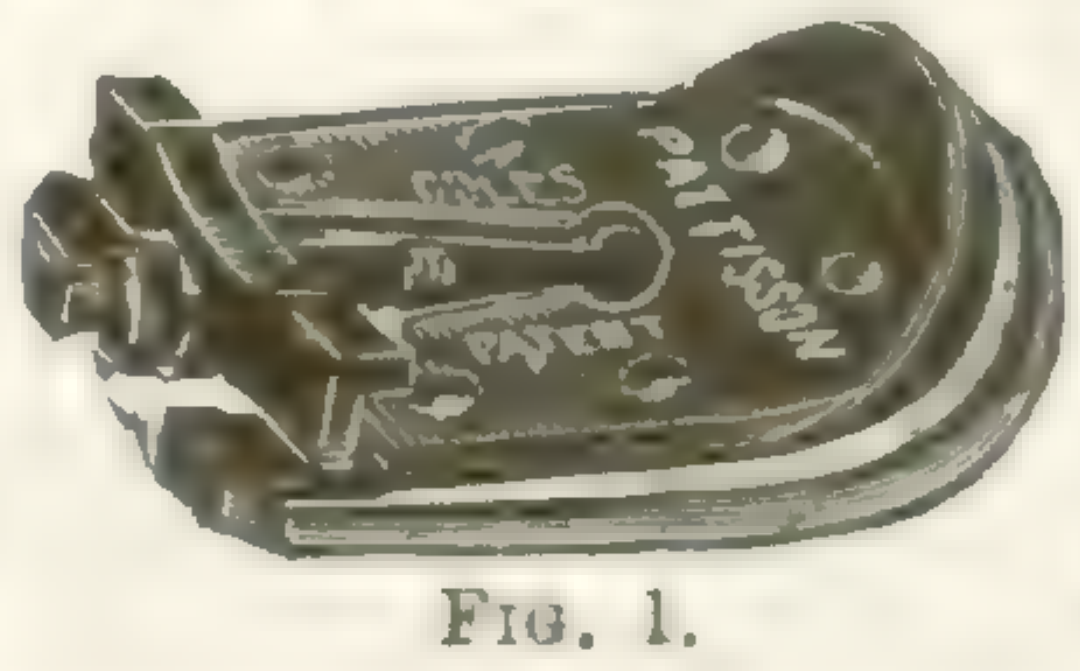

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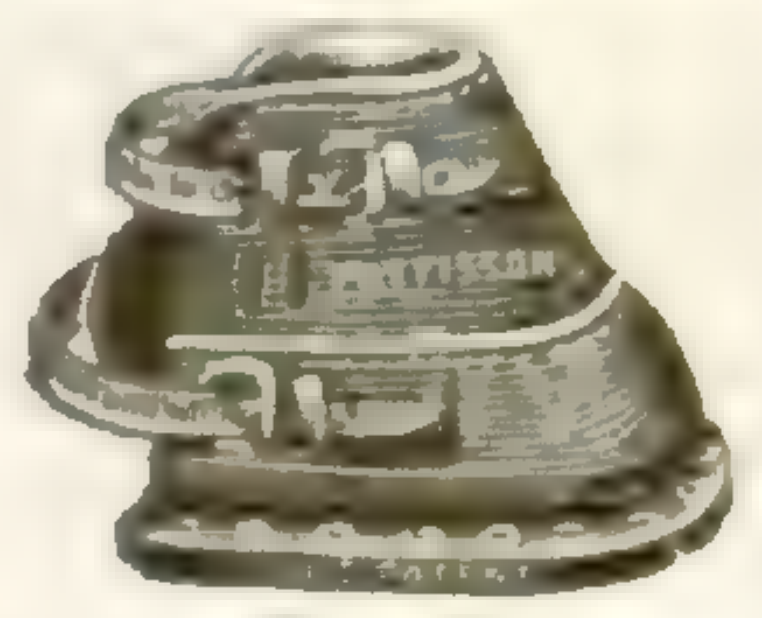

Fig. 2.

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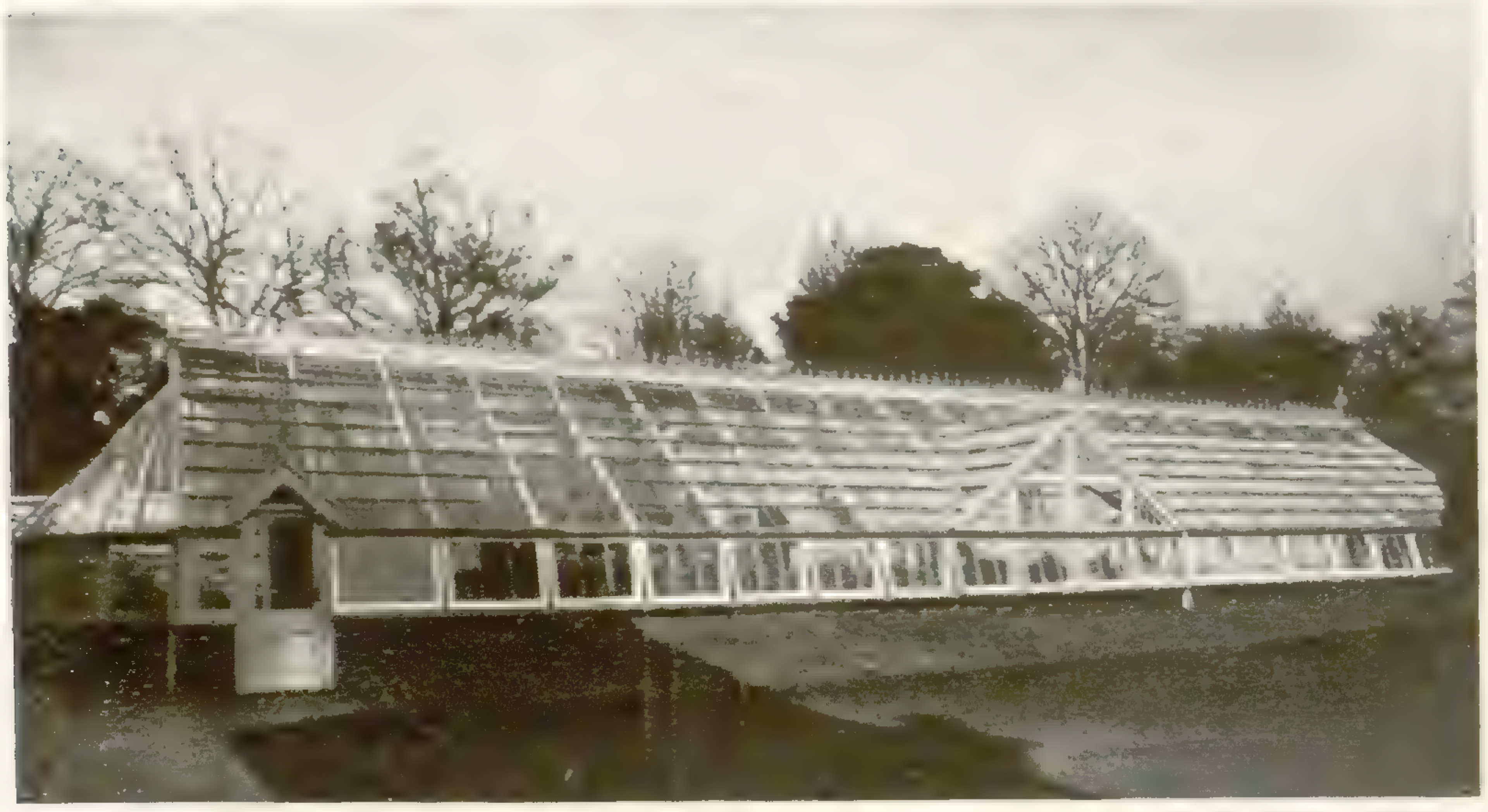

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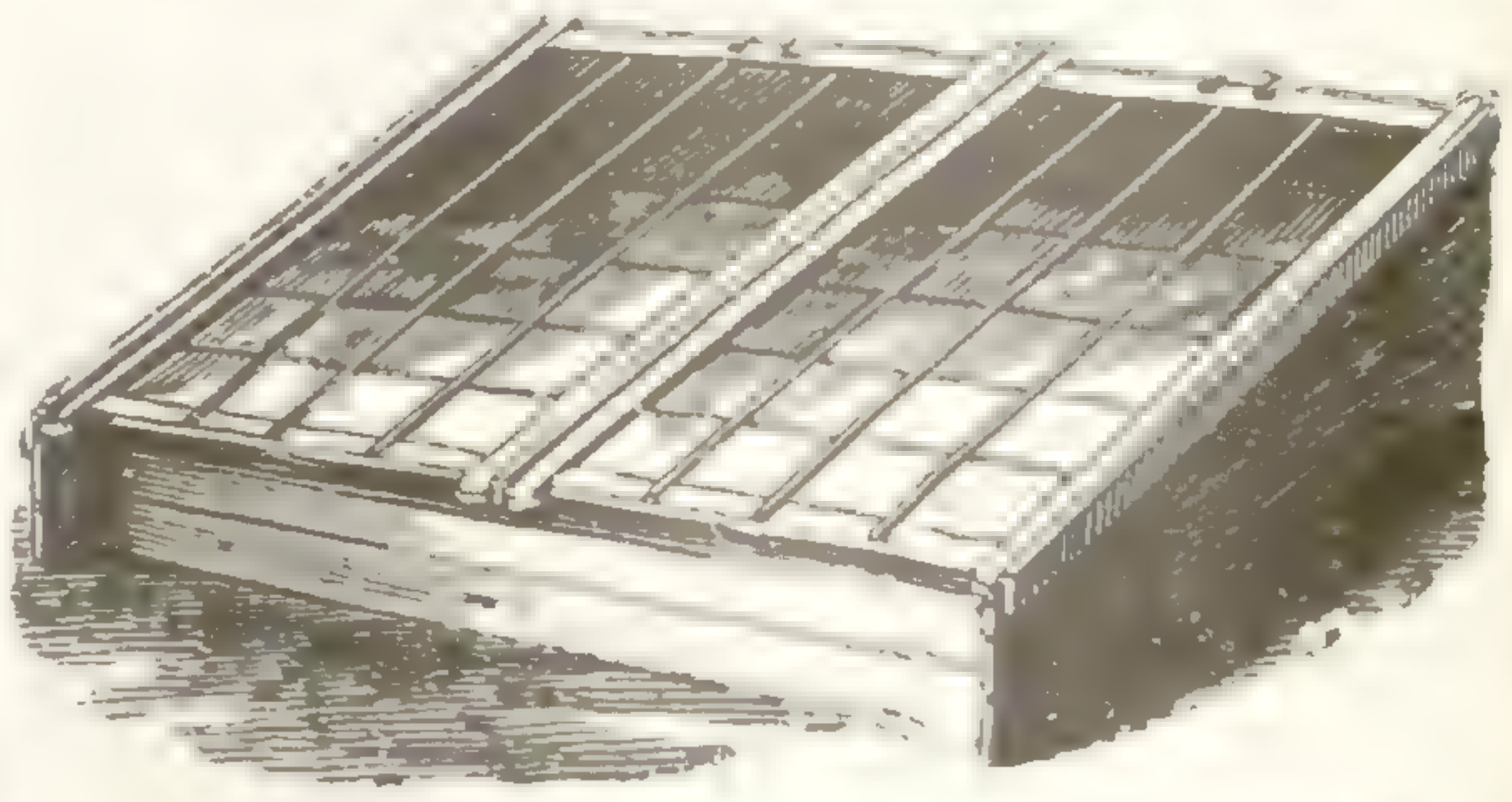

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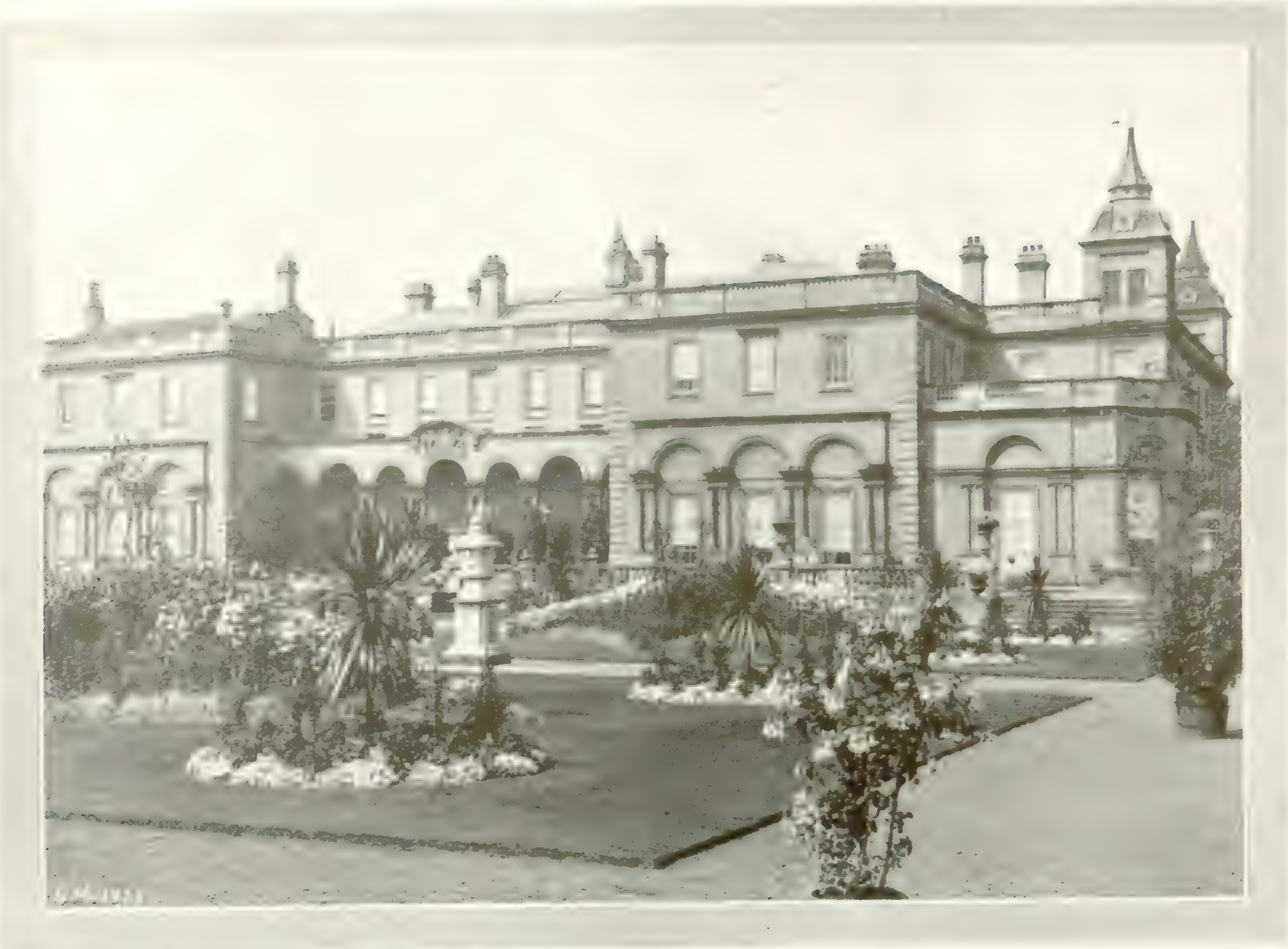


MANSION AND PORTION OF ITALIAN GARDEN, CLUMBER.

SOME GARDENS IN THE DUKERIES—II.

Clumber.

Situated some four miles distant from Worksop, Clumber, the seat of the Duke of Newcastle, is rich in attractions to the visitor, whatever may be the trend of his taste. The scenery of the district is of surpassing beauty, the park is spacious and finely wooded, the mansion stately, and the gardens extensive, admirable in design, and highly kept, the terraces affording some of the finest examples of the Italian style, as applied to garden design, to be found in the United Kingdom. The estates of Clumber and Welbeck are contiguous, and lie to the east and west respectively of the road between Worksop and Budby and Ollerton. As in other parts of the Sherwood Forest, the road by which Clumber is reached is finely wooded on either side, and presents some charming glimpses of forest scenery. From the North Lodge to the mansion the distance is about one mile, and in passing along the drive the picturesque group of trees and the large tracts of woodland afford a succession of delightful pictures. The park abounds in oaks, limes, and other trees of noble proportions that thrive in the district, some dating back to the time when Sherwood Forest was in its primeval condition, or had not undergone any material change, while others are of a size that shows they have been planted during the period which has elapsed since the mansion was built, nearly one hundred and fifty years ago.

The magnificent park has an undulating surface, and the mansion, in common with many other great houses built in the second half of the eighteenth century, occupies a position low enough down for water to be used in beautifying its surroundings. In this case water has been used with singularly good effect, and the combination of lake and wood, of green turf and tastefully coloured parterres, has been so skilfully accomplished as to convert the environment into a perfect fairyland. The fine mansion loses somewhat in the nobility of its proportions from having slightly rising ground around it, but certainly not sufficient to detract in the slightest degree from the glorious picture in which it is the central object. There are two terraces, the one which extends the whole length of the mansion, and is shown, or, rather, a part thereof, in the illustration of the latter, and the east terrace, to the right of the building. The principal terrace is finely decorated with marble vases, and has a fountain basin twelve and a-half feet in diameter, formed from a solid block of marble. Opposite the centre of the mansion are flights of steps leading down to the water of the lake, which washes the base of the wall supporting the handsome balustrade. In the embellishment of the flower beds on the terrace Mr. S. Barker, the able gardener, uses both flowering and ornamental-leaved plants in due proportions, and with good effect, and note was made of the beds of heliotropiums as being of special excellence. The effect produced by the plants that are bedded out is materially enhanced by the fairly free use of tall dracænas and bamboos, and specimen hydrangeas, fuchsias, and other subjects grown for their flowers, and occupying large pots. The east terrace, to the right of the mansion, is freely embellished with handsome vases, and has a fountain in the centre. As one would expect, the scheme of decoration differs materially from that of the terrace on the west front, and some of the hardy perennials of medium height are most successfully employed.

One of the great charms of the environment of Clumber is the large lake, which appears to rise away in the woods to the south-west, and skirts the pleasure grounds to the south of the mansion, and extends somewhat beyond the north end of the terrace. It is about two miles in length, with a proportionate width, and in admiring this fine sheet of water one is much impressed by the taste and judgment with which the margin was planted when the lake was formed. The pleasure grounds extend for a considerable distance south of the mansion, and on the margin of the lake is the Lincoln Terrace, which is many hundreds of yards in length, and constitutes a feature of much beauty. As will be seen from the accompanying illustration, this is freely embellished with handsome vases and urns, and with these are associated large flower beds that during the summer months are bright with colour, or contain masses of plants remarkable for the beauty of their leaves. There are to the left tall, finely proportioned Irish yews that carry the eye from the formality of the vases and flower beds to the masses of handsome shrubs that clothe the slopes to the left. To the left also are handsome coniferous trees of many kinds, and in a high state of development, and prominent among them are numerous specimens of the Cedar of Lebanon, which are equally remarkable for their size and handsome shape. Deciduous trees are not less remarkable for their variety and excellent growth, and as the many fine kinds crowd upon the memory it is impossible to avoid a strong feeling of regret that it is not possible to refer to them in some detail

The kitchen garden, with the fruit and plant houses, is some distance from the mansion, and here also we find abundant evidence of the appreciation in which flowers are held at Clumber, and also of Mr. Barker's skill in their cultivation. The kitchen garden, as befits so important an establishment, is of large area, and extending through the whole length is a breadth of turf flanked by broad borders of hardy herbaceous plants, which throughout the summer months yield a wealth of flowers The kinds that have found their home within these borders have been selected with due regard to their vigour of constitution and their capability for giving an abundance of flowers, but the importance of high quality has not been overlooked In other words, the borders are filled with plants in which constitutional vigour, freedom of flowering, and beauty, are happily combined. Especially noteworthy in the borders are the herbaceous phloxes, hollyhocks, of which there are excellent selections, for the conditions that obtain are favourable to the production of fine spikes and the full development of the rich colouring characteristic of so many of the finer varieties. In another part of the garden we find that sweet peas are largely grown, and that Mr. Barker is not only fully acquainted with the best varieties, but well versed in the practice by which continued supplies of splendidly developed flowers are obtained. He evidently recognises the necessity of deep digging, liberal manuring, the avoidance of overcrowding, and the early removal of seed pods, for only by the observance of these essentials to successful practice could such splendid results as those at Clumber be obtained. Not less successfully are chrysanthemums grown in pots, and of these the collection includes about fifteen hundred plants, comprising the varieties best suited for decorative purposes, either as plants or cut blooms. Roses are also well represented in those parts of the kitchen garden devoted to flowering plants, and among the ramblers the popular Dorothy Perkins was producing a rich display of flowers that will linger long in the memory. Especially worthy of note are standards on seven-feet stems, these being most beautiful and effective, and find much favour at Clumber.

Under glass the cultivation of carnations forms a strong feature, and in the several houses devoted to them it was seen that the best of the Malmaisons and the finest of the perpetual-flowering varieties are equally appreciated and successfully cultivated. To give the names of those that attracted attention by reason of their merits would be to enumerate the fine varieties that have from time to time had attention directed to them in these pages within a recent period. Carnations are also largely grown in the open, and we made special note of a large bed of border varieties, consisting of about equal numbers of the best of those that have been distributed under name, and selected seedlings. The plants were bearing an enormous crop of flowers, and it could be readily seen how useful such beds must be where, as here, large supplies of flowers are in constant demand.

Stove and greenhouse plants are grown extensively and well, and, as will be readily understood, such kinds as are especially suitable for indoor decorations are the most extensively cultivated. Quite recently several new span-roof plant houses have been erected by Messrs. Foster and Pearson, of Beeston, and in addition to substantiality of construction and elegance of design, for which this firm is so well known, they are ventilated by a system which is at once simple and efficient, and is regarded with much favour by Mr. Barker. Reference has been made to several features formed by flowering plants, and mention must be made of the success that is achieved in the frame culture of violets. These fragrant flowers are highly appreciated at Clumber, and to produce the requisite supply of blooms a large area of the frames is devoted to them. Both single and double varieties are included in the selection, and from early in the autumn until the spring season is well advanced there is no shortage in the supplies.

The fruit houses are mostly of rather large size, and form a remarkably fine range several hundred yards in length. One of the finest houses, if not the finest, that was entered is devoted to peaches and nectarines, and to save repetition it should be mentioned that four houses are devoted to these luscious fruits. At Clumber the cultivation of peaches and nectarines on open walls is not sufficiently successful to admit of dependence being placed upon trees out of doors for any considerable part of the supplies, hence the extent to which they are grown under glass. Trees on walls grow very well, and the early varieties ripen excellent crops, but the later varieties fail to attain maturity, especially in unfavourable seasons, such as that of 1909. Fruit trees in pots are not less successfully grown than are the peach and nectarine trees planted out under glass, and contribute liberally to the supplies. The large fig house can hardly fail to interest fruit growers, for the trees within its shelter yield an abundance of fruit from April till October, and that of the highest quality. Note was not made of the length of the structure, but it should be mentioned that the varieties are Brown Turkey, White Marseilles, and Negro Largo, all of which, as so well known, have much to recommend them. There are five or six vineries, and in a rapid run through them a grand crop of Muscat of Alexandria arrested attention, and it

THE BEAUTIFUL LINCOLN TERRACE, CLUMBER.

was interesting to learn that the vines had been inarched upon Gros Colmar. Then followed two houses, one wholly devoted to Madresfield Court, which is well grown and fully appreciated in the "Dukeries," and the other to Gros Colmar, and two occupied by Muscat of Alexandria, making three devoted to this fine grape, and one in which Black Hamburgh and Madresfield Court were growing in association. There may be others, but sufficient have been mentioned to show how extensive is the cultivation of grapes. It should, however, be added that the success achieved is in every way commensurate with the position grape culture occupies in the economy of these gardens. It may also be added that about three thousand strawberry plants are grown annually in pots for forcing.

The walls by which the kitchen garden is enclosed are well clothed with fruit trees of various kinds, and the north aspect of one of them is devoted to the loganberry, with excellent results, the crops being heavy and the fruit of excellent quality. Highly interesting also is the hedge of the parsley-leaved bramble, which is found especially useful for the supply of fruit after other soft kinds are practically over. This hedge is one hundred yards long and six feet high, and immense quantities of fruit are annually gathered.

BORDERS OF HARDY PERENNIALS, CLUMBER.

The quarters devoted to vegetables are full of interest, but it is not possible to refer to them at a length that will admit bringing into prominence the lessons that could be learnt from them, but as indicating the areas devoted to the several crops it may be mentioned that the asparagus beds have an area of fully an acre.

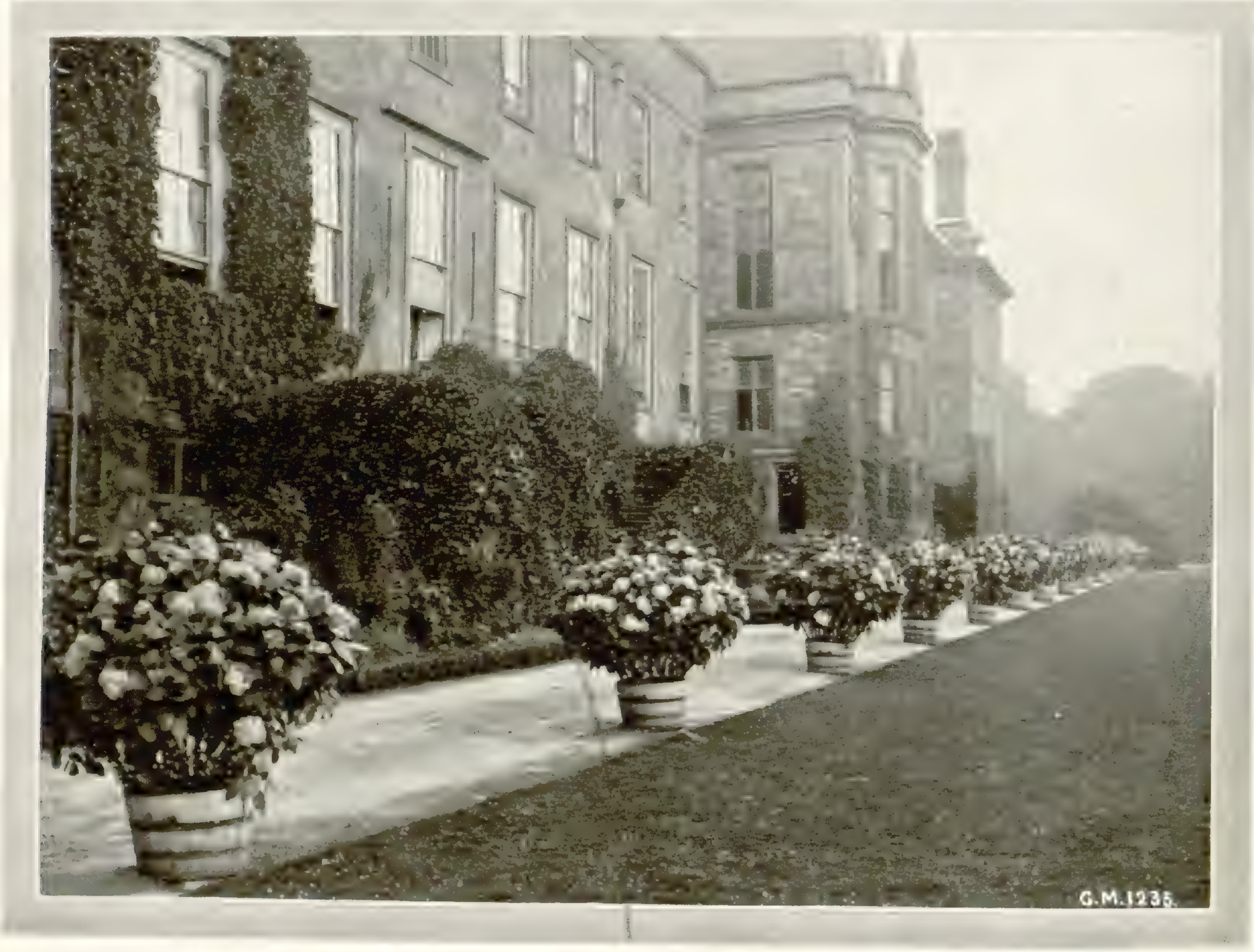
Rufford Abbey.

Leaving Clumber, with its manifold attractions, and proceeding southward by way of the main road to Newark for a distance of eight or nine miles, the handsome lodge by which access is obtained to the demesne of Rufford Abbey, the seat of Lord Savile, is reached. The distance from Worksop is some four or five miles more, but the usual way of reaching the Abbey is to travel to Edwinstowe Railway Station, which is within a distance of between one and two miles. Those, however, who are desirous of seeing as much as they can of the distinctive charms of the district, and have sufficient time on their hands, would do well to go to Worksop, and drive thence, for by doing so they would pass through some of the finest estates in the United Kingdom, enjoy for the greater part of the way scenery of unsurpassed beauty, and have an opportunity of becoming acquainted with some of the most characteristic features of Sherwood Forest. For a considerable distance the road intersects the fine estates of Welbeck, Clumber, and Thoresby, all rich in interest, and it skirts the beautiful tract of woodland known as Birkland Forest. This lies to the west of the road, not far from Edwinstowe, and is well worthy of a visit from those who appreciate the charms of the natural forest, and take an interest in trees remarkable for their noble proportions or historical associations. This portion of the forest derives its named from the remarkable development to which the birches have attained, but of the older trees few remain. Hereabouts also are many notable oaks, but, unfortunately, time did not admit of a visit being paid to them, and, therefore, nothing can be said with reference to them from recent personal knowledge. The most noteworthy of these is unquestionably the Major Oak, an ancient tree, with a trunk having a circumference of thirty feet, and the branches a spread of about eighty feet. According to tradition seven persons have dined together within the hollow trunk.

Rufford Abbey is a large and stately building, and includes part of the Cistercian monastery that was founded as far back as 1148 by Hugh Fitz-raph and his wife. With reference to this historic seat, Leland, who visited it, writes: "Rume Water is a village commonly called Ruford for Rumeford, a quarter of a mile beyond which stood a late Rumford Abbey of white monks. The Earl of Shrewsbury hath it now of the King for exchange of land of his in Ireland." The mansion occupies a commanding position in a large finely wooded and highly picturesque park, and is surrounded by pleasure grounds that are not less remarkable for their extent than for their beauty. Many and varied are the fine trees that have a place in the pleasure grounds; the shrubs are equally noteworthy, and flowers are freely used in the enhancement of their distinctive charms. Lord and Lady Savile take the keenest interest in their delightful home and its surroundings, and within recent years flower gardening has been so greatly developed that at no distant date Rufford Abbey will, it may be safely assumed, become not less famous for its flower gardens than for its other attractions. Within the past two years a new flower garden, with an area of many acres, has been formed in accordance with the wishes of Lady Savile, who possesses a strong love for hardy and other flowers; and as the design is bold, and the site beyond the influence of trees with wide-spreading roots or branches, this will at no distant date become a glorious feature. In the centre of the garden is a large circular lily pool, with handsome stone margin, and radiating from it are a few broad walks that give ready access to the several parts of the garden, and admit of the beauty of the flowers being enjoyed at times when it would not be prudent to walk upon the grass. The intervening spaces are turf, and form an excellent setting for the flower beds, which are large in size and varied in shape. This garden, it was understood, will be chiefly devoted to hardy flowers, but as the preparation of a stock of plants that must be numbered by thousands, and include the finest of the kinds, is work requiring some time, annuals were rather freely used last summer, the garden having been finished in the spring, and the effect was equally remarkable for its brightness and beauty. Hence the garden was of interest for the valuable object-lesson it gave in the use of the most attractive of the annual flowers, as well as for the promise of being quite unique among gardens of its class, when the subjects with which it is to be permanently occupied have become established.

Contiguous to this magnificent flower garden is a large lake that has been recently formed, in which water lilies and various other acquatics and semi-acquatics are already established. On the surface of the water float a selection of nymphaeas, comprising the finest of the hybrids and varieties at present in cultivation, and the margin of the water is fringed with large numbers of the more or less erect-growing plants that thrive in shallow water, or in positions on the margin where the roots can find their way into the water, or run freely in soil through which water can percolate without let or hindrance. The pathway that runs along one side of the lake is somewhat of an innovation, and has much to recommend it, for by providing a footway that is quite firm and dry at all times it adds greatly to the enjoyment that a well-furnished water garden is so well able to afford. The illustration of the path that is given herewith tells its own tale so admirably that the briefest reference will suffice. The "dry" wall by which the high ground on the right-hand side is supported is utilised in the cultivation of aubrietias and other alpine plants that thrive in such positions, and at the foot of the wall is a row of a nepeta, which presents a light appearance, and is so soft in colouring as to be in full harmony with the surroundings.

Some distance from the new garden is a long border of considerable breadth, in which a comprehensive collection of hardy perennials have had their home for many years, and highly attractive is it throughout the summer season. It agrees with the finest herbaceous borders that usually come under notice in the care evinced in selection, and the robust state of the plants, but it differs from most in not having a background of any kind, and the effect, as shown in the accompanying illustration, is distinctly pleasing. Not far distant from the kitchen garden are several flower gardens that contain much to interest the visitor, and to be a perennial source of pleasure to the noble owners. In one we find an admirable representation of a Japanese garden, on the site of a portion of an old orchard. In another enclosure, with an avenue of fruit trees all round, is a Roman garden, that is at once interesting and attractive. In an adjoining enclosure, which has for its boundary a closely-cut yew hedge, is a rose garden, in which dwarf and climbing roses are equally at home. The former occupy beds in the centre of the area, and the latter fling their supple flower-laden growths in graceful profusion over the light rustic pergola that is carried right round the garden. There is no occasion to give the names of varieties, but, as will be readily understood by those acquainted with garden roses, Caroline Testout, Liberty, Killarney, and Prince de Bulgarie were prominent among the dwarf varieties, and that Dorothy Perkins, Lady Gay, and Crimson Rambler contribute their full share to the rich display of colour that is annually produced by the varieties that trail over the pergola. Note was made of several other delightful features, and one that appealed strongly for attention was the border of blue flowers, in which blue clematises, Michaelmas daisies, purple dahlias, heliotropiums, and violas were employed with quite exceptional taste.



GARDEN FRONT OF RUFFORD ABBEY WITH SPECIMEN HYDRANGEAS.

The cultivation of specimen hydrangeas constitute a strong feature at Rufford Abbey, and the illustration of the fine examples that are used in the embellishment of the garden front of the mansion during the summer months will afford an excellent idea of the results obtained. It is not necessary to give measurements, but it should be said that several of the specimens were carrying upwards of one hundred finely-developed flower heads each.

The spacious kitchen garden, with its splendidly furnished walls, its bush and pyramidal apple and pear trees, its great breadths of vegetables, and sweet peas and other flowers for the supply of cut bloom is not less interesting in its way, for on every side the impress of cultural skill is evident. Whatever may be the evidence of cultural skill and orderly arrangement in the kitchen and flower gardens, it is not greater than that found in the large number of fruit and plant houses that have their place in the kitchen garden. Within these structures, it might be said, Mr. J. Doe, who has for many years had charge of the gardens, is "seen at his best." That, however, would be hardly correct, seeing that all departments evince the most skilful management: but it will be quite correct to say that Mr. Doe is a fruit grower of the highest eminence. More especially is he successful in the cultivation of grapes, peaches, and nectarines, and many are the honours that have been obtained with these fruits at the leading exhibitions. After having seen and admired at the exhibitions collections from the Rufford Abbey gardens, comprising peaches and nectarines of the largest size and rich in colour, and huge clusters of Muscat Hamburgh, Muscat of Alexandria, Madresfield Court, and other choice grapes, it was interesting to find that the success achieved is not in any way due to light cropping

As a matter of fact, Mr. Doe takes heavy crops, and these are obtained from year to year without unduly taxing the trees or vines. The number of vineries is considerable, and in the first that was entered was a crop of Black Hamburgh of which it would be difficult to speak too highly; the vines were carrying a heavy weight of fruit, and the bunches were of large size and the berries splendidly coloured. Even more noteworthy perhaps was the crop of Madresfield Court in another house, for the average weight of the bunches was 6lb., and the berries were of the largest size and perfect in development. Of quite exceptional excellence also were the crops of Muscat of Alexandria and Muscat Hamburgh, both of which are regarded as good tests of the gardener's skill as a grape grower. Size and shape of bunch left nothing to be desired, while the colour, an important point with these two grapes, was perfect. The peach houses are not less remarkable in their way, for the trees are in the best of condition; the crops are invariably heavy, and the fruits of full size and resplendent in colour, and prominent among the several peaches was that fine variety Sea Eagle.

TASTEFULLY ARRANGED BORDER OF HARDY FLOWERS, RUFFORD ABBEY.

Carnations are evidently not less highly appreciated at Rufford Abbey than elsewhere, for two large structures are wholly devoted to them, and these, as the numerous other houses devoted to ornamental plants, well deserve a somewhat full notice, which, unfortunately, it is not now possible to give.

Thoresby Hall.

Immediately to the south of the Clumber estates are those of Thoresby Hall, the seat of Earl Manvers, and, as will be readily understood, many of the points of interest and attributes of beauty characteristic of one are common to the other. Therefore, the visitor to Thoresby Hall will find much to afford interest and pleasure. The grandly timbered park has an immense area, as indicated by the fact that it has a circuit of ten miles. Especially remarkable is the park for its arborescent features, the fine grove of old oaks being particularly noteworthy, and of great beauty is the fine sheet of water formed by the Meden. Occupying a commanding position in the park is the palatial mansion, which is one of the finest examples of the Elizabethan style of architecture that could possibly be found. The old mansion, in which, by the way, Lady Mary Wortley Montagu was born, was destroyed by fire in 1745, and this was replaced by a building commenced in the same year. Subsequently it was rebuilt by Earl Manvers from designs by the famous architect Salvin The beautiful grounds, with their fine trees and shrubs, form an admirable setting to the noble edifice, and it is interesting to note that a rather bold style of decoration has been adopted in the immediate neighbourhood thereof. Instead of beds filled with plants remarkable for the beauty of their flowers or foliage, in accordance with the style so general, large masses of shrubs have been planted, and cut into shapes more or less formal. The golden yew is included among the subjects used, and the closely-cut masses take on an exceedingly rich colour, and are singularly effective.

Time did not admit of other than a rapid run through the gardens, and, possibly, some features may have been missed. It was noticed that the grounds to the west of the mansion are highly attractive, with their finely developed trees of various kinds, and in a somewhat secluded and restful spot is a rose garden of moderate dimensions, but tastefully designed, and skilfully arranged, and immensely attractive during the summer months. The beds are geometrically arranged on the gravel, and occupied by dwarf plants of the best of the varieties for the garden. Iron pillars are provided round the boundary and in other parts, and connected with chains, over which climbing roses in variety are trained. By this means festoons of flowers of the most delightful character are obtained, and these of themselves produce a charming display of colour. In the centre of the garden is a sun-dial, which may be mentioned for the purpose of indicating how useful an accessory of this kind is when simple and elegant in design for placing in a prominent position devoted to roses. Not far distant from the rose garden is a specimen of the Weeping Wych Elm (Ulmus montana pendula), which, instead of being borne aloft on a tall stem, in accordance with the practice that usually obtains, has a quite short one, and the general effect produced by the elegant branches suggests a cool retreat from the noonday sun. Occupying a secluded position, the tree, with its ample rich green leafage, presents a pleasing appearance, and at once attracts attention by reason of its novelty.

The well-planned kitchen garden has a large area, and by the judicious use of hardy flowers it is made beautiful, as well as of a high degree of utility. Briefly stated, the large area is divided into four portions by means of broad walks that intersect each other in the middle of the garden. The walk that intersects the garden from north to south is flanked by borders of considerable breadth that are devoted to hardy perennials. The walk running from east to west has a row of bush fruit trees on either side, and it was of interest to note that these are set well back, and do not, as is sometimes the case, extend over the pathway

On the northern boundary of this garden is a fine range of lean-to houses chiefly devoted to fruit, and divided in the centre by a bold span-roof structure, which forms an admirable relief to the uniformity of the other houses, and adds considerably to the general effect. Especially noteworthy for their large size and for the splendid crops they annually produce are two fine fig trees that occupy one of the structures devoted to these luscious fruits. At either end are span-roof houses of moderate dimensions that are placed at right angles to the houses forming the range, and devoted to plants of various kinds. Carnations are strongly represented, and in the structures wholly devoted to them the health of the plants and the abundance and high quality of the flowers prove to demonstration that Mr Simmons is a past master in their cultivation, as in the case of other classes of plants. In front of the glass structures there is a breadth of turf, with beds of roses. On the opposite, or south, side of the broad walk that extends the whole length of the range of glass is a broad border, some hundreds of yards in length, that is separated from the vegetable quarters by a closely-cut hedge, and filled with hardy perennials in great variety and in the best possible condition.

Near the principal entrance, and on the outer side of the wall is a garden reserved for the younger members of the family, and it would appear from its condition that they fully appreciate the opportunities they have for indulging their taste for gardening. The boundary on one side is formed by a rustic trellis, over which the charming Dorothy Perkins spreads with its customary vigour, and annually produces a wealth of flowers.

The principal range, as may be assumed, is chiefly devoted to grapes, peaches, and nectarines, and in the cultivation of these Mr Simmons is not less successful than in the production of outdoor fruits and vegetables.

George Gordon.

PAVED WALK AND WALL WITH ALPINE PLANTS BY THE LAKE SIDE, RUFFORD ABBEY.

POTTING COMPOST FOR PERPETUAL CARNATIONS.

As the result of considerable experience I am a great believer in a plain simple compost. It is certainly not the most elaborate recipe that makes the best and most sustaining dish for the table, nor is it the most elaborate mixture of soils which produces the best perpetual carnations. There is no excuse for using a little of everything just because you happen to have it handy. A good cook knows his dishes, and a good gardener should know his plants, and it is never wise to add anything to the potting compost unless there is a good reason for so doing, and it is a necessity for the plant. Nature believes in simple foods, and as yet there is no better guide.

Loam we dealt with quite recently, and there is little, if any, difference of opinion on this matter. That of a semi-sandy texture is best for carnations.

Leaf-mould is one of those materials which has its place, but it should not be in carnation compost. I know full well many will disagree with me, but in this matter I can speak with authority, having a knowledge of what the best carnation growers in England and America think regarding it. We all know the effect leaf-mould has upon the soil and growth of plants, and we also know that anything which has a tendency to create fungus is opposed to carnations, whilst the soil must be sweet at all times, to encourage and assist a healthy root action; the best friend of leaf-mould will not claim that it does this.

Farmyard manures are required and horse manure is generally preferred for the heavier class of soils, whilst cow manure is strongly to be recommended for those of a lighter texture. I am not in a position to speak of other farmyard manures, but several of them are very strong, and should be used with caution. It is a mistake to have the average farmyard manure too much decayed for carnations. A medium state is best.

Wood ashes can be added to almost all soils with benefit to the carnation, which is a lover of potash. The ashes from burnt garden rubbish are also good, provided the rubbish is burnt systematically, and the ashes taken care of to prevent their becoming wet.

Mortar rubble, lime, and chalk are other essentials to the average carnation compost. Personally, I much prefer mortar rubble, particularly if it is from buildings erected in the days when people did build, and used lime with which to make the mortar used when the clerk of the works was not present, as well as when it was prepared under his eye.

The best sand for potting compost is that of a coarse, sharp grade.

Such parts as charcoal, oyster shell, etc., may be treated as expensive luxuries, and their presence will not be required in the soil by a good grower.

The old practice of mixing artificial manures with the potting compost is rapidly dying out. These are best given as the plant requires them, if, indeed, a carnation ever does require any artificial fertiliser. Yet, in the case of a poor soil, it can be enriched with a little bonemeal or a purely organic manure, some of which are specially mixed for carnations.

All will realise the impossibility of giving any hard and fast rule for the correct potting compost for perpetual carnations owing to the varying degrees of loam met with, yet the following suggestion will be found of considerable service. As previously stated, it is impossible to lay down definite rules for the final potting compost, and one can only made a suggestion to the following effect: To the body of loam add about one-fifth part of farmyard manure, and other materials in accordance with the texture and organic power of the whole.

MONTAGU C. ALLWOOD.

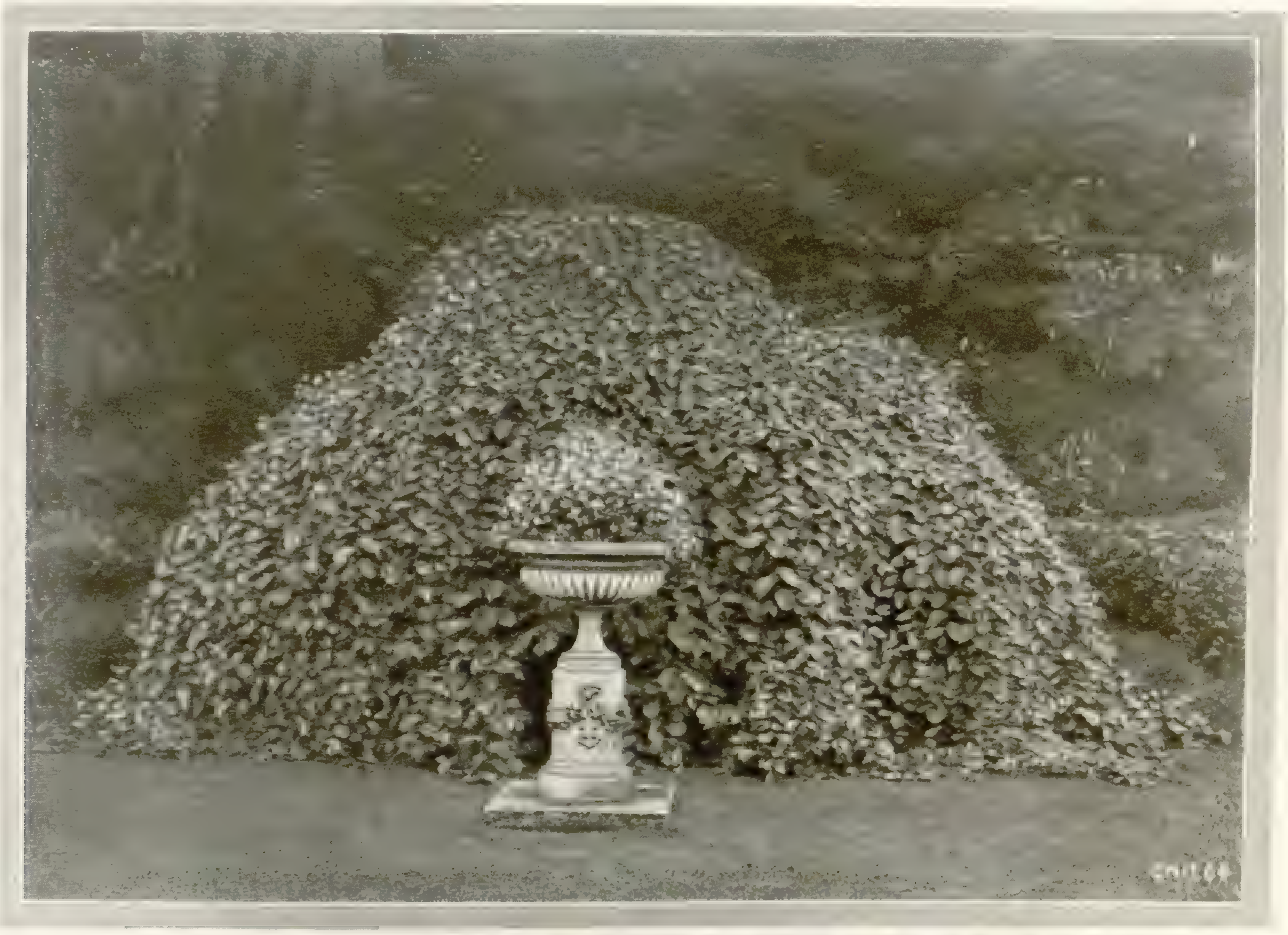
Bush Hill Park.

ERYTHRINA CRISTA GALLI.

This is commonly called the coral tree. The smooth leaves are divided into three, each leaflet being about the size of a bay tree leaf. The flowers are crimson in colour on the inside, with a shading of old gold on the outside; they are hook-shaped, and borne in clusters on the main stem, about halfway up it. Old plants may be cut back, and when new shoots will grow, sometimes half a dozen may be obtained from the same stem. A portion of the latter may be cut up into lengths averaging one inch each, and the pieces inserted in sandy soil in a pot or pan, and placed in a propagating frame. If treated similarly to pieces of dracæna stems young plants can be readily obtained. The young shoots may be rooted as cuttings, when they will soon strike, especially if subjected to a mild bottom heat.

Loam two parts, peat one part, dried cow manure one part, and some coarse sand, makes a good compost. The plants may be grown in the open air during the summer time, but greenhouse treatment throughout is best for them. The uncommon richness of the colour of the flowers is very attractive. GEO. GARNER.

BEST PLANTS FOR GREENHOUSE.—Nearly 300 pages are devoted to the description, propagation, and culture of the best flowers and plants for the greenhouse in THE AMATEUR'S GREENHOUSE, by T. W. Sanders, price 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.



DWARF SPECIMEN OF THE WEEPING WYCH ELM AT THORESBY HALL.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

SEEDLING ODONTOGLOSSUMS.—The raising of odontoglossums from seeds is now so extensively practised that a note concerning them occasionally is necessary. Seedlings that were raised during the closing months of last year, or the early months of this year, should, if they have made normal advancement, require attention and probably removal from the seed beds. The safest period at which to remove young seedlings is immediately they have completed their first leaf, as it is at this stage the first roots appear, and if the young plants can be dealt with at this period they usually push the new roots into the fresh compost quickly, and there is then little danger of the plants suffering any check. Where there are only a few seedlings I would advise that they should be pricked out separately into small thumb pots. Plants can have better individual attention when planted separately than is possible where several are grown together in the same pot. Of course, where there are large numbers of plants to be treated, it is almost impossible to deal with them in any other way than by placing them in store pots. These pots should be clean, and drained to about two-thirds their depth with clean crocks or chopped bracken roots.

THE COMPOST we find most suitable consists of chopped peat, broken leaves, and sphagnum moss in about equal proportions, with sufficient sand added to render the compost porous. It is a good plan to fill the pots first, making the potting compost moderately firm, and watering it, taking care to wet it through. Then let the superabundant moisture drain off by allowing the pots to stand aside for a time before the seedlings are pricked into the compost. It is not always convenient to allow the seedlings to remain on the seed beds until the first leaf has developed, and in such cases they should be removed almost as soon as they commence to show the first leaf. The seed beds often become unsuitable for the young seedlings when about this stage, for it must be remembered that from the sowing of seed right up to the rooting stage the surface of the seed bed has to be kept in a moist condition. This naturally encourages the growth of lichen and mosses, or it may be the sphagnum moss will overgrow the seedlings, with the result that if these are not transferred there is grave danger of their being smothered. A great deal may be done to check this overgrowth of the surface in the early stages, but there is soon a possible risk of disturbing the young seedlings, and I consider if they are once disturbed it is just as well that they should then be transferred to the pots.

VENTILATION. — With a freer use of the ventilators, and more drying conditions outside, care must be taken that the seed beds, especially where there are seedlings in the early stages of development, should not become dry. Given strong light and a dry seed bed, and odontoglossum seedlings will perish. It is a good plan to spray the plants and seed beds overhead once or twice a day in bright weather. The pots on which seeds are sown should also be occasionally dipped, but in doing this care must be observed not to disturb the seeds.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

STEPHANOTIS.—Now that this is going out of flower some of the weaker shoots may be cut out, and if there is not a great deal of room for extension it would be wise to cut back a good many of the shoots that have carried flower, to allow for the extension of stronger-growing shoots that are likely to flower later on in the season. Opportunity should also be taken to give the plants a thorough good cleansing if they require it, and this is easily done if the shoots have been trained to strings suspended from the permanent wires.

CLERODENDRON BALFOURIANUM is another plant which blooms fairly early in the season, and when permanently established in the stove it will, in most instances, be over by now. Cut out all old wood that can be spared, and train out the young growths, giving sufficient room between each to ensure the wood becoming well ripened; a plentiful crop of bloom will then result another season.

EXHIBITING.—In many establishments where some exhibiting is done the present will be a very busy and anxious time, particularly where stove flowering plants are to be exhibited during July. Some will need hurrying, whilst others may need retarding somewhat, so as to have as many plants in good condition as possible when the time arrives for them to be staged. Such plants as stephanotis, clerodendrons, bignonias, allamandas, bougainvilleas, etc., must all be very carefully trained so as to have the balloon trellis, or whatever shape they are to be trained to, nicely and evenly covered with flowering shoots; it is not wise to defer this training too long, or the foliage and flowers will not have time to settle themselves into position. Amongst climbing foliage plants Asparagus, Cissus discolor, and varieties of vitis will also need attention in respect to training.

CALADIUMS.—When these have to be exhibited it is also wise to get them staked out some time beforehand, using very fine hazel or green-painted stakes for the purpose; commence by tying out some of the dwarfer leaves round the sides of the pot, allowing the taller leaves to overlap each other a little as they are worked back towards the centre, but be very careful not to pierce the corms with the stakes, or they will be spoiled. A few other plants that may want staking are achimenes, allocasias, anthuriums, bushy crotons, Dracæana Sanderiana, phyllanthus, etc., etc. Wherever possible all the above plants should be gradually hardened off a little previous to being exhibited, as the draughts in an exhibition tent very often make the more tender kinds flag, and, apart from the injurious effect this has on the plants, it may often mean the loss of valuable points in a competition.

GARDENIAS.—Both old and young plants of this very fragrant flower will now be making growth freely. In the case of old plants that may be growing in pits it might be advantageous to cut them back a little if they have gone out of bloom, though, if there is plenty of head room this may not be necessary. In any case, they ought to be thoroughly cleansed, and top-dressed with some good peat and loam; this will help them to make free growth during the summer months. Old plants in pots may be repotted, just pruning them into shape a little afterwards, and keeping them well syringed, when they will break freely. The younger plants that were rooted in the spring should be potted on as they require it, or if it is necesary to replant in pit or bed the present is a good time to do it, and if the sun heat is made good use of, and the leading shoots pinched once or twice, it is astonishing the amount of growth they will make before the autumn.

FIRE HEAT.—From now onwards, for a month or two, dispense as much as possible with fire heat, although if the weather should set in cold and dull do not leave it off too long, or such plants as crotons will soon begin to lose colour.—Thomas Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

LAYERING STRAWBERRY RUNNERS.—It is necessary in order to secure the best results in forcing strawberries to layer the runners as soon as they commence to root, and preparations should now be made for the purpose. The required number of clean 2½ inch or 3-inch pots should be made ready, together with the necessary quantity of loam, which, if too heavy, should be made sufficiently porous by the addition of pulverised manure from a mushroom bed. When preparing the pots place a piece of turf in the bottom of each, and fill them firmly with the compost. Plunge the pots near together in the mulching material, in open positions, or if mulching material is not used, half plunge the pots in the soil between the rows. This will both accelerate root action and lessen labour in watering. Remove the portion beyond the first plantlet on each runner, and secure a youngster with a peg to the centre of the soil in each pot. Subsequently prevent the plants suffering from want of water, damp them overhead in the evening of bright days, and remove surplus runners as they appear. As soon as the plants are sufficiently well rooted, sever them from their parents, and place them upon a bed of ashes in a semi-shaded position in readiness for being shifted into their fruiting pots. For forcing in a general way there is no other variety so valuable as Royal Sovereign, and except to test new ones we use no other. We intend giving the variety George Monro a trial this year, as we have it showing heavy crops of early fruit in open quarters.

EARLY MUSCAT VINES.—Where the fruit is commencing to colour the borders should have needful attention with respect to watering and remulching, so that after the fruit is ripe the atmosphere of the house will not have to be unnecessarily moistened. If the laterals have been afforded ample space, and their sub-growths closely stopped, the colouring process will be satisfactory, provided the leaves are healthy, and are kept clean and free from injurious insects, and a sufficiently warm and buoyant atmosphere is maintained by careful attention to ventilators and heating apparatus; but the consideration to these matters is greatly controlled by the state of the weather, and it is only by close observation and application that one becomes expert in these particulars. It may be said, however, that, as a rule, this grape, while ripening, is not given enough fresh air to enable it to properly colour, therefore, whenever conditions are favourable there should be no hesitation about liberally ventilating the houses.

EARLY FIGS.—As soon as early forced trees in pots are cleared of their fruit they should be gradually inured to free ventilation, both by day and night, and be thus prepared for being plunged outdoors next month in a bed of ashes, placed in a sheltered sunny position. Keep them supplied with water and needful manures, and keep red spider in check by the aid of the syringe. If scale is present on the wood or leaves remove it by the use of a soft soap solution. In the case of trees planted in borders, after their first crop of fruit is gathered, well thin the second crop by removing the fruit nearest the points of the shoots, and keep the fruit selected for the crop well exposed to the sun. Ventilate the house early on bright days, and close it soon enough for the temperature to rise up to 85 or 90 degrees. Promote a moist atmosphere by damping the floors, etc., daily, thoroughly syringe the trees, and give careful attention to watering, applying manures if necessary, and top-dressing the borders with short stable manure.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

CUCUMBERS.—Plants that have been in bearing from an early period will show signs of exhaustion, unless they are regularly top-dressed with a light compost consisting of turfy loam, well-sweetened horse manure, and flaky leaf-soil in equal proportions, and given waterings of tepid liquid manure every week. Regularly tie, top, and train the shoots evenly and thinly over the trellis, and cut the cucumbers as soon as large enough for use, so as to throw all the energy into the plant for the future crop. Syringe morning and early afternoon, and frequently damp the paths and beds during the day.

CUCUMBERS IN FRAMES should be growing freely after the favourable weather we are experiencing. If the temperature keeps up well very little more fermenting material will be required around the sides of the frames after this date. Close and syringe early, duly stopping and pegging the growths out evenly and thinly. Sow more seeds for a supply from August onwards.

TOMATOES.—Make a sowing now for the early winter supply, in pots, using a gritty compost. Raise the seedlings in slight heat, and pot them into small 60-sized pots as soon as possible. From now onwards grow them in a cool, light, airy house or frame, aiming at a strong and sturdy growth; pot on later into six-inch pots, and finally into eight-inch pots, which will be found plenty large enough for this batch. By the time the plants are established in these they should be placed in a deep cold frame or pit, where the lights can be drawn off on all favourable occasions. Treated thus until September it will be found that four or five trusses of fruit are nicely set, at which time the batch must be placed under glass and grown in a medium temperature.

POTATOES are looking remarkably well this season, and in most localities should be advanced enough for the final earthing up to be completed. Proceed first with a thorough flat hoeing, well breaking up the soil previous to the moulding, and, if necessary, give a dressing of soot, lime, or even burnt garden refuse around each plant at the base, as slugs may be found harbouring around the stems. The earthing up should follow, if possible, after rain, when the soil is moist, though the foliage should be dry. If special tubers are required thin the shoots to two or three of the strongest; accomplish this by placing the feet close to the plant and drawing the weak growths and suckers away with the hands.

MARROWS.—These are now fruiting very freely in frames, and to maintain regular supplies top-dress, ventilate, and syringe regularly, cut the fruits as ready, and frequently pinch the points of the shoots. Attend to those growing outside; the protecting material should now be dispensed with altogether.

PARSLEY.—This is an excellent time to sow the main batch of winter parsley; two sowings can be made, one for the open bed and one in a plot facing west, where eventually a frame can be placed over it. Even a skeleton frame, with a simple covering of mats, will ensure a steady supply for the winter. For the open bed sow in drills fifteen inches apart, scattering along the drills, previous to sowing, a quantity of burnt garden refuse, especially if the soil is of a heavy nature.

WINTER GREENS, which will include broccoli, kales, savoys, etc., should be planted out as soon as available spaces are found. In all cases plant firmly, give a good watering, and afford as much room as possible for each plant.—G. Ellwood, Swanmore Park Gardens.

Queen Wasps.—In no previous year have I seen so many queen wasps about as I have this. During the recent spell of very hot weather the wasps were flying about from very early morning until late in the evening. I dare say many readers of the Gardeners' Magazine have also seen more queens than usual. If so, fruit growers must make every reasonable effort to protect their crops later on. I remember one year (about twelve years ago) when it was quite dangerous to go near the walls where peaches and nectarines and plums were growing, on account of the swarms of wasps, for they came literally in swarms and ate through nets and muslin bags, which enclosed ripening figs and other choice fruits. The ventilators of vineries were securely netted, but the nets were removed as soon as possible after the earliest grapes had been cut. In one Black Hamburgh house a damaged bunch or two were left on the vines for a few hours, and some wasp-killing fluid smeared on the berries. In a very short time the wasps clung to these bunches in such numbers as to resemble a small swarm of bees. Whether it was owing to the great numbers that ate the poison and so did not get a sufficient dose, or whether the poison was not deadly enough, the wasps—those not killed by the men—were able to fly away after falling to the floor. But in the spring few queens were seen.—Geo. Garner.

LAWNS.—Those who desire to make a new lawn or bowling green, or to renovate and maintain existing ones in good condition, can have no better guide than "Lawns and Greens," by T. W. Sanders, price 1s. net, by post 1s. 2d.; bound in cloth 1s. 6d., by post 1s. 9d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

GRAND YORKSHIRE GALA AND FLORAL FETE.

(Concluded from page 466).

£10 premier award was won by Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, who secured 114½ points. His best dishes were Muscat of Alexandria and Black Hamburgh grapes, Hales' Early peaches, Lord Napier and Early Rivers nectarines, Kirk's plums, Lady Sudeley apples, Royal Sovereign strawberries, cherries, melons, and Brown Turkey figs; second prize fell to Mr. James Gibson, gardener to the Duke of Portland, Welbeck Abbey, who secured 110 points, and had odontoglossum spikes and pink carnations in his decorations; Mr. Searle, gardener to the Duke of Northampton, Castle Ashby, third, with 97½ points; and Messrs. C. Simpson, Lim., Spurriergate, York, fourth, with 87 points.

Premier place for ten dishes of fruits was also won by Mr. J. H. Goodacre, who led with Muscat of Alexandria and Black Hamburgh grapes, Early Rivers peaches, and Early Rivers nectarine, Royal Sovereign strawberries, Early Green Gage plums, cherries, figs, and apples; Mr. S. Barker, gardener to the Duke of Newcastle, Clumber, Worksop, second; and Mr. C. McPherson, gardener to Baron de Forest, Londesborough Park, Market Weighton, third.

The best six dishes of fruit came from Mr. J. Hathaway, gardener to J. Brennan, Esq., Baldersby Park, Thirsk, who had finely coloured Early Rivers nectarines, etc.; Mr. Doe, gardener to Lord Saville, Rufford Abbey, Ollerton, second; and Mr. Goodacre third. Mr. J. Leadbetter, gardener to Mrs. A. Wilson, Tranby Croft, Hull, scored for four dishes of dessert fruits, and was followed in order by Mr. J. Hathaway and Mr. Goodacre.

Mr. Hathaway had the best dish of six peaches, a fine set of Royal George; twelve cherries. Mr. Doe scored for nectarines with Early Rivers. Mr. T. Bray, gardener to Lady Hawke, Weyhill Park, Tadcaster, had the best pair of bunches of black grapes, showing Black Hamburgh finely; Mr. Hague, gardener to W. C. Cliff, Esq., Meanwood Towers, Leeds, came first for white grapes with Buckland Sweetwater. For strawberries Mr. G. T. Brotherston, Breckenbrough Hall, scored for strawberries, and Messrs. Rivers and Son, Sawbridgeworth, led for cherries with Early Rivers.

Mr. Searle scored in Messrs. Webbs' class of six dishes of vegetables, his New Jewel tomatoes and New Supreme dwarf beans being particularly fine; Mr. W. N. Hague, Meanwood Towers Gardens, second, and Mr. W. Nicholls, gardener to Lady Beaumont, Carlton Towers, third. In Messrs. Suttons' class for a collection of six dishes of vegetables, Mr. J. Gibson, Welbeck Gardens, was a capital first with fine examples of Early Giant peas, Princess of Wales tomatoes, Ideal potatoes, Sutton's Favourite carrots, Magnum Bonum cauliflowers, and Princess of Wales climbing French beans; Mr. Searle second; Mr. Nicholls third.

NON-COMPETITIVE.

The non-competitive displays at York are now very fine and probably provide from one-third to one-half of the total display. On the whole, they are all well arranged, and the quality of the exhibits is very high throughout.

A very beautiful collection of pæonies was the chief feature of a splendid display of hardy flowers made by Messrs. R. H. Bath, Lim., Wisbech; Jean d'Arc, Festiva Maxima, Mdme. Jules Elie, Triomphe de l'Exposition, and Insignis were particularly good. Pyrethrums and perpetual carnations were also well shown. Messrs. Kelway and Son, Langport, Somerset, successfully demonstrated their contention that "the pæony is the fashionable flower," by putting up a glorious lot of single and double varieties in a great variety of colours, and in fine condition. Stanley, Utopia, Pink Domino, Maurice Low, Queen Alexandra, E. T. Cook, Alton Locke, and Kitty Wardell were a few of the most striking single varieties. The pyrethrums were lovely, especially the brilliant crimson and crimson-scarlet single varieties raised by the Langport firm, while sweet peas made a further addition to the display. Sweet peas were largely and finely shown by Miss Hemus, Upton-on-Severn, whose contribution was greatly admired; among her finest things were Zephyr, Paradise Apple Blossom, Zero, Guy Hemus, Evelyn Hemus, Zarina, Maroon Paradise, Paradise Ivory, the brilliant Orange Paradise, and Cerise Paradise.

A boldly-arranged group of Malmaison and perpetual-flowering carnations, rambling roses, and foliage plants came from Messrs. Wm. Cutbush and Son, Highgate, N. The popular varieties of carnations were represented by large, well-grown flowers, and a bloom of Queen Mary was conspicuous by reason of its rich mahogany crimson colour and fine form. Messrs. Jas. Backhouse and Son, Lim., York, exhibited floral designs of quite original character. Good flowers were used with undoubted skill, but the idea of associating wax models of children with the floral emblems struck us as somewhat incongruous. At any rate, the bouquets, chaplets, and other designs in natural flowers appealed to us far more than the models. Superb pæonies, pyrethrums, irises, and a host of other seasonable border flowers were admirably arranged by Messrs. Dicksons, Lim., Chester, whose exhibits are always of great interest. In addition to large vases of bold, gay subjects, were small bunches of such things as sparaxis, heucheras, Phlox amœna, and Papaver nudicaule.

Messrs. Sutton and Sons, Reading, staged in their usual first-class style a collection of well-grown melons and vegetables, among which capital peas, tomatoes, carrots, and asparagus were prominent. Brilliant gloxinias, calceolarias, and begonias afforded pleasing variety, and an additional attraction to a very effective display. The pot-grown fruits staged by Messrs. Thomas Rivers and Son, Sawbridgeworth, were, of course, wonderful examples of cultural skill, and, as the collection embraced the leading varieties of peaches, nectarines, cherries, and a few grapes, the exhibit was one of the features of the exhibition, especially as most of the varieties of the three first-named kinds of fruits were of their own raising.

Pentstemons, phloxes, violas, and pyrethrums were, as ever, well shown by Messrs. John Forbes (Hawick), Lim. The quality of such pentstemons as John Michie, John Lamont, and Ville de Paris was fully demonstrated in the excellent spikes staged by the Northern experts, whose phloxes were also of the best. The rural table decorations, tastefully adorned with sweet peas and foliage, were exhibited by Messrs. Robt. Sydenham, Lim., Tenby Street, Birmingham. Mr. H. N. Ellison, West Bromwich, staged an exquisite lot of greenhouse ferns. Adiantum fragrantissimum, Osmunda palustris Mayi, and Microlepia speluncæ were interspersed among the several varieties of crested nephrolepis, and other choice things.

From Maidstone to York, a goodly journey, Messrs. G. Bunyard and Co., Lim., brought glorious pæonies and a variety of choice herbaceous flowers. The flowers were, in spite of their long journey, particularly clean and fresh-looking, and were of first-rate quality. A blaze of brilliant colour was provided by the Oriental poppies, arranged in the form of a sloping bank, by Messrs. Bakers, Wolverhampton. Oriental King, Royal Scarlet, and Lady Roscoe were among the richest-coloured varieties. Hybrid aquilegias and pyrethrums were also staged by this firm. Mr. C. F. Waters, Balcombe, Sussex, exhibited perpetual-flowering carnations. The rosy-cerise variety, Edith Waters, was worthy of special note, being of good form, size, and colour.

The perpetual-flowering carnations from Messrs. Young and Co., Hatherley, Cheltenham, were fine, and were staged in a light and graceful manner. The standard varieties were supplemented by some promising seedlings, and the new Golden Glory was represented by flowers of pleasing form and distinct colour. Healthy young plants of saleable size were also exhibited. Mr. Elisha Hicks, Twyford, Berks, brought rambling, Tea, and H.T. roses, which he arranged in light and pleasing fashion. Mrs. Aaron Ward, Waltham Bride, Trier, and Mdme. Melaine Soupert were well shown, and Marquise de Sinety was very beautiful. Sweet peas of good quality were nicely arranged by Mr. Charles W. Breadmore, Winchester, whose stand contained the best of new and old varieties.

Messrs. E. Webb and Sons, Wordsley, Stourbridge, occupied a large table, on which were displayed richly-coloured gloxinias and elegant sweet peas, with a varied collection of choice vegetables in front. A number of excellent melons were also shown. That choicest of choice carnations, Carola, was shown in grand form by its raiser, Mr. C. Engelmann, Saffron Walden, Essex, who also had small vases of other good varieties. On a tiered stage, with a pair of wide arches in front, Messrs. E. W. King and Co., Coggeshall, arranged a collection of the choicest sweet peas. Mrs. Wm. King, Dazzler, Clara Curtis, and Anglian Crimson were among the most pleasing.

Messrs. E. J. Batchelor and Sons, Harrogate, put up a good group of nephrolepis and other ferns. Messrs. Gilbert and Son, Dyke, Bourne, showed the double anemone King of Scarlets, and some other attractive varieties of the flower they specialise in. The hybrid zonal pelargonium J. T. Hamilton was represented by a batch of young plants bearing good trusses of brilliant flowers. Messrs. W. H. Rogers and Son, Lim., Red Lodge Nurseries, Southampton, were the exhibitors. A bright group of a new zonal named Jacqueri, and a batch of a good golden calceolaria, Northern Triumph, were set up by Messrs. Walshaw and Son, Scarborough. Both subjects are of distinct and effective character. Messrs. Jas. Backhouse and Son, Lim., York, put up a big bank of carnations, hydrangeas, rambling roses, and liliums, representative of the best varieties of their classes. Messrs. Seagrave and Co., Sheffield, showed a great variety of violas, about seventy of the best in cultivation being included in the collection.

Messrs. Bees, Lim., Liverpool, staged hardy herbaceous flowers, including Anchusa Opal and Dropmore variety, good pyrethrums, and some good plants of the lovely Primula Bulleyana. Messrs. Jarman and Co., Chard, showed zonal pelargoniums, sweet sultans, sweet peas, and a few roses. A fine yellow carnation, Mrs. Townsend, was also staged. Roses and hardy flowers in great variety came from Messrs. W. and J. Brown, Stamford. Messrs. G. Mount and Sons, Canterbury, put up a nice stand of the new rose Lady Hillingdon, which has already been described in our pages.

Orchids were well shown by Messrs. Mansell and Hatcher, Lim., Rawdon, Leeds. The plants arranged in a bank across the end of a tent included several choice odontoglossums, cattleyas, and miltonias, with oncidiums, cypripediums, and other good things interspersed. An extensive exhibit of violas in almost endless variety came from Messrs. Wm. Artindale and Son, Sheffield, whose flowers bespoke expert culture; the front of the stand was draped with the best of the rambling roses.

G. Yeld, Esq., M.A., Burton Lane, York, brought before the public a number of new hybrid and crossbred iris and hemerocallis of his own raising. Lord of June, Porsenna, and Sunshine were fine among the iris, and Hemerocallis Tangerine was an excellent thing of bright orange colour and dwarf habit. A small group of choice orchids was arranged by Messrs. Charlesworth and Co., Haywards Heath. Epidendrum vitellinum majus, Oncidium crispum grandiflorum, and Odontoglossum Ossulstoni were in company with several good varieties of Cattleya Mossiæ. Messrs. Sander and Sons, St. Albans, showed a group of orchids, which included some good things in cattleyas, cypripediums, stanhopeas, etc. A stand of the new marguerite Mrs. F. Sander was also on view.

Messrs. Laxton Bros., Bedford, brought some good varieties of strawberries, including Connoisseur, Profit, Rival, and Bedford Champion. Outside the tents the Messrs. Backhouse had a large and well-arranged group of evergreen and flowering shrubs. Pyramid and standard box, bay, and euonymous were grouped around clumps of rhododendrons, with pillars of ivy and specimen coniferæ appropriately used among and behind the dwarfer subjects, the whole constituting a telling display.

MEDALS AWARDED.

Gold.—Messrs. T. Rivers and Son, Sawbridgeworth, Herts, and also the prize for the premier exhibit in the show, for fruit trees in pots; Messrs. Mansell and Hatcher, Rawdon, for orchids; Messrs. W. Cutbush and Son, Highgate, for carnations, etc.; Messrs. James Backhouse and Son, Lim., York, for shrubs, etc.; Messrs. Webb and Sons, Stourbridge, for fruits, flowers, and vegetables; Messrs. Sutton and Sons, Reading, for fruits, flowers, and vegetables.

Silver Gilt.—Messrs. Clibrans, Altrincham, for flowers; Miss Hemus, Upton-on-Severn, for sweet peas; and Mr. G. Yeld, M.A., York, for hybrid irises and hemerocallis.

R.H.S. Silver Flora.—Miss Hemus, for sweet peas.

R.H.S. Silver Banksian.—Mr. G. Yeld, for irises and hemerocallis.

Silver.—Messrs. W. Artindale and Son, Sheffield, for hardy flowers; Mr. C. W. Breadmore, Winchester, for sweet peas; Messrs. J. Backhouse and Son, Lim., York, for greenhouse plants and flowers; Messrs. R. H. Bath, Lim., Wisbech, for hardy flowers. Messrs. E. J. Batchelor and Sons, Harrogate, for hardy flowers; Messrs. G. Bunyard and Co., Maidstone, for hardy flowers; Messrs. Bakers, Wolverhampton, for poppies, etc.; Messrs. Clibrans, Altrincham, for hardy flowers; Messrs. Charlesworth and Co., Haywards Heath, for orchids; Messrs. Dicksons, Chester, for hardy flowers; Mr. Engelmann, Saffron Walden, for carnations; Messrs. J. Forbes and Son, Hawick, for phloxes and pentstemons; Messrs. E. W. King and Co., Coggeshall, for sweet peas; Messrs. J. Kelway and Son, Langport, for hardy flowers; Mr. C. Waters, Balcombe, Sussex, for carnations; Messrs. Sander and Sons, St. Albans, for orchids; and Messrs. Seagrave and Co., Sheffield, for violas.

Dracæna Bruanti variegata.—Among the green-leaved dracænas, or more correctly speaking cordylines, which are so popular for many purposes, the variety Bruanti is regarded as very desirable, and it is one generally met with in gardens. A variegated-leaved form of this was shown somewhat extensively at the Temple Exhibition, and when well-coloured it is certainly very beautiful, and one I should say destined to be much grown. As exhibited there is a considerable amount of difference in the extent of the variegation, but in all cases it is of a clear yellow disposed longitudinally for the whole length of the leaf. In some examples quite one-half of the leaf is of that tint, and it forms then a very beautiful decorative plant. One desirable feature of Dracæna Bruanti itself is that well-balanced plants may be grown in quite small pots, and in this way they are especially valuable for dropping into some of the smaller-sized jardinieres, which are in many houses freely used. For dark or copper-coloured receptacles the clear variegation of this dracæna will be greatly in its favour. It will doubtless prove to be of as ready increase as the ordinary form, which can be propagated by cuttings of the tops, or the stems cut up into eyes, while the underground rhizomes, or toes as they are popularly termed, are freely produced, and when taken off they quickly form plants.—W. T.

BATH GRAND ROSE SHOW AND GENERAL SUMMER EXHIBITION.
WEDNESDAY and THURSDAY, July 6 and 7.

Classes for Roses—Nurserymen and Amateurs.
Bouquets, Cut Flowers, Sweet Peas, Strawberries, Plants, and Tuberous Begonias.
Entries close Friday, July 1.

For Prize Schedules, etc., apply
B. R. F. PEARSON, Sec.
Office: 17, Argyle Street, Bath.

BECKENHAM HORTICULTURAL SOCIETY GRAND SUMMER SHOW (open) WEDNESDAY, July 13, Floral Fête; numerous attractions. Two Military Bands.
T. W. THORNTON, F.R.H.S., Hon. Sec.
The Library, Beckenham.

CARDIFF AND COUNTY HORTICULTURAL SOCIETY. 22nd Annual Show. SOPHIA GARDENS, CARDIFF. WEDNESDAY and THURSDAY, July 20 and 21st, 1910. Liberal Prizes in every section, amounting in money and plate to nearly £500. Two Programmes of Music each day by His Majesty's renowned 1st Life Guards Band. A Grand Display of Fireworks each evening by Messrs. W. and J. Wilder, Birmingham. Mr. John Studts up-to-date Fun of the Fair, each day. Tents lighted by the Blanchard Patent Incandescent Oil Lamps. Popular prices. Tickets and Schedules may be obtained from the Secretary, Mr. A. MAURICE BAILEY, 24, Duke Street, Cardiff.

PENARTH ROSE SOCIETY'S SHOW,
July 6th, 1910.
Open classes for Roses, Carnations, Sweet Peas, etc.
Band of H.M. Scots Guards.
Schedules, H. A. GERHOLD, Hon. Sec., Penarth.

RICHMOND HORTICULTURAL SOCIETY

The 36th ANNUAL SHOW
On WEDNESDAY, June 29th.
Silver Challenge Cups. Gold and Silver Medals.
Valuable Money Prizes.
Entries close June 22nd.
W. J. COOK, Hon. Sec., Holmsley House, Richmond, Surrey.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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Perpetual Carnation Society.

Postponed from May 19 until June 9, the first exhibition of this society held this year was a great success. The competition was keen in all except the smallest amateurs' classes, and the flowers staged were of remarkably fine quality and colour.

OPEN CLASSES.

In the premier class, for the best group of cut carnations, not less than twelve varieties, arranged on a table space 10ft. by 3ft., the flowers associated with foliage plants or cut foliage, the gold medal offered as first prize fell to Mr. W. H. Lancashire, Victoria Vineries, Guernsey, for a splendid lot of blooms of Enchantress, Mrs. Burnett, Winsor, Marmion, Beacon, Rose Doré, Mikado, Britannia, Robert Craig, etc., all represented by from two dozen to fifty flowers. There were six competitors, consequently this class itself made a splendid display. Mr. C. F. Waters, Balcombe, Sussex, was a very close second, his Rose Pink Enchantress, Britannia, Victory, and Red Lawson being very fine. Mr. A. F. Dutton, Iver, Bucks, came third, and he showed three vases of magnificent blooms of Winsor in his collection.

The American Carnation Society's silver cup for three vases of American novelties was won by Mr. W. Wallace, Eaton Bray, with Delight, Afterglow, and Mayday; Mr. B. E. Bell, Guernsey, second; and Mr. H. T. Mason, Hampton Hill, Middlesex, third. Only a second prize was awarded to the class for British novelties, and this was won by Mr. W. H. Lancashire with Rose Doré, Black Chief, and Emperor. The Covent Garden Bowl and added silver medal for sixty blooms each of two varieties, two dozen of each to be shown in boxes as packed for market, and the rest in vases, was won by Mr. W. H. Lancashire, who had superb blooms of Marmion and White Perfection; there were five competitors, and there was only one prize offered, but Mr. Wallace was highly commended for lovely flowers of Enchantress and Winsor.

In the class for twenty-five blooms of a variety of the Enchantress class Mr. A. Smith, Enfield Highway, led easily with wonderful flowers of his new and splendid blush-pink variety named Empire Day, a variety that will oust Enchantress if it is a good grower; Mr. G. Lange, Hampton, second with Enchantress; and Mr. Bell third, also with Enchantress. For varieties of the Mrs. Burnett class and colour, twenty-five blooms, Mr. Lancashire scored with Mrs. Burnett, Mr. Wallace coming second with Delight, and Mr. Bell third with Mrs. Burnett.

For twenty-five flowers of the Rose Pink Enchantress group Mr. Bell led with a grand vase of Winsor; six entries; Mr. G. Lange, Hampton, second; and Mr. Wallace third. There were six entries in the class for twenty-five blooms of the Lawson or similar varieties, and here Mr. Wallace led with Afterglow in the pink of condition; Mr. Bell second with Autocrat, and Mr. Lancashire third with Afterglow. The best twenty-five blooms of any white variety were fine examples of White Enchantress from Mr. W. Wallace; Mr. G. Lange second with White Perfection. For the same number of any scarlet variety Mr. H. T. Mason, Hampton Hill, led with Beacon; Mr. Bell second with Britannia; and Mr. Wallace third with Britannia; there were seven entries in this class.

The best twenty-five blooms of a crimson variety were of Carola, shown by Mr. Engelmann; Mr. Lancashire second with President, and Mr. Bell third with the latter variety. For any other self variety Mr. Lancashire scored with his Rose Doré, followed by Mr. Bell with Mikado. For a fancy variety Mr. Wallace was to the fore with Bay State, a white variety with rose-red flakes.

AMATEURS.

In the amateurs' and gentlemen's gardeners' section the premier award for a group of carnations in pots fell to Mr. A. Grubb, gardener to C. F. Raphael, Esq., Shenley, who was first with a pleasing association of Marmion, White Enchantress, Britannia, and Rose Pink Enchantress, all finely represented; second prize fell to Mr. Paskett, gardener to E. J. Johnstone, Esq., Burrs Wood, Groombridge; Mr. P. Wilkinson, gardener to Sir Daniel Gooch, Bart., Chelmsford, third. Mr. Paskett secured the gold medal for a display of cut carnations arranged on a space 6ft. by 3ft., and did so with an excellent exhibit of fine flowers, well arranged with asparagus, smilax, etc. Mr. Paskett was also first for six plants, but second to Mr. Grubb for three plants.

Messrs. Stuart Low and Co.'s cup for six dark flowers was won by Mr. Paskett with Black Chief, and in the following class he led for six blooms with Mrs. Burnett. In the class for six blooms of a blush variety Mr. J. Vert, gardener to Lord Howard de Walden, Saffron Walden, won with Enchantress; Mr. Usher, gardener to Sir Randolph Baker, Blandford, Dorset, coming second; and Mr. Grubb third.

In the Mrs. Burnett class Mr. Stuart Robinson, The Oval, Kington, scored with six fine flowers, Mr. Paskett and Mr. Usher coming second and third. For six flowers of a rose-pink variety Mr. Vert, Mr. Usher, and Mr. Paskett won in order as placed, with Rose Pink Enchantress. For deeper coloured flowers Mr. Paskett scored with Afterglow, with Mr. Vert second and Mr. Usher third. Mr. Vert led for half a dozen flowers of a white variety with White Enchantress, very fine; Mr. Usher second, and Mr. Paskett third. Mr. Grubb had the best vase of a scarlet variety, showing brilliant blooms of Britannia; Mr. Vert second, and Mr. Paskett third. Mr. Vert scored in the crimson class with Crimson Glow in fine form; Mr. Paskett second; and Mr. Heeley, gardener to S. Morris, Esq., Stafford, third. For any other self variety Mr. Usher led with Mikado, and for any other fancy he also came to the front with Jessica. For a dozen blooms, not less than six varieties, Mr.

Vert was a good first, followed by Mr. Usher and Mr. Paskett.

In the section for amateurs who do not employ a gardener entirely the chief prizewinners were Mr. K. Fuller, Sominly, Berks; Mr. G. H. Lawrence, Stratton, Godstone; and Mr. W. E. Merrett, Atworth.

In the decorative classes the chief prizewinners were: Mrs. Hammond, 116, King's Road, Chelsea; Mrs. A. D. Ruff, Sharnbrook, Beds; Miss Ivy Crane; Messrs. Clark and Cook, Caristhorpe, Bucks; and Mr. Bell, Guernsey.

NON-COMPETITIVE.

Across the top end of the hall Mr. C. Engelmann, Saffron Walden, put up a fine display of cut carnations. It was a great display, and, of course, Mr. Engelmann's new deep crimson variety, Carola, was a great feature, and finely represented by five large stands. The way in which long growths and buds were associated with the flowers suggests that Carola is a grand grower, and that Mr. Engelmann's stock is not a small one. Enchantress, White Perfection, Mikado, Harvard, Britannia, Mrs. Patten, Helen Gould, and Red Lawson were others finely shown. Asparagus and smilax and tiny ferns were freely used in association with the flowers.

Messrs. W. Cutbush and Son, Highgate, put up an artistically arranged group of carnations, associated with crotons, ferns, and bamboos. The separate varieties were grouped distinctly, either as plants in mounds or in great sheaves of cut bloom. Cecilia, White Enchantress, Helen R. Gould, King Arthur, White Perfection, Enchantress, Robert Craig, The President, and the Old Blush and Lady Coventry Malmaison varieties, were well shown.

Messrs. Stuart Low and Co., Enfeld, filled the large circular centre staging with Malmaison and perpetual carnations and ferns. This also was an elegant arrangement, some of the stands and vases of bloom being well elevated above the general level, while from the high central pyramid arching rods carried bowls of blooms. Lady Grimston, Baldwin, Astarte, Helen Gould, and the new Malmaison variety Princess Juliana, were a few of the varieties shown especially well. The firm also showed orchids and miscellaneous plants.

Mr. H. Burnett, Guernsey, showed good blooms of Marmion, White Perfection, Enchantress, Winsor, and Mrs. Burnett, and staged these in large numbers. Mr. J. Green, March, had a good display, and showed Enchantress well. Mr. Paskett, gardener to E. J. Johnstone, Esq., Burrswood, Groombridge, kept his big group of Malmaison carnations over from the R.H.S. meeting; and Mr. G. Lange, Hampton, contributed a large display of finely developed blooms of popular varieties.

Messrs. G. Bunyard and Co. and Messrs. W. Cutbush and Son had displays of hardy flowers, as at the R.H.S. meeting two days previously.

Medals were awarded to the non-competitive displays as follows: Gold: Mr. G. Lange, Mr. H. Burnett, Mr. C. Engelmann, and Mr. Paskett. Silver-gilt: Messrs. Stuart Low and Co. Silver: Messrs. W. Cutbush and Son, and Mr. J. Green.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, JUNE 7.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair), Sir Albert Rollit, D.C.L., Sir Arthur Church, K.C.V.O., F.R.S., Dr. A. B. Rendle, F.R.S., Messrs. J. Fraser, F.L.S., W. Hales, R. H. Pearson, J. T. Bennett-Poë, M.A., E. M. Holmes, F.L.S., W. Fawcett, F.L.S., and F. J. Chittenden, F.L.S. (hon. sec.).

NOMENCLATURE OF GARDEN PLANTS.—It was reported that the recommendations sent to the Horticultural Congress at Brussels, at which the R.H.S. had been represented by Mr. E. A. Bowles and Dr. A. B. Rendle, had been accepted with scarcely any modifications. These recommendations followed the rules for the nomenclature of flowering plants passed at the Vienna Congress of 1905, with the additions necessary to make them apply to garden varieties and hybrids. They will be published in extenso in due course.

ROSE DE MADERA.—Sir Albert Rollit showed a specimen of the "Rose de Madera" or "Rose de Palo" from Guatemala. The specimen was a woody growth somewhat resembling an open rose about 3 inches in diameter, at the end of a branch about 1½ inches in diameter. These formations are the result of the attack of a parasite, in this case probably a species of phoradendron, on a flowering plant, inducing a considerable development of tissue in the host. Later, the parasite dies, and decays, leaving the tissue of the host intact, showing the impressions where the sucker-like organs of the parasite were in intimate contact with the host. The growths are well figured in Engler's "Pflanzenfamilien," Abt. 1., p. 161.

FUNGUS ON ROOF.—Mr. Hales showed a specimen of a fungus which was growing in quantity, depending from the roof of Chelsea Old Church. Dr. Rendle took it for further examination.

SAXIFRAGA GEUM, ETC.—Mr. John Fraser showed seedlings of Saxifraga geum var. Colvillei, illustrating the great range of variability possessed by seedlings, and the probability of the hybrid origin of some forms. There were 78 seedlings in all, of which some had yet to flower. Of those that had flowered three were like the seed parent, two were hybrid forms of S. umbrosa, 20 were broad-leaved forms of S. geum dentata, two had the primary flowers half-inch in diameter, 17 had creamy-white ovaries, two were like S. geum elegans, and five were like S. geum serrata. Considerable difficulty was often experienced in classifying the forms of this section, since the plants produce two sets of leaves, unlike one another, in the spring and autumn respectively, and botanists had described foliage without reference to the season.

IRIS WITH STANDARDS BEARDED.—Mr. Bowles drew attention to an iris shown by Mr. Perry, a seedling raised by the late Sir Michael Foster, having the spathe valves of Iris pallida, and probably a seedling from that species, but with forked stem. The standards were somewhat drooping instead of being erect, and each had on its upper surface a small amount of bearding similar to that on the falls, but less in extent.

HYBRID PRIMULAS.—Messrs. Veitch, of Chelsea, sent hybrids of Primula pulverulenta and P. Cockburniana, together with the parents for comparison. The series was as follows:

1. P. pulverulenta ♀ × P. Cockburniana ♂ = P. × "Unique," and (2) the reciprocal cross giving P. × Unique and P. × Unique improved.
3. P. Cockburniana ♀ × P. Unique ♂ = P. × "Excelsior." This form has bright flowers nearly approaching P. Cockburniana, but distinct and, like the other two before mentioned, perennial, whereas P. Cockburniana is biennial.
4. P. pulverulenta ♀ × P. Unique ♂ = an unnamed form approaching P. pulverulenta in colour, but of a shade intermediate between its two parents.
5. P. × "Excelsior" ♀ × No. 4 ♂ = an unnamed seedling almost exactly like P. × Unique, and as its history shows the result of combining P. pulverulenta and P. Cockburniana in equal proportions.
6. P. × "Excelsior" ♀ × P. Cockburniana ♂ = an unnamed seedling almost identical with P. Cockburniana, but whether perennial or not has not yet been ascertained.

CHEIRANTHUS HYBRID.—J. S. Arkwright, Esq., of Lyonshall, Herefordshire, sent a hybrid between Cheiranthus Allioni ♀ and C. alpinus. Five or six flowers had been crossed by him in 1908, but only one pod, and from that only one plant, that now shown, had been obtained. The plant, which was very vigorous, being bushy, and measured about 18 inches through, had been flowering for a month. The flowers were bright orange, but not so deep as those of C. Allioni. In the bud they were dark purple, like those of C. alpinus, contrasting markedly with the orange flower. The plant was shown under the name C. × Arkwrightii. It may be readily increased by cuttings.

CROCUS SATIVUS.—In reply to a request for information regarding the cultivation of the Saffron Crocus, Mr. A. W. Hill, M.A., sent the following report:—

The Saffron Crocus is said to have been introduced into England during the reign of Edward III. (A.D. 1327-1377). Two centuries later English saffron was even exported to the Continent, for in a priced list of the spices sold by apothecaries of the North of France, A.D. 1565-1570, mention is made of three sorts of saffron, of which "Safren d'Engleterre" is the most valuable. It was evidently produced in considerable quantities, for in 1682 we find in the tariff of the Apotheke, of Celle, Hanover, Crocus austriacus optimus, and Crocus communis anglicus.

In the beginning of the 18th century (1723-28), the cultivation of saffron was carried on in what is described by a contemporary writer as "All that large tract of ground that lies between Saffron Walden and Cambridge, in a circle of about 10 miles diameter." The same writer remarks that saffron was formerly grown in several other counties of England. The cultivation of the crocus about Saffron Walden, which was in full activity in 1594, had ceased in 1768, and about Cambridge at nearly the same time. Yet the culture must have lingered in a few localities, for in the early part of the 19th century a little English saffron was still brought every year from Cambridgeshire to London, and sold as a choice drug to those who were willing to pay for it.

At the present day, this product is chiefly produced in Spain, the commercial variety distinguished as Best Valencia realising from 42s. to 42s. 6d. per lb. (April 23 last).

According to the latest reports from Spain, supplies are difficult to obtain, and as a large proportion of the bulbs have been destroyed by drought, the outlook for the next crop is serious. A considerable quantity of saffron is annually produced in Persia, but little or none of this finds its way into European commerce.

Birmingham Botanical and Horticultural Society.

The annual show of orchids and early summer flowers was held at the Botanical Gardens on June 8 in fine weather. There was a grand display of orchids, climbing roses in pots, and a capital attendance of visitors, who also enjoyed a ramble among the rhododendrons and the alpine garden, now at their best.

Prizes, in the form of medals, were offered for orchids, carnations (cut), flowering or foliage plants, and violas. The five collections of orchids were the leading feature, and the gold medal of the society was awarded to Mr. W. Waters Butler, Edgbaston, for a splendid display occupying a space of staging 30ft. long by 8ft. wide, and it was most artistically arranged by Mr. R. H. Jones (the gardener), who eclipsed himself by staging the finest collection of orchids ever shown here. Silver-gilt medals were awarded to Messrs. Mansell and Hatcher, Rawdon, Leeds, for a considerably smaller display, distinguished by the richness of the flowers. A similar award was granted to a very good collection from the Right Hon. Joseph Chamberlain's gardens at Highbury, which was effectively arranged by the grower, Mr. J. Mackay. Silver medals were awarded to Sir George Kenrick, Whetstone, Edgbaston, for a collection of miltonias staged by Mr. J. V. Macdonald; and to Mr. R. Fenwick, Edgbaston, for a mixed group.

Messrs. Gunn and Sons, of Olton, were awarded a silver-gilt medal for climbing roses, sweet peas, and Viola cornuta purpurea and V. c. alba; the latter presented a charming little parterre, and was much admired by the visitors. To Mr. George Prince, Oxford, a silver medal was awarded for a brilliant group of decorative roses, in which the good old Austrian Briar stood out in bold relief. To Messrs. Robert Sydenham, Lim., for an excellent arrangement of sweet peas, in their rustic stands, was awarded a bronze medal. Messrs. Bakers, Wolverhampton, were awarded a silver medal for Oriental poppies, pyrethrums, lupins, and violas. Mr. C. H. Herbert, Acocks Green, was accorded a silver medal for a large stand of his unique and popular perpetual-flowering pink, Progress, and two or three seedling pinks of much promise.

A cultural certificate was awarded to George Cadbury, Esq. (gardener, Miss Gertrude Cope), for a hybrid calceolaria, represented by three very large and bushy dwarf plants in pots, evidently suitable for the flower garden, with medium-sized inflorescences, having a yellow ground with brownish-crimson spots. Awards of merit were granted to Messrs. Sander and Sons, St. Albans, for Marguerite Mrs. F. Sander; to Mr. G. W. Miller, Wisbech, for Pyrethrum Queen Mary, a beautiful double, blush-pink variety.

Competitive cut flowers were only represented by violas, of which there was not so large a competition as might have been expected. In the class for twelve violas, distinct, not less than five blooms each, to be shown in shallow vases, Mr. J. Delbridge, Penkridge, won the first prize with very good examples of Agnes Kay, Cream King, Peace, J. E. Erskine, Willie Farmer, Jeannie Houston, Bronze Kintore, Mauve Queen, Isolde, Mrs. Chamberlain, A. S. Frater, and Admiral of the Blues; second, Mr. C. Holder, New Oscott; and third, Mr. H. Anderson, Ivy Lodge, Shirley.

For six varieties, distinct, Mr. H. S. Pratt, Selly Hill, Birmingham, staged very good flowers of A. S. Bastell, Moseley Perfection, Connie Robertson, Mary Burnet, A. S. Frater, and George Dunn; second, Mr. George Tilt, 77, Caruon Road, Erdington; and third, Mr. H. H. Wheldon, Wentworth Road, Harborne.

Liverpool Horticultural Association.

A meeting of the committee and friends of this society and the executive of the Liverpool Auxiliary of the G.R.B.I., met at the Childwall Abbey on the 8th inst. to do honour to Mr. T. Foster, who has rendered fourteen years of valued services as chairman of the association. Mr. W. Mercer presided over the large gathering, all interested in horticulture, and on behalf of those present and some absent friends, presented their esteemed guest with a handsome gold keyless watch as a mark of their appreciation of his excellent work on behalf of the association, together with the earnest wish that he would enjoy his well-merited ease.

Messrs. J. Stoney, J. J. Guttridge, and C. A. Young also bore evidence to the value of their guest's able assistance in the cause of the premier horticultural society of the district. Mr. Foster expressed his thanks, and alluded with much feeling to the many pleasant hours he had worked with them on behalf of the association.

East Anglian Horticultural Society.

The June monthly meeting was held at the Boar's Head Hotel, Norwich, on the 8th inst. Mr. Lewis Smith (Shotesham) was in the chair. The secretary, Mr. W. L. Wallis, stated that the summer outing of the society would be held on July 14, to Flixton Hall Gardens, by kind permission of Sir Fredk. Adair, Bart.

The subject of the evening was an essay competition upon "The Cultivation of the Pear," and three most practical and interesting papers were received and read, after which they were adjudicated upon, and the awards given, 1st, to Mr. C. Matthews, Thorpe; 2nd, to Mr. C. H. Fox, Old Catton; and 3rd, to Mr. J. Ewing, Wye. The president opened the discussion with some pithy practical points, and it was well taken up by Messrs. J. Forder, C. Burtenshaw, J. Powley, W. Coan, J. H. Clements, T. Notley, and other local fruit growers.

There was a splendid show of flowers upon the tables. Mr. F. Williams, gardener to Louis Tillett, Esq., Catton, had some hardy orchids; Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., Cringleford, brought up grand spikes of Primula japonica, and other hardy flowers. Mr. Frank Neave showed pretty aquilegias, as also did Mr. C. H. Fox. Messrs. Daniels Bros., Lim., showed Olearia Gunni covered with blossoms. There were no fruits exhibited, and vegetables were fewer than usual.

Bournemouth Gardeners' Association.

On Tuesday, June 7, under the chairmanship of Mr. J. B. Stevenson, the members met for questions and discussion. A few dates each year are set aside for such a purpose, and it has been found to be a very popular one. So many questions were put down on the slips of paper at the last meeting that it was found impossible to deal with them all, and some were held over to a future meeting.

The following were some of the more important questions asked and discussed: Treatment of Boronias; Cuttings versus Seedlings of Lobelia for Bedding; The Best Six Orchids for Cut Flowers; The Best Way to Summer and Winter Prune Bush Apple Trees, and the Right Dates for Carrying Out the Work; and The Best Six Cactus Dahlias for Cut Flowers. A lengthy discussion followed the introduction of several questions, especially the one on the pruning of bush apple trees.

Before the meeting closed the chairman called the attention of the members to the forthcoming private rose show, to be held on July 1, at Michelgrove House, by kind permission of Walter Childs Clark, Esq., who is generously defraying all expenses. The exhibitors are to be confined to the members of the association and others specially invited by Mr. Clark, who, having invited the members to pay a visit to his garden, kindly added the rose show as a special feature. A hearty vote of thanks to Mr. Stevenson for presiding brought to a close a very enjoyable evening.

United Horticultural Benefit and Provident Society.

The monthly committee meeting of this society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on Monday evening, June 13. Mr. Charles H. Curtis in the chair. Six new members were elected, making a total of 45 for the six months. The death certificate of Mr. A. H. Hobbs was produced, and a cheque for £11 8s. 3d. was directed to be paid to his executor for the use of his daughter, the above sum being the amount standing to the late member's credit. The amount of sick pay since the last meeting was £41 16s. 6d. A member was granted 30s. from the Convalescent Fund to assist him in having a change of air after illness.

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

DISEASED PEACHES.—W. C. F., Renfrew: We are having the matter investigated, and hope to report in an early issue.

SCENTLESS MUSK.—A. W. J., Ecton: So far as our experience goes musk is as fragrant this year as usual. What position is yours growing in?

BROWN SPOTS ON FICUS LEAVES.—G. B., Bournemouth: If you will be good enough to forward specimens of the variegated ficus leaves, showing the brown spotting complained of, we will do our best to solve the difficulty.

BAD GERMINATION OF PEAS.—L. S., Carlisle: We have received numerous complaints of bad germination in culinary peas, and have ourselves experienced some trouble in this direction. In several instances we have had to transplant the comparatively few seedlings raised in one row to make good the deficiencies of a second row. The fault does not lie at the door of any particular seedsman or nurseryman, as we have sown culinary peas from at least four distinct sources, and germination has been bad throughout. The fault lies with the wet season of 1909, and the lack of autumn sunshine; these prevented the seed peas from ripening properly, and vast quantities had to be gathered wet and dried artificially, hence the great loss of vitality and consequent high percentage of failures in germination.

FEEDING TOMATOES.—A. T. S., Yeovil: If one or two trusses of fruit have set you may commence feeding the tomatoes, assuming they have a limited root run. If only a moderate amount of soil has been provided the roots will be showing through the surface, and a good top-dressing of loam and old manure, or loam and a suitable patent manure will be the best method of feeding. Later, when the strain of fruit bearing becomes heavier, weekly waterings with liquid manure will materially assist the plants. The end plants have failed to set their flowers because they are shaded by the adjacent house, or have been allowed to dry at the roots.

BLACKENED CHESTNUT SHOOTS.—M. L., Leicester: The blackened leaves and shoots are due to the low temperature and bitterly cold winds that prevailed some time ago just when the growth and foliage were extremely tender. We have noticed a large number of trees similarly affected, particularly in places where the north and north-east winds came sweeping along a road. Since the recent rains and warmer weather the trees have made new growths, and doubtless your specimens will recover also.

DAHLIAS.—F. E., Colchester: You will find the kind of information you require in "Dahlias and their Cultivation," a useful little work, to be obtained post free for 1s. 2d., or 1s. 8d., from the Gardeners' Magazine office, 148, 149, Aldersgate Street, E.C.

SEAKALE.—P. J., Loughborough: There should be no delay in carefully examining the plantations of young seakale, because it is essential that all the vigour of the plant should go towards making up a stout single crown for forcing during the coming winter. In all probability there are numerous shoots on each plant, and all but the finest and best placed of these should be removed. Hoe between the rows, first giving the plantation a good dressing of soot.

CLEAR SOOT WATER.—C. E. P., Hampton: We have great faith in clear soot water as a useful plant food for either flowering or fruiting plants. Soot water deepens the green of foliage, purifies the white in flowers, and intensifies the bright colours, but the great mistake made in its use are its application at a too early period in the annual growth of the plant dealt with, or its application in a thick, dirty condition. In the latter case the soil becomes clogged and sour, and so the plants suffer considerably. The proper way to prepare soot water is to suspend a peck or two of soot in a canvas bag in a tub of water. The water should stand for twelve house before use. If the bag is of sufficiently close and fine material the water will not be really discoloured.

AURICULAS.—H. C. B., Headingley: We are glad to find that the renewed popularity of the auricula shows no signs of flagging, indeed the exhibitions of auriculas this year have proved that this old florists' flower is obtaining a greater hold than ever upon the flower-loving public, especially among amateurs whose garden space is limited. Both show and alpine varieties are now largely grown in the South, as well as in the Midlands and the North. Although comparatively simple in their requirements, it is very easy to fail in cultivating them successfully, and we would advise the beginner to commence with the alpine varieties and to master their culture before devoting attention to the less vigorous show varieties. It is necessary to repot them annually, and the most suitable period is immediately the flowering season is past. Use a mixture consisting of mellow turfy loam, four parts; leaf-mould and silver sand, one part each, and a sprinkling of charcoal. Shake away the old soil in repotting, put the small plants in three-inch pots, and the others into pots five inches in diameter. Place on the north side of a wall after repotting, protect from heavy rains, and remove to the frame in August. Ventilate freely during autumn and winter when the state of the weather will permit, and at all seasons of the year water carefully.

CUT FLOWERS ON TABLES.—F. H. T., Slough: In the arrangement of cut flowers, whether for the dinner-table or the drawing-room, it is essential to avoid overcrowding on the one hand, or poverty of material on the other, for in neither case is the effect produced satisfactory. In the use of cut flowers there is often a waste through an insufficient supply of foliage with which to form a background, or a base or undergrowth upon which to arrange the flowers. With a moderate supply of suitable foliage and fern fronds, a tasteful and highly effective arrangement can be produced with a moderate quantity of flowers. The primary point in filling a vase or epergne is to make every flower tell, for when this principle is carried out the effect is greatly enhanced, and the flowers economised. To those who are addicted to overcrowding it may be said that so far from a mass of colour being pleasing, it soon becomes wearisome, and palls upon the taste. Another serious mistake is to use too many colours in one design. Two distinct colours are quite sufficient, and these should be chosen to harmonise with each other, and if furnished by the same genus the effect will be more satisfactory. It is desirable also to use flowers of the same character in each receptacle, as, for instance, roses, sweet peas, carnations, and chrysanthemums, of shades of colour that are in perfect harmony. Vases filled with one kind of flower in association with suitable foliage, preferably their own, are invariably satisfactory.

NAMES OF PLANTS.

F. H., Reading.—Choisya ternata.

T. B., Co. Down.—Polygonum bistorte.

H. J. W.—The selaginella is S. cæsia, and the orchid Brassia brachiata.

G. S., Ryde.—Probably Campanula Portenschlagiana; a poor specimen.

A. M. C., Chester.—1, Odontoglossum concinnum; 2, O. excellens; 3, O. ardentissimum.

E. S. W., Brentwood.—1, Selaginella Kraussiana; 2, Lygodium dichotomum; 3, Asparagus Sprengeri.

M. E. J., Wolverhampton.—1, Ranunculus aconitifolius; 2, Centranthus ruber; 3, a young shoot of physalis, and, judging from the breadth of the foliage, it is P. Francheti.

OBITUARY.

◆

MR. H. CANNELL, JUN.

It is with much regret that we record the death of Mr. H. Cannell, jun., the eldest son of Mr. Henry Cannell, V.M.H., which occurred at Swanley on the 12th inst., from blood poisoning. Mr. H. Cannell, jun., has from his youth upwards taken an active part in the management of the business, and, possessing much taste, he devoted a large share of his attention to the department concerned with cut flowers and floral decorations. His wife died a few years since, and he has left a son and daughter. Mr. and Mrs. Cannell and other members of their family have our fullest sympathy in the loss they have sustained.

FLOWER SHOW SCHEDULES.

We shall be obliged if secretaries of societies will forward us a copy of their schedule for the present year.

East Cowes Horticultural Association.—Summer Show in the Town Hall on July 26 and 27; Autumn Show in the same place on November 10 and 11.

Potter's Bar Horticultural Society.—Forty-first Exhibition at Little Heath Wood on July 14.

Potter's Bar Rose Society.—Seventh Exhibition at Little Heath Wood, on July 14.

Bishop's Waltham Horticultural Society.—Thirty-sixth Show, to be held in The Palace Ruins on July 27.

Luton Rose and Sweet Pea Society.—Annual Exhibition is now fixed for July 20, at Wardown Park.

Brighton Horticultural Society.—Rose and Sweet Pea Show, to be held in The Dome and Corn Exchange, on July 5 and 6; Chrysanthemum Show on November 1 and 2.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

DATE.	SUNSHINE.	TEMPERATURE OF THE AIR.			
1910. JUNE 5 TO JUNE 11.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
June 5—Sunday	—	55	53	63	52
„ 6—Monday	3 48	59	55	70	51
„ 7—Tuesday	0 36	60	60	72	55
„ 8—Wednesday .	7 48	68	65	76	60
„ 9—Thursday ...	7 6	70	63	78	56
„ 10—Friday.......	—	60	59	63	59
„ 11—Saturday ...	—	61	59	67	57
Means	(total) 19 18	62	59	69	55

DATE.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
1910. JUNE 5 TO JUNE 11.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
June 5—Sunday	0.04	58	57	54	50
„ 6—Monday......	0.04	58	57	54	51
„ 7—Tuesday......	0.07	59	58	54	55
„ 8—Wednesday.	—	61	58	55	57
„ 9—Thursday ...	0.41	62	59	55	49
„ 10—Friday.......	0.10	62	60	55	57
„ 11—Saturday ...	—	61	59	55	57
Means ...	(total) 0.66	60	58	54	53

Heavy thunderstorm on Tuesday, the 7th, in early morning, and on Thursday, on the 9th, at 2 p.m.

CATALOGUE RECEIVED.

FRED G. WOOD, WALWORTH ROAD, S.E.—An illustrated price list of garden implements and horticultural sundries.

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MARKETS.

COVENT GARDEN.

Flowers.

Business is steady, but there are signs of a very material advance. Supplies are plentiful.

		s.	d.	s.	d.
Adiantum cuneatum	per doz. bun.	6	0	8	0
Anemones	per doz.	1	0	1	6
Arums	per doz.	1	6	3	0
Asparagus	per bun.	1	0	1	6
Azalea, Ghent	per bun.	0	6	0	9
Carnations	per doz. blms.	2	0	5	0
,,	per doz. bun.	12	0	18	0
Cattleyas	per doz.	6	0	10	0
Croton leaves	per bun.	1	0	2	6
Eucharis	per doz.	3	0	5	0
French fern	per doz. bun.	0	6	0	9
Gardenias	per doz.	1	0	2	0
Gladiolus	per doz. bun.	6	0	9	0
Gypsophila elegans	per doz. bun.	2	0	3	0
Iris, Spanish	per doz. bun.	4	0	7	0
Lapagerias	per doz.	1	6	2	0
Lilac	per bun.	1	0	2	0
Lilium auratum	per bun.	2	0	3	0
,, candidum	per doz.	1	0	2	0
,, speciosum	per bun.	1	6	2	6
,, longiflorum	per bun.	2	0	3	0
Lily of the Valley	per doz. bun.	6	0	12	6
Marguerites	per doz. bun.	2	0	5	0
Mignonette	per doz. bun.	3	0	4	0
Odontoglossums	per doz. blms.	1	0	2	6
Pelargoniums	per doz. bun.	4	0	6	0
Poppies	per doz. bun.	8	0	10	0
Roses	per doz.	1	0	4	0
Smilax	per doz. trails	3	0	4	0
Spiraea	per doz. bun.	4	0	6	0
Stocks	per doz. bun.	3	0	4	0
Sweet Peas	per doz. bun.	2	0	5	0
Tuberoses	per doz. blms.	0	4	0	6
Tulips	per doz. bun.	6	0	9	0
Violets	per doz. bun.	1	0	2	6

Fruits.

Supplies are good, and strawberries are coming in well.

		s.	d.		s.	d.
Apples, Tasmanian	per case	9	0	to	13	0
,, Australian	per box	7	0		13	0
Apricots	per box	0	9		1	6
Bananas	per bun.	4	0		10	6
Cherries, Spanish	per box	1	0		2	0
,, French	per ½-sieve	5	0		10	0
Cranberries	per case	6	0		7	0
Figs	per doz.	3	0		8	0
Gooseberries	per peck	2	0		4	0
Grapes, English	per lb.	2	0		4	0
,, Guernsey	per lb.	2	0		3	6
,, Almeria	per doz. lb.	4	0		7	6
,, Cape	per 20lb. box	9	0		14	0
Lemons	per case	10	0		30	0
Melons		0	8		2	0
Nectarines	per doz.	3	0		12	0

Fruits (*continued*).

		s.	d.	s.	d.
Oranges, Murcia	per case	10	0	17	0
,, Navels	per case	10	0	16	0
,, Denia	per case	14	0	20	0
Peaches, English	per doz.	4	0	12	0
Pears, Australian	per package	12	0	18	0
Pineapples	each	2	6	4	6
Strawberries (Southampton)	per bskt.	2	6	5	0

Vegetables.

There are excellent and abundant supplies, met by a steady trade at moderate prices.

		s.	d.	s.	d.
Artichokes, Globe	per doz.	2	6	3	0
Asparagus	per bun.	2	0	18	0
Beans, Dwarf	per lb.	0	8	1	0
Beet	per bush.	2	0	2	6
Cabbages, Spring	per hamper	2	6	3	6
Carrots, new	per doz. bun.	4	0	6	0
Cauliflowers	per doz.	2	6	4	0
Cucumbers	per flat	5	0	6	6
Endive	per doz.	2	0	2	6
Lettuce, Cabbage	per hamper	1	6	2	6
,, Cos	per doz.	1	0	3	6
Marrows	per doz.	4	0	8	0
Mint	per doz. bun.	3	0	6	0
Mushrooms	per doz. lb.	7	6	12	0
Mustard and Cress	per doz. pun.	0	6	0	8
Parsley	per ½-sieve	1	6	2	0
Peas	per pad	4	0	5	0
Rhubarb	per doz. bun.	2	0	3	0
Radishes	per doz. bun.	0	8	0	10
Spinach	per ½-sieve	1	6	2	0
Tomatoes	per doz. lb.	2	6	6	6
Turnips, new	per doz. bun.	6	0	8	0
Watercress	per doz. bun.	0	3	0	6

LONDON POTATO MARKETS.

Supplies are large and the demand slow.

		s.	d.		s.	d.
Bedfords	per ton	60	0	to	65	0
Blacklands	per ton	40	0		60	0
Dunbars	per ton	85	0		105	0
Evergood	per ton	45	0		55	0
Express	per ton	45	0		55	0
Kents	per ton	65	0		70	0
Lincolns	per ton	45	0		75	0
Up-to-Date	per ton	65	0		80	0
Teneriffe, new	per cwt.	6	0		9	0
Jerseys, new	per cwt.	8	0		10	0
Lisbon, new	per case	4	0		4	6
St. Malo, new	per cwt.	7	0		8	0

FORTHCOMING ENGAGEMENTS.

TUESDAY, June 21.—Royal Horticultural Society; Committees meet at 12 o'clock; lecture at 3 p.m on "Fifty Years among Pansies and Violas," by Mr. W. Cuthbertson and Mr. Jas. Grieve.

Oxfordshire Horticultural Society.

WEDNESDAY, June 22.—Royal Agricultural Society's Show at Liverpool; four days.

Stillorgan and Foxrock Horticultural Society.

TUESDAY, June 28.—Isle of Wight Rose Show.

WEDNESDAY, June 29.—Richmond Flower Show.

THURSDAY, June 30.—Birmingham Rose Show.

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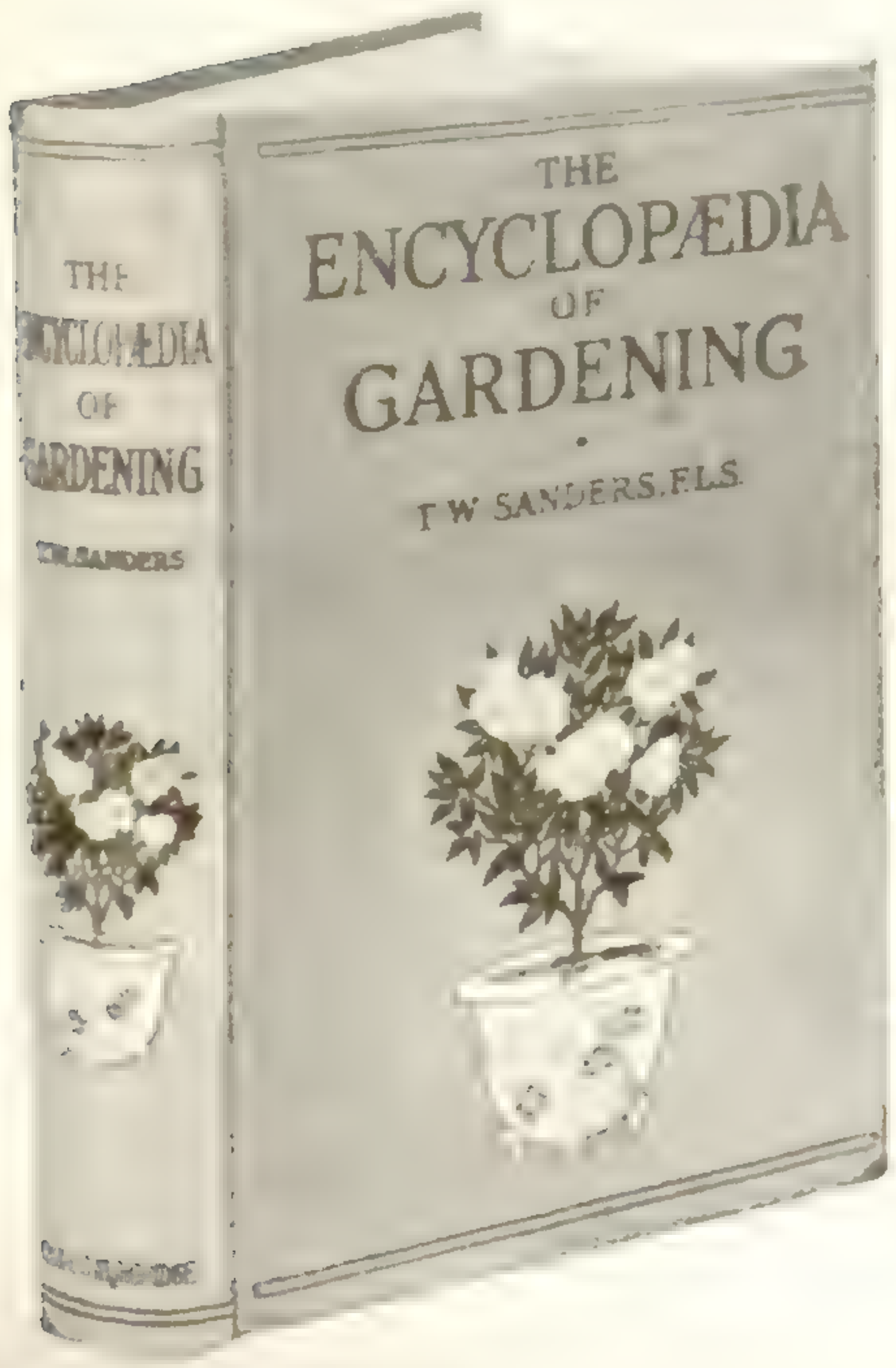

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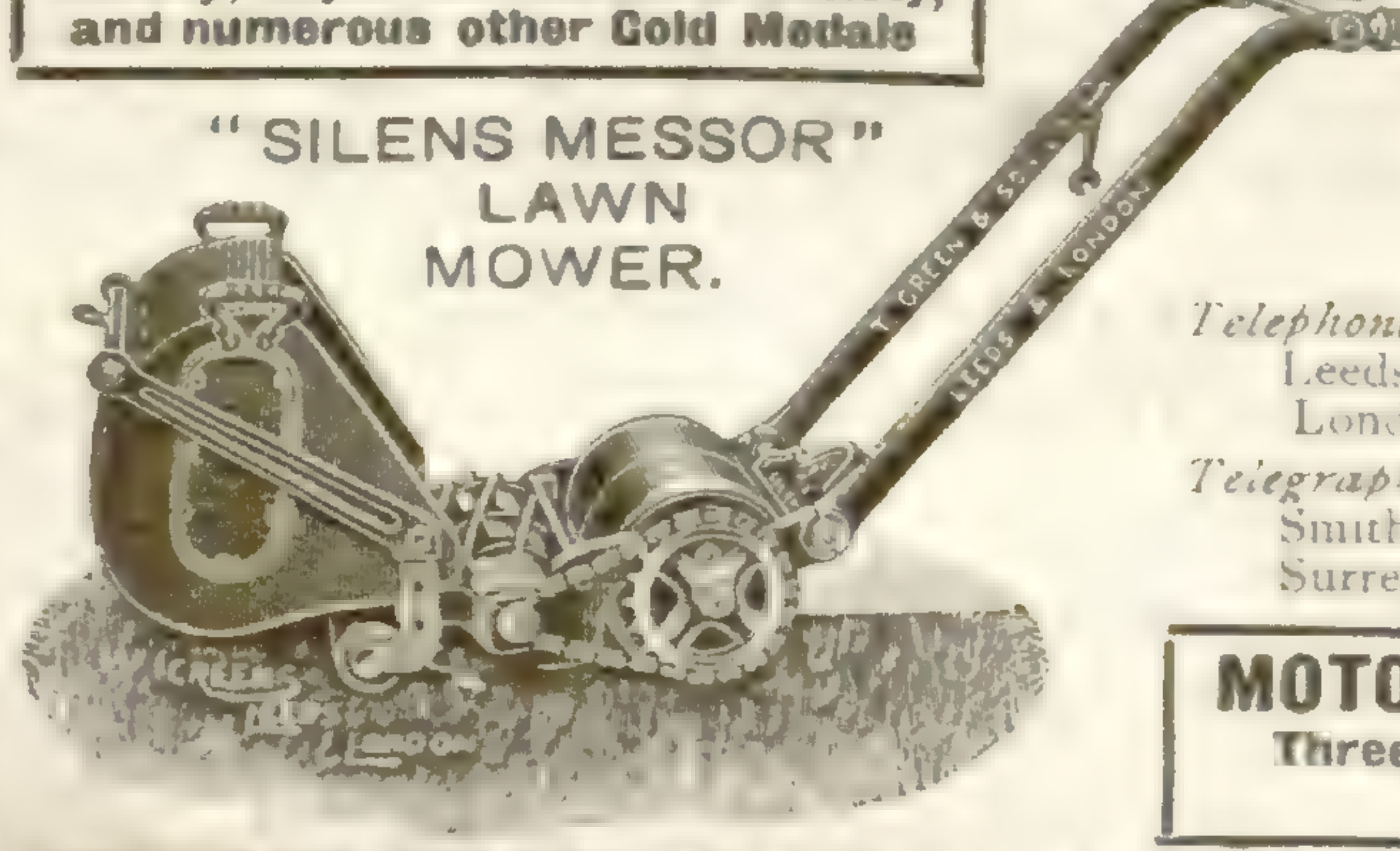

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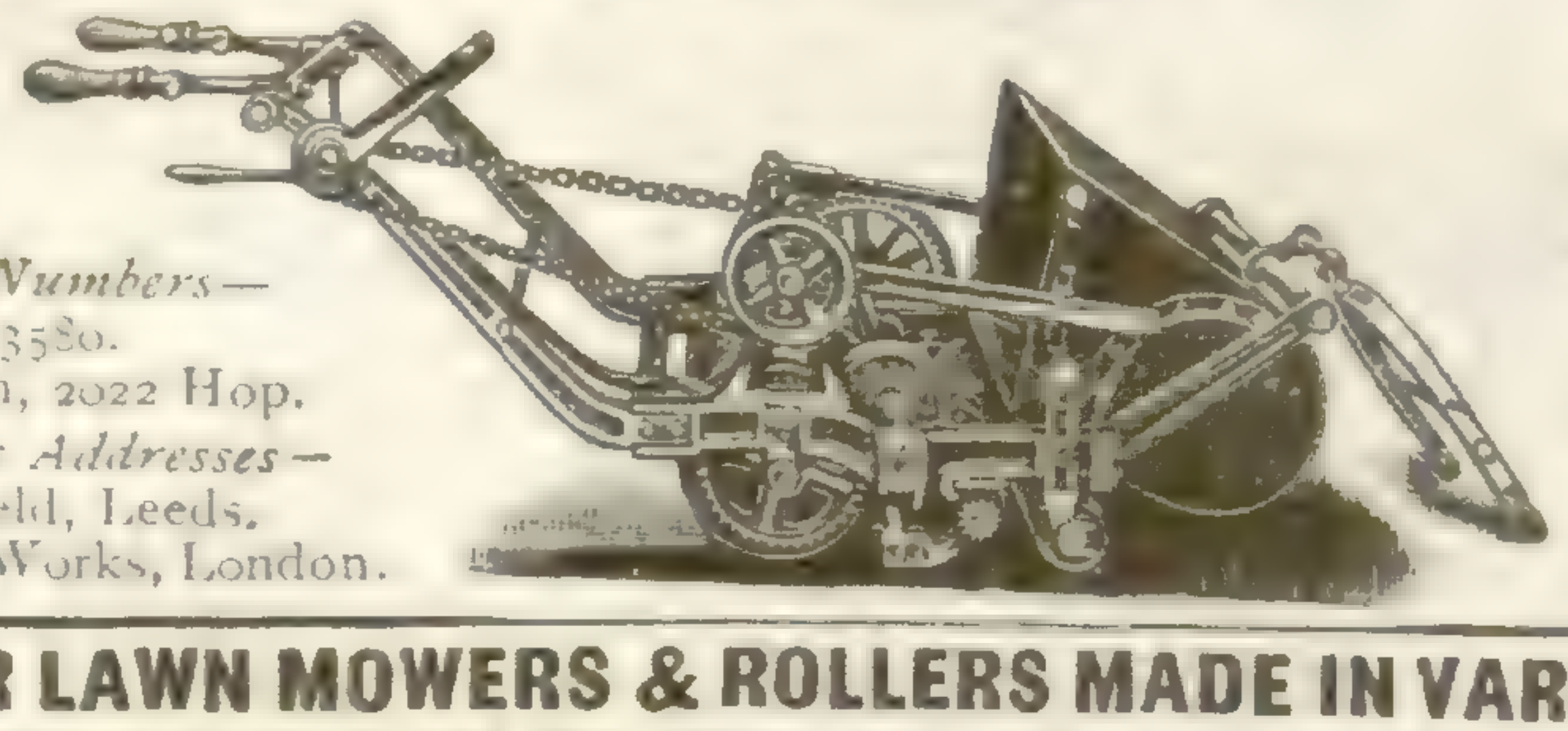

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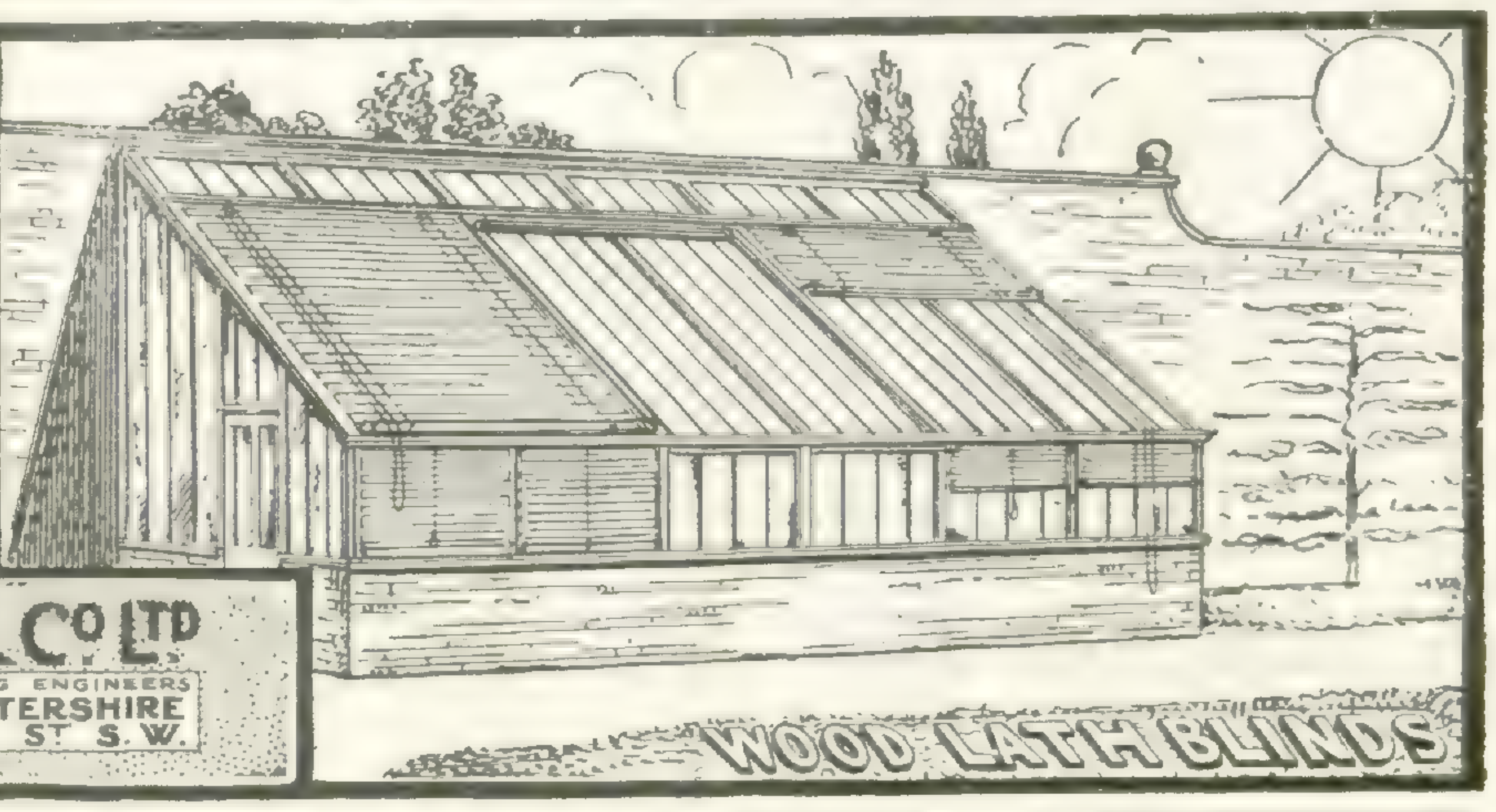

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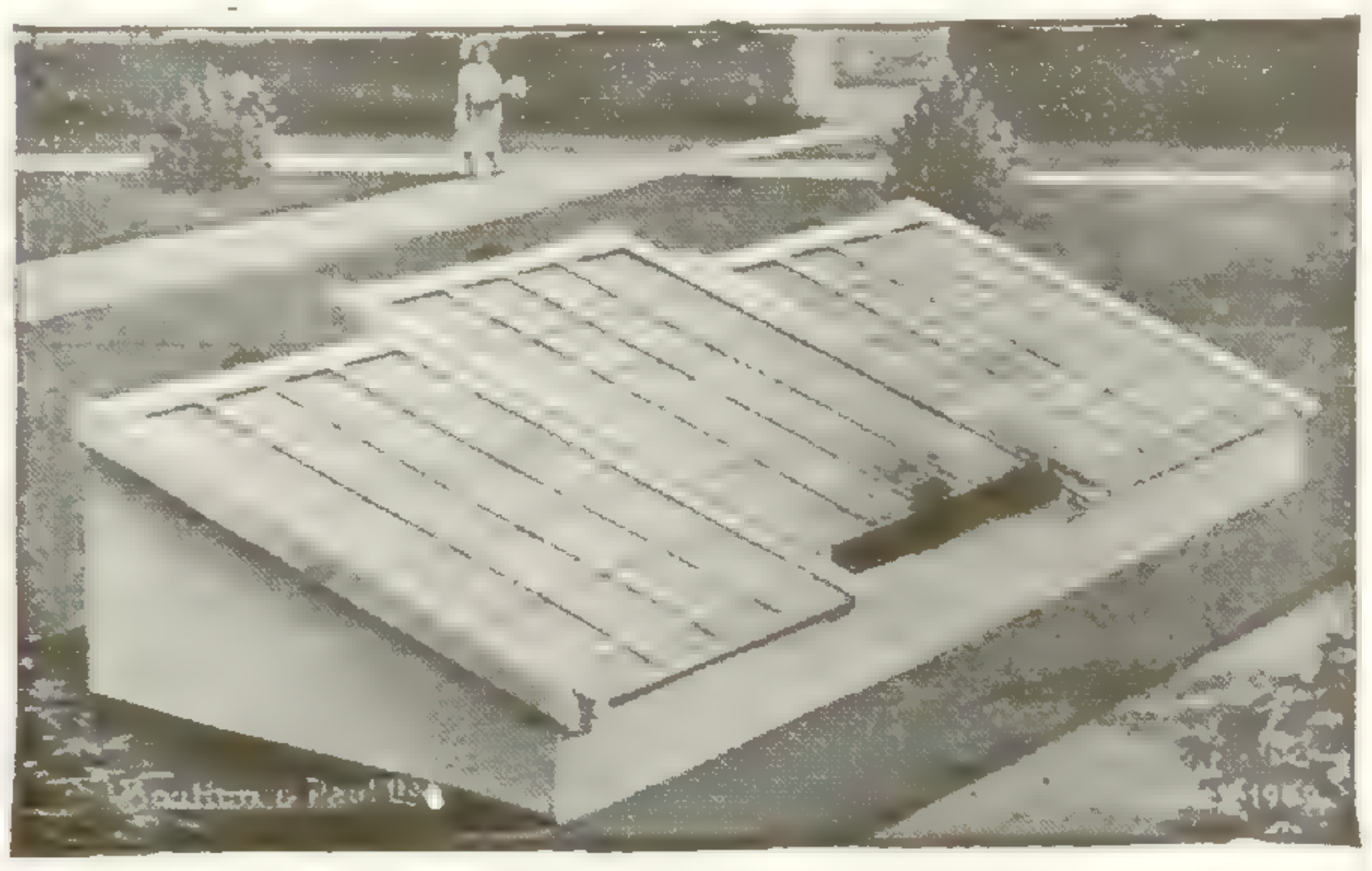

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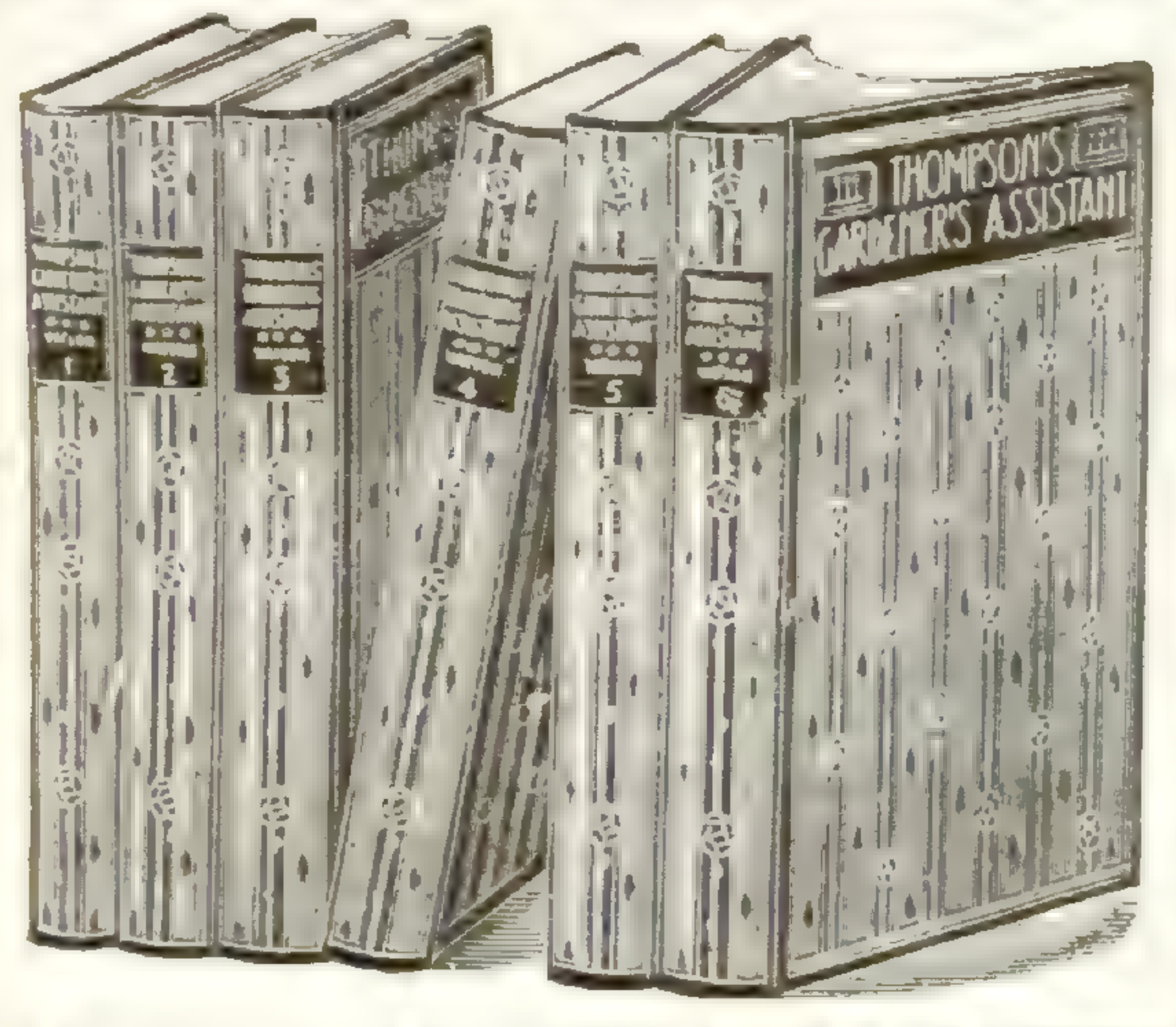

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VOL. LIII.—No. 2,956. SATURDAY, JUNE 25, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

◆

Feeding Crops.

The weather, if not exactly all the cultivator could desire, has this season been so far favourable to planting operations and to advancing crops that active and otherwise satisfactory progress is evident in both flower and kitchen garden. In beds and borders the plants by which the spring flowers were replaced early in the month for the production of summer effects have been so liberally assisted by the rains that they have become well established, and are making such vigorous growth as to suggest that they will at no distant date contribute liberally to the attractions of the flower garden. Herbaceous plants have also derived substantial assistance from the timely and copious rains, and where other conditions have been favourable to their development are yielding freely of their floral wealth, or promising to attain to a remarkably high state of development in due course. If we turn to the kitchen garden we find the various crops that were sown or planted late in the autumn or early in the spring are making equally satisfactory growth, and that those which were raised under glass, and subsequently transferred to the open quarters, have taken root, and are giving ample evidence of their not having experienced any appreciable check in the process of removal. The progress that is being made by vegetation in all departments of the garden should be highly gratifying to the cultivator, inasmuch as it shows that his labours are not failing to obtain their due reward, and we are making reference to it for the purpose of pointing out that where assistance from plant food is required by either ornamental plants or useful crops, the present time affords a favourable opportunity for giving it. Top dressings of artificial fertilisers and applications of liquid manure can be given with much greater advantage when there is a liberal percentage of moisture in the soil, and the roots are in an active state, than is practicable when the soil is comparatively dry and growth is making but little progress. This is explained by the fact that artificial fertilisers quickly dissolve in the presence of moisture, and so readily diffuse through the soil with its aid that their nutrient properties are soon placed within reach of the roots. The conditions are somewhat different in the case of liquids containing plant food, but as so well known to experienced cultivators, liquid manure of all kinds is the most beneficial in its effects when the soil is more or less moist at the time of its application. The condition of the plant at the time of feeding is not less important than the state of the soil, for when food is placed in an assimilable form within reach of the roots when growth is active, it is much more quickly taken up and utilised by the plant than after a period of inactivity of the root system, such as is brought about by an insufficiency of soil water. To ensure the fullest measure of success in plant culture it is essential the progress should be continuous, and where it is considered desirable to supplement during the period of growth the manurial dressings applied at the time of soil preparation, the application should be made without delay. The most suitable fertilisers for present use, and the manner of application will, in a large measure, depend upon the requirements of the particular plants and crops, and consequently their selection and use must be left to the judgment of the cultivator. Liquid manure should be taken full advantage of in the feeding of crops of all kinds, and be used in a moderately diluted state. Speaking in general terms of fertilisers other than those in a liquid state, it may be said that they should be sufficiently rapid in action to enable the plants to take advantage of the assistance they are able to render within a comparatively short period of their application, as the object is not so much to permanently enrich the soil as to feed the present crops. Nitrate of soda and sulphate of ammonia are quick in action, but they are both nitrogenous manures, and the tendency of these to promote excessive leaf development must be constantly kept in view. The best course is to associate with them a phosphatic fertiliser, and the most useful at the present time is that known as dissolved bones, which is moderately quick in action, and is of special value in promoting seed and fruit development, and in the promotion of a strong, firm growth. A dressing consisting of one part of nitrate of soda and two parts of dissolved bones applied at the rate of three ounces to the square yard, and lightly hoed in will be of immense assistance to all crops and plants in need of additional food supplies. Some of the artificial fertilisers offered in our advertisement pages are especially useful as top dressings at this season of the year, containing, as they do, nitrogenous and phosphatic constituents in due proportions, and in a readily assimilable form. Summer bedders will not need help in this direction, but hardy perennials that occupy beds and borders of a permanent character derive much help at this season of the year from a top dressing of artificials of the character indicated, and were this to be regarded as an essential part of their summer management we should see a manifest improvement in their conditions in many gardens. The feeding of fruit trees in a healthy state may be most satisfactorily accomplished at the present time, as the cultivator is in a position to exactly gauge the necessities of each tree. If moderately vigorous, and the crop good, a dressing such as that mentioned above will render valuable aid in bringing the latter to perfection, and in the maturation of the growth. On the other hand, should the crop be light and the tree in a vigorous

MR. H. R. DARLINGTON.

state no dressing should be applied, as it would probably do more harm than good. As a matter of course, the hoe should be in constant use in both the flower and kitchen garden, for the purpose of keeping down weeds and maintaining a loose surface. Weeds are not only objectionable to the eye, but they rob the soil of the plant food it contains, and when allowed to attain to any considerable degree of development, deprive them of a large proportion of light and air, and thereby render full development impossible. Material assistance may be rendered useful crops and ornamental plants of a permanent character by the judicious use of mulching materials, as these will greatly check the evaporation of moisture, and thereby enable the plants to draw freely upon the supplies of plant food within the soil; and should half-rotted manure from stable or farmyard be used, it will serve the double purpose of enriching the soil and conserving the moisture.

Mr. H. R. Darlington has for some years past occupied a prominent position among amateur horticulturists, and in the gardens of his residence at Potters Bar there is ample evidence that he has a strong affection for the more beautiful forms of plant life, and possesses in a marked degree a great breadth of taste in matters horticultural. While fully appreciating the manifold charms of the occupants of a well-furnished garden, Mr. Darlington has given special attention to roses and daffodils, and in the cultivation of these two important classes of flowers he has achieved much success. With daffodils Mr. Darlington has obtained honours at the more important exhibitions, both in London and the provinces, and many must be the awards that have been obtained in spirited contests. As a cultivator of roses Mr. Darlington has obtained a full measure of success, and as honorary secretary of the Potters Bar Rose Society he has done much to stimulate an interest in roses among residents in the district. While growing and loving his roses and daffodils, Mr. Darlington has devoted considerable attention to the scientific side of their culture; and with reference to daffodils he contributed some time since a paper to the Journal of the Royal Horticultural Society on the daffodil fly, whose grubs do in some districts considerable damage to the bulbs. Mr. Darlington has for some years past been an active member of the Council of the National Rose Society and of the Publications Committee of the society, and he has been a liberal contributor to the "Rose Annual"; and in one of his articles in the current issue he shows how well he is acquainted with the species. At the present time Mr. Darlington is engaged in the difficult task of preparing a colour scheme, with special reference to roses, and we heartily wish him success, for it is most desirable that something should be done to ensure a greater degree of uniformity in the description of the varied hues of these flowers.

Changes in the London Parks.—We understand that several important changes in the administration of the parks under the London County Council are about to take place. Mr. J. W. Moorman, so long superintendent of the Victoria Park, retires at the end of the present month, and will probably be succeeded by Mr. Carson, from Southwark Park. The other important changes are Mr. F. W. Wright, from the Embankment Gardens to Southwark Park, and Mr. Warren, from Ruskin Park to Southwark Park. In each case the superintendent rises into a higher position and in a higher grade; most of our readers are aware that the parks of London are divided into first, second, third, and fourth-class parks.

New Roses at Bagatelle.—Mr. Arthur W. Paul, who has been acting as one of the judges of new roses in the gardens of Bagatelle, Paris, kindly sends us the following: "Owing to the unfavourable season or other causes the flowering of the new roses was not very satisfactory, and out of the 69 varieties of 1908-9 submitted for trial none were considered worthy of the two gold medals placed at the disposal of the judges by the city of Paris. The varieties in the best condition on the day of the judging (18th inst.) were: Colonel Leclerc (H.T.), Commandeur Jules Gravereaux (H.P.), Elaine (H.T.), Entente Cordiale (H.T.), Grace Molyneux (H.T.), His Majesty (H.T.), Jules Levacher (Wich.), Lady Alice Stanley (H.T.), Lady Ursula (H.T.), Marie Mascurand (H.T.), Madame Ruan (Pern.), Molly Sharman Crawford (T.), Mrs. Alfred Tate (H.T.), and Senateur Mascurand (H.T.). These received seven or eight marks each, out of a possible ten, and the four following were ultimately selected for Certificates of Merit: Molly Sharman Crawford, Lady Alice Stanley, Marie Mascurand, and Commandeur Jules Gravereaux. Of the varieties of 1909-10 provisionally inspected with a view to adjudication next summer, the following were in the best condition: Beauté de Lyon (Pern.), 10 marks; Jonkheer J. L. Mock (H.T.), and May Miller (H.T.), 9 marks each; and Eugène Boullet (H.T.), Gaston Bonnier (H.T.), Lieutenant Chaure (H.T.), Nathalie Böttner (H.T.), Rena Robbins (H.T.), Theresa (H.T.), Tip-top (Poly.), and William Speed (H.T.), 8 marks each. It was remarked that the fine collection of older plants of weeping, climbing, and other roses in the gardens of Bagatelle, which were in full bloom at the time, also scarcely exhibited their customary vigour of health and growth."

Horticultural Club.—The date fixed for the summer excursion of the Horticultural Club is Saturday, July 30, when, at the kind invitation of N. N. Sherwood, Esq., the members will visit Prested Hall, Kelvedon, his Essex residence. Communications relating to the excursion should be addressed to Mr. H. J. Veitch, Royal Exotic Nurseries, Chelsea, S.W.

Rhododendrons at Regent's Park.—Messrs. J. Waterer and Son's fine exhibition of rhododendrons in the Royal Botanic Society's gardens, Regent's Park, continues to attract a large attendance of interested visitors. The display is a very large one, and, as usual, is composed entirely of flowering plants of various sizes, ranging from two feet to ten or twelve feet high, and all effectively disposed in beds and borders, so as to form a lovely rhododendron garden. Grass borders run round the groups and borders, and there are ample paths between, while, as the garden provides considerable differences of altitude, it is not possible to see the whole at once, and thus at every turn there is a new attraction. The central feature of the display consists of a large conical group of the lovely Pink Pearl, with such fine varieties as Gomer Waterer and the new Alice close by. The brilliant scarlet, crimson, and rosy-scarlet varieties, so many of which are named after a member of the Waterer family, provide grand bits of colour, but the beautiful pink, white, blush, and light purple varieties are even more telling in their setting of deep green foliage. It is no small thing to create a rhododendron garden of these dimensions for exhibition purposes, but not only does the Bagshot firm create it, but maintains it in splendid condition for a full month. Another week remains, and our readers who have not yet done so should make an effort to see these fine rhododendrons so delightfully arranged.

"Botanical Magazine" for June.—The plants figured in the issue of the "Botanical Magazine" for June are Fourquieria splendens, a handsome species of much interest, native of Mexico or Central America; Kalmia cuneata, a beautiful species that has its home in Carolina; Scutellaria violacea, an Indian species, bearing racemes of violet flowers marked with white blotches on the lip; and Cirrhopetalum biflora, a distinct species, with large and showy flowers freely spotted with purple.

Investigation of Sweet Pea Diseases.—A number of members of the National Sweet Pea Society having experienced considerable anxiety on account of the obscure maladies known as "streak" and "yellowing," the General Committee has appointed a Special "Disease" Sub-Committee to obtain information, with a view to ascertaining the nature of the maladies, whether they are directly traceable to fungi or bacteria, and what are the best preventive or remedial methods to adopt. The members of the sub-committee are Messrs. R. Hooper Pearson (chairman), Robert Boxall, M.D., William Cuthbertson, J.P., Charles Foster, G. W. Leak, and H. A. Perkin. It is proposed to include in the inquiry all diseases or pests that may be found to attack the plants; therefore, members are invited to send specimens of plants which have proved unsatisfactory, for examination and report. The Special Committee has been promised the kindly assistance of Dr. F. Keeble, M.A., of Reading, and Mr. F. J. Chittenden, F.L.S., of Wisley, and these gentlemen will examine microscopically all the specimens received. To facilitate the work of the special "Disease" Sub-Committee a set of questions has been prepared. All members of the society are invited to answer the questions, but it is essential that those who send specimens of diseased sweet peas for examination should do so, and enclose their answers, in duplicate, with the specimens. The entire plant should be sent, including the root, and, where possible, duplicate specimens in separate packages should be enclosed, so that they may be easily and quickly forwarded to the experts. Packing should be done firmly, in moist material, and in a strong box, and the packages forwarded, carriage paid, to Mr. R. Hooper Pearson, 41, Wellington Street, Strand, W.C.

Rose gigantea has recently flowered in the Himalayan section of the Temperate House at Kew, the flowers having been developed on the young growths at the top. The specimen was planted at the foot of a pillar fifteen years since, and has grown with great vigour throughout the whole of the period it has occupied its present position. This is the second time this Burmese rose has flowered in England, the first time being at Albury Park, Guildford, the seat of the Duke of Northumberland.

Spraying Fruit Trees with Bordeaux Mixture. In a contribution to the "Journal" of the Board of Agriculture Mr. E. S. Salmon deals at length with the injury that is sometimes done to the foliage of fruit trees sprayed with the well-known Bordeaux mixture. He suggests that in view of the fact that it is practically impossible in this country to keep any considerable acreage of apples free from "scab" or "black spot" without spraying with Bordeaux mixture, and that while the use of this mixture is being followed by complete success in many districts, in others "Bordeaux injury," to a greater or less extent, has followed the spraying, the fruit grower should pay attention to the following details in spraying: (1) Use a "Bordeaux nozzle," which throws a fine "misty" spray; spray the trees lightly, and leave off before the trees begin to drip. (2) Distinguish between the different varieties of apples, giving those which are liable to show "Bordeaux injury" a very light spraying with Bordeaux mixture made of 3lb. copper sulphate, 3lb. quicklime (in lumps), 50 gallons of water; or spray such varieties experimentally with the lime-sulphur wash. (3) Concentrate attention in spraying on those varieties whose leaves get "sooty" with the "scab" fungus, and whose young wood gets "scab"-infested; varieties "resistant" to "scab" do not, as a rule, require to be sprayed. (4) Spray directly the blossom has fallen, and, where necessary, again when the apples are about three-quarters grown. (5) Use freshly mixed home-made Bordeaux mixture prepared from the best freshly-burnt quicklime (in lumps).

Mr. J. W. Anderson, a member of the gardening staff of the Royal Botanic Gardens, Kew, has, we learn from the "Kew Bulletin," been appointed assistant curator in the Singapore Botanic Gardens.

Pyrethrums and Pæonies from Langport.—Some fine blooms of charming varieties of herbaceous pyrethrums and pæonies have reached us from Messrs. Kelway and Son, Langport. Those of the first-named included General French, brilliant crimson; Goring Thomas, soft rosy lilac; Snow White, white, with pale yellow-green disc; Langport Scarlet, vivid crimson-scarlet; Lord Milner, rich reddish rose; and Queen of the Whites, white, all grand single varieties; while among doubles there were fine representations of Evelyn, deep rose with white centre; Source, creamy white; and Lord Rosebery, crimson. Of special merit among the pæonies were Eileen Kelway, cream-white; Mrs. Asquith, an immense flower of a silvery-pink hue; Mrs. Davidson, cream, suffused with rose-pink; British Empire, rose colour, with golden centre; and Queen Alexandra, ivory - white. Messrs. Kelway and Son inform us that they were awarded a silver-gilt medal for their collection of pæonies, delphiniums, and other cut flowers at the York Gala, and not a silver medal, as stated in the official list.

Ryde Rose Show.—The Rev. G. E. Jeans informs us that the observance of Coronation holiday has been changed by the Ryde Town Council from Tuesday next to Monday, the 27th inst., and, in consequence thereof, it has been necessary to change the date of the Isle of Wight Rose Show to the 27th inst.

National Amateur Gardeners' Association holds a large exhibition in the Royal Botanic Society's Gardens, at Regent's Park, on Saturday, July 9, and the show will be open at three o'clock. Valuable prizes and medals are offered, and there will be a military band in attendance.

R.H.S. Hall Struck by Lightning.—We learn that on Wednesday a vivid flash of lightning struck one of the chimney stacks at the Royal Horticultural Hall, Westminster, dislodging a great deal of masonry, but no very serious damage has been done.

ROYAL HORTICULTURAL SOCIETY.

There was a good general display at the Royal Horticultural Hall on Tuesday, June 21, but there was not the crowding of either exhibitors or visitors as at the previous meeting. Novelties were few and not of outstanding importance. Hardy flowers were extensively displayed, and in a number of cases the groups were a mere jumble of flowers, neither care nor taste having been expended in their arrangement.

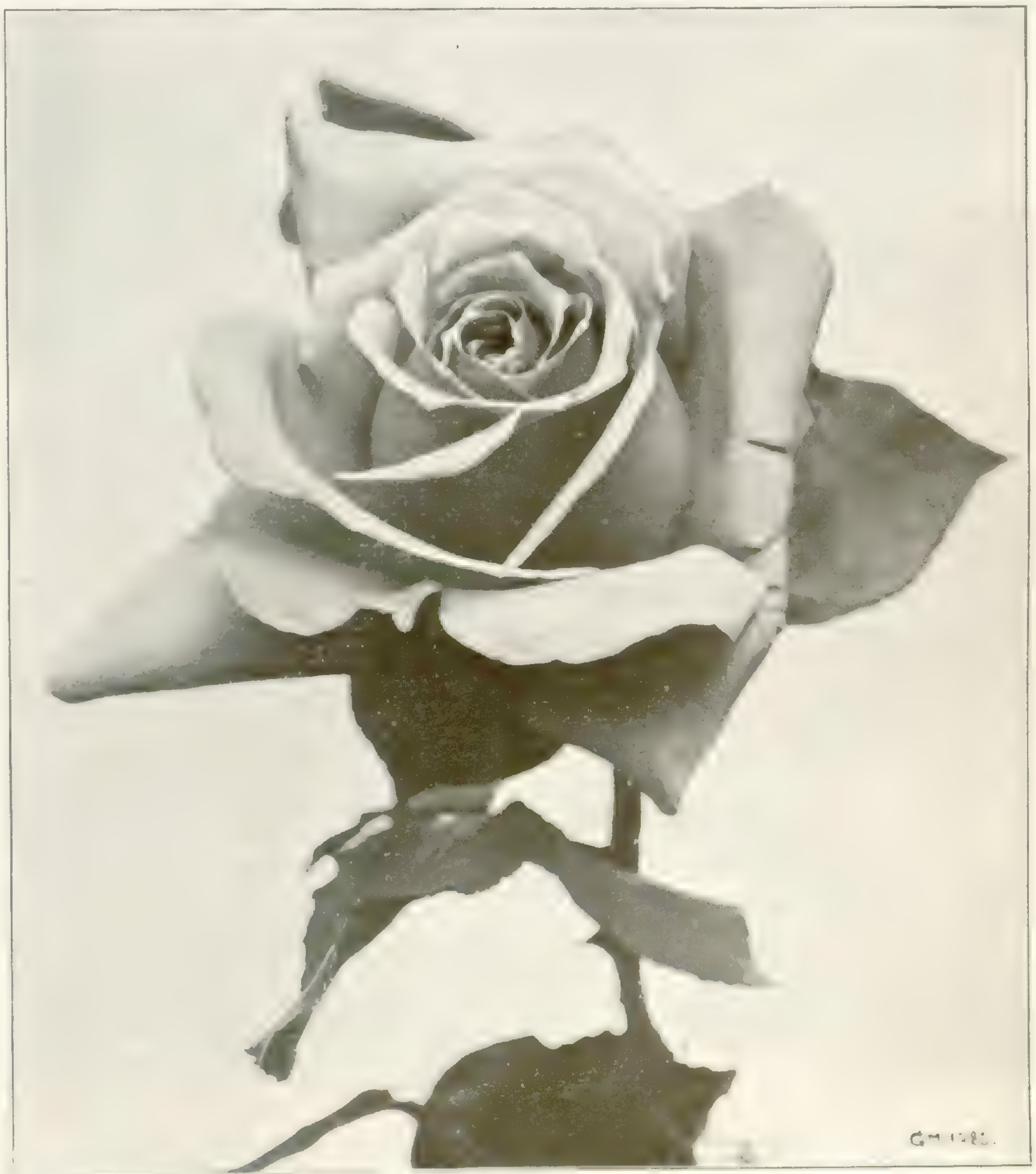
FLORAL COMMITTEE.

Messrs. Barr and Sons, Covent Garden, confined their attention to irises and ixias, and made a charming display with these beautiful flowers; Spanish irises and varieties of I. Kæmpferi were especially well represented.

Messrs. H. B. May and Sons had a very pleasing exhibit of ferns, and these had a cool and refreshing appearance; davallias, nephrolepis, gymnogrammas, and adiantums were the chief kinds shown. The carnations from Mr. H. Burnett, Guernsey, were splendid, especially the fine blooms of Marmion, Mrs. H. Burnett, and Mikado. Messrs. D. Prior and Son, Colchester, had some grand roses, their cut flowers of Lady Ashton, Frau Karl Druschki, White Maman Cochet, Dean Hole, Bessie Brown, and Melanie Soupert being of remarkable size, substance, and colour.

Some giant plants of the yellow Primula imperialis were brought from Penryn by Messrs. R. Gill and Sons, who also had Chrysanthemum maximum Mrs. Leigh, Escallonia exoniensis, and the brilliant Embothrium coccineum. Messrs. James Veitch and Sons, Chelsea, had graceful standard fuchsias rising above batches of gorgeously coloured cannas, perpetual carnations, and the rosy-red Kalanchoe Kewensis Excelsior (A.M.), a very showy plant; the same firm submitted a great variety of English and Spanish irises, the deep blue Prince of Wales standing out conspicuously among the former.

A bank of roses from Messrs. B. R. Cant and Sons, Colchester, was notable for its bunches of Ma Capucine, Mrs. Aaron Ward, Meta, Souv. de Catherine Guillot, Jean Note, and General McArthur. Mr. Amos Perry, Enfield, had a very fine display of pæonies, poppies, and delphiniums, and among the latter we were specially interested in the varieties Amos Perry, Dragonfly, Mdme. E. Zaiser, Pluto, Mdme. V. Geslin, Perfection, Masterpiece, and Persimmon. Iris fulvata (A.M.), purple and green, was sent by Mr. W. R. Dykes, Charterhouse, Godalming; it is a showy hybrid from I. fulva and I. hexagona Lamancei.



H.T. ROSE FREDA.

A beautiful new Hybrid Tea with rich pink flowers. A.M., R.H.S., June 21. Messrs. Paul and Son, Cheshunt.

Messrs. Paul and Son, Cheshunt, brought up a large collection of pæonies, but the flowers showed the effects of the heat; Lady Carrington, Jules Calot, Berlioz, Mdme. Bollet, and Lucy Malard were among the best. A new rosy H.T. rose named Freda (A.M.), and tall red-fruited spikes of Rheum palmatum rubrum were also shown by the Cheshunt firm. Mr. R. C. Notcutt's bright contribution of hardy flowers contained good selections of campanulas, irises, pæonies, and liliums. From Messrs. T. S. Ware, Lim., Feltham, there also came a brave show of hardy flowers, delphiniums and pæonies being the most attractive features. Long-spurred aquilegias, showing a fine range of colour, but with rather small flowers as staged on this occasion, were largely shown by Messrs. Bakers, Wolverhampton. Pansies and violas, representing the finest show varieties, were exhibited by Messrs. Dobbie and Co., Rothesay, who, in addition, had some good sweet peas, their Sun-proof Crimson and the lavender-coloured Ivanhoe each securing an Award of Merit. Turner's Pink Rambler, a rosy pink counterpart of Crimson Rambler, very free, was shown by Mr. Charles Turner, Slough; carnations from the same firm included Lady Desborough, white rose flaked; and Jocelyn, a deep heliotrope border variety.

Mr. A. Allan, gardener to Lord Hillingdon, Uxbridge, put up a large group of well-grown plants of Carnation Nell Gwynne, all well flowered, and the Bronze Flora medal seemed scarcely an adequate award. Mr. T. Waller, gardener to A. C. Hammersley, Esq., Bourne End, Bucks, exhibited a group of the rich yellow Cecilia carnation, the blooms of large size and showing this useful variety at its best. Messrs. Stuart Low and Co., Enfield, displayed Malmaison and perpetual carnations largely, again showing their new Malmaison variety Sunrise, pale buff and pink.

Mr. G. Reuthe's group of hardy flowers contained many interesting things, notably the ixias, pæonies, and irises, but the flowers were all overcrowded. Mr. F. Bouskell, Market Bosworth, Nuneaton, who has been at work improving verbascums for several years, showed the results of a large number of crosses; Ivanhoe, coppery yellow; Caledonia, buff-pink; and A. M. Burnie, pink, were a few of the finer forms displayed. Among the roses shown by Messrs. Frank Cant and Sons, Colchester, there were beautiful bunches of Richmond, Mdme. Abel Chatenay, the single white Una, Mrs. Peter Blair, and Hugh Dickson.

Iris albo-purpurea Colchesterense (A.M.), blue and white, was the feature of a small display of irises, liliums, and ixias from Messrs. R. Wallace and Co., Colchester. In the group of sweet peas from Messrs. G. Stark and Son, Great Ryburgh, Norfolk, good things were Maggie Stark, George Stark Improved, Mrs. Duncan, Aurora Spencer, and Olive Ruffel. Mr. C. Blick, Hayes, had a lovely lot of border carnations, yellow ground fancies being especially well represented by Big Ben, Nicon, Merlin, Pasquin, Nureddin, Jason, Mandarin, Dauntless, Constantine, Linkman, etc.

Sir Albert Rollit, St. Annes, Chertsey, sent up a dozen vases of grand spikes of Lilium umbellatum, a fine lily. The roses from Messrs. William Paul and Son, Waltham Cross, included such lovely varieties of their own raising as Margaret, Portia, Refulgence, Warrior, Bianca, and Alice Cory Wright; the bedding China rose Charlotte Klemm is of splendid colour, and was well shown. Messrs. Kelway and Son, Langport, had a good selection of pæonies and delphiniums, and among the latter their Purple Velvet (A.M.), with large single purple-blue flowers, was conspicuously fine; Queen Mother, True Blue, and Athos were other very handsome varieties. Messrs. R. H. Bath, Wisbech, were also large exhibitors of pæonies.

Mr. W. Smith, gardener to A. Ferguson, Esq., The Hollies, Weybridge, had a large group of seedling delphiniums, in many of which the general colour was blue or purple and the centre white; in others, of a cream or buff colour, the centre was brown or nearly black; Avalanche is a good white. Other contributors of hardy flowers were Messrs. G. Jackman and Son, Woking; and Messrs. Wiliam Bull and Sons, Chelsea.

ORCHID COMMITTEE.

Mr. W. Hopkins, gardener to Francis Wellesley, Esq., Westfield, Woking, brought up the handsome Cattleya Mossiæ Michael and the white C. M. Bansha. Mr. G. Day, gardener to H. S. Goodson, Esq., Putney, showed the old, rare, and blue-tipped Dendrobium Williamsianum, Lælio-cattleya Radiancy, and Odontoglossum Armainvilliersense. Mr. H. A. Tracy, Twickenham, showed the prettily-spotted Odontoglossum Eleanor (cirrhosum and Uro-Skinneri), and Lælio-cattleya eximia magnifica. Some lovely odontoglossums were again brought over by M. Mertens, Loochristy, Ghent. Messrs. J. and A. McBean showed some fine forms of Cattleya Mossiæ. A strong plant of Cattleya Warscewiczi, carrying a magnificent spike of six beautiful flowers, was sent by Mr. James Hudson, V.M.H., gardener to Leopold de Rothschild, Esq., Gunnersbury House, Acton.

Acineta Humboldti, with two pendant spikes of curious flowers, was a prominent feature in the group of orchids set up by Messrs. Stuart Low and Co., Enfield; other notable plants were Oncidium macranthum, Renanthera Imschooteana, Cœlogyne Dayana, Oncidium Lanceanum, O. pulchellum, Dendrobium secundum, and Cypripedium niveum. Messrs. Charlesworth and Co., Haywards Heath, had a pretty group of orchids, in which Bulbophyllum virescens, with a pendulous umbel of large spidery green flowers, was conspicuous; Lælio-cattleya Canhamiana alba, Odontioda Charlesworthi, Zygocolax Charlesworthi, Miltonia Hyeana, and odontoglossums.

Mr. W. H. White, orchid grower to Sir Trevor Lawrence, Bart., Dorking, brought up a fine plant of Odontoglossum Vuylstekei with two spikes of large flowers (Cultural Commendation), and Odontioda heatonense var. St. Vincent, with rosy and white flowers. Mr. Alexander, orchid grower to Sir G. Holford, Westonbirt, Gloucester, showed a fine plant of Lælia tenebrosa Walton Grange var.

FRUIT COMMITTEE.

Messrs. Laxton Brothers submitted fruits of Bedford Champion, Utility, Rival, and Profit strawberries, and evidently all were good because scarcely a fruit remained soon after the committee rose. A new strawberry named Mark Twain from Mr. F. B. White, Donovan Cottages, Old Netley, gained an A.M.; it is an early variety, said to ripen a week before Royal Sovereign.

Peaches, nectarines, and figs in pots, all carrying fine crops of fruit, were shown by Messrs. James Veitch and Sons, Chelsea, the fan-trained example of Duke of York peach carried a fine crop of ripe fruit. Splendidly-fruited cherry trees in pots, from Messrs. G. Bunyard and Co., Maidstone, were greatly admired; Florence, Margaret's, Guigne d'Annonay, Elton Heart, and Montreuse de Mezel were particularly well cropped.

AWARDS OF MERIT.

To Delphinium Purple Velvet, from Messrs. Kelway and Son, Langport; to Iris fulvata, from Mr. W. R. Dykes, Charterhouse, Godalming; to Kalanchoe Kewensis Excelsior, from Messrs. James Veitch and Sons, Chelsea; to Sweet Peas Sunproof Crimson and Ivanhoe, from Messrs. Dobbie and Co., Edinburgh; to Iris albo-purpurea var. Colchesterense, from Messrs. R. Wallace and Co., Colchester; to Delphinium Theodora, from G. Ferguson, Esq., The Hollies, Weybridge (gardener Mr. F. W. Smith); to H.T. Rose Freda, from Messrs. Paul and Son, Cheshunt; to Strawberry Mark Twain, from Mr. F. B. White, Old Netley; to Odontioda Vuylestekei Walton Grange var., from Mr. Thompson, Walton Grange, Stone, Staffs.

MEDALS.

Silver Gilt Flora.—Messrs. R. H. Bath, Wisbech, for pæonies; Messrs. D. Prior and Son, Colchester, for roses; Mr. L. R. Russell, Richmond, for stove plants.

Silver Knightian.—Messrs. James Veitch and Sons, Chelsea, for fruit trees in pots; Messrs. G. Bunyard and Co., Maidstone, for fruit trees in pots.

Silver Gilt Banksian.—Messrs. Frank Cant and Co., Colchester, for roses; Mr. Amos Perry, Enfield, for hardy flowers.

Silver Flora.—Mr. C. Blick, Hayes, for carnations; Messrs. Paul and Son, Cheshunt, for pæonies; Mr. G. Ferguson, Weybridge, for delphiniums; Messrs. James Veitch and Sons, for hardy and greenhouse flowers; Messrs. S. Low and Co., Enfield, for orchids; Messrs. Charlesworth and Co., Haywards Heath, for orchids.

Silver Banksian.—Mr. J. Box, Lindfield, for hardy flowers; Mr. H. Burnett, Guernsey, for carnations; Messrs. B. R. Cant and Sons, Colchester, for roses; Mr. A. C. Hammersley, Bourne End, for carnations; Messrs. S. Low and Co., Enfield, for carnations; Messrs. H. B. May and Son, Edmonton, for ferns; Messrs. W. Paul and Son, Waltham Cross, for roses; Mr. G. Reuthe, Keston, for hardy flowers.

Bronze Flora.—Messrs. Kelway and Son, Langport, for delphiniums and pæonies; Messrs. W. Cutbush and Son, Highgate, for hardy flowers; Mr. R. C. Notcutt, Woodbridge, for hardy flowers; Messrs. G. Stark and Son, Great Ryburgh, for sweet peas; Messrs. T. S. Ware, Lim., Feltham, for hardy flowers; Lord Hillingdon (gardener, Mr. A. Allan), for carnations; and the Misses Hopkins, Shepperton, for alpines, etc.

RHODODENDRON VICTORIANUM.

On page 433 of the Gardeners' Magazine "K" refers to Rhododendron Victorianum as a garden plant. Those who do not know the variety should not plant it out in the open garden unless they have a quantity, and do not mind risking a plant or two in order to secure acclimatisation if possible. We cannot grow it here, as the first frost kills it. Perhaps there are some spots where it can be grown out of doors; indeed, I have seen R. Dalhousei growing well near Falmouth, Penzance, and Penryn, but I have not seen it further north; we have tried it and failed. Another R. Nuttalli cross has failed to do well, i.e., Countess of Haddington. This has succumbed during the present spring, and probably the wet autumn and early frosts were answerable for its death. Yet in April, when I was in the west, this plant was really one of the best, if not absolutely the best, out of doors.

Rhododendron Victorianum is an ideal plant for a cold greenhouse, and our plants under such treatment have bloomed well; in fact, they always do, and the temperature of the house is only kept just above freezing-point in cold weather. R. Victorianum appears to me to want exactly the same treatment as R. Edgworthi. We have here, however, several Edgworthi crosses that have stood the winter on high ground.

"K." also mentions R. Pink Pearl, and the fact that it has stood 10 degrees of frost unharmed; this beautiful variety does very well with us, and never has any protection, nor does it appear to want any. Several of the hybrids from R. Aucklandi do equally well without any protection, and the pure white Aucklandi stands out of doors unharmed. R. Mrs. James Shaw and R. Countess of Sefton and others of this type, simply survive, and that is all that can be said for them, as we get but little bloom and the plants are generally badly crippled by the early autumn frosts in October.

W. A. Cook.

Leonardslee Gardens.

Celery.—The note on celery planting by Mr. G. Ellwood, Swanmore Park Gardens, which appeared on page 434 ("G.M." of June 4), contains some useful hints. I am glad he advocates very shallow trenches where heavy soils obtain, and only moderately deep ones in the case of lighter soils. By some cultivators it is considered to be unorthodox to plant celery on the level, or nearly level, ground. I at one time had to deal with a cold, clayey soil, and all my celery plants for exhibition were grown on the level, staked, fed, and earthed up in due season. Then I had to deal with a light rooting medium, and in this case nearly two thousand plants were annually grown, and were entirely satisfactory. I never followed orthodox systems in the cultivation of any kind of plant if I could find a better way, and I am sure that many young inexperienced gardeners do follow them, to their own disadvantage, especially in the case of trenches for celery. Too often we forget to grow our celery in the best portion of the soil—the top. —George Garner.

SPIRÆA ARUNCUS.

One of the finest of herbaceous perennials is the Goat's Beard Spiræa, S. aruncus, a species found widely distributed throughout the Northern Hemisphere, and one that grows to a height of about four or five feet when in a suitable position. The common, strong-growing form is sometimes grown on the rock garden, where it is entirely out of place, and usually suffers considerably. Where there is a combination of rock and water gardening, a suitably moist position and deep soil may often be found for this fine plant, but it is always seen at its best when grown as a lawn specimen, filling a large bed in the pleasure grounds, or creating a picture of foliar elegance and floral grace near water. S. aruncus has accommodated itself to its environment in many parts of the northern half of the world, and in Japan, on the hills, there is a varietal form that rarely exceeds a foot in height; this would, of course, be quite suitable for the rock garden.

In water garden scenery and in woodlands, where there are sheltered and broad-margined walks, Spiræa aruncus is extremely useful and beautiful. It must not be planted in water, nor does it succeed in deep shade; but a moist position and shelter from driving winds it greatly appreciates. Deep rich soil, such as is usually provided for flower beds and herbaceous borders, suits S. aruncus finely, and if the strong growths are sufficiently supported to prevent damage from wind and rain, then the plant amply repays any attention that has been given it by producing great compound panicles of whitish flowers during June and July, the beauty of each inflorescence being greatly enhanced by the semi-pendulous habit of the little spikes that go to make up the panicle. In dry seasons, or on poor soil, S. aruncus should be encouraged by a mulching of manure towards the end of May, and supplies of water or liquid manure previous to and also after the mulching. Careful division of the root masses either in September or in early spring just as new growth commences offers a ready means of increasing stock.

B

[Photo. Miss S. M. Walla

A FINE EXAMPLE OF SPIRÆA ARUNCUS IN AN IRISH GARDEN.

GOLD MEDAL ROSES.

It was in 1883 that the first gold medal of the National Rose Society was awarded, and it was most appropriately granted to Her Majesty, named after Queen Victoria, the first patroness of the society. Since 1883 we have had no fewer than sixty-eight seedlings or sports which have gained this most coveted distinction. We had no gold medal rose in 1884, 1886, and 1888, the intervening years supplying one variety only; but from 1889 up to the present there have been no seasons without gold medal winners, while in 1908 and 1909 we had nine winners each year.

To gain this medal a variety must, or should be, exceedingly good, seeing it is expected to be an advance upon existing varieties and quite distinct. But I wish to call attention to a few of the earlier winners that one can scarcely consider useful or everyday roses. It even seems hard to believe they ever gained such an honour, and those I will name do not recommend themselves to me as roses for general cultivation. Take Edith D'Ombrain, a winner in 1901, for instance; I do not believe any grower will say this is a rose worthy of such a distinction as the N.R.S. Gold Medal. Messrs. B. R. Cant and Sons, also Messrs. Paul and Son, Messrs. W. Paul and Son, and Messrs. Frank Cant and Co. do not even catalogue it in last season's lists, and the lists of these noted growers are very complete. With myself Edith D'Ombrain has been a most disappointing rose, and I cannot say a word in its favour. It is useless except for an occasional show flower, and such are few and very far between. Mildew affects it, the growth is squatty, and the flower is a dirty blush-white.

The three Marchionesses, of Dufferin, Downshire, and Londonderry, are far from being useful roses. Salamander, Mrs. Cocker, and Alice Lindsell are uncertain, while good as Ulster and Mildred Grant are for exhibition, they do not commend themselves to me as useful varieties except for that one purpose.

I am far from wishing to disparage our Gold Medal awards, because the flowers exhibited were undoubtedly good, but the varieties have not turned out so useful as we might reasonably have expected, and I am pleased to note there is now a tendency to hold the medal from anything not quite first class. The addition of a silver-gilt medal, to fill in the wide gap between the premier award and a card of commendation is a happy thought. There was such a wide margin between the two until this new regulation, which comes into force during the present year.

But when we come to such sterling varieties as Mrs. John Laing, Mrs. R. G. Sharman Crawford, Lady Roberts, Mrs. B. R. Cant, Mrs. Edward Mawley (rather tender), Mrs. W. J. Grant, Souvenir de S. A. Prince, Hugh Dickson, Dean Hole, Betty, J. B. Clark, Irish Elegance, William Shean, G. C. Waud, Blush and Crimson Ramblers, with White Dorothy, we find varieties well worthy of the highest awards; and these are only a few of the best that occur to me as I write.

A. Piper.

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AROUND KING GEORGE'S HIGHLAND HOME.

Twice in the year a glory comes over Royal Deeside—the district in which is situated Balmoral Castle, his Majesty's Highland home—which no lover of nature should ever miss beholding. By far the best of these revelations of beauty is the early one, when in late May and early June old Dame Nature decks herself in exquisite jewellery. The chief part of the display depends on the bursting of the leaf buds of deciduous trees, but account must not be lost of the springing of the emerald grass and the flowering of the golden furze bushes that line the hill slopes and the wastes. Even the bare brown fallows where the husbandman is preparing for his season's work add hues and foregrounds rich in tone and contrast. The black-green Scots pines have stood there all the winter in their sombre hues, getting darker if anything, and when the tender yellow-greens of the budding larch come gradually out, they are shown up against a deep setting, especially when the sunlight falls upon them. It is this delicate green of the larch that is the special feature of the spring on Deeside, and at no season of the year is there the same beauty and charm, for the early colours exposed to air and sunlight soon lose their freshness, and tone down to shades that lack the finer loveliness of their first blush. Whatever may be the coign of vantage you take, you see such variety of colour, such blending of shade, and such freshness pervading all as can only be matched at the re-birth of nature, and not always then, for circumstances seem at times, as in the present year, to combine for the production of a perfection within a perfection.

At the base of the scale we have the spruces and firs, their pale green tips contrasting strongly with the dark green of the older part of their branches, and between these and the hesitating hues of the larch there come the brownish greens of the opening birch, a tree well named the "Queen of the Woods." In every season this tree is singular in its grace and bearing. Even when stripped of its scented leaves, the white bark, the slender stem, and supple twigs attract attention the first of any forest growth. But when, as I write, the buds swell to bursting, and the amber tones of the nascent foliage mingles with the dark brown bark of the spray and the silvery white of the bole, you have a picture of unsurpassed loveliness. There are other constituents of the foliar display almost as remarkable as those, were they but the golden-leaved poplars and the "white blown" willows. Nor is there wanting flowers as well as leaf. The maples already hang their yellow-green blossoms from the bough tip, and the snow-white bride's veil of the gean is flung over her head and form.

In the woods I noticed the blossom on the blaeberry bushes—a promise of food for the birds by and bye. And then the woods seem overrun with baby rabbits. Although considered a nuisance by many, one cannot help admiring the little mites as they look at you for a moment, and then scurry off in a panic. All this may be viewed at the present time, and yet closer observation shows that myriads of leaf forms are still coming into being in dense and beauteous array. The blackthorn has yet to put on the fullness of its whiteness, and the rowan and the apple and the chestnut and many more will follow ere the tardy leaves of the oak and the ash, contending between shower and dust, decide whether during the next few months the land will "smoke or soak."

Over all this beautiful picture is the natural pleasure of the inhabitants of this charming country to know that King George and Queen Mary have a strong liking for Balmoral. The castle and grounds are now being renovated by tradesmen and gardeners, and at the present rate of progress the castle will be ready for occupation by the middle of next month, when the Queen and the Royal children are expected. It is expected King George will follow early in August, about the "Twelfth." Indeed, there is the prospect of a visit extending over two months on the part of the King, and to an even longer period by Queen Mary and the Royal children. Queen Alexandra, too, is also expected on Deeside in due course, the impression being that her Majesty will be the guest of her eldest daughter the Princess Royal and the Duke of Fife at Mar Castle, if not resident at Balmoral Castle. W. K.

IRISES BY THE WATERSIDE.

One so often hears the term "waterside irises" mentioned in connection with water gardening that it would seem impossible for one to further emphasise the value and charm of these interesting plants. To my mind we have erred only in that we have not utilised more irises in the embellishment of our pools and watercourses.

The Japanese irises, varieties of I. Kæmpferi and I. lævigata, have certainly attained to a well-deserved pre-eminence as waterside subjects, and greatly though they are esteemed, I would urge a wider appreciation of these most lovely flowers. I do not, however, wish to dwell upon I. Kæmpferi, but to take up a broader outlook, and, incidentally, mention various other irises of note. We might utilise those charming American irises, the versicolor group, for the purpose in hand.

A notable object-lesson has been afforded here by planting varietal forms above and below the water line, with the result that the plants with the roots submerged are stronger, healthier, and freer in bloom. Of this group one may note the type, a rich claret-purple shading to crimson; I. virginica, a fine purple veined with white; I. kermesina, a crimson-red, passing to white at the base of the falls; the lovely I. Hansoni, with its pale mauve standards, and lilac falls waved with white and gold; I. Fosteri, a sterling lilac and purple form, with well-defined lines of yellow and white; and the delightful I. China Blue, a clear soft shade of blue, exquisitely marked with white and gold.

The charming irises of the I. siberica group are grand in the marshy margins by the pools, and assist to fringe a stream in a free, informal manner. The light grassy foliage, and hosts of daintily coloured blossoms, have a peculiar charm for all lovers of this class of plant. One cannot grow all the forms in an average garden, and therefore should confine ourselves to the finest varieties. Of these I especially commend I. orientalis (or sanguinea), a splendid large-flowered violet form; I. Blue King, a fine rich blue of decided merit; I. Snow Queen, a grand snowy white; I. major, a pretty combination of a deep blue and violet; I. Baxteri, a study in blue and white; I. Lady Godiva, white, with pinkish tinge; and the useful I. alba grandiflora, a good white form.

Iris setosa invariably does well near the water, giving very good results in the moist margins, where the purple, white-veined blossoms show to advantage. I. missouriensis, again, may be called into service. Just above the water line this iris grows splendidly, and its delicate colourings look very charming en masse. The noteworthy Chinese I. Delavayi is like the Japanese irises, quite at home in abundant moisture, a habit it shares with the lesser-known Japanese species, I. albo-purpurea, and its varietal form, I. cærulea. There seems a certain affinity about these three, and they blend well together with their shades of blue, purple, and white.

I. aurea, with its strong free growth and showy golden-yellow blossoms is widely grown, and there are few plants better for waterside furnishing. Of its varietal form I. intermedia, a paler, free-growing yellow, I can speak with praise, for it is quite as worthy as its parent. I. Monnieri, a bright clear yellow, very free, and of good appearance, is very effective, and in conjunction with such irises as I. aurea, I. spuria, etc., it has given rise to many fine hybrid varieties. I. monaurea, for instance, is a grand yellow, while the typical Monspur, raised by the late Sir Michael Foster, gives much of the blue colouring of spuria, with the height and vigour of I. Monnieri.

The grand, stately Iris orientalis (or, to give it the more popular garden name, I. ochraleuca) is one of the most notable irises in existence. For freedom and vigour it is unsurpassed, and the large white and yellow blossoms show to great advantage. Its varietal forms include the robust gigantea, Snowflake, a purer white than its parent, marked only with golden spots, and the exquisitely colour sulphurea, a pleasing pale sulphur-yellow.

I. pseud-acorus, the well-known native, is not so free as many of the foregoing, although the growth is so strong. It is worth planting if plenty of space is available, but is surpassed in beauty by its varieties, Bastardi, a pale primrose gem; albus, the rare creamy-white form; and variegata, with its white-lined foliage.

With regard to the irises of the spuria group, I may briefly suggest that they should be included for their shades of blue. They are charming companions for aurea, Monnieri, etc., and contrast beautifully. In addition to the well-known type, one would note A. W. Tait, a good lavender; Celestial, a fine pleasing shade of blue; cærulea, a bright clear blue; Notha, a rich violet; and the sterling white form alba. While there are other irises of note which do well just above the water line, the foregoing will doubtless prove sufficient for the greater number of gardens. For the majority the oft-repeated advice of "sunshine above, moisture below," will be sufficient for a planting guide, as far as the situation is concerned.

As for soil, they revel in a good fibrous loamy medium, to which is added a fair amount of decayed manure. Irises pay for moderate feeding, and on that account should not be planted in impoverished land without manure.

The time of planting is an open question, but, in my opinion, the majority of irises transplant well almost directly after flowering. Having attained their full season's top growth, they can devote their energies to establishing themselves in the new positions before the advent of the winter season.

The past few years have witnessed such developments in the "cult of the iris" that few gardens are now complete without them.

In the making of garden pictures they are superb, particularly the waterside forms. Mark, if you will, the charms of the Japanese irises rising on either side of the stepping stones, or a serried outline of them with a background of light reeds or bamboos. Picture if you will a great swamp bed of irises alone, wherein a myriad hues and shadings form one of the most complete floral harmonies imaginable. A garden of irises is a garden of delight, a source of perennial interest, in spite of the fleeting beauty of the blossoms.

The late Sir Michael Foster typified the interest and charm in his garden at Shelford, and the Japanese gardens at Horikiri, Yoshino-en, and Kabati are noteworthy as showing the Far Eastern appreciation of irises. P. S. Hayward.

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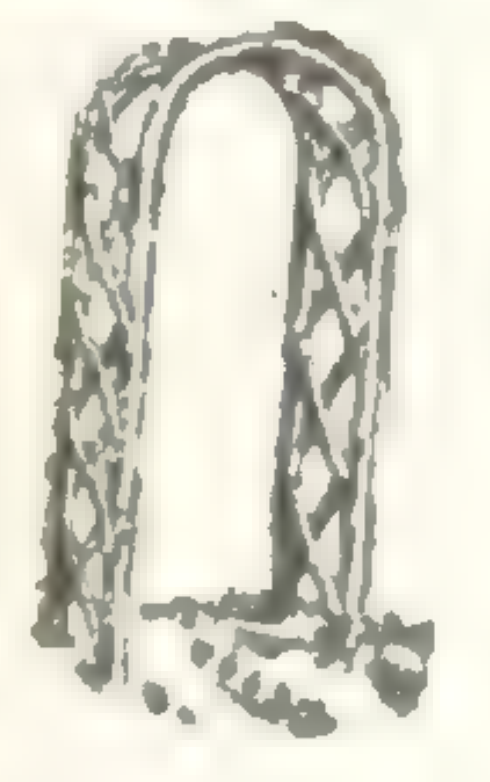

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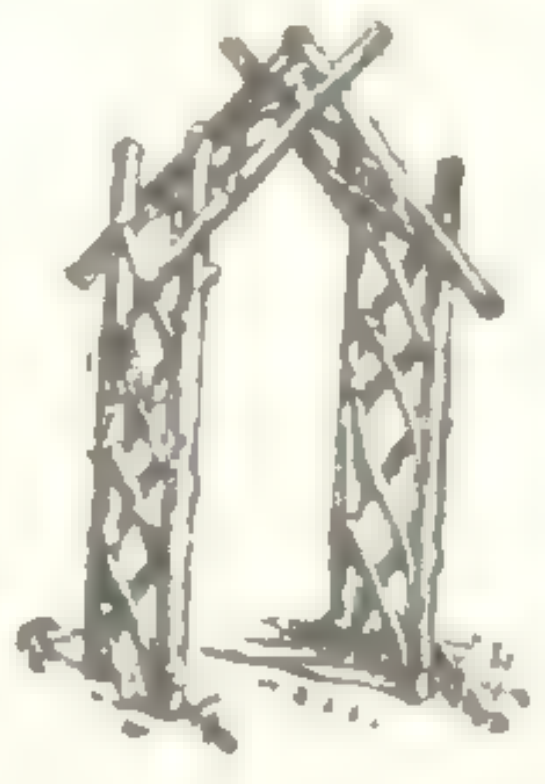

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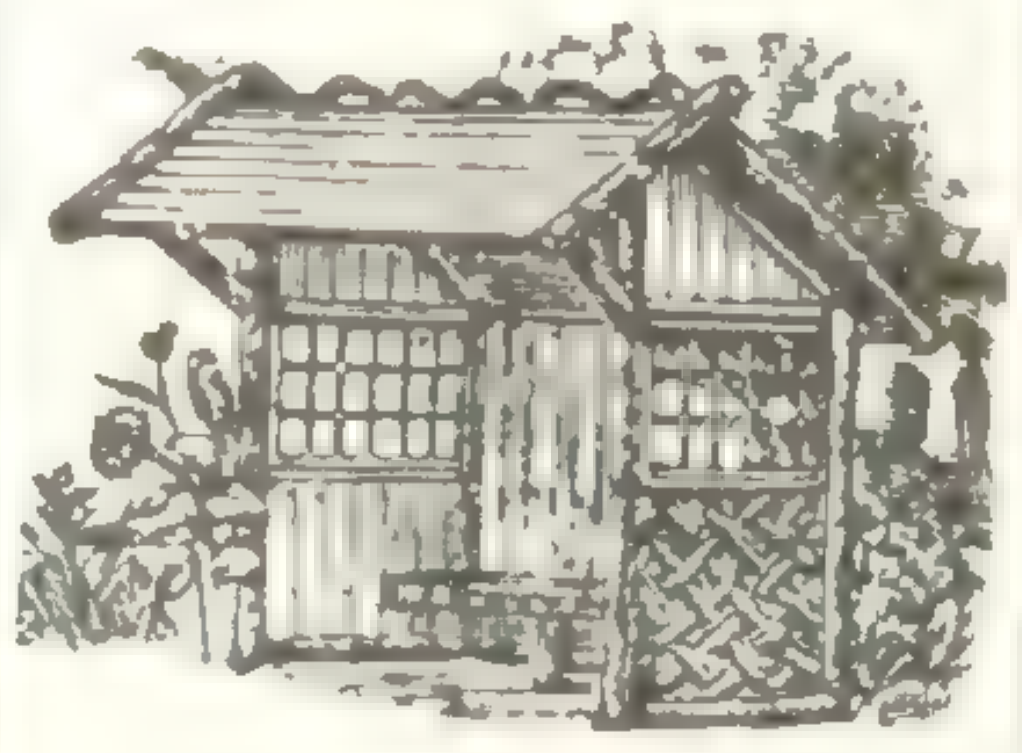

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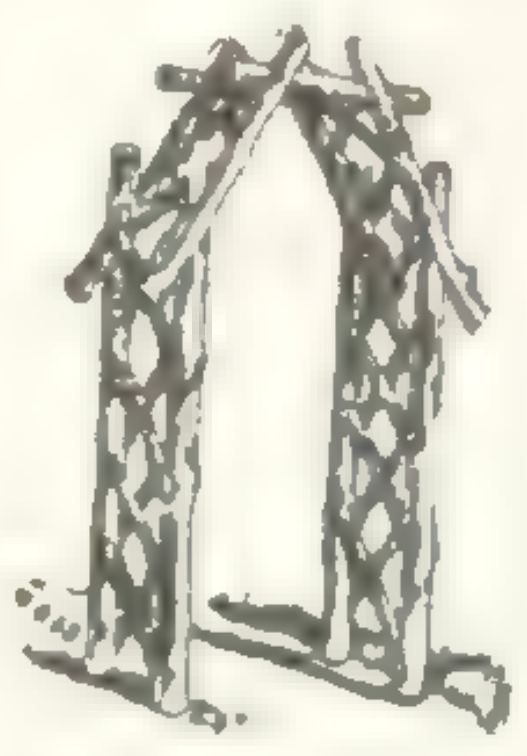

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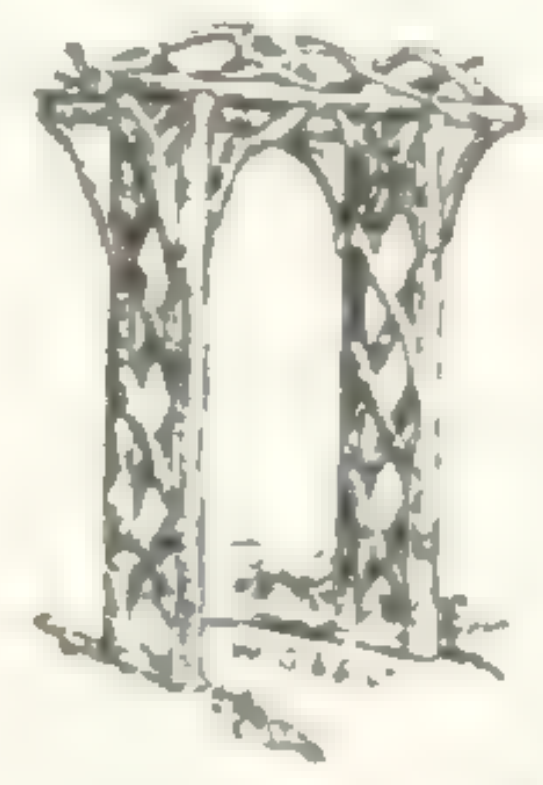

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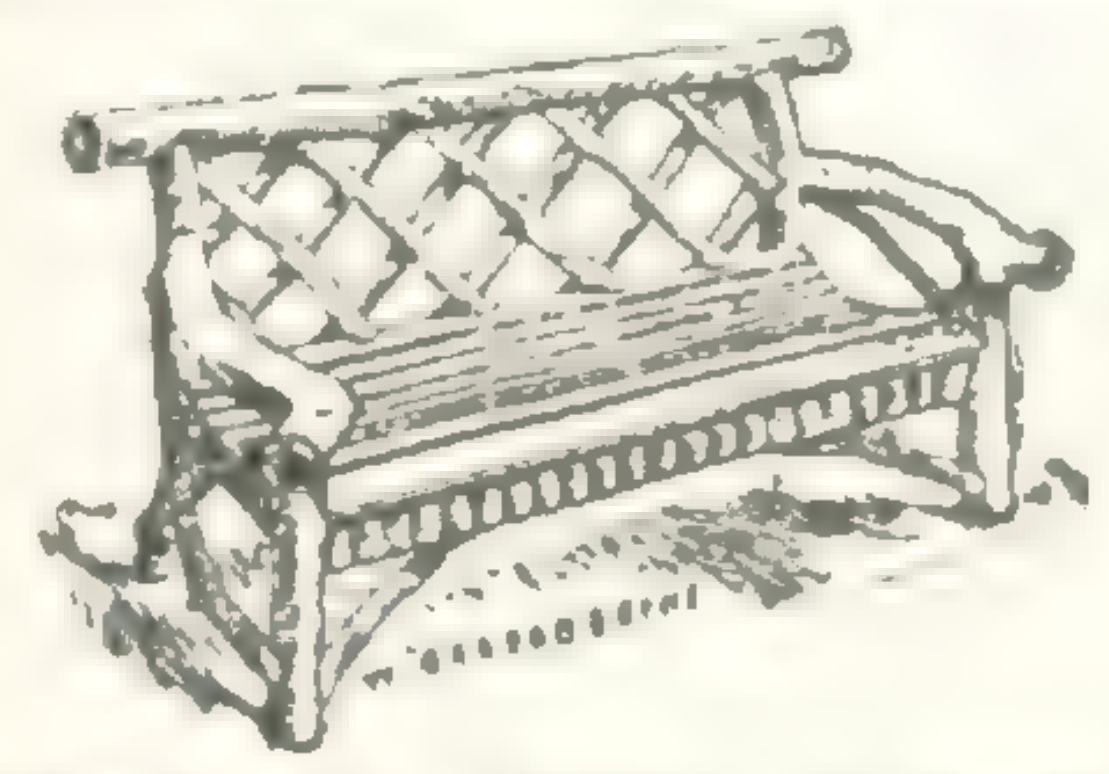

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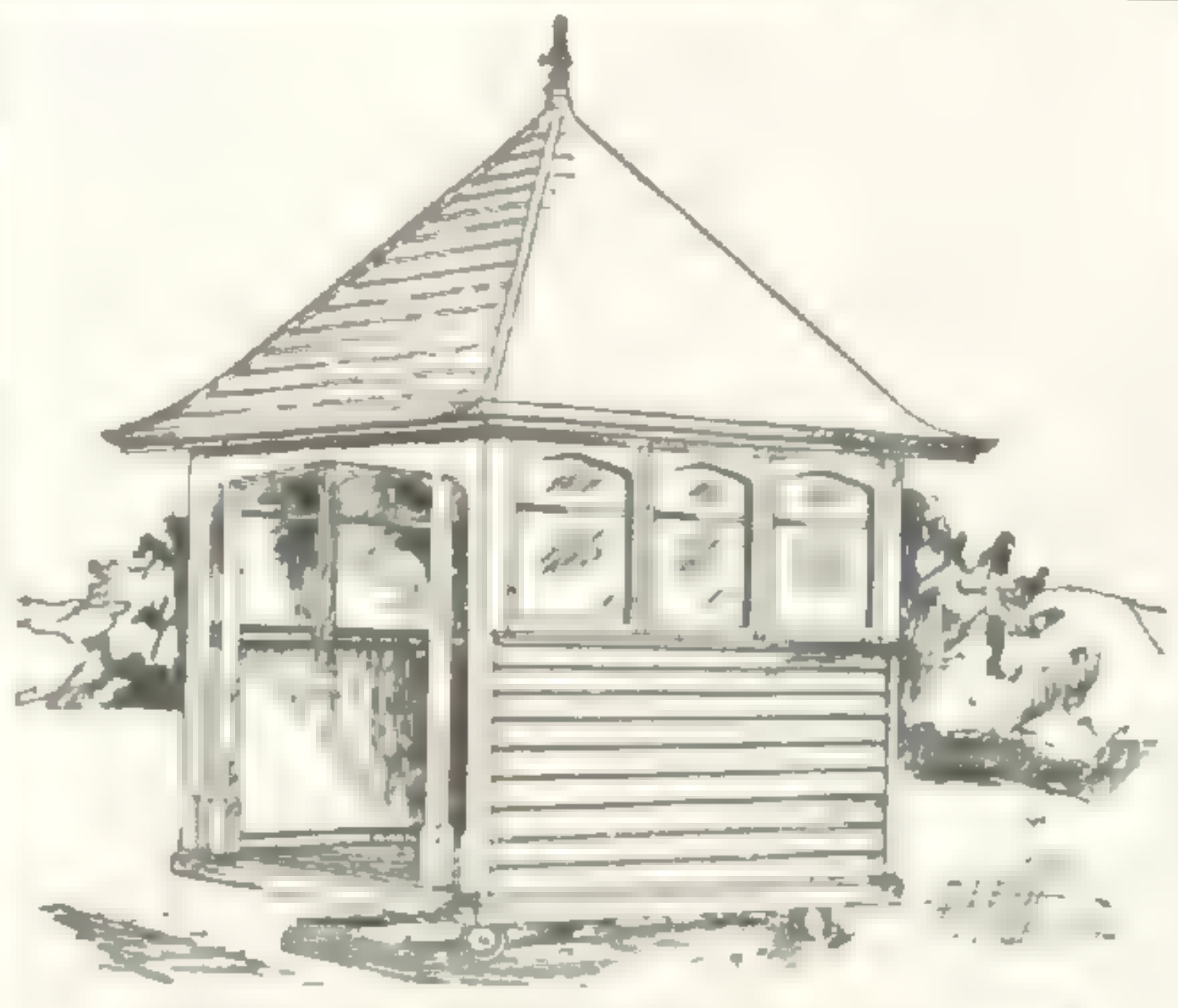

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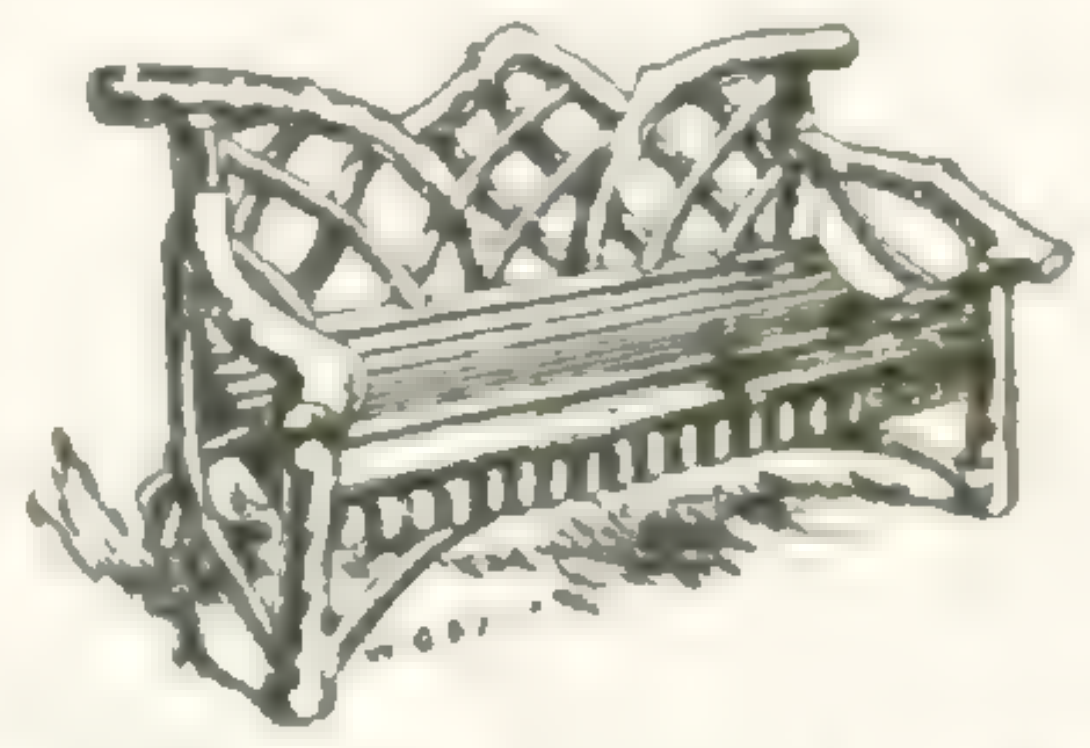

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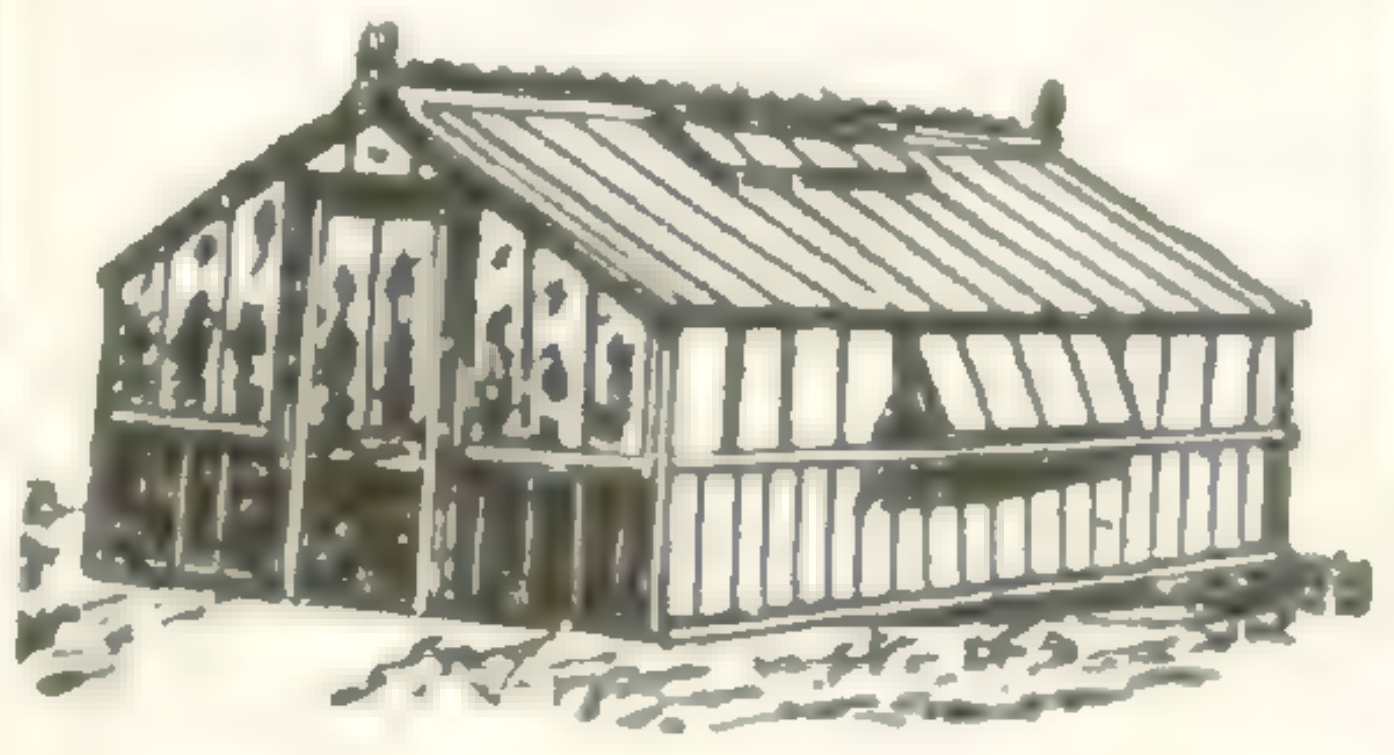

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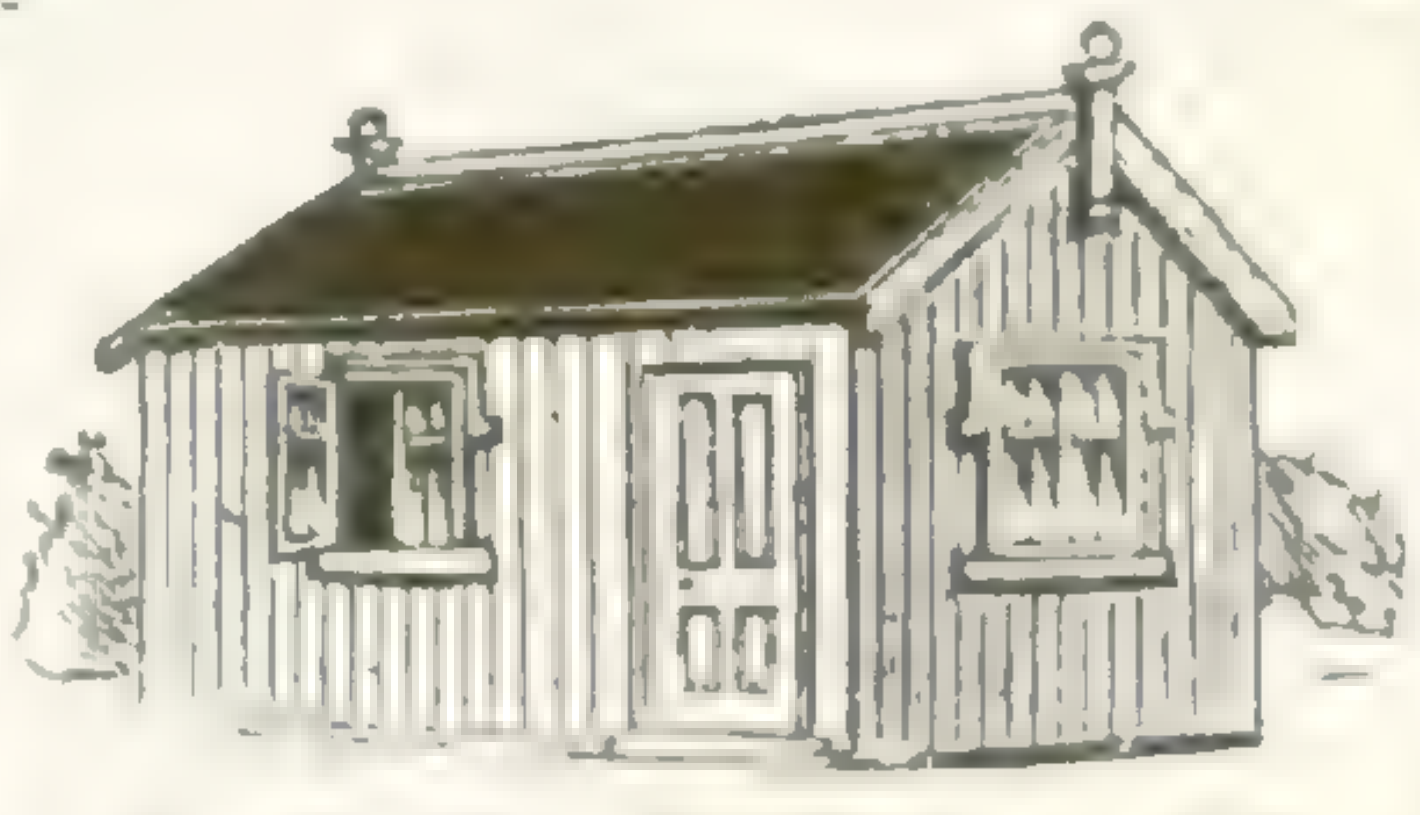

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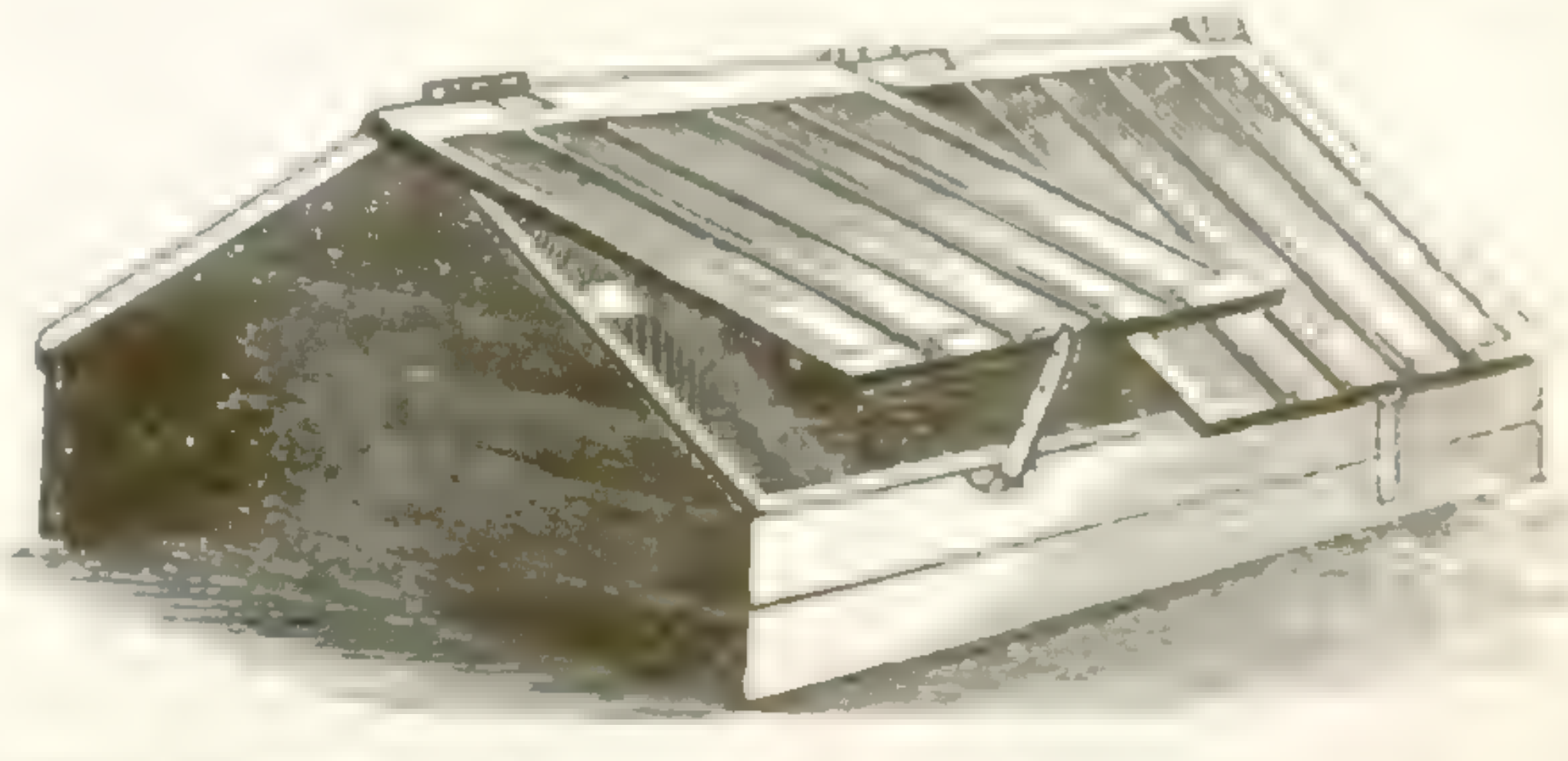

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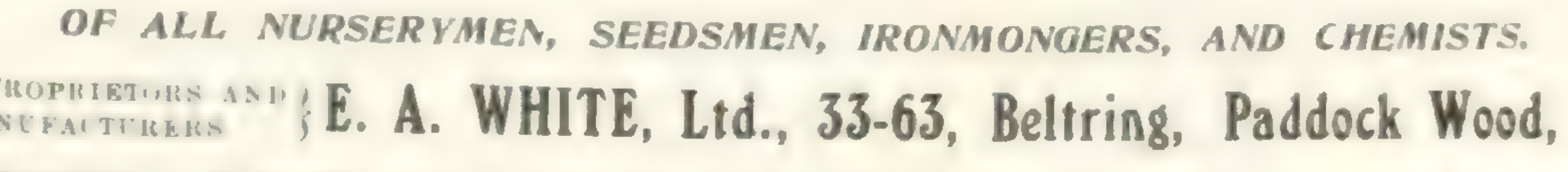

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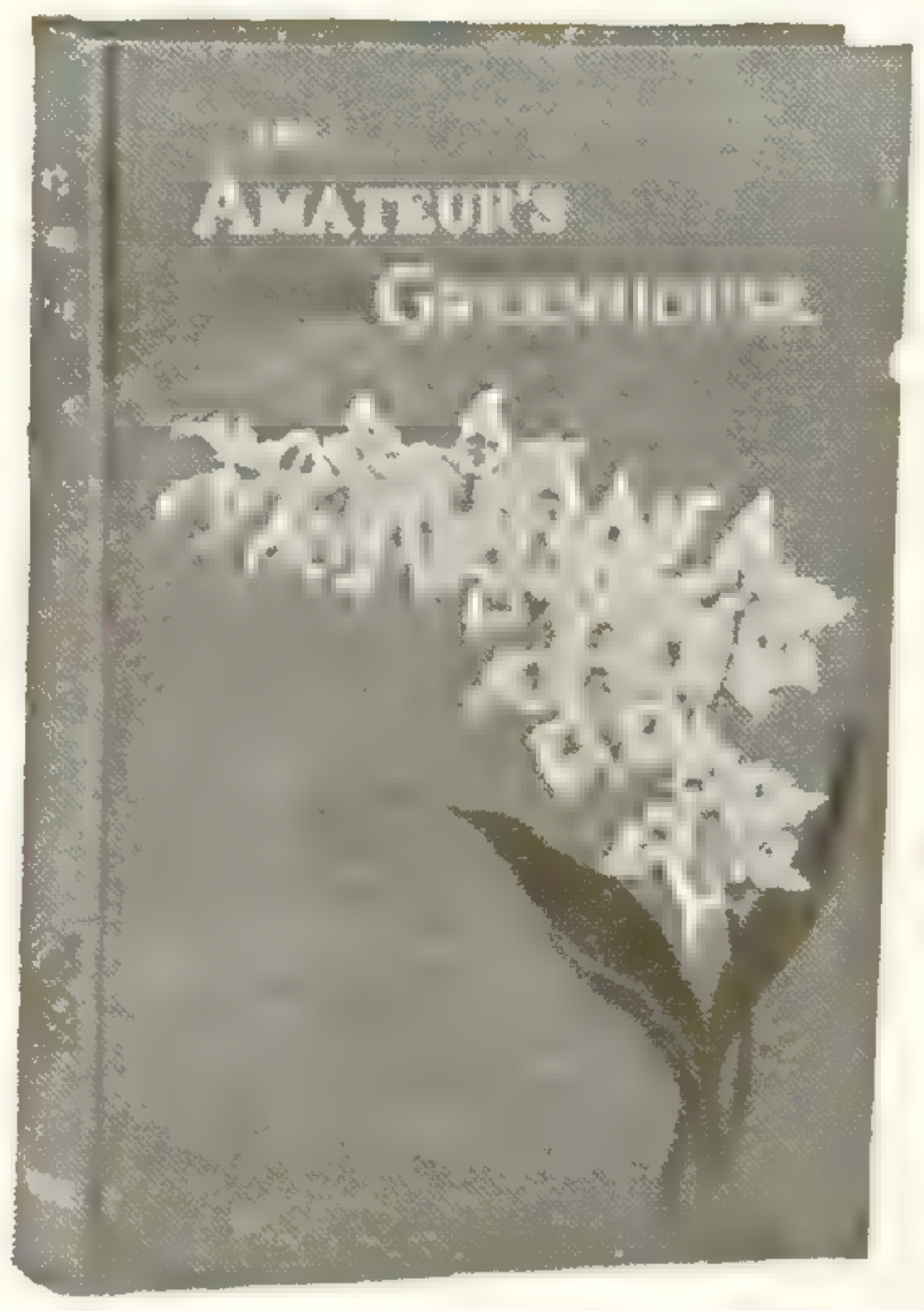

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NOTES FROM KEW.

Escallonia langleyensis.

Two beds of this hybrid escallonia at the back of the Palm House serve to show that it is one of the most beautiful, as well as one of the hardiest, of the genus. It was raised at Langley from E. Philippiana fertilised with the pollen of E. macrantha. In habit E. langleyensis partakes a good deal of the character of E. Philippiana, the spreading branches, which arch over in an exceedingly pleasing and graceful manner, being furnished throughout the greater part of their length with charming bright rose-pink coloured blossoms. Its season of blooming is somewhat earlier that E. Philippiana, as this last-named is only just unfolding its earliest flowers. On June 15, 1897, an Award of Merit was given to E. langleyensis, but I venture to think if one of the beds at Kew could be put before the Floral Committee that a First Class Certificate would, without hesitation, be awarded it.

Cratægus oxyacantha Gireoudi.

As a rule, variegated-leaved thorns are not particularly desirable, but this is a decided exception. The variegation is so bright that at a little distance the bush appears to be laden with blossom. The colouring is principally confined to the young growths, which are at the base white, or nearly so, becoming flushed with pink toward the upper part, while the extreme tip is bright red. The old leaves are for the most part deep green, interspersed with a few variegated ones, so against such a background the lighter tints are especially conspicuous.

Robinia Kelseyi.

Near the birch collection there is a good flowering example of this new robinia, which was given an Award of Merit on June 7th this year. Like the Rose Acacia (Robinia hispida), it flowers freely in a quite small state. The general aspect of the plant is light and pleasing, the leaflets being narrow. The flowers, borne in drooping racemes, are of a deep mauve-pink colour. This robinia, which is a native of North America, was introduced in 1901, but must still be regarded as decidedly uncommon.

Buddleia globosa.

Despite the number of new buddleias that have been introduced within the past few years, there is no danger of confounding this (one of the oldest species) with any of them, the orange-coloured balls being so distinct from anything else. What is more, its native country is just as widely removed, for it comes from Chili and Peru, whereas all the others are natives of the Eastern portion of Asia.

Hydrangea petiolaris.

This vigorous growing climbing hydrangea is just the thing for clothing a rough bank or similar position. A large mass of it rambling over some old tree roots near the Pagoda is at the present time very attractive, being plentifully sprinkled with clusters of blossoms. It is also known as Hydrangea volubilis, owing to its climbing habit, and for clothing a north wall it is very desirable.

Diostea juncea.

Although not showy, this is a pretty and interesting shrub. A singular feature is that, though a member of the verbena family, it mimics one of the spare-growing brooms, such as Genista æthnensis. It forms a specimen about ten feet high, and though the main branches are ascending the minor branchlets are slender, more or less drooping, and clothed with green bark. The leaves, which are arranged in pairs, are generally less than an inch long, ovate oblong in shape, and but sparingly produced. The individual flowers are less than half an inch long, tubular in shape, and of a pale lilac tint. They are disposed in small, but thickly crowded spikes, and borne plentifully. This diostea is a native of the Andes, of the Argentine and Chilian region, where it occurs at an elevation of 3,000 to 5,000 feet. It is one of the subjects alluded to by Mr. Beckett in his article on "Some Beautiful Shrubs," published in the last issue of the "Journal" of the Royal Horticultural Society.

K.

AMONG THE WILD FLOWERS

Who can describe that peculiar pleasure one experiences whenever a plant familiar enough in gardens is met with in some corner of Nature's garden, where, untended and undisturbed, it flourishes and fulfils its mission according to the great scheme of creation? Why is it that the foxglove in the lane, or the lythrum by the brook, appeals to one more forcibly even than when grown to greater perfection in the home garden? The fact that they occupy the spot Nature intended them to is surely the reason.

It is, moreover, not only a pleasure, but an education, to meet many of our favourite flowers in their native homes, and this I realised, as I have often done before, when recently I spent several enjoyable days among the mountains and valleys of North Wales. The district I visited is in Denbighshire, between Wrexham and Llangollen, easy of access, especially from Liverpool or Chester, from whence it is well served by what was formerly known as the Wrexham, Mold, and Connah's Quay Railway, which is now a branch of the Great Central Railway Company. Even from London the journey is easily accomplished, through trains being run as far as Wrexham. With the village of Coed Poeth as a starting point, one may reach the foot of the Minera Mountain within the space of half an hour, and scarcely has ascent been commenced when it becomes evident that this mountain is a veritable botanist's paradise.

It was in the first week in June that I climbed Minera, and one of the first things that caught my eye was Ornithogalum nutans, growing in broad masses under the shade of low-growing bushes. Prettily intermingling were the spikes of Galeobdolon luteum, and an abundance of bluebells, Alchemilla vulgaris, and A. alpina were both about to flower, the former being more plentiful on the lower slopes and beside a trickling streamlet, where I also saw plenty of Ajuga reptans and A. alpina, the latter being considered somewhat rare in Britain. The moist, but rocky banks of this same stream provided an ideal home for many beautiful ferns, among which the lovely little Filmy Fern, Hymenophyllum Tunbridgense, was apparently happy, having established itself, as is its wont, in just those crannies where moisture is never lacking and the light always subdued. Leaving the stream, and climbing a steep rocky slope, vegetation showed a marked change, and I came upon two or three sedums, cranesbills, Potentilla alpestris, with only here and there an open flower thus early. Many a species we are accustomed to plant on the sunny parts of the rockery grew here in the chinks and crevices of the great boulders of porous rock, and it was grand to look upward and around at the great mass of rock lying strata upon strata, here clothed with a mantle of verdure, there exposed and frowning, yet sheltering some tiny plant from wind and sun; and as I gazed, wrapped in admiration, I realised that I stood in a perfect garden, which the cleverest landscape gardener can but feebly and imperfectly copy.

Pushing ahead, sometimes with ease, sometimes scrambling on all fours, or pulling myself from one foothold to another, I reached a comparatively level sweep, where, in good fibrous peat, grew heather and whortleberries in utmost profusion. The Whortleberry (Vaccinium myrtillus) was in bloom, its globose bells of a reddish-purple colour being quaintly beautiful. Almost hidden beneath the heather were many fine plants of Blechnum spicant, which seemed to be about the only fern in this exposed area. From here the summit of the mountain was easily gained, and the view of the surrounding peaks, the intervening valleys, and the distant roads and villages was simply glorious. While enjoying the beauty of the scene I was startled by an unexpected clap of thunder, and, turning about, I saw a black cloud which seemed so low that it could scarcely avoid coming in contact with the mountain tops. From previous acquaintance with Minera I knew that some distance from where I stood were caves, and towards these I turned, just reaching them before the storm really broke, and under the shelter of my rocky retreat I watched an impressive spectacle, as lightning flashed and thunder rolled and echoed among the hills The entrance to the cave in which I sheltered was draped with scolopendriums, Asplenium trichomanes, A. septentrionale, and the Black Maidenhair Spleenwort (A. adiantum nigrum).

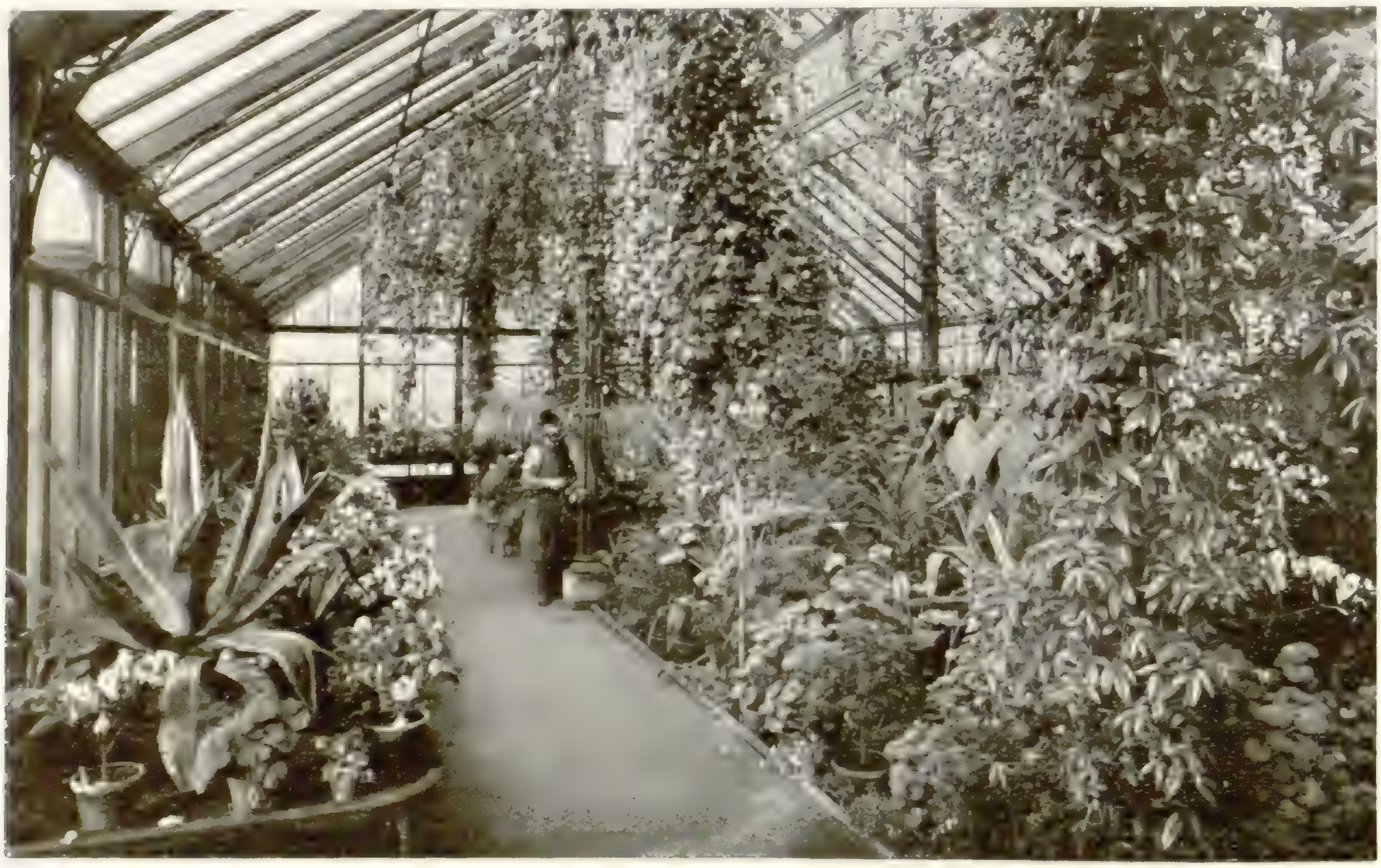
On the moist and shaded ground in front of the cave grew Orchis mascula, just passing out of bloom, and on the broken rocks scattered about were Thymus serphyllum, veronicas, and the pretty little Erodium moschatum. For hours I wandered alone and undisturbed among flowers of kinds too numerous to mention, for it seems that in one part or another the mountain provides conditions suitable for almost all the wildlings of our native flora, and not a few things that are but seldom recorded are here to be found. Strange it seems that so rich a storehouse of botanical treasures should apparently be but little known to students. Still, it is well the place should not become frequented by that class of hunters whose only pleasure seems to be the tearing up of every rarity they come across.

Were it not that my notes would be unduly long I would render a detailed account of other rambles through watery valleys, where calthas, myosotis, and equisetums grow; of the discovery of a mysterious subterranean passage that leads from the margin of a stream right into the heart of a great mountain, in the entrance of which filmy ferns grew like curtains of emerald lace, draping the water-washed rocks with wondrous beauty. Again, in woods and coppices, I found such things as Oxalis acetosella, Anemone nemorosa, Orchis bifolia, O. viridis, the lesser celandine, and Saxifraga granulata. Cardamine pratensis was plentiful in every swamp, as was also the ragged robin and red campion. In other parts great bushes of Cytisus scoparius were a mass of golden flowers. and the rarer Genista pilosa was also included among my "finds."

A. J. M

CONSERVATORIES.

For over two and a half centuries conservatories have occupied a prominent position among horticultural structures, and during this long period they have contributed liberally to the interest and the pleasures of the gardens in the British Isles, by giving suitable shelter to plants from climes with a higher temperature than our own, and affording opportunities for enjoying their varied charms independent of weather conditions. The conservatories that found favour about the middle of the seventeenth century were, it need hardly be said, very different in design and usefulness to those which form so distinct a feature of gardens at the present day. The earliest of these structures were little more than large rooms provided with windows along one side, that were of sufficient height to reach from the floor to the ceiling; and they had an open grate in which charcoal or other fuel was burnt during severe weather for the purpose of maintaining a temperature high enough to keep the inmates safe from frost. As they were mostly occupied by orange trees, and had but little radiating surface, a very moderate fire was, it may be assumed, sufficient for the purpose of excluding frost. The orange trees were usually taken out of doors as early in the season as it was safe to expose them to the weather, so the small amount of light that could find its way into these structures was not of so much importance as in the case of trees, shrubs, and other plants that are kept within doors throughout the year. The trees were at rest during the greater portion of the time they were within doors, and they had the advantage of full exposure to atmospheric conditions when completing their growth. With the orange trees were associated lemon trees and pomegranates, which thrived under much the same conditions.



INTERIOR OF A CONSERVATORY AT CRAGSIDE, ROTHBURY.
Erected for Lord Armstrong, by Messrs. Mackenzie and Moncur.

There are still many of these old orangeries in existence, but they are in gardens attached to the great ancestral homes whose history extends over several centuries, and in but few cases are they used for the accommodation of plants except, it may be, for sheltering specimen hydrangeas, fuchsias, African lilies, and other subjects that are now used with such excellent effect in beautifying terraces, promenades, and other prominent positions. The existence of so many of these dark, old-fashioned structures in ancient gardens is explained by the fact that for a long period after their introduction there were no great changes in the design. The later structures were more ornamental than those built at the time when Maria Henrietta had her orangery at Wimbledon, but there was no appreciable increase in the area of glass. In the best of those built in the eighteenth century the windows were a little larger, but as the full importance of light to plant life was not then understood, the roofs were made of opaque materials, and vertical light was excluded from the plants. Built with thick walls and stout timber, and the materials throughout of the best, these old conservatories have suffered comparatively little from the hand of time, and many owners of gardens in which they have a place have not unnaturally been reluctant to pull them down.

Change in Design.

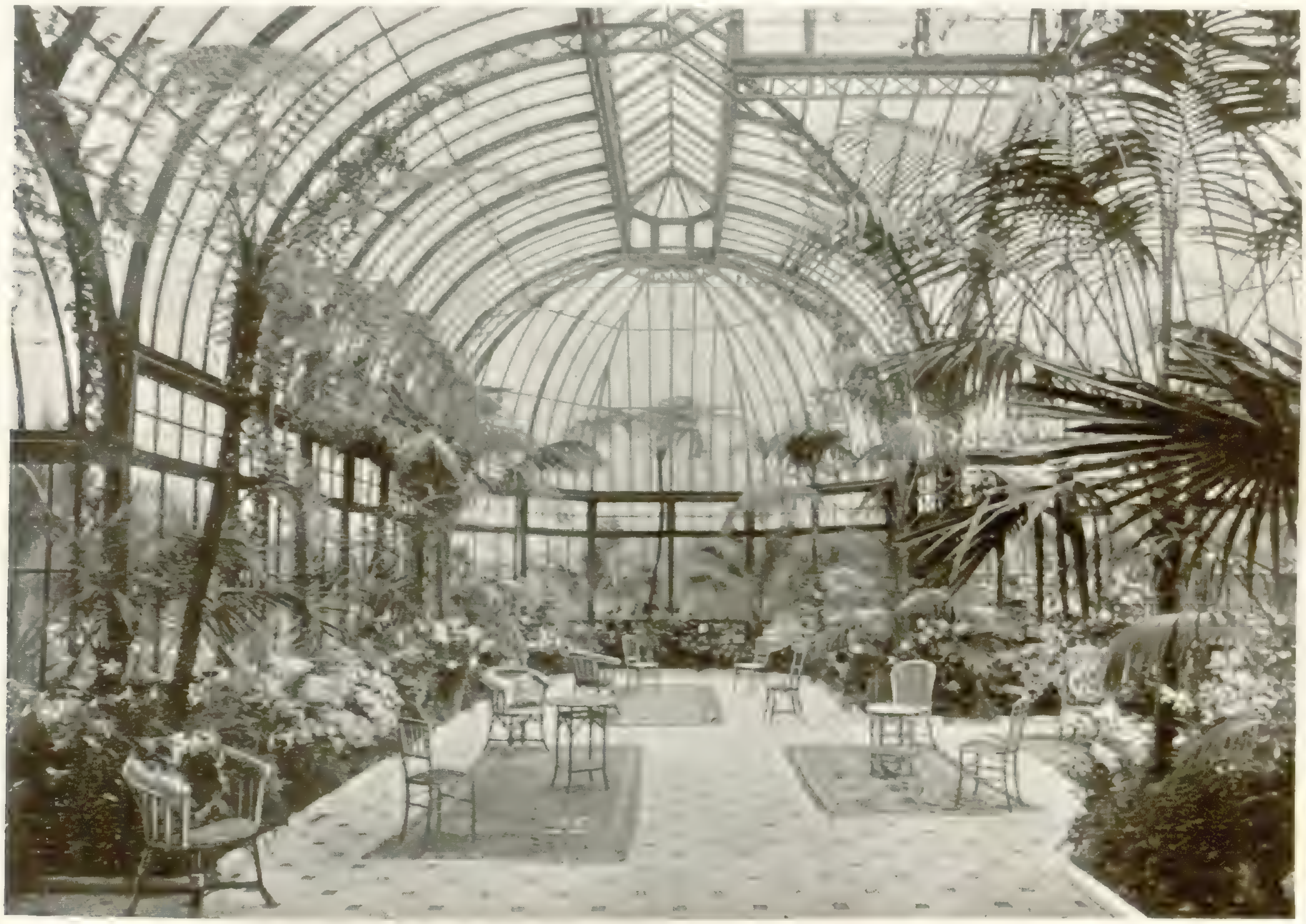
Since about the middle of the eighteenth century there has been a great and continuous change in conservatory design, and as the result of unremitting endeavour on the part of the leading horticultural builders, owners of gardens have now at their command conservatories that are as nearly perfect in detail as we can hope to see them. The designers of the earliest of the conservatories, as differentiated from the orangeries, appear to have remained long under the influence of the latter. They provided glass roofs, and windows were replaced by glass sides, but the masonry of pillar and cornice was invariably so heavy that the plants grown in them did not receive the amount of light essential to their healthy development. These came to be known as architectural conservatories owing to their being built from the designs of architects, who, in many cases, had designed the mansion, and, in their anxiety to produce a harmonious whole, had overlooked the immense importance of light and air to the various plants grown for beautifying the conservatory. These heavy buildings have been strongly condemned by several generations of practical horticulturists, and in not a few instances the difficulties inseparable from attempts to maintain plants in a healthy state for any considerable period after being placed in them induced some men of ability to go to the other extreme, and suggest a style of building better suited to the growth of plants than to their display.

As an example of the advice given by those who were opposed to the heavy buildings that obtained favour in some quarters, the late Mr. Marnock, whose ability as a landscape gardener will long be recognised, once stated that, "The conservatory should be a shell of glass of the lightest and slightest description consistent with due regard to strength." This is, of course, pushing the matter too far the other way, and it is very probable the words imply more than was intended. Extremes should be avoided in discussing the question of conservatory design, and to be in a position to arriving at correct conclusions in relation thereto it is necessary to keep constantly in view the purpose for which the structure is required. There should be a clear differentiation between the conservatory and the greenhouse, as unless it is fully recognised there is some risk of a mistake being made. This will not be made by the builder, but by the owner of the garden being too insistent upon the conditions essential to vigorous plant growth being the same in the conservatory as in the greenhouse.

Design and Position.

As far as is consistent with the adoption of a design that is in accordance with the canons of good taste, and is also in agreement with the architecture of the mansion, such provision should be made as will facilitate the maintenance of the plants in a healthy condition. Due attention is given to this important point by the well-known horticultural builders whose addresses may be found in the advertisement pages of the GARDENERS' MAGAZINE, as proved to demonstration by the splendid work they have accomplished in various parts of the United Kingdom. It must, however, be remembered that the proper functions of the conservatory are to display the charms of plants that have been grown elsewhere to a high degree of perfection, and provide a place of recreation for the owners and their friends. For the last-named purpose the conservatory is rapidly becoming more highly appreciated, and the day is not far distant when it will be regarded as essential as the music or billiard room, and, therefore, it should, where practicable, adjoin the house, and be readily reached from the principal apartments. If this is not possible, or not considered advisable, the structure may, in many instances, be built a short distance from the mansion, and be connected with it by a glass corridor, which should be embellished with plants selected with due regard to the amount of light they will obtain, and other conditions. In either case the structure should be substantial without being heavy, and the design be in agreement with the architecture of the mansion. In some cases it may be preferred to erect the conservatory in a flower garden some distance from the house, or other prominent position in the grounds. In these there is not the same necessity for the two structures to be built in the same style, and if desired the conservatory may be rather less ornate, but it should invariably possess elegance.

It is not possible to deal otherwise than in a general way with the question of size because so much depends upon the dimensions of the mansion. If the latter is of noble proportions the conservatory should have a comparatively large area, and be rather lofty, but should the house be of moderate size, the area of the conservatory should be moderate also, and the height of the two structures be proportionate. What is essential in the case of large mansions is to have a conservatory of a size that appears proportionate thereto, and in the case of medium-sized residences it is important to avoid conservatories so large as to overshadow them. Provided these conditions are fulfilled the conservatory should be as large as the initial cost and subsequent upkeep will allow. A large or medium-sized structure is preferable to a small one, more especially when it is freely used for reading, writing, and afternoon teas in the ordinary way, and as a place of entertainment on festive occasions.



INTERIOR OF A CONSERVATORY AT FARMLEIGH, CO. DUBLIN.
Erected for Viscount Iveagh by Messrs Mackenzie and Moncur.

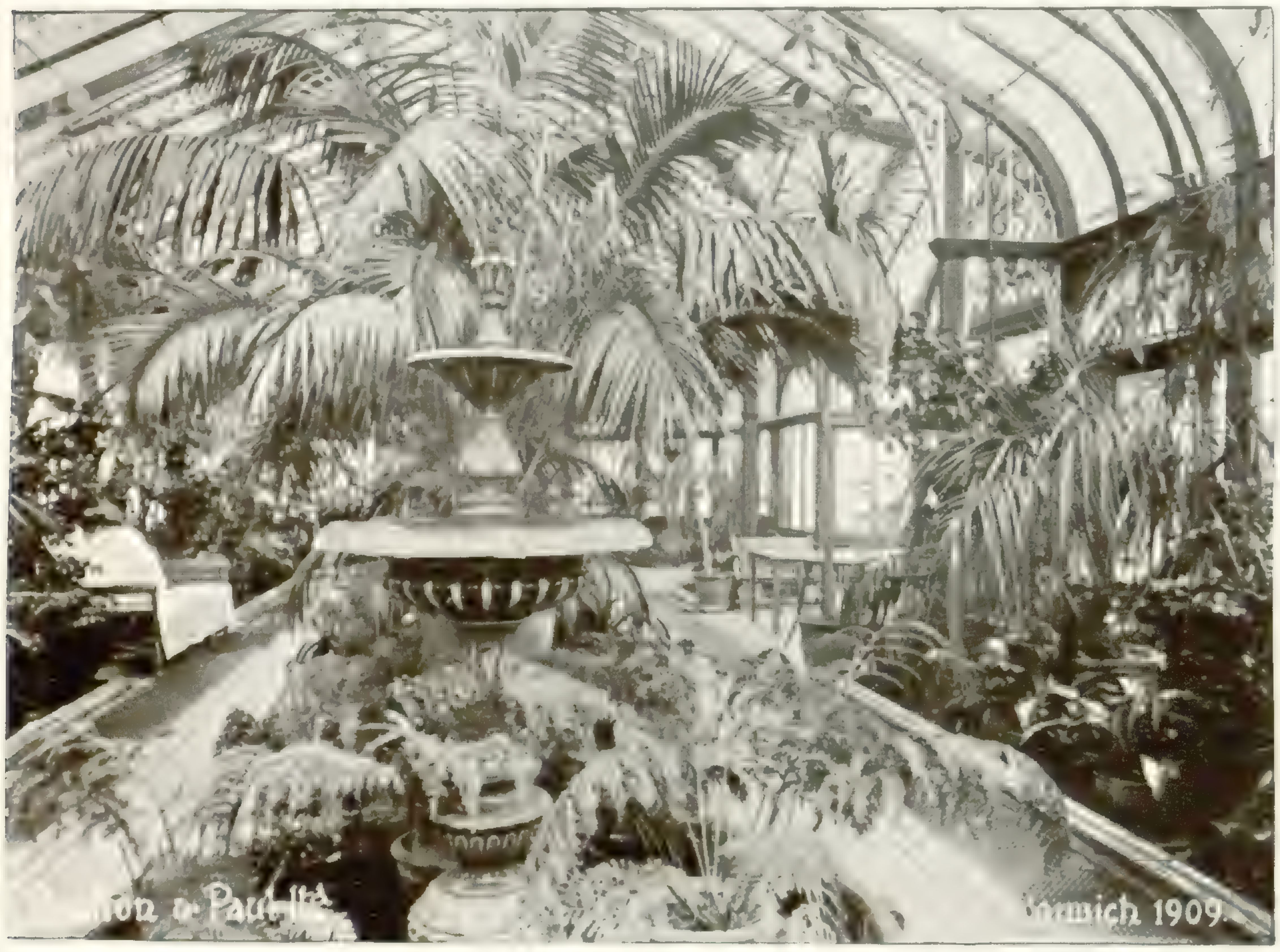
Heating and Ventilation.

The erection of a conservatory is not an everyday occurrence in any one garden, and, therefore, both materials, fittings, and workmanship should be of the best. The necessity for this need not be insisted upon at any length, because if the work is entrusted to builders who have made a reputation for themselves, the use of wood that has been properly seasoned, and fittings that will work smoothly, may be depended upon, and it will be equally certain that the structure when complete will bear the impress of good workmanship. Special attention is directed to these points because, not only are repairs relatively more costly than in the case of the growing houses, but because of the inconvenience of having workmen about at frequent intervals. The ventilation should be so arranged that the ventilators in the roof can be readily opened and closed, and the heating apparatus should be sufficient to maintain the requisite temperature in severe weather without having to drive the fires. When this has to be done there is some waste of fuel, and the heat given off by the hot-water pipes is not beneficial to the plants or agreeable to visitors. The water supply should also receive careful consideration, and, as far as practicable, rain water falling upon the roof should be caught, stored, and used.

Arrangement of Interior.

The arrangement of the interior will depend in a large measure upon whether the conservatory is to be wholly devoted to plants or whether it will be partly used for social purposes. If the health of the plants and the effective display of their flowers or foliage are the chief consideration, the arrangement may well be left to the taste of the owners, or those in charge. The points of primary importance in considering what methods of arrangement to adopt are, whether the plants are to be wholly planted in borders or grown in pots, and whether some are to be planted out and others grown in pots. A combination of the two will be preferable, because there will be considerable economy of time in watering, as compared with the exclusive use of pot plants, and it will be possible to produce more varied and attractive displays than when the whole of the occupants are grown in borders. With reference to the latter, it may be borne in mind that as many subjects quickly fill their allotted space when they have an extensive root run, the borders should be of moderate side. It is also advisable they be not formed with a rich compost, and, generally speaking, fibrous loam will be all that is necessary until the plants have occupied their positions several years. They can then be assisted with such fertilisers as will enrich the soil without giving rise to unpleasant odours. Due consideration should be given to the height of the house in making a selection, and palms, dracænas, and other subjects remarkable for the beauty of their foliage should be well represented. Climbing plants must, as a matter of course, be freely and judiciously used, but they must not be allowed to form so dense a canopy of foliage as to deprive the subjects growing below of their proper share of light.

When it is intended to freely use the conservatory for social and recreative purposes it will be necessary to restrict the area of the borders, and pave a considerable portion of the floor; tiles with a neat, yet elegant design being preferable. If the building is of moderate size it will probably be well to limit the borders to spaces round the pillars, and at the sides for climbers or other plants suitable for clothing pillars and roof trellises with foliage and flowers. There may, if so desired, be one or two circular beds for the accommodation of palms and other bold-growing subjects, but they must be so placed that they will not interfere with the area required for social purposes. As in the case of structures wholly devoted to the growth of plants, climbers should be utilised, and a charming effect may be produced by planting a strong-growing climber and a plant of semi-scandent habit to each pillar. Tacsonia Van Volxemi and Solanum Wendlandi are good types of the former, and fuchsias and habrothamnus of the latter. In practice the tacsonia is carried up to the roof and trained over the trellis, and the growth of the habrothamnus is so regulated that it produces laterals all the way up, and forms, as it were, pillars of bloom. Groups of plants, according to requirements, can, of course, be arranged on the floor, and if overcrowding is avoided, and the colours selected with proper regard to harmonious contrast, they will add immensely to the charm of the arrangement.



INTERIOR OF WINTER GARDEN, CARROW HOUSE, TROWSE, NORWICH.
Erected for the late J. J. Colman, Esq., M.P., by Messrs. Boulton and Paul, Lim.

Atmospheric Moisture.

There is one other point that must not be overlooked, and with a mention of it these notes must be brought to a close. It is this: When conservatories are used as an accessory to the drawing-room, and for social purposes generally, the plants employed in their decoration should be such as do not require an appreciable amount of atmospheric moisture, as it is not advisable to use the syringe freely as in other plant houses; or to pour water over the floor, with a view to maintain a liberal degree of moisture in the atmosphere of the structure.

George Gordon.

CONSERVATORY DESIGN.

The preceding article deals with conservatories from a historical as well as a general point of view, and it is pointed out therein that up-to-date conservatories should be elegant in design as well as suitable for plant life. That modern horticultural builders fully appreciate the fact that conservatories should be light, elegant, comfortable, useful for the display of plants, and in harmony with the buildings they are near, is evident from the illustrations given in the present issue.

Messrs. Mackenzie and Moncur, of Edinburgh and London, have done a great deal of excellent work at Frogmore, Sandringham, Westonbirt, Welbeck, Kew, Edinburgh Botanic Gardens, and other well-known establishments, and a feature of their work is lightness and elegance, combined with strength and durability. Special attention has been given to the design of conservatories used as an extra withdrawing-room, and a fine example of such design is seen in the interior view of a conservatory erected by the firm at Farmleigh, Castle Knock, co. Dublin, the residence of Viscount Iveagh. A further illustration, also an interior view, serves to indicate the wide range of design, and also the widespread operations of the firm. This shows a conservatory or winter garden adapted to the cultivation as well as the display of plants and flowers, and one not only suitable for those who love to rest amid the beautiful surroundings of leaf and blossom, but also especially arranged for those who take a keen interest in the life and growth of plants, a floral study, in fact. This particular conservatory was erected for Lord Armstrong at Cragside, Rothbury, Northumberland.

Messrs. Boulton and Paul, Lim., Norwich, are famous for horticultural work executed in all parts of the United Kingdom, and the very able manner in which they design and construct conservatories to suit any and every situation. Their work and fame is also known in Pretoria, in Turkey, Spain, and other places far afield. The firm is specially happy in the design and construction of winter gardens and conservatories, as the accompanying illustrations will prove. One of these represents a detached conservatory of ample dimensions and very handsome design, large enough to afford ample room for comfortable chairs and the necessary tea or coffee table, and still allow plenty of space for the cultivation and display of plants and flowers. This was erected for W. Creak, Esq., Montem, Salt Hill, Slough. Such a conservatory, if there is an electric light installation, becomes a delightful resting-place in the evening. The second view shows the interior of a bold and handsome winter garden erected for the late J. J. Colman, Esq., M.P., Carrow House, Trowse, near Norwich. Large palms and foliage plants are used to furnish this structure, and the fitting of the interior shows that it is used freely by the members of the owner's family, and is not regarded merely as a show place. In such a winter garden it is usual to group flowering plants in one or more special places, but it is a quite easy matter to make the house gay for special festive occasions by the introduction of flowering plants among the palms, ferns, etc., that are the regular inhabitants.

We shall in our next issue give several illustrations of conservatories that have been erected by other of the leading horticultural builders, and are of interest for their elegant design and adaptability to their environment.

HYBRID PERPETUAL ROSES AS CLIMBERS.

Your correspondent, "G. B." (p. 447) alludes to the growing of H.P. roses as wall climbers in most favourable terms. At this I do not wonder, as I know how valuable is this section for producing flowers in masses, and exceptionally early, too. Indeed, much earlier than flowers can be had from the ordinary plants that are cut down annually. I have to-day—June 11—a considerable quantity of good blooms from hybrid perpetuals, especially from Magna Charta, which is growing on its own roots, having been struck from cuttings at least twenty years since. This rose was introduced by Messrs. W. Paul and Son, in 1876, and for freedom of flowering and the delicious fragrance of the blooms is still difficult to surpass. Frau Karl Druschki is another early-flowering variety that makes a good climber, giving handsome blooms early and late. Marquise de Castellaine and Dupuy Jamain also are desirable in addition to those named by "G. B." An early crop of good flowers prolongs the season considerably, and for that reason alone they are well worthy any little attention that may be necessary.

E. M.

DAHLIAS TO PERFECTION.—A thorough guide to the successful culture of these popular flowers is "Dahlias and Their Cultivation," by J. B. Wroe, price 1s. net, by post 1s. 2d., bound in cloth 1s. 6d., by post, 1s. 8d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

AMONG THE ALPINE FLOWERS.

> "Flowers of all hue are struggling into glow
> Along the blooming fields; yet their sweet strife
> Melts into one harmonious concord."

So says Schiller, and, as we look over the rock garden, we realise the truth of the statement that the "sweet strife" truly "melts into one harmonious concord." For colours of all kinds, contrasting though they be, seem to unite in a common effort to give us pleasure. This pleasure is not lessened as we examine them in detail; nay, it is increased, for it is then, and then only, that we can study the marvellously beautiful shadings and markings of the blossoms of the season. And what a wealth of colouring there is! It is needed, too, if the floral colour is to keep pace with that of the foliage, for now nature is clad in its most brilliant green. To look at the shrubs, trees, and flowerless plants is to witness beauties of foliage of the highest degree.

Boulton & Paul Ld
ch. 1909

A DETACHED CONSERVATORY AT MONTEM, SALT HILL, SLOUGH.
Erected for W. Creak, Esq., by Messrs. Boulton and Paul, Lim.

The "leafy month" would be beautiful even were there no flowers to grace the plants, but with their aid the scene assumes an almost transcendent beauty. And the alpine flowers share in this. We have mounds of bright green, and we have masses of colour from flowers of all kinds. It is difficult to choose from among them a few from which to draw an inspiration. We shall begin, for one, with

Tanakea radicans.

This pretty little Japanese alpine has not yet become well known, but its quiet beauty will commend it to many who like a really nice plant with but little display. With its neat leaves and its somewhat spiræa-like white flowers on stems some six or nine inches high, it looks well in a shady and rather moist part of the rock garden. It is not yet well known, and will possibly fail to appeal to those who see but a small plant, but a little group will commend it much better. On rockwork, especially against a dark rock, it looks remarkably pretty. Hardy enough to withstand our winters, this Tanakea radicans is a good little plant of considerable grace and beauty.

Primula Cockburniana.

A fresh vista of probable variation in the world of primroses has been opened up by the introduction of Primula Cockburniana a few years ago, in view of its colouring being made the basis for work in hybridising operations, and some good results have already followed, such as is shown in Unique, Messrs. Veitch's hybrid, so well shown at the Temple and other shows.

But to the alpine lover there is a peculiar fascination in all plants of original species, which seem always to him to be more in agreement with the rock garden than the many lovely flowers which are the product of modern hybridisation. It may be prejudice, but this feeling certainly exists, and in Primula Cockburniana we have a plant which gives force to this idea. There is about its aspect an appearance which compels admiration, although it is mingled with some questioning as to the harmony of colour with other flowers. Yet well-grown plants, with their whorls of orange-scarlet flowers set tier above tier on a stem some six or nine inches high, or even more, are decidedly pretty, and a few plants in the rock garden here cause me to write of it now. It has one uncertain feature about it, and this note is largely designed to emphasise it. This is its doubtful perennial character. Is it truly biennial, as some suggest? Is it hardy, as some seem to doubt? These points do not admit of any confident reply, and I am doubtful if we can be positive about them. It seemingly has proved only a biennial with some, but in these places this has apparently been due to its free-seeding, and from its being in dry soil, where it had not the vigour to enable it to stand the strain of seed-bearing. In places where it was planted in moist soil it seems to have been much more vigorous and to have shown itself a true perennial. But, on the whole, I am inclined to class it with P. sikkimensis in this respect, and to think that it may be as well to renew it occasionally at least from seeds in gardens where it does not sow itself frequently.

But self-sown plants are the best, and a little bare space round the old plants will probably result in a sufficient supply of self-sown seedlings appearing to maintain the succession. At the base of the rock garden this pretty primula is a distinctly pleasing flower.

Dodecatheon Meadia.

One is almost inclined to envy the memory of Dr. Mead, whose name is enshrined in the specific term applied to Dodecatheon Meadia, a very beautiful plant still in flower with the writer in the beginning of June. It is an old plant, though but little noticed nowadays. Why, it is difficult to say, as there are few prettier hardy alpines for the base of the rock garden than these American cowslips. I do not say that D. Meadia is the best of all—that is a matter of taste—but it is certainly very beautiful, with its tufts of unequally-toothed leaves and its ten to sixteen-inch stems, each bearing a most elegant umbel of flowers. These flowers are very beautiful with their long, reflexed petals, and the pose of the plant and its flowers is exceedingly attractive. This American cowslip of Dr. Mead is very fine in any of its various colourings. It can be had in white or lilac, as well as in the rosy-purple which is the prevailing shade among the plants.

But this plant, although quite hardy, is not so easily retained in the garden as one would imagine, from what one hears of it. A lover of moisture, it does not seem to require it so much in winter, and may even be lost at that season if too wet at the roots. It is better to supply its liking for shade and moisture in summer and for rest in winter by planting it in partial shade, and with a north or north-east exposure near the foot of the rock garden, but giving it a well-drained spot. This is, at least, the situation found by the writer to be the best. It can be grown in the border in a position of much the same kind, and few things are more prized than a group of Mead's American cowslips in bloom.

S. ARNOTT.

ESPALIER ROSES.

It may well be doubted whether roses of the non-rampant order can be shown off in any manner as beautifully as upon espaliers, and the subject of their growth in this style, the nature of the supports, and the places that are best adorned by them, is worthy each gardener's most earnest study. Ramblers and other vigorous climbers will not do for the purpose, except when an espalier has assumed such enormous proportions that it may more justly be called a trellis; a twelve-feet ornament of the kind, covered by luxuriant roses, makes an ideal boundary for the end of a tennis lawn, or a separating line between flower and vegetable garden. It should be built of natural wood, either peeled or with the bark on, never of painted deal, which last is admissible only on a small scale, and then the horizontal supports can be painted wires, not straight laths, which have too prim an effect.

Probably the most attractive of all woods to use for espalier poles is silver birch, with the bark on; larch is good, and is very generally used, though some growers believe that there is a resinous quality even about this wood when old that certain roses object to. When horizontal supports are to be of wood the appearance is best when they are irregularly bent, bowed, and knotted, not straight, and they should be a great deal thinner than the wood of the supports, otherwise the result is too heavy-looking. Iron espaliers, painted, are obtainable of almost any height and shape, rounded, for sloping edges, corner-wise, or with an arch in the centre, which allows for a different rose on either side.

These iron uprights are always sightly; it is the natural woodland or rustic garden that they do not really suit; they can be painted the green of the rose foliage, or the dull brown of the branches, and will soon be undistinguishable beneath their living covering; or if painted white have an elegant effect much admired, and perfectly in keeping with terraced gardens, or those near villa residences, large or small. Let them be kept out of the old Elizabethan manor's environs, and never show their trim outlines by a farmhouse or old-fashioned cottage, however. Roses that flourish upon espaliers are very numerous; it is, I imagine, the perfect treatment for William Allen Richardson, the rose whose glorious apricot tint is never seen upon a hot wall or fence. Frau Karl Druschki and Hugh Dickson are two others that I especially value for this use, their robust nature making them revel in the airiness and space for branch development. It should be remembered that the espalier rose grown in the open has always two aspects, south and north combined, or west and east; a bush provides its own shelter for one of its sides by the thick mass of interior branch and foliage. L'Ideal and Reine Marie Henriette are two old roses that may serve as types for those that succeed less well; in my experience they require the shelter of a fence or wall, or at least to be backed by the close mesh of a trellis. Gloire des Rosomanes, Gruss an Teplitz, Beauté Inconstante, Gustave Regis, Bellefleur, a copper-yellow, red-flushed single, are roses that have uncommon and delightful effect when espalier supported, being shown off to perfection, and thus enabled to prove the distinctiveness of their charms.

In shaded or draughty positions there are still roses that can be thus cultivated; in the former the varieties of rugosa are all fairly certain to thrive and attain each year a finer luxuriance. It will be necessary to limit their branches to the number that can be best tied to the horizontal supports, and cut away any superfluous shoots from root suckers, although some of the latter can be retained, and used to increase the upright branches, with a view to the ultimate elimination of old wood. In the draughty situations, where some sunshine is gained, Wichuraianas, as distinct from the more rampant Wichuraiana hybrids, and the lovely cultivated Penzance briars, are the best choice. By the bye, an espalier boundary line of sweet briar makes a fair and fragrant protection on the north side of a rosery.

By planting bush roses along the edges of a lawn a rather wide space is necessarily sacrificed; when espaliers are set up, and a rose put on the outer side of each, the turf is less encroached upon, and, though fewer varieties can be grown, the yield of blossom will probably be greater. A foot-wide continuous border will suffice—continuous except for exits and entrances, of course—and between the rose roots under and in front of their branches, will be space for innumerable light-growing dwarf perennials, violas, pinks, Iceland poppies, aubrietias, alyssums, arabises, double daisies, miniature geraniums, and geums, rock pinks and phloxes, Tunica saxifraga, Saponaria ocymoides, Viola cornuta, mossy saxifrages, sedums, rock roses, dianthuses, etc., etc. As an inner hedge to a front garden that is bounded by the privet, laurel, or euonymus, in which many landlords delight, a rose espalier series enables the tenant to have beautiful blossoms visible from his windows; the same method serves to partly hide vegetables from flowers along the kitchen garden borders, an incredibly large number of rose species and varieties being thus sampled without encroaching upon the pleasure grounds.

It has been objected that espalier training necessitates the sacrifice of a great deal of rose branch; it must be remembered that this seeming waste intensifies the vigour and productiveness of the branches that remain. As far as my knowledge goes there is no class of rose that is not suitable for espalier culture, but all depends upon the size of the espalier; a miniature Polyantha, such as White Pet, gives a unique show when trained out only a foot above the ground, a luxuriant Crimson Rambler, or pink Dawson arching rose will demand a support of great height and breadth. Then, again, various methods can be pursued with different roses; in one case the new season's growth, springing up from the roots, can be bent and employed alone; in another the old wooded stems that have been trained out will send forth young lateral shoots for the summer clothing. Experiments should be tried, and results recorded in note books as well as memory. The old Gloire de Dijon, as a veteran espalier tree, will give glorious bloom, and young roses can be used to hide its bare lower stem and branches. M. H.

Hæmanthus Katherinæ.—This is one of the most showy of the greenhouse plants flowering at the present time. While the flowers remain fresh, keep the plants at the cooler end of the structure, but remove to an intermediate house as soon as the blooms fade, to complete and mature their growth. After this has been done, a period of rest is necessary. Propagation is best effected by off-sets, potting these up and keeping them in a moist condition till roots have formed. Many species of hæmanthus are very showy, and deserve to be more grown in private establishments.—W. S., Belford Hall Gardens.

NEW BOOKS.

A HISTORY OF GARDENING IN ENGLAND.

By the Hon. Mrs. Evelyn Cecil (John Murray, Albemarle Street, W.). Price 12s. net.

To those whose avocations bring them into contact with horticulturists of all classes, it has not been by any means unusual to hear expressions of surprise that so little attention should, during the last century, have been given by writers on horticultural matters to the historical side of gardening. We have on many occasions heard such expressions, and we have more than once had our attention called to the immense advantage it would be to those interested in horticultural activities to be able to obtain ready access to information relating to the work of past generations of horticulturists, and to the fashions that have influenced the garden during the period in which it has occupied a commanding position in this country. We have been in full agreement with those who have regarded a well-written history of gardening as a necessity, and certainly none could have had greater pleasure in placing the first edition of the Hon. Mrs. Evelyn Cecil's important work on their book shelves, than was experienced by ourselves in making room for it in our library. In agreeing with those who believed in the desirability of such work, we have not shared in the surprise that has been felt because the general body of writers showed no desire to deal with the historical aspects of gardening. To write the history of such an important and complex subject as gardening is a task so heavy that a literary man or woman of the highest ability might well be excused for shrinking from it. The writer of a history has not only to state the facts clearly, but he has to devote an immense amount of time to research, to the making of notes, to the marshalling of facts, and to estimating their relative importance for the purpose of maintaining a proper balance between the several periods over which the historical purview extends. No one who has not considerable leisure could engage in such work with a prospect of success, and but few of those who possess literary ability of a high order have much spare time on their hands.

It will thus be seen that the task of the historian is beset with difficulties, and that to achieve success abilities of an exceptionally high order are necessary. That the knowledge necessary to the successful accomplishment of the great task the authoress of "A History of Gardening in England" set herself has been forthcoming is abundantly evident, and it is gratifying to know that the splendid work she has done is fully appreciated by garden-lovers. We have evidence of this in the fact that the work has passed through two editions, and that the publication of the third edition, at a somewhat lower price, has greatly stimulated the demand.

The work opens with an interesting chapter on monastic gardening, in which the authoress shows how valuable was the work accomplished in the gardens of the monasteries for a considerable period after the foundation of those religious houses. Then in the following eleven chapters we have clear and otherwise excellent accounts of gardening in the thirteenth, fourteenth, and fifteenth centuries, early garden literature, early Tudor gardens, the Elizabethan flower garden, kitchen gardening under Elizabeth and James I., Elizabethan garden literature, seventeenth century gardening, gardening under William and Mary, and landscape gardening. The chapter devoted to gardening in the 19th century is perhaps the weakest part of the book, and in a future edition should be so amplified as to give some idea of the remarkable development which fruit culture and commercial horticulture underwent during the century.

The book, we would add, is profusely illustrated, and should have a place in all garden libraries, and, indeed, on the bookshelves of all who are interested in the gentle art of gardening.

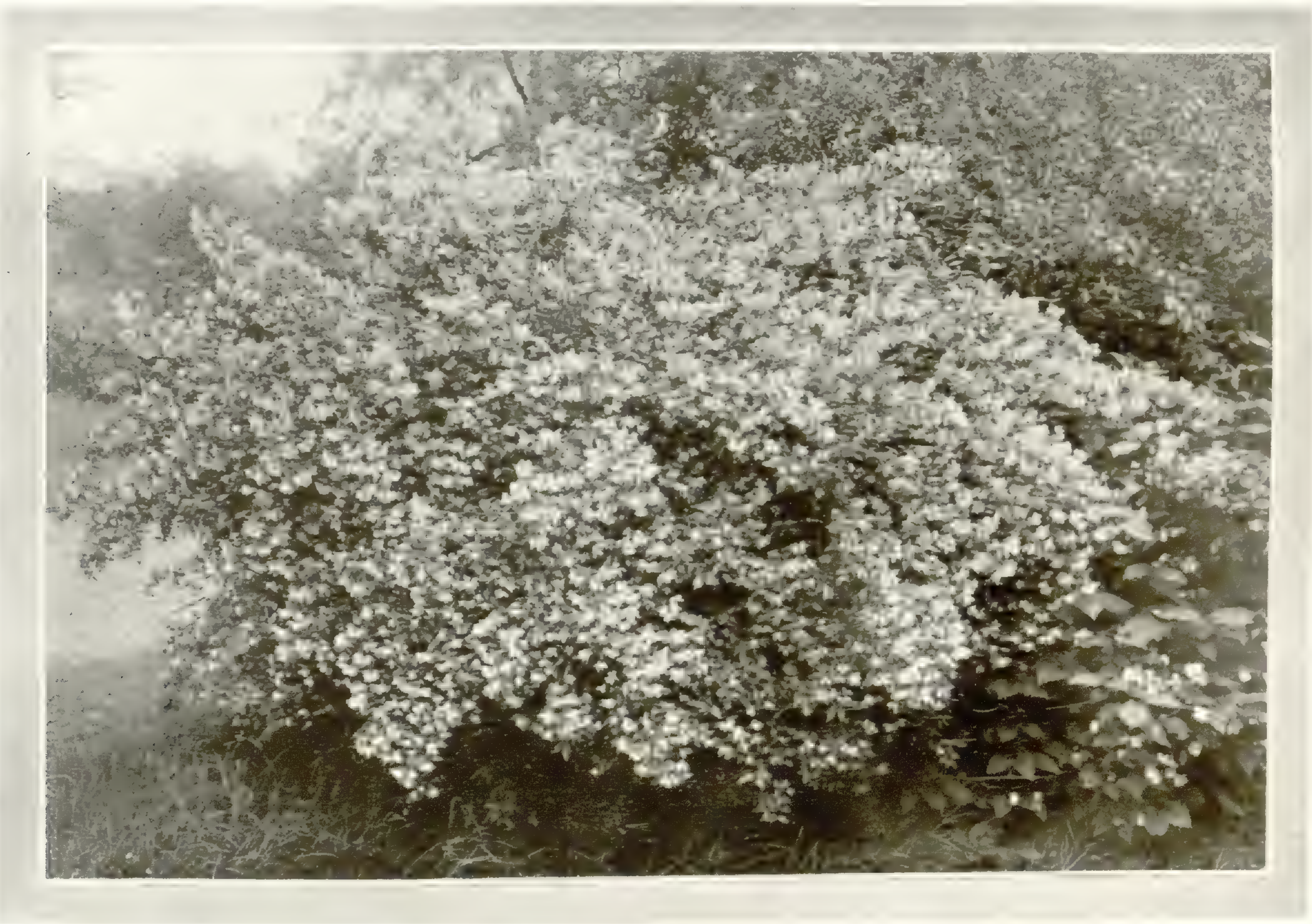
WINDOW GARDENING.

By T. W. Sanders. (W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.) Price 2s. 6d. net, post free 2s. 10d.

Window gardening has become so immensely popular of late years that a handbook on the subject that is comprehensive in treatment, bright in style, and sound in teaching has become a necessity, and we therefore heartily welcome the publication now before us, and strongly recommend it to the notice of those who devote attention to the cultivation of plants on the window sill or in rooms. The author, who, we need hardly say, is fully conversant with his subject, informs his readers in a very interesting manner, not only how they may successfully cultivate a large number of beautiful plants in rooms and maintain their window boxes in an attractive state throughout the year, but shows with remarkable clearness how readily balconies, verandahs, and flat-roofs may be embellished with ornamental plants, and walls be clothed with climbers of great beauty. The cultivation of plants in indoor apartments is dealt with in a manner that becomes its importance, and the reader is placed in possession of the information necessary to ensure success in selecting as well as cultivating the numerous flowering and fine foliage plants that may be grown under the conditions that usually obtain in living rooms. The culture of Japanese trees, cacti, insectivorous plants, orchids, roses, and many other uncommon plants is described, as well as that of palms, fuchsias, and other subjects that are generally recognised as of special value for the home. In dealing with the cultural details, such matters as potting, watering, and feeding plants have prominence given them, and ample advice is given on the all-important question of keeping the several subjects free from fungoid and insect enemies. There is a series of chapters on "Floral Decoration in the Home," from the pen of Mrs. Ffreda Wolfe, which add materially to the interest and usefulness of the work. The book is freely illustrated and elegantly bound, and should become highly popular.

PHILADELPHUS MICROPHYLLUS.

This pretty little mock orange is well worth planting, for its distinct appearance always attracts attention, whilst its decorative qualities are of no mean account. It is an American species, which, when mature, attains a height of three feet or so. No other philadelphus is anything like it in appearance, for its branches are fine and twiggy and become interlaced with each other to form a regular thicket. The leaves are very tiny, and grey in colour, whilst the flowers are smaller than those of other kinds, but powerfully fragrant. Upwards of twenty years ago M. Lemoine, of Nancy, was struck with the possibilities of the shrub, and he took it in hand and crossed it with the common Mock Orange (Philadelphus coronarius). The progeny turned out quite a success, as is instanced by that plant of sterling merit, Philadelphus Lemoinei, or, better still, the remarkably fine form known as Lemoinei erectus, which is easily one of the most ornamental flowering shrubs we possess, as so well shown in the accompanying illustration of a specimen at Kew. Since the advent of these hybrids many others of the same description have appeared, which combine to make up an exceedingly useful group of shrubs. P. microphyllus, if planted in a group, should be so arranged that when fully grown no two plants will touch, for a very much better effect is produced when each plant can be seen separately than when several are grown together to form one dense mass. This advice applies with equal force to P. Lemoinei erectus. D.



PHILADELPHUS LEMOINEI ERECTUS.
One of the finest of the hybrid mock oranges obtained from the intercrossing of P. microphylla and P. coronaria; the flowers are white.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

PHAIUS.—The late flowering varieties of the hybrid phaius will now require attention, and to be repotted or top-dressed if necessary. The late flowering kinds are generally those which have P. Humbloti as one of their parents. Although not so plentiful or so well known as the hybrids that have been derived from P. tuberculosus, they are far more easily cultivated, being more vigorous in constitution, and are not so liable to have their foliage disfigured with the black spotting so frequently found in P. Cooksoni, P. Norman, and others. Being more vigorous, they are also larger rooted, and therefore require more liberal treatment in respect to pot room. It is surprising how rapidly the pots become filled with roots when the plants become strong. It is therefore advisable when repotting is done to allow ample root space. They should be carefully turned out of their pots, by first loosening the roots that have become attached to the sides. As they are somewhat fleshy they are easily damaged if great care is not exercised. The old potting compost should be removed, and any dead roots cut away. Where there are a number of back pseudo-bulbs, the rhizomes between the pseudo-bulbs should be severed, as these back bulbs generally have dormant eyes that are capable of producing new growths. The size of specimens may be thus increased, or they may be taken away and potted up separately to increase the stock. The pots should be clean, and filled to at least one-third of their depth with clean broken crocks. The potting compost we find most suitable is a mixture of yellow fibrous loam, chopped peat, some broken leaves, and chopped sphagnum moss, with sufficient sand and finely broken crocks added to render the whole porous. This compost should be made firm about the roots, and if desirable a thin layer of chopped sphagnum moss may be spread over the surface of the potting compost; this adds to the appearance of the plants where they are used for exhibition or for decorative purposes in the house. Water as soon as repotting is completed, with rain water, taking care to thoroughly moisten the compost through. The plants should be carefully shaded at all times, but more especially for a time after repotting, until at least the new roots become established in the fresh potting compost. Insect pests, such as scale, red-spider, and thrips are their greatest enemies, and for the two latter the plants must be kept under careful observation at all times. If the plants are sprayed at regular intervals, and fumigated or vaporised about once a fortnight, there is little difficulty found in keeping these pests in check. Where red spider is observed the leaves must be carefully washed with a soft sponge, using rain water, into which a very little soft soap has been added. The leaves being soft and fleshy in the young state, more than ordinary care is necessary. The atmosphere should be kept in a humid condition by frequent syringing between the pots, and damping the floors, staging, etc. Ventilate liberally whenever the outside conditions permit. H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CALLISTEMON LANCEOLATUS. — Like many species of the nearly-allied genus melaleuca, this is a showy flowering shrub needing the conditions of a cool greenhouse or conservatory for its successful cultivation. The culture is comparatively easy, but, as with most hard-wooded plants, care must be exercised in watering. Propagation may be effected by sowing seeds, which are freely produced on large plants. But seedling plants do not flower so quickly as those grown from cuttings. The cuttings should be made of nearly-matured growths, and inserted in sandy soil, placing them under a hand-light or bell-glass. When rooted they should be potted off, using a compost of loam, peat, and sand, and while young pinch out the points of the shoots as may be necessary to ensure bushy examples.

CINERARIAS. — Seedlings raised from seeds sown in the spring should be pricked off into boxes, which are better for the purpose than pots. Fill the boxes with compost of a light texture, which includes a goodly proportion of leaf-mould. Put the seedlings two to three inches apart either way, and then stand the boxes in an unheated frame under a north wall, if possible, and on a bed of ashes, which should be previously well-damped. Keep the frame closed for a few days, syringing morning and evening. On warm nights the sashes may be removed to allow the foliage to have the advantage of the dew. But in the morning close the frames, and if the sun reaches them, shading must be given.

SALVIA SPLENDENS GRANDIFLORA. —The bright scarlet flowers of this salvia are very valuable during the dull days of late autumn and winter. Rooted cuttings should be repotted directly they are ready for a shift, and on no account should they be allowed to become checked in their growth. Use pots of a liberal size for the plants that are raised early, as these will grow into fine specimens by autumn. Place them out of doors on an ash bed as soon as the weather permits. Pinch out the points of the shoots at the second leaf, and syringe the foliage each evening to check red-spider.

AGATHÆA CŒLESTIS.—A few of the best plants should be potted up for flowering in the autumn. Cuttings may be rooted now, it being a good practice to place four cuttings in each 2½ inch pot, and when rooted transfer to larger ones without dividing them. If treated like cinerarias until the end of September, good results will be obtained. No flower buds should be allowed to develop before the end of September, and the growths should be pinched two or three times to promote a bushy habit. In October they should be removed to a cool greenhouse, placing them close to the glass on a shelf. When the flowers begin to open liquid manure may be applied.

MIGNONETTE. — No flowers are more appreciated than mignonette. For pot culture the tree kinds are more often selected. But the dwarf branching varieties are very useful in pots also. Whatever kind be required seed should be sown from now onwards. Mignonette requires a good compost of loam and leaf-mould, firm potting, and good treatment at all times. The seed should be sown in 3in. pots, and be lightly covered with fine soil, and as soon as the seedlings are well through the soil they should be thinned out to one plant if for pyramidal specimens, and to three plants if dwarf, bushy plants are required. When the small pots are filled with roots shift into 5in. or 6in., using the same kind of soil as before, and exercising care when potting to avoid breaking the ball of soil.—W. Staward, Belford Hall Gardens, Northumberland.

THE FLOWER GARDEN.

BEDDING OUT, and the consequent pressure of work, has now somewhat slackened in most gardens, but there is still a formidable programme on hand. As regards weather, it has suited bedding plants perfectly, and all have started into growth well. In order to get these to fill out the beds quickly, all flowers and flower buds should for a week or two be kept pinched off, and the pegging down and regulating of any growths requiring such attention should be done at the earliest possible moment. Unless soft water is obtainable in quantity it is better not to water the plants until obliged to do so, and then do it thoroughly; surface watering only ends in enticing the roots to the surface, many or most of these perishing during very hot weather, unless the beds have been previously mulched, which cannot always be done. Fuchsias should have all straggling growth stopped, as this will ensure a profusion of bloom later on, and plants of compact growth.

SHRUBBERIES and outlying places are just now, owing to the mutiplicity of duties in other directions, apt to be neglected, and noxious weeds allowed to run to seed unknowingly; this frequently happens where labour is restricted, and something has to go undone; but, taking into consideration the after consequences of such neglect, such weeds as these should not be overlooked, and even if time cannot be found to do the usual weeding in the proper way, roughly hoeing them through will prevent their seeding, and keep them in check until proper attention can be devoted to them.

HERBACEOUS AND MIXED FLOWER BORDERS have suffered somewhat from the heavy rains during the early part of the present month, and, although staking and tying in of these subjects were duly attended to, yet the breakages have been many; the beaten condition of the surface of the beds and borders have necessitated more frequent hoeings than is usual at this season of the year, but this has helped to keep in check the ravages of slugs and similar pests, these having been extra active during the recent showery weather. Soot and lime scattered about does much to keep them in check, but rain soon renders both inoperative. Many of the stronger growing plants in the herbaceous borders are already beginning to crowd out some of the weaker growing kinds, and the careful staking and tying in of these should be closely followed up, and even in extreme cases the thinning out or entire removal of some of the growths may be resorted to, for the preservation of the weaker growing, and more often valuable plants, is to be preferred to the rampant growth of the stronger growing and less valuable.

ANTIRRHINUMS, Canterbury bells, foxgloves, columbines, and such plants of a hardy character, which flower during the second year, may now be sown in the open border; these, unless the borders are unusually narrow, are best sown in drills, and if in a half-shady position, so much the better. The drills should not exceed half an inch in depth, and should be far enough apart to permit of the free use of the hoe after the seedlings appear. Should the weather be dry at the time of sowing, water the drills, and sow on the damp soil, the drills in their turn being filled in with dry, finely sifted soil, unless the natural surface soil is in a well pulverised condition.—W. Hedley Warren, Aston-Clinton Gardens.

HARDY FRUITS.

SUMMER PRUNING.—Fruit trees of all descriptions will now need frequent attention to pinching and training the young growths, otherwise confusion will follow, and the sap will not be equally distributed over the trees. Red and white currants should have their side shoots pinched back to five or six leaves. If it is desirable to allow the branches to extend the points of these should be pinched out when they have grown about twelve inches in length; the growths upon cordon and horizontal trained pear trees should be pinched back when they have made about six or seven leaves to within three or four leaves. The leading shoots upon all the main branches should be allowed to grow unchecked, and tied loosely, but securely, to the walls; these same remarks would apply to espalier trained trees. Some few varieties of pears form fruit buds at the extremities of the shoots, and careful attention should be paid that these are not summer pruned; bush or pyramid trained apple, pear, and plum trees should also receive attention to the pinching and thinning out the young growths, pinching all side shoots back to within five or six leaves, and the leading shoots should be allowed to grow away unchecked for some weeks yet. The side growths of the loganberry should be cut back to three or four leaves, and the growths tied carefully to the supports, or otherwise when rough winds prevail they will be broken off. Pay attention to the tying in and training the young growths of peaches, nectarines, apricots, and cherries, pinching or cutting back to within four leaves any growths that are not required; shoots which have a tendency to grow too strong should have their points removed; this operation will induce them to make three or four weaker growths, which can be laid in if space will allow, or if not required they should be pinched again at one leaf.

HARDY VINES.—These will require frequent attention, both in regard to pinching the sublaterals to within one leaf, tying, and pinching the young growths. In favourable seasons good crops of grapes will invariably ripen if proper attention is given. Where vines are trained to walls the laterals should be thinly disposed over the surface, but, on the other hand, a sufficient number of growths should be left to cover the walls completely. There are no plants which are used for covering walls that have a more charming and ornamental effect than hardy vines when clothed with healthy foliage from the bottom to the top of the wall. A sharp look out should be kept for red spider and mildew, using—as advised in a previous calender—flowers of sulphur dusted occasionally over the foliage; also frequent syringing with clean soot water, applied with the garden engine, is beneficial in keeping the foliage clean and the vines in a healthy condition. Bordeaux mixture, when used at the proper strength, is an effective fungicide for mildew, but on no account should this be used when the vines are in flower. Vines grown in the open quarters to stakes will require the same amount of attention with regard to tying and pinching the laterals, also constantly stirring the soil with the Dutch hoe to kill weeds, and to check rapid evaporation.—Henry R. Farmer, Cardiff Castle Gardens.

Rose Goldelse. — As a sweetly-perfumed rose and an early-flowering variety, this, introduced by Henner in 1902, deserves extended cultivation. In colour it is pale yellow, with a much deeper shade of apricot-yellow in the centre; it remains quite full, even when expanded.—E. M.

GREAT FLOWER SHOW AT LIVERPOOL.

Held in conjunction with the Royal Agricultural Society's Exhibition.

A year ago we described the display of plants, flowers, and fruit which was made at the "Royal" at Gloucester as the best the society had ever had, and it is now our pleasant duty to record another, and even better, show held at Liverpool from Wednesday, June 22, to Saturday, June 25. It is very evident that the society means its flower show to be something more than a mere item in the programme, and, indeed, it was the undivided opinion of both exhibitors and visitors that the exhibition of the past week was well up to the average of the best horticultural shows in the land. The exhibits were well arranged in spacious marquees, and the whole management reflected the utmost credit upon the Hon. John R. de C. Boscawen, horticultural steward, and Mr. Peter Blair, the energetic manager, who spared no effort to make the show successful from every point of view. Unfortunately the morning of Wednesday was visited by heavy showers, but the afternoon was fine, and there was a good attendance. H.R.H. Prince Arthur of Connaught visited the show, and made a complete tour of the horticultural tents, afterwards expressing great delight with what he had seen.

GREAT FLOWER SHOW AT LIVERPOOL. [Photo: R. Brown, Liverpool.

Part of the Group of Ferns staged by Mr. H. N. Ellison, West Bromwich.

COMPETITIVE.

The schedule opened with a class for a group of miscellaneous plants, in and out of bloom, occupying 350 square feet. There were four entries, and the redoubtable champions, Messrs. James Cypher and Sons, Cheltenham, were awarded premier honours. Their group was a most beautiful arrangement of orchids, liliums, and kalanchoes, interspersed with some remarkably fine crotons and other fine foliage plants. Rising high in front were some splendid Oncidium flexuosum majus, with a pair of Cattleya gigas on a lower level at either side. The corners were marked by pyramids of beautiful foliage, surmounted by Cocos Wedelliana, and towards the back of the group were tall acacias and crotons, with a fine kentia overtopping all. In minor detail and finish the work of a master hand was evident. Mr. W. A. Holmes, West End Nurseries, Chesterfeld, secured second prize, and Mr. William Vause, Leamington, was third.

Messrs. James Cypher and Sons, Cheltenham, were the only exhibitors in a class for a collection of orchids occupying 100 square feet. Their exhibit included many beautiful lælio-cattleyas, dendrobiums, and cypripediums. A plant of Epidendrum prismatocarpum, nine big spikes, and a brilliant Masdevallia Harryana were very conspicuous, and, altogether, the firm is to be complimented on contributing a very attractive and interesting exhibit. One hundred square feet of staging filled with begonias of tremendous size and rich colours was a sight to see. Messrs. Blackmore and Langdon, the only exhibitors in the class, are, as is well known, pastmasters in the art of growing and showing begonias, and the collection set up on this occasion added still further to their laurels.

A class that appealed strongly to us, although not treated in the way we should have liked, was that for a group or display of hardy cut flowers and plants, arranged on 200 square feet of ground: rock, stone, etc., allowed. We anticipated a representation of a growing border, or bed, with the flowers arranged in a natural manner. Mr. Jas. Saul, nurseryman, Preston, the winner, however, had a group built up on the lines adopted by exhibitors in the stove and greenhouse group classes, and we readily admit he made a fine show.

Messrs. Caldwell and Sons, Knutsford, adopted the use of plants in pans, and but for the fact that this compelled a certain formality of arrangement, the exhibit was good. They secured second prize. Messrs. G. Gibson and Co., Bedale, produced a blaze of colour with a mass of Oriental poppies and bright pæonies. Other good things of lighter shades supplied the necessary toning down, and made an effective display. Third prize was awarded this exhibit. Two competitors staged collections of cut hardy perennials on a table space of 15ft. by 5ft. Messrs. R. Harkness and Sons, Bedale, were adjudged winners. Among the most telling vases were Papaver's Oriental Queen and Oriental King, and double Pyrethrum Lord Rosebery. Messrs. Gibson and Co. followed with a capital array of verbascums, delphiniums, and many other useful subjects.

Lim., Canterbury. Frau Karl Druschki, Mrs. John Laing, and Ulrich Brunner were put up in masses, with Hiawatha and other ramblers at the back, and single blooms in boxes at front. Mr. George Prince, Longworth, Berks, was a capital second. Third prize went to Messrs. W. and J. Brown, Stamford.

BATH GRAND ROSE SHOW AND GENERAL SUMMER EXHIBITION.
WEDNESDAY and THURSDAY, July 6 and 7.

Classes for Roses, Nurserymen and Amateurs.
Bouquets, Cut Flowers, Sweet Peas, Strawberries.
Plants, and Tuberous Begonias.
Entries close Friday, July 1.

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Two Gold Medals for Trade Exhibits.
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Valuable Special Prizes offered by the principal Firms in England.
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Schedules to be obtained of ARTHUR MATTHEW, Hon. Sec., 20, Trinity Street, Cambridge.

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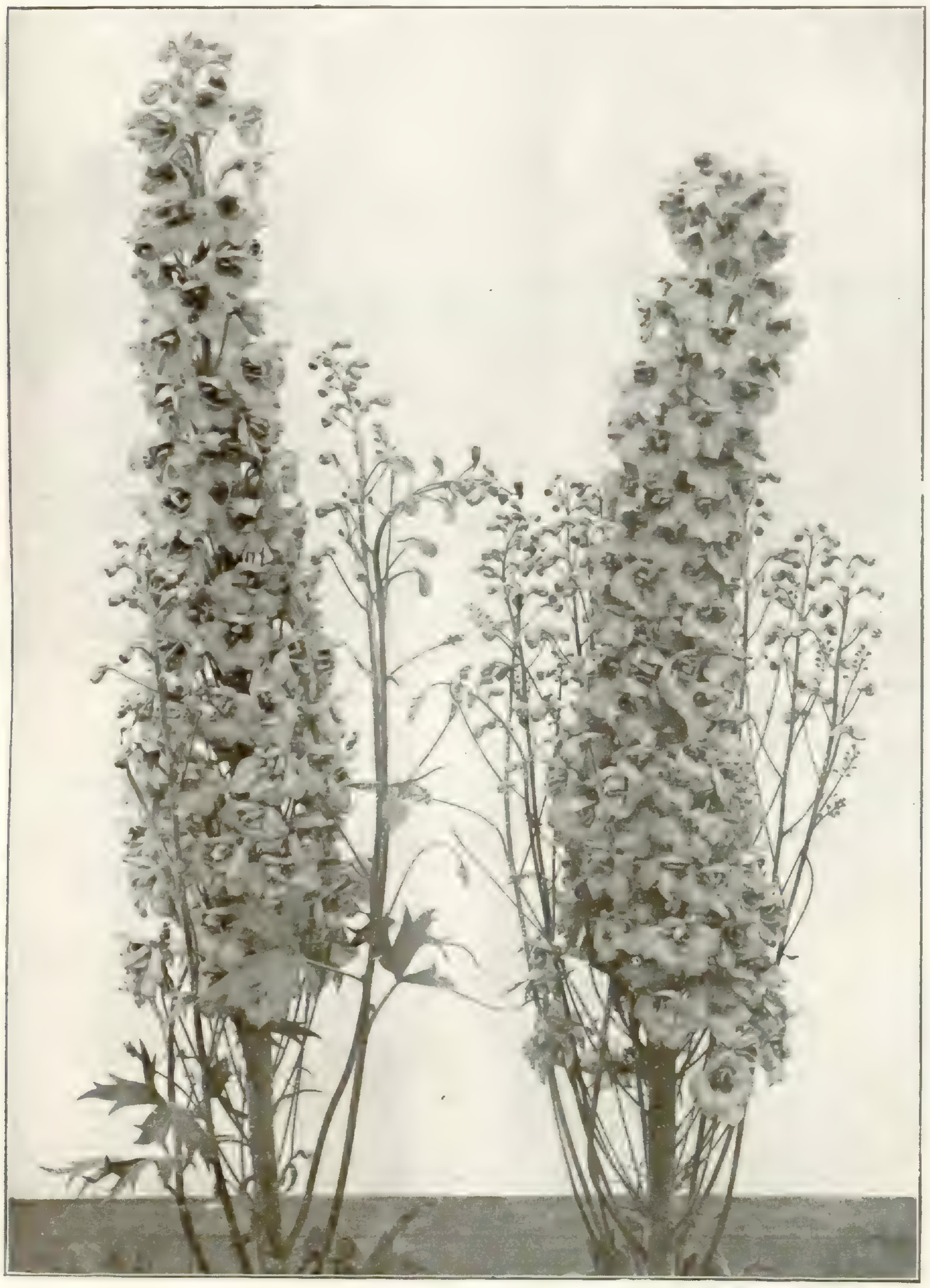

[Photo: R. Brown, Liverpool.

GREAT FLOWER SHOW AT LIVERPOOL.

Delphinium Imperial Mantle, a splendid variety exhibited by Messrs. J. Kelway and Son, Langport.

Mr. A. F. Dutton, Iver, Bucks, scored in the cut carnation class with a collection of chiefly American and English perpetual flowerers. The salmon shades, such as Winsor, Mrs. H. Burnett, and Fair Maid predominated, but a remarkably fine yellow, called Iver Yellow, claimed one's attention immediately. It is a fine flower, and, it truly perpetual, is worth looking after. Mr. C. F. Waters, Balcombe, Sussex, had beautiful flowers on the second prize stand, and staged a large number of the best varieties in cultivation. The arrangement of colour was also tasteful. Mr. C. Engelmann, Saffron Walden, came third with grand Carolas, but rather a weak foreground to his group.

Some of the finest collections of roses, both cut and in pots, that one could expect to see competed for the gold medal and £5 cash allotted as first prize. The coveted award was secured by Messrs. Geo. Mount and Sons,

Miss Hemus, Upton-on-Severn, received the first prize for an effective arrangement of sweet peas on a table 20ft. by 5ft. Paradise Susiana, a quaint and rather pleasing chocolate flake, and Paradise Apple Blossom, appeared to attract a good deal of attention. Evelyn Hemus was naturally very well shown. Messrs. E. W. King and Co., Coggeshall, were a very close second with a bold and effective arrangement of large vases of the leading varieties. The front of the stand was finished off with three tall arches, decorated with flowers and smilax; Mr. C. W. Breadmore, Winchester, came third.

Messrs. Cypher and Sons again had things all their own way for a collection of stove and greenhouse plants in bloom. They showed a number of huge specimens of ericas, ixoras, anthuriums, etc.

Fruit was not shown in large quantities, but what was staged was of really first-class quality. For eight dishes Mr. James Gibson, gardener to his Grace the Duke of Portland, Welbeck Abbey, won first prize. His dish of Early Rivers nectarine was of exceptional quality and finish. Black Hamburgh and Muscat of Alexandria grapes, James Grieve apple, Brown Turkey fig, Dymond peach, Biggareau de Schreken cherry, and a large seedling melon made up a splendid collection. Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, came second, his grapes being stronger, but the other dishes a trifle below the winner's all through. Mr. E. T. Hazelton, gardener to the Earl of Derby, Knowsley, Prescot, was third.

NON-COMPETITIVE EXHIBITS.

The collection of Japanese pigmy trees growing in ornamental vases, which came from Messrs. Barr and Sons, King Street, Covent Garden, W.C., attracted a great deal of attention. Hardy border and aquatic plants, embracing some of the brightest flowers of the season, were also shown by this firm. A remarkable exhibit for the time of year was a collection of about a hundred dishes of potatoes, staged by Messrs. James Carter and Co., Holborn, London. The tubers, although of last year's growth, were as firm, clean, and fresh-looking as we are accustomed to see at a November show, and were a splendid example of both good culture and careful—indeed, clever—storage. Messrs. Stuart Low and Co., Bush Hill Park, Middlesex, were exhibitors on an extensive scale. They had a fine bank of orchids, a beautifully-arranged collection of perpetual-flowering carnations, and rambler roses.

The liliums, delphiniums, and eremuri provided the boldest features of a glorious bank of herbaceous flowers, well staged by Messrs. R. Wallace and Co., Colchester, while smaller but no less beautiful subjects were heucheras, campanulas, calochorti, and ixias. In fact, it may be said the group was thoroughly representative of the best of the flowers of June. The rare and extremely beautiful Iris albo-purpurea was worthy of note. A few nymphæas, Japanese iris, and spiræas were grouped at the end of the stand. Messrs. Hogg and Robertson, Lim., 22, Mary Street, Dublin, put up a large variety of English and Spanish iris, ixias, and early-flowering gladioli.

Mr. W. J. Unwin, Histon, Cambs, had a lovely lot of sweet peas put up in a very tasteful manner. Mrs. W. J. Unwin was fine, as also was Edna Unwin, but there was a whole host of tip-top varieties. Messrs. E. W. King and Co., Coggeshall, had some very bright peas; the firm always seems to be strong in the scarlet and crimson shades.

The arrangement of the flowers on Miss Hemus' stand showed that dainty touch and lightness which a mere man finds hard to bestow upon his exhibits, and needless to say the quality of the flowers was first-rate. Upton-on-Severn must be a capital place to grow peas, and Miss Hemus takes full advantage of her opportunities. Messrs. Dobbie and Co., Edinburgh, had beautiful aquilegias and a big bank of sweet peas put up with an eye to blending of colour. Dobbie's Sunproof Crimson was again exceedingly fine. Another gorgeous display of pæonies, delphiniums, and irises was brought by Messrs. Dicksons, Lim., Chester. King of Delphiniums caught everybody's eye.

Mr. Edwin Beckett, gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, came forward once more to show what a wonderful display can be made with vegetables when they are of good strains and cultivated with the skill of a master. Close upon a hundred varieties were put up in that fashion so well known to those who have an acquaintance with this champion's methods of showing. Messrs. R. H. Bath, Lim., Wisbech, once more brought before the public a wonderful array of both double and single pæonies, which were staged in great bunches on a tiered staging. Delphiniums were equally good, the whole range of blue shades being included in the mass of spikes that occupied a considerable portion of the stand. Messrs Jarman's centaureas were shown in the charming varieties so well known as the Chard Farm's speciality.

It was almost a relief as well as pleasure to turn to the restful green of the ferns which were well shown by Messrs. H. B. May and Sons, Upper Edmonton. Davallias, platyceriums, crested scolopendriums, and nephrolepis constituted the chief items in an interesting group. Mr. H. N. Ellison, West Bromwich, also showed ferns in popular and choice sorts, and of a very suitable size for either conservatory or room decoration. The plants for the most part showed that stamina and "hardness" so necessary for the latter purpose. The nymphæas shown by Messrs. Bakers, Wolverhampton, were surrounded by a variety of bog plants, such as Sarracenia purpurea, Mimulus maculosus, and typhas of sorts.

Marvellous is a word that can aptly be used in reference to the huge delphiniums shown by Messrs. J. Kelway and Son, Langport, Somerset. Not only were the spikes immense, but the individual pips were proportionately large, and in all the range of colour from white to indigo there was not a displeasing shade. Pæonies and sweet peas came to support the delphiniums and provide variety. One end of a tent was occupied by Messrs. R. P. Ker and Sons, Aigburth Nursery, Liverpool, who grouped dracænas, crotons, palms, etc., in considerable variety. Notwithstanding the late date, some very fine amaryllis were also shown, the crimsons and scarlets being very brilliant. A semicircular group of kalmias, rhododendrons, and cut-leaved acers was a most attractive exhibit from Messrs. John Waterer and Sons, Lim., Bagshot.

Everybody was delighted with the wealth of roses brought over by Messrs. A. Dickson and Sons, Lim., Newtownards, Ireland. Lady Helen Vincent, Mrs. Fred Straker, and Lady Greenall were all finely shown on bamboo stands, with boxes of older favourites in front. Messrs. Dickson, Brown, and Tait, Manchester, made their vegetables every bit as attractive as the floral exhibits. Colour, form, and size were alike excellent. A rockery of somewhat flat and formal design was built by Messrs. Bees, Lim., Liverpool. The plants which furnished the rockery included many choice and rare alpines, especially primulas. A massive group of very freely-flowered rambler and other roses came from Mr. Wm. Rowland, Childwall Nurseries, Liverpool. The plants were large and good, and the arrangement very effective.

MEDAL AWARDS.

Gold.—Kings Acre Nurseries, Hereford, for fruit trees in pots; Messrs. Dickson, Brown, and Tait, Manchester, for fruit and vegetables; the Hon. Vicary Gibbs, Elstree, for vegetables; Messrs. J. Waterer and Sons, Lim., Bagshot, for flowering shrubs; Messrs. Stuart Low and Co., for orchids, carnations, etc.; Messrs. Alex. Dickson and Sons, Lim., Newtownards, for new roses; Messrs. R. Wallace and Co., Colchester, for herbaceous flowers.

Silver-gilt.—Messrs. Bees, Lim., Liverpool, for rock-work, etc.; Messrs. Dobbie and Co., Edinburgh, for hybrid aquilegias and sweet peas; Messrs. Dickson and Robinson, Manchester, for hardy flowers; Messrs. Hogg and Robertson, Dublin, for bulbous flowers; Messrs. R. H. Bath, Lim., for pæonies and other hardy flowers.

Silver.—Miss Hemus, Upton-on-Severn, for sweet peas; Mr. W. J. Godfrey, Exmouth, for pelargoniums and hardy flowers; Mr. W. J. Unwin, Histon, for sweet peas; Messrs. Dicksons, Lim., Chester, for hardy flowers; Messrs. W. and J. Brown, Stamford, for roses and hardy flowers; Messrs. Barr and Sons, Covent Garden, for pigmy trees.

Certificates.—Messrs. Stuart Low and Co., Bush Hill Park, for a new Bougainvillea Rosa Catalina; Messrs. Blackmore and Langdon, Bath, for Begonias Miss Ethel Gill, Mrs. Lockwood, Mdme. Tetrazini, and Lady Tweedmouth.

GREAT FLOWER SHOW AT LIVERPOOL. [Photo: R. Brown, Liverpool.

New Sweet Pea Mrs. W. J. Unwin, shown by Mr. W. J. Unwin, Histon, Cambs.

NATIONAL VEGETABLE SOCIETY.

The following is the report of the Committee of the National Vegetable Society on the trials of autumn-sown spring cabbages conducted respectively at Twickenham, Middlesex; Sutton Green, Surrey; and Romford, Essex.

AUTUMN, 1909—SPRING, 1910.

In response to the invitation of the committee to various well-known seedsmen, thirty-nine stocks of cabbage seeds were sent in by nineteen diverse firms, as follows:—Messrs. Austin and McAslan, Glasgow; Messrs. James Carter and Co., Holborn; Messrs. Daniels Brothers, Norwich; Messrs. A. Dickson and Sons, Belfast; Messrs. Dickson, Brown, and Tait, Manchester; Messrs. Dickson and Robinson, Manchester; Messrs. Dobbie and Co., Rothesay; Messrs. Hurst and Son, Houndsditch; Messrs. W. W. Johnson, Boston; Messrs. Kent and Brydon, Darlington; Messrs. Pearson and Son, Nottingham; Messrs. Sutton and Sons, Reading; Messrs. James Veitch and Sons, Chelsea; Messrs. Robert Veitch and Sons, Exeter; ; Messrs. Vilmorin-Andrieux et Cie, Paris; Messrs. Watkins and Simpson, Covent Garden; Messrs. Webb and Sons, Wordsley; Messrs. Wheeler and Son, Warminster; and Messrs. Yates and Son, Evesham, to all of whom the committee's sincere thanks are gratefully tendered.

The seeds were all forwarded to Mr. G. Wythes, V.M.H., treasurer, who, with Mr. Owen Thomas, V.M.H., kindly undertook to duly divide, number, and forward them under number only to the respective trial stations. The various designations of the stocks sent were absolutely withheld from all by these gentlemen. The instructions sent to each station were that one portion of each stock should be sown on July 31, 1909, and a second sowing be made on August 14, thus enabling duplicate plantings and trials of each variety to be made. These dates for such purposes were carefully observed, and in each case plantings were performed almost simultaneously so soon as the seedling plants were fit for such purpose. The trial sites were in open fields in very exposed situations, and were conducted on strictly market garden lines. The Twickenham soil was of a fairly retentive loam on a deep base of gravel; that of Sutton Green a very sandy loam on a base of yellow sand; and that of Romford on clay. Distances apart in rows, lengths of rows, thirty plants in each, and general culture were identical, no special treatment having been furnished.

Mr. G. Hobday, of Romford, having reported that on his stiff, wet clay his earliest planting of the cabbages had failed, visits by the trial sub-committee were paid first to Twickenham (Mr. William Poupart's field) on April 21, and to the Times Experimental Farm, Sutton Green, Surrey, on April 22, their observations then made being chiefly limited to the first sowings and plantings for the trials. On both occasions very full notes were taken by the members of each stock, and after careful comparison the following marks and classification, based exclusively on the first sowing or first early merits of each variety, were unanimously agreed to. The members also agreed that, to secure quite early, firm hearts in the spring, sowings of the best varieties should always be made at the end of July or early in August. It is specially worthy of notice that several varieties bolted to flower badly from the first sowing, but evidenced that defect very slightly from the second sowing.

It is interesting to record that the later or August 14 sowing of all the previous-named varieties should have shown in the first place much later hearting and generally much more leafy production, but also that in scarcely a single case did any of the plants bolt to flower. Even those varieties of which, when sown on July 31, every plant bolted, gave not more than 5 per cent., and in some cases not more than 1 per cent., of bolted examples when sown at the later date. None the less, there can be no doubt but that such varieties are better suited for spring than for autumn sowing. Visits to the trials in all three cases, some two to four weeks later, showed that while all those varieties selected as the best and earliest maintained their character, some others were in very good form, though all distinctly later and more leafy. Some two or three varieties were specially so, and hardly merit garden cultivation.

The Romford trial from the second sowing on Mr. G. Hobday's stiff soil practically reproduced the results of the second sowing and planting at both Twickenham and Sutton Green, although growth was perhaps rather more leafy. In every case the trials were most ably, admirably, and impartially conducted.

In presenting this return of the respective merits of each variety, not only in relation to earliness of hearting and to trueness of stock, but also in relation to bolting to flower tendencies, the committee srongly emphasise the importance of securing stocks that are very early hearters, but are also rigidly true in character. Still further, having regard to the fact that no fewer than eleven stocks bolted off to flower prematurely under the earliest conditions of planting, and that several others showed from 5 per cent. to 10 per cent. of bolters, as well as being very irregular in character, seedsmen are strongly advised to specially catalogue all such for spring-sowing only. It would greatly help customers were cabbages classified as small hearting first early, medium hearting or main crop varieties, and if all those which bolt to flower freely from autumn sowings were classed as best fitted for spring sowing and summer hearting. In relation to the two first-named sections, it should be stated that small first early hearting cabbages may be planted as close as 12 inches apart, the breadth being cleared from the ground as fast as cutting proceeds. The second or stronger main crop section should be planted in rows 24 inches apart, as with these the stems can remain to sprout till the following spring.

The committee's warmest thanks are given to Mr. W. Poupart, Marsh Farm, Twickenham, for his great kindness in so admirably conducting his trial; to Mr. Charles Foster, the Times Experimental Station, Sutton Green, Surrey, for similar and most valuable services; and to Mr. G. Hobday, Romford, for his later trial. A special feature in both early trials was found in their great similarity of results. Special and most grateful thanks are due also to Mrs. Poupart, Mrs. Foster, and Mrs. Hobday for generous and welcome hospitality.

The committee desire to mention that the trials of seventy-two stocks of onions sent in by the before-named seedsmen were duly sown under number on August 20 last in long rows, and plants from each row have been litted and replanted in duplicate rows, thus presenting every appearance of providing first-rate trials of bulbs in July next. Similar trials are conducted at Twickenham and at Sutton Green. At the latter place also will be extensive trials of early dwarf peas and early potatoes.—(Signed),

ALEXANDER DEAN, V.M.H. (Chairman).

May 30, 1910.

THREE MARKS OR HIGHLY COMMENDED.

For Special Earliness and Excellence.

First and Best, Messrs. Hurst and Sons, Houndsditch.

Harbinger, April and Flower of Spring, Messrs. Sutton and Sons, Reading.

Ellam's Selected Early and Wheeler's Imprial, Messrs. James Veitch and Sons, Chelsea.

Early Market, Early Feltham, and Myatt's Offenham, Messrs. Watkins and Simpson, Covent Garden.

Wheeler's Imperial, Messrs. Wheeler and Son, Warminster.

Early Evesham, Messrs. Yates and Son, Evesham.

TWO MARKS OR COMMENDED.

All Best Suited for Later Hearting.

Heartwell Marrow and Mammoth Beefheart, Messrs. James Carter and Co., Holborn.

Harbinger (not Sutton's), Messrs. Dickson and Robinson, Manchester.

Milecross Marrow and Improved Excelsior, Messrs. Dickson and Son, Belfast.

Select Early Rainham and Selected Wheeler's Imperial, Messrs. Hurst and Sons, Houndsditch.

Blackwell Early, Messrs. Kent and Brydon, Darlington.

Conqueror, Messrs. Pearson and Sons, Nottingham.

Ellam's Early Dwarf, Messrs. Robert Veitch and Son, Exeter.

Nonsuch, Messrs. Watkins and Simpson, Covent Garden.

Birmingham Market, Messrs. Yates and Son, Evesham.

The following varieties received one mark only: Earliest and Best, First Crop, Flower of Spring (not Sutton's), Emperor and Market Garden.

The following stocks very largely or entirely bolted to flower prematurely from July 31 sowings: Express, Model, Early Garden, Little Queen, Early Conical, Early Express, Earliest Excelsior, Earliest of All, Paris Market, and Express Extra Early.

The following lists are specially appended by Mr. Charles Foster of the Times Experimental Station, Surrey, as indicating the results of his observations of the growth of each variety from the later sowings and plantings on his sandy soil.

Extra early hearting for early August sowing and September planting. Recommended to be grown 1 foot square. Varieties: Ellam's Early Dwarf, Sutton's April, Veitch's Selected Ellam's, Birmingham Market (Yates), Early Market (Watkins and Simpson), Harbinger Extra Early (Sutton), Wheeler's Imperial, Improved Excelsior (Dickson's), Early Rainham (Hurst and Son), Johnson's First Crop, Conqueror (Pearson), Early Offenham (Watkins and Simpson), and Blackwell Early (Kent and Brydon).

Early hearting for August sowing, medium size, for planting 18 inches square. Varieties: Heartwell (Carter's), Beefheart (Carter's), Milecross Marrow (Dickson), Johnson's Market Garden, First and Best (Hurst, Early Evesham (Yates), Nonsuch (Watkins and Simpson), Early Feltham (Watkins and Simpson), Flower of Spring (Sutton and Sons), Emperor (Webb and Sons), Earliest and Best (Dickson and Robinson), and Harbinger (Dickson and Robinson).

The following varieties are recommended for spring sowing or for autumn sowing after August 14 in the South of England. Sown on or after August 14. These are, May 19, excellent in every way, good hearts, and very even stocks, equal to the best of the other varieties sown on the date named. They are worth three marks, being compact in growth with conical hearts. Carter's Model, Extra Early Express (Vilmorin), Earliest of All (Veitch, Exeter), Dobbie's Earliest, and Little Queen (Daniels).

The following varieties were not so good, with outer leaves more spreading: Early Garden, Early Conical, Excelsior, Paris Market, and Early Express.

FORTHCOMING ENGAGEMENTS.

MONDAY, June 27.—Isle of Wight Rose Show at Ryde.
WEDNESDAY, June 29.—Richmond Flower Show.
THURSDAY, June 30.—Birmingham Rose Show.
SATURDAY, July 2.—Windsor Rose Society.
  Sutton Rose Show.
  Warminster Rose Show.
  French Horticultural Society of London.
MONDAY, July 4.—Chingford Horticultural Society.
TUESDAY, July 5.—Holland House Show; Two days.
  Southampton Rose and Sweet Pea Show; Two days.
  Brighton Rose and Sweet Pea Show; Two days.
  Southend Horticultural Society; Two days.

British Gardeners' Association (London Branch).—We are requested to announce that the outing which had been fixed for to-day (Saturday, June 25) has been postponed.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

SPORT FROM PELARGONIUM CLORINDA.—A. A., Hungerford: The sport is a pretty one, and is well worth propagating. If it grows and flowers as freely as the parent it should have a commercial value, as many people would prefer the colour of the sport to that of P. Clorinda.

SWEET PEAS.—W. H., Letchworth: You will find all the information you need in connection with the exhibition of sweet peas in "Sweet Peas and Their Cultivation," to be obtained for 1s. 2d., or 1s. 8d. post free, from the Gardeners' Magazine office, 148, 149, Aldersgate Street, E.C.

STRAWBERRY FOR NAME. — O. E., Chirbury: The fruits did not reach us in a fit state for naming. They were of enormous size, and gave evidence of exceptionally good culture; the bright outer colour, and pale flesh, suggest Royal Sovereign, but we assume you are quite familiar with this popular variety. Whatever the variety may be it is evidently a fine one under your system of culture, provided the flavour is as good as the appearance of the fruits. Fruits and flowers for name should always be sent to us at Endsleigh, Priory Park, Kew.

SECOND STEM TO TOMATOES. — R. L., Norwich: It is not the usual custom to allow tomatoes to develop a second stem, but we have seen it done with considerable success on at least two occasions. In the one case it was in Mr. Murgatroyd's garden at Chelmsford, and in the other at The Hendre Gardens, Monmouth, where Mr. T. Coomber is head gardener. Mr. Coomber used to train up a growth from the base of each plant as soon as a few trusses of fruit were swelling away freely and beginning to ripen; as the fruits on the original single-stemmed plant were removed the secondary growth advanced, and, in turn, produced flowers and fruits. The leaves on the first stem were removed or reduced so as to secure all the light possible for the second stem. Whether Mr. Coomber practises this method now we do not know. If the crop has to be cleared out in autumn to make room for other things it would be inadvisable to train up the second growth. Good feeding is obviously necessary is such a case of double cropping.

PLANTING OUT BOUVARDIAS. — B. A. N., Chertsey: The present is a good time to plant out bouvardias. The site must be a sheltered and sunny one, and the soil rich and well-drained. Provide sufficient water all through the summer, and pinch out the growing points twice to secure bushy growth. In the autumn cut round the roots with a clean sharp spade, and a few days after lift and pot the plants carefully. Shade for a few days, and place in a greenhouse, where a temperature of 55 degrees can be maintained easily in cold weather. Under these conditions bouvardias flower very freely, and over a long period.

WEEPING TREES.—C. C., Winchelsea: Weeping trees add considerably to the attractions of a garden by reason of their grace. At this season of the year such trees are to be seen in full beauty, and a visit to a large public or private garden where trees and shrubs are a feature should be made for the purpose of deciding which kinds would be most suitable for you. The birches give us two elegant weeping trees, one known as Young's Weeping (Betula alba pendula Youngi), and the other as the Cut-leaved Weeping (B. alba incisa pendula). The Weeping Beech (Fagus sylvatica pendula) is very desirable, as also is the Fern-leaved Beech (F. sylvatica asplenifolia), which is of erect growth and extremely elegant. The Weeping Ash (Fraxinus excelsior pendula), Weeping Elm (Ulmus montana pendula), the Scampston Weeping Elm (U. americana pendula), Weeping Lime (Tilia argentea pendula) can all be strongly recommended, and should be selected according to the class of tree preferred. There are several weeping willows, and of these the Common Weeping Willow (Salix babylonica) is the best for planting on the margins of lakes or ponds or by the side of streams, and the American Weeping Willow (S. purpurea pendula) for dry positions.

FEEDING PEACH TREE.—L. E. C., Lichfield: Give the root area a thorough soaking with clear water that has been aerated, and twenty-four hours later give liquid cow manure in quantity, and mulch the soil with half-rotten manure. Remove useless growths, but not all at once, and train in the shoots that are to provide the fruiting wood for next season.

AMARYLLIS. — E. J. J., Tamworth: There is no special difficulty in raising a stock from seed, but as the seedlings do not bloom until the third season from the time of sowing, the preferable course is to commence their cultivation by purchasing bulbs of seedlings or named varieties that have reached a flowering size. The bulbs should each year remain in the pots in which they were flowered until January, and then be shaken out and repotted, six-inch pots being the most suitable for flowering bulbs of average size; for rather small bulbs five-inch pots will be sufficient; while for those of extra size pots seven inches in diameter will be necessary. Use a compost consisting of turfy loam six parts and one part each of well-rotted cow manure, leaf-mould, and coarse sand. The pots must be well drained, and the bulbs should be buried to rather more than one-half their depth, and have the soil pressed firmly about them. For flowering during the spring months, when they are of the greatest value, they may be started at any time between January 1 and March 1; but the best plan is to divide the stock into three portions, and start one batch early in January, and others in February and March. A temperature between 55 deg. and 60 deg. will be the best for starting them into growth, and very little water should be given them until they are growing freely. When the flower stems have attained their full length, and the buds are beginning to expand, remove them to a warm position in the greenhouse, place near the glass, and give an occasional supply of weak liquid manure. It is essential to give the bulbs careful attention after they have flowered to ensure the completion of the season's growth.

LYCASTE SKINNERI.—A. P. S., Rotherham: If the plants are thoroughly established, and the soil and drainage are in good condition, you may give them a watering with weak liquid cow manure once a week throughout the summer season.

COCKROACHES IN CONSERVATORY.—M. A. R., Reigate: The various patent contrivances for capturing cockroaches are of great value, and should be used in conjunction with other homely remedies. The great thing in dealing with an invasion of cockroaches or any other pest in glasshouses is persistence over a considerable period, as by this means the several generations are secured, and the plague stamped out. A good remedy is arsenic and honey well mixed together, and placed in small quantities on bits of crock or glass in their haunts. Oatmeal and honey are a good bait, adding one and a-half ounce of arsenic to a pound of oatmeal, putting it on pieces of crock or in oyster shells, and laying them where the marauders congregate. We have seen many

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caught by placing on the floor a basin of water, putting a few strips of laths against them, and sprinkling a little oatmeal on them. The beetles run up the laths and drop into the water. Stale beer is of great use in trapping these pests, and a good plan also is to use phosphorous paste, but in all remedies of this kind be careful not to put them where household pets are likely to think them harmless eatables and be poisoned in consequence.

NAMES OF PLANTS.

B. C., Guildford.—Romneya Coulteri.

O. L. S., Doncaster.—1, Oncidium macranthum; 2, Odontoglossum pulchellum.

Hortus, Whittlesea.—1, Geranium ibericum platypetalum; 2, Armeria cephalotes.

F. B. W., Selby.—1, Odontoglossum crispum; 2, Epidendrum prismatocarpum; 3, Impatiens Sultani.

A. D., Helensburgh.—1, Coprosma Baueriana; 2, probably Liriodendron tulipifera; 3, Kalmia angustifolia.

R. N. V., Huntingdon.—1, Philadelphus coronarium; 2, Cytisus scoparius Andreanus; 3, Tilia argentea.

N. T., Ipswich.—1, Pelargonium Clorinda; 2, Helxine Solieroli; 3, Lupinus polyphyllus; 4, Monstera deliciosa; Cupressus Lawsoniana erecta viridis.

G. R. G., Stroud.—1, Haberlea rhodopensis; 2, Torenia Fournieri; 3, Mimulus luteus; 4, Kolreuteria paniculata; 5, Kerria japonica fl.-pl.; 6, Aristolochia Sipho.

S. R., Swindon.—Odontoglossum citrosmum; we see by the photograph you have staked the spikes upright; they would have looked much better hanging down naturally.

TRADE NOTE.

As supplementary to our full and freely-illustrated account of some of the more noteworthy of the gardens in the Dukeries, we would mention as a matter of additional interest that the fine range of fruit houses which constitute so important a feature of the Clumber gardens, were built by Mr. James Gray, of Chelsea; also that the ranges of fruit and plant houses at Rufford Abbey, in which Mr. Doe achieves such successful results in fruit and plant culture, were erected by Messrs. Mackenzie and Moncur.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Trade is fairly brisk and supplies are steady.

		s.	d.	s.	d.
Adiantum cuneatum	per doz. bun.	6	0	8	0
Anemones	per doz.	1	0	1	6
Arums	per doz.	1	6	2	6
Asparagus	per bun.	1	0	1	6
Carnations	per doz. blms.	2	0	5	0
,,	per doz. bun.	12	0	18	0
Cattleyas	per doz.	6	0	10	0
Croton leaves	per bun.	1	0	2	6
Eucharis	per doz.	3	0	5	0
French fern	per doz. bun.	0	6	0	9
Gardenias	per doz.	1	0	2	0
Gladiolus	per doz. bun.	6	0	9	0
Gypsophila elegans	per doz. bun.	2	0	3	0
Iris, Spanish	per doz. bun.	4	0	7	0
Lapagerias	per doz.	1	6	2	0
Lilium auratum	per bun.	2	0	3	0
,, candidum	per doz.	1	0	2	0
,, speciosum	per bun.	1	6	2	6
,, longiflorum	per bun.	2	0	3	0
Lily of the Valley	per doz. bun.	5	0	12	0
Marguerites	per doz. bun.	2	0	5	0
Mignonette	per doz. bun.	3	0	4	0
Odontoglossums	per doz. blms.	1	0	2	6
Pelargoniums	per doz. bun.	4	0	6	0
Poppies	per doz. bun.	8	0	10	0
Roses	per doz.	1	0	4	0
Smilax	per doz. trail.	3	0	4	0
Spiræa	per doz. bun.	4	0	6	0
Stocks	per doz. bun.	3	0	4	0
Sweet Peas	per doz. bun.	2	0	5	0
Tuberoses	per doz. blms.	0	4	0	6
Violets	per doz. bun.	1	0	2	6

Fruits.

Strawberries are excellent and cheap; cherries and apricots sell well and the best peaches realise good prices.

		s.	d.		s.	d.
Apples, Tasmanian	per case	9	0	to	13	0
,, Australian	per box	8	0		10	6
Apricots	per box	0	9		1	6
Bananas	per bun.	3	6		10	6
Cherries, Spanish	per box	1	0		2	0
,, French	per ½-sieve	4	0		12	0
Cranberries	per case	6	0		7	0
Figs	per doz.	1	6		6	0
Gooseberries	per ½-sieve	1	6		3	6
Grapes, English	per lb.	1	0		4	0
,, Guernsey	per lb.	2	0		3	6
,, Almeria	per doz. lb.	4	0		7	6
,, Cape	per 20lb. box	9	0		14	0
Lemons	per case	10	0		30	0
Melons	each	0	8		2	0
Nectarines	per doz.	3	0		10	0
Oranges, Murcia	per case	10	0		17	0
,, Navels	per case	10	0		16	0
,, Denia	per case	14	0		20	0
Peaches, English	per doz.	3	0		10	0
Pears, Australian	per package	12	0		18	0
Pineapples	each	2	6		4	6
Strawberries (Southampton)	per bskt.	1	0		1	9

Vegetables.

Salading and greenstuffs are now in great request and business is brisk all round.

		s.	d.	s.	d.
Artichokes, Globe	per doz.	2	6	3	0
Asparagus	per bun.	0	8	5	0
Beans, Dwarf	per lb.	0	8	1	0
Beet	per bush.	2	0	2	0
Cabbages, Spring	per hamper	2	6	3	6
Carrots, new	per doz. bun.	4	0	6	0
Cauliflowers	per doz	2	6	4	0
Cucumbers	per flat	3	6	6	0
Endive	per doz.	2	0	2	6
Lettuce, Cabbage	per hamper	1	6	2	6
,, Cos	per score	0	6	1	0
Marrows	per doz.	4	0	8	0
Mint	per doz. bun.	3	0	6	0
Mushrooms	per doz. lb.	7	6	12	0
Mustard and Cress	per doz. pun.	0	6	0	8
Parsley	per ½-sieve	1	6	2	0

LONDON POTATO MARKETS.

Supplies are moderate and business steady.

		s.	d.		s.	d.
Blacklands	per ton	40	0	to	50	0
Dunbars	per ton	85	0		90	0
Evergood	per ton	40	0		50	0
Kents	per ton	56	0		60	0
Up-to-Date	per ton	45	0		60	0
Teneriffe, new	per cwt.	6	0		9	0
Jerseys, new	per cwt.	8	0		8	6
Lisbon, new	per case	4	0		4	6
St. Malo, new	per cwt.	7	0		8	6

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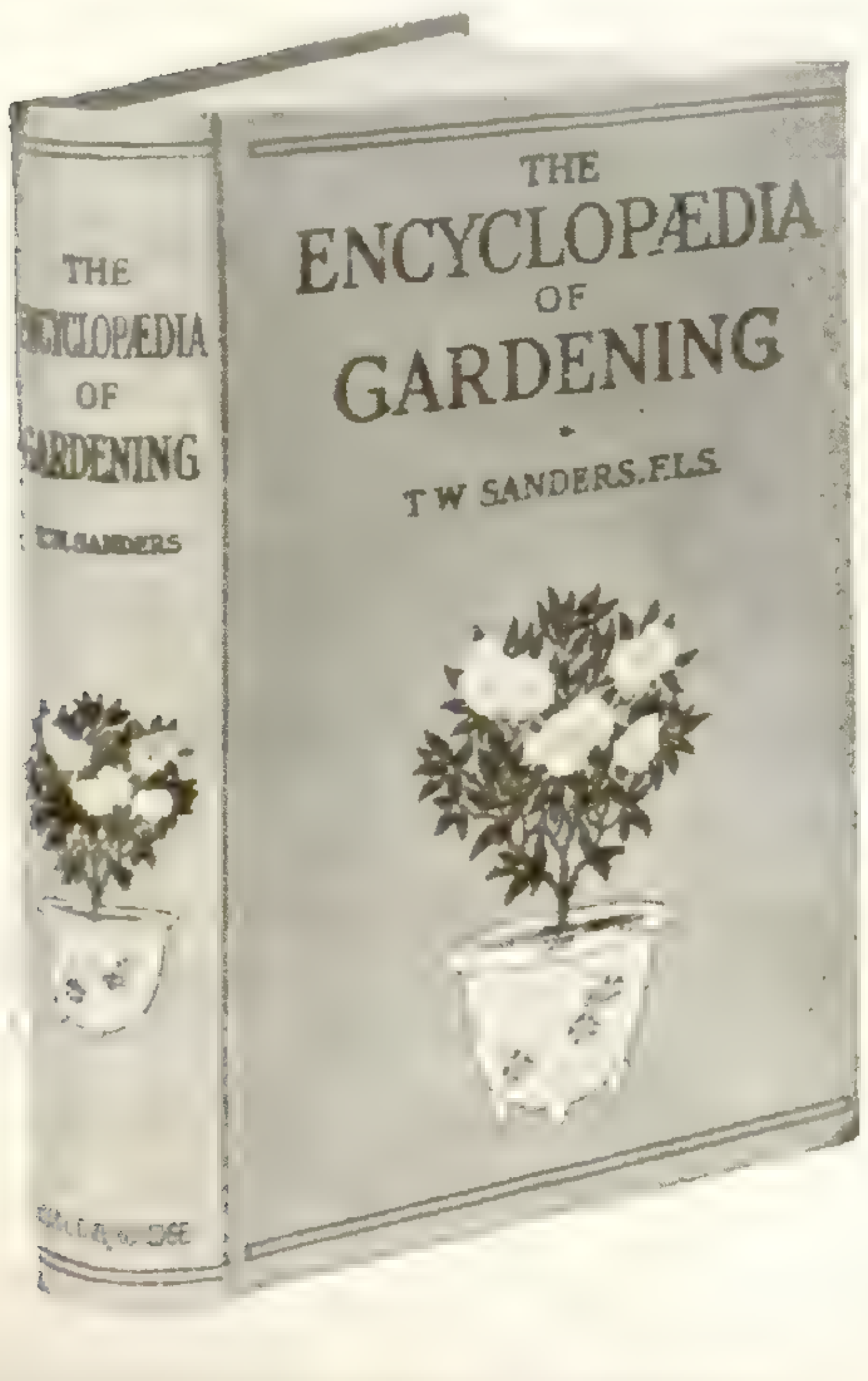

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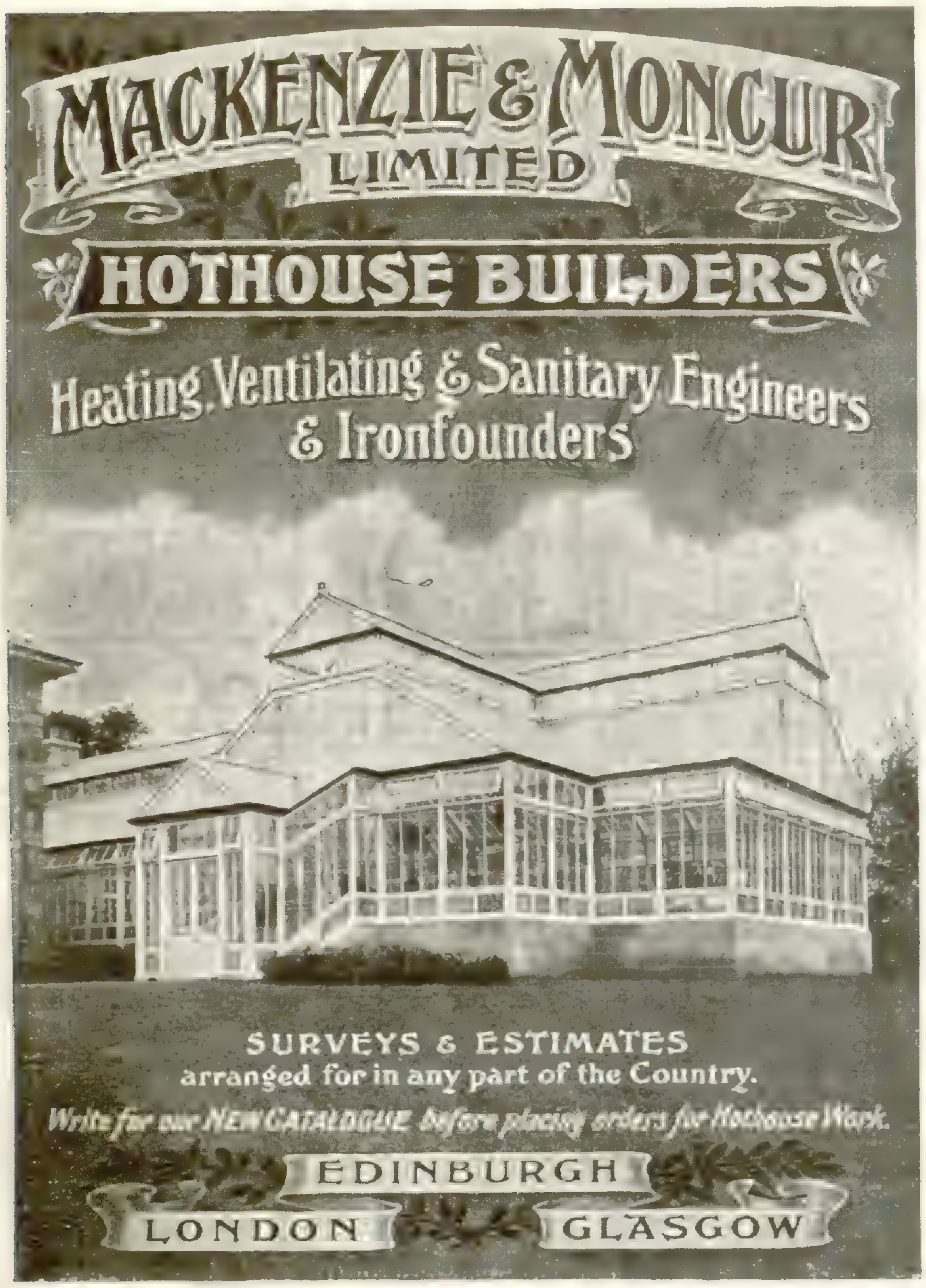
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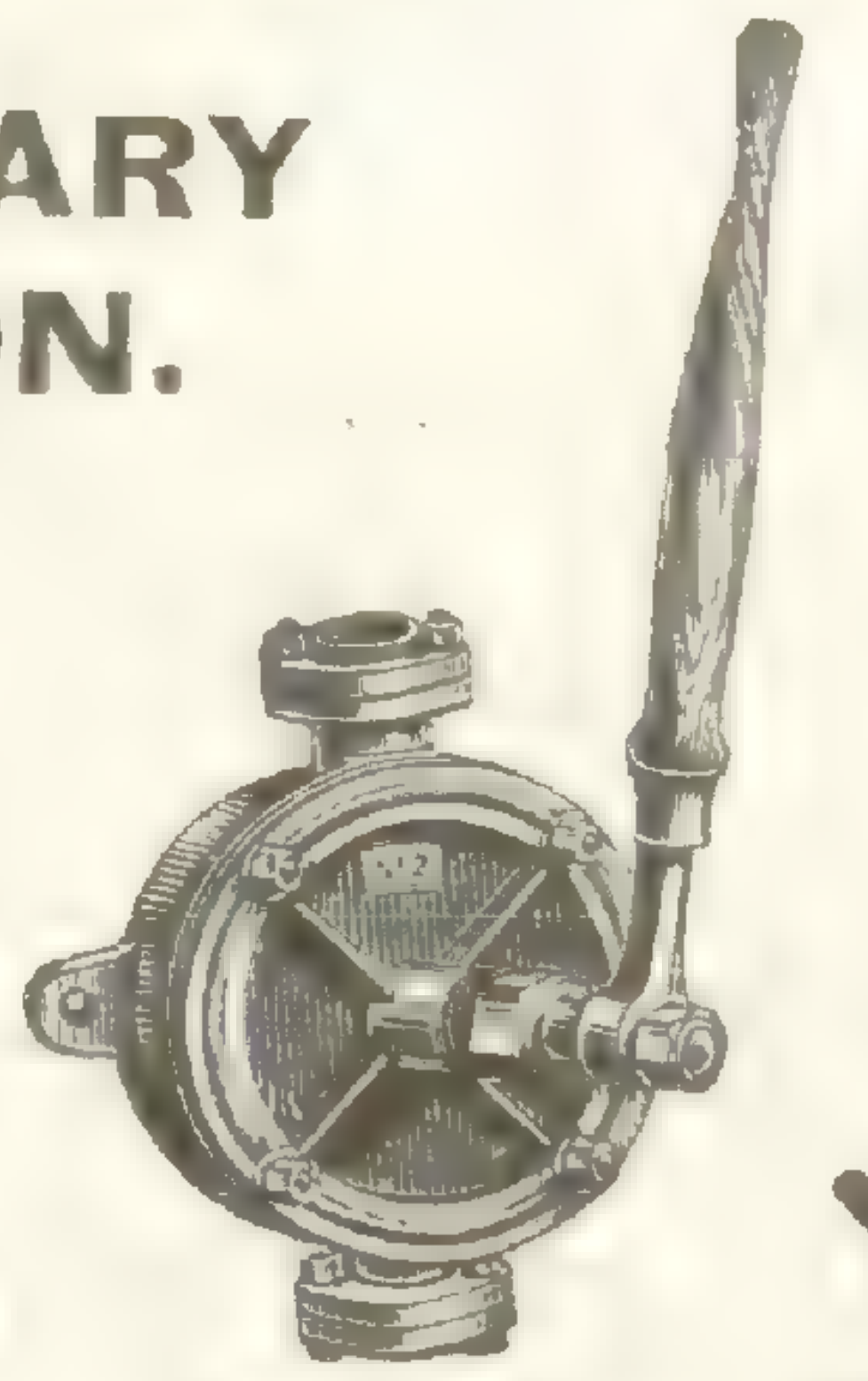

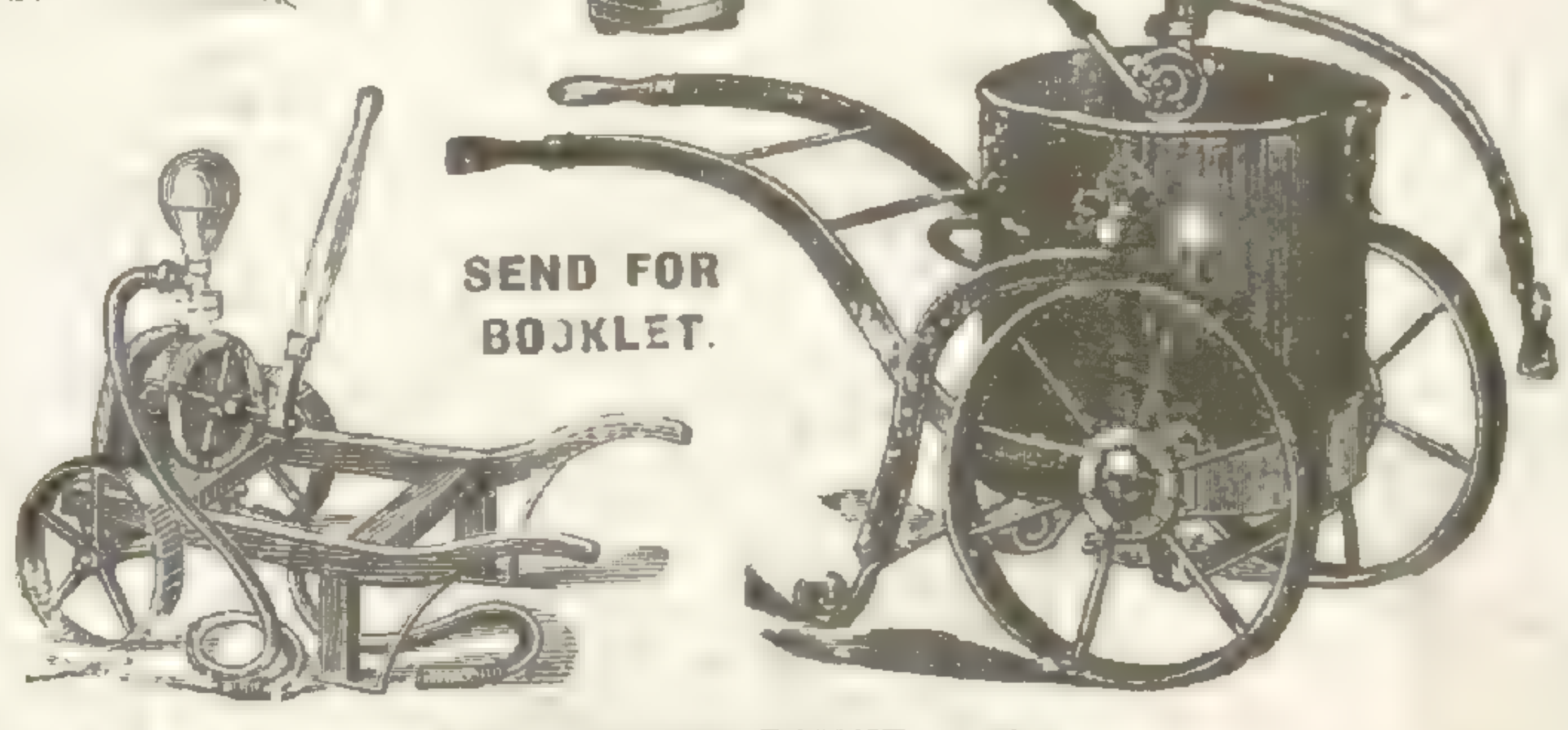
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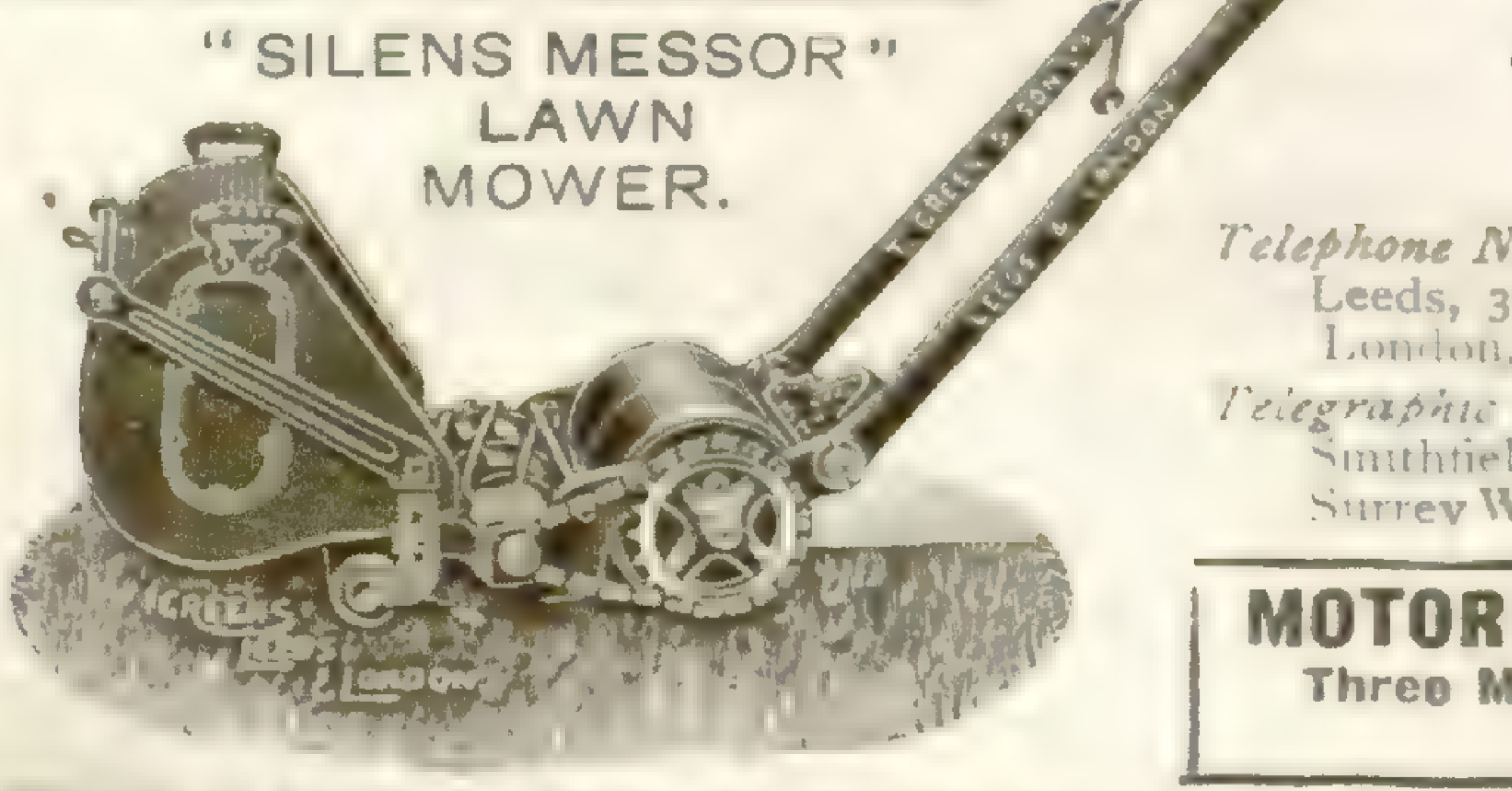

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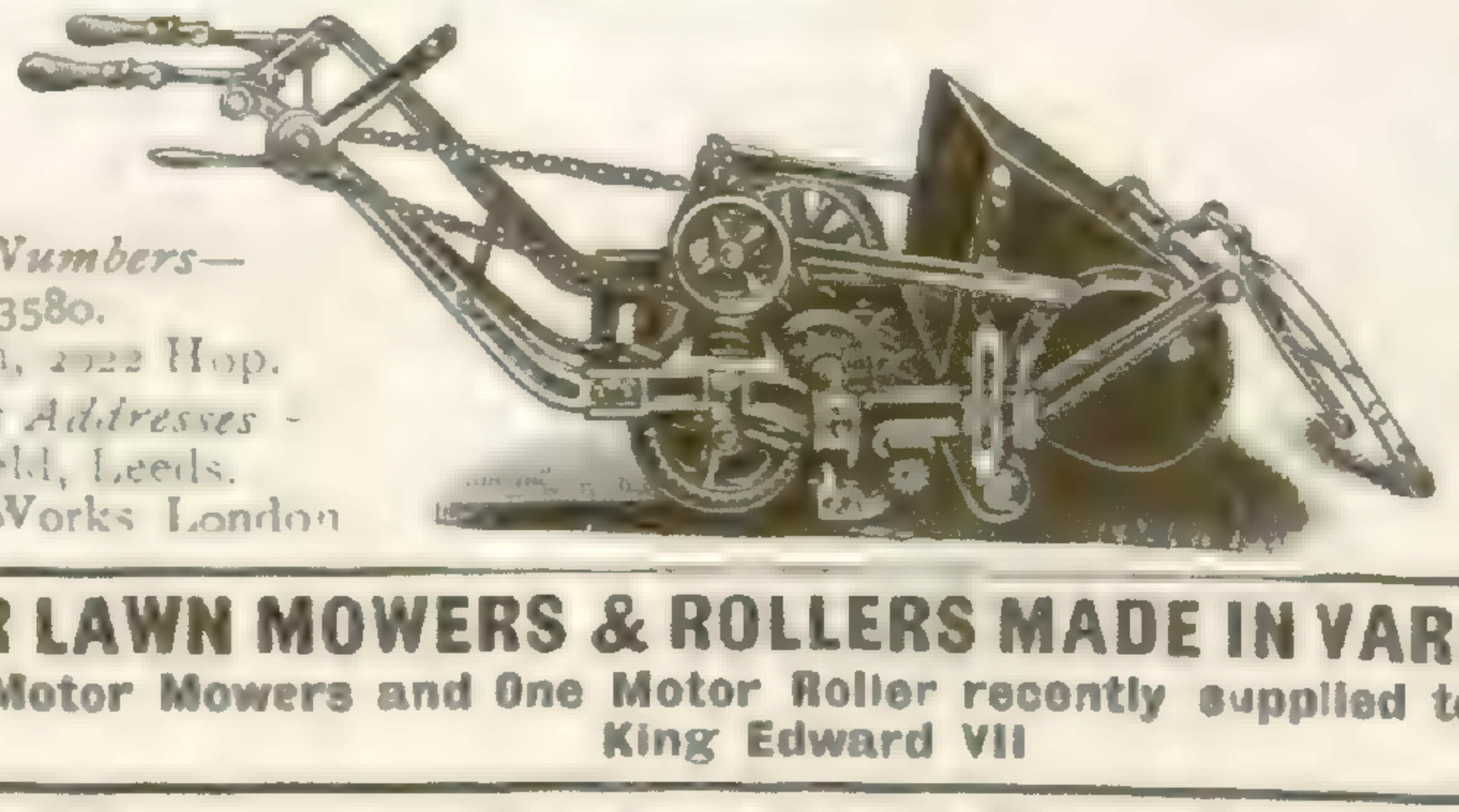

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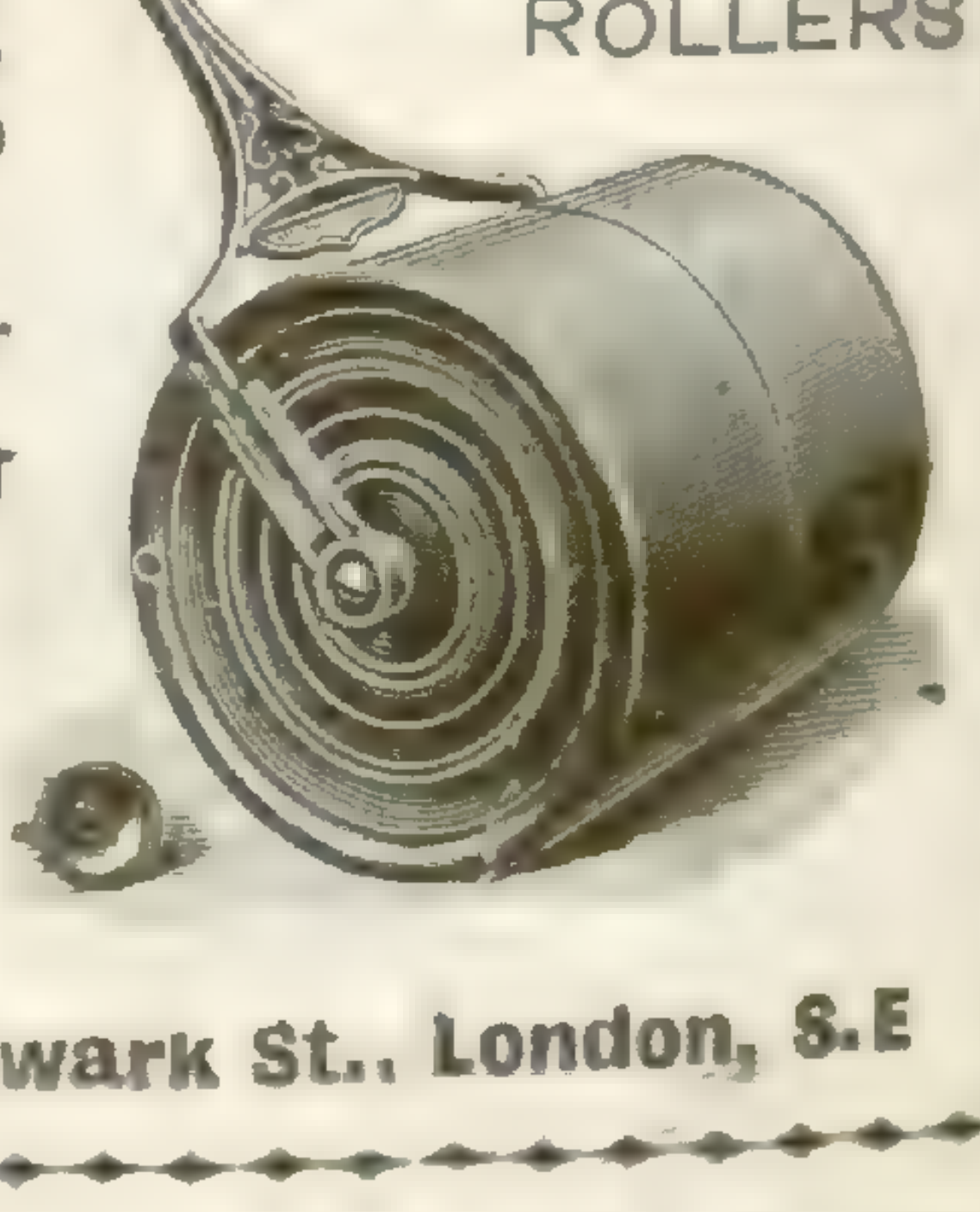

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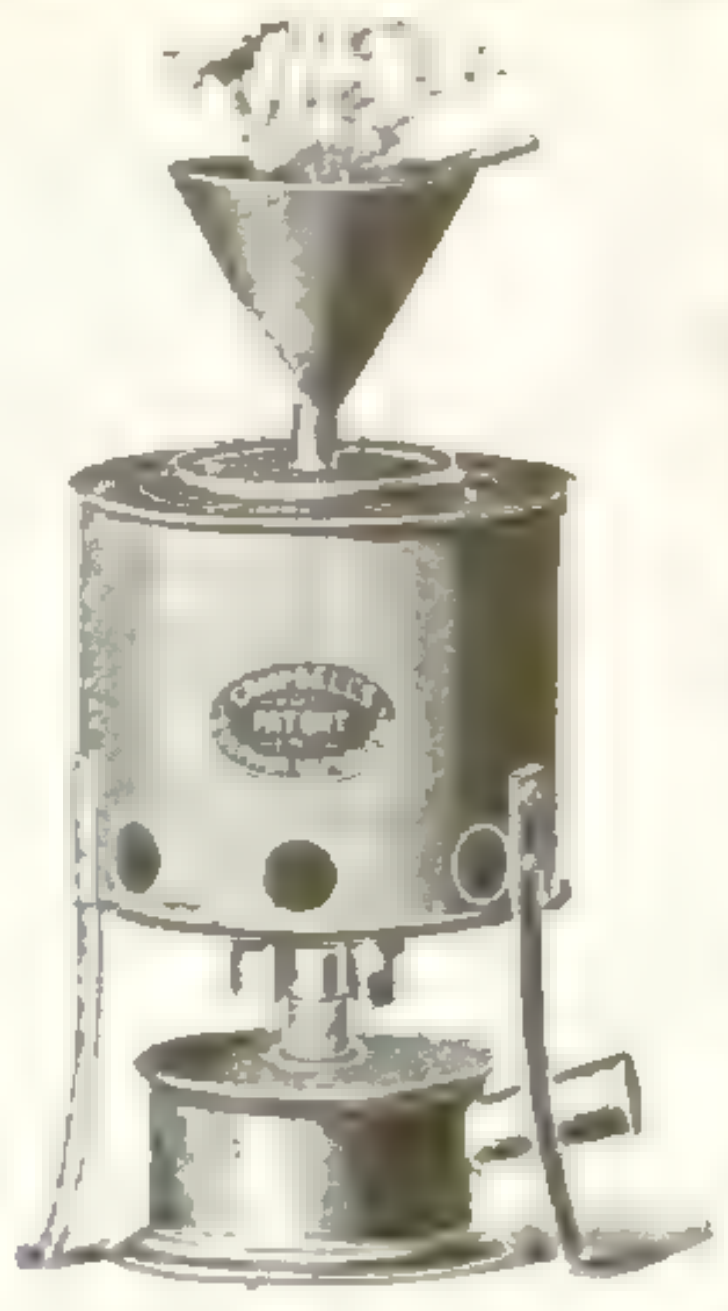

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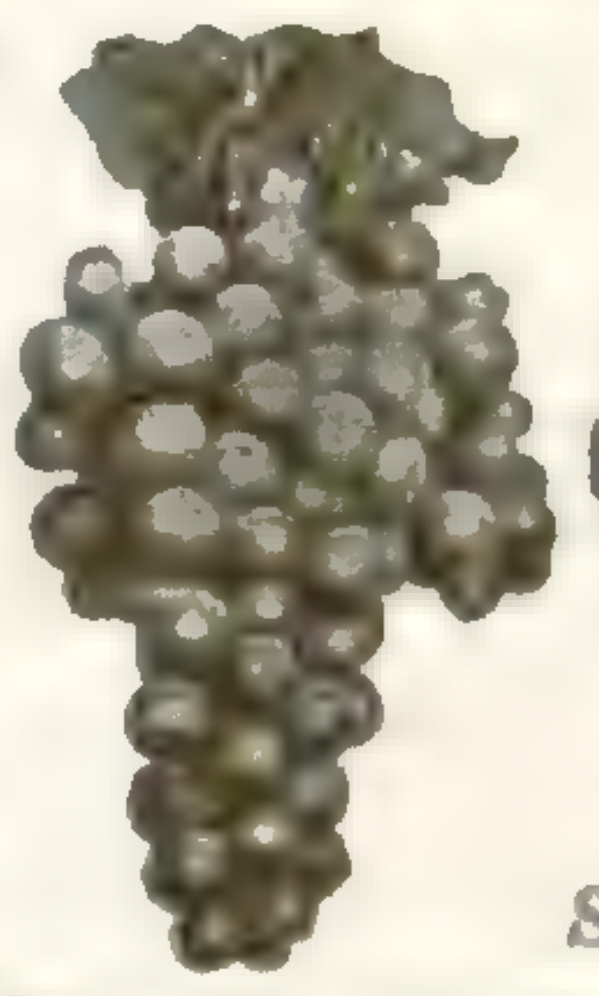

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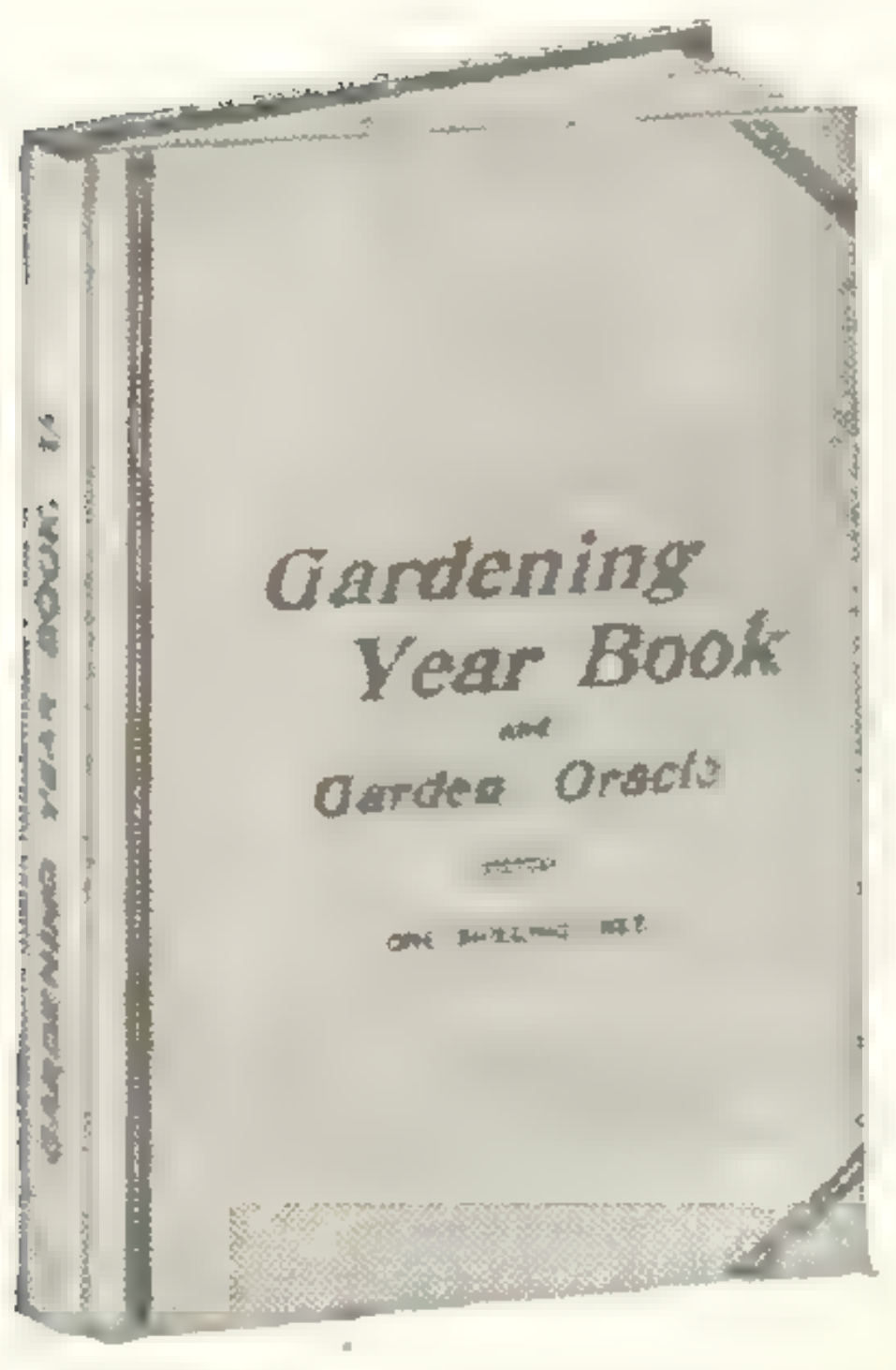

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VOL. LIII.—No. 2,957. SATURDAY, JULY 2, 1910.

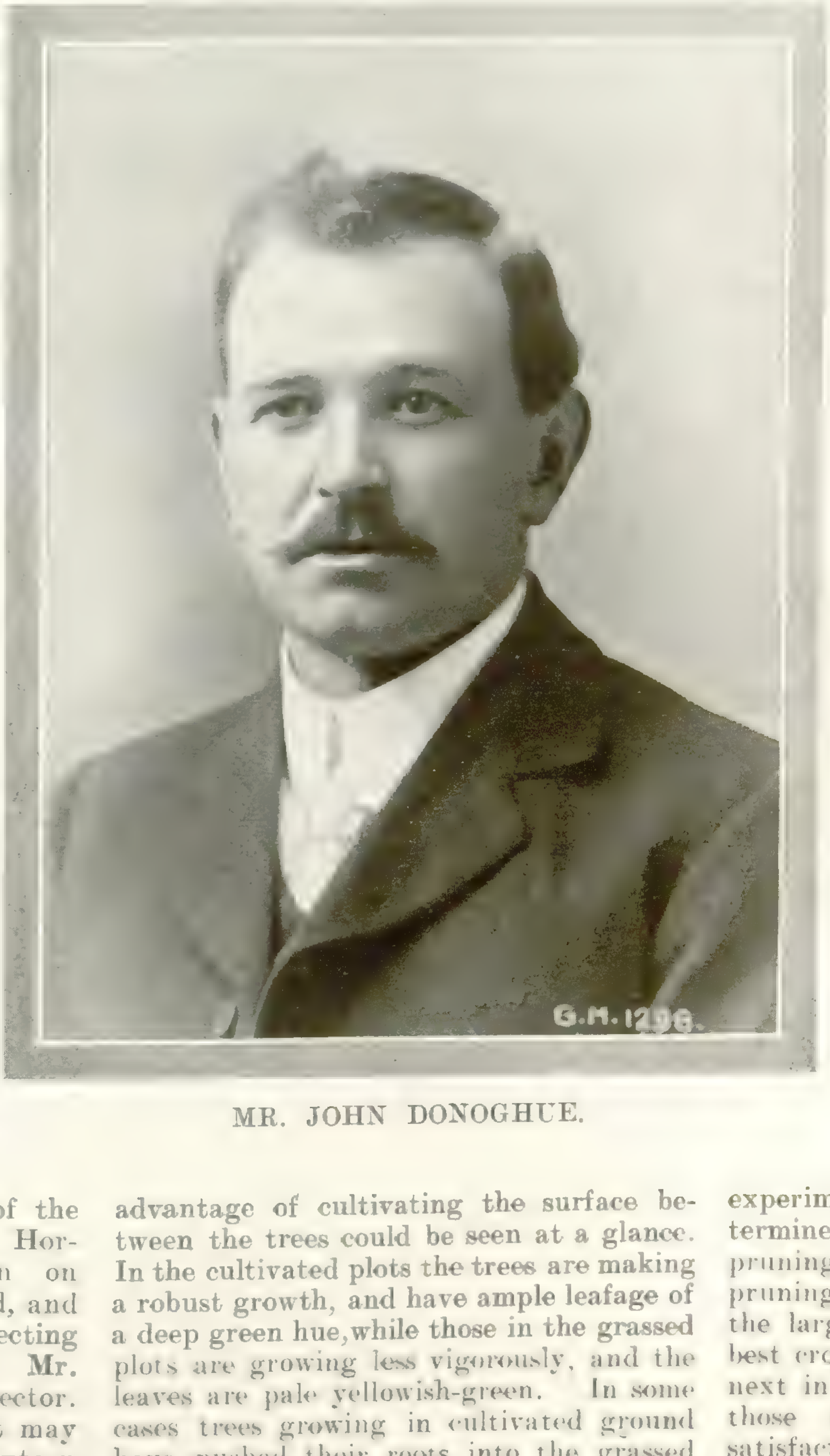
THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

◆

Experiments in Fruit Culture.

The value of experimental work in the solution of problems that perplex cultivators, and in testing the soundness of theories having relation to the production of fruit and vegetable crops cannot well be overestimated. But to be of service experiments must be conducted on strictly scientific lines that all sources of error may be eliminated; and extend over a sufficient period to give really definite results. If experiments are carefully carried out, and they are not worthy of consideration unless that be the case, their value is not to be measured by increased crop production. They are equally valuable whether the results show that by following a certain course of procedure a manifest improvement in the crop will be effected, or whether the crop will be unsatisfactory in quantity or quality. This point is sometimes overlooked, and at the gathering of horticulturists at the Woburn Experimental Fruit Farm on the 23rd ult. some of those present did not appear to so fully appreciate the importance of experiments that showed the cultivator what he should avoid, as of those which proved to demonstration that by following a certain course of procedure a larger measure of success may be achieved. This manner of regarding experimental work should, as far as possible, be avoided, for not until the whole of the lessons it is capable of teaching are mastered is it possible to obtain full advantage from them. The party, which consisted of members of council and of the standing committees of the Royal Horticultural Society, visited Woburn on the invitation of the Duke of Bedford, and had an opportunity of leisurely inspecting the farm under the guidance of Mr. Spencer Pickering, F.R.S., the director. This experimental fruit farm was, it may be mentioned, established about sixteen years ago by the Duke of Bedford for the purpose of solving some of the more difficult problems in fruit culture, and of assisting those of the tenants on the Woburn estate who were in need of information on the planting and management of orchards. Neither the position nor the soil are particularly favourable to fruit culture, but this fact, while it may have somewhat hampered Mr. Spencer Pickering in his experiments, has not appreciably diminished the value of what has been accomplished. The first of the experiments to which the attention of the visitors was directed was that devised for the purpose of testing the effect produced by grass on both garden and orchard trees. The difference in the condition of the trees in the cultivated and grassed plots was so marked that the advantage of cultivating the surface between the trees could be seen at a glance. In the cultivated plots the trees are making a robust growth, and have ample leafage of a deep green hue, while those in the grassed plots are growing less vigorously, and the leaves are pale yellowish-green. In some cases trees growing in cultivated ground have pushed their roots into the grassed area, and these show signs of injury, but to a much less extent than those growing in an area that is wholly grass covered. Strenuous endeavours have been made at Woburn to determine the cause of the injury, but so far they have not proved successful. It has been proved by experiments extending over a considerable period that it is not due to the grass depriving the trees of either food or water, or preventing the air passing down to the roots. Trees with grass growing about them that have had additional supplies of food and water conveyed to their roots by means of underground pipes were in practically the same state of health as the grassed trees that had not received additional assistance. That the injury has not been caused by the grass depriving the roots of air has been proved by enclosing the roots in bottomless cylinders some four or five feet in diameter, and covering the surface with a layer of cement. These have been artificially supplied with food and water, and are more healthy in appearance than neighbouring trees with grass growing about them. Experiments are still in progress, and Mr. Spencer Pickering is inclined to the opinion that the injury done by the grass is due to its toxic effects. The determination of the point will be of great scientific interest, but sufficient has been proved to demonstrate that there is an immense advantage in growing hardy fruits in cultivated ground, a fact that should not be lost sight of by cultivators. The experiments in pruning are of much interest, especially as they have given definite results. It has been proved that shortening the shoots of newly-planted trees to about two-thirds their length before growth commences in spring has an important influence upon their welfare. This is, of course, what would be expected by experienced fruit growers; but few would have anticipated the results that have been obtained in pruning established trees. In the experiments conducted with a view to determine the relative advantages of severe pruning, moderate pruning, and non-pruning, the unpruned trees have attained the largest dimensions, and produced the best crops of fruit, those moderately rank next in growth and productiveness, while those severely pruned are the least satisfactory. In the case of the plots of Bramley's Seedling Mr. Spencer Pickering stated that, taking 100 as the value of the crop of the severely pruned trees, the value of the crop of those moderately pruned was 131, and of the unpruned trees 150. In favourable seasons the fruits set so freely on the last-named that thinning was necessary to ensure their attain-



MR. JOHN DONOGHUE.

ing full size, and the practice that had been adopted with success was to thin to two fruits to each cluster. There was no marked difference in the appearance of the unpruned and the moderately pruned trees, except that the branches of the former are rather crowded. It was surprising to find as the result of the manurial experiments that manures, whether artificial or natural, have had no effect on the growth and the cropping of the apple trees throughout the past fifteen years. With bush fruits growing in the same plots the difference has been considerable, and in the sandy soil in a small experimental station in the village of Millbrook the apple trees have derived considerable benefit from manurial dressings. The lesson to be derived from the results obtained at Woburn is the importance of carefully adapting the method of procedure to the conditions that obtain. The effect of ramming the soil when planting is everywhere evident, for the results obtained in the earlier experiments in planting were so unexpected that not until at least two thousand trees had been planted was Mr. Spencer Pickering satisfied as to there being no possibility of error.

Mr. John Donoghue, whose portrait we have great pleasure in presenting to our readers in this issue, is known by reputation to most of our readers, as he has contributed calendarial notes to our pages. In the North of England, Yorkshire especially, Mr. Donoghue is well known as a clever plantsman and a successful competitor, and our records of the York Gala shows of the past few years prove that in the arrangement of an artistic group and the display of carnations in pots he is rarely beaten. Mr. Donoghue began his gardening career at Woodthorne, the residence of Lord Wolverhampton, and passed on to Vale Head and Old Springs Hall at Market Drayton. He subsequently became foreman under Mr. Harman, at Newnham Paddox, Rugby, the residence of the Earl of Derby. Here he stayed some time, and the opportunities for continuing his studies in landscape gardening, forestry, etc., were taken full advantage of, Mr. Harman, who is also a lecturer in horticulture for the Warwick County Council, rendering him all possible assistance. After a short stay at the Messrs. Dicksons', Chester, Mr. Donoghue went as carnation grower under Mr. Leadbetter, at Tranby Croft, Hull, and subsequently became general foreman at this famous establishment, occupying that position for seven years, and further adding to his knowledge of landscape gardening and forestry, as well as the general routine of a well-kept garden. Mr. Donoghue gives a full meed of praise to Mr. Leadbetter and Mr. Harman for the kindly and practical interest they take in the young men under them; that he himself has profited by their advice and help is proved by the position he now holds as head gardener to Joseph Pickering, Esq., at Bardon Hill, Weetwood, Leeds. Mr. Pickering is a keen lover of all gardening, and a liberal supporter of horticultural movements. Mr. Donoghue secured a Second Class Certificate at the R.H.S. examination in 1901, and a First Class in the following year; he has won numerous prizes for essays in competitions at Hull, Hessle, and the East Anglian Horticultural Club, and at York Gala he has won three first and two second prizes in the large group class, and six firsts for a group of carnations, during the last five years.

Royal Patronage for the Royal Horticultural Society.

Our readers, and especially those who are Fellows of the R.H.S., will learn with much pleasure that their Majesties King George V. and Queen Mary have consented to become patrons of this society.

International Horticultural Exhibition, 1912.—It has been decided by the executive committee that the International Horticultural Exhibition, to be held in 1912, shall extend over eight days, and the opening has been fixed for May 22. The eight days will include Whit Monday, and an opportunity will be thus afforded the masses to visit the show. The committee have obtained the option of a site for the exhibition in the west of London.

Visit of Horticulturists to Woburn.—On Thursday, June 23, on the invitation of the Duke of Bedford, a large party of horticulturists, comprising members of the council and committees of the Royal Horticultural Society, visited the experimental fruit farm, which was established sixteen years since on the Woburn Estate. The party included Sir Albert Rollit, Professor Bateson, Mr. J. Douglas, Mr. J. Willard, Mr. C. E. Shea, Mr. C. Foster, Mr. A. W. Hill, Mr. George Gordon, Mr. C. R. Fielder, Mr. S. T. Wright, Mr. O. Thomas, Mr. W. Bates, Mr. Davis, Mr. A. H. Pearson, Mr. Gaskell, Mr. Reader, and other prominent horticulturists that are associated with the Royal Horticultural Society and its work. Mr. Spencer Pickering, the director, met the party on arrival at Ridgemont, and, proceeding at once to the experimental fruit farm, he explained with remarkable clearness the experiments now in progress, and showed the results of those that had been completed. After devoting two hours or so to an inspection of the experiments, a break was called, and the members of the party were driven to Woburn Abbey, where they were entertained at luncheon. On the way to the Abbey the party passed along one of the magnificent grass drives that form so fine a feature of the park, and the stately cedars and other coniferous trees, and the glorious masses of rhododendrons were much admired. A hearty vote of thanks was, on the proposal of Sir Albert Rollit, accorded to the Duke of Bedford for his generous hospitality, and to Mr. Spencer Pickering for his contribution to the success of the visit. The luncheon was followed by an inspection of the priceless treasures of art that abound in the stately edifice, and after a walk through the pleasure grounds, carriages conveyed the party through another part of the park to enable the members to see the many rare birds and curious animals for which Woburn Abbey is famous. A further inspection of the fruit farm followed, and this was continued with unabated interest until the hours for tea and entrain were called.

Holland House Show.—This great exhibition, which will be held on Tuesday and Wednesday next, has the promise of proving an exceptional success, and is of much interest from the fact that it is understood this will be the last time the Royal Horticultural Society's summer show will be held in the grounds of Holland House. We shall give a full and illustrated report of the exhibition in our next issue.

Saughton Park is the latest addition to the public parks and gardens of Edinburgh, and it possesses so many attractions that it has the promise of becoming highly popular. The grounds and mansion of Saughton Park were purchased several years since by the Corporation of the City of Edinburgh for the purpose of a public park, but the Edinburgh International Exhibition was two years since held in the grounds, which somewhat delayed their being opened for public use. The old hall and grounds are situate on the banks of the Water of Leith, and the latter have been altered and greatly improved under the direction of Mr. J. McHattie, the able chief of the Public Parks Department. Among other attractive features that have been added to the park are an azalea and rhododendron garden, a rose garden, a rock garden, and a flower garden in the Italian style.

The Rose Season.—Writing with reference to the metropolitan exhibition of the National Rose Society, which will be held in the gardens of the Royal Botanic Society on Friday next, Mr. Edward Mawley, the hon. secretary, expresses the opinion that the display of roses will be of quite exceptional excellence. In justification of his opinion, he says, "In most localities there has been plenty of rain, and as a rule moderate temperatures have prevailed, both of which conditions favour the gradual development, and consequently the increased size and perfection of the blooms. Then, again, the season being an early one, and the date of the show later than usual, all the earliest blooms, which are generally inferior owing to late frosts, etc., will be over, and those which follow—generally the choicest of the year—will be available. These two circumstances will also allow of roses from all parts of the country being more generally represented than in recent years, when the fixture has been earlier and the season unusually late."

Rothamsted Experimental Station.—A meeting of the Society for Extending the Rothamsted Experiments was held at Rothamsted on June 16, under the presidency of the Duke of Devonshire. The society has been incorporated with the object of obtaining additional funds for the development of the agricultural investigations which have been carried on so long under the late Sir John Lawes and the Lawes Agricultural Trust, which he afterwards founded. The immediate object of the society is to obtain a sum of £5,000, in order to secure about 200 acres of land adjoining the present experimental fields, and erect thereon the buildings required for feeding experiments with the crops under investigation. An appeal for subscriptions towards thus securing a small, self-contained farm for the Rothamsted Experimental Station is now being circulated, and at the meeting of the society a first list of donations was reported from the Duke of Devonshire, Lord Iveagh, Sir J. T. Brunner, Colonel E. H. Carlile, M.P., Mr. J. F. Mason, M.P., and Mr. J. Martin White, amounting to £1,450.

Committee on Agricultural and Horticultural Science.—The President of the Board of Agriculture has appointed a Committee to advise the Board on all scientific questions bearing directly on the improvement of agriculture and horticulture, and especially as to the methods to be adopted (a) for promoting research in universities and other scientific schools; (b) for aiding scientific workers engaged in the study of agricultural and horticultural problems; and (c) for insuring that new scientific discoveries are utilised for the benefit of cultivators. The Committee includes Professor J. B. Farmer, F.R.S., Mr. P. Spencer Pickering, F.R.S., and Lieut.-Col. David Prain, C.I.E., F.R.S. Mr. T. H. Middleton, M.A., will act as chairman of the Committee, and one of the officers of the Intelligence Division of the Board will act as secretary.

Expensive Raspberries. — We learn that a few raspberries from France, the first offered this season, arrived in Covent Garden on Saturday last, and sold for 6s. per lb.

The National Chrysanthemum Society's outing will take place on Monday, July 25, to Tring Park, Herts, by kind permission of Lord Rothschild. The inclusive charge for the outing, fares, lunch, tea, etc., is 10s. 6d., and tickets may be obtained from Mr. Richard A. Witty, 72, Savernake Road, Gospel Oak, N. The party will leave Marylebone Station at 9.20 a.m., and, on reaching Wendover, will travel by brakes through some of the most beautiful scenery in Herts and Bucks. Before lunch the Hon. Walter Rothschild's famous museum will be visited, and after luncheon the members of the party will inspect the gardens and grounds of Tring Park. The party will travel from Tring to Wendover by a different route to that followed on the outward journey, and will leave Wendover at 9.7 p.m., arriving in London at 10.8 p.m.

David Thomson Memorial Fund.—We have been asked to state that it has been decided to close this fund on July 16, and that those who are still desirous of subscribing are requested to send their contributions before that date to either of the following: Mr. Harry J. Veitch, V.M.H., Treasurer of the Gardeners' Royal Benevolent Institution, Royal Exotic Nursery, Chelsea, S.W.; Mr. James Whytock, President of the Scottish Horticultural Association, The Gardens, Dalkeith Palace, N.B.; Mr. J. W. McHattie, Vice-President of the Royal Caledonian Horticultural Society, Public Parks Office (City Chambers), Edinburgh; Mr. George Monro, V.M.H., Covent Garden Market, London, W.C.; Mr. J. H. Goodacre, V.M.H., The Gardens, Elvaston Castle, Derby; Mr. W. Henderson, The Gardens, Balbirnie, Markinch, N.B.

National Sweet Pea Society.—The outings that have been arranged by the National Sweet Pea Society for the forthcoming season are as under: On Thursday, July 14, the society's trials of sweet peas at the Times Experimental Station, Sutton Green, near Guildford, will be inspected, and the inspection will be followed by a visit to the beautiful grounds and gardens of Sutton Place, very kindly thrown open to members on this occasion by Lord and Lady Northcliffe. On Friday, July 15, there will be an outing to Messrs. Hurst and Son's trial grounds at Fering, Kelvedon, Essex, on the invitation of the president, N. N. Sherwood, Esq., V.M.H., and to Messrs. Dobbie and Co.'s nurseries at Mark's Tay.

Birds Caught in Fruit Netting.—A lady correspondent writes from Liverpool: "Will you allow me to suggest to the bird lovers among your readers that, during the summer season they should make a point of periodically visiting their fruit nets, and so ensure against such of our little songsters as may have been caught there dying a slow death from hunger and thirst. It is a quite common thing to find the dead body of a bird entangled in the meshes of a strawberry net, and one does not like to think of the lingering death by which the little thief has atoned for his very natural greediness."

Prizes for Hyacinths.—The Council of the Royal Horticultural Society have accepted the offer of a series of prizes for hyacinths from the General Dutch Bulb Growers' Society at Haarlem. The prizes will be offered for competition at the Royal Horticultural Society's meeting on March 14 and 15, 1911. The classes that will be open to amateurs will be for eighteen, twelve, and six hyacinths, distinct, in pots, and for four pans each containing ten bulbs of one variety. The blooms of each pan are to be of a distinctly different colour to those of the other three pans. Two classes are set apart for trade growers, and one of these is for one hundred hyacinths in twenty-five named varieties, four bulbs of each variety, grown in pots or glasses, and the other is for twelve pans of hyacinths, distinct varieties, each pan containing ten bulbs of one variety.

Sir Albert Rollit.—We notice in a recent number of "Le Chrysanthème" a portrait of the highly-respected president of the N.C.S., together with an appreciative biographical notice. Sir Albert's services to horticulture, but particularly his work in connection with the chrysanthemum, from the day when he opened the first Hull Chrysanthemum Show, are fully dealt with.

[Photo by Oxford Journal Illustrated.

A BEAUTIFUL GROUP OF ORCHIDS AND FINE-FOLIAGE PLANTS.
Exhibited by F. Menteith Ogilvie, Esq., at the Oxford Commemoration Show, of which a report appears on page 517.

AN ATTEMPT TO INTRODUCE OLEARIA SEMIDENTATA INTO THE BRITISH ISLES.

The following interesting article, written by Captain A. A. Dorrien-Smith, we reproduce from the "Kew Bulletin," by permission of the Comptroller of His Majesty's Stationery Office. We may add that Captain Dorrien-Smith brought home many interesting plants from the Chatham Islands to the Scilly Islands, but very few have survived:

"I left Lyttelton, New Zealand, on December 1, 1909, at ten p.m. in a small steamer capable of steaming about nine knots under very favourable circumstances, in order to cover the 476 knots of Southern Pacific Ocean which separates the Chatham Islands from the main land. Our course lay about E. by N., and from the very start we met a strong head wind which lasted more or less the whole way across, but, after a good bucketing lasting three days twelve hours, we at last sighted through the mist some land rising sheer out of the sea and arrived soon afterward in the Port of Weitangei. It was a dull, thick, misty day when we arrived, and it soon turned into deluges of rain. As we approached the small wharf and let go the anchor in three and a-half fathoms of water, just outside the kelp and within a biscuit-throw of the cliff, I noticed that we had steamed into a very large bay surrounded by sand dunes. At first the place seemed deserted; but presently people began to arrive, a few on foot, but most on horseback, and as far as the eye could see came knots of cantering horsemen along the beach accompanied by a swarm of dogs, each man or woman seemed to have at least six, until at last there must have been 60 or 70 horses and about 300 dogs all collected on the beach to await the landing of the mails, etc.

"Captain Allsop, who commanded our vessel, and who had been most kind to me on the voyage across, kindly introduced me on landing to the inhabitants of the place. Everywhere I was most hospitably received and everyone was anxious to learn my mission and what they could do for me, a point which I was not long in explaining; so having secured a room at Mr. Odman's hotel on the beach (there are two hotels) I was directed to Mr. F. A. D. Cox's house some two miles off and kindly lent a horse to get there. I had been in communication with Mr. Cox for some years, through the kindness of Dr. L. Cockayne and others, and as he is the living authority on the Chatham Island flora I was most anxious to meet him. After fording the Weitangei river at its mouth and then crossing the sand dunes, my way lay across a fine grass flat, which comprises the race course, and beyond this, on some rising ground a short distance further, I came to the house, Whangamarino, where I was most hospitably received, and where I eventually stayed for the remainder of my visit to the islands.

"The Chatham Islands are composed of two large islands and several rocks and islets. Chatham Island itself is by far the largest, with an area of about 230,000 acres or about thirty miles long, and Pitt Island of about 15,000 acres; they lie on either side of 44 deg. S. lat., some small islands of the group being known as the Forty-fours. They were inhabited in the early days of European settlement in New Zealand by the Moriori, a peaceful black race practically unversed in the art of war, until the Maoris came and ate them. I believe only nine remain at the present day.

"Dr. L. Cockayne in the Trans. N.Z. Inst., vol. xxxiv, gives a very good account of these islands and special reference should be made to his paper for an account of their flora.

"I found during my visit that the climate is particularly 'soft,' indeed, from the statistics collected by Messrs Cox and Shand, the average rainfall seems only to be about 30 inches, while it 'damps' on an average, 190 days in the year. The temperature is very mild, a degree or so of frost only being registered in the winter months, and, on the whole, I should say that the climate is very similar to that of the south-west coast of Ireland. The islands are of volcanic origin; Chatham Island itself is made up of two large masses of land joined together by a narrow isthmus composed of limestone. Blown sand forms an important physical feature of the island and, to some extent, has caused in it also the formation of a huge inland lagoon some 40,000 acres in extent, by cutting off a large area of shallow sea. Close to this lagoon there is a large freshwater lake, Lake Huro, which drains the country bordering the great lagoon to the south, and has a swampy outlet to the south into the Weitangei river, and there are several other freshwater lakes. The south end of the island contains the larger mass of land and rises to nearly a thousand feet above sea-level in a succession of peaty, boggy undulations; the higher one ascends the worse the bogs become. The slopes adjacent to the sea-coast, therefore, are the only parts under pasturage, and what there is of it is excellent, and probably as fertile as that in any part of New Zealand itself.

"But to return to the day of my arrival in the island; being more or less wet through after my ride to Mr. Cox's house, and as it was still pouring with rain, I took the opportunity to visit the swamp on the shore of Lake Huro, which is adjacent to the house. In the wettest part I found only various forms of swamp plants such as Leptocarpus simplex and Carex appressa var. sectoides, with here and there Phormium tenax; but as soon as the swamp became the least bit drier one came upon the lowland forest, first Coprosma propinqua, then Suttonia Coxi, with more flax, and Arundo conspicua, while further in one found plenty of Olearia Traversi, Pseudopanax chatamicum, Copresma chathamica and Suttonia chathamica; Dracophyllum arboreum also occurs, and a very fine Astelia, which Mr. Cheeseman refers to as A. nervosa; I picked some leaves of this as much as 8ft. long, and gathered living specimens of the various species of Carex for Dr. Cockayne. On the edge of this swamp I saw my first 'Routine' (Senecio Hunti): this is a fine plant, resembling in its mature state Senecio Stewartiæ of the Snares Islands, but differing considerably in its juvenile form. I returned to the hotel for the night, having completed my ducking in the swamp, and arranged to examine the forest at the back of Whangamarino with Mr. Cox on the following day. On joining Mr. Cox at his house I found that there had been 75 parts of rain, and it was still damping. About eleven o'clock it eased off, and we started on horseback to the back of the run, to collect some small plants of Senecio Hunti; this we did without much difficulty, and examined the forest which is most interesting and differs entirely from the forest of the mainland. On the island the trees grow to no great height (20ft. to 25ft.), and the tops are kept well in order by the wind and form a compact mass. I saw some fine trees of Veronica gigantea, 20ft. high, in full flower, and Senecio Hunti just coming into flower. The commonest trees about this part were Corynocarpus lævigata (the Karaka), Coprosma chathamica, Hymenanthera chathamica, Olearia Traversi, Corokia macrocarpa, Pseudopanax chathamicum, and Suttonia chathamica. The native pepper, Piper excelsum, was fairly common, and the whole was entwined with endless Supple Jacks (Rhipogonum scandens), while I saw at least five varieties of tree ferns—Cyathea dealbata, C. medullaris, C. Cunninghami, Dicksonia antarctica, and D. squarrosa—and a few Raphiostyles sapida dotted about. The floor of the forest is covered with moss and lichens, especially on the dead stumps, while filmy and other ferns abound. We also visited a sphagnum bog close by, and obtained a bag of moss for packing up the plants. The sphagnum patches were colonised by several plants, chiefly Gleichenia dicarpa and some Pteris esculenta, and I was much struck with the lovely little Pratia arenaria, which seemed to grow anywhere and everywhere, and closely resembles the well-known Pratia angulata, so lovely on moist rockeries at home. Some months previously Mr. Cox had collected several plants of Olearia semidentata and Styphelia robusta, which had become established in his garden and were growing well, and it is due to his kindness in collecting them for me that I was able to leave with a large number of both of these plants. I was interested to see some fine plants of Olearia chathamica growing there, and also a fine plant of Olearia Lyalli, introduced from Ewing Island, in the Auckland Island group, as well as other of the native trees. Dr. Cockayne was anxious to obtain seedling forms of Veronica gigantea, and these I found about the shrubberies; in form they are very different to the mature trees, the leaves being larger and covered with downy hairs, while the stems are of a reddish-purple colour.

(To be continued).

THE GOLDEN-LEAVED CHESTNUT.

People who are fond of rare trees and shrubs ought not to omit this tree from their collection, for it is a very interesting and beautiful subject. Though allied to the sweet chestnut, it really belongs to another genus, and is known by the name of Castanopsis chrysophylla. It is a native of California, and has been known to British horticulturists for about 80 years. The leaves are evergreen, and resemble those of the evergreen or Holm Oak in shape and size. They, however, differ from the leaves of that tree by being golden on the under surface, hence the popular name of golden-leaved chestnut. The leaf colouring is very evident on a breezy day, for, as the branches are blown about the colouring of the under surface is exposed to view. The fruits are very similar to those of the sweet chestnut, the husks being spiny and the nuts brown, and very similar to the chestnut in flavour. They are, however, very much smaller. Under normal conditions it attains the proportions of a tree, though it is often found as a good sized bush. One of the finest trees in the country was to be found a few years ago on Earl Ducie's estate, Tortworth Court, Gloucestershire, and this specimen frequently perfected fruits. Quite young specimens sometimes bear fruit, and perfect ones have been gathered from five-year-old trees. The tree grows well in rather light soil containing a little peat; it objects to root disturbance after it has once become established. D.

Hemerocallis Apricot. — The varieties of the Day Lily are now numerous, but none is more free-flowering or beautiful than H. Apricot. At the time of writing I have a plant in the mixed border with three dozen fully-developed blossoms. The flowers of this variety are shapely, and of a deep orange-yellow. The growth, too, is not so robust as in some sorts, being more compact, and therefore it is more useful than the extra strong-growing sorts, like H. lutea, for example.—E. M.

Liatris spicata.—This is a plant of great beauty and usefulness, and is vested with a peculiar interest in that, contrary to the general rule of spiked flowers, the blooms commence to open at the top of the stem, and development gradually descends to the base. In most things the reverse method obtains of commencing at the base. Liatris spicata grows about eighteen inches high, and its flowers are of a lively rosy-purple hue that is distinct and pleasing. It is a plant that takes up but little room, and may be used to good purpose in the front of a herbaceous border to break the level of the dwarfer subjects. A cool, moist soil suits the plant well, so long as there is fairly good drainage. The spikes remain in bloom for a long time, and it is a good subject for exhibition in collections of flowers of hardy herbaceous plants.—A. J. M.

NOTES FROM KEW.

Macleania punctata.

On May 3 of the present year an Award of Merit was given by the Royal Horticultural Society to an allied species, namely, Macleania insignis. The specimen shown was as a pot plant, a condition under which the macleanias are by no means seen at their best, as they are plants of a rambling nature, and are more fitted for training up the end of a greenhouse, or in some similar position. In the Temperate House at Kew Macleania punctata is treated in this way, and is now flowering freely. It is a member of the Vaccineum family, with neat evergreen leaves, and drooping tubular shaped flowers, in colour scarlet tipped with a lighter tint. They are borne in considerable numbers towards the upper parts of the shoots. This macleania, in common with many of its allies, is a native of the Andes, and was sent home from Ecuador by William Lobb to Messrs. Veitch's nursery at Exeter, where it first flowered in 1848. As a screen plant it will mount up to a height of ten to a dozen feet. As with most vaccineaceous plants a compost containing a liberal supply of fibrous peat and sand, with good drainage and a free supply of water, suits it best.

GENISTA CINEREA.

A strong-growing and free-blooming species from South-Western Europe; the flowers rich golden yellow.

Rhabdothamnus Solandri.

A small plant of this in the Temperate House is just now flowering freely. It can scarcely be regarded as showy, but it is certainly pretty, and most interesting. This rhabdothamnus is one of the very few gesnerads that may be regarded as of a strictly shrubby nature. Mitraria coccinea is one of these, and, singularly enough, it inhabits some small islands off the coast of Chili, while the rhabdothamnus comes from New Zealand, thus forming another link between the vegetation of the western side of South America and the islands of New Zealand. Rhabdothamnus Solandri is a distinct little shrub, whose slender twigs are clothed with greyish-coloured bark, while the leaves are small, nearly round, distinctly toothed, and veined on the undersides. The flowers, in form something like those of a tydæa, are of a reddish-orange tint, with brownish stripes inside. They are about three-quarters of an inch in length, and as much across the expanded mouth. The rhabdothamnus was distributed about half-a-dozen years ago, but it is still decidedly rare.

Cantua bicolor.

The cantuas are very beautiful flowering subjects belonging to the order Polemoniaceæ, but are rare in gardens. They are natives of high elevations in the Peruvian Andes, and are, as a rule, difficult plants to cultivate. The species under notice, which is in flower in the Temperate House, is a loose, slender-growing shrub, clothed with small, slightly hairy leaves. The flowers, which are borne at the ends of the shoots, are drooping, somewhat bell-shaped, nearly a couple of inches long, and a good inch across the corolla lobes. In colour the tube is yellow, and the expanded mouth scarlet. This cantua was sent home by William Lobb when travelling for the Messrs. Veitch in the late forties, while it was also introduced by the Messrs. Low, of Clapton, about the same time. A second species, also introduced by William Lobb, is Cantua dependens, with clusters of long drooping flowers, in colour orange and reddish-pink.

Hæmanthus Katherinæ.

Several of the finest species of hæmanthus are by no means amenable to cultivation, but this forms a decided exception, and as a garden plant it must be regarded as one of the best of the entire genus. Being a native of Natal, it does not require the same amount of heat as some of the others: indeed, there is just now a fine group in the T range associated with such subjects as pelargoniums and Cape heaths. The flowers of H. Katherinæ are bright red, and borne in dense globular heads.

Kalanchoe Hybrids.

Since the introduction of Kalanchoe flammea about a dozen years ago we have had several hybrid forms brought prominently forward. One of them, K. Felthamensis, has heads of flowers yellower than those of K. flammea; another, K. Princess Ena, has rich crimson flowers, and if the heads were as large as those of K. flammea it would be very fine. The third hybrid is K. kewensis, tall, and spare in growth, with narrow fleshy leaves, and umbels of deep pink flowers. All of the above are in flower in the greenhouse at Kew.

Cytisus scoparius sulphureus.

It is difficult to imagine anything more appropriate than the popular name of the moonlight broom, as applied to this variety of our own native species, the quiet tint of the flowers when viewed in a mass being very suggestive of the subdued light from the moon's rays. It is of more lowly stature than most of the varieties of Cytisus scoparius, but is exceedingly floriferous.

Rhododendron azaleoides.

This is the name given at Kew to a delightful old shrub whose merits are only too often overlooked. By the middle of June nearly all the deciduous rhododendrons, or azaleas, as they are generally termed, are past their best, and at that time this is in full flower. It is by some regarded as a hybrid between R. ponticum and the North American R. (Azalea) viscosa known popularly as the swamp honeysuckle. The "Kew Hand List," however, gives the parentage of R. azaleoides as R. viscosum x R. maximum. At the back of the Palm House it is just now in fine condition. In style of growth R. azaleoides is more compact than the Ghent azaleas, but the flowers are of much the same size. They range in colour from very pale lilac to a lilac-purple; in some instances the edges of the petals are of a deeper tint than the rest of the flower. The foliage is sub-evergreen in character. This rhododendron is exceedingly prolific in names, being known, beside the above, as R. hybridum, R. ponticum deciduum, R. odoratum, and R. fragrans. The last two names are derived from the pleasing fragrance of the blossoms, a most desirable feature.

Genista cinerea.

One of the brightest features among hardy shrubs for some time past has been a group consisting of several plants of this genista. The tallest of these reach a height of ten feet or more, and the outside branches dispose themselves in a pleasing and informal manner. Every shoot is absolutely laden with flowers of the richest yellow, the general effect being that of a dense golden mass. This genista, a native of South Western Europe, is, despite its desirable features, not readily obtained from nurseries. A nearly allied species—Genista virgata—is also very fine at Kew, where it forms an annual feature. It is in the "Kew Hand List" said to be a native of Madeira, but is so hardy that one is inclined to ask whether there is not some mistake in the matter. K.

THE ANTIQUE IN ROSES.

The rose came out of the East so long ago that we cannot trace its origin as a cultivated blossom, but at the very beginning of the Christian era there existed the famous rose gardens at Paestum, in Lucania. In the Song of Solomon mention is made of a rose plantation at Jericho; Heredotus wrote in praise of the double rose; Pliny describes several sorts of roses grown by the Romans; and Midas, the Phrygian king, walked in pleasure-grounds the beauty of which was due to this queen among blossoms.

Then who does not know that the Isle of Rhodes was once named Isle of Roses on account of their extensive culture there, or that the famous Persian Gulistan was a rose garden of such vast dimensions that five days were occupied in crossing it, riding upon camels. The Hindoos loved the rose so well that they imagined one of the wives of their god Vishnu to have been discovered in a bloom of perfect beauty; and the Greeks named it the flower of Venus.

In our own land the history of rose culture is too profound a subject even to be sketched, but it is interesting to remember that in 1576 roses were accepted by the bushel as fit grants from vassals to their lordly patrons. Perhaps the poetic lines that are best known of the many volumes that have been written in praise of this flower are those of Scott:

> "The rose is fairest when 'tis budding new,
> And hope is brightest when it dawns from fears;
> The rose is sweetest washed with morning dew,
> And love is loveliest when embalmed with tears."

It is a great tribute to the horticultural taste and skill of our ancestors that when we wish to create a specially charming rosery to-day we model it, more or less, upon the old-world gardens. What can be fairer than four great square beds, surrounded by wide gravel walks, and then by borders and green turf, with arches spanning the paths, arbours in some corners, and a sundial in the centre? Yet this is just the same plan that our great-grandfathers loved to carry out.

Some of the antique roses are lost to us now: A reason this why we should one and all resolve to do our share in rescuing others from oblivion; in other cases we have given up pleasing methods of growing the same species and varieties. The striped, wide-opening, flat, red and white York and Lancaster rose, for example, is still with us, appreciated by the artistic few, but it is rare indeed to find it in weeping standard form. An old writer declares of this and the other damask roses, "They are fragrant flowers, but the bushes on their own roots are of irregular, scrubby, and inelegant growth.' Varieties in commerce then were La Constance, or the pæony-flowered rose, a pink with deeper centre; Madame Hardy, white; Semiramis, fawn with rose shadings; La Ville de Bruxelles, a much-valued double pink; Madame Zoutman, delicate cream colour; La Chérie, blush; and La Féroce, an extra thorned pink. Who can show these now?

There was a pretender even then in the field, for we read that "Another wide-spread variety" (of Rose Gallica, the French rose) "is the coarse, semi-double, striped rose which ought to be called Rosamond, or Rosa mundi, the World's Rose, though it is often wrongly styled the York and Lancaster." The same writer goes on to recommend French roses for town culture, adding: "From them have been raised several beautiful striped and spotted varieties, as the Village Maid, Carnation, Abesse, Duc d'Orleans, Ponctuée, Harlequin, and others. The spots are less to be depended upon than the stripes. Many are admirable as exhibition flowers; take as instances, Enchantress, light pink; D'Aguesseau, bright crimson, very large and full; Boule de Nanteuil, dark crimson," etc., etc.

Then we are taught in the same volume that "All the Scotch roses resemble each other very much in their habit of growth; they are less easy than other members of the same genus to distinguish, when leafless in winter, by the aspect of the wood. A collection of the different varieties makes, therefore, a nice even hedge of roses, which only requires looking over once or twice a year to keep it compact and in order. Budded as standards, they make pleasing heads when full in bloom, but require considerable patience to prune, which must be done by thinning out rather than by cutting back."

Turning to the culture of hybrid perpetuals, it is on record that one highly-prized kind, Rivers' George the Fourth, a dark velvety flower, sprang from seed "by accident"; while one variety, named Brennus or Brutus, a large crimson, was not only grown as a standard and pillar, but also as "a tree, budded on a tall stout stock." Another H.P. of the period—before the year 1834—was Chénèdolé, of bright red; Blairii No. 2, Hebe's Cup, may still, I believe, be obtained. It is amusing to note that Lamarque then was "one of the darkest crimson-purple roses, requiring to be shaded in hot sunshine." Félicité Perpetué, described as "an elegant climber," was employed, we are assured, not only for weeping standards, but "to climb up trees, like honeysuckle"; a hint of which modern rosarians may like to make use.

The Chinese and Japanese roses, Rosa multiflora, were greatly admired, but were chiefly cultivated under glass, forming standards in giant tubs, with the exception of Fortune's Yellow, or Wang-Jan-Ve, which could be grown as standards of immense size in the open, the "heads being more than four feet through," or "scrambling over old walls." As a late-blooming rose the old-world floriculturists recommended "the Portland, or Pæstan, or Four Seasons Rose, a bright, semi-double, fragrant flower, which deserves cultivation, as it will put forth welcome blooms in November."

Fashion has certainly ousted numbers of the antique favourites. In our old-fashioned rose garden of to-day, however, there are still many that we can have in memory of their past glories, and in recognition of the fine qualities that have enabled them to battle through the years. Aimée Vibert, Souvenir de Malmaison, Jules Margottin, Géant des Batailles, Lady Alice Peel, Fellenberg, Jaune Deprez, Mrs. Bosanquet, Solfaterre, Devoniensis, Souvenir d'un Ami, The Garland, Moss Unique, and the White Bath Moss, should be in every rosery. M. H.

GROWING PERPETUAL CARNATIONS THE SECOND YEAR.

The season is late, and many will have bedded out or dispensed with their perpetual carnations which have done service during the winter, while others will be undecided as to what to do with the old plants. Speaking purely from a cut flower point of view, the perpetual carnation will produce first-grade bloom for two consecutive seasons, and nearly all our best market growers carry their stock over the second season. Of course, the two-year-old stock has never quite the smart appearance of the younger plants, but for quantity of flower they are quite their equal, and in the case of odd varieties their superiors in quality.

I know that in many private gardens this two-year-old stock is objected to, and if this is the case, and cuttings are plentiful, it would be folly to use it, but such is not always the case. If the blooms have been cut with long stalks during the winter so as to keep the plants reasonably short, little pruning will be required. There is no gain in pruning hard back, because this will make them late in flowering. Also the breaks made from the very hard wood will not produce such a high quality of flowers, while invariably the plants succumb to this harsh treatment.

Potting is the most important factor in growing plants on for the second year. This should be done as early as possible, and a very large pot should be avoided. Such an advance as a five-inch pot-grown plant into an eight-inch pot is a good shift, but if a plant from a larger size pot is potted on, as much as possible of the old soil should be removed, and a ten-inch pot is the limit to pot into. The plants will not be benefited by too much shading, but a light shade, with plenty of spraying on bright days, is best. This treatment for a week or ten days will see the plants get away into a free-growing state, when they may be stood out in the open so as to repair their health and vigour for the ensuing winter.

I do not say that plants during the second season are quite as good for propagating purposes as younger plants, but if correctly grown and well cared for they must certainly produce a tremendous crop of flowers. Montagu C. Allwood.

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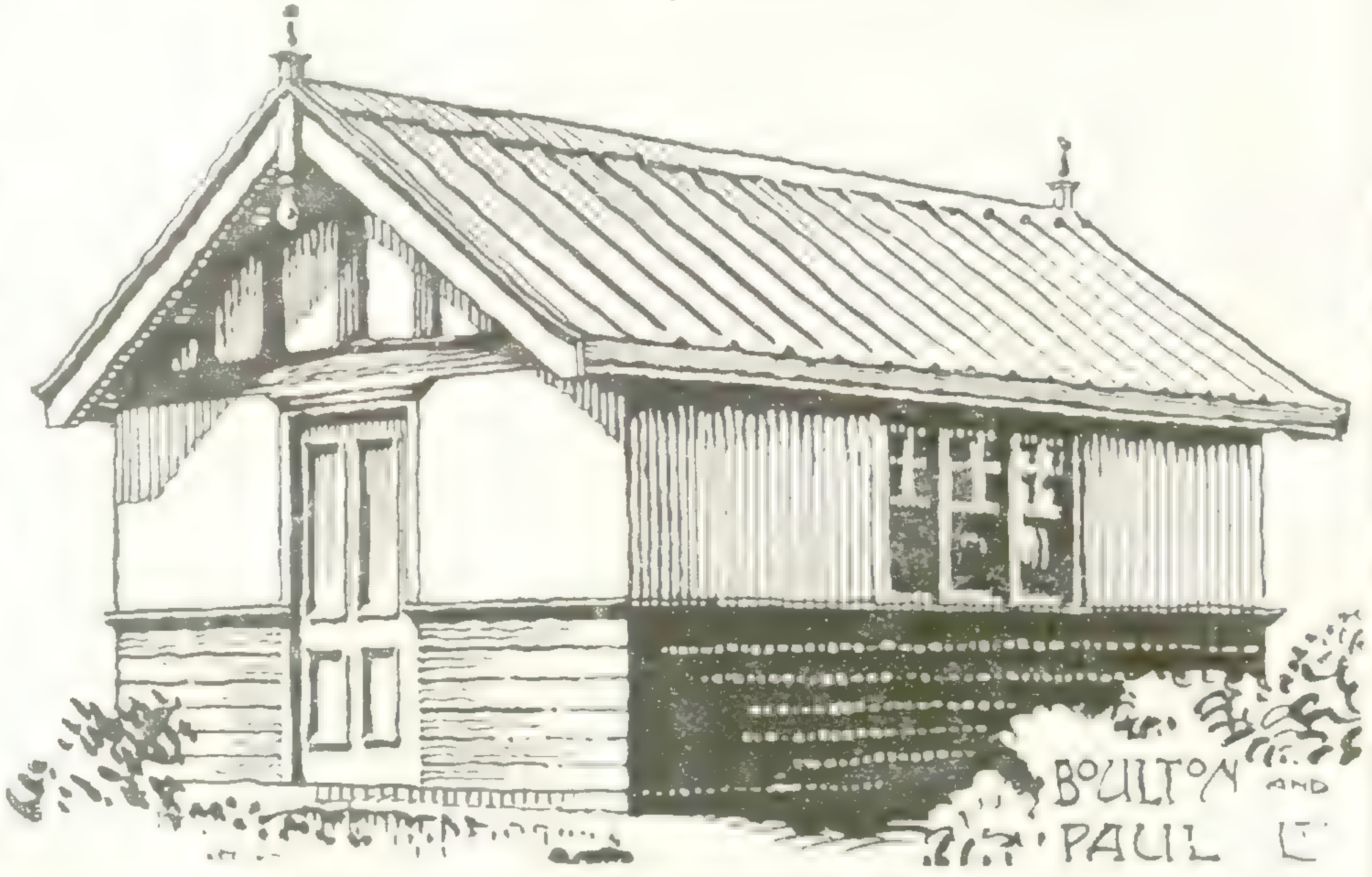

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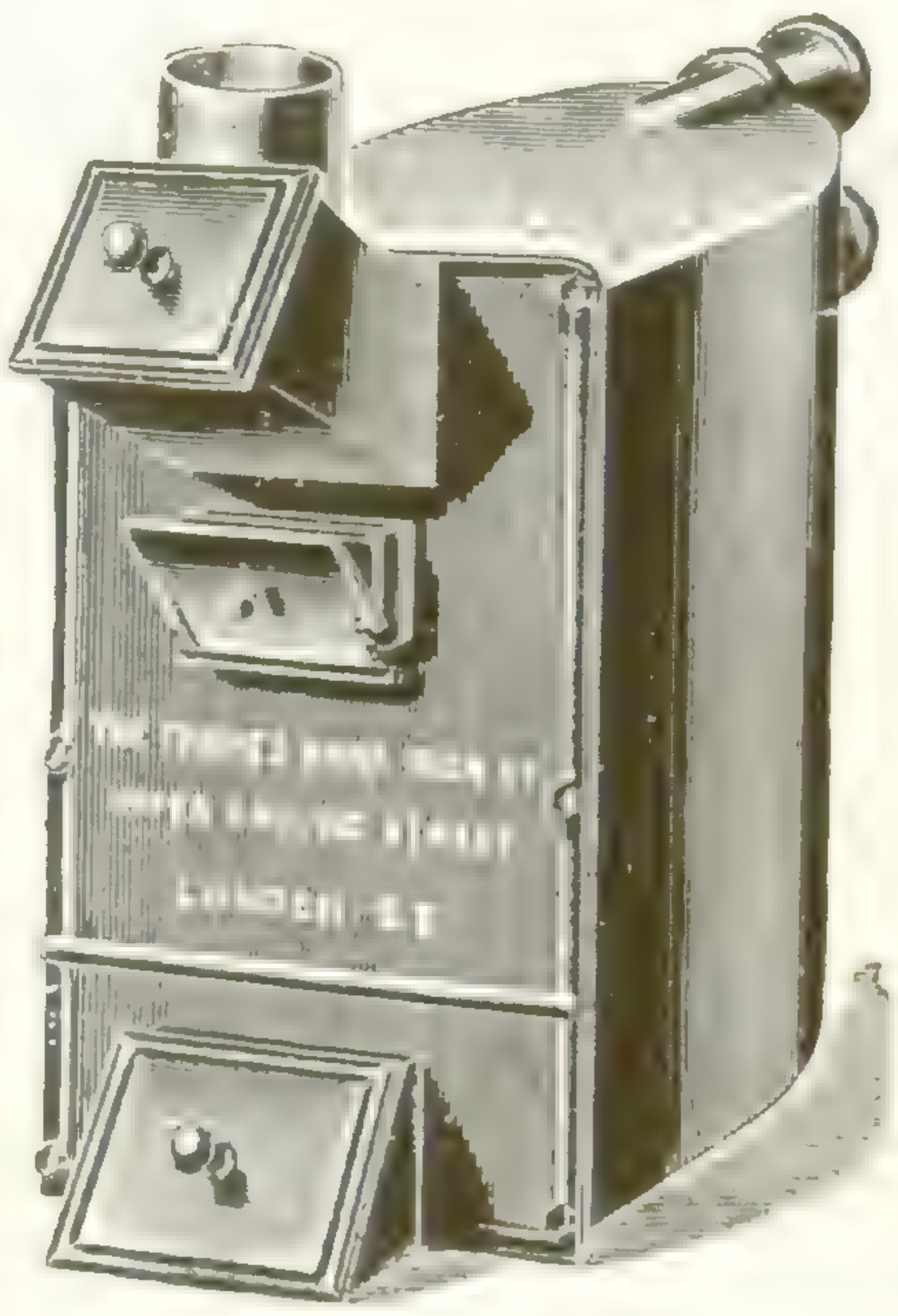
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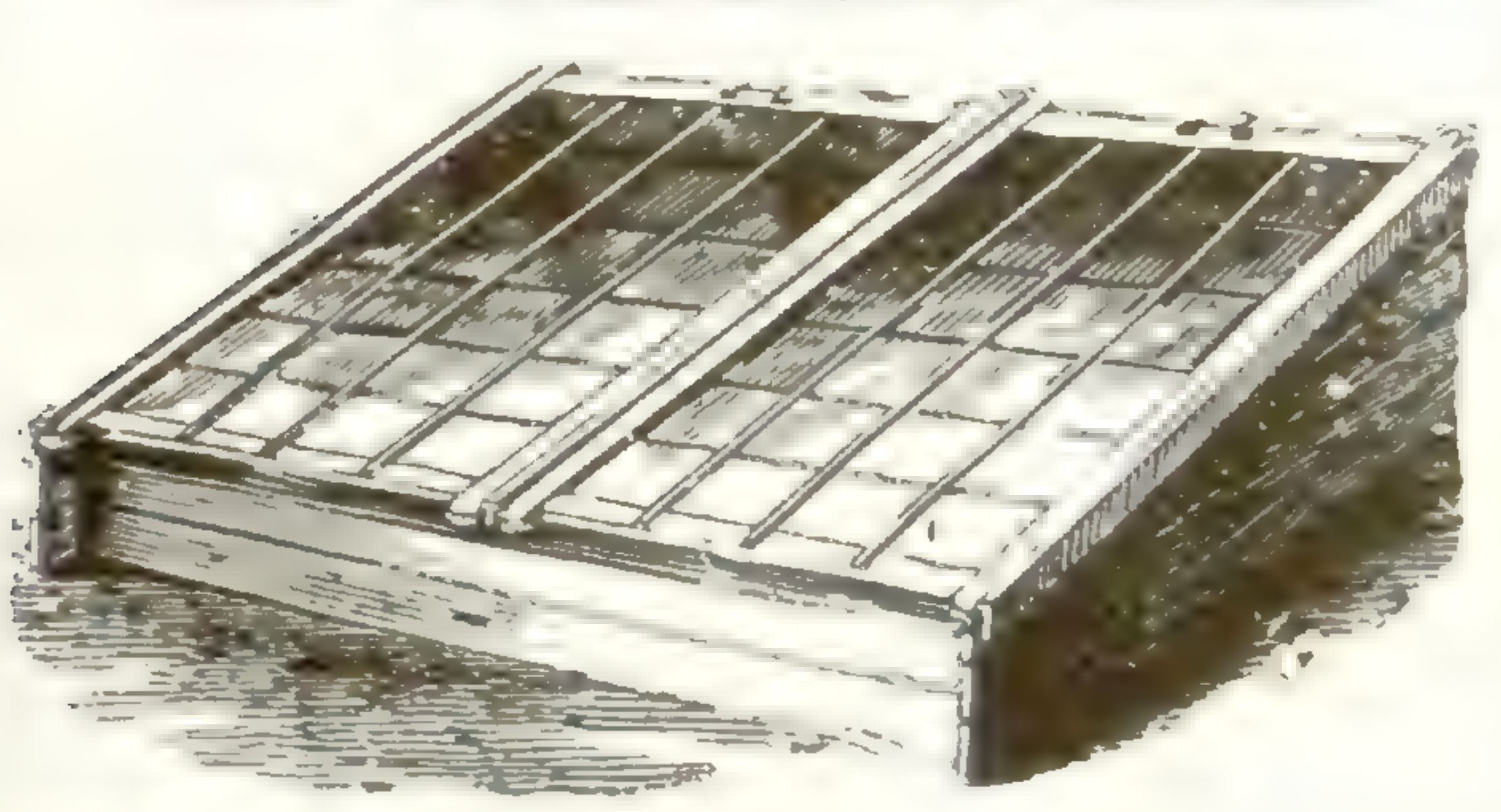

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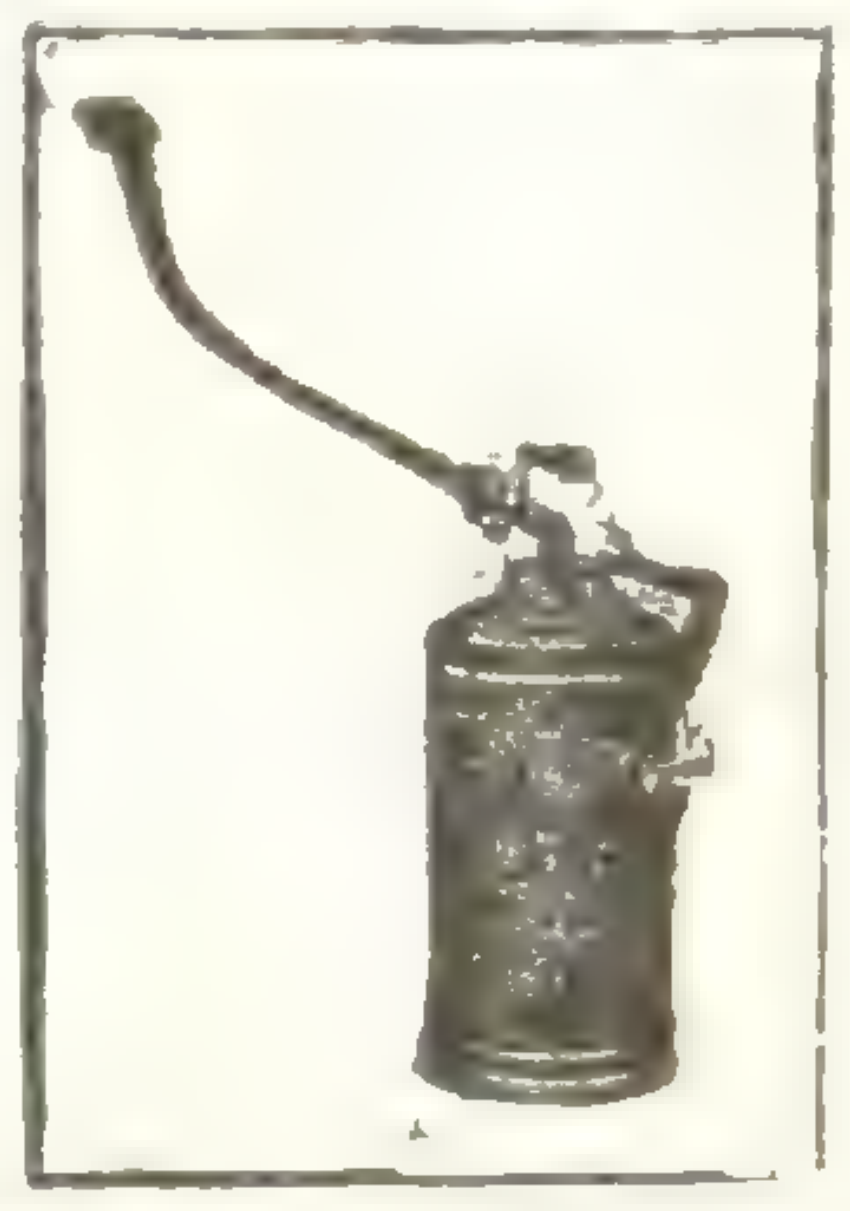

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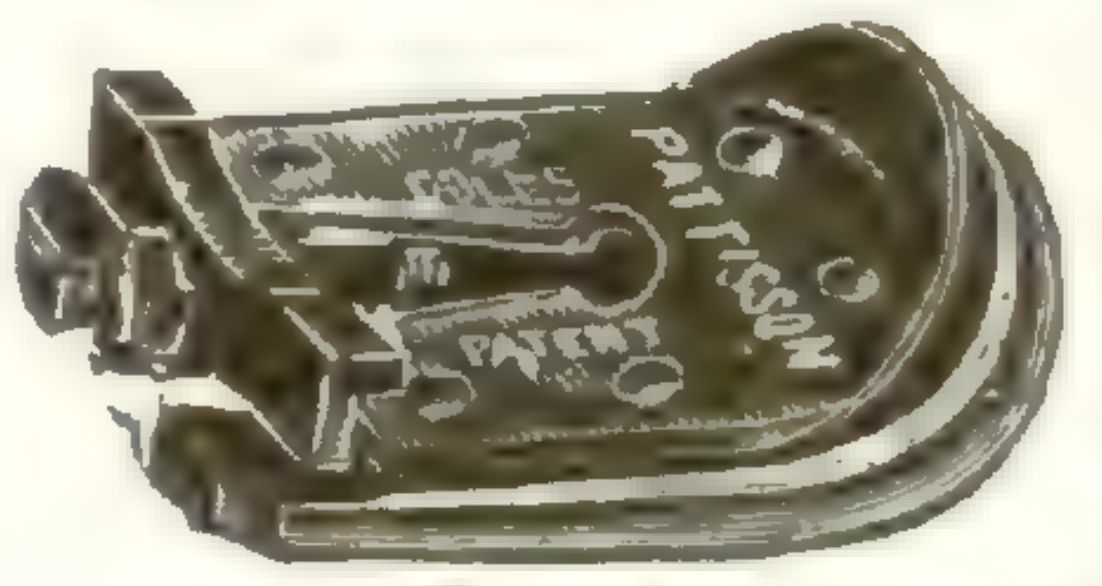

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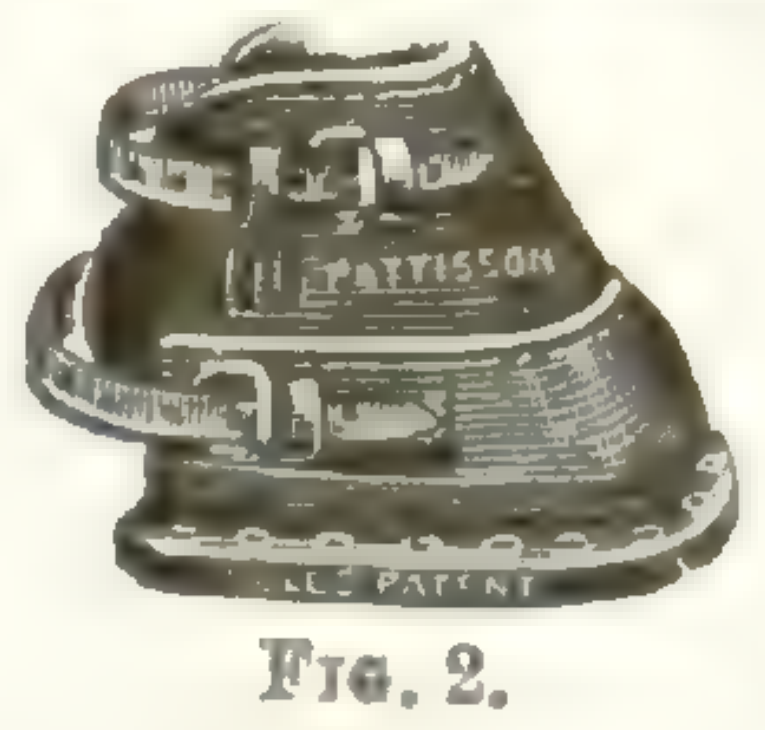

FIG. 2.

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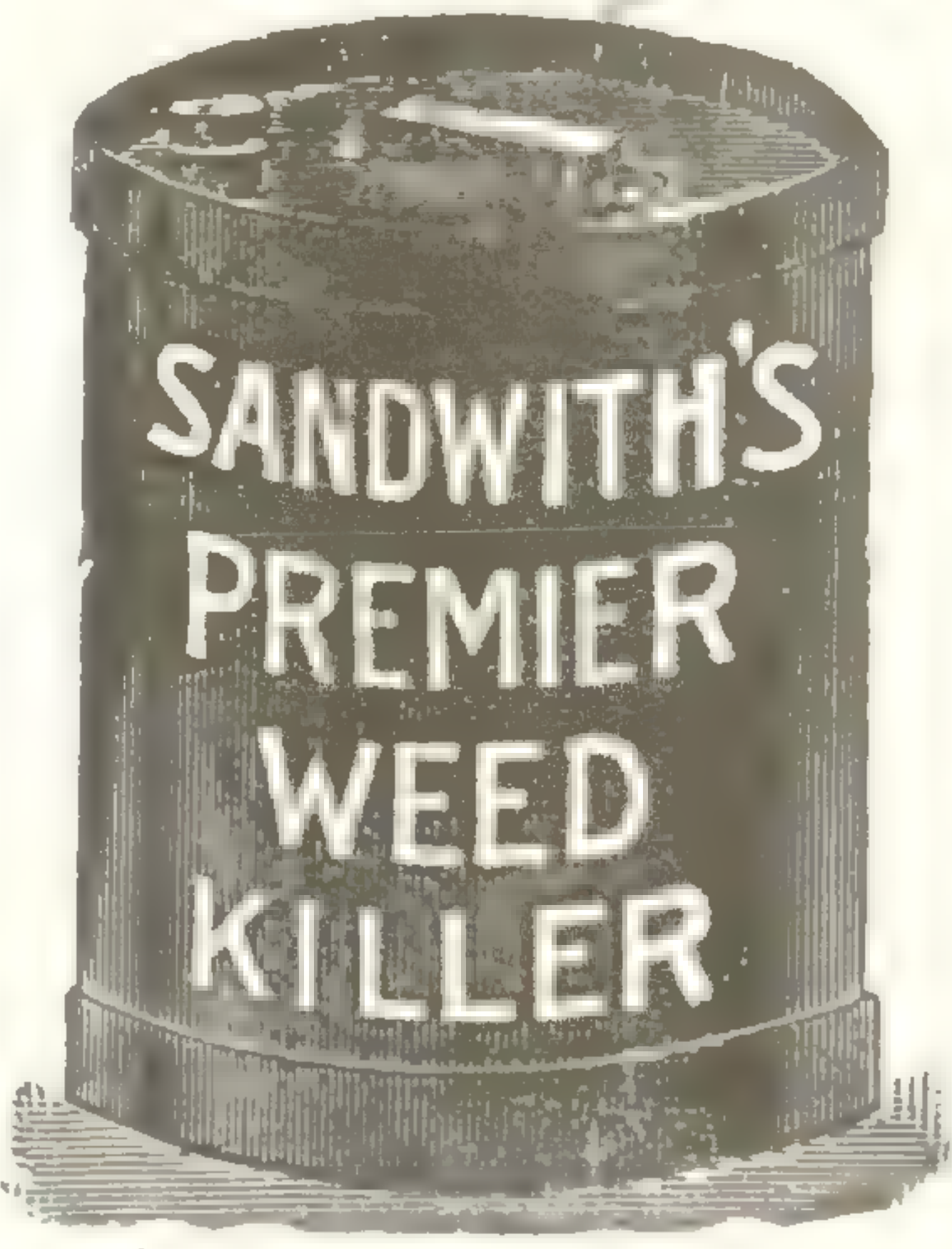

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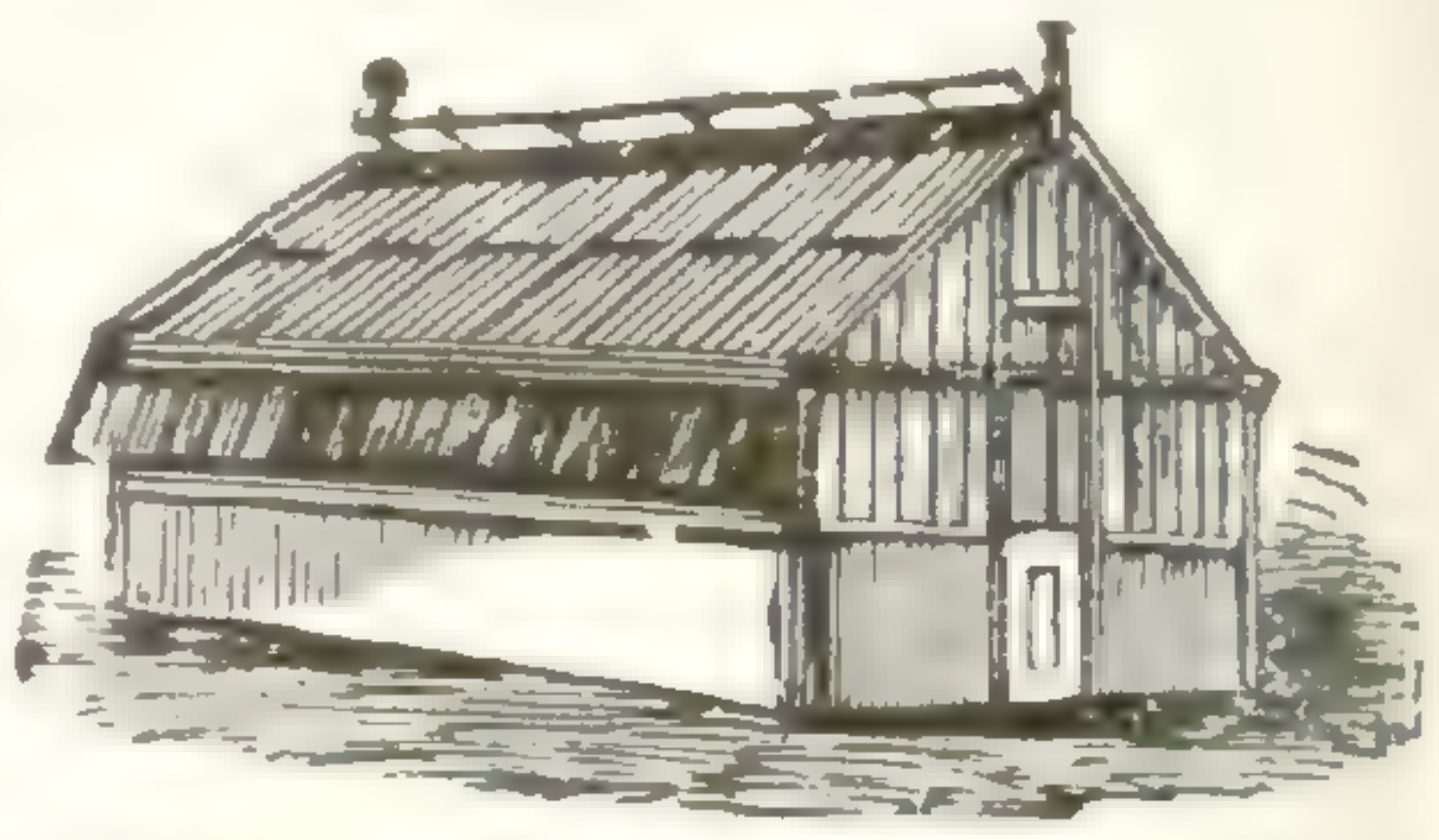

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SWEET PEAS AND MENDELISM.

All who are familiar with current literature relating to the sweet pea must frequently have seen references to Mendel's principles of heredity, but, although Mendelism is of enormous importance, especially to those who cross sweet peas, the vast majority of gardeners have very little knowledge of the subject. There is no need, therefore, of an apology for writing an article explaining some of the simpler facts relating to it. Let it first be understood, however, that this is not to be looked upon as a scientific treatise.

We could not proceed far without the use of a few technical words, but such words will be used as little as possible, and when used will be thoroughly explained. If any passage is not understood on a first reading, it is suggested that a second reading will throw light on the obscurities.

To study Mendelism we must first consider how each plant really commences its existence. We all know that if a flower is to develop into a seed pod, pollen must first come into contact with its stigma. The processes that follow need not be described here, but what we must remember is that each seed, i.e., each new plant, is formed as the result of the union of two elements, the one male (the pollen) and the other female (which the male element reaches by means of the stigma).

The female element necessary for the production of a seed we shall hereinafter refer to as the female gamete, and the equally essential male element we shall call the male gamete. Each gamete, in spite of its very small size, bears with marvellous exactitude all the characteristics of the plant that produces it, and the plant that results from a gametic union retains throughout its entire existence these two separate sets of characteristics, and whenever we consider a sweet pea plant we must never lose sight of the fact of its dual nature.

Now we know that in the ordinary course of events the sweet pea is self-fertilised, i.e., the unions that result in the formation of seeds are between gametes, both produced by the same plant (their common parent), and therefore resemble one another. A plant formed by the union of two similar gametes is called by the scientist a homozygote, or, in more simple language, a pure-bred plant. It will, of course, resemble its parent.

In some seed producing unions, as in the case of a cross between two distinct varieties, the gametes represent plants which differ from one another. The gametes themselves, therefore, are unlike, and the plant that results from their union is said to be heterozygous, or, more simply, impure in breed. The study of the outward form and of the progeny of such a plant are both interesting and important.

The parents of the impure plant may have differed in one only, or in more than one, respect, but to simplify our study, we will consider the case of a plant impure as to one characteristic only, that of height. If we cross an ordinary tall variety of sweet pea with a dwarf or Cupid variety, we find that in the first generation after the cross (referred to as the F1 generation) each plant produced is tall like its tall parent. Let us thoroughly understand what this means. We have a plant combining in itself two dissimilar natures, the one tall and the other dwarf, and yet the tallness appears to have entirely suppressed the dwarfness. The scientist refers to tallness as being dominant, and to dwarfness as being recessive.

In the same way we find that, in the flower of the sweet pea, white is dominant to the recessive cream. Any other colour is dominant to white or cream. Purple is dominant to red, and the plain, erect standard is dominant to the Spencer or waved standard. Two qualities showing this relationship are said to be allelomorphic to one another.

In passing it may be added that in some cases of heterozygosis neither allelomorph is entirely dominant, but the impure plant is intermediate between its two parents. In such cases, however, the impure plants breed exactly the same as in the cases of total dominance.

Let us now proceed to consider the nature of the gametes produced by impure plants. Again, taking the case of a tall plant, resulting from a cross between a tall and a Cupid parent, we find that, on an average, half the gametes it produces bear the factor for tallness and half bear the factor for dwarfness, but there are none of an intermediate nature. Both male and female gametes are produced tall and dwarf in equal numbers, and, as in the sweet pea, the flowers are self-fertilised, each tall male gamete has one chance in two of uniting with a tall female gamete and one chance in two of uniting with a dwarf female gamete. In the same way, half of the dwarf male gametes unite with dwarf female gametes and half with tall female gametes. We find, then, that one-quarter of the unions that produce seeds (and, in due course, plants) are between gametes which both bear the factor for tallness, one-quarter are between gametes which both bear the factor for dwarfness, and the remaining half are between unlike gametes. The plants in which the united gametes both bear the factor for tallness will, of course, be tall, and those in which both the gametes bear the factor for dwarfness will be dwarf. The impure plants will all be tall, for when dwarfness and tallness are together in the same plant, tallness, as we have seen, is dominant. The F2 generation (as we call the generation resulting from the self-fertilisation of the F1 plants) will therefore consist of one-quarter dwarfs and three-quarters tall plants. The dwarf plants produced in the F2 generation will in succeeding years breed true to dwarfness, because both parts of their dual natures being dwarf, the gametes they produce will all bear the factor for dwarfness. The tall plants, which form three-quarters of the F2 generation, are of two kinds, those pure for tallness, and those impure, the latter being twice as numerous as the former, but these, to the eye, are indistinguishable from one another, and to know to which class any one plant belongs it is necessary to save seeds from it. If the plant is impure it will, when the seeds are sown, produce a proportion (one-quarter) of dwarf plants, but if it is pure, it will produce tall progeny only, and in succeeding generations will continue to do so.

Let it here be noted that the impure plants produced in the F2 and later generations are precisely similar to the original F1 plants, and that it makes no difference whether, in the original cross, the tall plant is used as the male (or pollen) parent, or whether it is used as the female parent. The results are the same whichever way the cross is made.

That which is true of tallness and dwarfness is true of other allelomorphic qualities also, e.g., a plant impure as regards creamness and whiteness of flower, will produce a progeny one-quarter of which are pure creams, one-quarter pure whites, and one-half impure whites. The words "pure" and "impure" in this article are used to describe the gametic constitution of the plants, and do not refer to the colour of the flowers. As white is completely dominant over cream, the impure white plants are indistinguishable to the eye from the pure plants.

G. F. DRAYSON.

(To be Continued.)

LETTUCES.

An unremitting supply of lettuces is, I think, a necessity in every garden, whatever size the establishment may be, and more especially through the summer months, when salads are so much in request, and of which lettuces form the staple part. Lettuces owe their popularity, no doubt, to their suitability to practically all soils, providing the ground is well worked and enriched with decayed farmyard manure. These remarks apply to both the cos and cabbage section, and supplies of these may be maintained if frequent sowings are made, and the seedlings transplanted in various positions in the garden. The size of each batch grown must be governed by the extent and requirement of the place, remembering that during hot, dry weather lettuces are soon past their best.

Sow the seeds in drills and protect from birds if the latter are troublesome; and when the plants are large enough to handle, prick them out in various positions, where it is possible to find room for a single row; for instance, under a wall, or between other growing crops. Well water the young plants in, and thin those that remain in the seed-bed to one foot apart for the cos, and nine inches for the cabbage varieties. It is surprising, especially in a good growing season, how quickly lettuces mature. Frequent Dutch hoeings between the plants are beneficial, and should dry weather prevail copious supplies of water must be given.

Although lettuces do not figure much on the show boards, yet at most exhibitions prizes are offered for stated numbers of specimens in variety. To those who contemplate competing, I would suggest that a little extra attention be bestowed upon the preparation of the ground, and also in the blanching of the cos varieties. Whether self-folding or not, for exhibition or kitchen use I recommend tying up the plant with broad strands of raffia. This does not entail a great amount of labour, leaves the bed neat, and ensures much superior hearts in the lettuces themselves, as well as that crispness so much esteemed. When required lettuces should always be pulled clean out of the ground, and the roots trimmed and the base of the plant washed. For show purposes, if taken any distance, the roots are best left on, washed, and tied up with damp moss. In this manner they will be found to travel well and retain their fresh appearance.

Varieties in both sections are numerous, and certain varieties find favour in some localities, and are much to be preferred to others. Of the cos varieties Superb White and Mammoth White are excellent for all purposes, and Selected Black Seeded Bath is fine. Of the cabbage section All the Year Round, Marvel (a distinct and useful lettuce of striking bronzy colour), Drumhead, Perfect Gem, Grosse Pareusse, Golden Ball, or Golden Queen are good.

E. BECKETT.

Aldenham House Gardens.

There is no better guide to the kitchen garden than VEGETABLES AND THEIR CULTIVATION, by T. W. Sanders. It is a complete treatise on the general management of the garden, and the successful culture of vegetables, saladings, and herbs for home use. Price 5s. net, by post, in box 5s. 6d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

STEPPING STONES.

Sometimes it is the seemingly unobtrusive topic that is fraught with the greatest interest. One tires of reiterated subjects, even if they are of certain importance, and turns to wayside thoughts with a feeling of relief and restfulness. It is so in all walks of life, and none the less true in gardening matters, and so with no apology for introducing the subject I will endeavour to turn the thoughts of garden lovers to stepping stones.

The importance of stepping stones in the garden grows more manifest every day. With the extended sway of the rock garden, the water garden, and the wild garden, comes the necessity in many places for causeways of natural stone, and if well arranged and carried out in an artistic manner the effect will prove pleasing to the extreme.

WINTER GARDEN AT BIRKDALE, SOUTHPORT.
Erected for P. Crook, Esq., by Messrs. W. Richardson and Co.

The ultimate beauty of stepping stone pathways lies, not only in their proper arrangement, but in the setting and colour effects of the garden in which they have a place. For instance, in the rock garden, if one can have a hard stony track winding through a rocky gorge, or a stepped way up through the rising mounds and grey boulders, one obtains a far better effect than if one utilised the ordinary gravel path as a means of traversing the abode of the rock plants.

One becomes so tired of gravel paths, neat and clean though they appear, and greets with pleasure the track of stone in which many hardy plants find a suitable home, and fill many of the interstices between stone and stone. Call the effect what you will, and the scene still remains "a pleasing informality in an informal garden."

Or take the water garden, as a case in point, and consider the utility of stepping stones in conjunction with aquatics and waterside plants. What is more fitting to provide a firm way by the streamside, where one can follow the winding stretch of shallow water and view the subjects as they come into blossom. We have an excellent example of this in the stone pathway by the lake side at Rufford Abbey, which is so admirably illustrated in the Gardeners' Magazine of June 18. Again, as a series of broad thick stones to carry one through the shallow water of the pools, to cross the streams, or to wander through the iris swamps and waving reeds, will prove of decided usefulness in providing an efficient mode of getting about in the water garden, in addition to forming a pleasing permanent feature in itself.

Judge, too, of the utility of the "stepping stones" in those varied phases of beauty which we term "the wild garden." The material value of rugged stone steps to ascend a bank girt with wild plants and hardy ferns, to give an ever-dry footing among the jungled maze of bamboos and grasses, to carry one through the dell of rhododendrons, and the delights of azaleas, maples, and a hundred other flowering shrubs, and to give the gentler sex the means of wandering dry-shod in spring among the waving hosts of daffodils, scillas, tulips, anemones, etc., and in autumn among the glowing stretches of heather, linarias, ragworts, and Michaelmas daisies, surely warrants the giving of the stepping stone a high place in the making of gardens. Nowhere has the "stepping stone" been so much utilised or lifted to so high a plane in the "garden adorned" as in Japan. Here they are regarded at their true value, despite the fact that a good deal of sentimentality is associated with them. The "flying stones" or "scattered islands" give an Anglicised rendering of the Japanese ideal in the setting of the "stepping stones." Whatever formality may exist in the stones themselves, it is discounted by the pleasing arrangement in which they are placed. Diversity in size, winding turns and bends, and studied grace in setting, creates a pleasing effect, especially if the stone way takes one through a crystal sheet of water, or in close proximity to it. A formal straight course of stepping stones is almost an impossibility, inasmuch that accuracy of step is better maintained by a diverse, winding series of stones. What really matters is that the stones should be hard and capable of resisting weather vagaries and the "wearing influence" of passing feet. They must be sufficiently wide for an ordinary person to walk over with ease, and they must be firmly set, whether it be upon the solid ground or in the stream or pool.

Finally, the English gardener or landscape artist would do well to confine his energies to one class of stone for a stepping stone causeway. Efforts to copy the Japanese style in utilising varied kinds of stone would probably result in failure, as no Englishman, or, indeed, anyone outside of the Far Eastern land of flowers, could venture with any certainty of success upon a combination of varied types of stone. The result would probably be somewhat bizarre, if not grotesque, instead of a harmony which would give entire satisfaction. Above all, the stepping stone has a purpose. It must supply a necessary demand. It exists not to provide aimless tracks in the garden, but to give tone, strength, and individuality to the garden, in addition to providing a permanent way from one portion of the garden to another.

Do not use stepping stones to gratify a whim, or because someone else has them, but utilise them, if you will, as a ready means of access, "a causeway of necessity." And in using stepping stones avoid all efforts at ornate design. Let the keynote of the whole scheme be simplicity. Whether your ground be flat or broken, ridgy or in sloping banks, the whole arrangement should be as simple as possible.

This way lies art. With natural groupings of plants and shrubs, softened outlines, and softening greenery, a simple stream or sweep of water, a wise choice of subjects and an effective placing of stones, will do more to give a garden a distinctive appearance than the ornate designs, bright colour schemes, and unsuitable masonry which some would gladly foist upon us. That the stepping stone has a future in English gardens we are well assured. It remains for us to make the best "of" it, and "with" it.

P. S. HAYWARD.

ROSE BUDDING.

July and August are perhaps the best months for budding roses, the first being a little the better if stocks and rose buds are in proper condition. But where there is a large quantity or the stock of any desired variety is weak or limited, then work depends entirely upon being able to secure the buds. These must be used when in a fit condition, while the stock will generally be workable from the end of June up to early September. Success is not so certain after this date, as the sap ceases to flow regularly and freely, and, consequently, the rose bud does not set so well to the stock. It is better to have the stock growing freely without being rampant and coarse; in the latter case there appears to be so much sap that the bud is flooded, and for that reason we do not manure or force our stocks so much as is the case in some gardens.

A rampant and extra strong-growing stock has a tendency to grow over the bud and smother it, as the rose bud itself cannot grow in due proportion. Especially is this the case when a bud is taken from slender growth and inserted in a rapidly swelling stock. Another decided advantage in having a less rampant, and what I may perhaps call an overfed stock, lies in the fact of both bud and stock connecting earlier and firmer, while they become better matured, and are able to pass through the winter with greater safety. A seedling briar that may be no larger than a knitting needle when planted will often swell to a circumference of two to two and a-half inches if upon richly fed soil, and to bud early upon such stocks is not nearly so successful an undertaking as would be the case if not growing so strongly. I think we may lay far more failures to this cause than many imagine. After the bud is set, and has come through the winter, feeding is quite correct, but not before.

Supposing the plants to be growing fairly well, they may be budded as soon as the bark will lift easily, and, as already noted, we must use the buds when ready unless there is a large stock to select from at once, but we generally wish to propagate some variety that is scarce, or which we, at all events, are short of. Let the rose shoot you are working from be as nearly as possible in the same condition as the portion of the stock it is to be inserted in. This ensures a better union, and the bud and stock are in better proportion to one another.

The process of taking the bud and its insertion has been explained in detail so often in these pages that I only propose a few hints for better treatment. On no account should there be any forcing or bruising when lifting the bark. The smoother and cleaner this can be raised, and the less the glutinous sap is disturbed, the greater are the prospects of success. It is the same with the rose bud, which should come away from the shoot freely, and allow of the small portion of wood being taken away so as to leave the seat or base of the bud prominent enough to rest upon the exposed wood of the stock. Many fail to tie sufficiently firmly. If the operation is successful the tie can be released in a month's time, and so constriction is avoided; but tie firmly at first, and more particularly close to the eye or bud, so that the latter may be kept well down upon the stock.

Always endeavour to get the bud as closely upon the roots of dwarfs as possible and as near to the main stem of standards. The great advantages of this is evident when we come to consider the suckers which are avoided. Should the bark not lift easily, watering will generally cause the sap to flow freely in the course of a week, and to meet with success both stock and bud should possess active sap at the time of operation. When selecting the buds it is undoubtedly best to cut from the healthiest specimens, also from plants that have produced the best flowers, if you have the advantage of choice. I believe more depends upon such selection than some growers think, if one may judge from the indiscriminate use of buds I have often witnessed. Like has a decided tendency to produce like in every form of growth, and I would certainly secure the buds from the best source possible.

P. A.

INTERIOR OF WINTER GARDEN AT WILLASTON, HARROWGATE.
Erected for W. H. Benn, Esq., by Messrs. W. Richardson and Co.

BULBS.—A practical treatise on the cultivation of hardy, hothouse and greenhouse bulbous and tuberous rooted plants is "BULBS AND THEIR CULTIVATION," by T. W. Sanders, price 2s. 6d. net, or by post 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

CONSERVATORY DESIGN.

(Concluded from page 492.)

Messrs. Messenger and Co., Lim., Loughborough, and 122, Victoria Street, London, S.W., have executed some very large orders, and a few of these include the whole of the glass department at the Royal Horticultural Society's Gardens, Wisley; the big ranges of glass at the Hillingdon Nurseries of Messrs. William Whiteley, Lim., ranges at Sherborne Castle, Reigate Priory, Lister Park, Bradford, as well as large conservatories for C. R. Palmer-Greenwood, Esq., Alfreton Park, Derbyshire; Sir Angus Holder, at Nun Appleton, Bolton Percy, Yorks; Admiral Hanson, Poynton Towers, Poynton, Cheshire; and Duke of Norfolk, at Arundel Castle. We refer to these to show that Messrs. Messenger and Co. are quite capable of the great as well as the small orders, although we have selected two smaller designs to illustrate their work, and we have done this because there are so many who can nowadays be the happy possessors of small, elegant, and altogether delightful conservatories, whereas comparatively few can afford the large and princely structures we all so much admire and covet. The conservatory erected at Mountfields, Loughborough, for the late J. Griggs, Esq., J.P., D.L., is entered from the garden by an elegant porch, and from the house by means of the billiard-room. On the far side it is attached to the vinery. It is pleasing, simple, roomy, comfortable, and effective, and measures 26ft. by 51ft. 6in. The interior view shows another conservatory erected at Field House, Loughborough, for W. C. Burder, Esq., J.P., and it is a beautiful little place, 14ft. by 19ft., and just the sort of conservatory that ought to be multiplied by the hundred throughout the country.

INTERIOR OF SMALL CONSERVATORY, FIELD HOUSE, LOUGHBOROUGH.
Erected for W. C. Burder, Esq., J.P., by Messrs. Messenger and Co., Lim.

Where the house or mansion is at a considerable elevation, the conservatory attached to it must be duly proportioned to it or the effect of both will be spoiled. A very fine design, combining architectural beauty as well as due consideration for the gardener, who has to keep it filled, is the conservatory built by Messrs. W. Richardson and Co., Darlington, at Birkdale, Southport, for P. Crook, Esq. A more elegant and yet simple design, directly connected with the mansion, it would be difficult to conceive. Another example of the work of the Darlington firm is also shown. This is the interior of an elaborate, highly decorative winter garden erected at Willaston, Harrowgate, for W. H. Benn, Esq., and shows a delightful retiring-room, where one may smoke, or read, or write, amid the exquisite beauty of flowers and foliage that Nature and art have combined to produce. Some other fine specimens of the work done by Messrs. W. Richardson and Co., are to be found at Smedley's Hydro, Matlock; Lord Gerard's home at Moulton Paddocks; the far-away public gardens of Lahore, in the Punjaub; Mr. W. B. Avery's estate at Oakley Court, Windsor; Earl Warwick's find old seat, Warwick Castle; Wynyard Park, co. Durham, the seat of the Marquess of Londonderry; Hanley Park, Stafford, etc., etc.

Rose Dr. J. Campbell Hall. — Although not a new variety this H.T. rose, introduced by Messrs. A. Dickson and Sons in 1904, deserves to be better known than it is among rose growers. Flowering early, it gives handsome blossoms, large and full, and of a coral-rose colour, heavily suffused with a deeper shade, and with a satiny appearance.—E. M.

CLEARING KITCHEN GARDEN CROPS.

To ensure a good supply of green vegetables during the latter part of the year and onwards into early spring, one must be prepared to take advantage of every opportunity for getting in the crops as soon as the ground has been cleared of others. The risk run by many at this season, who do not anticipate the dangers of late summer sowings, is that their seedlings will be at the mercy of early frosts and cold uncongenial autumn weather; and if not vigorous and well developed at that season, they will certainly succumb. Such crops as winter greens, including borecole, broccoli, etc., must be planted as early as possible, as it is impossible for them to survive the winter if planted at a late date.

Peas and beans should be cleared as soon as they have ceased to be productive. Often the grower is tempted to retain these crops merely for the sake of a dish or two of late peas, with the result that the summer plantings or sowings are delayed. Surely it is more profitable to utilise the space occupied by these flagging crops with a certain crop of winter greens, turnips, or cabbages. For a similar reason, stumps of early cabbages must be cleared off the ground as soon as possible, and, if desirable, a small plantation may be formed elsewhere; while the space occupied by the cabbages may be planted with some useful crop.

In the kitchen garden there are no more important branches of work than manuring and digging. A liberal supply of manure should be incorporated with the ground at least once a year, the most useful material being partially decayed farmyard or stable manure. As regards cultivation, trenching to a depth of two feet during the winter is undoubtedly the best plan, and after every crop the ground should be cleared and dug over in readiness for the next. One point to which attention should be drawn is the number of different varieties of vegetables grown. Where grown for market purposes it is distinctly unprofitable to attempt the cultivation of too many kinds, as the mixed produce is never so remunerative as the result of specialised cultures. Endless trouble and unnecessary expenditure is involved when a mixed lot of vegetables are marketed wholesale, although if retailed locally there is no reason why the grower should not endeavour to raise as many kinds as circumstances permit.

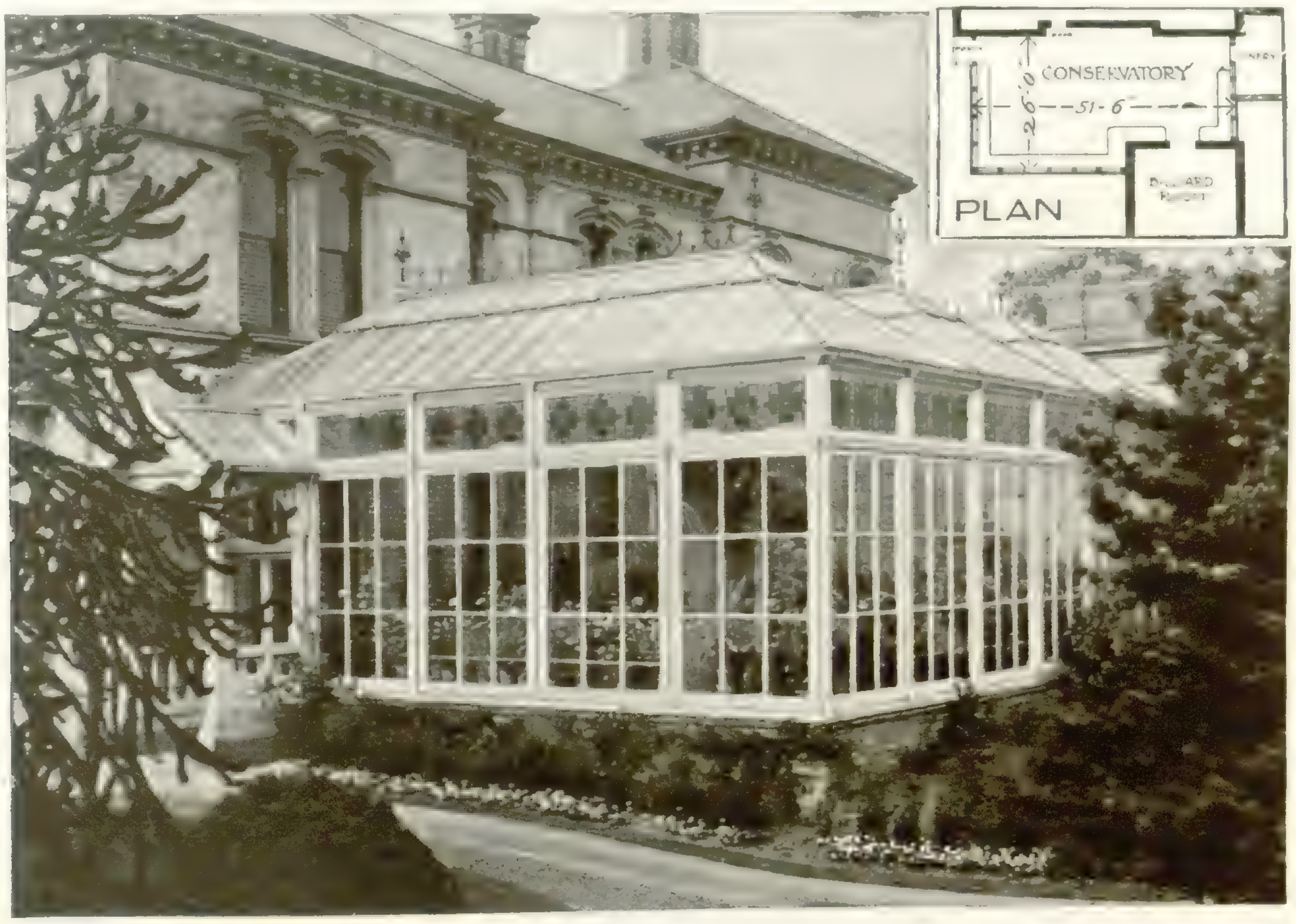
Winter greens include broccoli, borecole, kale, and Brussels sprouts. Kale is undoubtedly a most useful crop for gardens of all sizes, as it suffers least from the severe weather experienced in late autumn and winter. Broccoli plantations should be confined, as a rule, to those sorts which attain maturity before the end of the year, as later varieties rarely survive the Christmas weather. Borecole or kale may be pricked out early in July during showery weather. Broccoli should be got into the ground directly after the pea crops have been cleared. The plants should be inserted firmly about 2ft. or 2½ft. apart, and if protection against frost is desired, they may be covered with frames or dried fern or bracken. Sprouts are usually ready for the table by the month of October, and give a constant supply onwards till March. The plants are benefited by earthing them up slightly after planting, and a plentiful supply of water should also be given so as to avoid a check.

As suitable plots become vacant, cabbages from the first and second out-door sowings should be put out at once, preferably during showery weather, a space of from twelve to fifteen inches being allowed between each plant. To encourage hearting in the earlier varieties of cabbage it is a good plan to tie up the leaves, and if hot, dry weather follows planting plenty of water should be supplied. All spare corners and beds can be profitably utilised for cabbages, as they are extremely useful in the winter months, when there is a great scarcity of greenstuff.

The winter or prickly-seeded spinach should be sown in the warmest and richest soil. This will enable the plants to become thoroughly hardened by the time the frosts of winter have made their appearance. The first sowings can be made at the end of July, and successional sowings may follow in due course throughout August. These sowings should be thinned out at an early date to six, and finally to twelve inches apart in the rows, while those intended for winter use may be left seven or eight inches apart. The hoe must be kept in constant use between the rows, both for the purpose of suppressing weeds and providing moisture for the growing crops, and, if necessary, the winter kinds may be lightly protected with long strawy stable litter against frost. The heads of the flower stems should be cut off as soon as they appear, and it is a good plan to thin out the plants and use the thinnings for the first supplies rather than gather the largest leaves from each plant. Subsequently the leaves may be gathered two or three at a time from each plant as soon as they are large enough for use.

A sowing of parsley in July usually suffices for winter and spring use, and there is no better place than at the foot of a south wall. Seed may be sown in drills one foot apart, and covered with fine mould to a depth of about half an inch. A very general practice is to sow parsley as an edging, but if there is much traffic the leaves are apt to become bruised and dirty. The young plants should be thinned out as soon as they are sufficiently strong, a space of six inches being finally left between them in the rows. When gathering, it is a good plan to cut over the plants when they are old and the leaves no longer tender, as this will induce the growth of fresh tender foliage. Parsley usually benefits from occasional dressings of soot.

J. C. Newsham.



CONSERVATORY AT MOUNTFIELDS, LOUGHBOROUGH.
Erected for the late J. Griggs, Esq., J.P., D.L., by Messrs. Messenger and Co., Lim.

COMPETITIONS OF SKILL.

In agriculture it is quite a common thing to hold competitions of skill in manual processes connected with farming, and it may be said of these that they have done a good deal towards the production of a high standard in expert farm labour. Ploughing matches and hedging, ditching, and thatching competitions are quite common events; and if you go to an agricultural show you will see dainty-looking dairy maids competing with each other in the working dairy, and shoeing-smiths working hard for the prizes that are offered for the making and fitting of horseshoes. It is urged, in fact, by those who are in a position to know, that these competitions of skill are not only a means of education, but they are incentives to young men to make themselves expert in the branch of work by which they earn their daily bread. The complaint is that expert farm labour is declining, and the competitions referred to are looked upon as being a means of keeping up the standard.

Perhaps it is that horticulture does not lend itself to skill competitions to the same extent that farming does, and there may be some other reason, but the fact remains that it is unusual for gardeners to pit their skill against each other in manual processes. Of course, we have shows out of number where the results of skill, in the shape of fruit, flowers, and vegetables, are staged in open competition; but at the moment when horticultural societies are looking for novel and fresh departures the time is opportune for considering whether the skill competitions so common in farming could not, to some extent, be copied in horticulture. I admit that the field is more limited, but a few societies can see possibilities, and the start they have made is evidence that skill competitions in gardening are not out of the question. It may be urged that they already exist in the shape of table decorations at shows, which are an old institution, but this is not quite what I mean, in the first place, because it is not strictly utilitarian; and, secondly, because the choice of material has more than a little to do with the winning of the prize.

Let me then state my case. Back in the early spring I read an account of a village gardening society which has a competition every year in which prizes are offered to men who dig and double-dig a rod of ground in the best and most workmanlike manner. Fancy, a competition in digging; perhaps some may ask, what is there in that? A good deal, when you come to remember that digging, though part of the A.B.C. of gardening, is a manual process requiring skill. A good deal depends upon it, and every winner of prizes at vegetable shows knows how much, but when you see the way that some people who call themselves gardeners handle spades, you realise that there is room for improvement in methods of digging. It must have been a goodly sight in the competition referred to to see stalwart men swinging their brightly-burnished spades, driving the blades down into the ground, bringing up the soil, and leaving the surface as only a good digger knows how to leave it. Surely digging presents as many possibilities for the gardener as ploughing does for the farmer; then why not inaugurate competitions of skill among the men who use spades?

To state another case. Last summer I was asked to judge at a village flower show, where, amongst other things, prizes are given for practical competitions in budding. There were two classes: one for adults and one for boys and girls. The competitors supplied their own briars and buds, and the prizes were given to those who prepared, fixed, and tied in three buds in the most workmanlike manner within a given time. The entries were good, and it was quite interesting to observe the earnest way in which the competitors set about their work, though one or two ladies who entered became nervous and cut their fingers. What I remember most of the competition is that the village postman, who enjoys a local reputation as a budder, won the prize in the adult class, and I think his little daughter, who was champion in the junior division, did her work even more neatly than the father. A good deal of interest was taken in the competition, and I could not help thinking that, from an educational point of view, it was a great deal more useful than offering prizes for the fattest baby, or bowling for a pig.

Allied to budding is the sister operation of grafting, which calls for the exercise of skill and good workmanship. Every locality possesses a few men who are clever at grafting, and when a farmer wants a few trees grafted he sends for the local expert to do them. This is all very well, but grafting is such a simple operation that every village lad ought to know how to do it, and why shouldn't local horticultural societies inaugurate competitions of practical skill in grafting? I make this suggestion on the grounds that grafting is as much a manual process requiring skill as hedging and ditching.

Pruning again possesses possibilities in the way of practical competitions, and I think I remember last spring reading an account of one society, i.e., Newport, Mon., holding a competition in pruning for the benefit of young gardeners. In a pruning competition, I think there should be an oral examination as well as the practical work, and the competitors should be asked to explain why they cut off the shoots and what they expect to get as the result of doing this. I suggest this because a number of men simply learn their pruning by rule of thumb, but without any knowledge of the principles which govern the operation. In some districts in the West of England where orchards are plentiful, and for the most part badly pruned or not pruned at all, competitions in the pruning of orchard standard trees are held, and I believe they have been the means of improving this class of work.

The above illustrations do not exhaust the directions which offer possibilities in the way of practical competitions, and the committees of gardening societies might do worse than consider this matter as being a means of attracting young members and giving them opportunities of displaying their skill as practical gardeners.

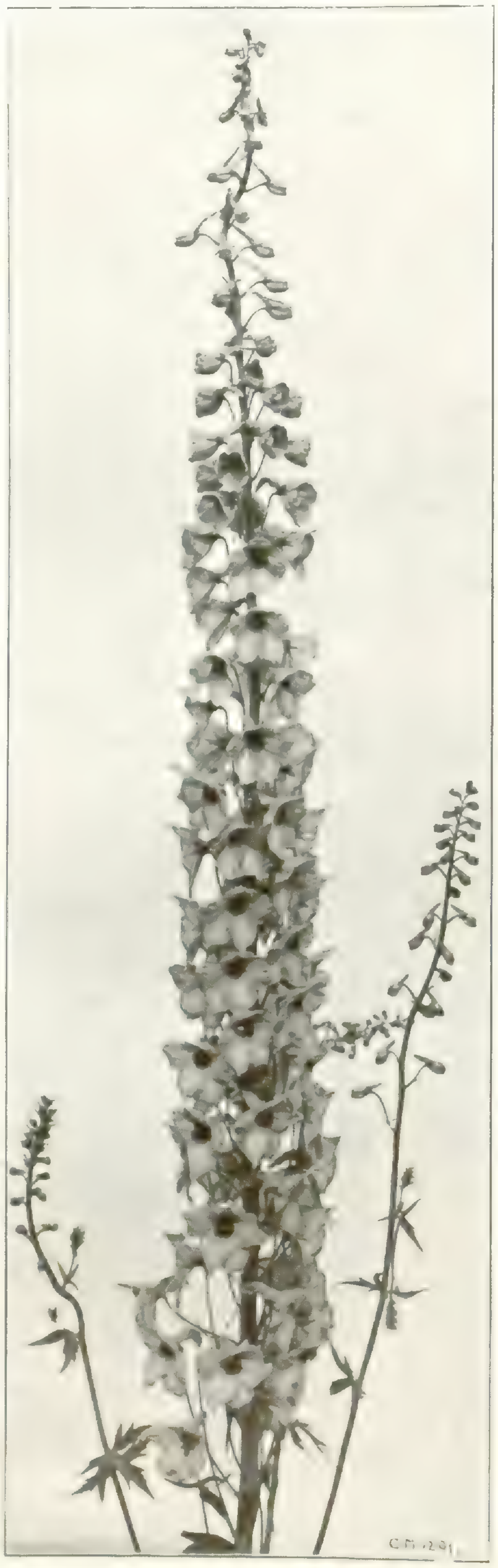
H.

Calceolaria Buttercup.—While the old-fashioned florists' varieties of calceolaria, with their dense masses of large flowers, remain popular with some, there is, on the other hand, a growing tendency to favour those which are of a less formal and more graceful character. Such is Golden Glory, which has proved itself hardy in many districts, and has already become a general favourite. Another is Clibrani, of a quite loose habit, and with a great profusion of clear yellow flowers. A large group of a very pretty form named Buttercup, and announced as the result of a cross between the two before-mentioned varieties was shown at the Temple Show by Messrs. J. Veitch and Sons. It should make a good decorative plant, as it is exceedingly floriferous, grows about eighteen inches high, and is in no way stiff or formal. The colour of the flowers is yellow, dotted freely on the undersides. A notable feature is that the dotting is more pronounced than in either Clibrani or Golden Glory. Probably from the fact that they were seedlings the plants of Buttercup composing the group referred to were not all exactly of the same shade of colour, some being of a deeper and richer tint than others. From the fact that this calceolaria so quickly attains flowering size, and is so showy when at its best, we shall doubtless before long see a great deal more of it.—W. T.

ESCALLONIA LANGLEYENSIS

Many of the escallonias are too tender for outdoor culture except in the warmer parts of the country, but there is one species, E. Philippiana, which stands without injury in most places, whilst another species, E. macrantha, is moderately hardy, and is only injured by exceptionally severe winters. In the hands of the hybridist these two species produced the above hybrid, which is an exceptionally fine shrub, possessing the good qualities of its parents to a marked degree. So far as hardiness is concerned, it may be said to be almost comparable with E. Philippiana, for, after the winter of 1908-1909, which severely tried many shrubs, the wood was uninjured, though all the leaves fell. E. Philippiana is, of course, deciduous, therefore it is not unnatural for its progeny to shed its leaves under certain circumstances, although it may take after the other parent in being evergreen under normal conditions. The habit of E. Langleyensis is peculiarly graceful, the branches being semi-pendant whilst the oval leaves are dark green. The bright rose-coloured flowers are borne in June, and, individually, are somewhat larger than those of E. Philippiana. It is very floriferous, and is an excellent subject for a group on a lawn, for a mass in the foreground of a shrubbery, or for planting against a trellis, where the branchlets can hang freely from the supports. It thrives in loamy soil, and is well worth inclusion in a collection of choice shrubs.

D.



DELPHINIUM PURPLE VELVET.
A distinct and beautiful variety with deep violet-purple flowers. A.M., R.H.S., June 21. Messrs. Kelway and Son.

NEW PLANTS, ETC.

◆

ODONTIODA VUYLSTEKEÆ WALTON GRANGE VAR.

A handsome and brilliant crimson-scarlet variety of the fine bigeneric hybrid between Cochlioda Noetzliana and Odontoglossum Pescatorei. A.M., R.H.S., June 21. Mr. W. Thompson, Walton Grange, Stone.

DELPHINIUM.

Purple Velvet.—A splendid single variety with very large spikes of big, rich, deep violet-purple flowers. A.M., R.H.S., June 21. Messrs. J. Kelway and Son, Langport.

IRIS.

Albo-purpurea Colchesterensis. — A handsome form of a well-known iris; it has broad reflexing segments that are quaintly and beautifully marked with bright purple-blue and white. A.M., R.H.S., June 21. Messrs. R. Wallace and Co., Colchester.

Fulvata.—An interesting hybrid between I. fulva and I. alata. The flowers are spreading, and have slightly recurved segments finely marked with purple and copper colour. A.M., R.H.S., June 21. Mr. W. R. Dykes, Charterhouse, Godalming.

ROSE FREDA.

A fragrant hybrid tea rose with shapely, deep rose-coloured flowers of good size, shaded with rose-red. The form of the flowers is very good. A.M., R.H.S., June 21. Messrs. Paul and Son, Cheshunt.

SWEET PEAS.

Dobbies' Sunproof Crimson. — A large waved variety of deep and bright crimson-scarlet colour, and said not to burn or scald in bright sunshine. A.M., R.H.S., June 21. Messrs. Dobbie and Co., Edinburgh.

Ivanhoe.—A waved variety of good size and form; soft lavender. A.M., R.H.S., June 21. Messrs. Dobbie and Co., Edinburgh.

KALANCHOE KEWENSIS VAR. EXCELSIOR.

A showy succulent plant, two to two and a-half feet high, with divided, fleshy leaves and a terminal, branched head of deep crimson-scarlet flowers. A handsome form and a fine companion to K. flammea. A.M., R.H.S., June 21. Messrs. Jas. Veitch and Sons, Chelsea.

STRAWBERRY MARK TWAIN.

A conical variety of medium size, bearing its fruits freely in tall, much-branched clusters. These are bright scarlet with light flesh and good flavour. The variety is distinctly earlier than Royal Sovereign, and is said to crop well. A.M., R.H.S. Mr. F. B. White, Old Netley.

Rose Frau Geheimrat Dr. Staub.—This is an early-flowering rose of the H.T. section, therefore valuable; it has dwarf stocky growth, and the blossoms are shapely, reminding one of Liberty when in bud. The colour is deep brilliant red, with a darker shading, and the flower is also sweetly perfumed. This variety was introduced by Lambert in 1908.—E. M.

THE SUMMER PRUNING OF FRUIT TREES.

For many years past experienced fruit growers have, both in nursery and private gardens, done a great amount of pruning during the summer months with excellent results. I find that many young gardeners —and some older ones, too—are practically ignorant as regards the actual carrying out of the work and its beneficial effects. And I also find that there is some difference of opinion amongst others as to the manner and time of pruning.

Although pruning at the present season will considerably improve the strong-growing tree, it is not all that is necessary to be done to it. Root-pruning in the autumn must follow. Then the most stubborn specimen can be brought and kept under control and in a fruitful state year after year.

Summer-pruning may be done throughout the month of July; but if I had to deal with very strong-growing trees, I would defer the work until the end of the month, commencing with weaker-growing specimens early in the month.

If the former be pruned too early a good deal of trouble will be given by the sub-lateral growths later on, as they will form persistently until quite late in the season. I do not like to see more than one batch of these sub-laterals grow after the pruning has been done, as it proves that the wood is very immature. It would be a different matter if they formed persistently any time previous to midsummer, and summer-pruning at that time would be too early. In cutting back the shoots four, five, or six buds should be left at the base. If a tree be gross in growth leave six buds, five if of medium strength, and four if of rather weak growth.

The resultant sub-laterals should be pinched out when just large enough to handle, then many trees can be dealt with in a very short time. It would be a big mistake to neglect to remove the sub-laterals, as they would cause overcrowding, a thicket of growth which would shut out light and sunshine from the leaves, basal buds, spurs, and fruit. Only the end, or two end buds on the cut-back shoot would grow at once if the summer-pruning be done as suggested; but if closer pruning be done the basal buds may grow, and this would be disastrous.

There are many small sappy shoots on fruit trees, such as apples, pears, plums, and apricots, that may be pinched off rather close back, and thus be prevented from causing any overcrowding, and such shoots never mature. Trees so treated do not require extensive winter-pruning.

Geo. Garner.

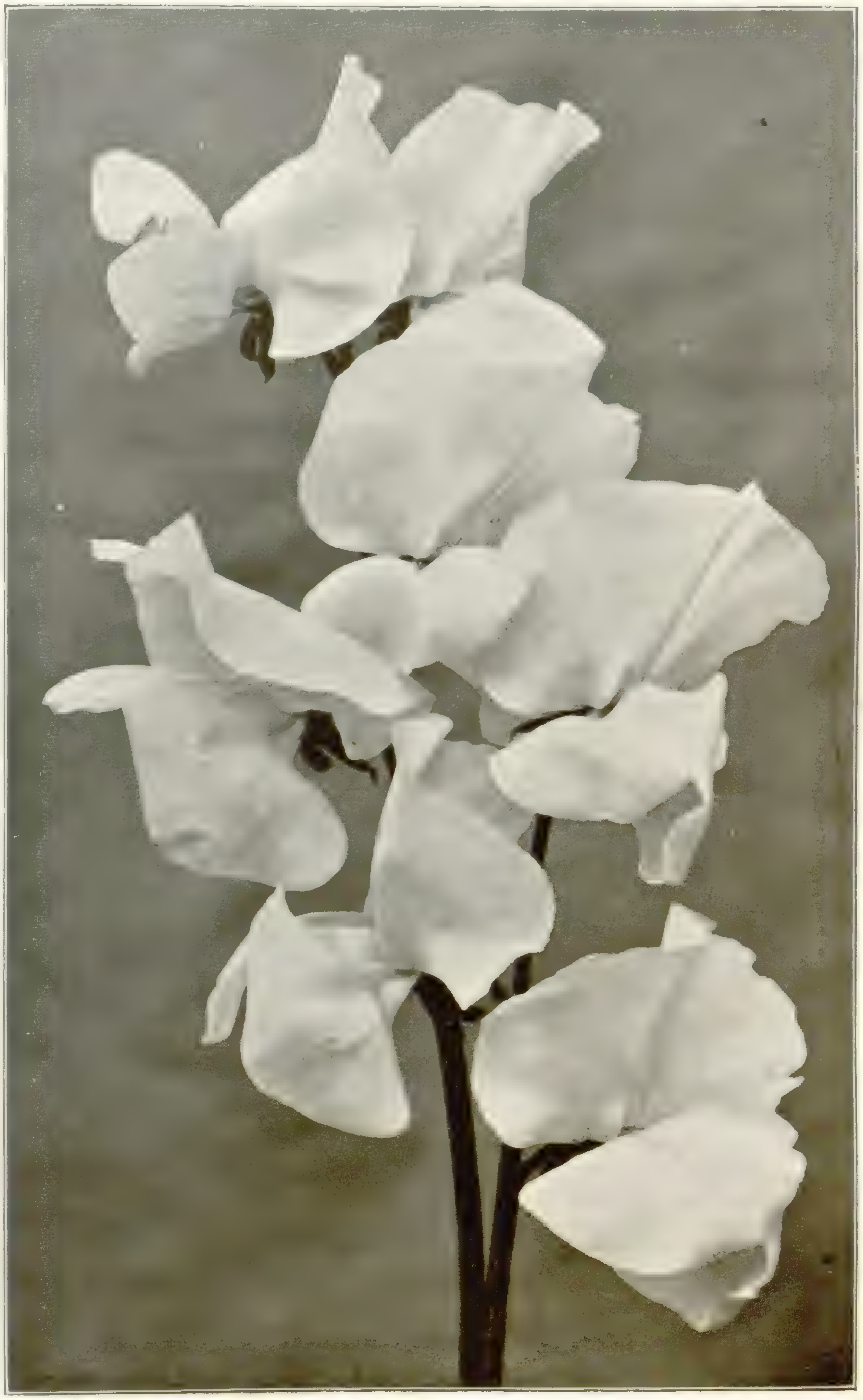
Meuhlenbeckia complexa.—Slender, graceful, and dainty in appearance, yet tough as wire, and hardy as the heather, this handsome little trailing shrub is a gem for the rockery or for overgrowing an old tree stump, clothing a sloping bank, or perhaps, best of all, as a subject for the wall garden. The shining black stems hanging over the face of the wall are furnished with small green leaves in pairs from end to end, and an established plant is remarkably pretty. It needs neither pruning nor training, but should just be allowed to grow, and throw its graceful stems where it will. Meuhlenbeckias like a deep, light soil, and thrive the better when afforded some peat or leaf-mould, and a little lime rubbish or sharp sand. It is easily propagated by means of cuttings of the ripened wood in autumn. These should be cut at a joint in pieces about the length of one's finger, and dibbled into sandy compost under a handlight or round the edge of a six-inch pot.—M. A. C.

WORK FOR THE WEEK.

◆

THE ORCHID HOUSES.

MILTONIA VEXILLARIA.—The different varieties of the early-flowering M. vexillaria will now have passed out of flower, and where a house is not devoted to their cultivation it is advisable the plants should be removed to a cooler atmosphere than that of the intermediate house. A shady position at the warm end of the odontoglossum house suits them well. The plants should not be over-watered for the next few weeks, only sufficient root moisture being given to keep the pseudo-bulbs plump. Keep a sharp look-out for thrips, as these insects are the worst enemies of miltonias, and every precaution is needed to keep the plants free from them. Dipping at regular intervals in a safe insecticide, and occasionally vaporising the house are the best means of keeping insect pests in check at this season of the year.



SWEET PEA IVANHOE.
A beautiful variety, the flowers large, and the colour soft lavender.
A.M., R.H.S., June 21. Messrs. Dobbie and Co.

ODONTOGLOSSUM CITROSMUM, as it passes out of flower, should be repotted if necessary. When repotting this species it is most desirable the compost selected should consist of lasting material. For a good portion of the year the plants are in an absolutely dormant condition, and require very little moisture at the roots. It is only through the growing season that ample moisture is needed, so that if a suitable compost of a lasting nature is selected the plants will last for some time without disturbance. After repotting give every encouragement for the proper development of the new pseudo-bulbs.

CATTLEYA CITRINA is another orchid which I consider takes a long period of absolute rest as soon as growth has developed;

this, however, is not for some considerable time after flowering. The plants that have recently passed out of flower will be now rooting freely from the base of the developing growth, and should now be top dressed or repotted as necessary. These plants do not require much compost about their roots, so that whatever receptacle is used ample drainage must be given. I find a few broken leaves mixed with the peat is beneficial to C. citrina. Examine the plants for scale and other insect pests at this season, for if the young growth becomes infested trouble will follow. There can be no doubt but that plants of C. citrina are benefited when they can be placed in the odontoglossum house for a few weeks after they have completed their growth. The moist and cool conditions there will then suit them.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

FERNS.—Most of the ferns that were potted early in the year will now be well furnished with young roots, in fact most of the strong-growing varieties will have well filled their pots, and where good specimens are required for autumn decorations some of the best should be potted again, this particularly applying to such varieties as Pteris serrulata major, P. tremula, Nephrolepis exaltata, N. Piersoni, N. todeaoides, N. elegantissima, N. Whitmanni, etc., as well as blechnums, Lomaria gibba, etc. The latter grow very freely, and make fine young plants if raised from spores, say, every second season.

ADIANTUMS AND ASPLENIUMS should not require a second potting, as frequent waterings with liquid manure will keep them growing freely, and an occasional supply of artificial manure will not be out of place.

LYGODIUM SCANDENS I find a very useful (climbing) fern for table decorations, but care must be taken during the growing season to train the young growths separately to strong cotton or fine string, much in the same way as smilax. Also young seedlings of this latter useful plant should be potted on, and placed at the ends of the houses or at the backs of some of the lean-to houses, where they may be strung; they should produce some good trailers to follow on after the older plants have been cut over. A batch of smilax seed should now be sown, and if the young plants are kept growing till the autumn they will be found most useful during the early spring and summer, at a time when it is somewhat difficult to obtain good trailers for the dinner table when only one sowing is relied on.

SHADING.—Most ferns prefer a fair amount of shade, and where the houses are permanently shaded it may, on very hot days, be necessary to supplement this for a few hours with mats or tiffany, where there are no roller blinds. As mentioned in these notes of June 18, fire heat may be entirely dispensed with for a time, but if this is done in the ferneries it may be advisable to leave a little top air on at night, or the accumulation of moisture on adiantums may cause damping of the young fronds.

PALMS.—These generally will be growing freely, and where kept in fairly small pots will require to be well supplied with water, and an occasional top dressing of patent manure will help keep them vigorous and green. Keep them well syringed, and whenever the opportunity offers sponge them over; in most gardens these are grown chiefly for the decoration of the rooms, and if kept clean they are ready to go indoors at short notice. It is as well to purchase a few small plants each season from the nurseryman, selecting those kinds most in demand; the first cost is not much, and the plants gradually grow on and take the place of those that become shabby through use in the house, whereas if large palms have to be bought they are a very expensive item.

ACHIMENES.—These will now be making a good show, or should be doing so shortly, and as the flowers begin to expand give them a little more air, and just now they will take any amount of water, not forgetting liquid manure, as they revel in it, and, if not allowed to become dry, they will go on blooming for a considerable period; keep them carefully staked and tied as advised in a previous calendar.

GLOXINIAS.—As the earlier batches of these go out of bloom they should be put into a pit, where they should still be supplied with water until the leaves begin to show signs of maturing, when it may be gradually withheld. Young seedlings must still be kept growing freely, giving them all the encouragement possible to make good leaves, as well as to produce flowers, but a 48-sized pot is quite sufficient the first season.—Thomas Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

LATE MELONS.—Successional batches for affording late supplies of fruit should be planted as they become fit, in light, adequately heated pits or houses. Should they be replacing melons or other crops subject to red spider particular pains should be taken in cleansing the structure with a solution of soft soap and paraffin, and in the case of melons the old compost should be removed. Place the plants two feet apart upon firm hillocks or ridges of fresh compost, and train them as single cordons upon a trellis placed near the glass. Afford a night temperature of 70 to 75 degrees, and keep the atmosphere moist by damping the floors, etc., several times daily, and by syringing in sunny weather, early in the morning, and again when the house is closed for the day. At such times the house should be closed sufficiently early to cause the temperature for a short time to reach about 90 degrees. Stop the leading growth of each plant when it reaches its desired length, the laterals at one leaf beyond the first fruit, and subgrowths at one leaf, and secure them to the trellis. While in blossom discontinue syringing, keep the atmosphere circulating and fairly dry, and fertilise the flowers. As soon as the fruits have set and are swelling select on each plant enough of them of about equal size for the crop, and remove the rest; resume syringing, etc., and keep the plants well supplied with water and diluted liquid manures. Sow seeds at the end of July for the latest crop.

MELONS IN FRAMES.—Grown under these conditions melons are more difficult to manage than where fire heat is employed, and especially so in cold or wet seasons. Essential points are the maintenance of necessary warmth by adding linings to the fermenting material, entrapping the sun's warmth by closing the lights early in the afternoon, and covering the lights with mats on cold nights. Moisture for the roots, or syringing, must be used with good judgment. The growths should at no time be crowded, and stopping the shoots should be done at an early stage of development. With a view to prevent canker it is desirable to rest the growths upon bricks placed at suitable intervals apart, to keep them off the soil, and the soil near to the main stem should be kept dry. The fruits should also be raised either upon flower pots or half bricks. If canker appears the affected parts should be rubbed with quicklime and kept dry.

SCALDING AND SPLITTING OF GRAPES.—In some instances it is difficult to prevent the berries of grapes, Lady Downes, for example, from being scalded during the time they are stoning, and this is most likely to happen during powerful sunshine, when moisture has condensed on the berries. The means to adopt to prevent it is to maintain from fire heat a night temperature of about 70 degrees, leaving the ventilators slightly open, and preventing sudden rises of temperature from sun heat by a timely increase of ventilation. In some badly-constructed houses it may be found expedient to slightly shade the glass. We usually have some difficulty in this respect in the case of a house of Lady Downes, but last season, as the weather was dull during the stoning period, no scalding took place. Splitting, to which Madresfield Court and some other varieties are liable, may be caused by an excess of moisture in the atmosphere, or by wet weather outside, especially if this occurs after the grapes have been tolerably dry for a period, or the trouble may occur owing to the borders being watered or wetted by rain after they have been allowed to become dry. In the first case means similar to those recommended as a preventive to scalding should be followed, and watering inside borders should be done in the early part of a fine day, when the ventilators are well opened and the extra moisture can escape. In the other case keep the borders properly supplied with water, and, if necessary, protect outside borders from excessive rainfall.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

LEEKS.—The early planted leeks should now be growing freely, and require regular earthings up, and occasional waterings. Liquid farmyard manure is preferable to any other feeding. The later-sown batch should now be ready to plant out; in this case holes can be made in firm ground six inches deep, placing the leek at the bottom of this with soil enough to cover the roots only; as the plant gradually grows add more soil until eventually the hole will be filled to the surface level; if a greater length is needed additional soil can be drawn up in the form of a ridge.

CARROTS.—Few vegetables are in greater demand than these when young, therefore every endeavour should be made to procure them by sowing at fortnightly periods from now until the end of September. Those sown at the later dates should be placed where a garden frame can be laid over them, and nice little carrots can then be pulled until March. Every care and attention must be given them during the late autumn by regularly sowing soot, and at other times lime, to prevent slugs, etc., from destroying them. First-rate kinds for this work are Sutton's Inimitable and French Forcing.

PEAS.—Another sowing should be made at once, as, should we have a good autumn, the crop will be found valuable. Trenches, well prepared as previously advised, will be necessary, and regular waterings must be given should the weather remain dry. If all the late varieties of seeds have been sown, and there are some early kinds on hand, do not hesitate to sow these; we have gathered in eight weeks from sowing that fine variety Sutton's Early Giant, sown at this season. Well water and mulch all the main crops to prolong their cropping powers to the utmost.

SPINACH.—Especial care will have to be taken to procure good spinach now, particularly on shallow soils. To be successful sow regularly every fortnight on well-prepared ground where some amount of shade can be obtained, as between rows of tall peas, runner beans, or near high north walls.

BEANS.—Stake runner beans early, and make one more sowing. Dwarf beans can be sown fortnightly for some time to come; the variety Waxpod is very popular in some establishments.

LETTUCE AND ENDIVE.—Sow further good breadths now, as by the time they are mature they will be found to stand in good condition for some time. If transplanting is practised well shade, water, and regularly spray the plants until established.

CELERY.—Though not often ready for use until September, very fine celery can be had by the middle of August if the early sowing is given regular attention. It will be found to blanch more readily now than later, five weeks being ample, whereas ten weeks are required for the autumn and winter supply. If a few fine heads are required nothing is better than the use of brown paper bands four to five inches in width, and long enough to go round the whole plant three times. Continue this treatment every ten days until the desired height is obtained; water regularly, and keep a sharp look out for slugs and the celery fly. Dust frequently with soot to ward these off.—G. Ellwood, Swanmore Park Gardens.

CARDIFF AND COUNTY HORTICULTURAL SOCIETY. 22nd Annual Show. SOPHIA GARDENS, CARDIFF. WEDNESDAY and THURSDAY, July 20 and 21st, 1910. Liberal Prizes in every section, amounting in money and plate to nearly £500. Two Programmes of Music each day by His Majesty's renowned 1st Life Guards Band. A Grand Display of Fireworks each evening by Messrs. W. and J. Wilder, Birmingham. Mr. John Studt's up-to-date Fun of the Fair, each day. Tents lighted by the Blanchard Patent Incandescent Oil Lamps. Popular prices. Tickets and Schedules may be obtained from the Secretary, Mr. A. MAURICE BAILEY, 24, Duke Street, Cardiff.

HANLEY PARK, STAFFORDSHIRE.
July 6th and 7th, 1910.

FOURTEENTH GREAT
ANNUAL FLORAL FETE.
£650 in Prizes, Silver Cups, Gold and Silver Medals.
SILVER CHALLENGE CUP, value £10 10s. offered for "TRADE EXHIBIT"
(For particulars see page 10 in Schedule).
Valuable Special Prizes offered by the principal Firms in England.
The Railway Companies will convey Exhibits at one fare for the double journey, provided they remain the property of the Exhibitors.

Schedules, post free, on application to
WM. POULSON, Secretary.
Town Hall, Hanley.

NORTHAMPTON MUNICIPAL HORTICULTURAL & ORNITHOLOGICAL SOCIETY.

GRAND EXHIBITION OF
FLOWERS, FRUITS, and VEGETABLES,
BEES, BIRDS, POULTRY, and RABBITS.
AUGUST 3rd and 4th, 1910,
At
ABINGTON PARK, NORTHAMPTON.
Prizes to the Value of £300.

Schedules on application to
JAS. B. PALMER, Secretary,
36, Cyril Street, Northampton.

SALTAIRE, SHIPLEY, AND DISTRICT
ROSE SOCIETY.
EIGHTH ANNUAL EXHIBITION OF ROSES AND SWEET PEAS, TUESDAY, July 19th.
TROPHIES and MONEY PRIZES to the Value of £450 OFFERED for COMPETITION.
Schedules and further particulars from
E. WRIGHT, Rosedene, Shipley Glen, Saltaire.

THE FOUR NORTHERN COUNTIES, FRUIT CONGRESS and SHOW, HEXHAM, 20-22 October, 1910. Particulars of space for Trade Exhibits from the General Secretary, Rev. J. BERNARD HALL, Hon. F.R.H.S., Dalston, Cumberland.

THE GREAT ROSE SHOW
OF THE YEAR
Will be held by the NATIONAL ROSE SOCIETY
in the
ROYAL BOTANIC GARDENS.
REGENT'S PARK, N.W.,
ON FRIDAY, JULY 8TH.

The two Champion Challenge Trophies will be competed for, also numerous other Cups and Pieces of Plate, and Money Prizes to the value of £400.

NEW SEEDLING ROSES in a SEPARATE TENT.

TWO MILITARY BANDS.

Luncheons, Teas, and Other Light Refreshments.

ADMISSION—
Noon to 3 p.m., 5s.; 3 to 5 p.m., 2s. 6d.; to 7 p.m., 1s.

E. MAWLEY, Hon. Secretary,
Rosebank, Berkhamsted.

NATIONAL SWEET PEA SOCIETY. The TENTH EXHIBITION will be held at ROYAL HORTICULTURAL HALL, July 12th and 13th. Entries close July 6th. Join at once. Minimum Subscription, 5s. "Sweet Pea Annual" and Official Catalogue of Sweet Peas, 2s., post free, to Non-members. Free to New Members. CHAS. H. CURTIS, Hon. Sec., Adelaide Road, Brentford, Middlesex.

PORTSMOUTH HORTICULTURAL SOCIETY SUMMER SHOW. SWEET PEAS, ROSES, and CARNATIONS, to be held on the SOUTH PARADE PIER, WEDNESDAY and THURSDAY, July 13 and 14, 1910. All communications to the Secretary, W. E. GILL, 80, Osborne Road, Southsea.

REIGATE ROSE AND SWEET PEA ASSOCIATION.

The ENTRIES for the ANNUAL EXHIBITION to be held at BROKES LODGE, REIGATE, on WEDNESDAY, July 6th, CLOSE on MONDAY, JULY 4th.

R. E. WEST, Hon. Sec.,
Frith Dene, Reigate.

WOLVERHAMPTON
GREAT FLORAL FETE.
12, 13, and 14 July, 1910.
£900 IN PRIZES.
Entries close 4th July.
Schedules on application to the Secretary.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Oxford, JUNE 21.

On the above date, and in brilliant weather, the Royal Oxfordshire Horticultural Society held its eighty-first midsummer show in the beautiful gardens at Trinity College, Oxford, and florally regarded was a success. In consequence of the death of King Edward VII., the University authorities cancelled all the festivities usual at the end of the academic year during "Commemoration Week," the flower show being one of the many events crowded into that eight days' space.

As the horticulturists had been for some months preparing for "commem.," as it is usually called, the committee did not feel justified in withholding the show, although they realised that financially the show must be a loss. Entries in competition were fewer than usual, but some "extras" assisted in making-up a very pretty and interesting exhibition.

In the plant section the display of orchids and other rarieties arranged by Mr. W. Balmforth, gardener to F. M. Ogilvie, Esq., The Shrubbery, Oxford, formed one of the best features of the show. The group, which occupied the centre of a large marquee, filled nearly 400 square feet, being gigantic in proportion and magnificently arranged. The central circular mound, 15ft. high, crowned with a feathery palm, was formed of graduated tiers, composed mainly of Lælio-cattleya Canhamiana, L.-c. Endora, choice varieties of Cattleya Mossiæ and C. Mendeli, comprising some two hundred flowers; the lovely white form of C. Dusseldorfi and C. Mrs. Peeters occupied spaces on either side. Below were mounds of exquisite forms of Miltonia vexillaria grandiflora, and M. v. The Bride, almost pure white; M. v. Cobbianum and the fine hybrid M. Bleuana. At each end of the group, running from the central group to the tent poles, a scheme was carried out with bridges of cork bark supporting a number of rich forms of Odontoglossum crispum, whose graceful spikes of white bloom were telling amid ferns and delicate foliage. Almost under the arches were groupings of Cypripedium callosum Sanderæ, and C. Lawrencianum Hyeanum, which gave a very pleasing effect, their green flowers showing to great advantage. The boundary of the design had eight similar mounds, arranged with crotons and aralias as dot plants, the bases being used for a general variety of orchids and foliage plants, such as Cypripedium Lawrencianum, C. Curtisi, C. callosum, and C. Honoria; Cattleya Mendelli, C. Mossiæ, and C. gigas, Læliocattleya Canhamiana, and L.-c. Semiramis, Thunia Winniana, Epidendrum prismatocarpum, Odontoglossum crispum, O. crispo-Harryana, and O. excellens. One specimen of Epidendrum prismatocarpum, carrying fully a dozen spikes of bloom, was most noticeable. A gold medal was awarded.

A very good collection of American tree carnations came from Mr. John Johnson, Garsington, in which Britannia, Robert Craig, Lady Bountiful, White Enchantress, Mikado, and Enchantress were prominent. A silver-gilt medal was awarded. Sweet peas were very beautifully arranged for table decoration by Mr. R. Sydenham, Birmingham; Mr. John Cooper, Hardy Plant Nursery, Chipping Norton, set up a variety of violas; and Mr. J. Johnson staged a collection of paeonies and delphiniums; Messrs. Heath and Sons, Cheltenham, and Messrs. R. Tucker and Sons, Oxford, each arranged neat examples of rock and water gardens. Mr. G. Hollingsbee, gardener to Captain A. G. Russell, Holton Cottage, Wheatley, Oxford, put up a collection of carnations in pots, but the varieties were limited.

In the competition, Mr. John Walker, Thame, led in the classes for single and double zonal pelargoniums, cut zonals, and iris. The roses, both displays and cut flowers, were excellent, but the heat tried them toward afternoon. Mr. John Mattock won the £3 for a display, with Mr. Prince second; but for twenty-four blooms and eighteen teas, Mr. Prince headed the list, Mr. W. T. Mattock gaining premiers for eighteen roses, table decorated. Mr. H. Mount, University Parks, Oxford, put up the premier collection of nine British ferns, noble specimens and choice varieties.

Hardy perennials made a rare show; there were three competitors, each with 72 square feet of space, Mr. Johnson, Garsington, leading. In his arrangement were noble spikes of eremuri and very choice paeonies, etc.; Mr. J. Cooper second; and Mr. J. Walker third. Groups of begonias were pretty, but those on view did not attain to any high degree of quality.

Table decorations were a goodly feature, and in the amateur division eleven competed, Mr. F. Lowe (assistant secretary) scoring a premier in the members' division, and Miss E. M. Johnson, Beech Lawn, Sunnymeade, Oxford, in the ladies' class; carnations, Iceland poppies, aquilegias, climbing roses, and cattleyas were used with gypsophila, grasses, fern fronds, smilax, and selaginella.

Fruit was a small display. Mr. S. Brown, Aynho Park Gardens, led for white and black grapes, peaches, and a melon; Mr. C. E. Munday, gardener to Right Hon. Lewis Harcourt, M.P., scoring first for nectarines and cherries. The finest strawberries came from the Headington district, the Wick Nursery Company leading; Miss M. L. Mortimer, Red Gables, second. Mr. J. Wiblin, Northern House, Oxford, won first for cucumbers, and Mr. R. Wadham, gardener to Mrs. Bradshaw, The Grange, Steeple Aston, headed the list for tomatoes and a collection of vegetables, staging Up-to-Date potatoes, Champion Scarlet Horn carrots, Superlative dwarf beans, Best-of-All tomatoes, Magnum Bonum cauliflower, Reading Giant asparagus, and Early Giant peas. Amateurs and cottagers produced average exhibits of strawberries and a general run of vegetables.

Liverpool Flower Show.

MISCELLANEOUS EXHIBITS.

The pressure on our space in the issue of June 25 compelled us to leave over a part of the report of the great flower show that was held at Liverpool in conjunction with the exhibition of the Royal Agricultural Society. The portion that was crowded out we have now the pleasure of giving.

From Guernsey Mr. Frank Lilley brought over a charming lot of early-flowering gladioli, English and Spanish iris, ixias, and anemones. The King's Acre Nurseries, Lim., Hereford, arranged on an improvised rockery a variety of alpine plants, among which the choice little Viola gracilis was flowering well. Corydalis Wilsoni and Primula Bulleyana were also represented. The same firm showed pæonies, pyrethrums, delphiniums, and other border flowers. Quite like old times were the fancy pelargoniums put up by Mr. W. J. Godfrey, Exmouth, who showed them in about thirty varieties of his own raising.

Mr. A. J. A. Bruce, Chorlton-cum-Hardy, had a capital group of quaint and beautifully-tinted sarracenias.

Messrs. George Massey and Sons, Spalding, appeared to have selected all the most charming and delicate shades that are to be found among pæonies, and arranged in a good bank the effect was delightful. "Very bright and very effectively staged" was a comment made more than once by those who stood before Messrs. Dickson and Robinson's big group of pyrethrums, carnations, and other good things. J. N. Twerdy, Sherlock, and Vurd were three among the best of the pyrethrums. Mr. Robert Bolton's sweet peas were a really splendid lot of flowers in most charming varieties.

Quite a model orchard came from the King's Acre Nurseries, Lim., pyramid and standard fruits being surrounded by cordon currants and gooseberries carrying good crops. The now well-known Viola cornuta purpurea was shown by Messrs. Gunn and Sons, Olton, Birmingham, who had several other pretty violas. Mr. Henry Middlehurst, Liverpool, had some good sweet peas and a grand lot of English iris, arranged on a stand draped with white material and festoons of smilax—rather a pleasing style. Some big and somewhat heavy floral designs were shown by the Messrs. Bees, Lim., Bold Street, Liverpool.

SEEDSMEN'S PAVILIONS.

Messrs. Sutton and Sons, Reading, occupied their accustomed position to the right of the main entrance, and their palatial pavilion was continually crowded with interested visitors. Shielded from wind and dust by a glass screen, a beautiful group of begonias and gloxinias occupied the place of honour, and the extensive collection of Nature study specimens, which has already been described in our pages, was arranged on tables and walls and on revolving stands. Vegetables, sweet peas, and an excellent strain of mignonette added the necessary touch of brightness. Messrs. Harrison and Sons, Leicester, had among a number of good vegetables the Early Bunching carrot, so named because considered to be the earliest outdoor cropper; Ameer pea, an early variety of medium height, was shown. Samples of well-known peas were on view which had been grown in New Zealand from seed supplied by Messrs. Harrison. The quality was excellent. Harrison's Victoria Late White broccoli is worthy a special note, it being a really good variety, and was in fine condition at this late date; an excellent thing to carry one through to the early cauliflower season.

Seasonable flowers and foliage were lavishly and tastefully used to adorn the pavilion of Messrs. Jas. Carter and Co., Holborn, who, of course, had a telling display of well-selected vegetables and farm seeds on view. Messrs. E. Webb and Sons, Wordsley, Stourbridge, adopted a bold style of grouping pelargoniums, spiræas, hydrangeas, and other flowering plants, with tall stands of melons, and dishes of various vegetables grouped on either side. The whole display was very attractive. Messrs. Dicksons, Lim., Chester, made a break from the usual array of farm seeds by utilising their space for a display of hardy flowers, carnations, primulas, etc. A batch of Ribes sanguinea Brocklebanki, a new and effective shrub with pale greenish yellow foliage, was very attractive as shown by Messrs. Dicksons, who are introducing it to commerce.

A series of small semi-circular groups of flowering plants and cut flowers occupied the foreground of Messrs. Toogood's stand. The Southampton firm had also excellent asparagus, tomatoes, etc. Grasses and clovers were the main feature of Messrs. Clibrans' display—both seeds and specimen stems, correctly named, were shown, and the exhibit was a very interesting and instructive one. Messrs. Dickson, Brown, and Tait, Manchester, used liliums and rambler roses to good effect, and the plumose varieties of nephrolepis were also freely used as setting. In addition to massive roots and the usual farm seeds, Messrs. Dickson and Robinson, Manchester, made a bold show with flowering plants and foliage. Irises and liliums, with pyrethrums and other bright subjects were well represented.

Gardeners' Royal Benevolent Institution.

The seventy-first annual festival dinner of this wonderful, well-managed, and extremely useful horticultural charity, was held on June 22 at the Whitehall Rooms, Hotel Metropole, under the very genial presidency of the Hon. Harry Lawson, M.P. There was a good attendance, those present including such prominent horticulturists as Messrs. H. J. Veitch, J. E. Veitch, N. N. Sherwood, E. Sherwood, W. Sherwood, W. A. Bilney, G. Paul, G. Bunyard, G. Monro, O. Thomas, D. Ingamells, H. B. May, J. Douglas, C. Fielder, W. Poupart, C. Jefferies, W. Barr, G. Barr, T. Rochford, J. Walker, W. Iceton, Edward White, J. Vert, J. Heal, G. J. Ingram, etc., with such well-known public men as Colonel Lockwood and Sir Walter Smythe.

In rising to propose the toast of the evening, "Success to the Gardeners' Royal Benevolent Institution," the Chairman was warmly received. He observed that all charity was fragrant, especially when associated with the saving grace of thrift, as was the G. R. B. I., as fragrant as the flowers its friends cultivated, while its fruits were unfailing. We are all gardeners, or we like to pretend we are gardeners; but whatever our claim may be we who love gardens and gardening have been the means of making our country foremost in utility and beauty—literally the garden of the world. He said he could view the charity without bias, and asserted that gardening was the diversion of all others to be preferred, and none had done so much to impress upon the public the love of flowers as the late Dean Hole. He loved the old true English style of gardening, and did all in his power to extend the love of flowers. The Chairman said that one of the pleasing things of modern times was the development of window and home gardening, even in the mean streets of the east of London, where gardening of any kind was carried on under the most unpropitious conditions. But it was the difficulties of our climate that had brought out all the finest qualities of gardeners, and so in spite of climate and other difficulties, we stood foremost as a race of gardeners. He admired the great extension of window gardening in towns, and the growing love of flowers and fruits in the daily life of our times. Local authorities now helped by providing trees and flowers in parks and streets; and there was a delightful competition between the Royal and the L.C.C. Parks, in the provision of beautiful open spaces and public gardens in the Metropolis. He looked forward to the time when every street without its trees and flowers would be black-marked on the local map. Even the general press now took up gardening, and had its column on gardening matters. Years ago Charles Dickens presided at one of the festival dinners, and in his inimitable manner, spoke of the influence of gardening: since then horticulture had advanced wonderfully, and those who had advanced it were those for whom the G.R.B.I. was founded to render help in time of need. Gardeners grew old, they suffered from disease or misfortune, and then this charity came to their help, for gardeners were also among the first to suffer in times of public stress, as they had no great organisation, as had the miners, to voice their wants and grievances, therefore they had to grin and bear their troubles. But the charity they were met to help did help those who were incapacitated, and also the widows of gardeners who had fallen by the way. The institution had 143 male pensioners and 97 widows on its funds, and these were dependent on the institution for their maintenance. The total expenditure on pensions had been £130,000, and the yearly expenditure was £4,000, and only £1,000 of this was assured income, for the rest the committee depended upon the kindness of those present. He wished his words were golden, or would all come back to him in the shape of £1 sterling; and if they would, he would keep on until they had to smother him with the flowers on the tables. But, he concluded, I do want you to make this evening a notable one in the annals of the charity by giving as liberally as possible.

Mr. Harry J. Veitch, the treasurer, responded, and in his sympathetic manner he placed before the gathering the aims and claims of the institution. He thanked the chairman heartily for his presence, his influence, and his speech. He referred to the Victoria Era and Good Samaritan Funds that so greatly helped waiting candidates for pensions, but those who had in some way assisted the charity in their good times were those who received the greatest assistance while thus waiting. Mr. Veitch referred to the good work of the auxiliaries and the large sums of money they gathered for the funds of the institution. He concluded by reading several pathetic letters of thanks from those who had been helped by the institution, and asking for the greatest possible assistance for the gardeners who were in great distress and need.

"Horticulture in All its Branches" was ably proposed by Mr. E. A. Ebblewhite, clerk of the Gardeners' Company, and responded to by Mr. N. N. Sherwood, V.M.H., and Mr. Alderman Piper, the latter of whom trod on dangerous political ground, and urged that excessive taxation and excessive competition were the cause of depression in commercial horticulture. Mr. Piper spoke at great length, and caused a great deal of excitement, and there were cries of "Time," "Sit down," and counter-cries of "Go on." It was an eloquent and witty speech, but one more suited for a political meeting than the festival of a great gardening charity.

"Our Chairman" was admirably proposed by Colonel the Right Hon. Mark Lockwood, M.P., and was delightfully acknowledged by Mr. Lawson, who suggested that horticulture should have its own representative in Parliament, and that Alderman Piper might well be that representative. The subscription list showed a total of £1,900, and included such contributions as: The chairman, 100 guineas; Messrs. Rothschild, 100 guineas; Mr. N. N. Sherwood and his sons, £100 and £25 to the Good Samaritan Fund; Mr. Arthur W. Sutton, £100, and £20 to the Good Samaritan Fund; Mr. Ebblewhite (collected), £106; Mr. H. J. Veitch, 25 guineas; Messrs. J. Veitch and Sons, 25 guineas; Mr. Mackellar, £30; Mr. D. MacDonald, £30; Mr. A. Waterer, £21; Mr. C. Fielder Salomans, 20 guineas; Mr. J. Douglas, £18; Mr. Porteous, £11; Mr. David Thompson, £13; Mr. H. G. Cove, £15; and Mr. Lane, £13. There were a large number of contributions of £10 and of £5, the generous Covent Garden friends, under the stewardship of Messrs. G. Monro and D. Ingamells, contributed a total of £200. The total sum was received with cheers.

The musical arrangements were again in the capable hands of Mr. Schartau.

The tables and the famous rooms were delightfully decorated by Mr. Bedford, of Gunnersbury House Gardens, with flowers and plants given and loaned by the leading London nurserymen. The meeting concluded with a kindly reference to the work of Mr. G. J. Ingram, the indefatigable secretary of the institution, now happily restored to health.

Richmond, JUNE 29.

The thirty-sixth annual flower show of the Richmond Society was held in the Old Deer Park on the above date, and was one of the very finest ever held in this famous and beautiful riverside town. Roses were magnificent, and the competition throughout the show was so keen that judging did not finish until after two o'clock, and it was not possible to obtain the awards to non-competitive displays when our representative had to leave at three o'clock. There were five large marquees, and all were well filled with excellent produce. The trade displays were a fine feature, and these, with the roses, made the show worthy of great praise. The weather was not of the best, squalls of wind and rain being interspersed with brilliant sunshine throughout the morning.

GROUPS AND PLANTS.

Mr. H. Burfoot, gardener to Lady Waechter, Terrace House, Richmond Hill, was the only exhibitor in the large group class, and he was awarded first prize for a pretty arrangement of liliums, campanulas, pink spiræas, crotons, gloxinias, odontoglossums, etc., lightly displayed. In the small group class first prize fell to Mr. H. A. Stiles, gardener to W. S. Bailey, Esq., Poulett Lodge, Twickenham, for a fairly good exhibit, in which liliums and crotons figured prominently. Mr. H. Hicks, gardener to C. M. Bartlett, Esq., Uplands, East Sheen, second; and Mr. Redwood, gardener to Mrs. Fitzwygram, Larkfield, Hampton Hill, third.

Six palms proved a good class, as fine specimens were shown, and here Mr. Stiles led the way with clean kentias, cocos, and latanias. There was but one set of six orchids, and these, from Mr. Howard, gardener to H. Little, Esq., Baronshalt, Twickenham, were awarded a first prize; Cattleya Mendeli, Lælia tenebrosa, and Cypripedium superciliare were the most conspicuous plants.

Caladiums were well shown, Mr. Lawrence, Stawell House Gardens, Richmond, scoring for six specimens with beautiful examples; Mr. H. Hicks, second, and Mr. A. Allum, gardener to Lionel Warde, Esq., Petersham House, Petersham, third. Fuchsias were delightfully well shown, and Mr. W. H. Keary, gardener to Mrs. Cooper Coles, Hedingham House, Twickenham, led for six specimens, with elegant, free-flowered pyramids; Mr. H. Lawrence, second, and Mr. H. Redwood third. Begonias were good, and there was a keen competition in the class for six specimens, the prize-winners being Mr. W. J. Hill, gardener to G. Aitkens, Esq., Manaton, East Sheen, who showed singles; Mr. T. Rabbitt, gardener to W. Edwardson, Esq., Bellari, Sidcup, and Mr. Keary.

Coleuses were another good feature, and here Mr. Hicks scored with half a dozen brilliantly coloured low pyramids; Mr. A. Allum second, and Mr. Quarterman, gardener to A. Burton, Esq., Mooresfort, East Sheen, third. Mr. Lawrence scored for three variegated aspidistras in a popular class, with Mr. Burfoot second. First prize for nine streptocarpuses was won by Mr. J. Hill with very freely-flowered specimens; Mr. T. Quarterman second with better varieties but not such good plants; Mr. Burfoot, third. Mr. Keary led for nine gloxinias, with Mr. Quarterman, second. Mr. T. Stevenson led for six table plants with very neat and well-grown examples; twelve entries.

In Messrs. Sutton and Sons' class for six gloxinias, Mr. Chart, gardener to C. R. Bennett, Esq., Darly Lodge, Sunbury, was easily first with splendid plants, one carrying thirty-six beautiful flowers; Mr. W. J. Hill a good second, and Mr. H. Hicks third.

ROSES.

The great rose class at Richmond is for forty-eight trebles, and the chief award is the Gunnersbury Park Cup, which this year falls to Messrs. D. Prior and Son, Colchester, for a grand display of large, full flowers, a few slightly weather-stained; the leading varieties were Lyon Rose, Countess of Annesley, Mrs. Sharman Crawford, Caroline Testout, Bessie Brown, Liberty, Mrs. J. Laing, Yvonne Vacherot, Mrs. W. J. Grant, Killarney, Mdme. Jules Gravereaux, and Mrs. Theodore Roosevelt; second prize fell to Messrs. Frank Cant and Co., Colchester, and third to Messrs. B. R. Cant and Sons, Colchester. There were eight competitors in the class for twenty-four trebles, and these made a superb display, Messrs. Frank Cant and Co., Colchester, winning with lovely blooms of Lyon Rose, Mrs. W. J. Grant, General Jacqueminot, Mrs. J. Laing, Mrs. Theodore Roosevelt, S. M. Rodocanachi, Bessie Brown, etc.; Messrs. D. Prior and Son second, and Mr. George Prince, Longworth, third. For a dozen blooms of one variety Messrs. R. Harkness and Co., Hitchin, led with Mrs. J. Laing in fine condition; Messrs. D. Prior and Son second with Lady Ashtown, and Mr. George Prince third with the Lyon Rose; sixteen competitors.

For a dozen blooms of a tea rose, Messrs. D. Prior and Son scored with Mdme. Jules Gravereaux; Messrs. B. R. Cant and Sons second with the same variety, and Mr. Drew, Longworth, third, with Comtesse de Nadaillac. In a special class for a dozen blooms Mr. Chas. Turner, Slough, led with a good box, in which Lyon Rose and Frau Karl Druschki figured finely; Messrs. G. and W. H. Burch, Peterborough, second, and Mr. G. Prince third. Mr. C. Turner was first for twelve trebles with a good set, in which Sultan was grandly coloured; Mr. H. Drew second, and Messrs. G. and W. H. Burch third. Mr. C. Turner also won the special prize for six bunches of garden roses; Messrs. W. and J. Brown second, and Mr. Prince third. In the amateurs' class for twenty-four blooms Mr. E. J. Holland, Sutton, scored, and he had good blooms of Mildred Grant, Frau Karl Druschki, Dr. André, Mrs. Myles Kennedy, and Mrs. Theodore Roosevelt; Mr. W. R. Hammond, Grovelands, Burgess Hill, second, and Mr. W. C. Romaine, Old Windsor, third.

CUT FLOWERS AND DECORATIONS.

Sweet peas were largely shown, and some few of the exhibits were excellent. In the class for six varieties, two dozen spikes of each, there were eleven competitors, and first prize fell to Mr. G. Baldwin, gardener to A. W. Perkin, Esq., Greenford Green, Harrow, for Asta Ohn, Maroon Paradise, Evelyn Hemus, Clara Curtis, Constance Oliver, and Sunproof Crimson; Mr. W. Mousley, West View, Ashford, second; and Mr. W. Chart third. There were seven competitors in the class for nine bunches of sweet peas, distinct, and here Mr. Baldwin was again first, his Frank Dolby being very fine; Mr. T. H. Bolton, Exeter, second; and Mr. Mousley third. Mr. C. Howe and Mr. W. Cook, Holmsley, Richmond, were first and second respectively for nine bunches in a class provided by Mr. H. Eckford. In Messrs. Webbs' class Messrs. Bolton and Groom were placed first and second.

There were two competitors in the class for two dozen bunches of herbaceous flowers, and here the awards were made in order to Mr. A. Allum, who had fine bunches of Gladiolus The Bride and Colvillei roseus, delphiniums, and liliums; and Mr. F. Gower, gardener to the Rev. W. H. Oxley, The Vicarage, Petersham.

Mrs. A. Robinson, Northyrst, Thornton Heath, was awarded first prize for a table decoration of liliums, francoa and yellow privet sprays; Mrs. Rapley, Warblington House, Harrow, second with sweet peas; and Mrs. A. R. Bide, Farnham, third. Mrs. Robinson scored also for two stands of flowers with Mdme. Abel Chatenay roses, and was first for buttonholes. Messrs. Lewis and Co., Richmond, had the best basket of roses, and Messrs. W. and J. Brown, Peterborough, the best bouquet, composed chiefly of orchids. For a basket of flowers Mrs. F. P. Wood, Broom Lodge, Weybridge, was first with golden Spanish irises.

VEGETABLES AND FRUITS.

In Messrs Webb's class for six kinds of vegetables, Mr. T. H. Bolton, gardener to the Earl of Devon, Powderham Castle, Devon, was a comfortable first with splendid Defiance Intermediate carrots, Stourbridge Marrow peas, etc.; Mr. T. J. Broom, gardener to Miss Langworthy, Gay's House, Holyport, second; and Mr. H. Keene, Queen's Road, Richmond, third. Mr. T. J. Broom was first for twelve kinds, followed by Mr. E. Montague, gardener to Colonel Biddulph, Grey Court, Ham, and Mr. R. Keen. In Messrs. J. Carter and Co.'s class for nine kinds Mr. T. Stevenson, gardener to E. A. Mocatta, Esq., Woburn Place, Addlestone, scored over Mr. J. T. Broom and Mr. T. Howe, gardener to G. T. Biddulph, Esq., Douglas House, Petersham. In Messrs. Veitch's class for six kinds, Mr. J. T. Broom was first, with Mr. Lintott, gardener to Sir Walpole Greenwell, Bart., Marden Park, Woldingham, second.

There was a comparatively small display of fruit. Mr. Lintott led for three bunches of black grapes with finely-coloured Prince of Wales; Mr. Thompson, gardener to Messrs. W. and E. Wells, Hattonhurst, Hounslow, second with Black Hamburgh. Mr. Lintott also scored for white grapes with fair clusters of Foster's Seedling. Mr. Thompson led for a dish of peaches with Condor, and he also had the best two dishes of strawberries, showing Bedford Champion and Laxton's Leader in grand style; Mr. C. Howe second.

NON-COMPETITIVE.

Messrs. Jarman and Co., Chard, showed their charming Sweet Sultans, and Messrs. Kelway and Son, Langport, put up a collection of handsome and enormous branching spikes of splendid delphiniums. Messrs. W. Cutbush and Son, Highgate, were represented by perpetual and Malmaison carnations. Messrs. Bakers, Wolverhampton, had a fine lot of irises, delphiniums, gaillardias, and Gladiolus Colvillei in great sheaves. Mr. C. F. Waters, Balcombe, made up a very attractive group of perpetual carnations, showing Cecilia and Edith Waters in good form. Messrs. T. S. Ware, Lim., Feltham, contributed a bright display of double and single begonias, cut flowers on boards, backed up by large bunches of delphiniums, English irises, and other popular hardy flowers. From Wem, Salop, Mr. Henry Eckford brought up a fragrant and bright collection of sweet peas, putting up Helen Lewis, St. George, Etta Dyke, Jeannie Gordon, Queen Alexandra, Constance Oliver, Mrs. C. W Breadmore, G. Stark, Countess Spencer, Frank Dolby, and Clara Curtis in excellent condition. Mr. W. J. Unwin, Histon, was another large exhibitor of sweet peas, and showed his specialities Edna Unwin, Gladys Burt, Eric Harvey, Mrs. R. Hallam, Mrs. W. J. Unwin, and Freda Unwin, with Clara Curtis, Constance Oliver, and Mrs. Hardcastle Sykes.

Messrs. W. Paul and Son, Waltham Cross, submitted a box of their lovely new rose Juliet, and this was a centre of attraction by reason of its golden-orange colouring. Mr. W. H. Page, Tangley Nursery, Hampton, was represented by a fine group of beautifully-grown perpetual carnations in popular varieties, associated with grand sheaves of Lilium tigrinum and L. longiflorum, the whole backed by Dorothy Perkins, Blush Rambler, and Hiawatha roses. Messrs. G. Jackman and Son, Woking, exhibited show and garden roses and hardy flowers in pleasing fashion; and Messrs. W. and J. Brown, Peterborough, had a very effective, though slightly formal display of garden roses.

Mr. W. Thompson, Sheen Nurseries, Richmond, put up an effective group of palms, hydrangeas, and pink spiræas. A beautiful group of elegant ferns from Messrs. H. B. May and Sons, Edmonton, was generally admired; the plumose nephrolepises were finely represented, and Platycerium alcicorne majus with its dark green fronds was conspicuous. Mr. R. L. Russell, Richmond, was a very large exhibitor of stove foliage plants, and had a series of seven semicircular grouplets, in which alocasias, caladiums, crotons, heliconias, palms, and aralias were prominent and good. Mr. H. E. Fordham, Twickenham, showed gloxinias and liliums very prettily over a base of maidenhair ferns.

Messrs. Jas. Veitch and Sons' exhibit was of rambler and other roses in pots.

Messrs. Webb and Sons, Wordsley, Stourbridge, contributed a large and very attractive display of gloxinias, hydrangeas, liliums, and sweet peas, with a fine lot of their specialities in melons, tomatoes, beans, peas, potatoes, cauliflowers, carrots, and other products skilfully grown and finely displayed. Messrs. Stuart Low and Co., Enfield, showed roses and carnations, and Mr. K. Thirkildsen, Old Southgate, N., contributed roses.

Horticultural Club.

CLOUDS, RAIN, RIVERS, ETC.

After the usual monthly dinner of this club, held at the Hotel Windsor on the 21st ult., Mr. C. E. Shea presiding, Mr. Charles T. Druery, V.M.H., F.L.S., opened a discussion by reading three papers, the first on "Clouds, Rain, and Rivers," while the etc. embraced "Jack Frost and His Work," and finally, as affording a better opening for discussion proper, "Variation, and what we owe to it." The first paper dealt as fully as was practicable within the limited time available, with the wonderful system of water circulation which prevails on the earth's surface and in the atmosphere surrounding it. It is this latter which is constantly engaged in transferring water lifted by solar evaporation in the torrid regions of the equator to the cooler regions north and south of it. This water exists in several forms, viz., as quite invisible vapour, visible cloud formations formed by partial condensation, and in its course assumes other forms as condensation goes farther, and it becomes deposited as rain, hail, or snow, that is, as a liquid or a solid. When in any of these forms it reaches the land, part may be evaporated again, but as a rule the greater portion is absorbed by the soil, where it forms a vital contribution to plant and animal existence, and also contributes to form springs, which feed the rivers and minor affluents which carry the water back to its source, the ocean. Even where deposited as snow on mountain ranges or arctic plains, it is merely a question of time for such snows to form glaciers, and for these glaciers to creep down, melt away, and thus attain as water the self-same goal. In all these operations the water wears away and carries down with it a portion of the land it traverses, and in this way very much of the hill and dale, mountain and valley scenery has been shaped, the immediate shaping tools being the soft cloudy masses which envelop them or float in the heavens above them. Among these denudating forces the disruptive powers of freezing water come in, and hence the next paper in "Jack Frost and his Work" had its logical connection, the lecturer, however, pointed out that the popular idea of this work was a very narrow one, confined as it is to the freezing of water alone, while in point of fact, every solid owes its existence as such to temperature low enough to freeze it, since it has been demonstrated that given heat enough every solid can be melted and evaporated; while, given cold enough, every liquid, and even every gas, the very air itself, can be frozen solid. Hence we live in an environment of enormously high temperatures as regards all gases, and very low ones as regards all solids, so that frost, viewed in its wider aspects, is always with us. The final paper on "Variation and what we owe to it." evoked much interest, since it was pointed out that practically our debt is our very existence, since without the power of variation and adaptation by virtue of it, which was implanted in the primarily simple forms of life, evolution would have been impossible. From the horticultural point of view, it is marvellous what man, with his power of definite selection, has been able to do since he first became a selective factor. While unaided nature seemingly takes æons of time to effect great structural changes, man can do as much, or more, within the scope of a short lifetime to modify and utterly transform the flowers, vegetables, or fruits, to say nothing of animals, which he takes in hand, and by virtue of their innate capacity for variation, can mould almost entirely to his will. A mere weed like the cabbage is made the progenitor of many hundreds of diverse forms, most of which are, save in the flower, utterly different from the wild plant in every character. Crossing and hybridising have also come in to combine the different characters of different species, and thus increase the scope of selection, the wonderful range of tuberous begonias being especially touched upon in this connection. A hearty vote of thanks was awarded to the lecturer.

Croydon Gardeners' Outing.

One of the great privileges attaching to membership of the Croydon Society is that of being able to visit notable gardens in the district, the owners being ever ready to grant permission when application is made.

Recently about 60 members and friends paid a second visit to the gardens of Sir Everard Hambro, K.C.V.O., Hayes Place. Alighting at one of the main entrances to the gardens, an inspection under the pilotage of Mr. Grandfield, the head gardener, was soon commenced. The rock garden claimed first attention, and many interesting items were found here. Coming next to the lawns the grand specimens of sylvan beauty were much admired, as also were miniature lily ponds, with other aquatics looking promising for a good display in a few weeks' time. The photographer of the party next claimed attention, and obtained an excellent photograph of the group. On the occasion of the last visit the rose beds and garden were just at their best, and this visit being earlier in the year, one had to surmise the beauty of this picture. In the conservatory, which was next visited, the gardener's art was displayed by groups of colour. A huge geranium trained up one side with its bright scarlet colouring attracted a good deal of attention. The plant is about 30 years old, and in continuous bloom. A big area of pleasure grounds was traversed, and the bold masses of rhododendrons here and there were very striking. Following the paths around the grounds the kitchen garden was reached, and the early crops of vegetables and the herbaceous borders were full of interest.

In one secluded corner was the greatest treat of all, especially to the enthusiast of rock and alpine plants, for here were alpine gems rarely met with. Primulas of recent introduction, and saxifragas in many varieties. Earlier in the year, when Mr. Grandfield exhibited these gems at the Royal Horticultural Society, London, they won the coveted gold medal. In frames were alpines in all stages of growth, from the newly germinated seed to the bigger seedlings pricked off. Time would not allow one to dwell too long in this section, for the light was beginning to fail, and the houses had to be inspected. Carnations are evidently a favoured flower, for they are extensively grown, one method of culture being in hanging baskets. Gloxinias, streptocarpus and pelargoniums were in grand style, and much admired. By the time all had passed through the houses it was quite dusk.

Before separating a very hearty vote of thanks was passed to Sir Everard and to Mr. Grandfield and staff for the great courtesy shown. A pleasant drive home terminated an instructive and enjoyable evening.

Poor Colour of Early Roses.—I have never before noticed rose blooms so poor in colour as they are this year. I am referring, of course, to the very early developed flowers. Those of Carmine Pillar, Mrs. W. J. Grant, Mdme. Isaac Perriere, Gloire de Dijon, and Mdme. Abel Chatenay are a few amongst many that I may name. Later buds are opening much richer in colour. I think the late frosts and the excessively cold weather had much to do with this lack of colour in early blooms. Many buds fell off the trees just before they showed any colour. —G. B.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

PUNCTURED CUCUMBER LEAVES. — A., Newbury: The punctures are due to the bite of some insect; ants or weevils would do similar damage. Set traps for these pests, and examine the plants at night also.

DAMAGED PEACHES.—W. C. F., Renfrew: We submitted the last lot of fruits to examination by a mycologist, and he, like ourselves, fails to find any trace of fungus disease. The trouble is due to scorching, caused either by bad glass, or by insufficient ventilation early in the morning to dissipate the moisture condensed on the fruits before bright sunshine could scorch or scald them through the lens-like globules of water. It is just possible that spraying with some material would produce a similar effect, but scorching, as suggested, is more probably the cause. The damage is only skin deep, and will not spread unless a saprophytic fungus makes its appearance on the damaged portion.

WHITENED TREE SHOOTS.—J. H. C., no address: The tree is suffering from a very bad attack of mildew, and unless quickly relieved will suffer irreparable damage. Spray the tree with a solution of sulphide of potassium, using one ounce of the sulphide in 2½ gallons of water, with a little soft soap added to make the mixture slightly adhesive. It may be necessary to spray again in ten days' time.

SPOTS ON CELERY LEAVES.—C. L. T., Bedford: The brown spots are due to a fungus known as Septoria petroselini, a pest that is sometimes the cause of great damage to celery crops both in this country and on the Continent. The disease spreads with alarming rapidity, hence measures for its repression must be promptly taken. Remove and burn all badly affected leaves, and spray the plants with Bordeaux mixture made of 10lb. sulphate of copper and 5lb. of quicklime to 100 gallons of water. Three applications at intervals of a week usually prove sufficient to check the progress of the parasite. The injury caused is most serious when the foliage is attacked during an early stage of growth, and careful watch should be kept on the crop, especially in districts where the disease is prevalent.

LEAF RUST ON TOMATOES.—A. J. P., Sidmouth: The tomatoes are suffering from an attack of leaf rust, caused by a fungus named Cladosporium fulvum. It is capable of doing a great deal of damage, unless checked. Remove and burn all badly infected leaves, and spray the plants with a weak solution of potassium sulphide (not more than 1oz. to 3 galls. of water), or weak Bordeaux mixture, at short and regular intervals.

CATERPILLARS OF GOAT MOTH. — L. B., Stockgrove: The specimen sent is a young example of the caterpillar of the Goat Moth, a pest that does an immense amount of damage to oak, elm, ash, apple, walnut, and other trees in some localities. The moth lays her eggs in the bark crevices at the base of the tree, usually, and the caterpillars eat their way into the wood, making tunnels upwards of half an inch in diameter, and, even if the tree is not killed, the wood is absolutely spoiled as timber. The workings of the Goat Moth caterpillar are made apparent by the refuse thrown out of the bor-

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ings, and also by the goat-like odour that pervades the tunnels. When full fed the caterpillars are three inches or more in length, and generally of a dull yellowish colour, and, unfortunately, several of these pests are often found attacking one tree. Caterpilars, when full fed, turn into chrysalids at the mouth of their burrows, and these are reddish, appearing in June and July, hence trees known to be infested should be carefully watched during these months, and the chrysalids taken and destroyed as soon as seen. This will reduce the chance of further infestation. There is great difficulty in reaching the caterpillars in their workings, but sometimes it is possible to kill them by working a piece of stout wire into the tunnel; when the wire is withdrawn the end of it will show whether the caterpillar has been reached. A piece of india-rubber tubing may be inserted as far as possible into the tunnel, and its free end slipped over the nozzle of a syringe charged with an emulsion of paraffin and soft soap. If the mouth of the tunnel is plugged with clay round the tube, and considerable force is used to expel the mixture from the syringe, the caterpillar may be reached and killed. The emulsion should not be allowed to run back out of the tunnel.

TRAINING AND FEEDING SWEET PEAS.—M. G., Ipswich: You appear to be following correct methods, but as a standby in case of difficulties you should obtain "Sweet Peas and their Cultivation," new edition, by C. H. Curtis, post free for 1s. 2d., or 1s. 8d. (cloth), from the GARDENERS' MAGAZINE office, 148, 149, Aldersgate Street, E.C.

RED SPIDER ON VINES.—R. W., West Drayton: Undoubtedly the cacti form a fine breeding ground for red spider, and from these the pest spreads to the vines. In a small garden, where so many kinds of plants have to be grown, it is always a difficult matter to arrange these grown in pots in such a way as to harmonise with each other as regards general treatment without causing any harm to permanent occupants of the houses. Pests of any kind are extremely difficult to eradicate from cacti, and the only good method is regular dipping in an approved insecticide. We do not know what kinds of cacti you grow, but probably they could all be accommodated in a cold frame at this season of the year, and be regularly dipped to rid them of red spider. Sponge the vine leaves with soapy water or a weak insecticide.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

A. S., Etwall.—Heracleum Sphondylium.

S. F. R., Chobham.—1, Leycesteria formosa; 2, Vitis Henryi.

J. H. W., Woolton.—Mimulus glutinosus, a good old garden plant, better known as Diplacus glutinosus.

F. E. C., Rusper.—1, Rondeletia speciosa major; 2, Mirabilis jalapa; 3, Tillandsia usneoides; 4, Spiræa discolor.

F. W., Gloucester.—1, Olearia Haasti; 2, Rhus cotinus; 3, Cotoneaster frigida; 4, Crataegus Lelandi; 5, Spiræa Aruncus.

J. M., Uttoxeter.—The growth sent is probably that of an acacia, and appears to be coming into flower; send again later. The rose is Cheshunt Hybrid.

J. F. C.—1, Send again, poor specimen; 2, Escallonia macrantha; 3, Tamarix gallica; 4, Spiræa Bumalda; 5, not recognised, probably a viburnum; 6, Azara microphylla.

MEXICAN CACTI.—F. P., Stoke Newington: You could obtain the information you require from Senor Don Miguel Covarrubias, the Mexican representative, 87, Cromwell Road, S.W., or from Mr. C. E. W. Stringer, H.M. Consul-General, Mexico. Either of these would put you into communication with the right people.

F. S., Redruth.—We do not recognise the variety; there are now so many rich scarlet zonal pelargoniums that unless there is opportunity for comparing growing plants, as well as flowers, it is impossible to distinguish them.

MARKETS.

◆

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Flowers.

Flowers are plentiful and the demand is fairly good.

		s. d.	s. d.
Adiantum cuneatum	per doz. bun.	6 0	8 0
Anemones	per doz.	1 0	1 6
Arums	per doz.	1 6	2 6
Asparagus	per bun.	1 0	1 6
Carnations	per doz. blms.	1 0	5 0
,,	per doz. bun.	12 0	18 0
Cattleyas	per doz.	6 0	10 0
Croton leaves	per bun.	1 0	2 6
Eucharis	per doz.	2 0	3 0
French fern	per doz. bun.	0 6	0 9
Gardenias	per doz.	1 0	2 0
Gladiolus	per doz. bun.	6 0	9 0
Gypsophila elegans	per doz. bun.	2 0	3 0
Iris, Spanish	per doz. bun.	3 0	6 0
Lapagerias	per doz.	1 6	2 0
Lilium auratum	per bun.	2 0	3 6
,, candidum	per doz.	1 0	2 0
,, speciosum	per bun.	1 6	2 6
,, longiflorum	per bun.	2 0	3 0
Lily of the Valley	per doz. bun.	5 0	12 0
Marguerites	per doz. bun.	2 0	5 0
Mignonette	per doz. bun.	3 0	4 0
Odontoglossums	per doz. blms.	1 0	2 6
Pelargoniums	per doz. bun.	4 0	6 0
Poppies	per doz. bun.	8 0	10 0
Roses	per doz.	1 0	4 0
Smilax	per doz. trails	3 0	4 0
Spiræa	per doz. bun.	4 0	6 0
Stocks	per doz. bun.	2 0	4 0
Sweet Peas	per doz. bun.	1 6	4 0
Tuberoses	per doz. blms.	0 4	0 6

Fruits.

Fruits are selling freely and prices are firm.

		s. d.		s. d.
Apples, Tasmanian	per case	9 0	to	13 0
,, Australian	per box	8 0		11 6
Apricots	per box	0 9		1 6
Bananas	per bun.	3 6		10 6
Cherries	per box	0 9		1 6
,, French	per ½-sieve	4 0		10 0
Cranberries	per case	6 0		7 0
Currants, Black (French)	per ½-sieve	6 0		8 0
Figs	per doz.	1 6		6 0
Gooseberries	per ½-sieve	2 0		3 0
Grapes, English	per lb.	0 8		3 0
,, Guernsey	per lb.	2 0		3 6
,, Almeria	per doz. lb.	4 0		7 6
,, Cape	per 20lb. box	9 0		14 0
Lemons	per case	10 0		30 0
Melons	each	0 8		2 0
Nectarines	per doz.	3 0		10 0
Oranges	per case	10 0		16 0
Peaches, English	per doz.	3 0		15 0
Pears, Australian	per package	12 0		18 0
Pineapples	each	2 6		4 6
Strawberries (Southampton)	per bskt.	0 9		1 6
,, (Kent)	per peck	1 0		2 0

Vegetables.

There is a fine demand for choice vegetables, and supplies are excellent.

		s. d.	s. d.
Artichokes, Globe	per doz.	2 6	3 0
Asparagus	per bun.	0 8	5 0
Beans, Dwarf	per lb.	0 8	1 0
Beet	per bush.	2 0	2 6
Cabbages	per tally	2 0	3 6
Carrots, new	per doz. bun.	4 0	6 0
Cauliflowers	per doz.	2 0	4 0
Cucumbers	per flat	3 6	6 0
Endive	per doz.	2 0	2 6
Lettuce, Cabbage	per hamper	1 6	2 6
,, Cos	per score	0 6	1 0
Marrows	per doz.	2 0	4 0
Mint	per doz. bun.	3 0	6 0
Mushrooms	per doz. lb.	7 6	12 0
Mustard and Cress	per doz. pun.	0 6	0 8
Peas	per bush.	2 0	4 0
Radishes	per doz. bun.	0 8	0 10
Rhubarb	per doz. bun.	2 0	3 0
Parsley	per ½-sieve	1 6	2 0
Spinach	per bush.	1 3	1 6
Tomatoes	per doz. lb.	4 0	6 0
Turnips, new	per doz. bun.	6 0	8 0
Watercress	per doz. bun.	0 3	0 6

LONDON POTATO MARKETS.

Supplies of old potatoes are smaller, and trade is steady. New potatoes are plentiful.

		s. d.		s. d.
Blacklands	per ton	40 0	to	50 0
Dunbars	per ton	80 0		90 0
Evergood	per ton	40 0		50 0
Kents	per ton	56 0		60 0
Up-to-Date	per ton	45 0		60 0
Teneriffe, new	per cwt.	6 0		9 0
Jerseys, new	per cwt.	8 0		8 6
Lisbon, new	per case	4 0		4 6
St. Malo, new	per cwt.	6 6		7 0

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

DATE.	SUNSHINE.	TEMPERATURE OF THE AIR.			
1910. JUNE 19 TO JUNE 25.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
June 19—Sunday	15 18	67	60	79	47
,, 20—Monday	14 30	73	67	79	50
,, 21—Tuesday	5 42	62	59	75	60
,, 22—Wednesday	7 6	60	56	70	54
,, 23—Thursday	4 54	62	55	66	52
,, 24—Friday	3 48	60	57	65	54
,, 25—Saturday	3 30	59	56	65	53
Means	(total) 54 48	63	58	71	52

DATE.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
1910. JUNE 19 TO JUNE 25.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
June 19—Sunday	—	62	61	57	43
,, 20—Monday	—	64	62	57	46
,, 21—Tuesday	—	65	63	58	50
,, 22—Wednesday	—	64	63	58	48
,, 23—Thursday	0.17	63	63	58	47
,, 24—Friday	0.06	62	62	58	51
,, 25—Saturday	0.19	61	61	58	50
Means	(total) 0.42	63	62	57	48

Thunder at 12.30 a.m. on Wednesday, 22nd.

FORTHCOMING ENGAGEMENTS.

SATURDAY, July 2.—Windsor Rose Society.
Sutton Rose Show.
Warminster Rose Show.
French Horticultural Society of London.
MONDAY, July 4.—Chingford Horticultural Society.
TUESDAY, July 5.—Holland House Show; Two days.
Southampton Rose and Sweet Pea Show; Two days.
Brighton Rose and Sweet Pea Show; Two days.
Southend Horticultural Society; Two days.
Scottish Horticultural Association.
British Gardeners' Association, Council Meeting.
WEDNESDAY, July 6.—Bath Rose Show; Two days.
Hanley Floral Fête; Two days.
Croydon Horticultural Society.
Reigate Rose Show.
Penarth Rose and Sweet Pea Show.
Ealing Horticultural Society.
Epsom Horticultural Society.
Walton-on-Thames Rose Show.
Hitchin Rose Show.
Farnham Rose Show.
THURSDAY, July 7.—Ipswich Summer Show.
Cambridge Horticultural Society.
FRIDAY, July 8.—National Rose Society; at the Royal Botanic Gardens, Regent's Park.
Gresford Rose Society.
SATURDAY, July 9.—Purley Rose and Summer Show.
Trowbridge Rose Show.
MONDAY, July 11.—United Horticultural Benefit and Provident Society; Committee meeting.

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GARDENER (Head of two or three), age 34; life experience in all branches; Inside and Out; well recommended; two children, 3½ and 6 years. W. SAWYER, 4, Gun Road, Knebworth Stn.

GARDENER (Head, where three or more are kept); life experience Inside and Out, Early and Late Forcing, Vines, Pot Vines, Peaches, Melons, Cucumbers, Tomatoes, etc.; Stove and all Pot Plants; age 36 years; married, two in family. W. SEYMOUR, Mayland, Essex.

GARDENER (Head Working); experienced in the cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, etc.; also Hardy Fruit culture; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working); life experience, fruit, plants, vegetables, inside and out; ten years' excellent characters from previous place; abstainer; married, two in family. PITTMAN, Meadowvale, Haslemere, Surrey.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; prize winner; leaving own request; no young children: youngest 14. W. BLOOMFIELD, Staplehurst, Kent.

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GARDENER (Head Working, where two or more are kept); good all-round; can be well recommended; married when suited; age 36. PEARCE, Ridley, near Wrotham, Kent.

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GARDENER (Single-handed or with help); experienced Inside and Out; hard-working, all-round; two years' reference; age 36. G. L., 15, Balham Grove, Balham, S.W.

GARDENER (Single-handed, or where help is given), good experience, inside and out; married, no family; age 37; excellent references. GARDENER, The Gardens, The Mount, Oatlands Park, Weybridge.

GARDENER (Single-handed) seeks SITUATION; 12 years' good experience; good reference. Address, A. DODD, 139, Nag's Head Road, Ponder's End, Middlesex.

MR. HODGSON, Hesley Hall Gardens, Tickhill, Rotherham, highly recommends G. ELY as Inside Foreman; age 28; good experience in Fruit, Plants, House, and Table Decorations; 3 years here; leave when suited.

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JOURNEYMAN-IMPROVER, age 20, seeks SITUATION, inside, or inside and out; well recommended; 3 years' good experience, inside and out at The Moot, Downton. S. FURNELL, Morgan's Vale, Downton, near Salisbury.

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JOURNEYMAN, First, or good Second, Inside; age 23. Apply A. L. BLACKWALL, The Gardens, Tortworth Court, Falfield, Glos.

MR. J. SHELTON, Wildernesse Gardens, Sevenoaks, Kent, will be pleased to recommend A. BOOKER as JOURNEYMAN (Inside); age 21; 4 years' experience. Apply as above.

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GARDENER (Under), age 20, seeks SITUATION; 3½ years' good character; disengaged when suited. H. PARMENTER, 8, Hutton Village, Brentwood, Essex.

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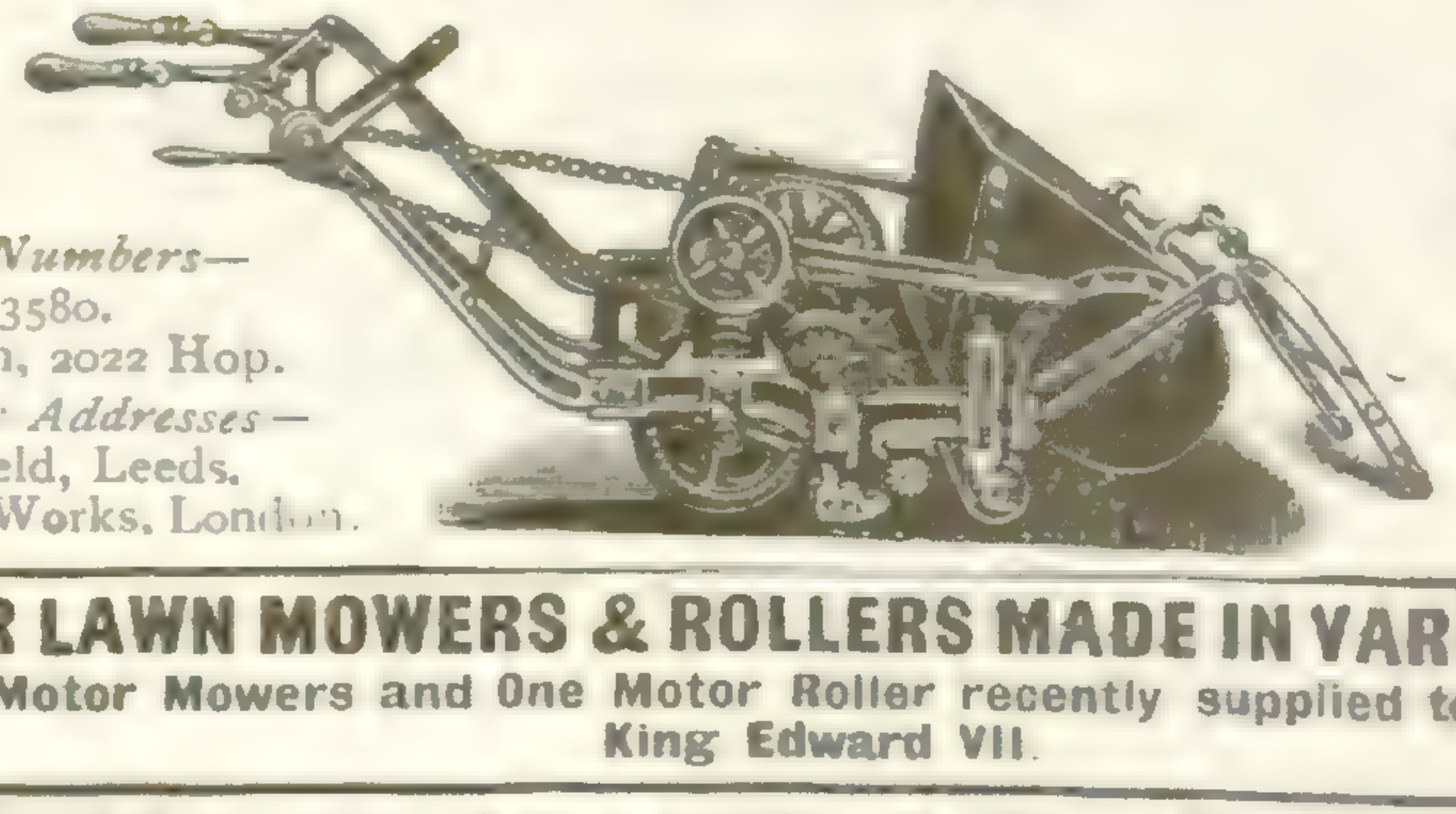

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THE GARDENERS' MAGAZINE.

No. 2,958. Vol. LIII.
Reg. at the G.P.O. as a Newspaper.

SATURDAY, JULY 9, 1910.

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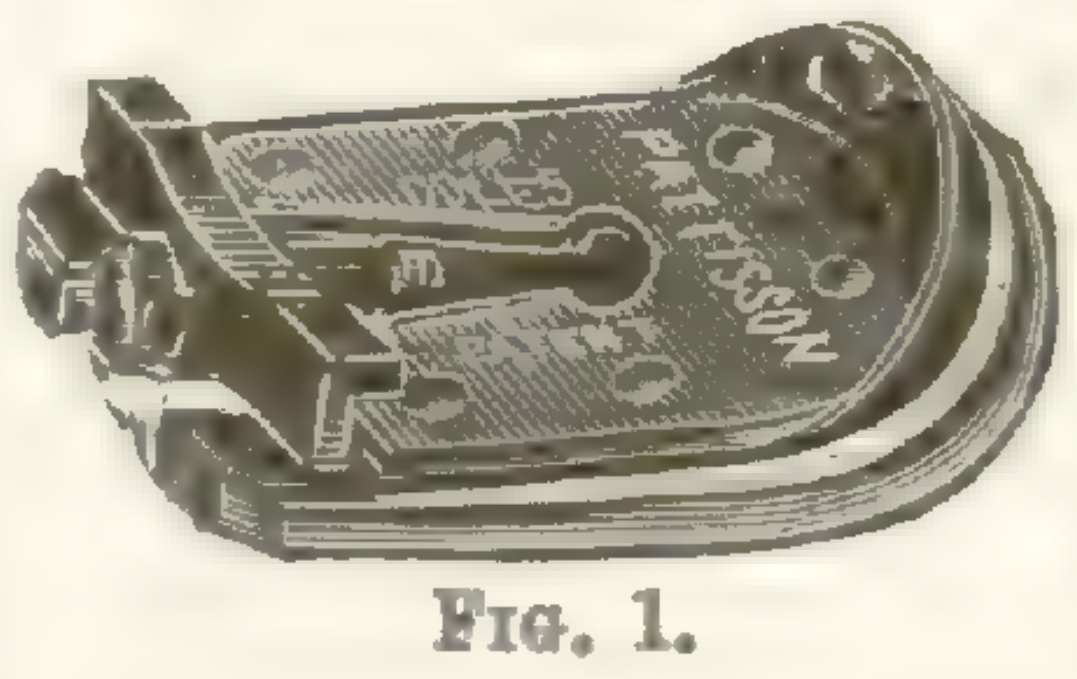

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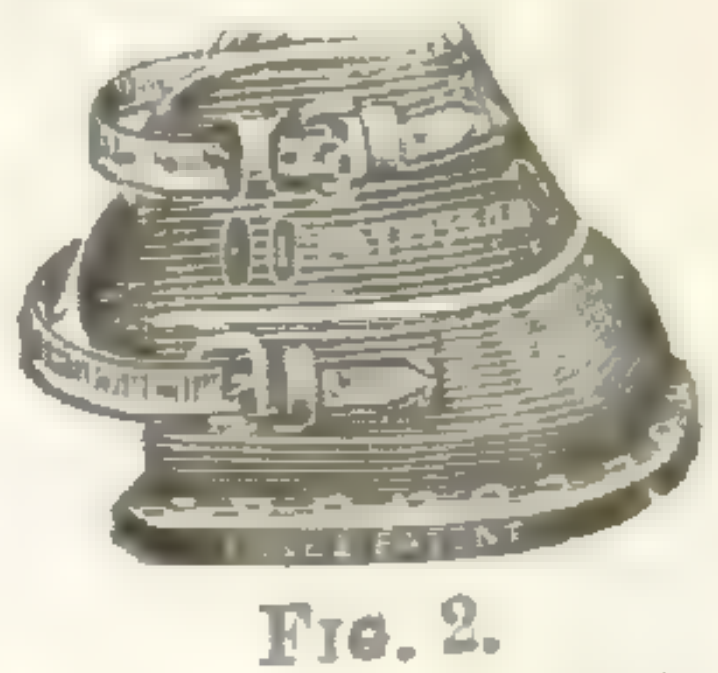

Fig. 2.

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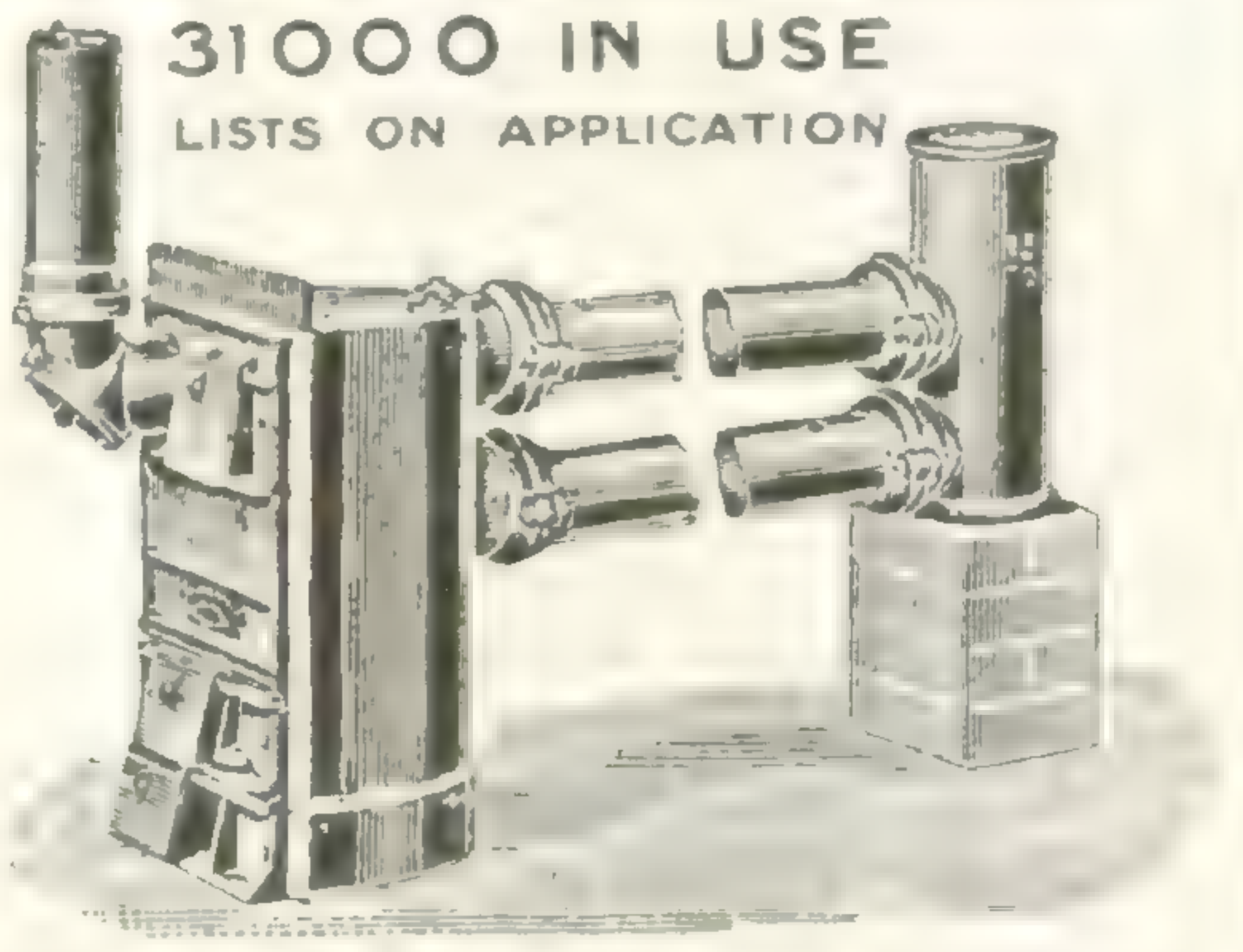

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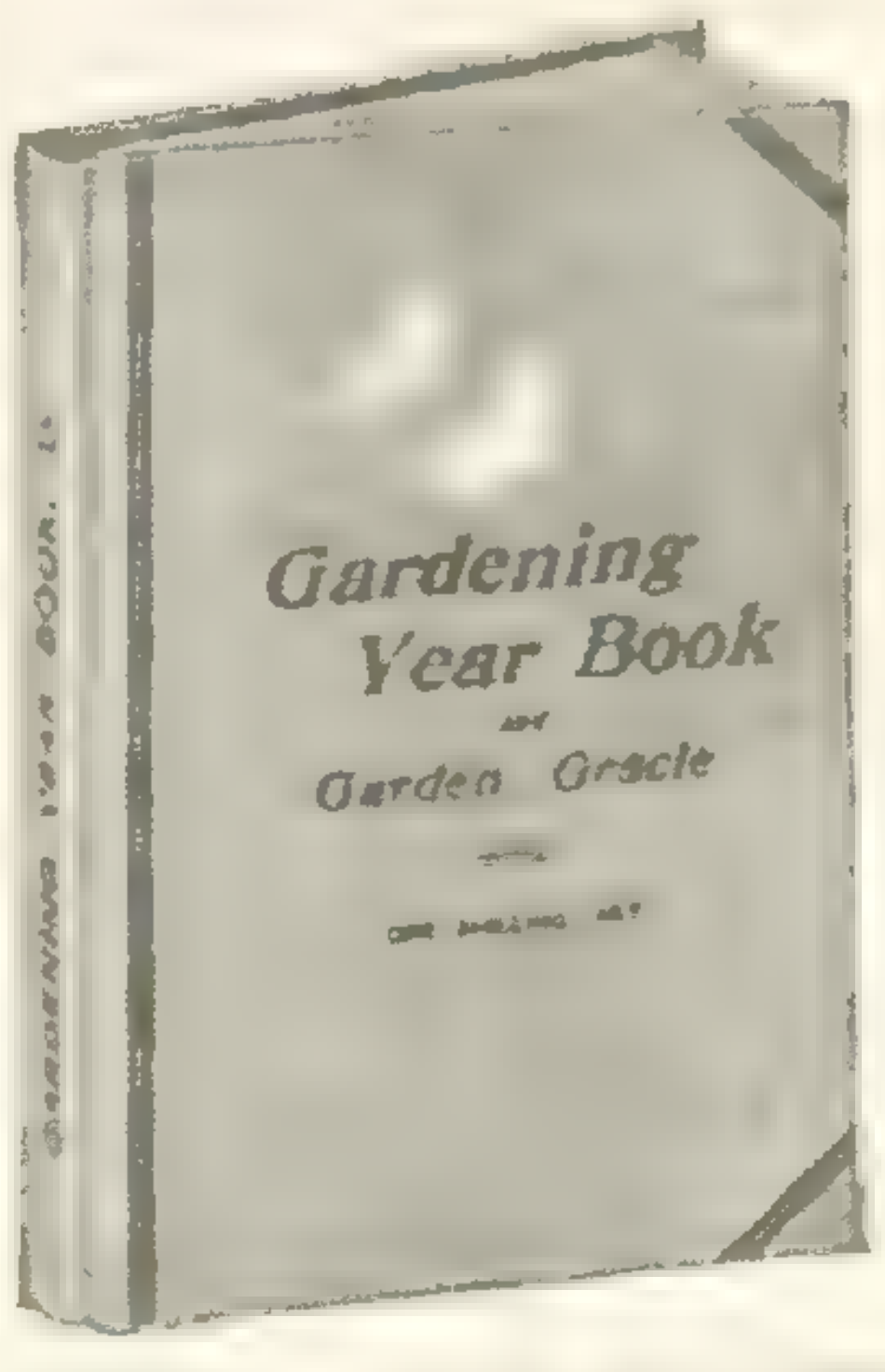
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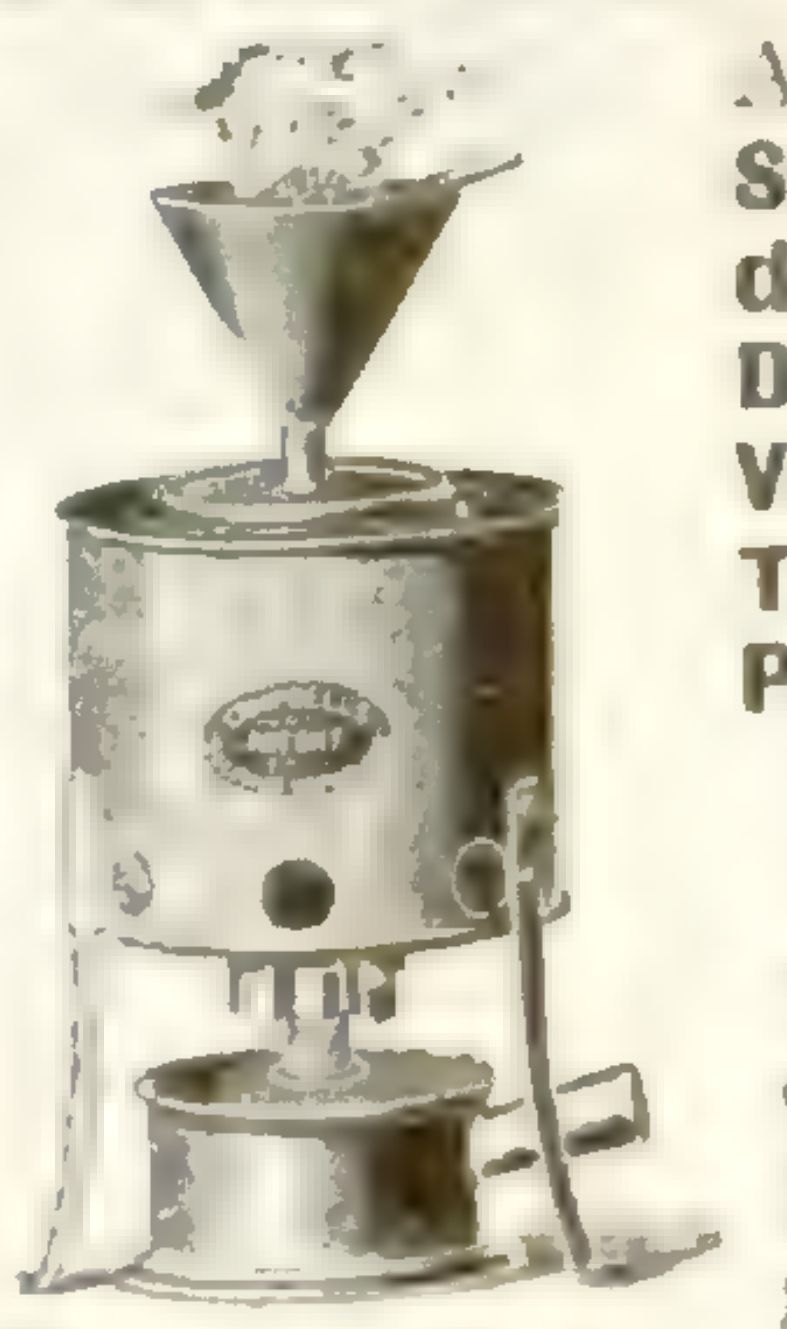

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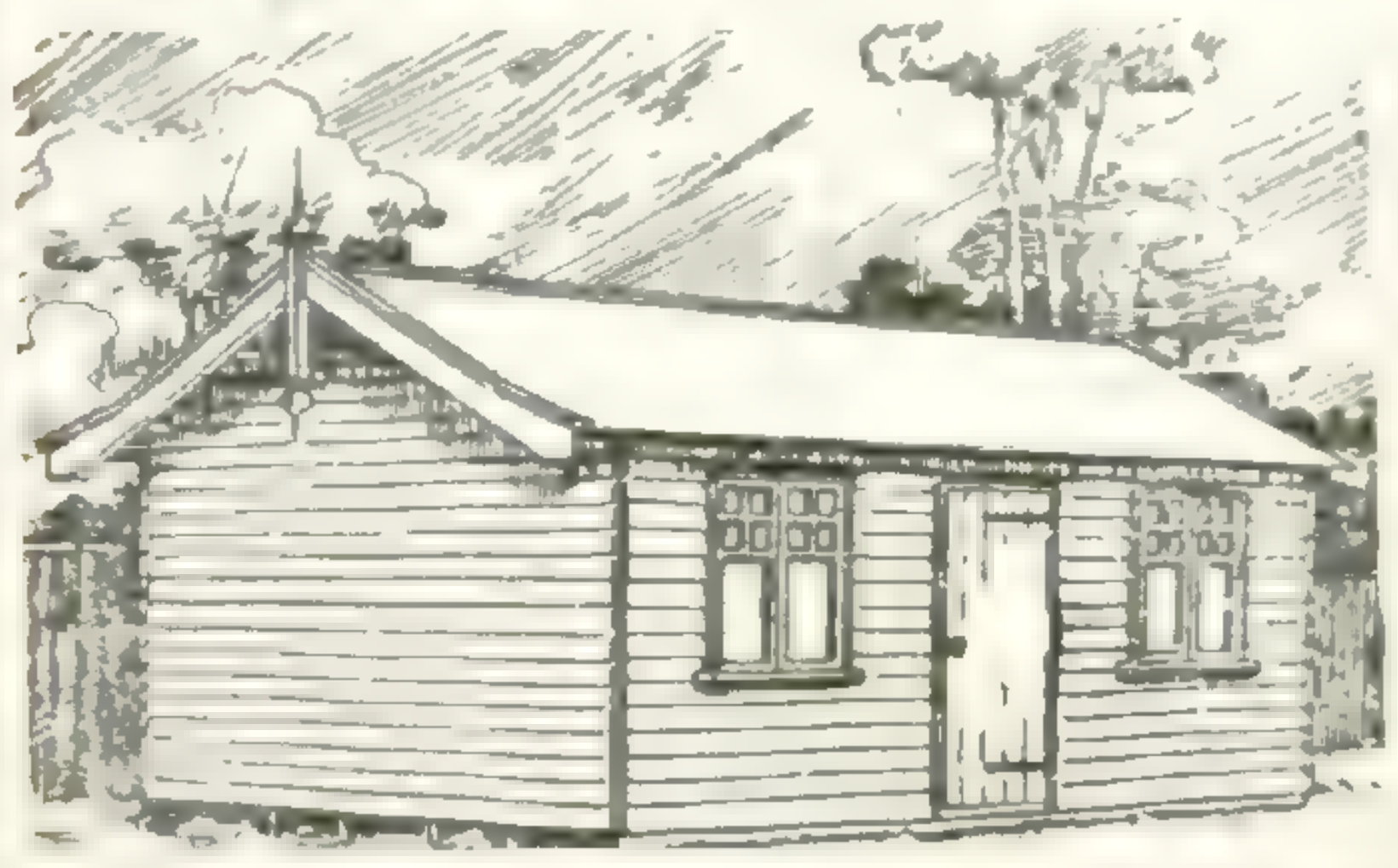

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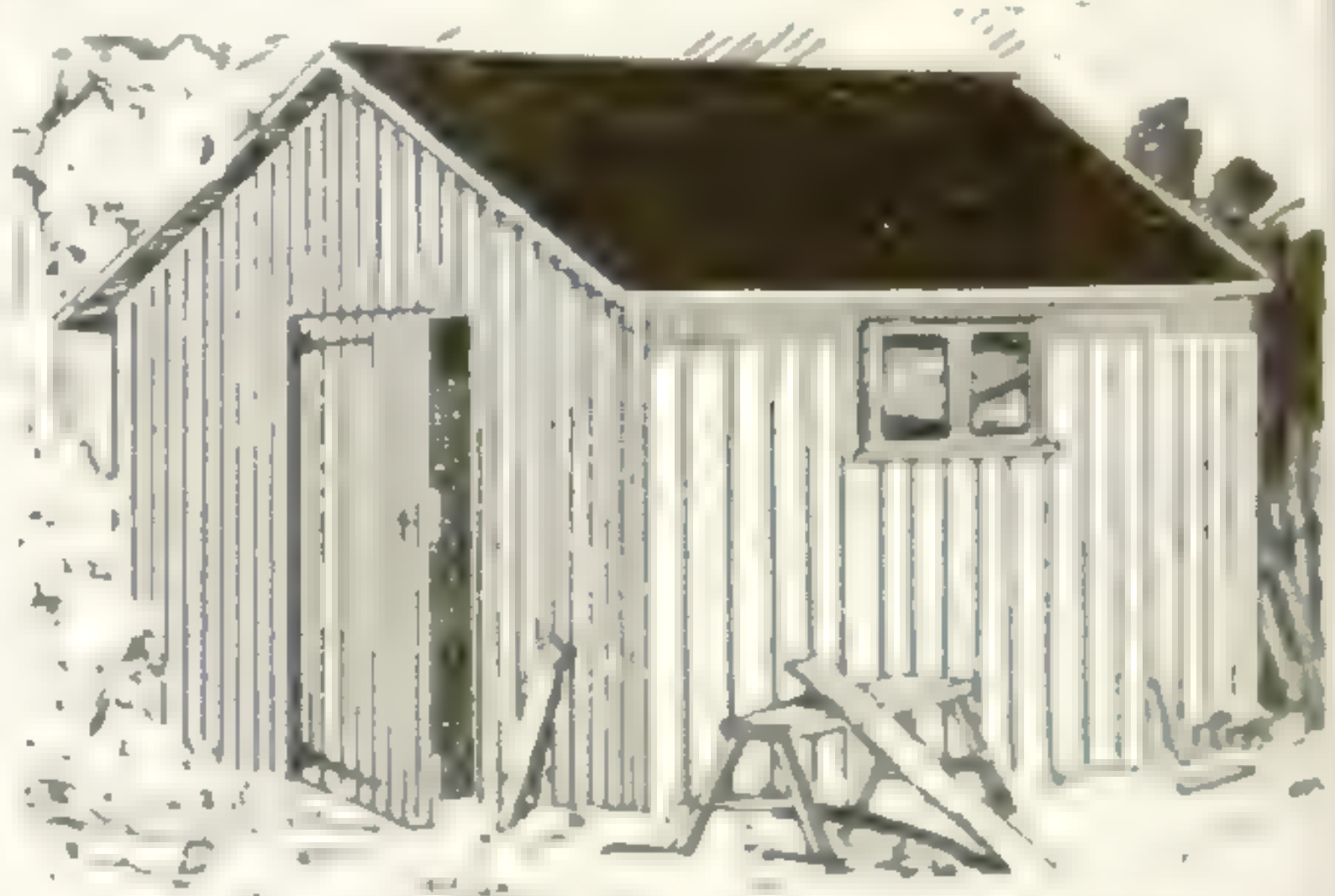

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VOL. LIII.—No. 2,958. SATURDAY, JULY 9, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Perfumes.

There has been some remarks recently uttered in critical horticultural circles to the effect that there is too great a tendency to ignore the perfume of such flowers as the rose and carnation when judging their merits as competitive blooms. In the old days the delicate odour was regarded as one of the chief charms, but in the process of selection and improvement, richness of tints, size and make of flower, and abundance of blossom have been chiefly aimed at, and there is no doubt that in many instances the perfume has been regarded as a minor factor of attraction, with the result that in many cases it is hardly perceptible. To take the rose, however, as a case in point, there is something to be said on both sides. In the wonderful tribe of Ramblers, which at this season of the year deck our landscape gardens with rich and sometimes huge masses of colour, clustering and clinging and clambering on pergola, arch, or other accommodating structure, it is the eye and not the nose which they are designed to satisfy, and do satisfy to such an extent that it rarely occurs to the beholder to test their perfume. With such roses, on the other hand, as are cut for buttonholes or table decoration, we come, as it were, into closer personal contact, and, mindful of the reputation of the Queen of Flowers, we feel the need of both colour and odour, and regard the absence of the latter as a distinct defect. It is, too, an open question as to how far Nature's tendency to balance attractions is now evidenced in this connection. The glorious tints and massings of blossoms, or the huge size of individual blooms, are primarily designed to attract, not man's attention and admiration, but such bees, moths, or other insects, as will act as Cupid's intermediaries. The wild scented prototypes of the flowers may be, and usually are, very much smaller and less conspicuous than man's selective triumphs; and it is quite conceivable that, as the usual attraction is increased, the olfactory one, the scent, is decreased, as being less necessary for the primary object cited. If this be so, it is clear that any attempt to ally great conspicuousness with marked perfume is likely to be handicapped seriously, and it is a very open question whether strains of roses of the Ramblers or conspicuous type, which had to rely on delicious scent as a set-off for less conspicuousness and brilliancy of effect, would be greatly encouraged. With regard to the carnation, of which we may take the old-fashioned richly-scented Clove as the odoriferous type, the loss of scent in many of the up-to-date forms is to be regretted, since with this class of flower the massed effect at a distance, to which we have alluded in connection with the Rambler roses, does not come in, and one almost instinctively seeks for the old-fashioned perfume of the Clove when any of its modified relatives are to the fore. Considering the subject of perfumes from a wider point of view, they constitute a most interesting theme. First of all, there is their wonderful diversity. It may safely be said that, independently of the floral odours, every plant has its distinctive scent, either patent, such as we find in the mints and innumerable other plants, or latent in such as require to be bruised in order to evoke it. Every one of these subtle odours is the outcome of chemical decomposition and recomposition effected in the foliage by the action of light upon the chlorophyll, and the resultant building up of volatile oils, resins, and other composite bodies, capable of affecting the delicate nerves of our olfactory organs and conveying to the brain its particular impression, so that, independent of vision entirely, there are hundreds of plants which can be determined instanter by the odour alone. In all probability too, just as there are sounds too subtle for our ears to catch, there may, and indeed must, be odours of equal delicacy patent enough to the insect world or even to the larger animal world, but from which we are excluded as regards their appreciation by the comparative obtuseness of our olfactory sense. Comparatively obtuse, however, as this may be, its acuteness is yet quite beyond comprehension, for what idea can we form of nerves which can perceive the odour of musk molecules so minute that a single grain in weight can throw them off for decades or even many decades, and yet be appreciably undiminished. The odoriferous emanations from the dried rose petals gathered by our grandmother or great-grandmother still recall the living rose in the pot pourri which has been handed down from generation to generation. This, however, carries us back to our original theme, since, given continued ignoring of the rose perfume as one of the essential qualifications of awards of merit, the pot pourris of the future will undoubtedly be but poor indeed as compared with those of the past. Happily, there are in cultivation many roses whose blooms are not less remarkable for their fragrance than for their fine form and attractive colours; and raisers are fully alive to the importance of perfume, although they are not always successful in obtaining it.

REV. R. POWLEY.

Rev. R. Powley, rector of Upton Scudamore, Warminster, is a genial cleric, who is extremely fond of flowers in general and roses in particular. His grandmother inspired him with a great love for flowers and gardens, and when a lad of fifteen he devoured the then new book on roses by the late Dean Hole, and longed for the day when he would be able to grow roses of his own. The time came in 1888, when he went to Upton Scudamore, and the following year he won his first prize for roses at Warminster Show. Then he went to Bath and to Bristol, and in 1897 first showed at an exhibition of the National Rose Society; since then he has only missed one Metropolitan show (his roses were not properly out), and was so ashamed of his withdrawal on that occasion that he now exhibits whatever the state of his flowers, and bears with wonderful philosophy and good temper, his defeats. Mr. Powley's garden lies very high on the edge of Salisbury Plain, faces south, and gets every wind that blows except those from the north. The soil is cold, heavy, and chalky, not ideal for roses. He is his own gardener, save for the spade work, and he grows a few less than 500 tea roses, or 2,000 roses in all, and, as he has parish work, private pupils, and local school inspection as part of his daily duties, the number of roses grown is not likely to be exceeded. Mr. Powley does not like the big roses, and Mildred Grant is his pet aversion—this is rather interesting, especially as Mr. Powley inclines to Falstaffian proportions. He also hates the modern idea that there is only one type of rose, i.e., with a pointed centre and a regular whorl of outer petals. He regards it as absurd, and so do we, to dress Souvenir d'un Ami after the style of Mrs. Edward Mawley. We should like to see Mr. Powley conduct a vigorous crusade against the dressing of roses for exhibition purposes as it is now carried on by some growers.

The Gardeners' Company.—An interesting function was that at the Mansion House on the 29th ult., when the Master of the Gardeners' Company (Mr. Charles Bayer) presented the Lord Mayor with a basket of vegetables, herbs, and flowers, "in grateful remembrance of the Recorder's Warrant of 1632," which enacted that any person using the trade of gardening in any way calculated to bring it into contempt, was liable to arrest. The Master of the company was accompanied by Alderman Sir Horace Brooks Marshall, Mr. W. T. Crosweller, and Mr. E. A. Ebblewhite (Clerk to the Company), and in making the presentation, said they were at the Mansion House that day to exercise a privilege of which they were proud, namely to present to his Lordship a basket of flowers and vegetables such as were grown in their gardens in 1605, the period of the foundation of the company. He then presented the Lady Mayoress with a beautiful bouquet of orchids. The Lord Mayor, in accepting the gift, said he was especially gratified to find that the products contained in the basket were wholly the products of English soil. The basket, which was of elegant design, contained asparagus, artichokes, cucumbers, kidney beans, peas, vegetable marrows, and other vegetables; and prominent among the flowers were roses, stocks, and sweet peas. The last-named flowers were, of course, not introduced to this country until nearly a century after the Gardeners' Company was founded.

Japanese Horticulture. — In order to express British appreciation of Japanese horticulture, the President and Council of the Royal Horticultural Society decided to take advantage of the opportunity afforded by the Japan-British Exhibition and the number of Japanese interested in gardening at present in this country. They accordingly invited all the leading horticulturists to luncheon at the Holland House Show on Wednesday last, and, as our gardening friends from the Far East fully showed their appreciation of the honour done them, the gathering was large and of much interest. About seventy Japanese horticulturists and others at the present time in this country accepted invitations, among them being his Excellency Takaaki Kato, the Japanese Ambassador; Baron Oura, Minister of Agriculture and Commerce; Prince Torkergawa, Chairman of the House of Peers; Mayor Yukio Osaki, Mayor of Tokyo; Dr. Bunji Mano, Mr. Hikojiro Wada, Commissioner-General of the Japanese section of the Japan-British Exhibition; Mr. Yasunosuke Kagami, Principal of the Japanese School of Horticulture; and Mr. Hannosuke Izawa, expert gardener to the Japanese Government Commission. About thirty British horticulturists were invited to meet the Japanese guests, and, in addition to the members of council, we noticed Lord Blythe, Sir T. Elliott, Sir Daniel Morris, Lieut.-Colonel Prain, Mr. A. W. Sutton, Professor Bateson, Mr. Spencer Pickering, Mr. N. N. Sherwood, Mr. George Gordon, Dr. A. B. Rendle, and Mr. H. Somers Rivers. Sir Trevor Lawrence presided, and, after the toast of "The King" had been duly honoured, he proposed the toast of "The Emperor of Japan," and in doing so referred to the kindly feelings his Majesty had at all times shown towards this country. The President then submitted the toast of "The Japanese Guests and Japanese Horticulture," and spoke of the remarkable ability, energy, and perseverance of the Japanese people, and of the great success achieved by Japanese horticulturists. He also passed under review the many beautiful trees, shrubs, and bulbous plants that had been introduced from Japan. Dr. Mano made a suitable response in excellent English. The Japanese Ambassador, in an eloquent speech, proposed the toast of "The Royal Horticultural Society," which was acknowledged by Sir D. Morris. Sir Albert Rollit submitted the health of Sir Trevor Lawrence, which was heartily received and briefly acknowledged.

Awards for Japanese Gardens, etc.—On Thursday, June 30, the President and Council of the Royal Horticultural Society visited the Japan-British Exhibition for the purpose of inspecting the Japanese gardens and the horticultural exhibits. As the result of their visit they awarded silver cups as follows: To Mr. Keijiro Ozawa, of Tokyo, for the design of the "Garden of Peace" and the "Garden of the Floating Islands"; to Mr. Hannosuke Izawa, for the construction of these gardens; to the Tokyo Yen for the design and construction of two miniature gardens; to the Yokohama Nursery Company for a collection of dwarf trees in pots, and for a dwarf specimen of Thuia obtusa aurea, 125 years old; to Mr. S. Hayashi, Kioto, for a pair of bronze garden lamps; to Mr. Senker Agawa, Kioto, for an imitation dwarf pine used in ceremonies; to Nippon Yusen Kaisha, for a garden of artificial flowers, and to the Girls' Technical School, Tokyo, for an arrangement of artificial flowers.

New Park for Winchmore Hill.—The Southgate Urban District Council has decided to purchase from Captain Taylor a portion of the Winchmore Hill Woods Estate for the purpose of a public use. The portion to be purchased has an area of sixty acres, including a lake of about seven acres, and the sum to be paid for it is £20,000.

Colouration of Sweet Pea Tendrils, etc.—Mr. Cuthbertson submitted to the Scientific Committee of the Royal Horticultural Society at a recent meeting sweet pea growths in flower for the purpose of showing that the colouration of the tendrils and axils cannot in every case be accepted as one of the guides to purity of stock. The variety Mrs. Hugh Dickson gives both green and coloured tendrils and axils. The old variety Lady G. Hamilton behaves in a similar way. Mr. Ireland, Messrs. Dobbie's sweet pea grower, says that seed saved from a green tendril plant gives, when shown, both colours in the first generation and vice versa. It was at one time thought that the presence or absence of colour in the axils and tendrils of sweet peas might be taken as a guide to enable "rogueing" to be done at an early stage, but, although this is frequently true, it is evident that this unit character would have to be selected and bred for as with any other, before it would prove an absolutely trustworthy guide.

National Rose Society.—In our next issue we shall give a full and illustrated report of the Metropolitan exhibition of this society, held in the gardens of the Royal Botanic Society on the 8th inst. We shall also give a report of the society's provincial exhibition to be held at Salisbury on Wednesday next, the 13th inst.

Rare British Plants at Cambridge.—Among the more interesting of the British plants that have been received at the Cambridge Botanic Gardens during the past year are Eriophorum alpinum (from Switzerland) formerly native of the Moss of Restenet, Forfarshire, but long lost through drainage and now extinct in this country; Eriocaulon septangulare, one of the most interesting of British plants (from West Ireland); Catabrosa aquatica var. littoralis; Papaver hybridum, from Wells, Norfolk; Achillea Ptarmica, the wild original of a well-known garden plant; Carduus heterophyllus, a handsome species; Solanum nigrum var. luteo-virescens, from Jersey, a curious variety of Black Nightshade, with yellowish-green berries; the Pyrus scandica Bab., as also of P. latifolia; Ulex Gallii, the smaller autumn-flowering gorse, characteristic of the North and West of England and Ireland; Salix Lapponum and S. Lapponum × reticulata. The Curator, Mr. R. Irwin Lynch, M.A., found two forms of Statice occidentale at Hunstanton so much alike that their morphological characters are hardly definable; they do not appear to cross, come perfectly true from seed in cultivation, and differ in time of coming in flower, height and general appearance. Mr. Salmon, who has worked at the British species, has been unable to distinguish them.

Supplies of Early Potatoes. The marketing of the early crops of potatoes in Ayrshire and Cheshire is now in full swing, and the large supplies available are being readily disposed of in the populous centres of England and Scotland. The yields, according to the reports that have come to hand, are more satisfactory than was at one time expected, and in size and quality the tubers are above the average. It is also satisfactory to learn that the prices now being realised are such as to give a good return to the growers. The crop of early potatoes in the south-western counties of Ireland is reported to be of a satisfactory character, although disease is said to have made its appearance in some districts.

Delphiniums from Langport.—We have on our table at the present time a vase of splendidly-developed spikes of delphiniums that have been sent for our inspection from Langport, and a fine effect they produce. The varieties which Messrs. Kelway and Son have submitted to our notice comprise some of the finest they have raised, and their flowers afford a long range of shades of blue. Conspicuous among them are F. Carr, Silver Buckle, True Blue, Christine Kelway, Lady Fair, Lovely, Huish Beauty, Nymph, and Zinfandel.

GREAT FLOWER SHOW AT HOLLAND PARK.

There was a superb exhibition at Holland Park on July 5 and 6, and rarely has there been such a splendid representation of British horticultural skill. There were ten tents, all splendidly filled with the finest flowers, and fruits, and plants. Altogether under canvas there were 64,000 square feet of staging, and the groups outside occupied many thousands of feet more. Probably the Royal Horticultural Society has never before had so glorious an exhibition, and though a Temple Show takes precedence from an orchidist's point of view, in all other ways this show at Holland Park was far ahead in size and quality.

A CHARMING JAPANESE GARDEN.
Exhibited by Messrs. J. Carter and Co., at Holland Park Show.

The amount of labour such a display entails is enormous, and great credit is due to the Rev. W. Wilks, Mr. Gaskell, Mr. S. T. Wright, Mr. Reader, Mr. H. B. May, and others who worked so well and had arrangements all in excellent order. To Lady Ilchester also the thanks of horticulturists are due for permission to hold the show once more in Holland Park, Kensington.

ORCHID COMMITTEE.

Messrs. Sander and Sons, St. Albans, put up a superb group of orchids, the central feature of which was a trophy of Phalænopsis Rimestadiana, Dendrobium Phalænopsis, Cattleya Mendeli, and C. Warscewiczi. On one side of this was a fine batch of Odontoglossum Williamsianum (grande type), and on the other side were Vanda cærulea and a number of magnificent Brasso-cattleyas. A few of the more interesting and beautiful of the other subjects with which this glorious display was crowded were Miltonia Bleuana, M. St. Andre, Epidendrum prismatocarpum, Cypripedium Curtisi Sander's var., C. Godefroyæ leucochilum, Cattleya fulvescens, C. Mossiæ Wageneri, Oncidium macranthum, Odontioda St. Fuscien, and a host of hybrid odontoglossums.

Messrs. Mansell and Hatcher, Rawdon, Yorkshire, had the largest display of orchids, and once again their exhibit was magnificently and beautifully arranged. It was about fourteen yards long, and an altogether splendid effort. In the centre was an elegant group of fine forms of Cattleya Warscewiczi, with a few white odontoglossums rising above them. At one end Vanda cærulea, Miltonia vexillaria, odontoglossums, and Phalænopsis Rimestadiana were grouped together in a fine mass, and at the other end Cattleya Mendeli, and C. Warscewiczi were pleasingly arranged. Between these three fine groupings were hosts of good things, only a few of which we have space to mention. There was Odontioda Bradshawiæ in large numbers, the pretty Cochlioda Noetzliana, Oncidium Lanceanum, O. macranthum, Miltonia vexillaria Chelsiensis, Renanthera Imschootiana, Cœlogyne pandurata, Vanda cærulea, Odontoglossum ardentissimum, O. amabile, O. Rolfæ, Brassia verrucosa, and Cattleya Mendeli.

A handsome group arranged in mound form, by Mr. Collier, gardener to Sir Jeremiah Colman, Bart., was a great success, and it contained fine plants especially well set up. Cattleya Warscewiczi, white odontoglossums, Odontioda Thompsoniana, and Oncidium undulatum were boldly associated in the centre, and around these were Odontioda Bradshawiæ, Miltonia Bleuana nobilior, Lælia-cattleya Canhamiana, and L.-c. C. alba, Brassia Lawrenceanum, Cochlioda Noetzliana, Lælio-cattleya Phœbe, Cypripedium callosum Sanderæ, the quaint Eriopsis rutidobulbon, Bulbophyllum grandiflorum, and Cœlogyne Schilleriana. A fine effort from a private garden. Mr. Edward V. Low, Vale Bridge, Haywards Heath, was chiefly represented by a batch of Cypripedium callosum Sanderæ and C. Lawrenceanum Hyeanum, together with Cattleya Gaskelliana alba, C. Mossiæ alba, Reine des Belges, and Odontioda Charlesworthi

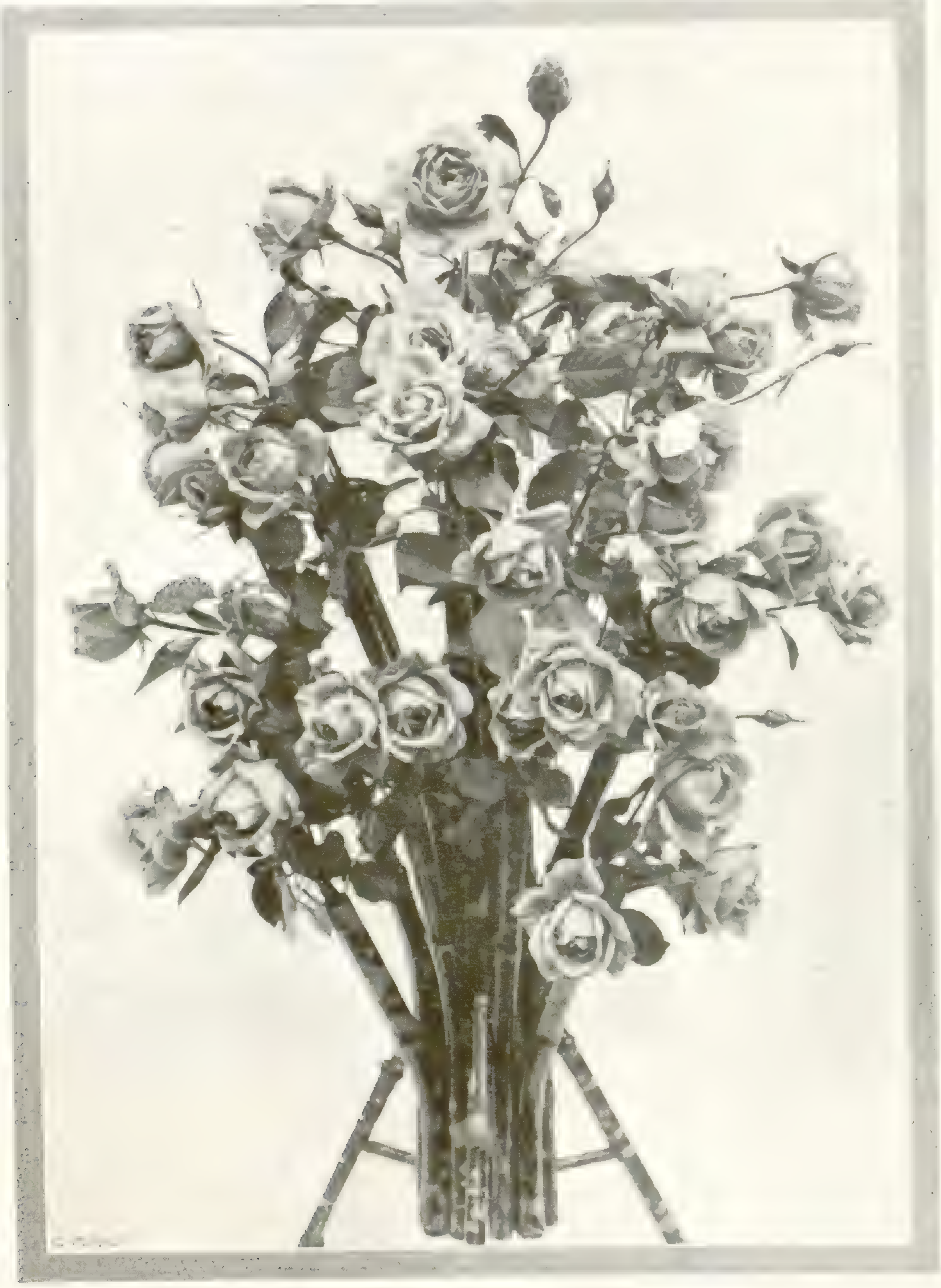
Messrs. Charlesworth and Co., Haywards Heath, were also finely represented on this occasion by a large, brilliant, and very graceful group. The central feature of this exhibit was composed of grand spikes of Phalænopsis Rimestadiana, rising from a mass of the bright little Epidendrum vitellinum majus. Dendrobium Phalænopsis was largely used at either end of the display with white phalænopsis. One of the bays was filled with Odontoglossum Wiliamsianum and magnificent plants of Cattleya Warscewiczi and C. Warneri, while in another bay were Lælio-cattleya Canhamiana and its white variety, with the brilliant L.c. C. Fire King. Other lovely things on view in this fine group were L.-c. G. S. Ball, L.-c. Ceres, Odontioda Charlesworthi magnifica, Odontoglossum Smithi, O. armainvilliersensis, Odontioda Bradshawiæ, and Oncidium Lanceanum.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, submitted a collection of orchids, but the display was lacking in finish, the pots being too much in evidence. Dendrobium nobile virginale was excellent, and so were the varieties of Cattleya Mendeli and C. Mossiæ, the White C. Mendeli Stuart Low gaining an F.C.C.; Cattleya Warscewiczi, odontoglossums in great variety, Oncidium macranthum, and Epidendrum vitellinum majus were also prominently displayed.

FLORAL COMMITTEE.

Messrs. Paul and Son, Waltham Cross, had a particularly pleasing exhibit of roses. They had covered a large space with vases and baskets of roses of special value for garden decoration; these were kept low, and over them rose weeping standards and graceful pillars of famous Wichuraiana hybrids, such as Dorothy Perkins, White Dorothy, Hiawatha, Paradise, and Lady Gay. Among the roses that made up the glorious and fragrant groundwork, Juliet, the new and famous variety, was conspicuously beautiful; Aennchen Muller, Lyon Rose, Madame Abel Chatenay, Liberty, Richmond, Madame Ravary, Melanie Soupert, Marquise de Sinety, Warrior, Betty, and Marquise de Salisbury—a grand group.

Messrs. Paul and Son, Cheshunt, had a very bright and interesting group of roses. In the foreground cut blooms were massed together, and such varieties as Lady Ashtown, Victor Hugo, Harry Kirk, Irish Glory, Betty, Lady Battersea, His Majesty, and Marquis de Sinety were finely represented. Behind these were plants of climbing roses of the Wichuraiana class, and among these were J. Billiard, Shower of Gold, Delight, Dorothy Perkins, Goldfinch, Lady Gay, and other good things. Messrs. J. Veitch and Sons, Chelsea, put up a large group of stove and greenhouse plants, and in their display every plant was a fine specimen. Palms, giant dracænas, and crotons formed the background, and in front of these were splendid caladiums, Anthurium crystallinum, Tillandsia Massangeana, Heliconia illustris rubricaulis, Alocasia Watsoni, Maranta insignis, and fine examples of Croton Warreni. Two large specimens of Datura arborea towered above everything else, and raised above the central portion of the display were finely-grown examples of Nepenthes Diadem, N. Curtisi superba, N. Mastersiana, and N. Dr. J. Macfarlane. In the front centre was a pretty group of orchids, which included Epidendrum prismatocarpum and Disa Luna. At either end the beautiful Solanum Wendlandi was associated with gorgeous cannas, and the graceful and bright Kalanchoe flammea. A rare bank of ferns, set up by Messrs. H. B. May and Sons, Edmonton, contained a grand example of Asplenium marginatum, and a batch of the lovely and elegant Nephrolepis Marshalli. Other fine things were N. Whitmani, N. exaltata superba, the graceful Polypodium Vidgeni, and the beautiful Gymnogramma flavescens var. Cordreyi.



ROSE MARQUISE DE SINETY.

A beautiful variety exhibited by Messrs. H. Merryweather and Son, Lim., Southwell, Notts, at the Holland Park Show.

Mr. C. Engelmann, Saffron Walden, had a large exhibit of carnations; Carola occupied the post of honour, and was flanked by large vases of Afterglow, Red Lawson, Robt. Craig, Mikado, Alvina, White Perfection, Beacon, and Enchantress. Mrs. Trelawny, a salmon-scarlet Malmaison carnation, was finely shown by Mr. Chas. Turner, Slough, and round this were Old Blush, Princess of Wales, and Maggie Hodgson Malmaison varieties, with Ethel, Voltaire, and other bolder varieties in the foreground. Mr. Turner also showed weeping standard roses over cut blooms of good garden varieties.

Messrs. Stuart Low and Co., Enfield, put up perpetual and Malmaison carnations in bold fashion, and presented great vases and sheaves of Irene, The Colonel, Princess of Wales, Lady Mary Hope, and other good Malmaisons; the same firm showed a fine lot of cut blooms of popular roses, including a few of the newer kinds, and made a lovely and fragrant exhibit with them. The Rowberry also figured here.

Messrs. Wm. Cutbush and Son, Highgate, N., occupied a large corner space in the big marquee, and filled it in very pleasing fashion. Carnations and roses were the great features, the former being very largely and very well shown in big groups of plants freely flowered. The background was of palms and large examples of Dracæna Lindeni. The leading carnations were President, Marmion, Rose Doré, Mikado, White Perfection, Mercia, Lady Nunburnholme, Dragon, King Arthur, The Queen, and these were arranged in graceful fashion in a setting of dwarf polyantha roses and ferns.

Messrs. R. Wallace and Co., Colchester, again provided an exhibit of outstanding merit and unique design. The first portion of their display was a water garden aglow with Iris Kæmpferi in great beauty and variety, grouped near spiræas, hardy orchids, and liliums in delightfully artistic fashion along the sides of a stream of water, the latter dotted with water lilies. It was a charming representation of a Japanese iris garden. The second portion was a modification of the display that created so great a sensation last year. There was a raised flagged walk, backed by a rough wall filled with pleasing wall plants, sedums, campanulas, dianthuses, etc., all blooming freely and looking as though they had been in position for years. The wall served to retain a broad border filled with the gayest of gay flowers, such as Lilium elegans in variety, coreopsis, irises in great variety, glowing kniphofias, and quantities of tall spikes of Eremurus Bungei and E. Warei, delphiniums, spiræas, erigerons, and other lovely things—yellow shades were well represented—the whole was, as the ladies said, "Perfectly lovely." In the centre of this latter part of the exhibit was a recess with a stone seat, with hardy ferns in the stone crevices around, and a little pool of water-lilies on either side of the seat. It was a great exhibit—in many respects the finest in the show. Messrs. Hobbies, Lim., Wisbech, made up a good show of roses, setting up weeping standards and pillars of Dorothy Perkins and kindred varieties, and the new copper-shaded Joseph Billiard. In the foreground were cut blooms of Lyon Rose, Mildred Grant, Richmond, Triumph, etc.

Messrs. R. H. Bath, Lim., Wisbech, occupied a small corner with decorative roses, which included some fine rambler varieties, also a collection in vases. In the latter were Irene Watts, Duke of York, Cecile Brunner, Madame E. Resal, Leonie Lamesh, and Madame Abel Chatenay. This firm also had groups of delphiniums, English irises, and carnations; the latter were beautifully arranged in tall bamboo stands with asparagus. From Colonel the Hight Hon. Mark Lockwood, C.V.O. (gardener, Mr. G. Cradduck), Bishop's Hall, Romford, came a splendid group of Trachelium cæruleum, most tastefully arranged with cocos palms and with Panicum variegatum, the whole forming a pleasing soft colour scheme in a tent of brilliant colouring.

Mr. C. W. Breadmore, High Street, Winchester, showed sweet peas finely, and in an excellent collection he had Mrs. Henry Bell, Marjory Linzee, King Alfonso, Constance Oliver, President, Countess Spencer, A. N. Dickson, Mistress Lumley, Freda, George Herbert, Princess Juliana, etc. Mr. W. E. Alsen, Denmead, Hants, had a small exhibit of sweet peas, in which the brilliant Sterling Stent was conspicuously good. Messrs. Thos. S. Ware, Feltham, had a glorious bank of tuberous begonias, the flowers perfect in size and form and of exquisite colouring; Lady Cromer, Hon. Mrs. Ronald Greville, and Marchioness of Bute, Mrs. W. L. Ainslee, and Mary Pope were lovely examples. Mr. A. L. Gwillim, New Eltham, contributed a fine bank of tuberous begonias, his Margaret Gwillim, yellow, standing out as a fine thing. A large, bold, and well-arranged exhibit of sweet peas was made by Messrs. S. Bide and Son, Farnham, their Sunproof King, Mrs. Henry Bell Improved, Mrs. W. T. Massey, and President standing out as distinctly good. Messrs. W. and J. Brown, Peterborough, staged hardy flowers largely, and

(Continued on page 535.)

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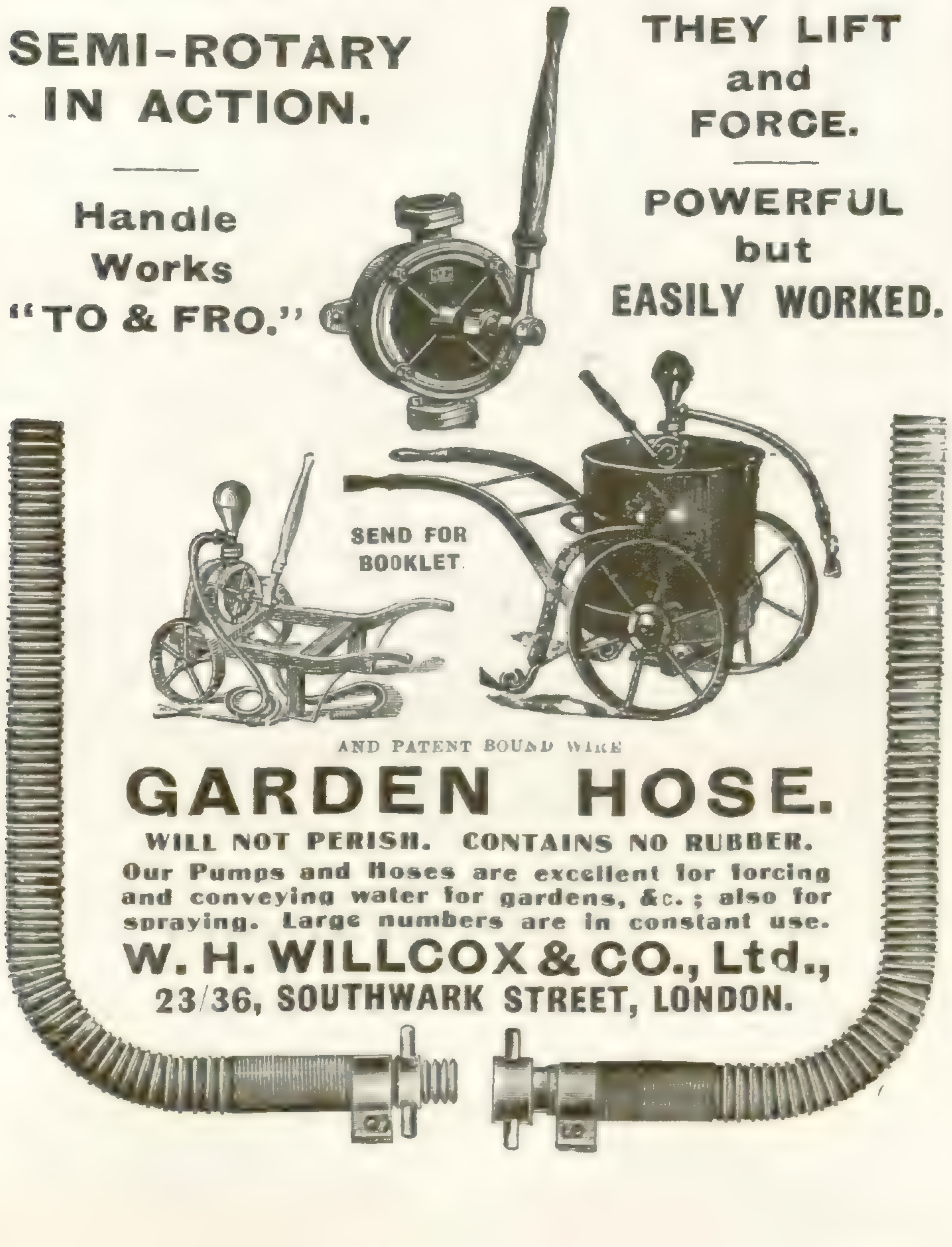
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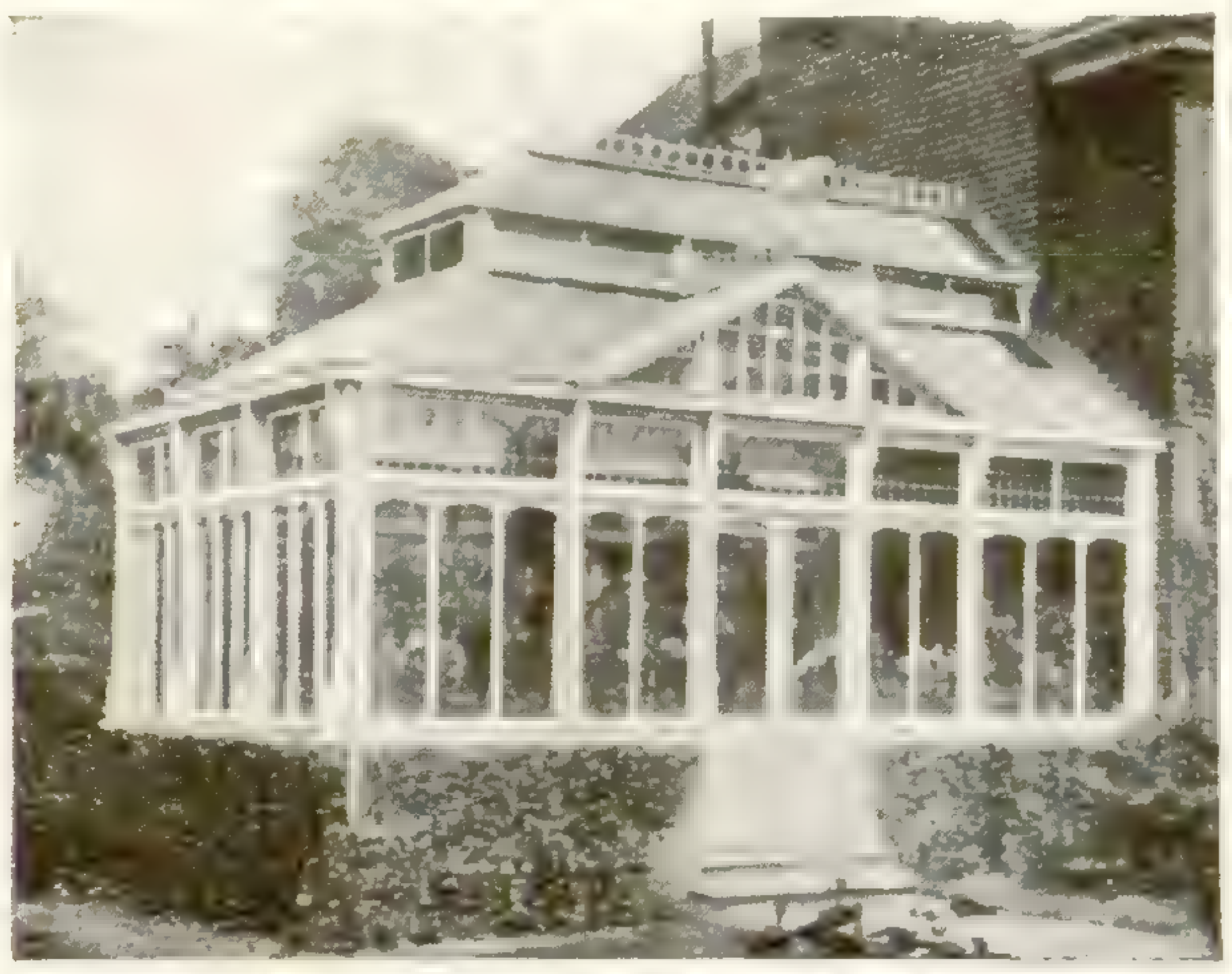

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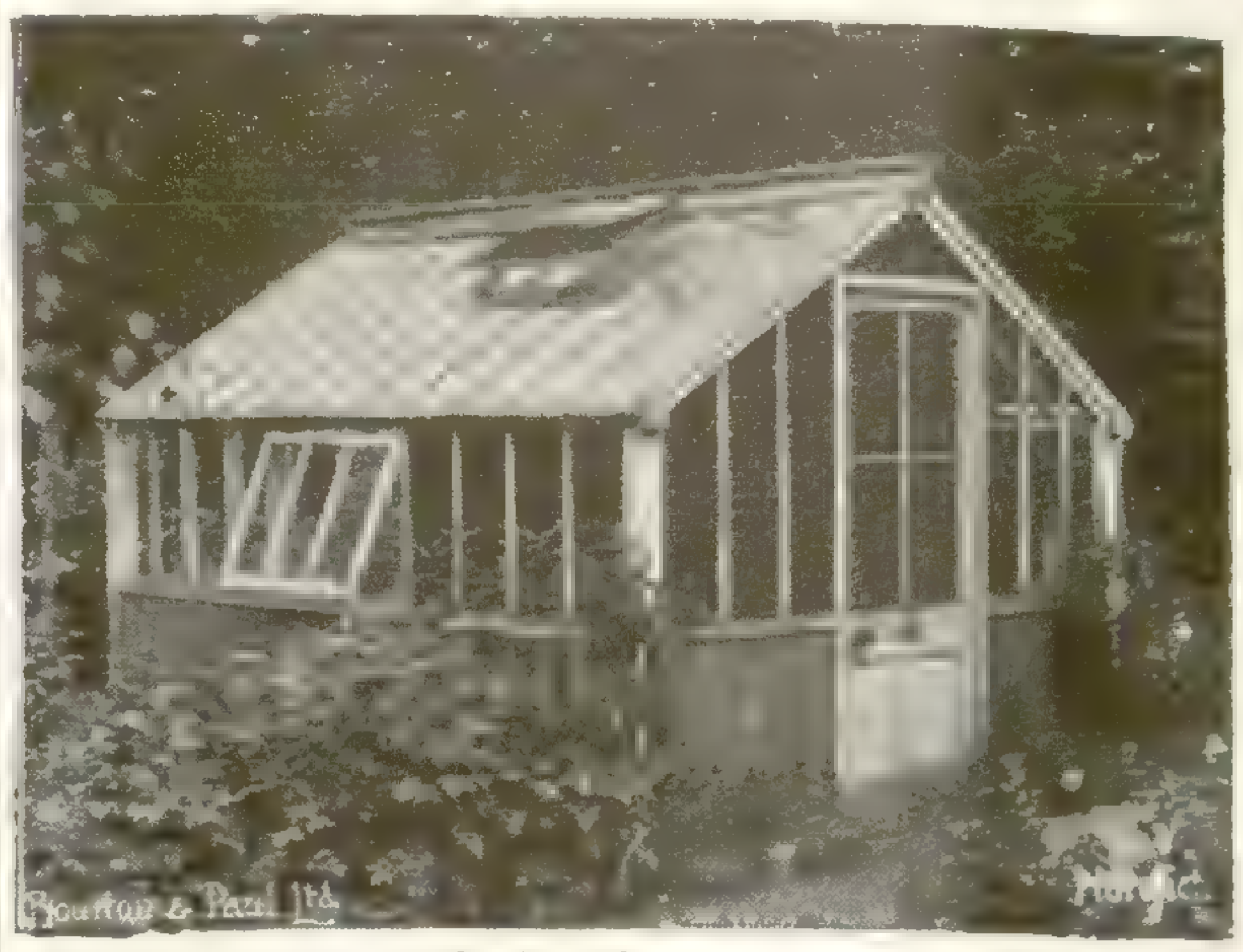

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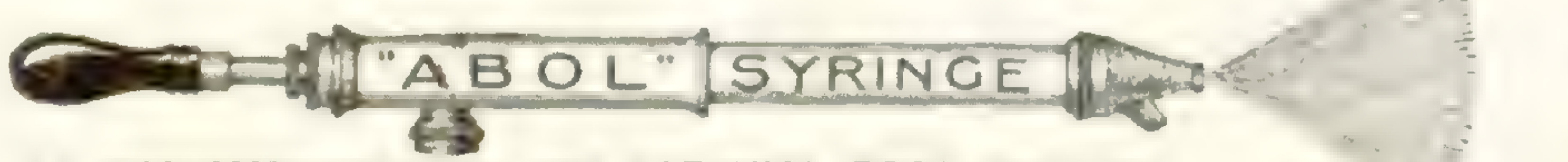

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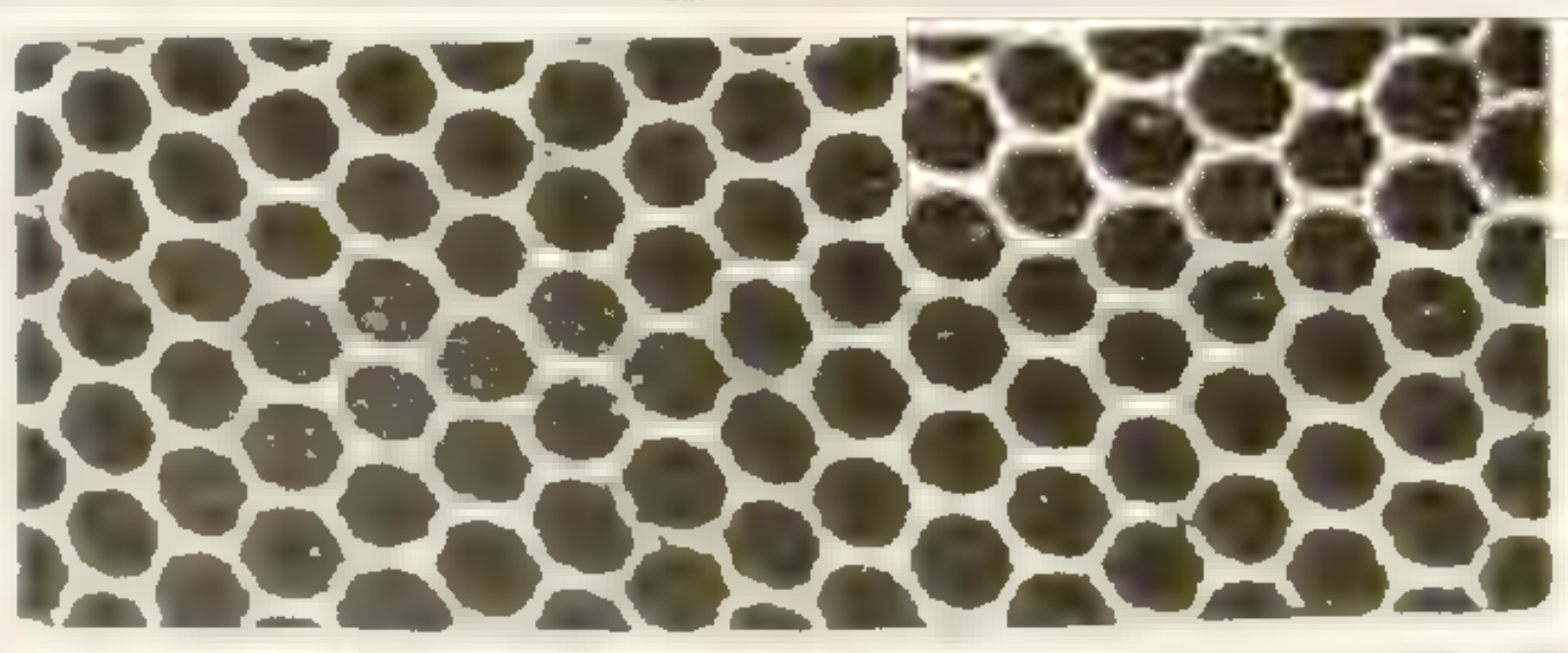

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NEW SINGLE ROSE MILKY WAY.

Every year the race of hybrid roses derived from Rosa Wichuraiana increases, and though double varieties like Dorothy Perkins and Lady Gay are well able to hold their own, raisers have not forgotten the grace and beauty of single roses. Hiawatha holds a prominent position among single varieties that show in a marked degree the influence of R. Wichuraiana, and the brilliance of its blooms appeals to most lovers of roses. Jersey Beauty, a single white variety, had some popularity, but has not "caught on" like Hiawatha. There is, however, a newcomer that bids fair to fill up the gap and provide a single Wichuraiana rose with an abundance of pure white flowers. This is Milky Way, a new seedling raised by Messrs. William Paul and Son, Waltham Cross; it far surpasses R. Wichuraiana and Jersey Beauty, and bears its lovely white blossoms in large elegant panicles, the pure whiteness of the flowers being enhanced by the large central cluster of golden stamens. There is a lightness about Milky Way that is sure to obtain for it a host of lovers. As a pot plant for flowering in the conservatory or winter garden during late spring it is peculiarly beautiful, and it is really wonderful what large and lovely pillar specimens, branching and flowering in a most graceful fashion, can be produced in comparatively small pots. As a pillar plant or as a weeping standard on a tall stem Milky Way will be found most useful.

GENISTA VIRGATA.

This is one of the few shrubs from Madeira which is perfectly hardy in England, whilst it is one of the most ornamental of the larger-growing brooms. Under natural conditions it attains a height of from 12 to 15 feet, with a considerable spread. It is of upright habit, and plentifully clothed with tiny leaves, which are rather more than half an inch long. The flowers are golden, and borne with great freedom during June. It possesses the peculiarity of being equally well suited for a position exposed to full sun, and also for planting in semi-shade. in fact there are few large growing flowering shrubs which are better suited for thin woodland. Planted along the margins of a woodland path it has a charming effect, the rich golden blossoms showing up finely amongst the dark trunks in the vicinity. It is also very suitable for planting in poor sandy ground. that is if quite young plants are put in, for, like other brooms, large examples are difficult to establish even in the best of soil and under the best possible conditions. In some situations it naturalises itself readily, particularly where the seeds can fall on to loose earth which is comparatively free from grass and coarse weeds. Seeds sown in pots or boxes germinate in a fortnight, and there is no difficulty in raising a stock of plants quickly.

D.

The Lyon Rose.—No one who has a rose garden can afford to be without a few plants of this variety. The colour, shrimp-pink near the ends of the petals deepening to a rich salmon suffused with yellow near the centre of the blooms, is distinct, and highly attractive. It is a grand variety for exhibition, and, in my opinion, surpassed by few for decorative purposes. In a cut state in vases, especially in masses, the effect is charming. The blooms are well-formed and very fragrant. Generous treatment of the plants brings good crops of blossoms.—G. B.

HARDY BORDER FLOWERS OF JULY.

Wherever hardy plants are grown in quantity, the highest point in floral beauty will be reached in July, and if rock plants are specialised, the entire month will be one gay floral pageant. It is interesting and instructive to examine the character and composition of the border flowers of July, disregarding for the present those subjects constituting the alpine section.

The opening days of the month are rich with the over-flush of June. Delphiniums, irises, and herbaceous pæonies are hastening toward their setting. The "Japanese" section of iris may be accepted as the July contribution from this important genus. Iris aurea, I. gigantea, and their hybrids are also flowers of the month, all of them being partial to wet ground, so that it is the moisture-loving section that pay their floral tribute last. Liliums are typical, though not exclusively July flowers; L. umbellatum, L. Hansoni, L. croceum, L. Chalcedonicum, L. pardalinum, and L. testaceum all bloom within the month, and all are characterised by sterling merit and great freedom of flowering, while their cultural requirements are not difficult to satisfy. Lilium Chalcedonicum, Lychnis Chalcedonica, and some forms of potentilla supply scarlet flowers to replace the Oriental poppies in the colour scheme. Crimson flowers are represented by Centranthus coccineus, a fine form of an old garden flower; Monarda Didyma, when represented by the Cambridge Scarlet variety; Heuchera sanguinea splendens, and Spiræa palmata. The red flowers of Chelone obliqua are best used only with low-toned colours, and will always gain in effect if the white form is sparingly planted with the type. Pink flowers are found in Astilbe chinensis, A. Queen Alexandra, and A. New Rose, and in the pretty mallow-flowered Sidalcea Listeri.

Scarlet flowers gain in intensity when used against white, the latter predominating in quantity. Crimson may be evenly balanced with white, and gain in effect, but with dull red flowers white must be sparingly used. Flowers of a crude yellow harmonise best with orange; they sometimes yield pleasing contrasts when associated with those of a coppery or maroon shade. During July the deepest yellows are obtained in Coreopsis grandiflora, Helenium pumilum, Linaria dalmatica, verbascums, gaillardias, hemerocallis, and senecios; the three last-named yield perfect harmonies of colour within themselves, so that no difficulty need be experienced in leading up to or away from them. Copper-orange flowers attain a high degree of beauty when used with medium yellow; such

NEW SINGLE ROSE MILKY WAY.
A Wichuraiana variety, pure white with golden stamens.

flowers occur in Helenium cupreum and some forms of potentilla.

A scheme of blue is carried forward from June with Phlox canadensis Laphami and Viola cornuta purpurea, the former a fine shade of lavender, the latter a purple-violet flower. Almost the same shades are obtained in campanula, and this great genus contains the intermediate shades also. The deepest colours obtain in C. glomerata dahurica, a free-flowering subject, with violet flowers, in umbel-like heads, and two-feet stems; C. latifolia macrantha is much taller, with pendulous, purple-violet flowers; C. Van Houttii, violet-blue, and C. latifolia Boughalti, satin-lilac, have each pendulous flowers of a large size, while their beauty is also of a high order. Campanula persicifolia grandiflora gives many shades of lavender to deepest blue, and is altogether one of our most prodigal July flowers. Campanula lactiflora is a giant, when established, towering to a height of seven feet, with a panicle of small bells in proportionate breadth. Eryngiums yield shades of blue that are not found elsewhere, and the rich glistening blue of highly-tempered steel is much enhanced by the delicately cut bracteate leaves. Funkia ovata yields lilac flowers, and may be associated with Scabiosa caucasica and Galega Hartlandi, the latter the brightest and tallest of the trio. Lavender Munstead Dwarf readily finds a place in the July border, not only for the violet blue of its flowers, but also for their rich fragrance.

White flowers are abundant in July, the forms of Chrysanthemum maximum being most conspicuous; Galega officinalis alba, Clematis recta, various spiræas, and the beautiful and free-blooming lathyrus, The Pearl, are representative of the tallest section. Dwarf kinds occur in Gillenia trifoliata, gypsophilas, Salvia argentea, and the dwarf hybrid astilbes. Grey-leaved plants form an important group of border subjects, as they yield many pleasing harmonies when associated with warm purples, lemon, or greenish-yellow flowers, the grey tones are quiet and restful after high-toned colours. When viewed in this aspect, the common rue gains in importance, the leaves being a fine shade of blue-green; Salvia argentea and S. turkestanica produce large entire leaves of a woolly grey-green tone; Santolina incana is silver-grey, and Cineraria maritima is the brightest silver of all.

Thomas Smith.

Walmsgate Gardens.

Fabiana imbricata.—Never have I seen this heath-like evergreen shrub flowering so profusely as this season. Plants growing at the foot of a south wall have been one mass of pure white blossoms. It is strange that we do not see more plants of this in gardens than we do, considering how easily it is propagated from cuttings inserted in a cold frame in September, and how vigorously it grows in sandy soil at the foot of a south wall. In the open it will thrive in most seasons, but it does not flower so profusely owing to a want of that maturity which is easily attained against a wall.—E. M.

Hardy Ferns.—For a shaded border in London I know of nothing to equal some of our hardy ferns. I have tried many things, but the ferns give the most satisfaction. For this purpose, free growing rather than rare kinds should be chosen. The male and lady ferns, with their more vigorous varieties, are the best. Heavily-crested kinds should be avoided. As these ferns need an ample supply of water, and the neighbouring walls keep off much of the rain, it is a mistake to plant them on an elevated imitation of rockwork, as on the level they are far more easily kept moist.—W. T.

AMONG THE ALPINE FLOWERS.

> "All the seasons run their race
> In this quiet resting place."
> —Austin Dobson.

To the lover of alpine flowers this race of the seasons runs all too swiftly. It looks but yesterday since we welcomed with joy the first of the flowers; now 'tis past Midsummer day of the calendar, and we seem to be rushing through the year with a speed appropriate to the swiftness of the world outside the garden's bounds. Day by day fresh flowers come to greet us, and day by day some favourite bids us a pathetic farewell for the year. And so the days move swiftly and our flowers come into bloom and pass from our sight. We mourn their departure, while we yet feel that much of the enjoyment of our gardens consists in this constant change, rapid though it be. We would not like to have the snowdrop, the saxifrage, or the sun rose with us for twelve months together, and for another twelve, and so on while life lasted. No! 'tis better as it is; and so we turn to look at the latest beauty while losing no love for that which is passing away. Let us glance for a few minutes at some of these favourites of ours.

The Alpine Poppy.

Some of the larger poppies are splendid on the larger rock gardens, where properly placed, but in every one the little Alpine Poppy, Papaver alpinum, may well have its place. It is one which is easily raised from seeds, and which has all the beauty of flower and leaf of the Iceland Poppy, Papaver nudicaule, but with even more grace and gem-like beauty, because of its miniature size. To the mere scanner of the alpine flowers it makes but a faint appeal. Its daintily-carved leaves, with their indefinable charm of tender green, will be passed by without heed by the lover of gay colouring, while the exquisite little flowers of yellow, white, or orange-scarlet, will be almost despised by the gardener who is attached to the gorgeous glow of the great Oriental poppies. But the alpine lover will note keenly and enjoyably the delicate form of the foliage, the charm of the crinkling silk-like texture of the little flowers, and all their shapeliness as they open on the slopes of the rock garden. Truly dainty little plants are these. Only a few inches do they rise above the soil, and their beauty consists in their neatness, their charm of colouring, and their innate grace.

This little alpine poppy is best raised from seeds, a few of which scattered about the place where it is required to grow will give much finer plants than those raised in boxes or pots and planted out. Like other poppies, it moves with difficulty when full-grown. As for its duration of life, one can only say that it often flowers itself to death and proves an annual, while at times one has known plants survive for a year or two. A little bare space about the plants, or a pod of seeds saved and sown, will generally serve to afford to us a succession for many years of young plants of the alpine poppy, with all their grace and charm.

Codonopsis ovata.

We sadly need a new coinage of English names for plants of recent introduction, such as the codonopsis. Deplore it as we may, and regret it as we should do, we find that the average lover of flowers hates the Latin name, and prefers to call the flowers he loves by some popular one. Only those who are much with the amateur can tell how the scientific names retard and even absolutely bar the introduction of new plants into the garden. The codonopsis is worthy of a far more frequent place in the garden than it enjoys, and I am bold enough to think that it would become a greater favourite were one able to popularise its name by giving it a new one. But the absence of this should not prevent us from admiring the codonopsis, and although it is most commonly cultivated as a border flower, it is prettier on the rock-work than in the border. Planted in a nook it will hang its flowers all the one way, and will look prettier than when they are in more disordered array. It looks exquisite there with its pretty foliage, and its foot-high stems bearing such charming, bell-shaped flowers of faintest blue, all deeply veined.

To the mere passer-by its aspect is pleasing, but its real beauty is only revealed to him who will "mark, learn, and inwardly digest." Pretty is the exterior of these shapely flowers, with their blue-tinged substance and the prettily-reflexed green calyces; but turn up the flower and study its interior, and then! The palest blue of the exterior is still there, but the veins are deeper coloured; there is a narrow band of purplish-brown almost midway in the bell. Towards the base we see a yellow zone, and at the very base itself there lies a circle of black-brown. Ranged round the base are the anthers, while the white stigma projects into the bell as if it only awaited the addition of the clapper to ring out the music of the flowers. This may seem fantastic, but let those who own this codonopsis study it as I have done this morning, and they will admit that no effort of the imagination has been needed to read into the codonopsis all these beauties. It has a defect (and what flower has not?) This is the curious coffee-like odour of the flowers, an odour not perceived unless the flower is close to the nasal organ.

And this Codonopsis ovata is easily grown in ordinary soil. Himalayan though it is, it is happy in our British gardens, needing nothing beyond the ordinary care of other rock and border flowers.

Azalea rosæflora.

We should, I believe, call this exquisite little shrub by the long name of Rhododendron indicum balsaminæflorum, but I fear correctness is in this case more honoured in the breach than the observance, and the Rose-flowered Azalea will come more acceptably to the mind of the grower than the cumbrous one which is scientifically correct. Space will not admit of much detail regarding it, but it is sure to commend itself to all who try it on the rockery, especially near the base, where we can look down upon its neat dark-green leaves, and its full, double salmon-rose flowers. These last a while in bloom, but will be past in the South, generally opening in the end of May or the beginning of June, and lasting a long time in flower. In partial shade it continues longer than in full sun.

Other Flowers.

And what a wealth of flowers as yet! Saxifrages, with their endless variety, are not over yet, and we have sheets and spires of various kinds. Sun roses are all aglow in the warm sunlight. Some of the cytisuses or brooms, and genistas are past and gone, but others are in flower or are yet to come. One of the prettiest now is the Arrow Gorse (Genista sagittalis), a sheet of trailing yellow. There are erinuses, thrifts, campanulas, geraniums, and erodiums, violas of many hues, rose species, cerastiums, and a host of other things, more or less beautiful, but all combining to give true delight to him who loves his flowers. S. Arnott.

SWEET PEAS AND MENDELISM.

(Concluded from page 509.)

When a plant is impure as to two characteristics (such a plant would be produced by crossing parents differing in two respects), the case is somewhat more complicated. Let us consider a plant impure as to both tallness and dwarfness and creamness and whiteness of flower. Tall and dwarf gametes are, of course, produced in equal numbers, and we find that half the tall gametes bear the factor for creamness and half the factor for whiteness. The dwarf gametes are also produced cream and white in equal numbers. In the progeny, then, we have one-quarter of the plants pure for tallness, but of these only one-quarter are pure for whiteness, one-quarter are pure for creamness, and one-half are impure as to whiteness and creamness. In every 16 plants produced in the F2 generation we therefore find one pure white dwarf, one pure white tall, one pure cream dwarf, and one pure cream tall plant. The remaining 12 plants are all impure, either as to height or colour, or both. Further, of the 16 plants, 12 are tall, and of these 12, three-quarters, i.e., nine, are white, whiteness being dominant. These nine tall white plants include the one pure plant, but it is necessary to grow the seeds from each separately in order to find out which it is. The eight impure plants will prove their impurity by producing cream or dwarf progeny, and half of them will produce both creams and dwarfs.

In a simiar manner we could trace the behaviour of plants impure in three or more respects, but this is hardly necessary here. It must be pointed out, however, that in an impure plant, the more its dual natures differ, in a much greater proportion will the ratio of impure to pure plants in its progeny increase.

We can now see why, in crosses between different varieties of sweet peas, plants showing recessive characteristics are produced in smaller numbers than are these showing dominant characteristics, but are much easier to fix. We also see why cream and white varieties are less sportive than are coloured varieties, and why maroons and lavenders are so difficult, oftentimes, to fix.

When we remember that a raiser sometimes sows separately the seeds obtained from sixty or seventy plants, and then finds that only one strain, perhaps, comes true, and that the others are all valueless, we can understand why some novelties are so expensive. One very successful raiser, Miss Hemus, tells me that she has sometimes grown over one hundred separate plant cultures of the same variety, and not infrequently had to throw them all away. It is only by practical breeding that one can realise how great, and oftentimes unexpected, are the difficulties and complexities, and how frequent are the disappointments, caused by numerous allelomorphisms. We can all understand, however, that at least to some growers, there is a great temptation to dispose of impure stocks. That such a temptation is sometimes yielded to is abundantly evidenced by the presence of so many unfixed stocks of sweet peas on the market—due to no other cause.

That impure stocks are annually rogued (i.e., the plants differing from the desired type are not allowed to seed) is quite true, but, although roguing, in a decade, may improve an unfixed stock, it is practically valueless as regards fixing it, for it allows the seeds of impure as well as pure plants to be saved together, and the former will always spoil the crop in the following year.

Some varieties, such as Audrey Crier and Olive Ruffell, appear to be unfixable, and it is possible that they are impure varieties having no corresponding pure form. Mr. Bateson describes the case of a cross between the two white varieties, Emily Henderson and Sadie Burpee, yielding in the F2 generation over 30 per cent. of plants of a purple bi-colour, which were by their very nature impossible to fix from this cross. That two white plants should give a coloured progeny is due to the fact that each of the plants bore one of two factors which, when alone, did not show their presence, but which when both present in the same plant, gave the colour to the flowers. The same cause may lead to a cross between a cream and a white variety giving a coloured result.

It will be noticed that Mendelism disproves the old theories that fixity is merely a matter of time, and that a variety must be expected to sport during the first few years of its existence. Pure plants will always be produced in the F2 generation, and such plants will necessarily continue pure. The only way in which fixity could be said to be a matter of time is that the grower, among the F2 generation, might not be fortunate enough to hit upon a pure plant, owing to his not growing enough plants. In such a case, he might very likely be more fortunate in the next year. As soon as one pure plant has been obtained, it is merely a question of increasing it.

Possibly the statement that a pure strain remains pure, i.e., that a stock that comes true in one year will remain fixed in succeeding years, will not be accepted by all. Some claim that, especially in the case of varieties of the Spencer type, insects or other agencies lead to cross-fertilisation. This certainly may occur sometimes, but our chief scientists and practical growers unite in the belief that, neither in California or at home, is accidental cross-fertilisation common enough to be worth considering. Another occurrence too rare to be regarded in this respect is mutation.

Insect agency and the liability of fixed stocks to split up are, of course, frequently urged by some seedsmen as reasons for the impurity of stocks that they had previously known to be untrue, but there are, without doubt, some who honestly believe in these as causes of unfixity, and there are two facts that lend a little credence to their opinion. As is well known, many varieties are only "nearly" fixed, and annually give a small percentage of rogues, due probably to the meeting of complementary factors, which, when present alone, do not show their existence. It is obvious that in a large number of packets some will contain more than their fair share of rogues, while others will be without them. It is merely a matter of chance. It has been shown also that in impure strains, seed saved from individual plants, and more especially from individual pods, sometimes give results departing from the numerical expectation. In such cases, however, when seeds are saved from a number of plants and mixed together, the aberrations are equalised.

Beyond these two facts, which cannot account for much in the way of unfixity, there is no doubt that any grower who finds his plants not coming true is perfectly justified in assuming that they are from seeds saved from impure stocks. That fixed stocks continue fixed is perfectly recognised by our largest and most expert growers, and they have no hesitation in guaranteeing certain of their stocks to come true, nor are their guarantees belied. In the case of unfixed stocks, also, our most expert growers can tell very accurately, from their knowledge as to in what respects their strains are unfixed, not only what the rogues will be, but in what proportion each will be produced.

It would be an easy and pleasant task to enlarge this article, but those who wish to study Mendelism further should read Mr. Bateson's recent book, "Mendel's Principles of Heredity." This contains many pages dealing with sweet peas, and, in addition, some excellent coloured plates.

G. F. Drayson.

FOXGLOVES.

Bring orchis, bring the foxglove spire,
The little speedwell's darling blue,
Deep tulips dashed with fiery dew,
Laburnums, dropping wells of fire.
—Tennyson (In Memoriam).

Both the English and the Latin names of this, one of the stateliest of our British wild flowers, have a similar, if not the same, meaning, for the former is undoubtedly a corruption of folk's glove, and the latter (digitalis) is derived from digitus, a finger, or, according to some, digitale, the finger of a glove. It has the specific name purpurea because of the colour of the wild form usually found, but a white variety, known as D. p. alba, is occasionally found also, and it is from these doubtless that the various shades of cream, red, purple, and rose have been obtained. The yellow foxglove met with in gardens is a different species, D. ambigua (syn. grandiflora), and usually requires cultivation, instead of being treated as a wilding like the varieties of D. purpurea.

It is in the matter of selection of varieties that the foxglove needs some attention rather than in the rearing of the plants. Once a stock has been obtained they may be safely left to seed themselves in shrubbery and woodland, though they will repay the thinning out of the seedlings by the handsome spikes of blossom obtained from well-grown plants, sometimes half a dozen or more to the plant. Not that they are unworthy of a place in the hardy flower border, though, perhaps, it is not good economy of garden space to give them good positions when they will grow in very dry places, and do fairly well. The effect, however, of one or two large clumps of the best varieties at the back of a border amongst other tall plants, say, in front of the shrubs, if the background is a shrubbery, is so fine that the border would have to be of very high excellence indeed if we could grudge the space for them.

Beautiful though the wild variety may be in its native habitat, we can do better in our gardens and shrubberies by obtaining a good strain of the large-flowered varieties, sometimes called D. p. gloxiniæflora, the throat markings on the large flowers giving them a resemblance to gloxinias. Afterwards, by letting only the best varieties seed themselves, a good selection can be kept, but to do this means cutting back the spikes of those we do not wish to seed before they have finished flowering, as the seed pods from the blossoms lower down the stalk are ready to burst long before the top of the spike has finished flowering. This, however, serves a double purpose, as the side shoots come so much finer than they otherwise would do. It is in fact not a bad plan to cut down all the flower spikes when they begin to get shabby for the sake of the successional flowering shoots. If left to themselves a very few years is sufficient to ensure a majority of plants resembling the wild form.

Alger Petts.

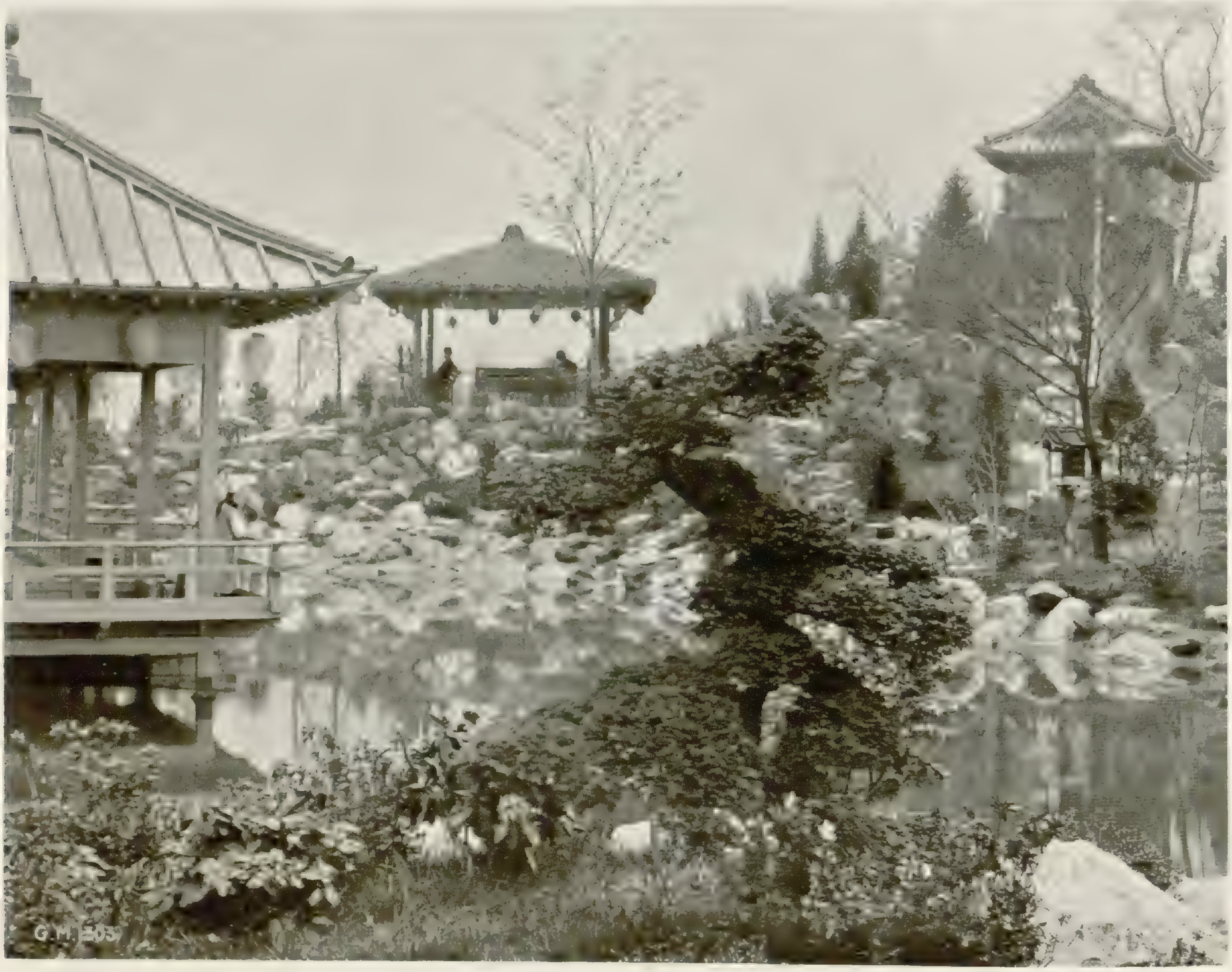
JAPANESE GARDENING.

The recent visit of the President and Council of the Royal Horticultural Society to the Japan-British Exhibition, and the awards of silver cups they have made to the makers of the two Japanese gardens, and the Japanese exhibitors of various horticultural products, have created some additional interest in Japanese gardening. The present time is therefore opportune for making a more detailed reference to the two gardens that so admirably represent Japanese taste and skill in garden design and construction, and contribute so largely to the manifold attractions at the White City. Lest there be any misapprehension upon the point we would mention that we have not been waiting for something to occur that would arouse additional interest in these gardens before giving a short description of them. What we have waited for has been a sufficient development of the growth of the trees, shrubs, and plants to enable us to have photographs taken that would give our readers an adequate idea of their distinctive character and great beauty, and do justice to the achievement of those by whom they have been designed and constructed. We have now the pleasure of giving two illustrations, one of each garden, which portray aspects of great beauty, and in the course of the season we hope to illustrate other features. Both gardens have been designed by Mr. Keijiro Ozawa, of Tokyo, who may be heartily congratulated on the taste he has evinced, and they have both been constructed by Mr. Hannosuke Izawa, also of Tokyo, who, in carrying out the designs, has given ample proof of skill of a high order.

The two gardens differ considerably in style, and also in the appeal they make to the artistic perceptions, and, if one is regarded as possessing a greater charm than the other, the additional beauty is due more to environment than to a superiority of design. There are, as we have already stated, two distinct gardens, one known as "The Garden of Peace," and the other as "The Garden of Floating Islands." The first-mentioned of these is on the southern side of the Court of Honour, and is enclosed on the north side by the walls of stately buildings and tall, finely-branched elms, and on the south side and at the western end are skilfully devised scenic mountains, which, for the most part, have their sides or tops clothed with round-headed pines and other trees indigenous to Japan. These, with the walls of the buildings and the elms, completely shut out the garden from the outer world; and thus the visitor is able to enjoy its manifold charms without being constantly reminded of the strenuous endeavour and rush, with the attendant anxieties, of everyday life. The title that has been given this garden, although most appropriate, is evidently liable to be misunderstood. "This," said a lady to her companion, when passing us while we were looking round, "is not a cemetery as I thought it was." "A cemetery!" replied the companion, "what gave you that idea?" The answer was quickly forthcoming. "It is called 'The Garden of Peace,' and where do we find peace except it be in a cemetery?" So much for the difference in the views held with regard to this point. But it may be that the lady had not had the opportunity that we, in common with our readers, have had of fully realising the refreshment of mind and body that is to be obtained by those who love flowers from a pleasantly-situated and well-kept garden.

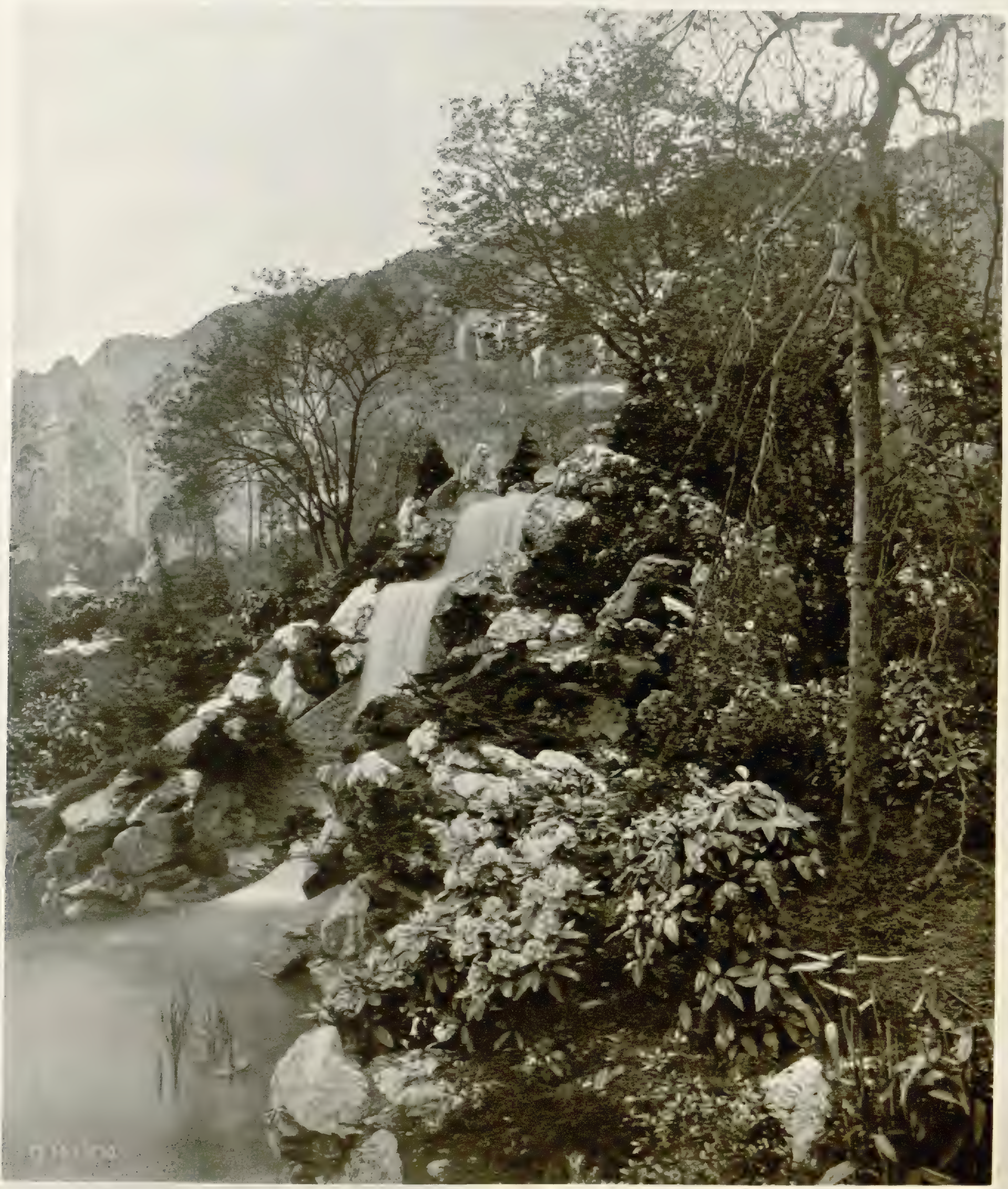
Along the south side and at the foot of the scenic mountains, low hills of varying height raise their heads, and, running the whole length of the garden, is a walk some five or six feet in width, flanked on the southern or mountainous side by small groups of birch and other elegant trees, and on the north side there are two broad walks which are separated by the line of elm trees, and a breadth of lawn with various trees and shrubs arranged thereon. The greater area of the walks on the north side is due to the fact that, owing to the proximity of some of the more important buildings, practically all the visitors pass along that side, whereas those only who make the circuit of the garden take the south walk.

The area between the north and south walks is, for the most part, occupied by a long winding lake, varying from about twenty to forty feet in width, and, as a matter of course, is more or less irregular



[Photo: A. E. Walsham.

JAPANESE GARDENING.
View in the Garden of the Floating Islands at the Japan-British Exhibition.



[Photo: A. E. Walsham.

JAPANESE GARDENING.

The Waterfall in the Garden of Peace at the Japan-British Exhibition.

in outline, and embellished with islets, tea-houses, lanterns, and the various forms of arborescent and other vegetation that find favour in Japanese gardens. The margin is formed with blocks of a crystalline rock of moderate size, and it is a point of some practical importance to mention that the rock is carried down below the water level and the blocks set in a bed of cement. Consequently, no soil is exposed at the sides above the water level, and the difficulty that is frequently experienced in keeping the lake watertight when puddled clay is used is wholly avoided. As pointed out in these pages by contributors experienced in the making of lakes and ponds, when the sides are formed with clay they are liable to crack during dry weather, and when this happens, much loss of water results. The rock, as might be expected, is naturally arranged; here it forms a belt just sufficient to keep the banks in place, yonder it rises and forms low mounds, and now and again may be seen comparatively large blocks cropping up among the shrubs that form so admirable a setting to the glistening water.

About midway the lake narrows, and a small islet has been formed, and this is connected with the mainland on either side by stepping-stones that are of large size and well above the water. Conspicuous on this islet among a few shrubs is a specimen of a cypress that is one of the finest examples of the dwarfing process that finds favour with Japanese cultivators. The tree, which is between six and seven feet in height, has been less severely restricted in growth than many of the dwarfed trees that have come under our notice, but the characteristic form has been fully maintained. The lake has been described as being surrounded by a border planted with trees and shrubs; and to those who take a superficial glance at the water and its surroundings, the area planted may appear to be a continuous border. But this is not the case, and neither Japanese nor British planters experienced in such work would make the mistake of surrounding an ornamental sheet of water with a continuous border. The trees and shrubs occupy a series of spaces that vary much in shape and size, and are separated by turf that extends to the waterside. A short distance westward the lake is again crossed, and this time by a substantial wooden bridge of characteristic design, and not far distant therefrom is a tea-house of handsome elevation, both contributing their full share to the general effect.

At the more prominent points on the margin of the lake are well-developed specimens of such coniferous trees as Sciadopitys verticillata, Retinospora obtusa aurea, and green cypresses in variety. The first-named, which is one of the most distinct of the coniferous trees introduced from Japan, is represented in surprising numbers. The procumbent form of what is commonly known as the Chinese juniper (Juniperus chinensis), is freely used for trailing over the rocks on the margin of the water and elsewhere, with good effect. The presence of this juniper in a garden representative of Japanese ideas is fully justified, for the specific form grows naturally, not in China, as its name suggests, but on the mountains of Central Japan, and it has been cultivated by the Japanese for several centuries. Prominent among the shrubs that fringe the lake are such well-known subjects as mollis and other azaleas, the holly-leaved osmanthus, green and variegated aucubas, and rhododendrons. A touch of colour is given here and there by the more brightly-coloured forms of the Japanese maples, and the charms of the garden are further enhanced by various weeping trees, which, it need hardly be said, are planted in positions specially suited to the display of their graceful outlines. At the western end of the lake is the rushing waterfall, which adds immensely to the charm of the scene, as will be seen from the illustration given herewith. Immediately beyond the waterfall is a pergola, over which the beautiful Wistaria multijuga is trained and making good growth.

The second of the two gardens is situated some distance from "The Garden of Peace," and occupies a prominent position in the western part of the exhibition grounds. The prominence of the site of "The Garden of the Floating Islands" is a disadvantage, for the environment is not what could be described as restful, and buildings of various kinds meet the eye when making a survey. The design of this garden comprises a broad lake with irregular margin, and having an island that is large in size and of bold character. The margin of the lake, as in the case of the garden previously described, is formed with rock embedded in cement, and is fringed with trees and shrubs such as have been already mentioned. Beyond this fringe are broad walks and breadths of turf on which cypresses and other coniferous trees are in association with deciduous trees and evergreen shrubs tastefully disposed. At intervals among the trees and shrubs are placed tea-houses, that serve the purpose of adding to the attractions of the garden and afford rest and shelter to visitors. The island, with its rocky promontory, is reached by means of a stone bridge of a design that is essentially Japanese, and on the island are bold masses of rock and grassy slopes. Arranged on the grass are specimens of Sciadopitys verticillata, weeping trees, and other choice subjects, and planted freely among the rocks is the dwarf-growing azalea, bearing salmon-red flowers, that is so freely used in both gardens. On the south side one of the Japanese maples, with crimson leafage, has been freely planted, and remarkably bright is the effect produced. There are also on this island tea and summer-houses and stone lanterns of varied designs, these and other accessories adding materially, as so admirably shown in the accompanying illustration, to the interest and attractiveness of the garden.

The illustrations herewith are from photographs by Mr. A. E. Walsham, 60, Doughty Street, W.C. G.

Turnips will require a good deal of attention at this time of year; sow in well-prepared ground in drills at a foot apart, thoroughly soaking the drills before sowing the seeds. Spray the seedlings regularly with soot water before the turnip flea becomes troublesome, and alternate this with weak sulphur water. Red Globe is an excellent variety to sow now, especially on ground which has been cropped with early potatoes.—G. Ellwood.

Lantanas.—The merits of lantanas as continuous flowering subjects, or for bedding, are, I think, not sufficiently recognised. There are many pretty varieties in cultivation, while seed from a good strain will give a considerable diversity in colour, as well as in habit. So prolific are they that in some parts of the tropics lantanas are very troublesome weeds. The most popular is Lantana salviæfolia, known generally in the parks, where it is often bedded out, as Lantana delicatissima. This has purplish-lilac flowers, at least in the open ground, but under glass it is somewhat paler. Of other varieties Incendie and Ne Plus Ultra may be mentioned as rich red or scarlet kinds, while two particularly dwarf forms suitable for edging are Drap d'Or, yellow; and Chelsea Gem, bright crimson.—W. T.

SOME GOOD TOMATOES.

The popularity of the tomato was never higher than at present; indeed, the consumption of these fruits extends every year. The reason for such a popularity is in itself somewhat singular, because, not so very many years ago, tomatoes were looked upon as of ornamental rather than utilitarian worth, and further, they were offensive to the palate of many people. It used to be commonly said it needed an acquired taste to enjoy tomatoes. Yet now, after a few years of persistent effort on the part of growers and retailers, tomatoes hold a high position in the fruit markets. From a trade and labour aspect this cannot be other than satisfactory, because a great community is dependent for a portion of the year on the growth and sale of tomatoes.

Though personally concerned in the growth and distribution of a goodly quantity each year, I have not as yet acquired a sufficiently critical palate to distinguish between varieties in the matter of flavour, so that no qualifying opinion is attempted on this point. That there is a difference in flavour everyone will readily admit, but, so far as my observations extend, this difference has not much importance or value in the market. To the man in the street quantities and external appearance appeal more strongly than flavour.

Long since it was conjectured that the limit was reached in stocks and varieties, yet there is still a keenness centred in a new name, especially when expert opinions are widely published in the gardening press. There is, however, much less desire among growers to cultivate stocks for the sake of name and numbers, and this is further emphasised when catalogues are reviewed. There is a distinct limitation in some of the leading seedsmen's lists, and instead of long lists of names they devote more space to expert opinion on sterling novelties, often representing their own special stocks; a course calculated to do the most good.

There is a great difference between the tomato of the past compared with the present. Many of the old-time tomatoes were productive of seeds; to-day the opposite is the prevailing rule. One grower who made careful calculations found that from ½ cwt. of fruit he could only get 7 ozs. of marketable seed, a clear indication of the fleshy nature of the modern tomato and corresponding gain to the purchasing community.

The craze for heavy fruits has gone; the pride of former days was a 3 lb. sample, and Sutton's Perfection was the champion weight carrier. I have reviewed crops on open walls attaining almost this weight in individual samples, but cannot quite clearly remember what the ultimate purpose of these monsters was. It is more than likely they found a place in the hog-tub or the waste heap. Many names which in their time gained fame and patronage have gone the way of all things, and their memory is almost obliterated; but, thanks to enterprise, new stocks arise accommodated to the passing taste. A tomato that has been much criticised and yet has gained a remarkable position in public favour is Carter's Sunrise, a fruit below medium size, but very solid and brightly coloured. It fruits freely, and is by no means exuberant in leaf growth. No doubt, its popularity has given it a place in the evolution of later stocks, but Sunrise is not destined to extinction yet. Balch's Fill-basket, of Scottish origin, has had a large following this year, and with us has a great resemblance to Sunrise in leaf and fruit characters. Many of the fruits, however, we find do not colour readily at the stalk. A splendid variety in every respect is Webbs' Emperor, a full or above medium-sized fruit, of deep colour, good constitution, and a heavy cropper. Dickson's Moneymaker has been on the market long enough to establish a good reputation, both for home use and exhibition purposes. Veitch's Invicta is a prodigious cropper, and equally distinct and useful is Veitch's Dwarf Red, bearing oval-shaped fruits of medium size, and well coloured. It is not so heavy cropping as the others named, but it has leaf characteristics distinct from them all. Sutton's Best of All has for some time been regarded as an ideal tomato. A1, which gives a deeper, oval-shaped fruit, is also popular.

There are many, both among trade and private growers, who from year to year make selections and crosses of their own, and grow them exclusively for their own purposes and demands, and among these we frequently find as good or better stocks than those represented by catalogue names. Many of these remain localised. Quite recently a particularly good house of plants, numbering several hundreds, and representing a strictly local cross, was inspected; the crop was such that many growers would clamour for it could it but be seen. To the owner it is simply known as Long Tom—a short name for a lofty plant.

W. Strugnell.

BORDERS UNDER STAGES.

In many conservatories and greenhouses the only available space for borders for climbing plants is under the stage. Furthermore, in not a few instances these borders are not properly constructed, but are entirely composed of the ordinary fibreless garden loam. In such circumstances justice is not done to the plants; they cannot be expected to prove highly satisfactory. There is a vast difference between such specimens and those well provided with a substantial rooting medium, top-dressed in due course, and generally well cared for. I have had a rather extensive experience of climbing plants growing in borders under stages, and have taken particular notice of plants so grown in many gardens in different parts of the country.

In one garden I had charge of for ten years I found climbing plants growing under stages nearly 200 feet in length. Some of the specimens were in fairly good condition, others were not strong, and, in fact, would soon have become worthless, and an eyesore. The constant drip from the watering of plants on the stages above had worn away the soil, souring the remainder, and laying bare many roots. The plants treated as climbers were jasminums, plumbagos, heliotropes, bougainvilleas, roses, and swainsonias. I at once removed as much sour surface soil as possible without unduly interfering with the roots of the plants, and in its place put fibrous loam and a quantity of old mortar rubble. Organic manures were not used, but stimulants were given later in the year, the top dressings being put on in spring.

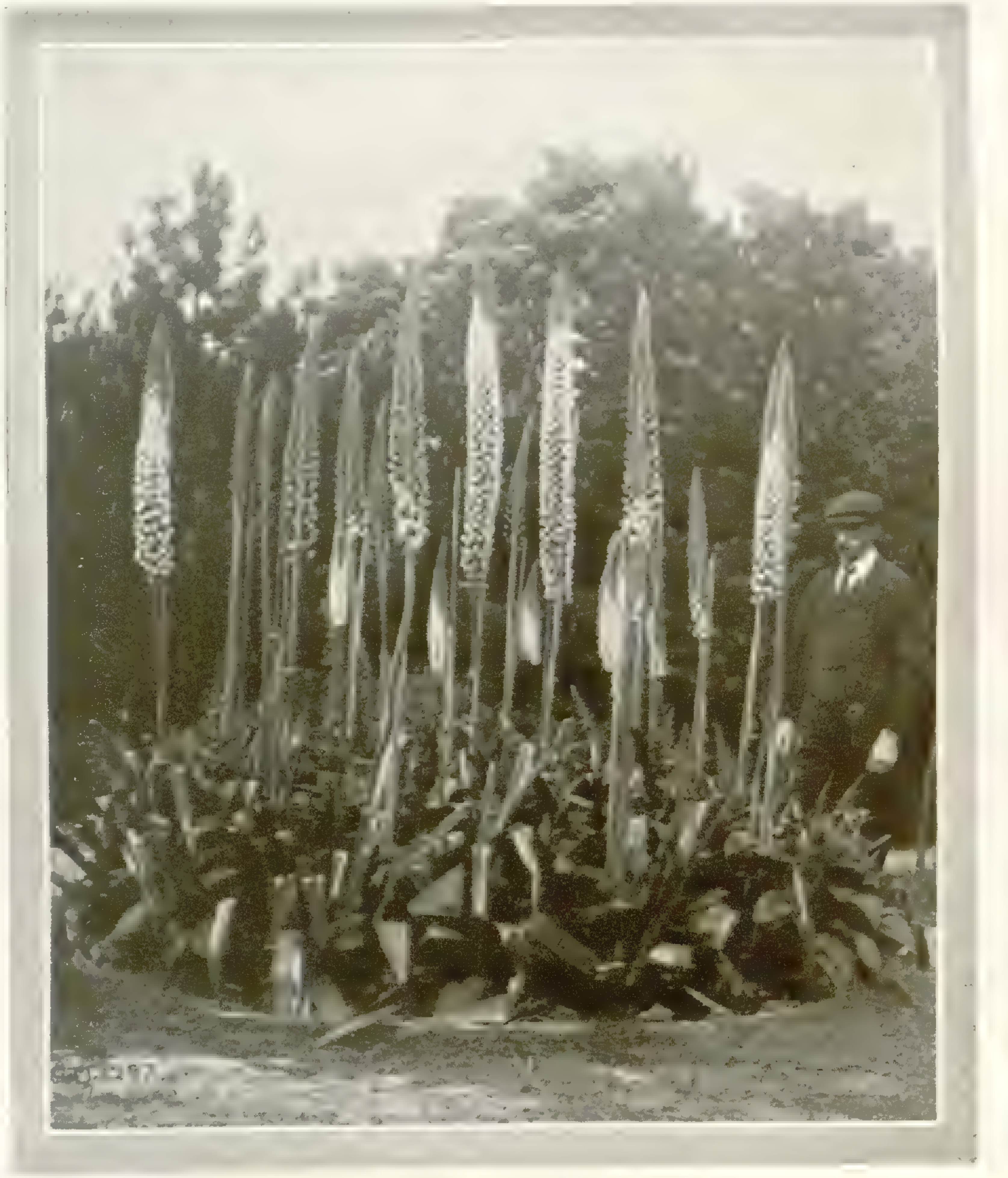
Very often surface mulches were applied in summer, and all the plants soon made healthy growth, and flowered freely.

G. B.

The Swamp Honeysuckle (Azalea viscosa).—When practically all the azaleas are over this is still in bloom, a feature which at once attracts attention. The flowers are somewhat honeysuckle-like in shape, hence the specific name, while their fragrance may be compared to that of this popular climber. In colour the flowers are white, or pinkish.—W. T.

EREMURI AT EASTBOURNE.

That eremuri do well at Eastbourne will be at once evident from an inspection of the accompanying illustration, which represents a fine bed of these stately flowers in the gardens of Mrs. Davies Gilbert, Manor House, Eastbourne. Mr. Chatfield, the gardener, informs us that the soil is very chalky, and so the site for the bed was excavated to a depth of three feet and a diameter of nine feet, and the space filled up with a mixture of top spit loam from the downs, leaf-mould, road grit, and rotten manure, using two barrow loads of each of the three latter ingredients to each cartload of loam. The compost was well mixed, and placed in position about a month before the eremurus bulbs were planted in the autumn of 1908. The bulbs were planted with their crowns about four or five inches below the soil level.



A FINE BED OF EREMURI AT MANOR HOUSE, EASTBOURNE.

Early every winter Mr. Chatfield gives the bed a good top dressing of loam, leaf-mould, and manure, and covers all over with long manure as a protection against frost. To guard against the depredations of slugs a novel method is adopted; round the bed is placed a trough, three inches deep, and this is kept filled with water. As the trough is sunk to the level of the surrounding grass, it is not unsightly. The bed is sheltered from strong winds by surrounding trees, but is open to the sunshine, and sunshine is necessary to ripen up the leaves and bulbs in the summer and autumn, and ensure fine spikes the following season. About a score or two dozen spikes are produced annually, and these range up to 9½ feet high. It it hardly necessary to say that such finely-developed specimens produce a striking effect.

The two specimens in the centre are E. Elwesi albus; the tall examples by which these are surrounded are E. Elwesi, and the shorter plants are E. himalaicus.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

ODONTOGLOSSUM GRANDE.—Although one of the oldest, and certainly one of the most desirable, of our autumn-flowering orchids, this is not so extensively cultivated as its merits deserve; in fact, prominent orchid collections are very few and far between where this and its allied species, O. Insleayi, are grown to any extent. But these species are more often found satisfactorily cultivated in an ordinary plant stove, in a garden where orchids are not cultivated to any extent. I am afraid it is another beautiful orchid that is being sacrificed on the altar of fashion. There is always one redeeming feature in this, however, and it is that as importations of these species are annually arriving in this country, and, not being included in the ruling fashion, amateurs with limited means reap the benefit by being enabled to purchase plants for the modest outlay of a few shillings. Although not requiring the conditions usually considered suitable for the ordinary stove or East Indian house, O. grande requires at all times a temperature about five degrees higher than that of the ordinary odontoglossum house. The intermediate house suits the species well, but to induce plants to flower satisfactorily it is desirable that only sufficient shade be used to prevent the foliage from being scorched at the present season of the year. They are in active growth, therefore ample light and abundance of root moisture are necessary, and a humid condition should be maintained. The flower scapes make their appearance with the young growth, just at the period when the new pseudo-bulb is being formed, and they develop and flower before the pseudo-bulb completes its growth, so that liberal treatment should be afforded until the pseudo-bulb is completed.

POTTING.—Where they can be grown in shallow pans or baskets suspended near the roof glass there is little difficulty found in successfully flowering the plants. Any repotting necessary is best attended to when the new roots make their appearance, or are in full growth; this is usually found to be immediately after the plants have flowered. No great depth of potting compost is necessary, but there must be ample drainage. The compost selected should be of a lasting nature, for, like most of the fleshy-leaved orchids, the plants take a prolonged rest; and even when exposed to the full rays of the sun during the winter and early spring months, it is surprising the small amount of root moisture they need to keep the leaves and pseudo-bulbs plump. During the growing season the young growths and flower spikes are liable to become infested with green-fly and thrips, but if the plants are sprayed with some safe insecticide at regular intervals there is little difficulty in keeping these pests in check.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

ROSES IN POTS.—Plants intended for early forcing should now be placed out of doors in a position fully exposed to the sun, where they will ripen their shoots. As soon as they have ceased to make growth water should be very sparingly applied. About the middle of September they may be pruned, removed from their pots, have a portion of the old soil removed, and be repotted in good rich loam, to which, if very heavy, some lime rubble and crushed bones should be added. After repotting place the plants in an unheated frame, giving them a good watering at once, and keeping them rather dry afterwards until removed indoors.

HYDRANGEAS.—Young plants of Hydrangea hortensis that produce single heads of flower are the most useful for forcing. A stock of cuttings should now be inserted, and for this purpose short-jointed strong shoots which have not flowered should be selected; if these are fairly matured they will root readily in a cool frame, but if they are soft they should be placed on a mild hotbed. Larger plants capable of producing five and six heads of flowers may be obtained by growing these small plants on after they have flowered, and encouraging them to grow freely. When growth is completed give the plants all the air possible, so as to thoroughly mature their shoots.

LILIUMS. — As the earlier flowering batches of these plants come into bloom they should be placed in a cool house, where they will keep in flower longer than in a close warm atmosphere. Any top dressings necessary for the later batches should now be applied, and a stake put to each as required. A selection of the very latest plants should be made, and placed out of doors in a cool corner, and sheltered from strong winds. These will furnish flowers late in autumn.

HARD-WOODED PLANTS, such as epacris, libonias, camellias, acacias, etc., in pots and tubs should all be placed out of doors at this season of the year. Their foliage can then be kept clean easily, and the plants will be healthier and hardier when the time comes round for housing them.

SCHIZANTHUS.—Young seedlings should be potted off singly to succeed earlier batches; use rather sandy soil, and place them in a cool frame near the glass; shade from bright sunshine. A further sowing should be made now for late flowering.

MALMAISON CARNATIONS. — Plants that flowered some time ago and have stood out of doors to harden their growth will now be ready for layering. A selection of the best balanced plants, and with from seven to nine growths on each, should be made for potting into larger pots to flower early in the year. Layering should be done in low frames, and at intervals, so as not to have all the layers ready for potting at once. When a frame has been filled a good watering will be necessary to settle the soil around each layer, afterwards closing the frames for a few days, shading from very bright sunshine, and damping overhead morning and evening. In the course of a few weeks roots will be formed, and then plenty of air should be given.

CLIMBING PLANTS in greenhouse or conservatory will now be growing freely, and their growth must be regulated at intervals. Early-flowering kinds will require a severe pruning. The old heliotrope makes a fine pillar plant, and will stand pruning at any time. Habrothamnuses should be pruned hard back after flowering.—W. Staward, Belford Hall Gardens.

THE FLOWER GARDEN.

TUBS AND VASES in the vicinity of the flower garden or shrubbery should be kept, if possible, full of flowers, and scrupulously neat and tidy. Blooms past their best should be promptly removed, not only for appearance sake, but that a continuance of bloom may be assured. It is a point worth noting that in the making up of tubs and vases annually only good sturdy plants that have been thoroughly hardened should be used, and new soil is essential, and in such the plants grow away quickly and soon furnish the places allotted to them. In connection with this class of flower gardening, and, in fact, with pot plants in general, that are used for grouping purposes in the flower garden, as the pots or vases become filled with roots some stimulant must be given to keep the growth healthy. Liquid cow manure, to which a little soot has been added, will afford a staying power suited to the class of plants usually employed, with a minimum of danger in its application as compared with artificial manures.

VIOLAS that are being held in reserve for propagating purposes should be kept thoroughly moist at the roots to assist the plants in throwing up cuttings for striking at an early date; in fact, preparations might now be made for these, and the frames or beds prepared at any time. If possible, it is well to give these the benefit of a frame, however rough, as the cuttings can be easily shaded, if, as often happens, the weather should be hot and bright for any length of time while propagation is in progress. A light, rich compost should be used, and after having been made firm a layer of clean silver sand should be spread over the surface so that when the cuttings are dibbled in a portion of sand will be in contact with the base of each cutting, and so hasten the formation of roots. A thorough watering should be given immediately the cuttings have been inserted, keeping the frame close until signs of growth are visible; during hot weather a spraying overhead will greatly aid in keeping the cuttings fresh, but this must not be overdone, or damping will follow. The varieties now in commerce are so numerous that it is exceedingly difficult to recommend any particular one or more, although experience teaches us that some succeed in certain localities better than others. The selection should, in consequence, be left to each person's individual taste and opinion, but it is scarcely advisable to grow a great number of varieties unless these are required for exhibition purposes, as a much better effect can be obtained by growing a reliable variety of each colour required, and a consequent less risk in mixing.

POLYANTHUSES, OXLIPS, and similar plants raised from seed during the spring should receive unremitting attention. Many of these may yet be pricked off, and be in time for making good plants for autumn planting, but most of them are now making good headway; if growing in boxes ample waterings should be given, for on no account must they become dry at the roots, or premature flowering will ensue, and a correspondingly weakened crown for spring flowering result.—W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

STRAWBERRIES. — Exceptionally fine crops of strawberries are general in this locality, but owing to the heavy showers of rain we have had during the past few days scores of berries have rotted before ripening; all such should be removed as the work of gathering proceeds, or otherwise this trouble will continue, the decayed berries being in close contact with the sound ones. Preparations should now be made for putting layers into three-inch pots to provide good strong plants for making new plantations early next autumn. The pots should be filled with a compost of two-thirds good heavy loam and one-third well decayed manure; when the runners have developed two plants the points should be cut off, and as soon as the plants are large enough they should be pegged down to the soil in the centre of the pots, using small birch or hazel pegs for this purpose. The method which we adopt here is to put out a sufficient number of plants solely for the purpose of supplying layers, both for forcing and new plantations; this is found to be advantageous, as the work is facilitated, the fruiting plants not being interfered with. Some plants of the late varieties here have had a slight attack of red spider, and to combat this pest it has been necessary to dust the leaves while damp with flowers of sulphur, and frequently syringe them with clean water applied forcibly with the garden engine. Applications of weak liquid manure will be found beneficial to late-fruiting varieties, taking care when applying it not to wet the fruits; at the same time see that there is plenty of straw underneath the berries, so that when ripe they will be in a good clean condition for dessert or market purposes. All runners that develop on plants that are to be kept for fruiting next year should be nipped off as soon as they make their appearance; this will materially strengthen the crowns, and also be a great saving of labour when plantations have to be cleaned after the fruit is gathered.

APPLES AND PEARS.—The thinning of these fruits can be proceeded with as soon as it can be ascertained beyond doubt that they are swelling freely. Unfortunately the work will not prove an arduous task in this locality this season, many varieties of pears growing in the open quarters in the gardens here are almost an absolute failure, owing to the severe frosts and cold winds which we experienced on three consecutive nights early in May, when the trees were in full bloom. Some varieties, both in the open quarters and upon walls, have set heavy crops, and thinning will have to be resorted to to obtain good fruits for table use; varieties of apples such as Lord Grosvenor, Lord Suffield, Keswick Codlin, Cox's Orange Pippin, and many others have set heavy crops, and severe thinning will be required. Trees that are carrying heavy crops of fruit against warm walls should be given copious supplies of clean water, and occasionally liquid manure to assist the swelling fruit, also trees growing in the open quarters carrying heavy crops of fruit should receive the same amount of attention in this respect.

AMERICAN BLIGHT.—I have observed in many places that this has already become a great source of trouble, especially amongst the orchard trees, and immediate steps should be taken to eradicate this pest. It is not so difficult to combat when found upon trees that are grown in the fruit garden proper, but when it attacks large orchard trees the difficulty is a serious one. We have found here that by spraying the trees in the winter months with caustic alkali solution no difficulty is experienced in eradicating this pest entirely. Where trees are affected with American blight the following solution can be used at this season of the year: Put four ounces of soft soap in one gallon of water, place on the fire, and allow it to boil, then add, while still boiling, half a pint of petroleum, and stir well for a few minutes; this should be allowed to cool, and then be applied to the affected parts with a stiff paint brush.—Henry R. Farmer, Cardiff Castle Gardens.

GRAPES AND HOW TO GROW THEM.—An illustrated guide to propagation, culture, and management in vineries, greenhouses, and in the open air. By J. Landell, F.R.H.S. Price 1s. net, by post 1s. 2d.; cloth, 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London

GREAT FLOWER SHOW AT HOLLAND PARK.

(Concluded from page 526.)

had good batches of gaillardias—giant flowers—Lilium Szovitazinum, Eremurus Bungei, etc.

The carnations shown by Mr. Charles Blick, Hayes, were greatly admired, especially the fancy and yellow ground varieties Melita, Dancocks, Pascal, Bonnie Bess, Hidalgo, Bohemia, and Linkman. Messrs. Barr and Sons, Covent Garden, were extensive exhibitors, and their array of hardy flowers contained many good things, notably Spiræa Peach Blossom, great spikes of Lilium giganteum, English irises, and delphiniums, Lilium elegans in variety, L. monadelphum, a fine set of varieties of Gladiolus Colvillei, and Salvia virgata nemorosa.

Superb tuberous begonias were set up in a fine bank by Messrs. Blackmore and Langdon, who have grand varieties in Lady Greenall, King Alfonso, Rose Queen, Mdme. Tetrazzini, Duchess of Cornwall, Mrs. J. Whalley, Mrs. W. L. Ainslie, the White Lady Dorrington, Mdme. Melba, and a delightful range of colouring in exquisitely frilled and fringed single varieties. The same firm had some excellent delphiniums. Messrs. J. Peed and Son, Norwood, contributed a fine strain of netted and shaded gloxinias.

Mr. A. E. Usher, gardener to Sir Randolf L. Baker, Bart., M.P., Ranston, Blandford, had a lovely exhibit of sweet peas, and showed splendid bunches of fine flowers of Lavender George Herbert, Earl Spencer, Doris Usher, Apple Blossom Spencer, Mrs. A. Ireland, George Stark, John Ingman, Clara Curtis, and The Marquis. Messrs. G. Bunyard and Co., Maidstone, displayed roses and hardy flowers advantageously, and were especially strong with English irises, pink spiræas, and a grand lot of delphiniums, including Rev. Lascelles, Media, Lady Conway, and Vitellus. Messrs. W. Cutbush and Son, Highgate, showed hardy flowers finely, and had a lovely lot of water lilies and moisture-loving plants. Messrs. G. and A. Clark, Dover, contributed some good sweet peas, a batch of the bright Gilia coronopifolia and a lovely display of hardy flowers and water lilies. Messrs. B. R. Cant and Sons, Colchester, had a very bright lot of cut roses, and showed their new white H.T. Lady de Bathe in good form among a lot of fine flowers of Mrs. Roosevelt, Captain Hayward, Lyon Rose, etc.

The carnations from Mr. H. Burnett, Guernsey, were greatly admired, and included lovely sets of Mrs. H. Burnett, Enchantress, Marmion, Fortuna, Aurora, and Mikado. Messrs. H. B. May and Sons, Edmonton, exhibited hardy ferns in great variety in one of the tents, and demonstrated the beauty of the finer forms of these useful and graceful plants. Messrs. J. Veitch and Sons had a miscellaneous display in the second largest tent, and here they grouped strepocarpuses in lovely form and great variety.

Mr. Maurice Prichard, Christchurch, had an iris garden, Iris Kæmpferi being well displayed around a pool of water-lilies. Moisture-loving spiræas, delphiniums in variety, irises of sorts, Hemerocallis aurantiaca, Isatis glauca, and other good things were included. Mr. H. Hemsley, Crawley, had a small rock garden, some shrubs and hardy ferns; and the Misses Hopkins, Shepperton, showed hardy flowers in rock garden fashion. Malmaison carnations—large, well-flowered plants—were contributed by Mr. G. Johnson, gardener to the Right Hon. Lord Burnham, Hall Barn, Beaconsfield, Bucks. Mr. Mallett, Cheddar, had fine batches of Lilium candidum, Campanula pulsilla, Dianthus granitens, alstromerias, erigerons, etc. Mr. James Douglas, Great Bookham, had a few fine carnations, notably Sam Weller, Nell Gwynne, Eros, Deloraine, and Elizabeth Shiffner, and some good seedling pinks. Mr. H. Pulham, Elsingham, contributed a collection of choice alpines arranged in a small rock garden.

Mr. G. Lange, Hampton, put up carnations in fine style, and had huge bunches of Mrs. Burnett, Mikado, Nelson Fisher, Autocrat, White Perfection, and Fair Maid. Messrs. E. W. King and Co., Coggeshall, had a fine lot of sweet peas, their Anglian Pink, Anglian Orange, The Marquis, Mrs. W. King, Constance Oliver, and Countess Spencer being very fine. Mr. W. J. Unwin, Histon, Cambs, had a very bright lot of sweet peas, that included Gladys Burt, Mrs. A. Ireland, Frank Dolby, Mrs. R. Hallam, Clara Curtis, Edna Unwin, Helen Lewis, and the showy Mrs. W. J. Unwin. Messrs. William Bull and Sons, Chelsea, sent pelargoniums, and Messrs. Paul and Son, Cheshunt, put up popular hardy flowers in quantity.

Mr. Prince, Oxford, had some lovely roses, and, as usual, showed tea and hybrid tea varieties in excellent condition and of very clear colouring. The sweet peas shown by Messrs. Kelway and Son, Langport, were very fresh and bright, and the firm had a large and gloriously beautiful exhibit of massive branching spikes of superb varieties of delphiniums, showing a great variety of blue and purple colouring. Messrs. H. Merryweather and Sons, Loughborough, showed roses in variety and of high quality. Messrs. W. Artindale and Son, Sheffield, showed violas in their usual fine style, putting up beautiful flowers in pretty fashion.

Mr. P. Le Cornu, Jersey, staged a few vases of his new hybrid tea, Mrs. P. le Cornu, a sweetly-scented and effectively-coloured variety. Hardy flowers from Messrs. B. Ladhams, Lim., Southampton, made a goodly display. Noteworthy were the pinks, which included Princess Christian, The King, Elsie, and Nellie, campanulas, scabiosus, and potentillas were the chief features of the exhibit. Sweet peas from Messrs. G. Stark and Son, Great Ryburgh, were really fine. The groups of colours included Maggie Stark, Clara Curtis, Tennant Spencer, Florence Wright, George Stark Improved, Mrs. C. W. Breadmore, Maroon Spencer, Nell Gwynne, and Mrs. Duncan, the whole being tastefully arranged with appropriate foliage.

From Messrs. Carter Page and Co., London Wall, came a pretty collection of zonal pelargoniums, violas, and cactus dahlias. The Guildford Hardy Plant Nursery had a display of hardy flowers arranged in a light fashion. The irises were a feature, as were also the delphiniums. Sedums in variety were flowering beautifully, while lupins, especially the roseus variety, were to be seen, with many other attractive flowers.

Miss Hemus, Upton-on-Severn, had a splendid display of sweet peas, arranged in vases, with a groundwork of suitable greenery. The peas themselves were of first-class quality, the most conspicuous being Crimson Paradise, Purple Paradise, Prince of Orange, Shawondasee, Paradise Apple Blossom, Charles Hemus, Elsie Herbert, and Paradise Peach Blossom. Violas from Messrs. Seagrave and Co., Sheffield, were an attractive feature. The flowers were arranged in shields, and gave a good idea of the general effect of the plant; while the front was occupied with the blooms in pans of water and sand, without any semblance of greenery, which detracted from their value. Sweet peas from Messrs. John K. King and Sons, Coggeshall, Essex, were really good, arranged in glass vases, and with appropriate setting. The flowers were beautifully bright in colour, and nicely arranged, the whole exhibit denoting good culture.

A pretty exhibit of ferns came from Mr. H. N. Ellison, West Bromwich, who had specimens chiefly of a decorative character, with several of the fancy-shaped davallias as a foreground. The same firm also exhibited cacti and variegated dracænas. Messrs. Bastock and Son, Moseley, Birmingham, presented a small though fine display of violas, the chief varieties being Moseley Perfection, Mary Burnie, Moseley Gem, Lady Knox, A. J. Bastock, and Purple Venus, though there were many others equally good in their various classes.

Mr. F. Lilley, Guernsey, had a splendid exhibit of early-flowering gladioli, which were effectively displayed in tall bamboo stands. The best varieties were General Scott, Queen Alexandra, Blushing Bride, Ardens, and Peach Blossom.

Messrs. Gunn and Sons, Oulton, Birmingham, had an exhibit of Viola cornuta purpurea, arranged in baskets, with the older forms of the type. A small group of carnations came from Mr. H. Lakeman, Thornton Heath, which included some good Malmaisons and border varieties.

Mr. Harry Dixon, Wandsworth Common, had a small but nice table of English irises. From Mr. A. F. Dutton, Iver, Bucks, came a glorious bank of carnations in vases, but, owing to an accident to the tent which necessitated a double covering of canvas, it placed Mr. Dutton in an unsatisfactory position as regards light.

From Mr. V. Phillips, Crofton Court, Orpington, gardener, Mr. T. Hobbs, came an

NEW STRAWBERRY LAXTON'S UTILITY.

A distinct variety, remarkable for its productiveness, and the rich colour and high flavour of its fruits; raised by Messrs. Laxton Brothers, Bedford, by whom it was exhibited at the Holland House Show.

exhibit of single petunias in five-inch pots, which were well grown and denoted a good strain. Mr. R. C. Notcutt, Woodbridge, sent a large and miscellaneous display of hardy flowers. The roses were the chief feature, containing as they did all the up-to-date varieties, with masses of lilies, delphiniums, gladioli, papavers, and alstromerias. Messrs. G. Gibson and Co., Leeming Bar, had a capital exhibit of hardy flowers, in which were noted the new hybrid verbascums, irises, pæonies, gaillardias, and roses. Messrs. Bees, Lim., Liverpool, staged some really interesting new primulas, which included P. Littoniana, a charming form, P. Bulleyana, and P. Beesiana. The whole attracted much attention. Messrs. Whitelegg and Page, The Nurseries, Chislehurst, had a large display of sweet peas, violas, and hardy plants. The latter had as a prominent feature Geum Mrs. J. Bradshaw, a very fine addition to the class. Messrs. T. S. Ware and Co., Lim., Feltham, presented a glorious display of hardy flowers. The delphiniums, phloxes, campanulas, irises, and a variety of other subjects all helped to make a fine exhibit, which was staged in a most tasteful manner. Messrs. Dobbie and Co., Edinburgh, had a beautiful exhibit of sweet peas arranged in tall columns, with vases as a groundwork. A few of the most conspicuous were Elsie Herbert, John Ingman, Senator Spencer, Yankee, Asta Ohn, Ivanhoe, Isabel Malcolm, and Earl Spencer.

Mr. Amos Perry, Hardy Plant Farm, Enfield, N., occupied an entire tent with delphiniums, which created quite an impression. The flowers were arranged in masses of colour, with winding paths between. The chief varieties were Amos Perry, Lizzie, Duke of Connaught, Carmen, Persimmon, and a charming collection of seedlings. The arrangement throughout was simply magnificent, and a more glorious exhibit of this flower has never been seen. The gold medal awarded was thoroughly deserved. From Mr. W. H. Page, Tangley Nurseries, Hampton, came a large exhibit of roses in pots, which were particularly well flowered, the centre being occupied with vases of carnations, while a few standard Dorothy Perkins were well finished with a groundwork of Lilium longiflorum.

Messrs. W. J. Godfrey and Sons, Exmouth, had a fine exhibit of decorative pelargoniums, some well-coloured amaranthus, campanulas, and violas, also a collection of sweet peas. Messrs. Alex. Dickson and Sons, Lim., Newtownards, sent a splendid exhibit of their new roses, which were arranged in bamboo stands. The most attractive were Mrs. Leonard Petrie, Theresa, Carine, Dorothy Page Roberts, Mrs. David Jardine, Countess of Ilchester, Mrs. Foley Hobbs, John Cuff, and Duchess of Wellington. The exhibit attracted much attention.

Hardy flowers from Mr. A. J. Harwood, St. Peter's Nursery, Colchester, were nicely arranged. The chief features were the Iris Kæmpferi, delphiniums, gaillardias, and spiræas. Mr. H. H. Crane, Highgate, presented a nice exhibit of violas, arranged in saucers and vases, the miniature type being especially admired. Messrs. F. Cant and Co., Colchester, had a fine exhibit of roses, which were considerably handicapped by the light. Nevertheless, the roses were simply charming, a few of the most conspicuous being Lyon, Countess of Gosford, Marquis de Sinety, Joseph Lowe, William Shean, and Mrs. Theodore Roosevelt. Messrs. Gunn and Sons, Oulton, exhibited some splendid phloxes in baskets and bamboo stands, creating quite a new feature at this show. Messrs. R. Sydenham, Lim., Birmingham, sent a fine collection of sweet peas, in which were noted Sunproof Crimson, Syeira Lee, Prince of Orange, Arthur Hipper, and Windlel. A goodly display of carnations arranged in bamboo stands, came from Mr. E. J. Johnston, gardener to Mr. A. T. Paskett, Burrs Wood, Groombridge, Kent. The best examples were White Perfection, Beacon, Fair Maid, Mikado, and Victory, the whole being well arranged with asparagus and ferns. The same exhibitor also staged a splendid bank of sweet peas, which were well grown and nicely staged.

Messrs. Sutton and Sons, Reading, occupied one side of a tent with an exhibit of sweet peas, which were staged in magnificent style, and which included about 150 varieties. The centre of the pathway was arched, and covered with smilax and pillars of sweet peas in colour combinations; while the opposite side of the tent was filled with about 60 varieties of culinary peas, all being in magnificent form The Hon. Vicary Gibbs, Elstree, Herts (gardener, Mr. E. Beckett), had an attractive table of sweet-scented pelargoniums. Most of the plants were of decorative size and well flowered. A most interesting exhibit.

From Messrs. R. and G. Cuthbert, Southgate, came a fine exhibit of greenhouse and decorative plants. The groups of liliums, roses, hydrangeas, lightly arranged with Humea elegans, while the whole was edged with dwarf white marguerites and clusters of verbenas.

Messrs. Sander and Sons, St. Albans, had a splendid display of their new marguerite, Mrs. F. Sander, which created so much interest at the Temple Show.

A glorious group of carnations came from Mr. C. F. Raphael, Porters Park, Shenley (gardener, Mr. A. Grubb). The plants were splendidly grown, and the group greatly admired. The massing of the colours was most effective.

From Messrs. J. Cheal and Sons, Crawley, came a beautiful exhibit of natural rockwork, on which were displayed a goodly variety of suitable plants.

A fine exhibit of roses from the King's Acre Nurseries, Lim., Hereford, arrested attention, the decorative varieties being very fine. From Messrs. J. Peed and Son, West Norwood, came a large exhibit of carnations and caladiums, the latter being especially good.

From Messrs. G. Jackman and Son, Woking, came some splendid specimens of clematises, all beautifully flowered; also a fine display of decorative roses and hardy flowers. Messrs. W. Artindale and Sons, Sheffield, contributed a large display of hardy flowers arranged most naturally, the whole producing a fine effect.

From Mr. A. Young, Scotch Hardy Plant Farm, Elgin, came an effective display of hardy flowers, which were nicely arranged.

FRUIT COMMITTEE.

Messrs. T. Rivers and Son, Sawbridgeworth, put up one of their superb displays of fruit trees in pots. Every tree carried a big crop of fruits, and the peaches, nectarines, and plums were very fine and tempting. The new Thomas Rivers peach was excellent, and such varieties as Albatross, Nectarine, and Sea Eagle were fine. Cherries were grand, and the picked fruits of Early Rivers, Emperor Francis, Reine Hortense, and Bigarreau Noir de Schmidt were as big as many plums. Foster's Seedling and Goadiska grapes were also well represented, and assisted to complete this display of orchard house cultivation.

Mr. G. Camp, gardener to S. Heilbut, Esq., The Lodge, Holyport, Maidenhead, brought up about a dozen wonderfully fine specimens of cherry trees in pots, and every one carried a magnificent crop of splendid fruits; Bigarreau Noir de Schmidt, Bohemian Black Bigarreau, Montreux de Mezel, and Emperor Francis, were the varieties staged, and they commanded the admiration of everyone.

Mr. William Poupart, Fernleigh Orchards, Twickenham, had a capital display of bottled fruits, which were remarkable alike for their perfect colour and excellent condition; not a fruit appeared to be broken.

From the Duke of Portland, K.G., Welbeck Abbey, Worksop (gardener, Mr. J. Gibson), came a splendid collection of fruit most artistically arranged with foliage and coloured greenery. Melons and grapes formed the background, while splendid dishes of peaches and nectarines attracted much attention. The grapes included Muscat of Alexandria, Alnwick Seedling, and Black Hamburgh, with splendid examples of Early Rivers nectarines, Dymond peaches, cherries, figs, and strawberries, to say nothing of the melons and cherries; the whole excited the greatest amount of attention from the visitors.

From Lord Llangattock (gardener, Mr. T. Coomber), Monmouth, came a collection of pineapples and strawberries. The former were represented by twenty-five examples of The Queen, while the most conspicuous of the strawberries were Bedford Champion, Givon's Late Prolific, The Cropper, Trafalgar, Waterloo, and Reward.

Mr. Leopold de Rothschild, Gunnersbury House, Acton (gardener, Mr. James Hudson), presented a handsome display of fruit arranged in boxes. Cherries formed the chief part of the exhibit, and included fine examples of Early Rivers, Bigarreau Napoleon, Black Circassian, Emperor Francis, and Bigarreau de Schreken, while plums, peaches, and nectarines were staged in splendid form.

A nice collection of fruit came from Mr. E. S. Hanbury, Poles, Ware (gardener, Mr. T. W. Church). The peaches and nectarines call for special comment, being good in size and colour, the greenery employed being most appropriate.

The Misses Le Lacheur and Sherris, Henfield, Sussex, displayed some well-grown and coloured melons, which gave evidence of promise.

From the King's Acre Nurseries, Lim., Hereford, came a splendid collection of cordon gooseberries, plums, cherries, grapes, peaches, and strawberries in pots. A beautifully-arranged collection of vegetables came from Mr. A. Grubb, in which the potatoes, cucumbers, cauliflowers, and salads were exceptionally good.

A collection of fruit from the Marquis of Salisbury, Hatfield House (gardener, Mr. H. Prime , excited much admiration, especially the strawberries, which were unusually large and well-finished. The peaches and nectarines were also good.

A magnificent display of vegetables from the Hon. Vicary Gibbs (gardener, Mr. E. Beckett) attracted much attention. The arrangement was a great surprise to the general public. The masses of peas, marrows, celery, turnips, cabbages, carrots, and beet, arranged as a background, were simply superb; while the beans, potatoes, tomatoes, and mushrooms arranged in front created a great impression.

Messrs. Laxton Brothers, Bedford, had a splendid display of strawberries in baskets. The chief varieties were The Laxton, their new Utility, herewith illustrated, Rival, Connoisseur, Profit, and Count. The whole were in splendid condition, and attracted much attention.

OUTDOOR EXHIBITS.

Messrs. W. Fromow and Son, Chiswick, W., had a big and artistic display of Japanese maples and hydrangeas. Mr. James Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, displayed a fine collection of terrace plants grown in tubs. There were huge myrtles, pomegranates, lemon-scented verbenas, great fan-shaped scented-leaved pelargoniums, 10ft. or 12ft. across, and big pyramids of other pelargoniums. Messrs. Paul and Son, Cheshunt, had a few choice shrubs, including the variegated Catalpa speciosa pulverulenta and the newer philadelphuses.

Messrs. James Carter and Co., High Holborn, had a Japanese garden charmingly arranged with a pool of water-lilies spanned by a stone bridge. There was a miniature waterfall, a hydrangea bank, and groups of waterside irises, and the inevitable stone lanterns. In a small tent the firm had dwarfed trees in great variety, rambling roses, and a brilliant exhibit of gloxinias, sweet peas, tuberous begonias, Queen May petunias, and well-grown streptocarpuses. Messrs. J. Waterer and Sons, Bagshot, showed choice evergreen and deciduous shrubs in variety, hollies being a feature. Messrs. J. Cheal and Son, Crawley, had a delightful old English garden, with pergolas, verandahs, garden arbours and seats, flagged paths, rose-clad trellises, and borders of hardy flowers. There were also clipped trees of many sorts and shapes. Messrs. James Veitch and Sons had an outside display of hydrangeas, Lilium speciosum in variety, clematises, cytisuses, variegated ivies, and other choice shrubs.

Messrs. W. Cutbush and Sons' "cut bushes" were again a feature, and there was a great assortment of chairs, tables, dogs, spirals, pyramids, and weather-vanes in box and yew. Phloxes were again superbly shown by Messrs. Forbes, Hawick, who had Mrs. Oliver, Mount Sully, Aurora, Marchioness of Linlithgow, Pierre Bayle, Mrs. Daring, and Alex Michel in good form. With these there were excellent spikes of pentstemons and delphiniums. Mr. Clarence Elliott, Stevenage, put up a rock garden, and filled it with alpines in great variety.

HORTICULTURAL SUNDRIES.

It would have been difficult to mention anything deserving the name of "garden requisite" that was not represented on the stands occupied by Messrs. W. Wood and Sons, Lim., Wood Green, N. From samples of soils and labels to the latest patents in the way of labour-saving appliances, and from ordinary bone-meal to specially compounded fertilisers for certain crops, the exhibit was thoroughly representative of the manifold necessities and aids to successful gardening. The firm also had an exhibit of very artistic garden furniture, sunblinds, and portable shelters. Messrs. Wakeley Bros., Lim., Bankside, S.E., had samples of their well-known hop manure, which, according to testimonials displayed, has found great favour with leading gardeners and exhibitors as a food for fruits, vegetables, and flowers.

Messrs. Reddaways, Lim., 212, Shaftesbury Avenue, exhibited both plain and armoured hose of first-rate quality, with a large variety of jets, couplings, reels, etc. The Reddaway Fire Extinguishers, some of which are adaptable for spraying purposes, were also shown. Messrs. Saunders and Biss, Exeter, exhibited a very interesting model demonstrating their zinc bar dry glazing, as adapted for conservatories and greenhouses, and also for verandahs, skylights, and corridors. The special advantages consist in dispensing with the necessity for either paint or putty, and the prevention of drip from condensation. The Alpha Extinguisher, Lim., put up a whole range of their excellent spraying machines, with a variety of nozzles and other attachments, by the aid of which the operator can spray anything from the frailest flower to the tallest tree.

Messrs. W. Herbert and Co., Hop Exchange, S.E., showed all kinds of garden sundries. Messrs. Corry and Co., Lim., put up Lethorion vapour cones, Niquas insecticide, and a number of chemical preparations for various uses. Messrs. Pearce and Co., Holloway Road, N., had a smart little span-roofed greenhouse eminently suitable for an amateur. A series of photographs of larger houses were displayed, as evidence of good work done by the firm. The Temple heating apparatus and other stoves were exhibited by Messrs. Fenlon and Son, Tudor Street, E.C. A dwarf boiler was shown specially designed for heating frames as used in French gardening, and Fenlon's Ephaness heater was also on view. Teak wood seats came from Messrs. B. Maggs and Co., Bristol. Messrs. Wm. Duncan Tucker and Sons, Lim., Tottenham, showed models of greenhouses and frames. Hammocks and garden tents came from Messrs. C. and W. Buswell, Victoria Works, Torquay. The hammocks were built on a folding steel frame, and a green unshrinkable awning afforded effective shelter from sun.

Messrs. Jeyes, Lim., exhibited their Cyllin soft soap, and a spraying machine called Jeyes' Horticultural Sprayer, which is fitted with screens and nozzles that defy corrosion or stopping of the jet. Mr. Fred G. Wood, Walworth Road, S.E., had table vases and various aids to floral decoration, as well as labels, stakes, and other requisites. Garden tubs, both varnished and painted, were shown by Mr. T. J. Elwin, 22, Weaver Street, London, E. The popular water cans known as Hawes' Patent were shown by the patentee in sizes from about half a pint to three gallons. The B. K. Porcelain Tallies, which have already been described in our pages as of great merit, were shown by Tallies, Lim., St. Paul's, Bristol. The Doulton garden vases and ornaments exhibited by the Royal Doulton Potteries, Lim., Lambeth, included some very artistic designs. The Patent Safety Ladder Company, Peterborough, showed extension ladders which, being adjustable to any height, are excellent for fruit gathering and other garden work. The Rural Table decorations were shown, tastefully decorated with sweet peas, by Mr. J. Williams, 4, Oxford Road, Ealing.

Messrs. W. Walters and Co., Croydon, showed rose pillars, arches, and trellis. The new cult frame heater and various styles of stoves for greenhouses, came from Messrs. C. Toope and Son, High Street, Stepney. Messrs. De Luzy Freres, Camberwell, brought knapsack sprayers, sulphur distributors, and powder bellows. A large number of garden syringes and small sprayers came from Messrs. Benton and Stone, "Enots," Birmingham. A good syringe was one fitted with a rose that can be made to give either a coarse or fine spray or jet by simply turning the syringe in the hand. The pneumatic principle is adopted in almost all the firm's sprayers. Pots, bowls, and all manner of sundries were exhibited by Messrs. D. Dowell and Son, Ravenscroft Avenue, Hammersmith. Messrs. Pradal and Co., 18, Windmill Street, London, W., showed tree tubs with movable sides, facilitating attention to drainage or transference of the tree without damage to the roots.

Visitors were much interested in the display of coloured illustrations and photographic reproductions of flowers and plants arranged on the GARDENERS' MAGAZINE stand, where a series of books on botanical and horticultural subjects were also open for inspection. Rustic garden furniture was shown by Mr. G. W. Riley, Herne Hill. Butler's Patent Garden Frame, with glazed sides as well as roof, was shown by Messrs. C. Butler and Co., Peterborough. Samples of fibrous loam were exhibited by Mr. M. Johnston, New Park, Cranleigh, Guildford. Flower baskets and useful receptacles for garden products were brought by the Meath Home of Comfort for Epileptic Women and Girls, Godalming.

Tubs for shrubs in fine polished oak were shown, their designed manufacture being sufficiently artistic to render them admissible to conservatory, verandah, or even the rooms of the dwelling.

OFFICIAL LIST OF AWARDS.

Gold Medal.—The Duke of Portland, Welbeck Abbey, Worksop (gardener, Mr. J. Gibson), for fruit; Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gardener, Mr. Collier), for orchids; Hon. Vicary Gibbs, Aldenham House, Elstree (gardener, Mr. Beckett), for fruit and vegetables; Leopold de Rothschild, Esq., Gunnersbury House, Acton (gardener, Mr. J. Hudson), for terrace plants; Messrs. James Carter and Co., High Holborn, W.C., for Japanese garden; Messrs. W. Cutbush and Son, Highgate, N., for carnations, etc.; Messrs. H. B. May and Sons, Upper Edmonton, for flowering plants and exotic ferns; Messrs. Paul and Son, Cheshunt, for roses; Messrs. Wm. Paul and Son, Waltham Cross, for roses; Mr. Amos Perry, Enfield, N., for delphiniums; Messrs. Rivers and Son, Sawbridgeworth, for fruit trees in pots; Mr. L. R Russell, Richmond, Surrey, for ivies and water lilies; Messrs. Sander and Sons, St. Albans, for orchids; Messrs. Sutton and Sons, Reading, for sweet peas and culinary peas; and Messrs. J. Veitch and Sons, Chelsea, S.W., for stove and foliage plants, etc.; and Messrs. R. Wallace and Co., Kilnfield Gardens, Colchester, for streamside and paved garden.

Silver Cups.—To Sir Randolph Baker, Bart., Blandford (Mr. Usher), for sweet peas; the Marquis of Salisbury, Hatfield (gardener, Mr. Prime), for fruit; the Rt. Hon. Lord Llangattock (gardener, Mr. Coomber), for pine apples and strawberries; T. C. Raphael, Esq., for carnations and vegetables; S. Heilbut, Esq., for fruit trees in pots; Messrs. W. Cutbush and Son, for shrubs and herbaceous plants; Messrs. J. Veitch and Sons, for carnations and flowering plants; Messrs. S. Low and Co., for orchids, carnations, roses, and berries; Messrs. Barr and Sons, for pigmy trees, iris, gladioli, herbaceous plants, etc.; Messrs. G. Jackman and Son, for roses, herbaceous plants, and clematis; Messrs. T. S. Ware, Lim., for begonias, alpines, and herbaceous plants; Messrs. Blackmore and Langdon, for begonias and delphiniums; Messrs. G. and A. Clark, Lim., for herbaceous plants and hardy flowers; Messrs. Fromow and Sons, for Japanese maples and hardy plants; Messrs. G. Bunyard and Co., for herbaceous plants; Messrs. B. R. Cant and Sons, for roses; Messrs. A. Dickson and Sons, Lim., for roses; Messrs. D. Russell and Son, for hardy trees and shrubs; Messrs. Dobbie and Co., for sweet peas; Miss H. Hemus, for sweet peas; Mr. H. Burnett, for carnations; Messrs. Charlesworth and Co., for orchids; Messrs. Hugh Dickson, for roses; Messrs. Mansell and Hatcher, Lim., for orchids; Mr. Maurice Prichard, for water garden; and Messrs. J. Cheal and Sons, for pergola group.

Silver-Gilt Hogg.—Leopold de Rothschild, for fruits; Messrs. Laxton Bros., for strawberries.

Silver-Gilt Flora Medal.—E. J. Johnstone, Esq., Groomsbridge (gardener, Mr. Paskett), for sweet peas and carnations; Messrs. G. Paul and Son, for hardy shrubs and herbaceous plants; Messrs. W. Artindale and Son, for hardy plants, violas, etc.; Messrs. J. Cheal and Sons, for pergola group and alpines; Messrs. J. Peed and Son, for caladiums, gloxinias, etc.; Messrs. Hobbies, Lim., for roses; Messrs. F. Cant and Co., for roses; Mr. A. F. Dutton, for carnations; Mr. Frank Lilley, for hardy gladioli: Mr. G. Lange, for carnations; and Messrs. R. and G. Cuthbert, for flowering plants.

Silver-Gilt Knightian.—Mr. W. Poupart, jun., for bottled fruits.

Silver Flora Medal.— Messrs. L. R. Russell, for stove and greenhouse plants; the Hon. Vicary Gibbs, Elstree (gardener, Mr. Beckett), for pelargoniums; Lord Burnham, for carnations; H. S. Goodson, Esq., for orchids (odontoglossums); Messrs. S. Bide and Sons, for sweet peas; Mr. C. W. Breadmore, for sweet peas; Mr. C. Engelman, for carnations; Messrs. Forbes, Hawick, Lim., for phloxes, pansies, etc.; Messrs. R. Harkness and Co., for roses; Mr. H. Hemsley, for alpine and rock garden; Misses K. and C. Hopkins, for herbaceous and alpine garden; Messrs. E. W. King and Co., for sweet peas; Miss W. J. Unwin, for sweet peas; Messrs. J. Waterer and Sons, for evergreens; Messrs. Whitelegg and Page, for herbaceous plants; Messrs. Carter Page and Co., for dahlias, pelargoniums, and violas; Mr. H. H. Crane, for violas and violettas; Messrs. Gunn and Sons, for phloxes; Messrs. B. Ladhams, Lim., for perennials, etc; Mr. H. Newman Ellison, for exotic ferns; Messrs. W. Wood and Sons, Lim., for pergola; Messrs. C. and W. Buswell, for garden tents, etc.; The Four Oaks Company, for sprayers, etc.; and Mr. Alex. Hamilton, for tubs for shrubs, etc.

Silver Knightian Medal.—Mr. S. Mortimer, for melons and cucumbers; and Messrs. Le Lacheur and Sherres, for netted melons.

Silver Banksian Medal.—E. S. Hanbury, Esq., for fruit; the Right Hon. Colonel Lockwood, C.V.O., for tracheliums; Messrs. W. and J. Brown, for herbaceous plants; Messrs. Godfrey and Sons, for campanulas; Messrs. Mallett and Co., for irises and herbaceous flowers; Mr. Clarence Elliott, for alpine and rock garden; Messrs. J. Piper and Son, for box and yew trees; Mr. H. J. Jones, for pelargoniums and sweet peas; Messrs. R. Sydenham, Lim., for sweet peas; Messrs. A.

Young and Co., for herbaceous plants; Messrs. G. Gibson and Co., for herbaceous plants; Messrs. J. King and Sons, for sweet peas; Messrs. H. C. Pulham, for herbaceous plants and alpines; Messrs. Seagrave and Co., for violas; Messrs. Bees, Lim., for primulas and herbaceous plants; Mr. A. L. Gwillim, for begonias; and the Alpha Extinguisher Company, for spraying machines.

Bronze Flora Medal.—Messrs. Bastock and Son, for violas and galegas; the Guildford Hardy Plant Nursery, for herbaceous plants; Messrs. Jarman and Co., for centaureas; Messrs. G. Stark and Sons, for sweet peas; Mr. A. J. Harwood, for herbaceous plants; the Castle's Shipbreaking Company, Lim., for garden furniture; Messrs. W. E. Chance and Co., for bell-glasses; Messrs. B. Maggs and Co., for teak seats; the Meath Home, for garden baskets; Messrs. John Pinches, for rose exhibition boxes, tubes, etc.; and Messrs. J. P. White, for garden seats.

First Class Certificate (Orchid Committee) to Cattleya Mendeli var. Stuart Low, from Messrs. Stuart Low and Co.; and Miltonia vexillaria Lambeauiana, from Messrs. Sander and Sons, St. Albans.

Award of Merit to Cattleya Mendeli, King George, from Messrs. Sander and Sons; Cypripedium Curtisi, Sander's var., and Cattleya Dietrichiana (C. superba × C. Hardyana), from Messrs. Sander and Sons, Bruges.

First Class Certificate (Floral Committee) to Rose Juliet, exhibited by Messrs. William Paul and Sons, Waltham Cross.

Award of Merit to Gladiolus King Edward VII., exhibited by Mr. Frank Lilley; Begonia Mrs. W. L. Ainslie, exhibited by Messrs. Blackmore and Langdon; Rose Mrs. Foley Hobbs and Rose Mary Countess of Ilchester, exhibited by Messrs. Alex. Dickson and Sons, Newtownards; Delphinium Belladonna semi plena and Delphinium Lamartini, exhibited by Mr. Amos Perry, Enfield, N.

Manettia bicolor. — Few, if any, greenhouse climbers are more continuous blooming than this, as the scarlet and yellow tubular-shaped blossoms are borne in great profusion. It is a native of South America, and has been long known in gardens, but until recently has been but little grown. In the States, where all climbers are vines, it is known as the Manettia vine.—W. T.

Lilium Hansoni.—A charming and distinct lily of the Martagon group, this is at its best towards the latter part of June and early in July. It reaches a height of 4ft. to 5ft., the stem being furnished with regularly whorled leaves, while the drooping flowers, which are borne in considerable numbers, are a couple of inches across, and orange, spotted with brown. The thick, wax-like character of the segments is a notable feature. This lily, which is a native of Japan, will thrive in loam and flower well the first season after planting.—W. T.

The Barr Recreation Club.—The members of this newly-formed club had their first annual outing on Saturday, July 2, when a most enjoyable day was spent at Arundel. On their arrival the members indulged in cricket and other amusements until lunch-time, when an excellent repast was enjoyed at the Black Rabbit Hotel. Excellent speeches were made by Messrs. G. Leslie, E. C. Mudge, W. Elmer, and S. Bass. Eloquent testimony was given to the great interest taken in the club by Messrs. Barr and Sons, and special reference was made to the good feeling which exists between the heads of the firm and the employees. Mr. P. Rudolph Barr, the president of the club, and Mr. G. H. Barr, the vice-president, both very much regretted their inability to be present at the outing. Able responses to the speeches were made by Miss Gardener and Messrs. J. Cox, S. Ray, and J. W. Ford, the hon. secretary of the club. The arrangements were excellent in every way, and reflected great credit on Mr. G. Leslie, chairman; Mr. E. C. Mudge, treasurer; and the hon. secretary.

CARDIFF AND COUNTY HORTICULTURAL SOCIETY. 22nd Annual Show. SOPHIA GARDENS, CARDIFF. WEDNESDAY and THURSDAY, July 20 and 21st, 1910. Liberal Prizes in every section, amounting in money and plate to nearly £500. Two Programmes of Music each day by His Majesty's renowned 1st Life Guards Band. A Grand Display of Fireworks each evening by Messrs. W. and J. Wilder, Birmingham. Mr. John Studts up-to-date Fun of the Fair, each day. Tents lighted by the Blanchard Patent Incandescent Oil Lamps. Popular prices. Tickets and Schedules may be obtained from the Secretary, Mr. A. MAURICE BAILEY, 24, Duke Street, Cardiff.

HANDSWORTH FLORAL FETE.
FRIDAY and SATURDAY, July 22nd and 23rd, 1910.

"Must now be recognised as one of the principal horticultural shows of the country."—Vide Press.

TWO SILVER CUPS (value 5 guineas each) FOR TRADE EXHIBITS.
Also the Society's Gold, Silver-gilt, Silver, and Bronze Medals, as may be awarded by the Judges.

Schedules and all information from
WILLIAM G. CARRADINE, Secretary,
82, Soho Hill, Handsworth.

LICHFIELD GREAT FLOWER SHOW, August Bank Holiday. Many open classes. Trade space free. Apply for Schedules to Mr. J. GLADMAN, Secretary, Lichfield.

POTTER'S BAR & DISTRICT AMATEUR ROSE SOCIETY.
(Affiliated to the National Rose Society.)
The Show will be held on THURSDAY, July 14th, 1910. Entries close July 7. Classes for Amateurs open to all England Classes for Members, Nurserymen, and Others.
For Schedule and Entry Forms, apply to H. R. EARLINGTON, Park House, Potters Bar.

THE YORKSHIRE SWEET PEA SOCIETY.
The EXHIBITION will be held in the ASSEMBLY-ROOMS, BEVERLEY, on WEDNESDAY and THURSDAY, the 20th and 21st July, 1910.
Many valuable prizes, Silver Cups and Medals will be awarded.
Judge: Walter P. Wright, Esq.
For Schedules apply H. G. SUMPNER, Hon. Sec., 1, Grovehill Road, Beverley.

WOLVERHAMPTON.
TWENTY-SECOND
GREAT FLORAL FETE,
12, 13, and 14 July, 1910.
NEXT WEEK.

YORKSHIRE AGRICULTURAL SOCIETY.
A GRAND HORTICULTURAL SHOW
will be held at
ROUNDHAY, LEEDS, July 26, 27, and 28, 1910.
For particulars and Schedules apply to PETER BLAIR, Trentham Gardens, Stoke-on-Trent.
Entries close July 9th.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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Windsor, JULY 2.

There was a very fine exhibition, held in delightful surroundings, on the slopes of Windsor Castle, on Saturday last. The roses were very beautiful, and the competition throughout was keen. There were a large number of the leading rosarians present, amateur and professional, and all thoroughly enjoyed the flowers, the weather, and the music of the Grenadier Guards. The arrangements were good, and the officers of the Windsor and Eton Society work with a will. Judging at a rose show usually begins from half an hour to an hour after scheduled time, but all was ready at Windsor at 11.5 a.m. We have one suggestion to make, and it is that the addresses of competitors be written on the class cards. We hope the financial success was as good as the horticultural one.

There were a few interesting non-competitive exhibits, and these included roses and a fine lot of spikes of Eremurus Warei from Messrs. James Veitch and Sons, Chelsea; ornamental shrubs, roses, gloxinias, and Brassia verrucosa from Mr. Charles Turner, Slough; floral designs from Messrs. Fitt and Son, Windsor; a fine lot of sweet peas from Mr. W. J. Unwin, Histon, Cambs; the new Juliet and other roses from Messrs. William Paul and Son, Waltham Cross; ferns from Messrs. H. B. May and Sons, Edmonton; and roses from Mr. T. Tubb, Farnham.

ROSES—OPEN CLASSES.

There were nine competitors in the class for forty-eight roses, distinct, and here the coveted King's Cup, offered as first prize, was won by Messrs. Alex. Dickson and Sons, Newtownards, with one of the finest sets we have seen for a long time. There was only one flower that could in any way be called weak; Comte Raimbaud, Countess of Annesley, S. M. Rodocanachi, Mrs. W. J. Grant, Harry Kirk, Mrs. J. Laing, Mrs. T. Roosevelt, Frau K. Druschki, Killarney, Mildred Grant, Mrs. Foley Hobbs, Ulrich Brunner, A. K. Williams, Duke of Wellington, Horace Vernet, Xavier Olibo, G. C. Waud, Mrs. E. Mawley, and Dean Hole were all beautiful. Messrs. B. R. Cant and Sons came second, and Messrs. D. Prior and Son third in this close competition. Mr. G. Prince, Longworth, scored for eighteen teas or noisettes, his best flowers being Madame de Watteville, Molly Sharman Crawford, Medea, Maman Cochet, The Bride, Madame Jules Gravereaux, and Mrs. E. Mawley; Messrs. Frank Cant and Co. second, and Mr. H. Drew, Longworth, third.

For a dozen trebles Messrs. A. Dickson and Sons were again to the front, scoring with magnificent examples of Mrs. T. Roosevelt, Marquise Litta, Mildred Grant, Mrs. W. J. Grant, Ulrich Brunner, Mrs. David McKee, Lady Ashtown, Horace Vernet, Countess of Annesley, A. K. Williams, Bessie Brown, and Dean Hole; Messrs. D. Prior and Son, a good second; and Messrs. B. R. Cant and Sons, third. Ten competitors. Messrs. R. Harkness and Co., Hitchin, scored for a dozen blooms of any H.P. or H.T., with Mrs. J. Laing; Messrs. A. Dickson and Sons, Newtownards, second, with Lady Ashtown; and Messrs. B. R. Cant and Sons, Colchester, third, with Dean Hole. Twelve entries. First place for a dozen blooms of a Tea rose was won by Messrs. A. Dickson and Sons with a beautiful box of Mrs. Foley Hobbs; Mr. G. Prince, Longworth, second, with Molly Sharman Crawford; Messrs. B. R. Cant and Sons, third, with Madame Jules Gravereaux; eight entries.

In the class for eighteen bunches of decorative roses there were four good entries, and first place was won by Mr. Charles Turner, Slough, with lovely bunches of Ecarlate, Lady Battersea, Edu Meyer, Clara Watson, Liberty, Madame Ravary, Gardenia, Bardou Job, and Madame Abel Chatenay; Messrs. Frank Cant and Co., Colchester, second; and Messrs. W. and J. Brown, Peterborough, third. Messrs. Frank Cant and Co. led for a dozen blooms each of a white and a crimson rose with J. B. Clark and Frau Karl Druschki; Mr. F. C. Drew, second; and Messrs. G. and W. H. Burch, Peterborough, third; eight competitors.

AMATEURS.

In the open amateurs' class for two dozen distinct blooms the coveted Windsor Cup was won by Mr. E. B. Lindsell, Hitchin, with a beautiful set of clean flowers. Mildred Grant, Horace Vernet, Charles Lefebvre, A. K. Williams, Mrs. T. Roosevelt, Bessie Brown, W. Shean, Comte Raimbaud, and Mrs. J. Laing were his best flowers. Mr. Skeys, gardener to F. Dennison, Esq., second; and Mr. G. A. Hammond, third. The cup presented by the Princess Alexis Dolgorouki for the best eight trebles was also won by Mr. Lindsell, with Mildred Grant, François Michelon, Mrs. T. Roosevelt, Helen Keller, Bessie Brown, J. B. Clark, Frau Karl Druschki, and Dean Hole, in good form; Mr. Dennison, second; and the Rev. J. H. Pemberton, Havering, third; seven entries.

For a dozen teas or noisettes Mr. Conway Jones, Hucclecote, Gloucester, led the way with a moderate set, Niphetos, Comtesse de Nadaillac, and White Maman Cochet being the best; Mr. C. Page, gardener to J. B. Fortescue, Esq., Dropmore, second; and Mr. F. Slaughter, Steyning, third. The Rev. J. H. Pemberton was placed first for a dozen bunches of decorative roses, but it must have been a near thing between him and Mr. Stevenson, gardener to A. E. Mocatta, Esq., Addlestone, who was placed second, but appeared to have the finer bunches; Mr. Conway Jones third.

The Owston Challenge Cup, open to growers of less than 2,000 plants, for the best eighteen blooms, was won by Mr. Sharp, gardener to W. Onslow Times, Esq., with a very fresh set, in which Madame Melanie Soupert, Hugh Dickson, J. B. Clark, A. K. Williams, and Gustave Piganeau were excellent; Mr. Binches, gardener to W. Jarratt Thorpe, Esq., second; and Mr. E. B. Lehmann, third. Mr. A. C. Turner led for a dozen blooms with a very good set of popular varieties; Mr. T. Stevenson second, and Mr. E. B. Lehmann third. In another class for twelve blooms Mr. Smart, Rev. L. C. Chalmers Hunt, and Rev. J. B. Shackle won as placed.

The Islet Cup, open to Berkshire growers, for the best two dozen flowers, was won by Mr. C. Page, Dropmore, who had a good set that included a fine flower of White Maman Cochet. The cup now goes to Dropmore for good; Mr. W. C. Romaine, second. The Fortescue Cup, for eighteen blooms, was secured by Mr. E. F. Brown, with a fresh set of rather small flowers; Rev. J. B. Shackle, second, and Mr. W. C. Romaine, Old Windsor, third.

Mr. C. Page led for six teas or noisettes with White Maman Cochet; Mr. R. House, second, with Madame Jules Gravereaux; Rev. J. B. Shackle, third, with the latter variety. For six H.P. or H.T. roses, one variety, Mr. A. F. Govett led with F. K. Druschki; Mr. T. Stevenson second with Lyon Rose; and Mr. Page third with Mrs. J. Laing. The Rev. H. Tower scored for three vases of decorative roses with Reine Olga Wurtemberg, Mrs. Alfred Carriere, and Tea Rambler; Miss Langworthy second, and Mr. R. Sunner third.

In other rose classes Mr. Stevenson was first for six bunches of decorative roses, and Mr. E. F. Brown and Mr. R. House secured other first prizes.

PLANTS AND FLOWERS.

These were fairly well represented, but the roses were the outstanding feature of the exhibition. Fruits were not largely shown, but there were some excellent vegetables, and a keen competition, but the classes for these were packed closely in a small tent; they deserved more room.

Premier award for a group of plants was won by Mr. D. Phillips, gardener to E. Wagg, Esq., The Islet, Maidenhead, with a pretty display of Francoa ramosa, Oncidium flexuosum, Dendrobium Phalænopsis, liliums, and carnations, associated with palms, ferns, and crotons; Mr. G. West, gardener to F. Ricardo, Esq., came second, and his groundwork of ferns and Celsia arcturus was capital; Mr. Goodbourne, gardener to A. H. Benson, Esq., third. Mr. Phillips scored for ten plants, five in flower, with well-grown examples of stove and greenhouse subjects. Mr. Phillips and Mr. Page were first and second respectively for a vase of carnations, and each showed pink Malmaisons.

Mr. C. Page, Dropmore, led for six kinds of hardy flowers with fine vases of delphiniums, liliums, gladioli, campanulas, and alstromerias; Rev. J. B. Shackle, Dropmore Rectory, was disqualified because he had two vases of irises. Mr. E. Jennings, gardener to the Stoke Poges Golf Club Company, led for a dozen bunches of sweet peas, his Frank Dolby and Countess Spencer being the best vases; Mr. R. Brown, gardener to Lady Tress Barry, Windsor, second; and Mr. West, gardener to F. Ricardo, Esq., third.

Mrs. Max Epstein led for a table decoration with a clever arrangement of pink Malmaison carnations and gypsophila; Mrs. de Buriatte, second, with cream and pink sweet peas; and Mrs. R. Sargent, third, with Fair Maid carnations.

Hanley Flower Show.

JULY 6 and 7.

Hanley Show is always of a high order of merit, and it is pleasant to record that the exhibition held in the public park, which is one of the features of the district, was well up to the average, and, in some respects, even better than those of previous years. The big groups, the roses, hardy flowers, and sweet peas were both plentifully and well shown, and the fruit tables were as usual a source of great delight to the visitors, who, in spite of inclement weather, turned up in great numbers. The committee and officials of the Hanley Horticultural Society long since won the esteem of exhibitors by reason of their excellent organising abilities, which are ever blended with genial and wholehearted endeavours to make everybody comfortable, and an evident willingness to render assistance to one and all. Mr. William Poulson is a model secretary, energetic and methodical, but never domineering or unreasonable. He evidently cherishes a strong affection for the society, and fully appreciates the importance of keeping everybody interested in the show. Among the side attractions, which are always up to date at Hanley, an aeroplane was the great centre of attraction, but, owing to wind and rain, no flight could be made. Owing to the late commencement of the judging, we were unable to obtain a complete list of awards in some of the smaller classes by the time we were compelled to leave for the train.

PLANTS.

The principal class was for a group of plants in and out of bloom, occupying 300 square feet of space. There were five entries, and a view of the whole was a splendid sight. A total of £76 in cash was offered in this class, of which £25 went to the first-prize group, to which was added a special prize of the value of £3 3s. The judges had a very difficult task, and before a decision could be arrived at between the first and second groups, an umpire had to be called. Eventually Messrs. J. Cypher and Sons, Cheltenham, were declared winners, and we thoroughly endorse the decision of the judges. The point that from the first glance appealed to us in Messrs. Cypher's group was that from the orange-berried Nertera depressa, used as an edging, to the kalanchoe flammed at the top of the central column and in mounds, intervening with Fuchsia triphylla, Clerodendron fallax, and the deeper-coloured crotons, the colour scheme was well devised, and perfect in detail. The general arrangement was much on the lines so frequently described. Mr. William Holmes, West End Nurseries, Chesterfield, was a good second, but a weak point was the distribution of blue lobelias among orange and red shades, with which the colour did not agree. A light and airy touch was well sustained throughout this group. Mr. William Vause, Leamington, was third; Messrs. R. Simpson and Sons, York, fourth.

Messrs. Cypher and Sons were at home in the class for a group of orchids arranged on 100 square feet of tabling, their cattleyas being especially fine. Oncidium papilio, Vanda caerulea, and a number of choice odontoglossums and cypripediums afforded variety, and a piece of Stanhopea tigrinum with a couple of handsome flowers marked the centre of the group, and was the object of many eulogistic comments from visitors. Only one group of Malmaison and other carnations in pots was forthcoming, the first prize being awarded to Mr. E. Gilman, gardener to the Right Hon. the Earl of Shrewsbury, Ingestre, Stafford.

Messrs. Cypher led for six specimen stove plants in bloom, Mr. W. Vause following; the same order being maintained for six flowering and six foliage plants, and again for six foliage plants, some very fine palms being staged. For the best twelve caladiums Mr. A. H. Ruff, gardener to J. Tams, Esq., The Hayes, Stone, Staffs, received first.

In the amateurs' group class Mr. H. Ruff gardener to J. Tams, Esq., The Hayes, Stone, Staffs, came first, his arrangement of crotons, palms, and lighter foliage, with liliums, gloxinias, and clerodendrons being very effective. Mr. Charles Roberts, gardener to Mrs. Swann, Halston Hall, Oswestry, had a somewhat heavier group, for which second was awarded.

ROSES

were as usual shown in large quantities and in fine form, the cool weather serving to keep the blooms in good condition. In the big class for seventy-two varieties, Messrs. R. Harkness and Co., Hitchin, led off with a collection of much merit. The Lyon Rose, Earl of Warwick, Mrs. T. Roosevelt, and many other roses of high quality were included in the stand. The King's Acre Nurseries, Lim., Hereford, came second, Mr. W. H. Frettingham, Beeston, Notts, third, and Messrs. Perkins and Sons, Coventry, were fourth. Messrs. Harkness and Co. repeated their success in the class for forty-eight varieties, and again in the class for thirty-six, being followed by the King's Acre Nurseries in each instance. For twenty-four Hybrid Teas Messrs. Perkins and Sons, Coventry, scored with a very level lot of first-rate blooms. The best twelve blooms of any one white variety came from Messrs. Harkness and Co., Mr. Frettingham leading for twelve blooms of a pink variety with a superb stand of Mrs. J. Laing. Mr. W. T. Mattock, Headington, Oxford, was first for twenty-four Teas with Mrs. E. Mawley, White Maman Cochet, Innocente Pirola, and other favourites.

SWEET PEAS.

Mr. William Chapman, New Oscott, Erdington, Birmingham, scored for a collection of sweet peas, showing Mrs. Bell, Countess Spencer, Evelyn Hemus, and others in good style. Mr. Stephen Sims, Borrowash, came second, and Mr. William Marple, The Nurseries, Penkridge, third. Mr. Robert Madeley, Market Drayton, led in the special class provided by Mr. Henry Eckford, and Mr. J. Bowler, Woodseaves, Market Drayton, scored in Messrs. Webbs' class. Messrs. Bakers, Wolverhampton, offered prizes for six bunches, and Mr. R. Madeley, Market Drayton, secured premier place, Mr. Bowler following.

For a collection of hardy flowers Messrs. Harkness and Sons, Bedale, scored with a brilliant array of Oriental poppies, pyrethrums, delphiniums, and other seasonable subjects. Messrs. G. Gibson and Co., Bedale, were second; Messrs. Artindale and Son, Sheffield, were third.

FRUIT.

A strong class was that for a table of fruit, allowing fourteen dishes, with floral decorations. Mr. J. H. Goodacre, Elvaston Castle Gardens, Derby, led with splendid peaches, nectarines, pears, figs, and grapes, using sprays of francoas and heucheras to good purpose as decoration. The second prize went to Mr. W. Parker, gardener to J. Drakes, Esq., Orford House, Market Rasen; third, Mr. William Nicholl, gardener to Right Hon. Lady Beaumont, Carlton Towers, Yorkshire; fourth, Messrs. Lewis and Sproson, Pinkhall Nursery, Stoke-on-Trent. For twelve dishes, Mr. Goodacre again led, with a choice lot of fruit, Mr. Parker coming second, and Mr. W. Nicholl third.

FLORAL DECORATIONS.

Prizes were offered for the best and most varied collection of floral designs on a space 15ft. by 6ft., and some startling, almost weird, devices, were exhibited. The winners were Messrs. M. Jenkinson and Son, Newcastle, who had crosses, crowns, and jugs in pink and white stocks; a very nice harp and anchor with a number of smaller pieces of good workmanship. On the second prize stand, staged by Messrs. Lewis and Sproson, Stoke-on-Trent, a hideous "Teddy bear" in pinks, a lighthouse in hydrangeas, cushions, muffs, fans; such designs bore evidence of painstaking work, but did not, to our mind, display artistic taste. On the third stand, which was occupied by Mr. Amos

Carr, 60, High Street, Cheadle, Staffs, a lion in dyed gnaphalium and grasses, a church built of sweet peas, and a pagoda were put up with some really nice wreaths, harps, and similar designs.

The table decorations were very strong both in numbers and quality.

NON-COMPETITIVE.

A varied collection of violas was staged by Mr. W. L. Pattison, Cherry Orchard, Shrewsbury, whose varieties were of useful bedding kinds, and were represented by fresh-looking flowers of good substance. Roses and delphiniums were the principal features of the exhibit from Messrs. Dicksons, Lim., Chester, who, however, had a number of interesting hardy flowers. Messrs. Jarman and Co., Chard, put up good carnations, zonals, and roses, as well as their strain of sweet sultans. The big display of sweet peas from Mr. Henry Eckford, Wem, Shropshire, embraced about fifty of the best varieties obtainable, all represented by superb flowers. A new seedling, which might well be described as a "deeper coloured Henry Eckford," was staged, and was most attractive. Ferns in beautiful variety were well shown by Mr. H. N. Ellison, West Bromwich, also a few choice cacti.

The Edwardian table decorations and fern baskets were displayed by Mr. Arthur Edwards, Arnold, Notts.

Messrs. E. Webb and Sons, Wordsley, erected their big temple-like arrangement, which was very tastefully decorated with sweet peas; around the base of the stand were excellent vegetables, handsome melons, and an assortment of gloxinias, liliums, hydrangeas, and other flowers. The whole was a most imposing display, and was awarded a gold medal and the silver cup for the best non-competitive display. This is the third successive year Messrs. Webb and Sons have won this cup, which now becomes their property. A group of ornamental shrubs, rambler roses, and hydrangeas was arranged by Messrs. Clibrans, Altrincham. Dimorphanthus mandschuricus variegatus, Sambucus aurea, and several ornamental vines were well shown.

Southampton Flower Show.

JULY 5 AND 6.

The annual summer exhibition of the Southampton Horticultural Society was held on the county cricket ground, and was a great success in every department. Roses were very fine when we consider the untoward state of the weather of recent days. Vegetables were a distinct feature, as they always are here. Sweet peas are specially provided for at this show, and nowhere can better specimens of the various sorts now in commerce be seen than at this show. Trade exhibits were numerous and attractive.

ROSES.

Open Classes.—The leading class was for forty-eight distinct varieties, in which there were four contestants, making a fine display. Messrs. D. Prior and Son, Colchester, were easily first, with large, handsome blooms—fresh, on the whole, although some few showed the effects of the recent adverse weather. Oberhofgartner Terks, Dean Hole, Mrs. T. Roosevelt, Ulrich Brunner, Maurice Bernardin, Marie Baumann, White Maman Cochet, Avoca, and Mrs. W. J. Grant were the most noteworthy. Messrs. B. R. Cant and Sons, Colchester, were second; and Messrs. F. Cant and Co., Colchester, third. For twelve varieties, three trusses of each, three competed. Messrs. B. R. Cant and Sons were easily first with large, shapely blooms of Ben Cant, Lyon Rose, Dean Hole, J. B. Clark, Mrs. J. Laing, and Alfred Colomb; Messrs. D. Prior and Son second, with blooms a trifle smaller. In the class for twelve Teas or Noisettes distinct, there were four competitors, and Mr. H. Drew, Longworth, Berks, was first with small, clean blooms of White Maman Cochet, Mdme. Cusin, Maman Cochet, and Mdme. de Watteville; second, Messrs. D. Prior and Son, Colchester; and Messrs. B. R. Cant and Sons, third. In the class for six blooms any one dark variety five staged. Messrs. D. Prior and Son were first, with Horace Vernet, small, but grandly coloured; Messrs. B. R. Cant second, with Ben Cant. In a similar class for any one light variety, seven competed. Messrs. D. Prior and Son were again first, staging Mrs. T. Roosevelt; Mr. H. Drew second, with Mildred Grant. Prizes were offered for a display of decorative and other roses in a space 7ft. by 3ft., for which three entered. Mr. E. J. Hicks, Twyford, Berks, was easily first, with good H.T. blooms and ramblers, all tastefully arranged; Mr. B. Ladhams, Shirley, second.

Open to Gardeners and Amateurs only.—For eighteen blooms distinct, the "Munt" Silver Cup was offered, with a cash prize. Five entered. Dr. C. Lamplough, Alverstoke, was the winner with very fresh specimens of Mdme. Gravereaux, White Maman Cochet, Melanie Soupert, Frau K. Druschki, Florence Pemberton, and Bessie Brown; Mr. H. Richards, Ryde, second, with smaller fresh blooms; Mr. P. Sugden, Wimborne, third. For six varieties, three trusses of each, Dr. Lamplough was again first, with clean blooms of Hugh Dickson, Dean Hole, and Bessie Brown; Mr. Kent, gardener to Mrs. E. Croft Murray, Ryde, second.

A silver-gilt medal was presented for the best bloom in the show. This was awarded for Mrs. T. Roosevelt, Messrs. D. Prior and Son, a very fine specimen. This firm also won the silver medal offered for the best bloom in Classes 1 to 5, with Horace Vernet, extremely rich in colour. Dr. Lamplough won a similar honour in the amateur's section with a handsome specimen of Mdme. C. Gravereaux.

SWEET PEAS.

Quite a feature is here made of these flowers. In competition for the prizes offered by Messrs. Toogood for six bunches distinct there were eight competitors, making a fine display. Mr. H. H. Lees, Warblington Cottage, Havant, was an easy first with a charming exhibit of high-class blooms of Lavender G. Herbert, Mrs. C. W. Breadmore, John Ingman, Mrs. Routzhan, and Earl Spencer; Mr. Usher second, with smaller blooms.

Five prizes were offered by Messrs. E. Webb and Sons, Wordsley, Stourbridge, for eight varieties, and six competed. Mr. Usher was here first, with slightly superior blooms to those staged by Mr. Lees, who was a close second.

Messrs. James Carter and Co., High Holborn, London, provided prizes for six bunches distinct. Five competed, and Mr. F. Green, The Polygon, Southampton, was first with high quality blooms of popular varieties.

Messrs. Sutton and Sons, Reading, offered prizes for one bunch each of Sutton's Queen and Sutton's Marbled Blue, and the premier award in each class was secured by Mr. Usher with high-class flowers.

MISCELLANEOUS CLASSES.

For a collection of plants arranged for effect on a space 10ft. by 8ft., two only competed. Mr. T. Hall, gardener to Lord Swaythling, South Stoneham House, was first with a bright arrangement; Mr. H. C. Swyom, gardener to Mrs. Farman, Rownham, second. The best single specimen flowering plant was Bougainvillea Sanderi, from Mr. J. C. Hosey, gardener to J. C. E. D'Esterre, Esq., Elmfield, Southampton; and the best foliage plant was from Mr. Wills, Kentia Belmoreana.

FRUIT.

For two bunches of black grapes, Mr. F. L. Westron, gardener to L. Walker Munro, Esq., Brockenhurst, was first with excellent Black Hamburgh; Mr. Ellwood, gardener to W. H. Myers, Esq., Swanmore House, second. In a similar class for white, Mr. Westron was first with Foster's Seedling, nicely coloured. Peaches were best shown by Mr. J. F. Duncan, Douglas House, New Milton, the variety Condor. Nectarines were not numerous, but good, Mr. Swyom winning with Lord Napier. Melons were a small show. Mr. Usher, gardener to Sir R. Baker, M.P., first with a seedling. Strawberries are usually well shown here. For two dishes Mr. Duncan was first with Royal Sovereign and Laxton of good quality.

VEGETABLES

at the shows of this society have long been famous for quantity and quality also, liberal special prizes being provided by various seedsmen. For six distinct varieties Messrs. Toogood and Sons offered ten prizes; eight competed. Mr. Ellwood was an easy first with high-class examples of White Mammoth Tripoli onion, Toogood's Timely cauliflower, Duke of Albany pea, Best of All tomato, Express potato, and Garden carrot. Mr. H. Pearce, gardener to Mrs. Tragett, Romsey, second; Mr. Hall, third

In competition for Messrs. Sutton and Sons' prizes for six dishes distinct, Mr. Ellwood was again easily first with high-class produce. Ideal potatoes, Perfection tomato, and Alderman pea were the most conspicuous dishes. Mr. H. Pearce second, with a good exhibit also.

For Messrs. James Carter and Co.'s prizes for six varieties, Mr. Ellwood was again the most successful with typical examples of high-class culture.

MISCELLANEOUS EXHIBITS.

Mr. C. F. Waters, Balcombe, Sussex, had, not for competition, a grand group of carnations, Hoary Morn, Britannia, White Perfection, and Edith Waters being leading and attractive sorts. Mr. Bealing, Burgess Street Nurseries, Southampton, had a group of well-grown gloxinias. Messrs. B. Ladhams and Son, Shirley, Southampton, arranged at one end of the large marquee an old English garden. Messrs. Toogood and Sons, Southampton, had a huge exhibit of sweet peas. Mr. E. Wills, nurseryman, Southampton, had small flowering and foliage plants with floral designs. Messrs. W. H. Rogers and Son, Red Lodge Nurseries, Southampton, had a charming exhibit of roses, shrubs, etc. Mr. J. Stevenson, Wimborne, staged fifty bunches of sweet peas.

Brighton Rose and Sweet Pea Show.

JULY 5 AND 6.

This show, which was held in the Dome and Corn Exchange on the above dates, was a great success as regards competition and excellence of exhibits.

For a group of roses, either plants or cut blooms, Messrs. G. Mount and Sons, Canterbury, were the winners of the first prize, and were very closely followed by Mr. G. W. Piper, Uckfield. The arrangements in each case were tasteful and effective, but the winner was the freshest in bloom. For a smaller group Messrs. Mount and Sons were the only exhibitors. For a table of roses and plants in flower Mr. J. Box, Lindfield, was awarded first for a very pretty table, but rather heavy compared to the second prize from Mr. G. W. Piper, Uckfield.

For forty-eight blooms distinct, Mr. F. Woollard, Lewes Road, Brighton, obtained premier honours, the winner's best blooms being the Lyon Rose, Mrs. J. Laing, Mrs. T. Roosevelt, and Queen of Spain E. M. Eversfield, Esq., Denne Park, Horsham, was a good first for 36 blooms, his best flowers being J. B. Clark, Comte Raimbaud, and Mrs. Theodore Roosevelt; Mr. F. Woollard, Lewes Road, Brighton, was second; Messrs. G. Mount and Son, third. In this class Mr. Woollard had a very high-coloured Lyon rose. In the class for twenty-four Teas and Noisettes, E. M. Eversfield, Esq., appeared to be the only exhibitor, but he had a fine box of blooms.

One of the most successful amateur exhibitors was Mr. E. W. Morris, who gained first for six distinct blooms, for six Teas or Noisettes, and for six blooms in vase.

The best table of carnations came from Mr. C. F. Waters, Balcombe, who was very good indeed. A very tastefully-arranged table, consisting of superb blooms. For a collection of sweet peas, arranged with foliage, Mr. C. F. Waters was also a good first, with loosely arranged stands of one variety. Mr. J. R. Box, Lindfield, being second with a much heavier and mixed arrangement. Mr. F. Webber, florist, Tonbridge, was first for a bride's bouquet of roses, and Miss Kate James, Bedford Street, Brighton, first for a ballroom bouquet; reversing the positions for second prize in each class.

For a basket of sweet peas, with foliage, Mrs. Rapley, Warblington House, Havant, was first with a pretty and graceful arrangement, followed rather closely by Mrs. B. C. Martin, West Hill Place, Brighton. The best thirty spikes of white sweet peas came from Mr. W. H. Smith, George Street, Hailsham, and remarkably good they were. The best white grapes came from Mr. C. Earl, Somerhill Gardens, Tonbridge, who was also first for blacks, with good examples of cultural skill.

Fruit was not well exhibited, but the show throughout was beyond the average.

Bournemouth, JULY 1.

A private rose show was held in the gardens of Michelgrove House and Boscombe Place on the above date, by kind permission of Mr. Clark, of the former residence, and Mr. Hamilton, of the latter. Mr. Clark gave the prizes, and defrayed all expenses. The last-named gentleman kindly invited the members of the Bournemouth Gardeners' Mutual Improvement Association to come and see his roses on a certain date last year, but before the day came a gale of wind destroyed nearly all the blooms, and so the visit did not take place. This year, however, Mr. Clark—who takes a great deal of interest in the Bournemouth Gardeners' Association—said he would have a private rose show, and invited the members to compete, as well as ladies and gentlemen in the district. By the kind permission of Mr. Hamilton, the tent was erected on the lawn at Boscombe Place, and so both gardens were open for visitors to inspect. The admission charges were given to the Boscombe Hospital funds, an institution which Mr. Clark generously supports. Refreshments were also provided free to all visitors.

Mr. Clark is a great lover of roses, and in his charming gardens at Michelgrove House there are twelve hundred plants grown, which is a considerable number for a private garden. A feature of these gardens is the climbing roses which are trained on the trunks of the pine trees, and allowed to grow naturally.

THE EXHIBITS.

In class one, for twelve blooms, distinct varieties, Mr. D. Lorriner, of Bournemouth, was successful. His chief blooms were Caroline Testout, Frau Karl Druschki, Earl of Warwick, Hugh Dickson, Captain Hayward, Victor Hugo, and Mrs. John Laing. Mr. E. Wilkins, Benhilton, Bournemouth, was second prizewinner, Lady Ashtown, Frau Karl Druschki, and Mrs. Hugh Dickson being the best blooms. The class for six blooms, distinct, was well filled, Mr. W. J. Kaye, Boscombe, being placed first; Duke of Albany, Paul Neyron, Beauty of Waltham, and Margaret Dickson were the most noteworthy flowers. Mr. A. Dunn, Branksome, was a close second, Charles Lefebvre being fine in this stand. Miss Gowan was the principal prizewinner in the class for four blooms, distinct, followed by Mr. Dunn. Mr. Wilkins led in the class for four distinct varieties, three blooms of each. He had Frau Karl Druschki, Hugh Dickson, Marquis Litta, and Mrs. Roosevelt. Mr. W. Weaver, of Christchurch, was a close second, and Caroline Testout was very fine in his stand.

Mr. Wilkins again led in the class for three vases of roses, H.P.'s, distinct, three blooms in each vase. Mr. Humphries was second. Mr. W. J. Kaye was placed first for three vases of roses H.T., T., or noisettes, distinct, three blooms in each vase; Mr. Humphries was again second. For six distinct varieties of garden or decorative roses, Mr. Wilkins also won the first prize, and Mr. Weaver had the best three vases of ramblers or climbing varieties.

FLORAL DESIGNS.

These in themselves made a very charming exhibition. There were nine table decorations and fifteen epergnes and baskets. Mr. R. Chamberlain had the best hand bouquet, and Mr. Lorrimer was placed first for table decoration. Mrs. George G. Hamilton was the prizewinner for a lightly-arranged epergne, and Mrs. Gyers for a basket of flowers. The two last-named classes being confined to ladies only.

TRADE AND OTHER EXHIBITS.

Mr. Clark exhibited roses and gloxinias, Mr. Hamilton a nice lot of clarkias in pots. Mr. J. Stevenson, sweet pea specialist and nurseryman, Wimborne, had a fine exhibit of sweet peas—about fifty vases—the flowers were large, borne on strong stems, and of rich colours. This collection was greatly admired. Messrs. Wm. Paul and Son, of Waltham Cross; Messrs. D. Stewart and Sons, of Wimborne; and Messrs. W. Watts and Sons, of Bournemouth, showed roses.

The weather was fine, and the show so great a success that it may lead to the holding of a regular rose show in Bournemouth.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

Date. 1910. June 26 to July 2.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
June 26—Sunday	4 24	53	50	61	49
,, 27 - Monday......	1 6	58	52	70	45
,, 28 - Tuesday	7 6	61	57	67	55
,, 29 - Wednesday .	7 24	60	55	64	52
,, 30 - Thursday ...	5 24	57	52	62	49
July 1 Friday..	3 0	57	53	64	49
,, 2 - Saturday ...	8 40	58	53	64	50
Means	5 18	58	53	65	50

Date. 1910. June 26 to July 2.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
June 26—Sunday	trace	60	61	58	49
,, 27 — Monday... .	.07	60	61	58	41
,, 28 — Tuesday......	trace	60	60	58	53
,, 29 — Wednesday.	.09	60	60	58	48
,, 30 — Thursday ...	.02	59	60	58	45
July 1—Friday.......	0.17	59	60	58	46
,, 2 Saturday ...	0.30	59	60	58	48
Means ...	(total) 0.65	60	60	58	47

FORTHCOMING ENGAGEMENTS.

SATURDAY, July 9.—Purley Rose and Summer Show.
Trowbridge Rose Show.
MONDAY, July 11.—United Horticultural Benefit and Provident Society; Committee meeting.
TUESDAY, July 12.—National Sweet Pea Society at the Royal Horticultural Hall; Two days.
Wolverhampton Floral Fête; Three days.
Gloucester Rose Show.
Harrow Rose Show.
WEDNESDAY, July 13.—National Rose Society, Provincial Show at Salisbury.
Teddington and Hampton Wick Horticultural Society.
Elstree Horticultural Society.
Formby Horticultural Society.
Woodbridge Horticultural Society.
THURSDAY, July 14.—British Gardeners' Association, London Branch, Excursion.
Finchley Horticultural Society.
Potter's Bar Horticultural Society.
Potter's Bar Rose Show.
National Sweet Pea Society; Inspection of Trials at Guildford.
Baltic Rose and Sweet Pea Show.
Eltham Rose Show.
Malvern Horticultural Society.
FRIDAY, July 15.—Helensburgh Rose Show.
National Sweet Pea Society's Outing to Kelvedon.
SATURDAY, July 16.—Edgware Horticultural Society.
Reading Rose and Sweet Pea Show.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

TRAINING ALLAMANDAS. — H. B., Loughton: No time should be lost in training the allamandas round the balloon trellises or there will not be time for the leaves to face round, or the flower buds to look natural before the show-day arrives.

PROPAGATING HOLLYHOCKS. — C. T. S., Newark: It is a comparatively easy matter to propagate hollyhocks at this season of the year by removing the young basal growths and inserting these singly in small pots of sandy soil. Place them in a close cold frame, and shade heavily until roots form, when light and air may be gradually increased.

BEST CLIMBING CLUSTER ROSES.—F. E. C., Leicester: It is no doubt to the awards made in the Nickerson Competition in 1907 that you refer. We gave the complete list of the best roses for garden decoration, as ascertained in this competition, in our issue of June 6, 1908. The best climbing roses with their flowers in clusters are as follows: Crimson, Crimson Rambler, Gruss an Teplitz, and Hiawatha. Pink, Dorothy Perkins, Blush Rambler, and Minnehaha. White or blush, Climbing Aimee Vibert, Félicité et Perpétue, and Bennett's Seedling. Yellow shades, Alister Stella Gray, Claire Jacquier, and Aglaia.

HOT WATER AND INSECT PESTS.—D. B. J., Exmouth: We have repeatedly stated that water heated to 130 degrees Fahr. is a safe and efficient insecticide. The difficulty associated with the use of hot water is that of keeping the water up to the required heat while the plants are being dipped.

DISEASED SWEET PEAS.—R. A. L., Beckenham: Your sweet peas are suffering from the dreaded "Streak" disease that has so far baffled all attempts to eradicate it. The National Sweet Pea Society is this year making a great effort to discover the cause of, and provide a remedy for, the disease, and all its members have been circularised for information. A special committee has been appointed to deal with the matter, and two well-known experts in plant diseases are giving their assistance. We suggest that you write to the hon. secretary of the society, Mr. C. H. Curtis, Adelaide Road, Brentford, Middlesex, who will forward you a sheet of questions concerning the conditions of cultivation, etc., and also probably ask you to forward two diseased plants for investigation. We understand that any help in this direction will be welcomed by the society, and for such help amateurs must be largely depended upon.

GARDENING DICTIONARY.—A. H. W., Carshalton: The handiest and best of the modest-priced books of the gardening dictionary class is the "Encyclopædia of Gardening," published by Messrs. W. H. and L. Collingridge, 148, 149, Aldersgate Street, post free for 3s. 10d.

NUMBERS OF FRUITS AND VEGETABLES.—C. C. J., Woking: It is a quite easy matter to settle the number of specimens per dish early in the season, and unless this is done confusion is sure to arise. The following would be a very suitable regulation: "In exhibiting vegetables and fruits for competition the following regulation as to number must be observed unless otherwise stated in the Schedule:—Tomatoes and potatoes, 6 of each; broccoli, cabbage, cauliflower, celery, kale, lettuce, 3 of each; Brussels sprouts, beans, and peas, 25 of each; cucumbers and vegetable marrows, 2 of each; beet, carrots, leeks, onions, parsnips, turnips, 6 of each; melon, 1; grapes, 2 bunches; peaches, nectarines, 3 of each; apples, pears, quinces, 5 of each; apricots, figs, 6 of each; plums, 9; damsons, 15; medlars, 10; strawberries, 15; gooseberries, 20; currants, 20 bunches; cherries, raspberries, blackberries, loganberries, mulberries, and nuts, 25 of each."

CATTLEYA BOWRINGEANA.—W. E., Retford: Do not disturb the plant it there is room for further development, as C. Bowringeana resents interference with its roots. The plants vary a great deal in their manner of growth, some rooting much earlier than others, but potting should only be done when new roots are being produced. Carefully shade for a few weeks after potting.

AGRICULTURAL CREDIT BANKS.—W. S., Star Cross: You should first obtain Leaflet No. 214, post free on application to the Secretary, Board of Agriculture, 4, Whitehall Place, London, S.W., which sets forth very clearly the constitution of and operations of agricultural credit banks under the Small Holders and Allotments Act of 1907.

THRIPS ON MELONS.—H. S., Llandudno: As the plants are small there should be no difficulty in carefully sponging the leaves with a nicotine or quassia insecticide, repeating the operation within a week. When syringing the plants be sure that the undersides of the leaves are thoroughly wetted. Maintain a moister atmosphere, and close the house early in the afternoon after syringing.

LARCH SHOOT MOTH.—W. T. E., Ambleside: The Larch Shoot Moth (Argyresthia lævigatella) is a tiny insect. It issues through a flight-hole already prepared in the larch twig at the end of May and the first part of June. The eggs are laid then on the lower part of the shoot of the year, one egg being laid for each shoot chosen. The egg soon hatches. At the time the caterpillar hatches out and starts feeding, by boring below the epidermis, the new larch branch is still developing, and the feeding of the caterpillar at this early stage is not sufficient to prevent the shoot reaching its normal length. As the year goes on the damage is greater, owing to the increased size of the caterpillar and its more extended feeding. Winter overtakes the caterpillar before it is full grown, and hibernation takes place in the boring it has made. The borings or galleries are partly filled with black excrement and bore-meal. In late March or in the month of April the caterpillar starts feeding again, destroying right to the wood and ringing the shoot to an extent—in the longitudinal direction—of four-fifths of an inch. The portion of twig above this place of ringing dies. The caterpillar is full fed in May, and previous to its pupation it bites a hole through the bark that will serve as a place of exit for the adult moth when pupation is over. This flight hole is very small. After making the hole the larva spins a light web, which covers over the little hole, and pupates. The moths issue in May and June. The empty pupal covering does not, as is the case with some moths whose caterpillars are branch-borers, show itself projecting from the flight-hole, but the moth itself when ready works or pushes its way through the web covering the flight-hole, and so reaches the outside. In the spring of the second year the attacked shoot fails to develop its buds, and remains brown and withered and without needles. Occasionally the dwarf shoot just above the flight-hole may produce undersized needles. As the shoot is most markedly eaten in the neighbourhood of the flight-hole, breaking takes place here easily, and these broken, bent-over shoots mark the infestation. According to the Board of Agriculture the treatment that follows from a review of the life history is to break off the infested shoots and destroy them before the escape of the moths. Unfortunately no outflow of resin or appearance of excrement at the exterior is noticeable at the place of infestation (marks which in other insect enemies of trees call timely attention to the fact that they are at work), and the first sign that anything is wrong may only be observed after the moth has flown. Where the caterpillars have already been at work the damage may be expected to be repeated, and this suggests special observation.

MARKS ON NECTARINES.—W. E., Farnham Royal: We find no development that would indicate a fungus attack. The trouble is only skin deep, and appears only to slightly affect the appearance of the fruits. It is not "cracking" in the ordinary sense, but possibly the tree receives rather too much water after stoning, when the fruits being to swell rapidly. Another year give it less moisture than the others, and allow a little extra growth to extend.

NAMES OF PLANTS.

W. J. S., Oxford: 1, Genista virgata; 2, Centaurea macrocephala; 3, Ligustrum chinensis.

D. R. M., Chester: 1, Rosa Wichuraiana; 2, Escallonia macrantha; 3, Robinia pseudacacia.

G. G. C., Aylesbury: 1, Aconitum napellus; 2, Gaura Lindheimeri; 3, Mina lobata; 4, Oncidium flexuosum.

P. R., Londonderry: 1, Oncidium macranthum; 2, Cypripedium superciliare; 3, Odontoglossum crispum; 4, Lælia purpurata.

E. B., Kent.—We could not recognise the roses, as the flowers had fallen to pieces. Send flowers to your nurseryman for naming.

S. O. H. Ringwood: 1, Spiræa aruncus; 2, Strobilanthes Dyerianus; 3, Nertera depressa; 4, Dactylis glomerata variegata; 5, Tilia argentea.

R. R., Newbridge.—1, Lastrea dilatata; 2, Aspidium aculeatum; 3, Athyrium felix-fœmina—a very pretty and elegant variety; 4, Blechnum spicant; 5, Ceterach officinarum; 6, Cystopteris fragilis; 7, Asplenium viride; 8, Polystichum angulare proliferum.

F. W., Fareham.—It is quite impossible for us to undertake the naming of florists' flowers, because, as we have so frequently pointed out in these columns, a considerable collection is necessary for purposes of comparison now that varieties are so numerous. Send specimens of your zonal pelargoniums to Messrs. H. Cannell and Sons, Swanley, and we have no doubt they will oblige you with the names, as they are large growers.

GARDENING ENGAGEMENTS.

Mr. W. Munt for the past ten years head gardener at Stagenhoe Park, Welwyn, Herts, and previously foreman in the Aldenham House Gardens, has been engaged as head gardener to E. Chandler Walker, Esq., Willistead, Waterville, Ontario, Canada.

Mr. Thomas Newman has been appointed head gardener to E. A. Hankey, Esq., Notton House, Lacock, Chippenham.

Mr. L. Bailey has been appointed superintendent of the Public Parks and Gardens at Abertillery, Monmouthshire.

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MARKETS.

◆

COVENT GARDEN.

Flowers.

Flowers are in fair demand, and supplies are good.

		s. d.	s. d.
Adiantum cuneatum	per doz. bun.	6 0	8 6
Anemones	per doz.	1 0	1 6
Arums	per doz.	1 6	2 6
Asparagus	per bun.	1 0	1 [illegible]
Carnations	per doz. blms.	1 0	5 0
,,	per doz. bun.	12 0	18 0
Cattleyas	per doz.	6 0	16 0
Coreopsis	per doz. bun.	2 0	2 6
Cornflowers	per doz. bun.	1 0	2 0
Croton leaves	per bun.	1 0	2 6
Delphiniums	per doz. bun.	5 0	6 9
Eucharis	per doz.	2 0	3 0
French fern	per doz. bun.	0 6	0 9
Gaillardias	per doz. bun.	1 6	2 0
Gardenias	per doz.	2 0	2 6
Gladiolus	per doz. bun.	3 0	6 0
Gypsophila elegans	per doz. bun.	2 0	3 0
Iris	per doz. bun.	3 0	6 0
Lapagerias	per doz.	1 6	2 6
Lilium auratum	per bun.	2 0	3 [illegible]
,, candidum	per doz.	1 0	1 6
,, speciosum	per bun.	1 6	2 6
,, longiflorum	per bun.	2 0	3 0
Lily of the Valley	per doz. bun.	5 0	12 0
Marguerites	per doz. bun.	1 6	2 6
Mignonette	per doz. bun.	2 0	3 0
Odontoglossums	per doz. blms.	1 0	2 6
Pelargoniums	per doz. bun.	3 0	5 0
Poppies (Iceland)	per doz. bun.	1 0	1 6
Roses	per doz.	1 0	2 6
Smilax	per doz. trails	3 0	4 0
Spiræa	per doz. bun.	4 0	[illegible] 0
Statice	per doz. bun.	4 0	6 0
Stocks	per doz. bun.	2 0	4 0
Sweet Peas	per doz. bun.	1 6	4 0
Tuberoses	per doz. blms.	0 4	0 6

Fruits.

Supplies are good, but not excessive, and the demand is steady.

		s. d.		s. d.
Apples, Tasmanian	per case	9 0	to	[illegible] 0
,, Australian	per box	8 0		11 0
Apricots	per box	0 9		1 [illegible]
Bananas	per bun.	3 6		10 6
Cherries	per box	0 9		1 6
,, French	per ½-sieve	4 0		10 6
Cranberries	per case	6 0		[illegible]
Currants, Black	per ½-sieve	6 0		9 0
,, Red	per ½-sieve	5 0		6 6
Figs	per doz.	1 6		6 0
Gooseberries	per ½-sieve	2 0		3 6
Grapes, English	per lb.	0 8		4 0
,, Guernsey	per lb.	0 6		2 0
,, Almeria	per doz. lb.	4 0		7 6
Lemons	per case	10 0		30 0
Melons	each	0 8		2 0
Nectarines	per doz.	3 0		10 0
Oranges	per case	10 0		16 0
Peaches, English	per doz.	3 0		15 0
Pears, Australian	per package	12 0		18 0
Pineapples	each	2 6		4 [illegible]
Raspberries	per basket	1 6		2 [illegible]
Strawberries	per peck	1 0		2 [illegible]

Vegetables.

Business is good and supplies are large and excellent.

		s. d.	s. d.
Artichokes, Globe	per doz.	2 6	3 [illegible]
Asparagus	per bun.	0 8	2 [illegible]
Beans, Dwarf	per lb.	0 6	1 0
Beet	per bush.	2 0	2 [illegible]
Cabbages	per tally	2 0	3 0
Carrots, new	per doz. bun.	2 6	4 [illegible]
Cauliflowers	per doz.	2 0	4 [illegible]
Cucumbers	per flat	3 6	[illegible]
Endive	per doz.	1 0	1 6
Lettuce, Cos	per score	0 4	1 0
Marrows	per doz.	1 0	2 0
Mint	per doz. bun.	2 0	4 0
Mushrooms	per doz. lb.	7 6	12 [illegible]
Mustard and Cress	per doz. pun.	0 6	0 [illegible]
Peas	per bush.	1 6	4 0
Radishes	per doz. bun.	0 4	0 10
Rhubarb	per doz. bun.	2 0	3 [illegible]
Parsley	per ½-sieve	1 6	2 [illegible]
Spinach	per bush.	1 0	1 6
Tomatoes	per doz. lb.	4 0	[illegible]
,, Guernsey	per doz. lb.	4 0	[illegible]
Turnips, new	per doz. bun.	3 0	4 0
Watercress	per doz. bun.	0 3	0 [illegible]

LONDON POTATO MARKETS.

There is a moderate and steady demand; supplies are not over large.

		s. d.		s. d.
Blacklands	per ton	40 0	to	50 [illegible]
Dunbars	per ton	75 0		90 0
Evergood	per ton	40 0		50 0
Kents	per ton	56 0		60 0
Up-to-Date	per ton	45 0		65 0
Jerseys, new	per cwt.	6 6		[illegible]
St. Malo, new	per cwt.	6 6		[illegible]

DAHLIAS TO PERFECTION.—A thorough guide to the successful culture of these popular flowers, "Dahlias and Their Cultivation," by J. B. Wroe, price 1s. net, by post 1s. 2d., bound in cloth 1s. 6d., by post, 1s. 8d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

HEAD GARDENER seeks RE-ENGAGEMENT (abstainer); age 36; married; eighteen years' practical experience; also landscape experience; first class references. Apply E. PANNELL, Oban House, Boughton, Faversham, Kent.

MR. TAYLOR, Head Gardener to Sir James Mackay, Chesterford Park, Essex, can highly recommend J. WREN as HEAD GARDENER, where two or more are kept; thoroughly experienced in all branches, Inside and Out; good references; age 31; married, three children; leaving when suited. J. WREN, Meesden, Buntingford, Herts.

MR. E. R. BEVAN highly recommends his late HEAD GARDENER; 13 years in his service; life experience in all branches; most capable and trustworthy; 39; married, one child. H. KING, Rempstone, Corfe Castle.

GARDENER (Head Working); experienced in the cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, etc.; also Hardy Fruit culture; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head of two or three), age 34; life experience in all branches; Inside and Out; well recommended; two children, 3½ and 6 years. W. SAWYER, 4, Gun Road, Knebworth Stn.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; prize winner; leaving own request; no young children; youngest 14. W. BLOOMFIELD, Staplehurst, Kent.

GARDENER (Head Working, where two or more are kept); life experience Inside and Out, can be well recommended; age 36; married, one in family, 13 years. T. WEST, near New House Farm, Ninfield, Sussex.

GARDENER (Head).—Mr. PRINSEP, Buxted Park, Uckfield, will have much pleasure in recommending his Foreman, J. BROWN, to any Nobleman or Gentleman requiring the services of a thoroughly practical Man; age 32.

GARDENER (Head Working, where one or two more kept, or good Single-handed); experienced Inside and Out; good references, and recommended; age 27; married when suited. W. CROUCHER, 11, North Terrace, Hythe, Kent.

GARDENER (Head Working, where two or more are kept); good all-round; can be well recommended; married when suited; age 36. PEARCE, Ridley, near Wrotham, Kent.

GARDENER (Head or Single-handed); 30 years' practical experience; ten years' reference; fifteen previous. G. R., 227, Cavendish Road, Balham.

GARDENER (good Single-handed where help is given or Head of two); good all round experience, both inside and out; 8 years and 10 months' reference; eldest boy of three 14 years old; life experience; wife willing to help in house or laundry; good ironer. HARRY GOOD, Ivinghoe, near Tring, Bucks.

GARDENER (Single-handed); married; age 27, seeks SITUATION; experienced Inside and Out; 5½ years' excellent reference last situation. Apply W. G. CONN, 7, Coombe Road, Sydenham.

GARDENER (Single-handed or Under); life experience; age 26; 2 years last place; good references; willing and obliging. A. TICKNER, 9, Carlos Road, Godalming.

FOREMAN (Inside).—Mr. DYE, Tring Park Gardens, Tring, Herts, wishes to recommend C. BALCHIN as above; 12 years' experience in Fruit, Plants, Carnations, and Malmaisons, House and Table Decorations; age 26; good references.

FOREMAN (Inside or General); age 27; 13 years' practical experience; three years as Foreman; good references; highly recommended. NORGATE, Bagshot, near Hungerford, Berks.

FOREMAN (inside), age 27. — Mr. ELLIOTT, Bramcote Hall, Bramcote, Notts, recommends his Foreman as above; 12 years' experience with Fruit and Plants. House Decorating, etc.; good recommendations from previous situations; disengaged when suited; Bothy preferred.

MR. HODGSON, Hesley Hall Gardens, Tickhill Rotherham, highly recommends G. ELY as Inside Foreman; age 28; good experience in Fruit, Plants, House, and Table Decorations; 3 years here; leave when suited.

GARDENER (Second, Inside and Out, where three or four are kept); life experience and good references; disengaged when suited; age 23. J. F. EATON, Rochford, Essex.

JOURNEYMAN-IMPROVER, age 20, seeks SITUATION, inside, or inside and out; well recommended; 3 years' good experience, inside and out at The Moot, Downton. S. FURNELL, Morgan's Vale, Downton, near Salisbury.

JOURNEYMAN (Inside and Out), age 24; 8 years' experience; can be well recommended; nearly 2 years' present situation. A. FUZZENS, Ossington Hall Gardens, Newark.

JOURNEYMAN, Inside or Inside and Out; age 21; 8 years' experience; good recommendations. Apply W. BRADSHAW, Station Cottages, Huntingdon.

MR. FINLAY, The Hall Gardens, Bushey, Herts, will be pleased to recommend J. SHAW as JOURNEYMAN (Inside); over five years' experience; age 19½; abstainer; Bothy preferred.

MR. MILES, The Gardens, Caversham Park, Reading, wishes to recommend C. RICHES as JOURNEYMAN (Inside); age 21; six years' experience.

GENTLEMAN wishes to recommend Young Man as GARDENER (Under) in Kitchen Garden, or Kitchen Garden and Pleasure Grounds; age 21; abstainer; good references. BARRELL, Frating, Colchester, Essex.

HANDYMAN and GARDENER seeks SITUATION, Painting, Glazing, Bricklaying, Carpentering, etc., or with Pigs and Poultry. A. BRETT, 72 Leahurst Road, Hither Green, Lewisham.

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SITUATION WANTED, Inside and Out; age 24. Apply A. COX, Peaselake, Gumshall, Surrey.

MR. W. HUMPHREYS, Buckden Towers, wishes to highly recommend a respectable YOUNG MAN under a good Foreman; age 20; Bothy preferred. G. WORLEY, Buckden, Huntingdon.

YOUNG MAN, age 24, seeks SITUATION as ESTATE HANDY MAN; good all-round experience; excellent references. HALL, 4, Oakfield Road, Cockfosters, New Barnet, Herts.

YOUTH (18) wants SITUATION in gentleman's garden where two or more kept; Inside or Inside and Out. Apprenticed two years, altogether three years' experience; best references; Bothy preferred. L. PENNINGTON, 49, Victoria Grove, Stoke Newington, London.

Situations Vacant.

WANTED, at once, YOUNG MAN aged 15 or 16, for Outside Garden work (eleven kept); good reference necessary. Apply HEAD GARDENER, Pyrford Court, Woking, Surrey.

WANTED, active YOUNG MAN, Second of three, chiefly for Pleasure Grounds and Kitchen Garden; must have some experience of Inside, and capable of alternate duty. Preference to abstainer; wages 24s. GARDENER, Homewood, Eden Park, Beckenham.

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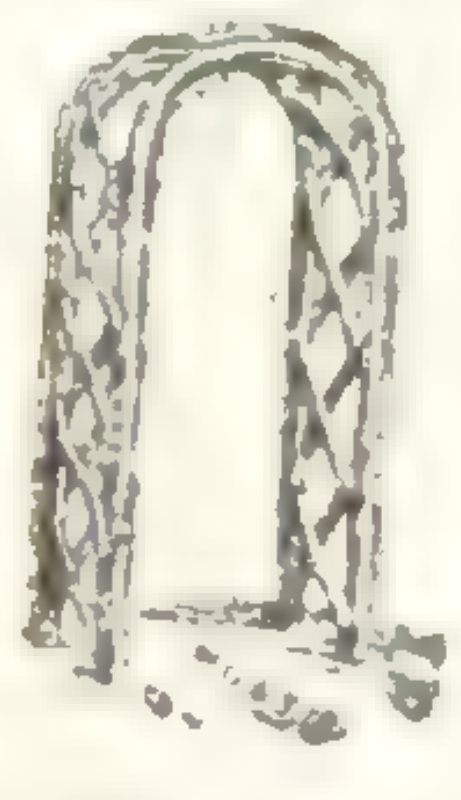

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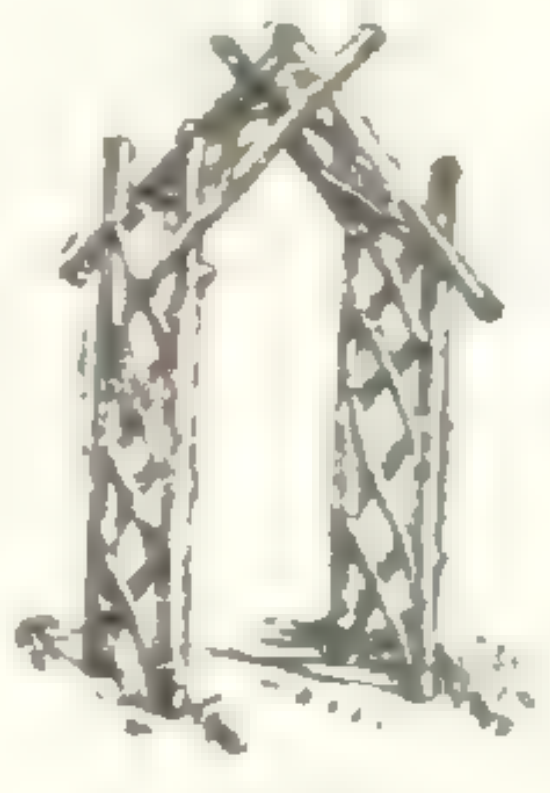

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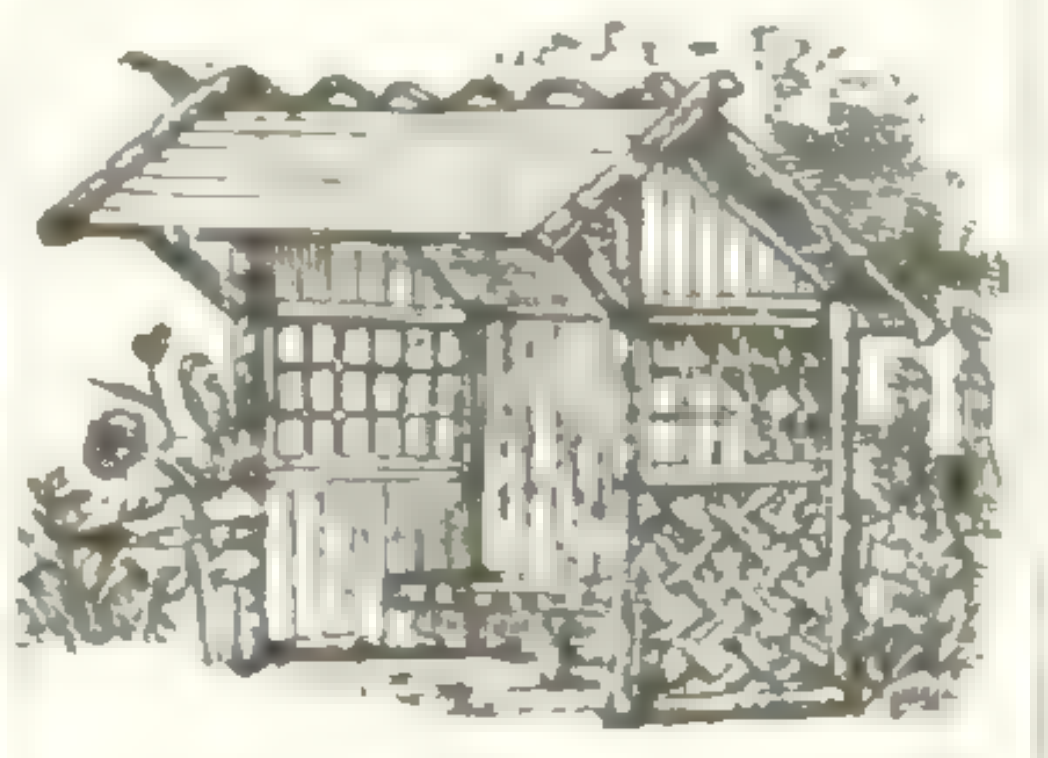

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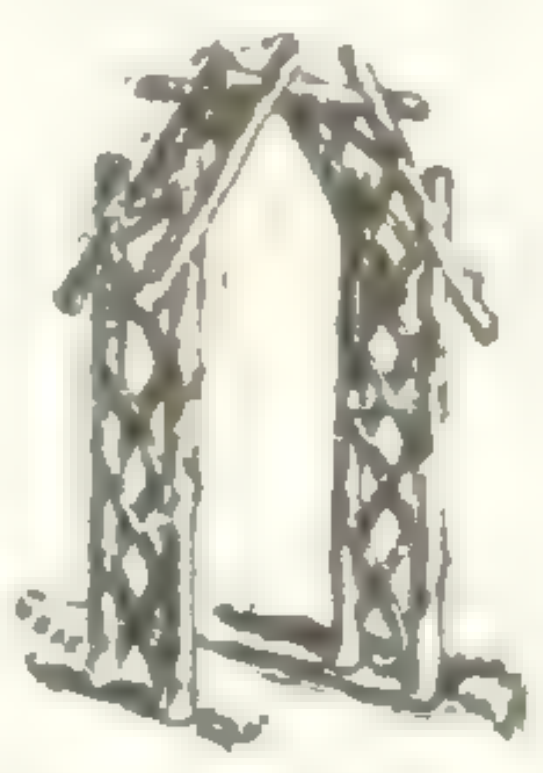

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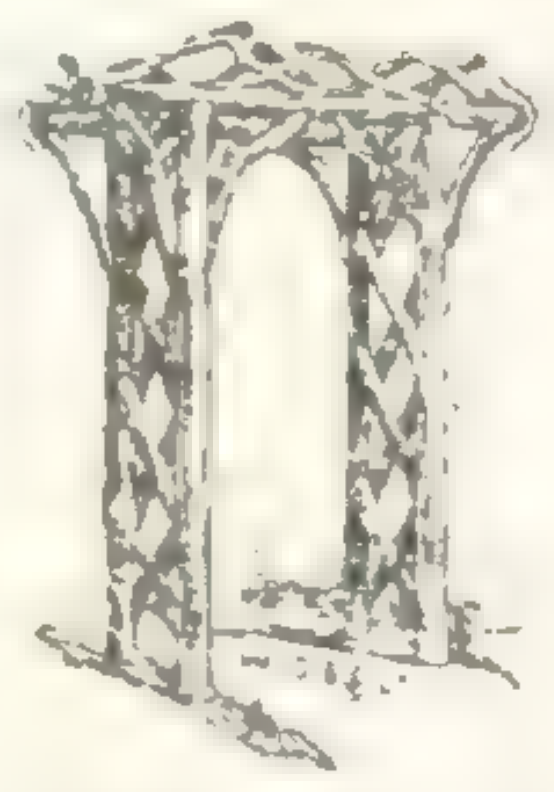

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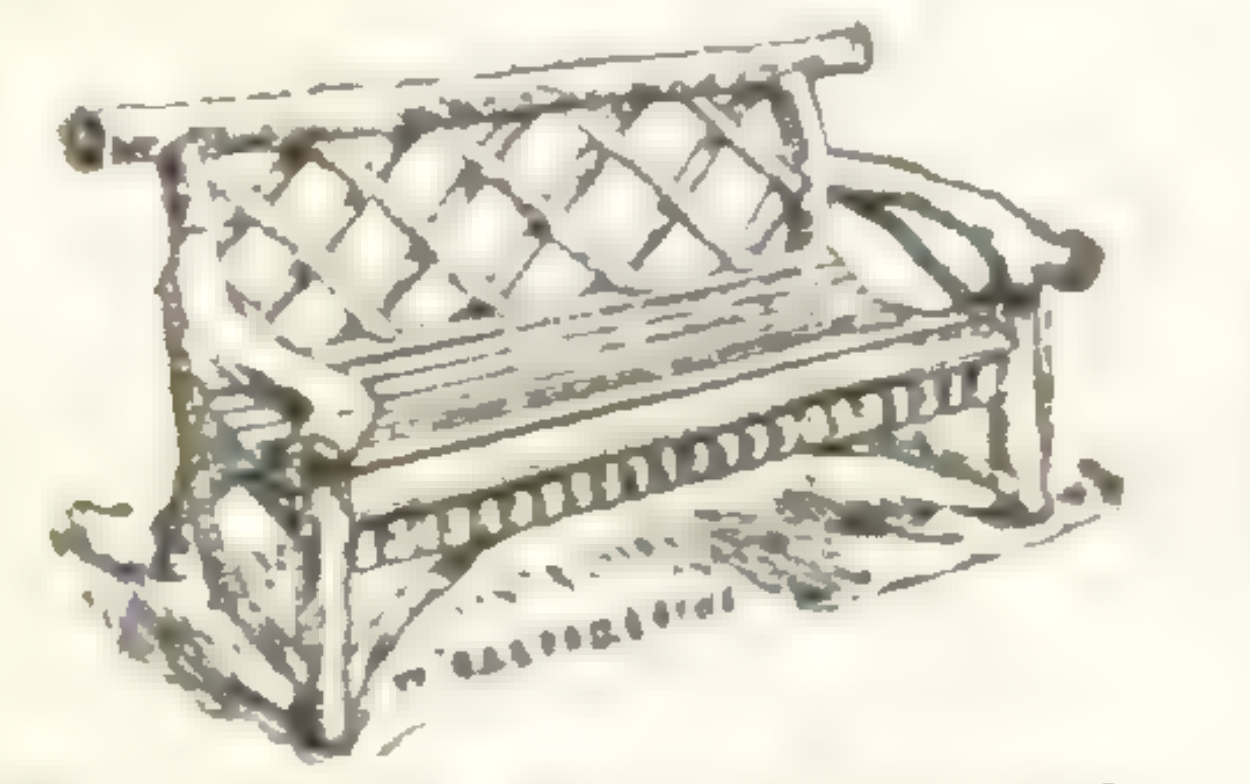

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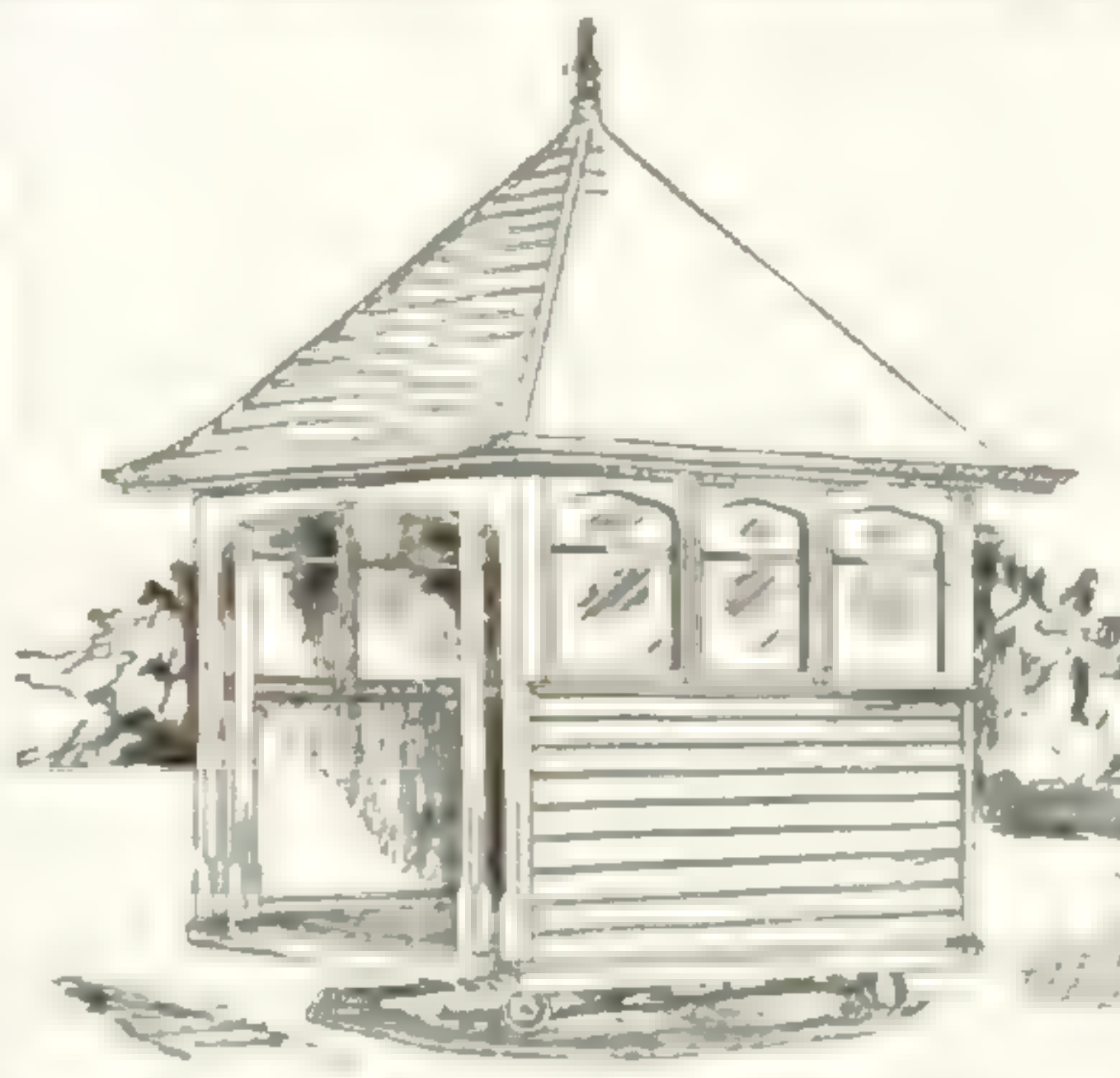

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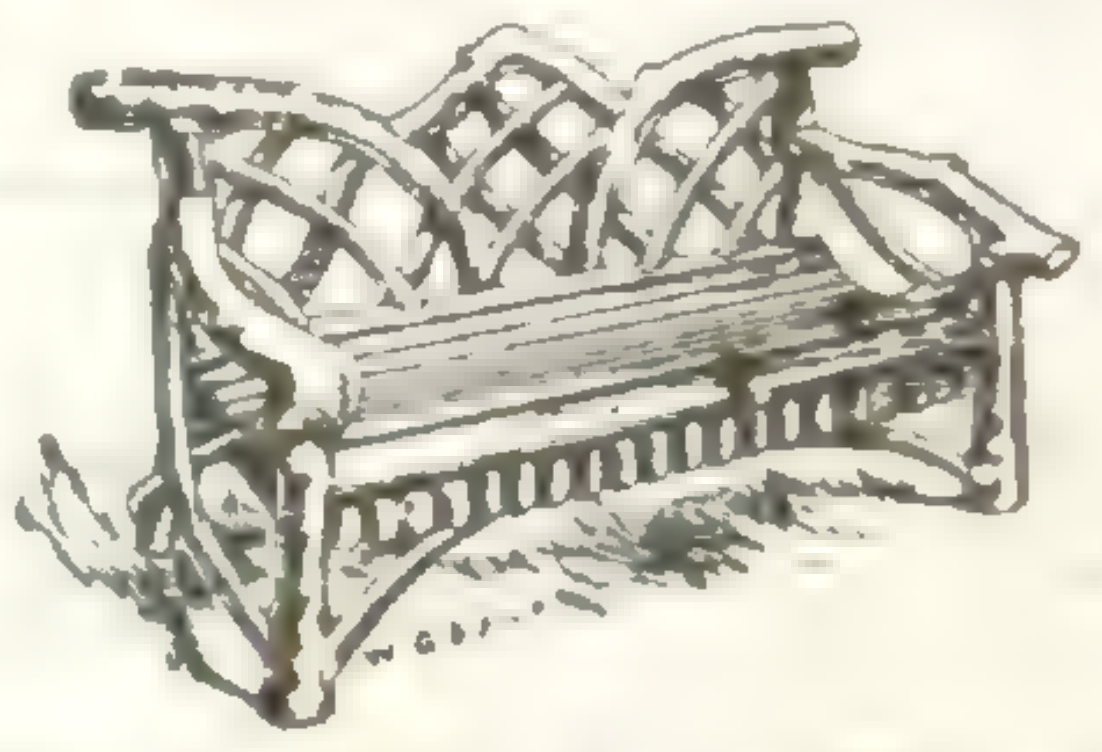

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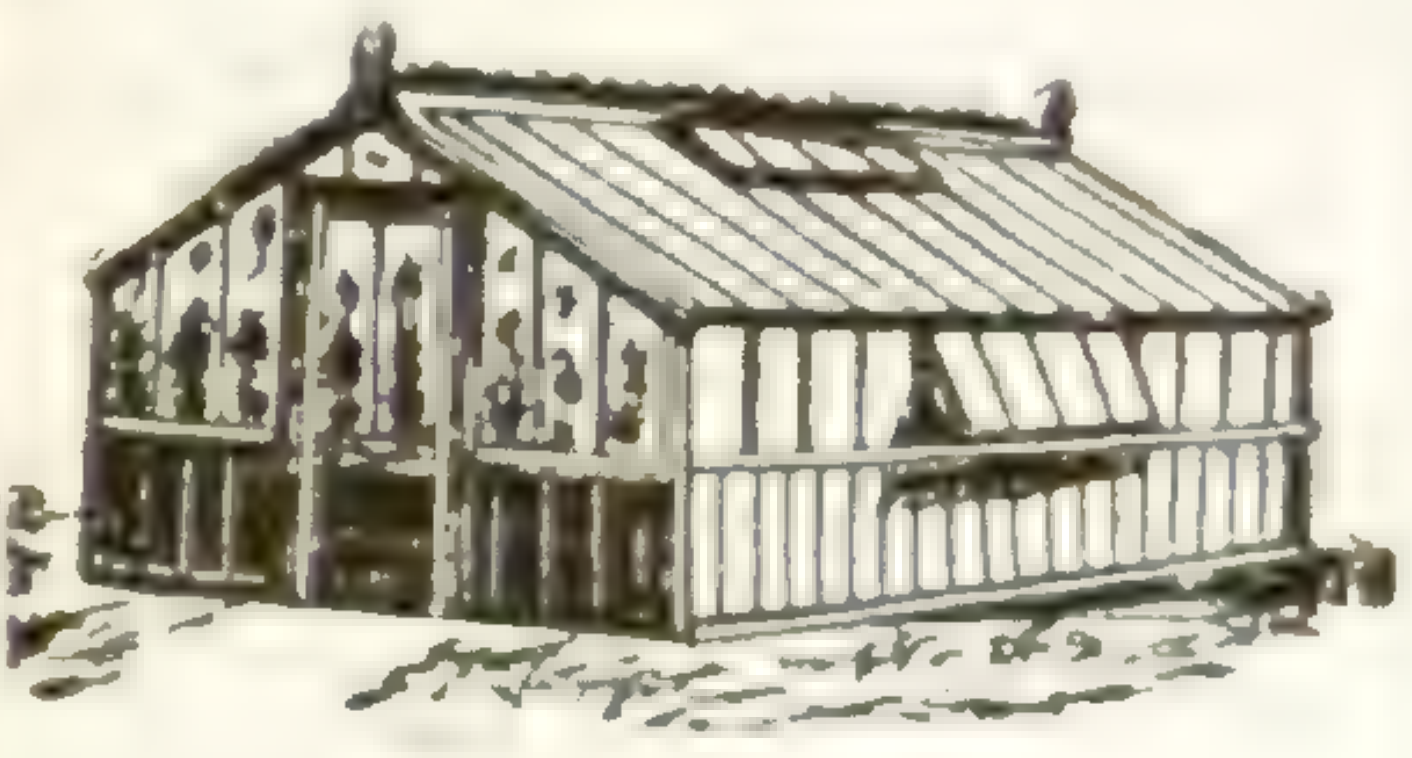

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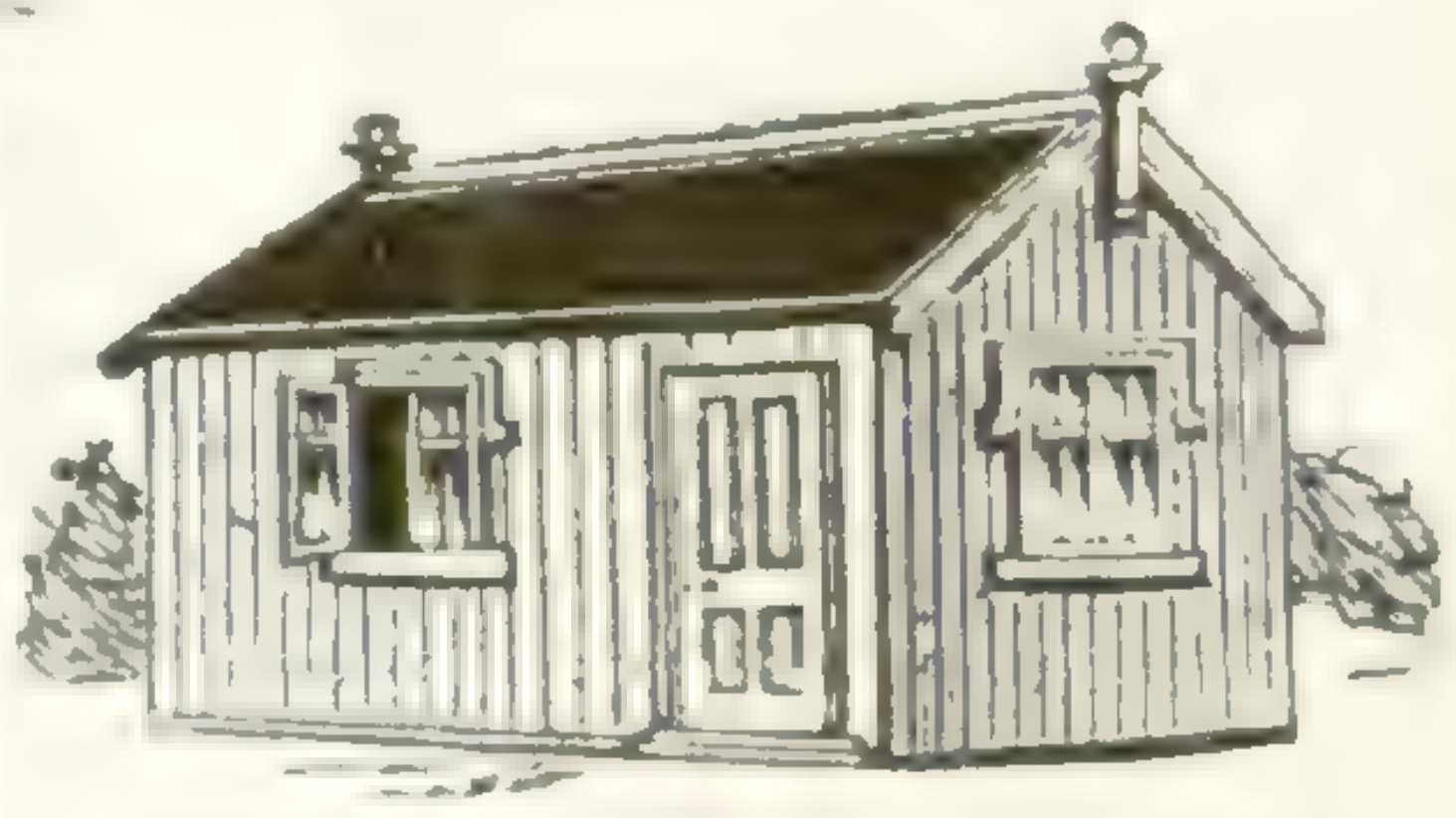

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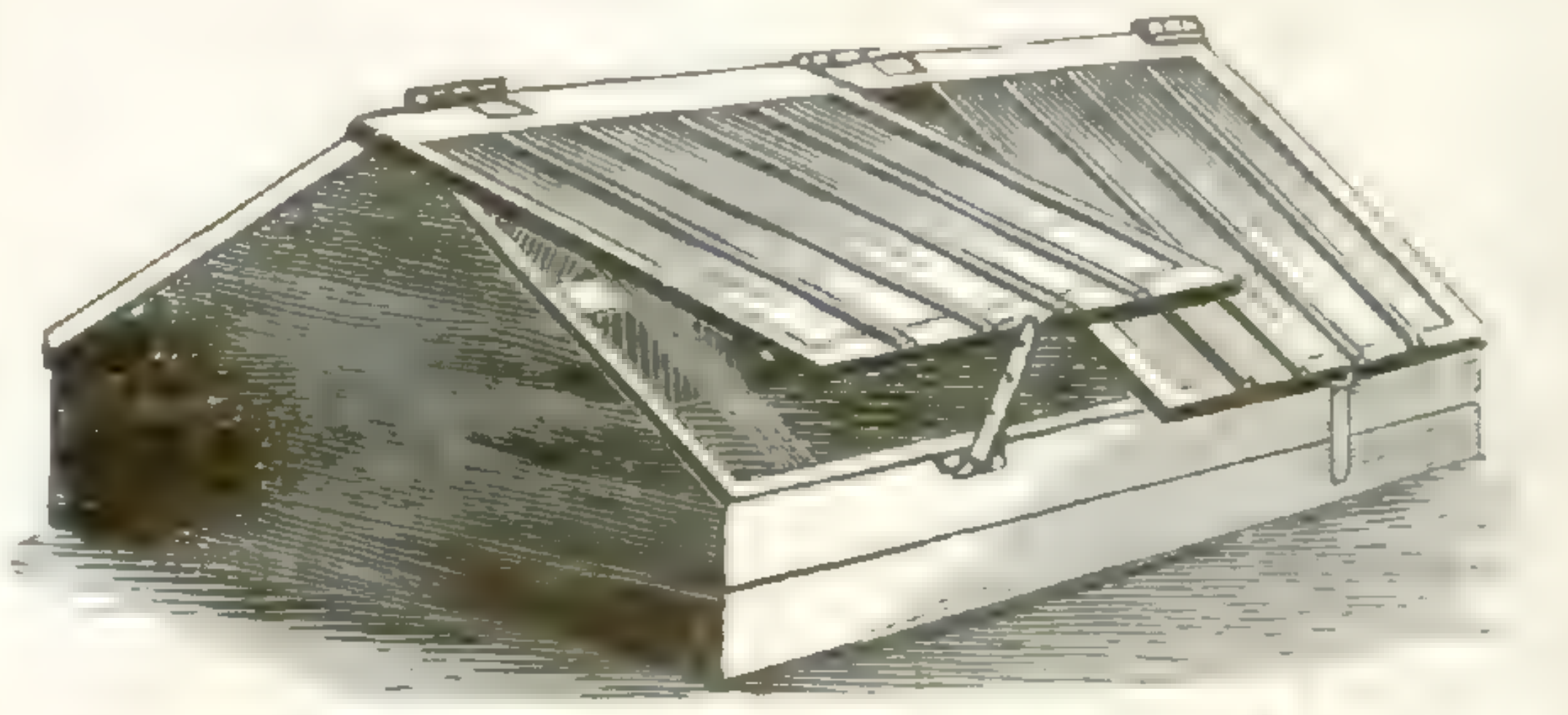

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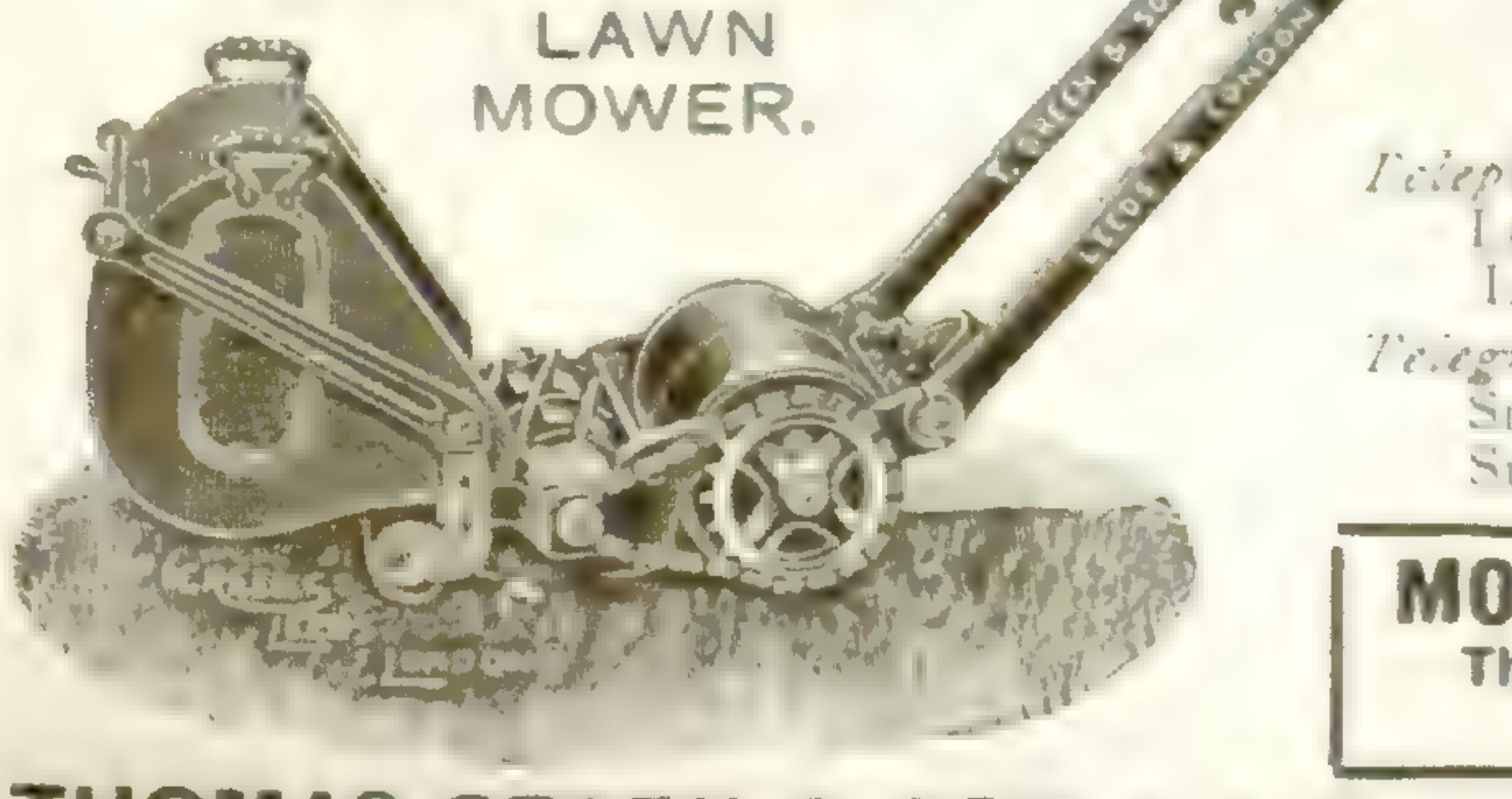

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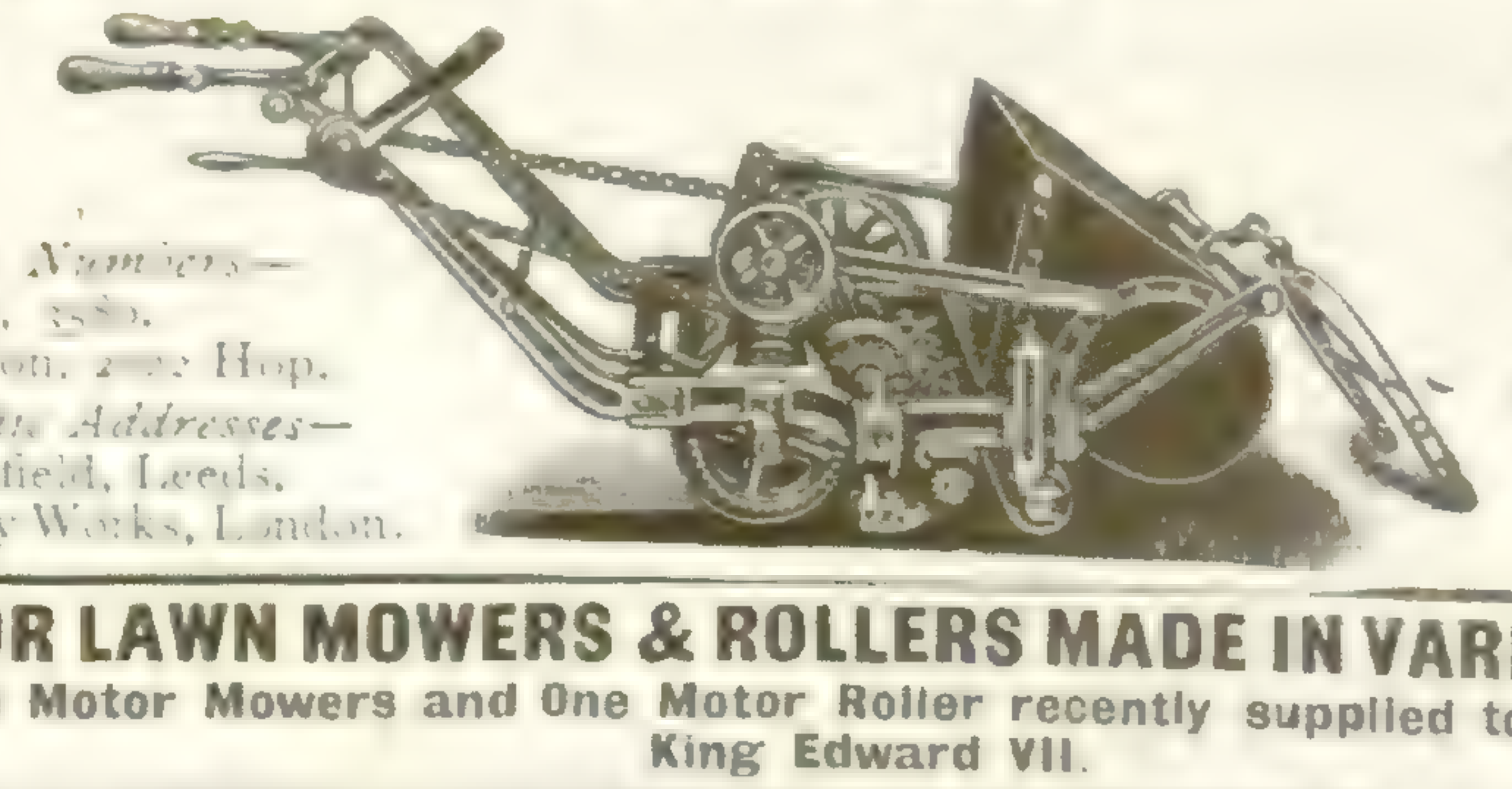

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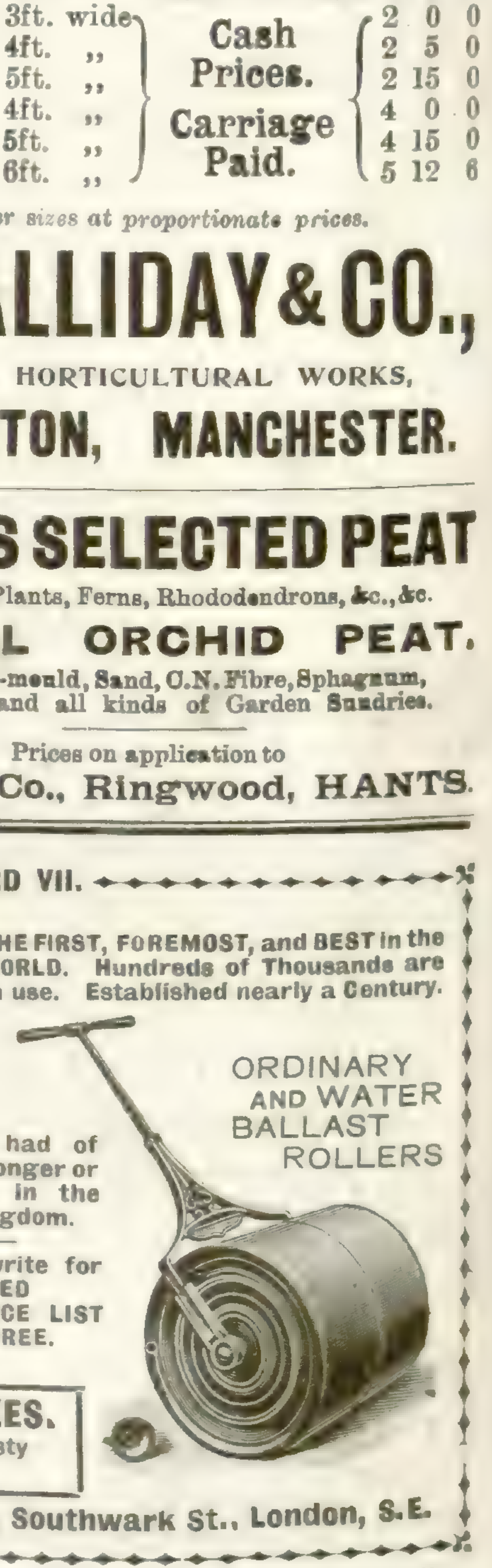

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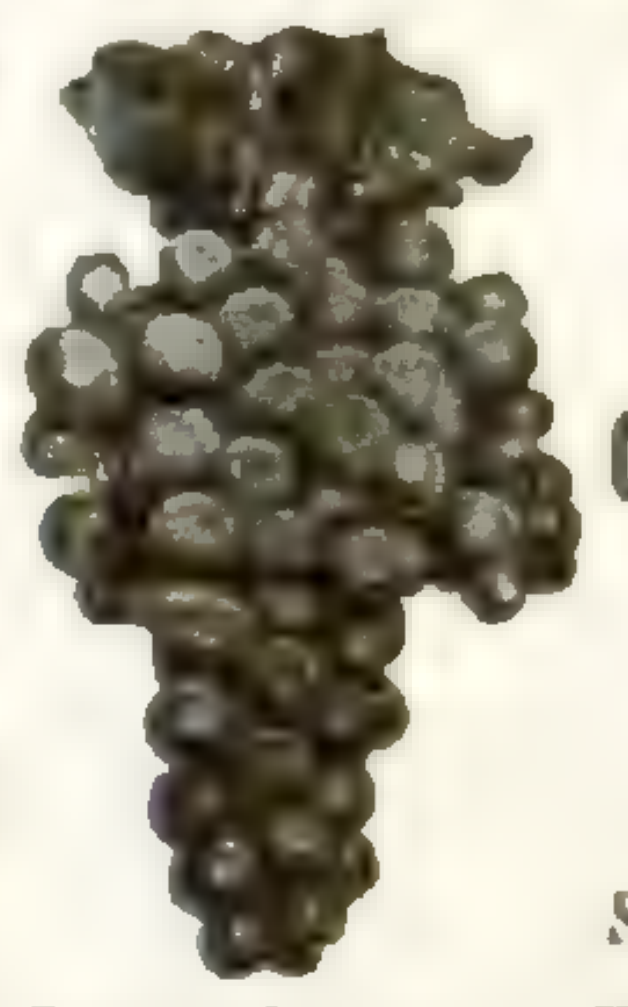

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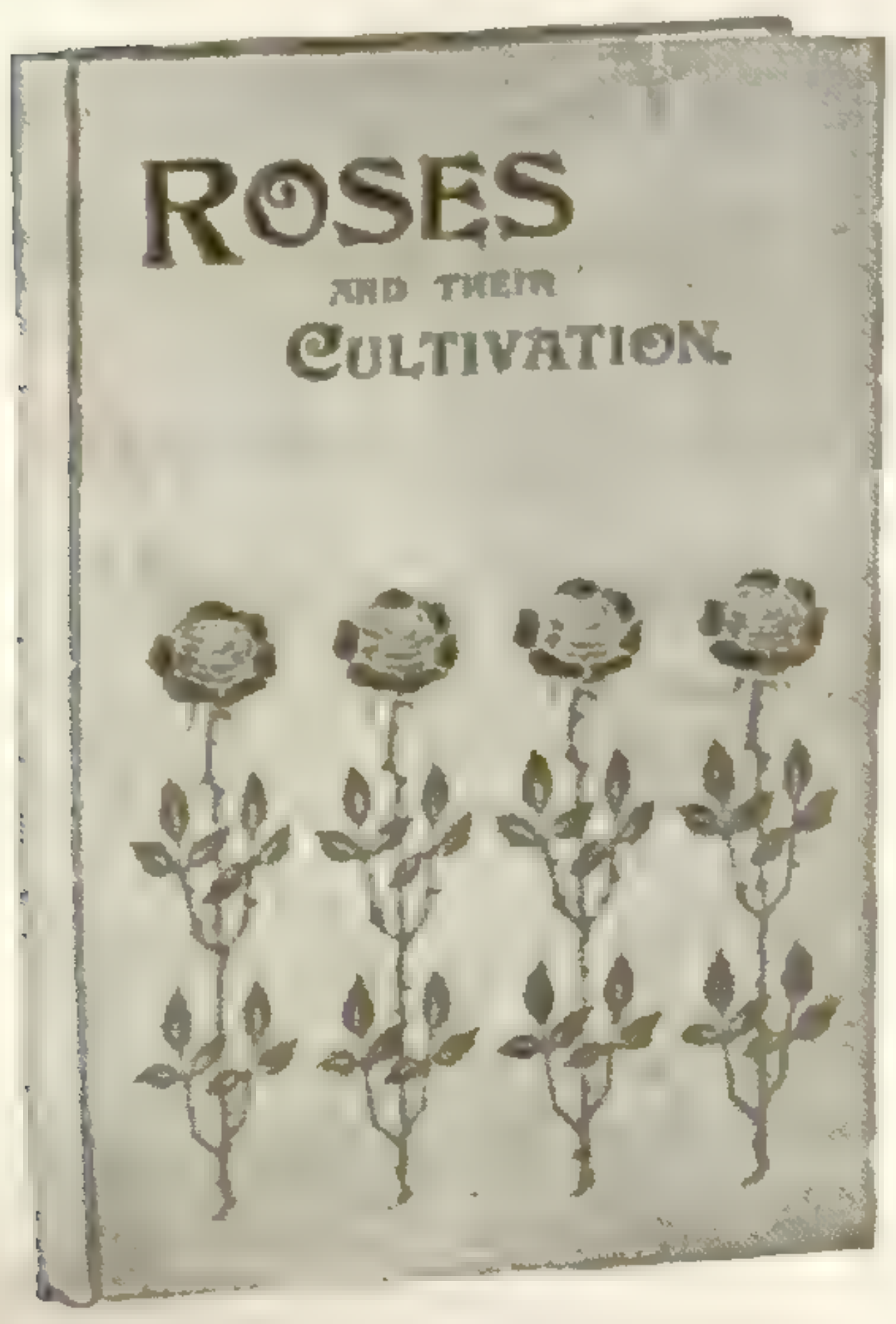

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THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Grubs.

Grubs, as representing intermediate forms of insect life, mostly in the form of caterpillars or maggots, constitute undoubtedly the most pernicious and destructive pests to which plant life is subjected. It is really they which do practically all the damage in connection with moth and butterfly tribes, which in their perfect flying form content themselves with the light and innocuous fare provided by floral nectaries, and in return for which they perform in many cases the essential service of conveyance of pollen from one flower to another. Unhappily, however, these ambrosial repasts suffice to enable them, after their nuptial flights, to perfect an immense number of eggs, which they deposit with great dissemination upon the stems and foliage of such plants as are best adapted to nourish the future broods of devastating grubs. Since, therefore, every moth or butterfly may be regarded as a potential mother of a brood of hundreds, it is clear that it behoves the mere plant lover, as distinct from the entomologist, to wage war upon them, and particularly under glass, where the appearance of a fluttering intruder should be the signal for a chase of the most ardent description. The caterpillar is, indeed, one of the most voracious creatures in existence; it rarely rests from feeding; and thus a single individual, if unobserved, can reduce a fair-sized plant to a thing of rags and tatters within the period commencing when it whets its baby teeth on promising buds and leaflets, and when finally it enwraps itself in a cocoon in some secluded corner in the vicinity of its last repast, as a prelude to the butterfly stage later on. They vary much in their habits, however; some restrain their appetites during the day, hiding themselves in the soil, only to sally forth at night, and make up for their abstention by redoubled energy in feeding; the hapless owner of the plant finding its still more hapless remains in the morning in the shape of bare twigs minus a trace of the depredator. The day and night feeders are, however, more easily discovered, since, as a rule, their droppings betray both their presence and their position; but some, like the woolly bear, are wide rangers, and travel rapidly from plant to plant, leaving only partial wrecks behind them. Apart from the traces indicated, evolution has endowed these pests with peculiar modes of disguising their presence. Sometimes they so closely imitate the foliage in colour, and even markings, as to need a sharp eye to distinguish them; while others imitate, both in colour and position, the twigs in their vicinity, and thus baffle the would-be destroyer. Sometimes, but rarely, we may find individuals of a wrong colour on a plant; but the very fact of its instant discovery and destruction affords a capital example of how evolution works in favour of the fittest and adversely to the unfit, since birds' eyes are equally keen. The grubs of the maggot persuasion, such as those of the weevil and the crane-fly (Daddy Longlegs) are even more insidious and destructive than the caterpillar. Plants are beneficently gifted by nature with a large reserve of vigour as regards foliage, and will survive a large amount of denudation; but the pests in question devour the roots and root-stocks, which are the very foundation of plant life; and hence, if left undisturbed, utter destruction is the result; and we may find the unfortunate plant with all its foliage intact, but wilted, lying loose upon the soil, and dead beyond redemption. Wherever, therefore, the presence of such grubs is suspected, it is better to lift the plants, remove the pests, if present, and then replant. Unfortunately most of this tribe of depredators are immune from such toxic remedies as would not be fatal to plant life also. Then we have the wireworm type and innumerable insidious borers, whose life histories in these later days are becoming rapidly mastered, together with the weak points at which they are best assailed. Fortunately, too, in the insect world there are innumerable members which wage war upon other species, and thus help mankind to reduce them. Ichneumon flies are always at work depositing frustrating eggs in the bodies of alien larvæ; insidious fungoid diseases attack some of the pests; but perhaps the most curious case of foe versus foe is recorded in which a wireworm was caught in the very act of boring through the body of a living weevil in a fernery we are familiar with. Finally, we may refer to such grubs as those of the bees and wasps, which are fed, as it were, at home, in the nests provided for them by the community, and which therefore do no direct harm, save in so far as they serve as a link of continuity in a race which, as with the wasp, may do much damage in the winged state. The grubs of the house-fly and blue-bottle may be regarded as doing more good than harm, since they act as scavengers of dead and refuse matter, and leave living plants alone.

MR. CHARLES G. WYATT.

Mr. C. G. Wyatt, whose portrait we have the pleasure of giving in this issue, possesses a remarkable breadth of view, and, as the head of Messrs. Keynes, Williams, and Co., he takes an active interest in classes of plants that are of the most diverse character. His name is, however, the most closely associated with roses and dahlias, which have long occupied prominent positions in the Salisbury nurseries, and he is acknowledged as one of the leading authorities by all classes of growers. While cultivating largely and well all the finest of the varieties of both dahlias and roses, Mr. Wyatt is strongly impressed with the importance of breaking away from traditional lines and introducing as opportunities arise quite new types as a means of retaining the public interest in the several classes of flowers that have a prominent position. We have evidence of this in the fact that the large number of beautiful hybrid briars raised by the late Lord Penzance were distributed by his firm. Then, in turning to dahlias, in which Mr. Wyatt takes a special interest, we find that he has raised and introduced several cactus varieties that differ materially from the florists' type, as well as many that conform to it. Of the former mention may be made of such varieties as Arachne, Innovator, and Progenitor, which, if no longer new, are none the less interesting or useful in the garden where departures from the ordinary type are appreciated. Mr. Wyatt is a mine of information on all that relates to the dahlia and its cultivation, and is always listened to with pleasurable interest when he takes part in discussions relating to the flower, as, for example, at the conference held by the National Dahlia Society in March last. While Mr. Wyatt has given much time and thought to the raising and cultivation of cactus dahlias, his efforts in connection with them has not appreciably diverted his attention from the show, fancy, and pompon dahlias, of which he has raised many excellent varieties, and grown immense numbers of blooms of so high a quality as to place him in the front rank of exhibitors of these flowers.

Chief Officer of the London Parks.—The London County Council invites applications for the position of Chief Officer of the Parks Department, and the wording of the advertisement suggests that the importance of a knowledge of horticultural matters to the Chief Officer is not fully appreciated by the Council, notwithstanding the great change in its composition that it has undergone since the appointment of a military officer to the post in February last. The invitation is as follows: "The London County Council invites applications for the appointment of Chief Officer of its Parks Department, who will be required to give his whole time and energies to the duties of his office. Members of the staff of the Council are not precluded from making application for the position. The person appointed will be responsible for the management of all the parks, gardens, and open spaces maintained by the Council, which at present are 114 in number and of an aggregate area of about 5,100 acres. He will also be responsible for organising the recreative arrangements in the parks, including gymnasiums, boating, game pitches, and bands; for the management of the conservatories and the horticultural and other buildings therein, for overlooking the refreshment facilities, and for the management and discipline of the staff employed in the parks service. The average number of the staff is 1,000, including in its ranks men well qualified as specialists in their separate departments; and, while for the chief officership knowledge of surveying, landscape gardening, forestry, and horticulture is desirable, the principal requirement must always be a capacity for intelligent general supervision of the very varying duties which have to be performed under the chief officer's authority. The person appointed will not be allowed to take any private business or other paid employment, and any fees received by him, either as a witness or in any other capacity, are to be paid to the Council. He must not be more than 45 years of age on September 1, 1910. The commencing salary attaching to the appointment is £700 a year. No fixed allowance will be made to him for travelling expenses, but he will be repaid any such expenses as he may actually incur." It will be seen that, while the Chief Officer will have the supervision of public parks and gardens, with an aggregate area of upward of 5,000 acres, the knowledge by which alone they can be successfully managed is regarded as a quite secondary matter. This is certainly what we understand from the statement that, "while for the chief officership knowledge of surveying, landscape gardening, forestry, and horticulture is desirable, the principal requirement must always be a capacity for intelligent general supervision of the very varying duties which have to be performed under the Chief Officer's authority." This is surely a contradiction of terms, for it is impossible for anyone to exercise an intelligent supervision over a large number of parks and gardens devoted to public use without a full acquaintance with the details of their management. The fact of the superintendents being well qualified as specialists does not in any way render it unnecessary for the Chief Officer to be a horticulturist of the first rank, as well as possessing administrative abilities of a high order. On the contrary, the more thorough the acquaintance of the superintendents with the science and practice of horticulture, the greater is the necessity of the officer placed in authority over them possessing similar knowledge.

Extension of Wimbledon Common.—For the purpose of preserving the view from Wimbledon Common, the Maldens and Coombe Urban District Council has decided to purchase, at a cost of £3,500, the 15 acres 3 roods and 15 poles of land lying between Robin Hood and Coombe Bridges. This will give a walk from Coombe Bridge to Richmond Park.

Vacant Land Cultivation Society.—The second annual meeting of this extremely useful society was held in the Council Chamber, Guildhall, on Wednesday last, when a report of much interest was presented. As we have previously mentioned in these pages, the object of this society is to utilise vacant land in London and other cities in giving employment to needy working men and women. The society was founded three years ago, and its method of procedure is to obtain the loan of vacant land from the owners and to let it rent free to members of the working classes who are out of employment or are otherwise in poor circumstances. The progress made has been so rapid that the society has now the control of 60 acres, and on this area 500 men and women have plots in cultivation, and it is estimated that, by including the families, 2,400 persons are deriving benefit from the produce of the land. There are, in addition, 250 applicants for plots, and to provide for these 30 acres more land are required. It is estimated by the society that the gross annual retail value of the produce raised by the occupants of the plots exceeds £5,000, and that for every £1 spent by the society the plot-holders have had £5 worth of useful vegetables. When it is remembered that the whole of the land thus utilised had practically been waste—in some cases for many years—the advantages are obvious. The society, it should be mentioned, when it has obtained the loan of land, fences it, and then clears and otherwise prepares it for the tenants, who are also assisted with seeds and advised on garden management. Thus a considerable annual expenditure is involved, and, as this is met by voluntary subscriptions, it is not possible to proceed so rapidly with the work as could be desired. The honorary secretary is Mr. J. Fels, 39, Wilson Street, Finsbury, London, E.C., who, we observe, contributed about one-third of last year's income, and the garden superintendent is Mr. R. Lewis Castle. The society will welcome contributions of seeds, tools, etc., as well as subscriptions.

R.H.S. General Examination in Horticulture.—From the recently issued report on the general examination in horticulture, held by the Royal Horticultural Society on April 20 last, we learn that in the examination of seniors (over 18 years of age) there were 174 candidates, of whom seven did not present themselves on the appointed date. The examiners, the Rev. Professor Henslow, V.M.H., and Mr. James Douglas, V.M.H., report that of the 165 English candidates securing a place in the pass list, 42, or 25 per cent., secured places in the first class; 88, or 53 per cent., obtained the second class; while 35, or 22 per cent., appear in the third class. Of seven candidates in India, four were placed in the second and three in the third class. Of four in South Africa, two were placed in the first, and two in the third class. Comparing the results of the questions in Section A with Section B, it was found that 43 excelled in A, or 25 per cent., and 55 in B, or 31 per cent.; while 57 were within 10 marks of each other, or 32 per cent.; and, lastly, 21 candidates obtained exactly the same total number of marks in each paper, i.e., 12 per cent. Cases of wide variation in the marks secured in the two sections were very few, and were mostly confined to the third class. These results, therefore, seem to indicate that candidates had studied both the theoretical and practical sections of the syllabus with equal attention, a slight balance in favour of practical knowledge (Section B) over physiological (Section A) being perhaps perceptible. In the junior (under 18 years of age) examination there were 112 candidates, and of these eight were placed in the first, 29 in the second, and 37 in the third class; while 21 were placed in a fourth class. Those securing less than 25 per cent. of the full marks do not appear in the list.

Conservatory Design.—In the continuation of the article on "Conservatory Design," which appeared on page 512, we inadvertently credited another firm with the erection of the whole of the glass structures in the Royal Horticultural Society's gardens at Wisley, whereas Messrs. W. Richardson and Co., of Darlington, erected, in competition, the fine plant and fruit houses which have from the first formed an important feature of the Wisley gardens, and brought the builders much praise. Messrs. W. Richardson and Co. have just completed a new orchid house in these gardens, which has been erected under the superintendence of the R.H.S. Orchid Committee.

Horticultural Club Excursion.—By the invitation of N. N. Sherwood, Esq., the members will visit Prested Hall, Kelvedon, Essex, on Thursday, July 28, and not July 30, as stated in the preliminary notice. All applications for tickets, which are 7s. 6d. each, should be made to Mr. H. J. Veitch, Royal Exotic Nursery, Chelsea, before July 20.

Paris Floods.—The final list of subscriptions opened by the National Horticultural Society of France for the benefit of French nurserymen who suffered by the floods has just been published. The amount raised reached the sum of over £1,500.

Saxifraga umbrosa. — Mr. J. Fraser directed attention at a recent meeting of the R.H.S. Scientific Committee to seedlings of a compact form of Saxifraga umbrosa, with prettily-spotted flowers differing from the type in stature and in the closeness of the rosettes. The seedlings came true in habit, but showed some variation in the spotting of the flowers.

EXHIBITIONS AND MEETINGS.

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National Rose Society.

In some respects the weather on the occasion of the great Metropolitan Rose Show, held at the Royal Botanic Gardens on July 8, was not of the best. The wind was cool and the sky overcast, and everyone knows it had rained more or less, chiefly more, for many days previously. But the cool weather made the crowded tents bearable, and the cool, damp days that preceded the show made it possible for growers to stage many of the grand old highly-coloured roses in beautiful condition. The disadvantage was that the ground on which the tents were erected had in some of the low, wet places been churned up by hurrying feet in the small hours of the morning, and was therefore not in a pleasant state to walk upon, especially in the case of the many ladies elegantly gowned for the occasion.

The show was a good one, not the best, but very good, and the competition in most of the classes was very keen. Of course, the society is perfectly right in catering for its small growers, but to the visitor who is not a competitor and comes to see good roses the repetition of classes and also of varieties becomes very bewildering and monotonous; but it is a mistake to quite overlook the small classes, because often they contain some very fine flowers.

THE CHAMPION TRADE CLASS.

There is always a great fight in the Nurserymen's Champion Class, where the Trophy, Gold Medal, and money award are offered as the premier prize for seventy-two blooms distinct. There were six competitors on this occasion, and the championship rests for the season with Messrs. Alex. Dickson and Sons, Newtownards, co. Down, who staged splendid, fresh, bright, and good-sized flowers. The leading varieties were Mrs. David McKee, Frau Karl Druschki, Mrs. C. W. Kershaw, Mdme. Vermorel, Helen Keller, Mrs. Hugh Taylor, Mrs. Foley Hobbs, Mildred Grant, Charles J. Grahame, Etienne Levet, Ben Cant, Mrs. E. Mawley, Horace Vernet, Mrs. T. Roosevelt, Ulrich Brunner, A. K. Williams, Gustave Grunerwald, Duchesse de Morny, Mrs. R. G. Sharman Crawford, Lyon Rose, S. M. Rodocanachi, G. C. Waud, Marie Baumann, Mdme. Melanie Soupert, Gustave Piganeau, J. Stuart Mill, and Caroline Testout. Messrs. D. Prior and Son, Colchester, were second with good flowers, but the stand needed a few lighter-coloured varieties; Messrs. B. R. Cant and Sons, Colchester, third; and Messrs. Frank Cant and Co., Colchester, fourth.

Forty varieties, three blooms of each, is a good class, and is a severe test of quality. There were five contestants, and first prize fell to Messrs. Alex. Dickson and Sons, Newtownards, for a very bright set of medium-sized flowers, some of which showed traces of bad weather. The best flowers were Frau Karl Druschki, Marquis Lita, Heinrich Schultheis, Mrs. T. Roosevelt, Horace Vernet, G. C. Waud, A. K. Williams, Lyon Rose, Mrs. W. J. Grant, Mrs. David McKee, Gustave Piganeau, Caroline Testout, Mrs. Hubert Taylor, Mrs. R. G. Sharman Crawford, Marie Baumann, Mrs. E. Mawley, John Ruskin, Victor Hugo, Ulrich Brunner, and Mildred Grant; Messrs. Benjamin Cant and Sons, Colchester, came second with a good set, in which Lyon Rose, G. C. Waud, Captain Hayward, and Ben Cant stood out well; Messrs. D. Prior and Son, Colchester, third.

NURSERYMEN'S CLASSES.

The Colonial Cup, offered as the chief award for forty-eight blooms, distinct, was secured by Mr. George Prince, Longworth, Berks, with flowers of wonderful brightness but small, and also with weather-stained outer petals. The best varieties were Captain Hayward, A. K. Williams, Earl of Warwick, Mrs. D. McKee, G. C. Waud, White Maman Cochet, Lyon Rose, and Dean Hole; there were eight competitors, and Mr. Hugh Dickson, Royal Nurseries, Belfast, gained second award; Mr. H. Drew, third, and Messrs. G. and W. H. Burch, fourth.

For two dozen roses, distinct varieties, there were nine entries, and Mr. J. Mattock, Headington, secured the leading award with C. J. Grahame, Lyon Rose, Mrs. J. Laing, Earl of Warwick, Hugh Dickson, and J. B. Clarke, specially good; Mr. J. Pigg, Royston, second; and Messrs. Perkin and Sons, third. The best sixteen trebles were shown by Messrs. G. and W. H. Burch, who contributed excellent blooms of J. B. Clarke, Ulrich Brunner, Frau Karl Druschki, Lyon Rose, Mrs. J. Laing, and Horace Vernet; Mr. George Prince, a close second; and Mr. W. Leggett, Rose Gardens, West Bergholt, Colchester, third.

A curious class was the one for sixteen varieties of H.T. roses, distinct, not less than three or more than five blooms of each, to be shown in two twenty-four boxes. There were six competitors, and Mr. Hugh Dickson scored here with Joseph Hill, Mdme. A. Chatenay, Laurent Carle, Countess of Gosford, Richmond, Pharisaer, Mdme. Melanie Soupert, General McArthur, Lyon Rose, etc. Mr. J. Mattock was second, and Messrs. Frank Cant and Co., third.

NURSERYMEN'S TEA ROSES.

The D'Ombrain Challenge Cup for the best two dozen distinct T. or N. roses fell to Mr. George Prince, Oxford, who had what was only a fair set for him; his best flowers were Medea, Miss E. Brownlow, Mrs. E. Mawley, Souv. de Pierre Notting, White Maman Cochet, Maman Cochet, Molly Sharman Crawford, Mdme. Vermorel, Bridesmaid, and Muriel Grahame; Mr. Henry Drew, Longworth, second; and Messrs. Frank Cant and Co., Colchester, third. Mr. J. Mattock, Headington, led for a dozen flowers, and his best specimens were The Bride, Mrs. E. Mawley, Maman Cochet, and White Maman Cochet; Messrs. J. Burrell and Co., Howe House Nurseries, Cambridge, second; and Mr. John Pigg, Royston, Herts, third; six entries.

Fourteen trebles of tea roses, shown in vases, was a class that brought out four competitors, and here Mr. George Prince scored, and his cleanest flowers were of Mrs. E. Mawley, Molly Sharman Crawford, White Maman Cochet, Catherine Mermet, The Bride, and Mdme. Jules Gravereaux; Mr. H. Drew, second; and Messrs. F. Cant and Co., third.

NURSERYMEN'S VASE CLASSES.

There were four entries in the class for twelve exhibition varieties of roses, seven blooms of each, and here the flowers were remarkably fine, especially the winning set, from Messrs Alex. Dickson and Sons, Newtownards, whose card was endorsed "very good" by the judges. The varieties were Mildred Grant, Horace Vernet, Mrs. J. Laing, Countess of Ilchester, William Shean, Mrs. W. J. Grant, Mrs. Theodore Roosevelt, Duchess of Portland, A. K. Williams, Mrs. E. Mawley, Frau Karl Druschki, and Ulrich Brunner; Messrs. D. Prior and Son, Colchester came second, and their flowers were splendidly set up; Messrs. J. Jefferies and Sons, Lim., Cirencester, third.

There were three competitors in the class for nine vases of exhibition tea roses, seven blooms in each vase; Mr. George Prince led here, and he had fine fat flowers of Mrs. Mawley, Mdme. C. Soupert, Bridesmaid, Molly Sharman Crawford, Medea, and White Maman Cochet. Mr. J. Mattock second, and Mr. H. Drew, third.

Mr. J. Mattock, Headington, led for a table of thirty-six vases of decorative roses, and he had Trier, Lady Curzon, Papillon, Gottfried Keller, and Betty in good condition; Messrs. Frank Cant and Co., Colchester, a very close second with an attractive exhibit; Mr. G. Prince third. Mr. Chas. Turner, Slough, led for eighteen bunches of decorative roses, and showed Le Progres, Mdme. Abel Chatenay, Betty, and Lady Battersea finely; Messrs. W. Spooner and Son, Woking, second, and Mr. J. Barrow, Oadby, Leicester, third.

Messrs. Frank Cant and Co. had the best display of eighteen bunches of summer roses (H.P.'s, H.T.'s, T.'s, and Chinas not admitted), and in their set they had grand bouquets of Crimson Damask and Hebe's Lip; Messrs. W. Spooner and Son, Woking, second, and Mr. Charles Turner, third. Premier award for eleven bunches of decorative roses was won by Mr. George Prince, who had Mdme. Abel Chatenay, Mdme. Ravary, Crimson Rambler, Betty, etc., in good style; Messrs. G. Jackman and Sons, Woking, second, and Messrs. G. Mount and Sons, third. Mr. G. Prince had the best six new roses, and was followed in order by Messrs. Paul and Son and Mr. J. Mattock.

GROUPS OF ROSES.

Two very fine groups of roses, each arranged on one hundred square feet of space, were staged, and there was not much to choose between them. Messrs. Paul and Son, Cheshunt, were awarded first prize, and they had standard roses of the Wichuraiana type in plenty over smaller plants, and a whole host of cut flowers. Messrs. Hobbies, Lim., Dereham, had specimen Wichuraianas set in an excellent ground work of cut blooms, prettily arranged.

For a representative group of roses arranged on a space of 100 square feet, Mr. J. Mattock, Headington, Oxford, secured the gold medal and first prize with a wonderful and effective exhibit; there was a backing of rambling roses, with tall stands of Lyon Rose, Frau Karl Druschki, Gustave Regis, Mrs. J. Laing, Ulrich Brunner, Countess of Derby, Cramoisie Superieure, and Lady Curzon in the front, with small vases of popular T. and H.T. varieties to fill in the foreground; Messrs. G. Mount and Son, Canterbury, were equal second, and had trophies of Frau Karl Druschki, Liberty, Lady Hillingdon, Mdme. Abel Chatenay, Killarney, and Mrs. W. J. Grant; and Messrs. W. and J. Brown, Peterborough, were awarded equal second for a light and pretty arrangement, in which Lyon Rose, Mrs. Laing, and Liberty were finely shown. Mr. F. M. Bradley, Peterborough secured an extra prize.

OPEN CLASSES.

In the open classes Mr. Walter Bentley led for eighteen crimson roses, one variety, arranged in a bamboo stand, with J. B. Clarke in fine form; Mr. H. Drew, second, with Ben Cant and Messrs. D. Prior and Son, third, with Marie Baumann; eight competitors. The best stand of eighteen of any white or yellow rose were huge examples of Frau Karl Druschki, shown by the King's Acre Nurseries, Hereford; Messrs. B. Cant and Sons, Colchester, second, with White Maman Cochet; Mr. G. Prince, third, with Lyon Rose; ten entries.

Messrs. D. Prior and Son, Colchester, came first for a stand of eighteen blooms of any other than a white, yellow, or crimson rose with champion blooms of Mrs. Theodore Roosevelt; Mr. Walter Bentley, Leicester, second, with the same variety, very clean and good; Messrs. Harkness and Co., Hitchin, third, with Mrs. J. Laing; twelve entries. Messrs. A. Dickson and Sons led for nine flowers of any new rose with lovely specimens of Walter Speed; Mr. Hugh Dickson second, with the deep crimson Leslie Holland; and Messrs. S. McGredy and Son, Portadown, third, with Ethel Malcolm; and Mr. Elisha J. Hicks, Twyford, Berks, equal third with Lyon Rose.

For a dozen new roses, Messrs. Hugh Dickson, Belfast, scored with Commander Jules Gravereaux, Miss Cynthia Forde, Mrs. P. H. Coates, Mrs. Holland, Leslie Holland, Walter Speed, Mrs. Sophy Neate, Margaret Molyneux, Lyon Rose, Nita Weldon, Countess of Shaftesbury, and Molly Sharman Crawford; Messrs. Frank Cant and Co. second; and Messrs. A. Dickson and Sons, third. In the Nita Weldon class for a dozen vases of roses not sent out before November, 1909, Mr. Hugh Dickson, Belfast, was first; and Messrs. A. Dickson and Sons, Newtownards, second; there were excellent blooms of most of the recent novelties.

Messrs. Frank Cant and Co., Colchester, scored for a dozen bunches of single roses in the open division, their best being Crimson Damask, Jersey Beauty, Joseph Billiard, Lady Curzon, Macrantha, Irish Glory, Morganroth, and Moschata alba; Mr. G. Prince second; and Messrs. Paul and Son, Cheshunt, third. For three baskets of bedding roses, a quite new class, Mr. J. Mattock, Headington, won the piece of plate offered by the President, Rev. F. Page Roberts, with beautiful arrangements of Marie Van Houtte, Mdme. Abel Chatenay, and Betty—a lovely set; Messrs. G. and W. H. Burch, Peterborough, second, with Richmond, Mdme. Abel Chatenay, and Mdme. Ravary; Mr. J. Barrow, third.

AMATEURS' CLASSES.

Mr. E. B. Lindsell, Bearton, Hitchin, won the amateurs' championship once more, and showed three dozen fine flowers, the finest of which were Yvonne Vacherot, Mrs. E. Mawley, F. K. Druschki, Gladys Harkness, Gustave Piganeau, Hugh Dickson, Bessie Brown, Mrs. T. Roosevelt, Ulrich Brunner, Mildred Grant, Charles Lefebvre, and Horace Vernet. There were eight competitors, and Mr. F. Dennison, Cranford, Leamington, was a good second with large blooms of Mrs. J. Laing, Mildred Grant, Mrs W. J. Grant, and F. K. Druschki; Mr. Conway Jones, Hucclecote, Gloucester, third; and Rev. T. G. Henslow, Chippenham, fourth.

Mr. E. B. Lindsell was also chief prize winner in the class for two dozen blooms, and again had fine examples of Caroline Testout, Duchess of Bedford, F. K. Druschki, Ulrich Brunner, Mrs. T. Roosevelt, and Mildred Grant; Mr. G. A. Hammond, Cambrian House, Burgess Hill, second; and Mr. F. Dennison, third. The best set of twelve trebles came from Mr. Conway Jones, whose Mrs. J. Laing, Earl of Warwick, Frau Karl Druschki, and Caroline Testout were excellent. Mr. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, second; and the Rev. T. G. Henslow, third. Mr. R. Foley Hobbs, Thorneloe, Worcester, scored for nine blooms of one variety with superbly clean and full flowers of Frau Karl Druschki; Mr. E. B. Lindsell, second, with Mrs. T. Roosevelt; and Rev. T. G. Henslow, third, with La France.

The Hobbies Cup for twenty-four blooms, open to growers of less than 3,000 plants, fell to Mr. E. M. Eversfield, Horsham, who had a superb bloom of Victor Hugo in a good stand, Rev. J. A. Fellowes, Attleboro', second, and Mr. W. Boyes, Middleton-in-the-Wolds, Yorks, third. In this section Mr. Eversfield also scored for a dozen trebles, with Rev. J. A. Fellowes second. Also in the same division Mr. Eversfeld led for nine blooms of one variety with F. K. Druschki; Mr. Boyes second.

The Christy Cup for two dozen blooms, open to growers of less than 2,000 plants, was won by Mr. W. J. Thorpe, Hucclecote, Gloucester, with blooms of good size and colour; Mr. W. R. Hammond, second, and Mr. W. O. Times, Hitchin, third. In this section Mr. Hammond led for six flowers of one variety with Dean Hole, and Mr. E. C. Williamson, Wilstead, Canterbury, led for any other than a tea rose, six blooms, with F. K. Druschki. Also in the same section Mr. G. R. Bonner, Tillingbourne, Burnwood, Gloucester, beat Mr. T. E. Pallett, Earls Colne, Essex, and Mr. G. Speight, Market Harborough, for two dozen blooms, and all showed well. Mr. W. O. Times was first and Mr. C. Page, second, for eight trebles.

Mr. C. F. H. Leslie, Epscombs, Hertingfordbury, scored for a dozen blooms in the class for growers of fewer than 1,000 plants, Dr. C. Lamplough coming second, and Mr. M. Whittle, third. For six of any variety Mr. A. C. Turner, the White House, Walton, led with F. K. Druschki, with Mr. G. Moules, Hitchin, second; thirteen entries.

Growers of fewer than 750 plants came forward in large numbers. For a dozen blooms the Rev. J. Chalmers Hunt, Willian Rectory, was first, and he also led for six tea roses. Dr. C. Lamplough, Alverstoke, beat Mr. G. W. Cook for six trebles.

The Charles Grahame Memorial Prize for nine blooms, open to growers of fewer than 500 plants, was won by Mr. H. W. Richards, Ryde, who had a fine Frau Karl Druschki, Her Majesty, and Marie Baumann; Mr. J. Stuart, Broomhill, Harrow, led for six blooms, and Mr. Upton, second.

The Charles Grahame Memorial Prize for blooms, open to growers of fewer than 350 plants, was won by Captain R. Kilbee Stuart, Evendine House, Colwall, Herts; Dr. F. G. Hayes, Dunster, Somerset, second; and Mrs. E. Moulden, Bandra, Stevenage, third; twelve entries. In the same division Mr. Alan Searle, Ashton Grange, Bassett, was to the front for six blooms, with F. K. Druschki, and Mr. F. J. Nightingale, Sutton, second.

Growers of fewer than 200 plants came forward in goodly numbers, and here the Rev. G. F. Henshaw, Corsley Rectory, Warminster, was first for six blooms and also for four trebles, with Mr. F. A. George, Red Hill, Worcester, second; for six flowers of one variety, Mr. R. House, Odds Farm, Woburn, led with the inevitable F. K. Druschki. For six flowers, not less than four varieties, Mr. H. F. Matthews, Berkeley House, Stevenage, went to the front in a strong competition.

The Challenge Cup for six blooms grown within eight miles of Charing Cross, was won by Mr. H. W. Whitmee, The Briars, Finchley, who was closely followed by Mr. W. E. Martin, Alexandra Grove, Finchley. Mr. F. A. Tubby, Fairview, Torrington Park, Finchley, was first for six blooms in not less than four varieties.

Mr. G. W. Cook, Radstock, Whetstone, scored for six blooms grown within ten miles of Charing Cross, with Mrs. J. Laing, W. Shean, Hugh Dickson, Princess M. Mertchowsky, Mrs. G. Kershaw, and Lady Ursula in good form; Mr. E. R. Smith, Metford Lodge, Muswell Hill, second, and Mrs. A. E. Clarke, The Hurst, Mottingham, Kent, third.

In the maiden growers' section Capt. R. K. Stuart won the piece of plate offered for twelve blooms with a good set; Mr. H. L. Weltern, Waratta, Sanderstead, second, and Mr. D. H. Church, Farleigh Road, Warlingham, third. Mrs. White, South Hill Cottage, Harrow, first for nine flowers, with Miss Aylmer, Donalda Lodge, Southampton, second, and Mr. W. Ames, Church Farm, Bourton, third. In the new members' class Mr. J. Dodwell, Perseverance Place, Hereford, had a fine six blooms, his best varieties being those of Beauty of Waltham and Mrs. J. Laing; Mr. L. Thomson, Ailsa Craig, Fornly, second.

Mr. Eversfield led in the extra class for two dozen flowers, with Mr. E. R. Bonner, Barnwood, Gloucester, second, and Mr. G. Speight, Market Harborough, third.

The Harkness Cup for a dozen blooms, open to all amateurs, was won by Mr. R. Foley Hobbs, Thorneloe, Worcester, and he had F. K. Druschki, Mrs. Laing, Bessie Brown, Her Majesty, in fine condition; Mr. D. Pallett second, and Mr. E. M. Eversfield, third. Mr. Conway Jones led for six blooms each of the Lyon Rose, and Mdme. Melanie Soupert, and he won the Hammond cup for six new roses with Lyon Rose, Albatross, G. C. Waud, Lady Ursula, Molly Sharman Crawford, and Laurent Carle; Mr. F. Dennison, second.

Miss B. H. Langton, Raymead, scored for seven bunches of roses arranged effectively, and she showed Perle d'Or, and other varieties charmingly; Mr. H. R. Darlington, Potters Bar, second. For six varieties of hybrid teas, three blooms of each, the Rev. J. H. Pemberton won.

AMATEURS' TEA ROSES.

The championship for eighteen Teas or Noisettes was won by Mr. Alexander Hill Gray, Beaulieu, Bath, with a superb stand of White Maman Cochet, Molly Sharman Crawford, Mdme. H. Berger, Medea, Frau Von Marschall, Dr. F. Guyon, R. W. Smith, Mdme. Vermorel, Mrs. E. Mawley, Maman Cochet, Innocente Pirola, E. V. Hermanos, Mdme. Cusin, Muriel Grahame, Mdme. J. Gravereaux, Auguste Comte, The Bride, and Mdme. Constance Soupert; Mr. Conway Jones, second; Mr. Page, gardener to Mrs. B. Fortescue, Dropmore, Maidenhead, third; and Mr. O. G. Orpen, West Bergholt, fourth.

Mr. A. Hill Gray was also first for a dozen Tea or Noisette varieties, and here he had a lovely set, White Maman Cochet, R. W. Smith, Mdme. J. Dupuy, and Muriel Grahame being fine; Mr. Conway Jones, second; and Mr. E. M. Eversfield, Denne Park, Horsham, third. Mr. Hill Gray continued his successful career in the class for eight trebles of Tea or Noisette roses, and here he showed Mrs. E. Mawley, White Maman Cochet, and Mdme. Jules Gravereaux finely; Mr. Conway Jones, second; and Rev. T. E. Henslow, Stanton St. Quintin, Chippenham, third.

Mr. Eversfield led for six blooms of any Tea or Noisette rose with Mrs. Edward Mawley, very good; Mr. A. Hill Gray, second, with White Maman Cochet; and Mr. Conway Jones, third, with Mdme. Jules Gravereaux. The Prince Memorial Prize for a dozen Teas or Noisettes, in the third division, was won by Dr. F. H. Cooke, Birch, Colchester, who had a grand flower of Mrs. E. Mawley in his set; Rev. J. B. Shackle, Dropmore Vicarage, Maidenhead, second; and Mr. F. Slaughter, Steyning, third.

Mr. M. Whittle, Belgrave Avenue, Leicester, led for nine blooms in the section for growers of less than 200 teas; and Mr. W. Upton, Claremont Street, Leicester, was first for six blooms in the same section, while for six blooms of one variety Dr. Charles Lamplough, Alverstoke, scored with Mdme. Jules Gravereaux. Dr. T. G. Hayes, Dunster; Dr. Cooke, Mr. Slaughter, and Mr. H. L. Willern won prizes in other small growers' classes.

Exhibition roses in vases were finely shown by Mr. Conway Jones, who led for five blooms each of nine varieties, with Countess of Derby, White Maman Cochet, Frau Karl Druschki, Mrs. J. Laing, etc; Mr. A. Hill Gray, second. Mr. Eversfield scored for six tea roses under similar conditions, with Mrs. Mawley, The Bride, Souv. d'un Ami, Mdme. Jules Gravereaux, White Maman Cochet, and Maman Cochet; Mr. Orpen second, and Mr. Hill Gray third.

LADIES' SECTION.

Premier award for a table decoration of roses (ladies' class) was won by Miss E. S. Scott, Albury, Earlstown, with the beautiful Lyon Rose; Mrs. O. G. Orpen, West Bergholt, second, with a dainty display of Mdme. Melanie Soupert, Una, and Irish Elegance—a lovely table; Mrs. J. W. Smith, Sparrows, Herne Hill, third, with Irish Elegance; Miss Harwood, St. Peter's Street, Colchester, fourth.

In the class for a table decoration, open to ladies who had not hitherto won a prize, Mrs. Tisdall scored with a simple arrangement of Liberty roses; Miss E. M. Robinson, [illegible], Hornchurch, second, with [illegible] Flight. Mrs. W. E. Pedley, Hillside, Hoddesdon, had the best bowl of roses in the section.

For an upright vase of roses and suitable foliage, Mrs. O. G. Orpen led with Chatenay roses in a dark wicker-cased vase; Lady Willmott, Binfield Grove, Bracknell, second;

and Mrs. J. W. Smith, third. For a basket of roses Mrs. Orpen led with a splendid arrangement of Frau Karl Druschki and dark rose foliage; Mrs. Sawday, second; and Mrs. G. W. Cook, third.

In the bowl class, Miss J. B. Langton scored with the lovely Irish Elegance; Mrs. T. A. Tisdall, Woodford Green, second, with Liberty; and Mrs. J. W. Smith, equal second with Mdme. Pernet-Ducher. In another bowl class Mrs. Hammond led with Mdme. Melanie Soupert; and Mrs. Howard Williams, Willow Cottage, Finchley, second; Mrs. Sawday, Weybridge, third. Mrs. Barrow scored for a bowl of decorative roses with Irish Elegance; and Miss Foden, Hemel Hempstead, second with Mdme. Abel Chatenay.

AMATEURS' DECORATIVE ROSES.

Miss B. H. Langton, Rev. J. H. Pemberton and Dr. Cooke were placed in order as given for seven vases of decorative roses in the amateurs' division, while for five varieties, the Rev. J. B. Shackle, Maidenhead, was first, and Dr. Cooke second. For five varieties of garden roses arranged in stands Mr. O. G. Orpen was a capital first with Jersey Beauty, Lady White, Mrs. O. G. Orpen, Lady Wilson, and Crimson Damask; Mr. J. W. Smith, Sparrows, Herne Hill, second, and Rev. J. H. Pemberton, third.

There were some good displays in the class for eighteen bunches of decorative roses, and here Mr. Mease, gardener to A. Tate, Esq., Leatherhead, scored with a fine lot of Gardenia, Rosa Mundi, Papillon, Bardou Job, Leon Schmidt, Michel, etc.; Rev. J. H. Pemberton, Havering, second. For a dozen bunches honours were divided between Mrs. Wightman, Bengeo, Herts, and Viscomtesse Enfield, Dancer Hill House, Barnet. Mr. A. C. Turner had the best six bunches of decorative roses. Mr. C. L. Gordon Clark coming second and Mr. Edward Mawley third

BEST BLOOMS.

Professional Classes.—H.P., Horace Vernet, from Messrs. A. Dickson and Sons; T., White Maman Cochet, from Mr. G. Prince; H.T., Mdme. Melanie Soupert, from Messrs. S. McGredy and Son.

Amateurs.—H.P., Beauty of Waltham, from Mr. J. Dodwell, Hertford; H.T., Mrs. T. Roosevelt, from Mr. C. Page, Dropmore; T., Maman Cochet, from Dr. F. H. Cooke, Birch, Colchester.

NEW ROSES.

Gold medals were awarded to new roses as follows: Mrs. Joseph H. Welch, a rose-pink H.T., and Edward Mawley, a big deep crimson H.T., from Messrs. S. McGredy and Son, Portadown, Ireland. To Lady Hillingdon, a long pointed yellow rose from Messrs. Lowe and Shawyer, Uxbridge, and to Rayon d'Or, a yellow rose apparently of the Pernettiana type, from Dr. Baldock Waddell.

Silver-gilt medal to Evelyn Dauncey, a salmon and pink H.T. from Messrs. S. McGredy and Son. To Mrs. George Shawyer, a soft rose-pink H.T. from Messrs. Lowe and Shawyer. To St. Helena, soft yellow, shaded with cream and apricot, from Messrs. B. R. Cant and Sons, Colchester. And to Mrs. Foley Hobbs, an ivory-white H.T. from Messrs. A. Dickson and Sons, Newtownards.

Cards of Commendation were awarded to Colcestria from Messrs. B. R. Cant and Sons, and to Mrs. Gordon Sloan from Messrs. A. Dickson and Sons.

NON-COMPETITIVE.

In the long corridor there were several good non-competitive displays, notably those of carnations and roses from Messrs. Stuart Low and Co., Enfield; of delphiniums, from Messrs. R. H. Bath, Lim., Wisbech; of Sweet Peas from Messrs. Dobbie and Co., Edinburgh; of roses from Mr. Frettingham, Nottingham; of violas from Mr. H. Crane, Highgate; and of gardening books from the Gardeners' Magazine Office, including the most recently published book, "Window and Indoor Gardening."

National Sweet Pea Society.

On July 12 and 13 this young and energetic society held its tenth annual exhibition at the Royal Horticultural Hall. The show was not quite so large as some of its predecessors, but it surpassed all that have been held in point of quality. The flowers were superb in size, colour, and substance, while their delicate perfume filled the hall. The arrangement of the show merited all the encomiums passed upon it, as it was probably the prettiest seen at Westminster. There were about fifteen hundred bunches in competition, and the competitive classes were surrounded by a ring of superb trade displays, the growers and seedsmen vying with each other in the arrangement of their flowers, and the society is to be congratulated upon its many strong supporters. Sir Randolf Baker's flowers were superb, and everyone was sorry that his gardener, Mr. Usher, just missed the Eckford Cup by an oversight. The rules admit twenty spikes only per bunch—Mr. Usher had twenty-one in one vase, and had perforce to be disqualified. But he won so well in other classes, and annexed two cups, so that he had ample consolation. The music gallery was prettily decorated with palms, asparagus, and sweet peas; and in the centre of the hall, under a great spreading palm, the novelties of the year and the society's cups and plate were disposed. There was a very large attendance of interested visitors, and the takings at the gate were only a few shillings short of last year, notwithstanding the increase of members and ticket-holders.

A BEAUTIFUL DISPLAY OF SWEET PEAS.

Arranged by Mr. R. Bolton, at the National Sweet Pea Society's Exhibition, in competition for the W. Atlee Burpee Challenge Trophy, of which for the third time he was the winner.

SUTTON CUP.

The Sutton Cup for eighteen bunches of sweet peas, distinct, brought out a magnificent competition. Mr. A. E. Usher, gardener to Sir Randolph Baker, Bart., M.P., after winning the cup, had to be disqualified through one vase containing one spray too many. His flowers were superb, and much regret was expressed by all concerned. The first prize was awarded Mr. J. Haycocks, Gyfela, Wrexham, who staged fine vases of the following varieties, Menie Christie, Clara Curtis, Mrs. A. Ireland, Countess Spencer, Helen Lewis, The Marquis, Elsie Herbert, Frank Dolby, Mrs. H. Sykes, The King, Mrs. Henry Bell, Etta Dyke, Evelyn Hemus, Aurora Spencer, Helen Pierce, John Ingman, Nora Unwin, and Constance Oliver. The second prize went to Mr. Edward Keith, gardener to the Rt. Hon. Sir G. O. Trevelyan, Bart., Wallington Hall, Cambs, who had a good display of the following varieties, Helen Lewis, Helen Pierce, Mrs. A. Ireland, Countess Spencer, Elsie Herbert, Constance Oliver, and Clara Curtis. The third prize was won by Mr. G. F. Hallett, gardener to Lady Fermor Hesketh, Easton Neston, Towcester, who staged some really good bunches, though with shorter stems. Mrs. A. Tigwell, Harrow View, Greenford, was fourth.

For twenty-four bunches (distinct) Mrs. A. Tigwell won first position with a good collection. The varieties employed were George Herbert, Seedling, Miriam Beaver, Mrs. Townsend, Evelyn Hemus, Helen Pierce, King Edward Spencer, Masterpiece, W. T. Hutchins, Dazzler, Prince Olaf, Tennant Spencer, Senator, Mrs. H. Sykes, M. Linzee, Mrs. Tigwell, Elsie Herbert, Flora Norton Spencer, Mrs. Hugh Dickson, Doris Burt, Arthur Unwin, and Zero. Mr. S. Horscroft, gardener to Mrs. A. J. Norris, Longshaw, Chipstead, was second with well-arranged vases, the best of them being Captain of the Blues Spencer, Asta Ohn, Paradise Ivory, Mrs. Hardcastle Sykes, Clara Curtis, and Apple Blossom Spencer.

ECKFORD CUP.

Ten competitors faced the judges in the Henry Eckford Memorial Class. Mr. A. E. Usher secured the coveted award with some magnificent vases. The varieties were nearly all carrying four flowers on a two-feet stem, a wonderful display of cultural skill. The varieties were Mrs. C. W. Breadmore, John Ingman, Audrey Crier, Marjorie Linzee, Mrs. Hugh Dickson, Marquis, Othello, Lavender George Herbert, Helen Lewis, Elsie Herbert, The King, and Clara Curtis. Mr. Thos. Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone, was an excellent second, the most striking varieties being Spencer America, Princess Victoria, Earl Spencer, Princess Juliana, Elsie Herbert, Constance Oliver, and Prince of Asturias. Mr. T. Jones, Bryn Penylan, Ruabon, had to be content with third place.

while Mr. W. Hopkins, gardener to Mr. F. A. Wellesley, Westfield, Woking, brought up the rear.

For twelve bunches (distinct), the varieties to represent twelve colour classes. Here Mrs. A. Tigwell won well with nicely disposed bunches. The best were Mrs. C. W. Breadmore, Prince Olaf, Clara Curtis, John Ingman, The King, Lord Nelson, and Etta Dyke. Mr. G. F. Hallet was second, having good examples of Lord Nelson, Clara Curtis, Etta Dyke, and Mrs. Chas. Foster.

There was a keen competition for six bunches (distinct), in which Masterpiece and Mrs. Hugh Dickson had to be staged. Mr. W. E. Usher was placed first with splendid vases of Othello Spencer, Masterpiece, Mrs. Hugh Dickson, Audrey Crier, Elsie Herbert, and Helen Lewis. Mr. T. Jones was second with good vases, though a little coarse. The best were Eric Harvey, Masterpiece, and Audrey Crier. Mr. W. H. Prophet, gardener to Mr. E. P. Broad, Rosehill Par Station, Cornwall, was third with splendid flowers of Masterpiece, and Clara Curtis. Mr. Thos. Stevenson was fourth.

The Breadmore Challenge Class for twelve bunches was won handsomely by Mr. W. H. Prophet, with Dazzler, Prince of Asturias, Mrs. C. W. Breadmore, Paradise Red Flake, George Herbert, Mrs. A. Ireland, Etta Dyke, Prince Olaf, James Grieve, Henry Eckford, Mrs. H. Bell, and Frank Unwin. Dr. J. E. Phillips, Malpas, followed with a fine exhibit; while Mr. E. Cowdy, Grenhall, Loughgall, co. Armagh, was third with some very long-stemmed vases.

Class Seven was for six bunches (distinct), and in a large competition Mr. Edward Keith came out first with fine bunches of America Spencer, Princess Juliana, and Tom Bolton. Mr. F. J. Harrison, Rosedene, Ulverston, won second prize, having good examples of Elsie Herbert, Mrs. H. Sykes, and Asta Ohn. Mr. A. Moring, gardener to Mr. A. W. Stirling, Holme Lea, Goring, had well-arranged bunches for third place; while Mr. F. Fairbairn, gardener to Mr. E. Otter, Stanhope Park, Greenford, was fourth. The Humphrey Cup for three bunches went to Mr. A. E. Usher, who staged three splendid vases. His varieties were Lavender George Herbert, America Spencer, and Earl Spencer. Mr. T. Stevenson was second with a fine vase of Silas Cole; while Mr. W. H. Prophet was third.

AN EFFECTIVE ARRANGEMENT OF SWEET PEAS

Exhibited by Mr. W. E. Alsen at the National Sweet Pea Society's Exhibition. The bouquets of flowers down the centre of the arrangement represent the fine new variety, Stirling Stent.

CLASSIFICATION CLASS.

In the open classes the display was wonderfully good, the classification class for eighteen varieties being particularly so. Mr. A. E. Usher was again placed first with a glorious display. The varieties were Mrs. Breadmore, Constance Oliver, Helen Lewis, Helen Pierce, Mrs. H. Sykes, Rosie Adams, Clara Curtis, Menie Christie, Frank Dolby, The King, Mrs. A. Ireland, Hannah Dale, Countess Spencer, Etta Dyke, Prince Olaf, John Ingman, Marquis, and Aurora Spencer. Mr. C. W. Breadmore, 120, High Street, Winchester, was a capital second, his best varieties being Clara Curtis, The King, Marquis, Mrs. H. Sykes, Countess Spencer, and Mrs. Breadmore. Mr. Jas. Box, Lindfield, Sussex, was third with some fine vases. The class for sixteen bunches again saw Mr. A. E. Usher in the first place; his best examples were Picotee, A. J. Cook, Mrs. A. Watkins, Frank Dolby, Nora Unwin, and E. J. Castle. Mrs. A. Tigwell was second with a weaker display.

Twenty-four bunches (distinct) made a large class, Mr. C. W. Breadmore winning first prize with some splendid vases. The most noteworthy varieties were Prince Olaf, Mrs. H. Bell, Marjorie Willis, Senator Spencer, Princess Juliana, Sybil Eckford, Dazzler, Countess Spencer, Ivy Herbert, Lavender George Herbert, Constance Oliver, and Dusky Monarch. Mr. A. E. Usher had to be content with second place, though he had some lovely vases, the best being Helen Grosvenor, A. Unwin, Audrey Crier, George Stark, Marquis, Earl Spencer, and Rosie Adams. Messrs. E. W. King and Co., Coggeshall, were placed for twelve bunches of distinct varieties; they were Constance Oliver, Mrs. W. King, Rosabelle, Evelyn Hemus, Anglian Orange, and Anglian Pink. Mr. W. Hopkins was second with very large flowers, though rather spotted with the weather, the varieties Earl Spencer, Masterpiece, Marie Corelli, Dazzler, Mrs. A. Ireland, and Helen Lewis being most conspicuous. Mr. S. Miller, Newport, Isle of Wight, was third. For one bunch of new sweet peas, Mr. C. W. Breadmore secured the premier award with Iris, a pale salmon. The second prize was given to Earl Spencer, while the third went to a beautiful vase of Dazzler.

The classes for varieties with waved standards were particularly attractive. For twelve bunches Mr. Thos. Stevenson won first prize with Clara Curtis, Mrs. Chas. Foster, Dazzler, Black Knight Spencer, John Ingman, Mrs. Hugh Dickson, Spencer America, Rosie Adams, Helen Lewis, Evelyn Hemus, Sun-proof Crimson, and Etta Dyke. Mr. A. J. Paskett, gardener to E. J. Johnstone, Esq., Burrs Wood, Groomsbridge, was second with a collection of good clean flowers. Mr. O. Hayles, gardener to Sir Chas. Hadden, K.C.B., Rossway, Berkhamsted, was third with some nicely developed vases.

For six bunches in the same section there was again a keen contest. Mr. Maclean, gardener to H. le Blanc Smith, Esq., The Lordship, Standon, Herts, won first prize with Elsie Herbert, Mrs. C. W. Breadmore, Princess Juliana, and Constance Oliver. Mr. F. J. Harrison came next with beautifully clean flowers. The best were Apple Blossom Spencer and Mrs. Hardcastle Sykes. Mr. A. Moring was third. Mr. A. E. Usher was first for four bunches of the stipulated varieties Colleen, Queenie, Winifred Deal, and Winsome.

For three varieties with waved standards there was a large contest. Mr. W. H. Prophet won well with George Herbert, Paradise Ivory, and Lavender. Mr. J. Haycocks was second, and Mr. A. L. Thomas, Kenley, third.

The three bunches of pink varieties was won by Mr. W. H. Prophet with fine examples of Audrey Crier, Mrs. H. Sykes, and Olive Bolton. Dr. J. E. Phillips, Malpas, was second with Olive Ruffell, Syeira Lee, and Countess of Northbrook; Mr. F. J. Harrison was third. The whole of the exhibitors in this class staged contrary to regulations. For two bunches cream and pink waved varieties Mr. W. H. Prophet was placed first with fine examples of Mrs. Henry Bell and Constance Oliver. The second prize contained beautiful Syeira Lee and Mrs. H. Bell. Mr. F. J. Harrison was third.

THE KING CUP.

The E. W. King Challenge Cup brought out a number of exhibitors, Mr. W. H. Prophet securing the coveted award. The varieties were simply splendid, especially George Herbert, Mrs. A. Ireland, Phenomenal, St. George, Mrs. C. W. Breadmore, Menie Christie, Mrs. Chas. Foster, and Elsie Herbert. Mr. A. Basile, gardener to the Rev. O. Turner, Woburn Park, Weybridge, proved a good second, the flowers being extra good in colour; while Dr. J. E. Phillips brought up the rear with some fine bunches.

BURPEE CUP.

For the Atlee Burpee Challenge Cup the exhibitors had to arrange a display on a space 4ft. by 3ft. This was won by Mr. Robert Bolton, Carnforth, who has now won it three years in succession, and consequently secures it as his own property. The quality was excellent, and the varieties mostly new. Charles Foster was much admired, as were also R. F. Felton, Earl Spencer, Clara Curtis, George Stark, Monitor, Elsie Herbert, Tom Bolton, and Olive Ruffell. Mr. Jas. Box, Lindfield, Sussex, was placed second with a good table, lacking a little, perhaps, in arrangement. Messrs. Kelway and Son, Langport, were third, with a flatter exhibit. For twelve bunches of stipulated varieties Mr. A. E. Usher was again successful, staging some fine, lightly-arranged vases. The best were Asta Ohn, F. Morse Spencer, Flora Norton Spencer, Senator Spencer, Tennant Spencer, Othello Spencer, and Queen Victoria Spencer. Mr. T. Jones had some good examples of Flora Norton Spencer, Primrose Spencer, Mrs. Routzahn, and Marie Corelli. Mr. Robert Wright, Halsall Lane, Formby, third. Six bunches of Spencer type produced a goodly display. Mr. A. E. Usher still added to his triumphs by winning first prize with fine.

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TURNIPS.

Summer sowings of turnips can be made in moist situations from mid-summer to the beginning of August in light, loamy soils. The crop also succeeds in loamy soils containing a large proportion of sand, and when well manured and deeply cultivated these soils give the quickest and best results. The latter advantage, namely, a rapid growth, is a highly important factor in turnip culture—as it also is in the cultivation of radishes, for the quicker the bulbs are formed the more tender and shapely will they be. Also they have a more attractive colour than slowly-grown roots, for which reason a better market is always secured. Stiff, heavy soils and wet, retentive loams must be avoided, as these tend to make early crops run to seed. They can, however, be somewhat improved by incorporating a generous quantity of partially decayed light farmyard dung or stable manure with them; and may then be expected to produce fairly good results. In old garden soils containing an excess of humus or organic matter, superphosphate of lime or bone dust may be advantageously employed, either in conjunction with farmyard manure or separately. These stimulants are very essential for the turnip crop, as they quickly force the young seedlings into their first "rough" leaf, and hasten the development of the bulb Half the battle of turnip culture is fought when this rough leaf is developed, as at that stage the plants are tolerably free from insect attack.

It is useless to sow turnips during drought, as the seedlings are checked immediately upon germination. They then fall an easy prey to the dreaded turnip fly, and all hopes of a sucessful crop have to be abandoned. There is no better plan, especially during the present season, than that of reserving specially-prepared plots for this crop, so that sowings can be made whenever possible during showery weather. The seeds will then germinate quickly, and the young plants will grow away without receiving any check. The main crops of late autumn and winter turnips, are sown during August.

Culture.

Ground intended for turnip culture cannot be too well cultivated; hence, where large breadths are being sown, it is advisable to take a little extra trouble in the preparation of the seed-bed, especially as regards breaking up the surface so as to secure the finest possible tilth. In small gardens where the size of the bulbs is a secondary consideration, quality and tenderness of flesh being first, seeds are frequently sown broadcast. But in heavy, tenacious soils and for market culture, it is a good plan to draw drills about 15 inches apart. This may serve as a preparation for what is known as the ridge system of growing turnips, a system which, however, is wholly unsuitable for light soils and dry seasons, as a bed on the flat naturally takes the water better. After the drills have been drawn they are filled with well-rotted manure, and this covered with about two inches of soil. The ridges thus formed must be flattened somewhat on the top by means of a light roller and a groove opened along the centre of each ridge in which the seed is sown as regularly as possible.

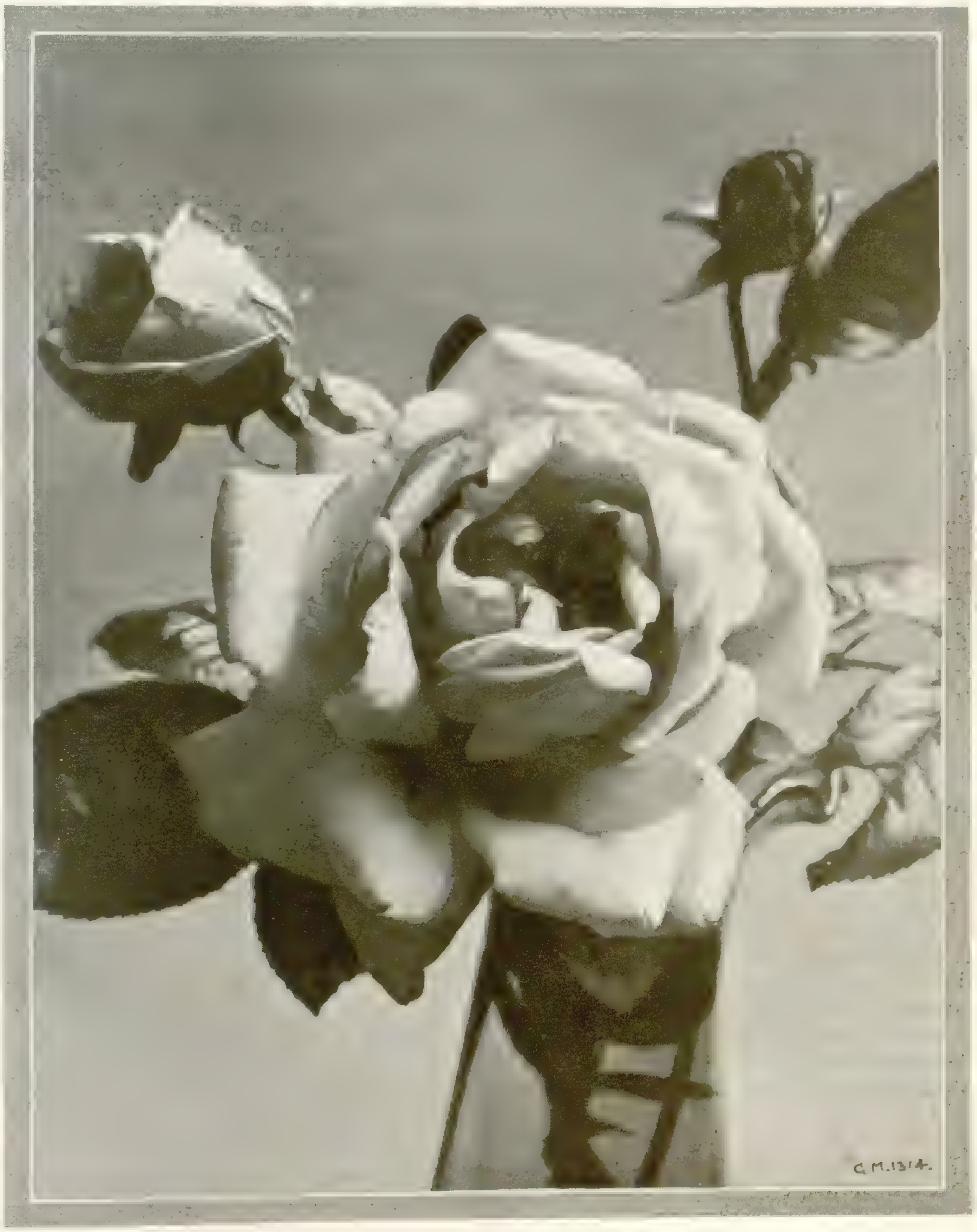
The nourishment underlying the plants is immediately available as soon as they require it, and the soil in the ridge, however stiff and tenacious it may be, will always be of a looser texture than the same soil on the flat. Thick sowings are the greatest mistake in turnip culture, as they tend to overcrowd the plants in the rows, with the result that the work of thinning is very laborious and tiresome. In addition to which, the seedlings, if disturbed unduly in this process, do not make such vigorous growth as they would otherwise have done.

As soon as the young plants are in rough leaf, or, say, when the leaves are an inch or two in breadth, they must be thinned out to about nine or ten inches apart in the rows. A horizontally extending leaf growth is more to be desired than an upright growth, as this is more conducive to shapeliness and size of bulb; hence the necessity for ample space in the rows. The hoe should be kept constantly at work between the rows, as there is no better method of supplying the growing plants with moisture, apart from keeping down weeds and so destroying the hiding-places of the "fly." The deep stirring of the surface soil acts as a mulching as it were, which keeps the ground well supplied with moisture even through the driest seasons.

There is a constant demand for turnip tops in spring, when other green vegetables are scarce, and where these are specially required, seed should be sown early in September, when the plants will generally become strong enough to stand through the winter in seedling form.

The turnip fly is a most dreaded insect pest among kitchen garden crops. It can be easily recognised by its black shining coat and its peculiar and rapid means of locomotion. The female beetle lays her eggs on the underside of the seedling turnip leaves, and in about ten days' time white yellowish maggots make their appearance. These commence to feed on the tender succulent leaf growth, and subsequently fall to the ground and lie buried near the base of the plant until after the larval stage, when they emerge as fully-developed beetles. Prevention consists of sowing the seed only during showery weather, when the plants are enabled to grow right away from their enemies.

Cure consists of spraying—at least, this is the only means that I have found at all effective in destroying the pests. The standard mixture is composed of four gallons of kerosene, two pounds of soft soap, and rain water to make up 25 gallons. The soap is boiled in two gallons of rain water until dissolved, and afterwards put into a large tank containing the oil, the whole being well stirred so as to form an emulsion. The contents of the tank can then be made up to 25 gallons with the rain water. Another method which proves helpful in checking the pest is vaporising. When the soil is treated in this manner, the flea beetle does not so readily enter the ground for the purpose of laying eggs, nor do the larvæ survive if so treated.



NEW ROSE RAYON D'OR.

A distinct variety, with rich yellow flowers, raised by Pernet-Ducher, and exhibited by Dr. Waddell at the National Rose Society's Show, July 8, when it was awarded a Gold Medal.

The main crops intended for autumn or winter supplies are best left in the ground and lifted as they are required. But to provide against frosty weather it is a good plan to take up a portion of the bulbs, topping and tailing them and storing them in sand. The more tender varieties should also be taken up as soon as they are fully matured, especially in cold situations, and stored in clamps like potatoes.

Old Basing. J. C. Newsham.

CABBAGES.

Every good kitchen gardener knows how valuable a bed of early spring cabbages is. When the seeds are sown every cultivator should make up his mind to have at least a good number of the resultant seedlings planted in their permanent quarters in October, if possible. Even where clayey soils prevail, I think that the plants do better planted in October than in spring, as the soil is warmer in October than it is very early in spring, and the young plants have an opportunity of getting established, and making some sturdy growth before the really cold weather comes.

There is much difference of opinion as regards the proper, or most suitable, date for seed sowing. Some cultivators advocate sowings to be made about the middle of July, others quite a month later. If one date only had to be given I should say August 5, but it would not be wise to sow the seeds too early in the southern counties, nor too late in the northern. I have found the best results follow in the south when seeds were sown about August 12, and in the north when they were sown about July 25.

Very few plants "bolted," and, furthermore, I found that fewer plants went wrong in this way when they were finally put out in October than in the new year.

I favour sowing the seeds broadcast, and thinly. Usually, one finds that the only sturdy specimens are those growing at the extreme edge of the bed, those in the centre being too much crowded to be useful. Thick sowing means waste of seed, time, space, and plants.

It is not always necessary to transplant the seedlings where they are put out in their permanent quarters in October; but if left until the new year before being finally planted transplanting in a nursery bed is very essential.

Firm soil, but deeply stirred, both in the seed quarters as well as the main planting, is better than a loose one, as the plants grow more sturdily and are less liable to injury by severe frosts. I like to have the permanent quarters prepared several weeks prior to the date of planting, so that the soil can settle down firmly. If light, I would not hesitate to tread it thoroughly while in a dry condition, and then just loosen the surface again with a wooden rake.

There are some sorts that we cannot do without very well, but I know that different cultivators have their own favourites. Mine are Myatt's Early Offenham, Mein's No. 1, Flower of Spring, Ellam's Early Dwarf, and Wheeler's Imperial. For a small garden and comparatively close planting I like Little Pixie, Nonpareil, and Myatt's Early Offenham.

Geo. Garner.

Rose Lady Rossmore.—This H.T. rose was introduced by Dr. J. Campbell Hall in 1910, and should be freely planted. The claret shading over the reddish-crimson renders it an attractive variety in the matter of colour, and it is a shapely flower rather than one of the huge section, and a valuable addition.—E. M.

JULY ROSE NOTES.

The present season has once more shown how very quickly roses will come on when favoured with a few days of suitable weather. Our first growths and buds were much injured by frost, and again by four degrees of frost early in June. Even up to the last week of June we were having very chilly early mornings here in Mid Sussex, but only very early risers saw frost, and that in low-lying districts. But it is not necessary to have actual frost to check tender growth, the harm being done by the extremes between midday and sunrise, and my thermometer has shown as much as eighty degrees difference upon more than one occasion. Much of the weak and suddenly checked young growth at the tips of otherwise promising shoots I believe can be attributed to these sudden changes.

But with only a few days of more uniform temperature roses have grown far more satisfactorily than seemed likely in June. I do not think I ever saw the Wichuraianas better, and with the glorious shadings of many newer hybrids this class is fast becoming the finest of our decorative roses, more epecially as weeping standards. William Allen Richardson has given, and is still giving, one of the best displays I have ever seen upon this grand rose. Whether as standards, on low fences, walls, or pillars, it has surpassed itself, and few can be more pleasing than a well-flowered and highly-coloured William Allen Richardson. A few of the darker hybrid perpetuals are coming grand in colour, especially during the last few days.

At the end of June we were favoured with some delightful rains, and fine opportunities for using artificial manures; I often think we make use of these too early in the season. Generally of quick and exciting action, if applied just as the flower buds form, and well watered in, we have had the best results here, and the recent rains were just what were wanted. Roses upon arbours, pergolas, and arches are often unreasonably treated at this time of year. There are almost always footpaths around and beneath them, and, in spite of their vigorous growths and more need for food and surface culture, they too often receive much less than weaker growers in open beds, with a full root run. By making the surface soil loose much help might be afforded with liquid manures, but to be really effectual these should be applied with a liberal amount of water. Mere surface moisture I believe to be harmful rather than beneficial. We need to reach the roots, and nothing but a thorough soaking will do this.

It may seem early to write of pruning, but my plants of Electra, and other very early summer bloomers, are already out of flower, and we intend cutting away much of the flowered growth at the earliest opportunity. By removing such from pillars and arches as occasion demands there does not appear such a wholesale mutilation as I have sometimes noticed when practising what is called summer pruning, and it seems more reasonable to do this by degrees and so avoid such a great unbalancing of root and growth.

Roses in pots must not be neglected at this season, or we shall not have good wood to work upon when housing them once more. We do not allow any flower buds to form now that a good supply is available from the open. All weakly growths need removal, and it is not well to give too copious root waterings. What we are aiming at is well-matured wood, and so our plants are being afforded, as nearly as possible, the equivalent of late autumn conditions.

A. Piper.

THE PEACH-LEAVED BELLFLOWER.

Like most of the campanula tribe, C. persicifolia and its varieties thrive better in a soil which is not of too clayey a character, though, on the other hand, they are disappointing in a very dry soil, the blossom, which is of all too short duration at best, often lasting only a few days in such a soil in hot weather. It soon deteriorates alike in a very dry soil and a very wet one, the ideal soil being one naturally rather heavy, which has been enriched by years of liberal manuring. It is not unusual for the plants to flower themselves to death, the amount of blossom which a small example will sometimes produce being out of all proportion to its size, and such may generally be regarded as the beginning of the end.

Where one has a specially fine variety which it is desired to propagate, it is a good plan to pull a plant to pieces just after flowering time, and insert the small pieces in pots or pans of light soil in a frame, keeping them there through the winter, when, after a season's growth, they will make a nice lot of flowering plants for another year. In a general way, however, and where the soil thoroughly suits them, it is not necessary to take this trouble, for pieces may be taken off the large clumps in the autumn with a ball of earth attached, and these will flower the following year. Where they grow none too strong the stems should be cut down immediately after the main crop of blossom is over, without waiting for the second lot of smaller blooms, which may be obtained by removing the dead flowers, and some light rich soil worked in amongst the plants, which will speedily root into it, and grow the stronger for it.

The varieties of C. persicifolia are numerous, being mainly single or semi-double forms, with white or blue flowers, the two best varieties, or two which, at least, are unsurpassed, being C. p. Moerheimi, with large white semi-double flowers, and C. p. alba grandiflora, with large single white flowers. Both grow about two feet in height, the former having very stiff, erect stalks. The beautiful snow-white variety, Backhousei, was an accidental find in a cottage garden in Yorkshire. It is a good plan to obtain a packet of seed of mixed large-flowered varieties, which, if sown in February in gentle heat, or even a month later in a cold frame, will make nice flowering plants the following year. The seed is very small, and needs careful raising, the seedlings being pricked out into pans in some light sandy soil as soon as they can be handled, and afterwards put out on a nursery border of well-prepared soil, preferably damp, and in partial shade. When they have reached this stage they soon begin to make rapid progress, and the size of the plants by October generally exceeds one's expectations. Slugs are fond of most campanulas in a young state, and they have to be guarded against.

Fine varieties may sometimes be obtained from a packet of good seed, and a careful selection of plants to save seed from may result in some very choice plants. Some recommend sowing the seed as soon as it is gathered, and keeping the little seedlings in a house or frame through the winter.

Alger Petts.

Globe Artichokes.—The heads, when of a size suitable for kitchen, should be cut; those not required immediately can be placed with their stems in jars of water, which should be changed regularly. Apply a good mulch to maintain a supply over as long a period as possible.—G. E.

THE GENTIANELLA AND SOME VARIETIES.

None of our dwarf flowers surpass in beauty and in real interest to us the Gentianella, Gentiana acaulis, whose great bells of the most glorious deep blue flowers in spring give us inexpressible pleasure, as we see them on their carpet of persistent green leaves. It is a truly exquisite plant, and it loses nothing in our eyes from the fact that some people find it difficult to induce it to flower. But it is a flower worth striving for success with, and happy are they who can pride themselves on the possession of long lines or large masses blooming plentifully from year to year.

The causes of the shy blooming are still rather obscure, and some who attribute the scarcity of flower on established plants to the fact that they were planted at the wrong season are apt to forget that the reputed cause of the want of bloom has long lost its force in the case of plants which have been in the same position for years. One cannot thus presume to dogmatise on the causes of this shy flowering in some gardens, but a study of the most thriving plants in many gardens enables one to give some hints which will probably be helpful to many.

In the first place, it appears to like a good deal of sun, and, in the second, it seems to prefer a gravelly or stony soil, with, preferably, a sloping position. The stony or gravelly soil is not an essential, but firm planting is one, and the writer has found that newly-transplanted specimens of G. acaulis firmly trodden down when put in early in the autumn, have flowered well the following year where the other conditions were good. Some have recourse to pulling their plants to pieces, and replanting soon after flowering in almost separate crowns. This appears to induce flowering, but the result is not nearly so fine as big clumps affording plenty of flower.

As bearing on the question of position, the writer has experimented with plants in various parts of his garden, and the best in their flowering properties are those which were planted against a stone edging facing south-west, and in poor and rather stony soil, and well trodden down when planted. But there seems to be something in some soils which induces floriferousness, and some suggest lime, although I do not believe it is essential for this flower specially.

Apart from the well-known typical form, Gentiana acaulis, there are a few varieties, none more beautiful than it, but of interest and value to the special lover of such flowers.

First may be named G. acaulis alba, the white gentianella, which is very beautiful, though lacking in the glorious blue which delights us in the common gentianella. It seems to vary a good deal, and some forms are purer or more floriferous than others. The Darley Dale variety is one of the best. In G. acaulis alpina, the alpine gentianella, we have a smaller counterpart, and a lovely little thing for the choice rock garden, although doing in the border also.

Clusius's gentianella is another form, with fine dark blue flowers, and characterised by the spreading form of the large lobes. It may be added to the gardens of those who take special pleasure in the varieties of the best flowers.

All of these forms require the same treatment as the common gentianella, and all are increased by division or by seeds.

The white variety will scarcely come true from seeds, but in exchange for this failing there is the possibility of obtaining light blue shades among the seedlings.

Seeds are slow of germination, and should be sown as soon as ripe in a half-shaded position in shallow drills, covered slightly with fine soil, pressed gently down, and kept moist. A greater number of plants will be secured by sowing in pots or pans, the compost consisting of loam, leaf-soil, and a good quantity of sand, covering the seeds slightly with the same soil, and putting the pots into a shaded cold frame or cold or cool house. When the seedlings are large enough to handle conveniently they can be pricked out into beds in the open, or into other pots or pans. Where seeds have to be purchased they should be sown as early as they are received. This fine plant and its varieties are of such beauty that a strenuous effort should be made by every gardener to induce them to grow and flower in his garden.

S. Arnott.

THE ROCK GARDEN OF TO-DAY.

Though the present popularity of the rock garden and rock plants betokens a great advance during the last few years, it must not be taken that the rock garden has reached its zenith, neither have its exponents reached the high-water mark of perfect knowledge.

One cannot generalise in rock gardens; it would be folly to try, and a design of formation and a system of planting up the spaces, which answers admirably in one position, will not necessarily give the same telling or pleasing effect in another. Moreover, although we have passed the days when burr bricks, shells, flints, etc., were found to represent "the rockery," we are not free from fault, and though many really noteworthy rock gardens are in existence, yet there are others which certainly do not deserve the name. Many of these creations look well only when overgrown with masses of flowering subjects, and even then the lack of design and thoughtful study militate against its general appearance.

The rock garden (unless it be completely isolated) should harmonise with that portion of the garden which adjoins it. The one should fall naturally into the other. A blending of scenery is necessary for a pleasing garden. Ofttimes I have noted so-called rock gardens built on the style of a cairn of stones which marks the resting place of byegone warriors.

Again, how often do we perceive that the indiscriminate use of comparatively small stones fails miserably to achieve the effect which a few large bold rocks would certainly secure. Too much small stone is used as "rockery" stone, and no words are too hard to denote the bizarre effect. Again, the stone itself calls for distinct notice. Some of the Derbyshire, Yorkshire, and mountain limestones are of great service, but for the health of the majority of plants there is nothing better than a good sandstone formation, such as one obtains in many districts in Sussex. The absorbent nature, and veinous texture of this stone assists to retain moisture, and to afford a foothold on the face for the tiny rootlets of many plants.

Pathways must necessarily have attention, for a rock garden that does not afford one the means of traversing it from end to end, and of bringing one into close contact with the plants themselves, is obviously a partial failure.

In addition to obtaining a good rock formation effective and pleasing to the eye, one must not lose sight of the fact that one has to provide a safe home for many plants and shrubs. This has been rather a drawback with some otherwise fine rock formations, the rocks being well arranged and of bold appearance, yet the disposition failed to provide suitable accommodation for the "planter's subjects." The value of a rock garden is twofold. It must typify a pleasing setting of rocks, and render a good effect by its drapery of plants. If it fails at either point then the garden itself loses in value and charm.

Of the much-discussed modes of planting rock gardens, a brief word of advice may be given. Too often the planter errs in the matter, either by the weak planting of a myriad single specimens or else in trying to effect bold stretches of colour to the elimination of everything else.

Colour in the rock garden is desirable, especially for distant effect, but it should be used with care. Arabis albida plena, Aubrietia Dr. Mules, and Alyssum saxatile are each very attractive in their way, but it is not good policy to plant such subjects in quantity to the exclusion of many other plants. I like a touch of colour. It is pleasant to note a cascade of snowy whiteness, a torrent of gold, or a sweep of rich blue, but from these my eye loves to wander to the softer hues and daintier beauties, the rarities and "small colonists," whose charms are quite as great though they may lack the robust growth and bright hues of many of their confreres.

It is of the highest importance that a succession of blossom is maintained throughout the year. More is expected of the rock garden by reason of the lavish manner in which Nature has given of her wealth for our purpose. Flowers are looked for when everywhere else is devoid of beauty, thus the planter must see to it that sufficient generic and varietal forms are selected to give a long continued series of colour pictures are planted.

For early-flowering a good selection of bulbs are quite as greatly important as a good collection of plants. Irises, anemones, chiondoxas, crocus, puschkinias, scillas, leucojums, galanthus, tritelias, tulips, narcissi, muscari, etc., etc., in varied forms, help to increase the beauty of early blossom, and it may be said that spring is the season of seasons for the rock garden.

In the case of the garden devoted to alpines great advance is noted. Plants nowadays receive better attention and more rational treatment, and the result is strikingly apparent. Even now, however, a few persist in carrying into the rock garden schemes of mulching and manuring which would be better reserved for the kitchen garden. What would my readers say to the mulching of a goodly collection with hot stable manure "to keep the frost away," or, in another case, the using of certain compounded manures for forcing a luxuriant growth in alpines. It is remarkable how, in their native habitats, a great number of alpines subsist in the most meagre allowance of soil. The rain carries to their roots simple sustenance and new soil particles for their enrichment. The keen, crisp mountain air, the hardening winds, and the ripening influence of the sun, all combine to keep these little plants sturdy, hard, and floriferous. Follow nature in your rock garden work, simple top dressings occasionally, gritty sound soil mixings, lime for limestone plants, sand for the majority. An open situation where sun and wind will bring out foliage colourings as well as plenty of blossom. Keep them free from our rapacious lowland weeds, and renew old plants by cuttings, seedlings, or offsets.

P. S. Hayward

SMALL GARDENS BEAUTIFUL

It is not the size of a garden that makes its beauty; supposing a small garden and a large one to be equally well cultivated, the latter will be of superior excellence by reason of its size, but, as a matter of fact, the more space the more probability of neglect, if not positive ugliness, within it. Perhaps, however, it is the medium-sized garden that too frequently shows signs of neglect, because insufficient labour is spent upon it. In degree, if not in importance, it is as fatal to underman a garden as a ship. Miniature pleasure grounds become, therefore, almost perfect under one individual's care, and it is not too much to say that England owes a great deal of her beauty to the love of floriculture that is annually increasing amongst us.

Concentration is a secret of notable success, as distinct from an all-round level of excellence. The man possessed of very limited ground space will derive much more pleasure from cultivating two or three special kinds of plants, with a sprinkling of others, introduced only to show these off, than from gathering together specimens of many. Instead of each small garden having its rosery, how much finer it would be if one or two were wholly of roses, the others given up to lilies, carnations, chrysanthemums, etc.

I was once in a delphinium garden, so unimportant in dimensions that, during winter, the plots back and front looked scarcely larger than the house, yet, when summer reigned, the display of stately flowers was so remarkable that it was spoken of throughout several counties; the delphinium is one of those blossoms that offer blues of every shade, since the effect of pink, copper, and purple shadings within the blue petals of some varieties is, at a slight distance, the creation of different blues. The plant goes on blossoming during four months if properly treated, and, as a foliage subject even has distinct merit. Where it is studied, combined, and managed tenderly, accompanied by the new dwarf forms that can be grown from seed to bloom in a few months, it yields, perhaps, a more glorious colour display even than the phlox or hollyhock, both of which hardy plants might well reign supreme in other small gardens.

Summer and autumn phloxes, by the bye, offer great variety of heights now, as well as hues, and would flourish in a semi-shady place; it would be advisable to choose the classes of colours with regard to the appearance of the dwelling, since rose and carmine masses can never rejoice the vision if close by red walls, while there are vermilion, orange-cerise, and salmon shades that will tone with these perfectly, even soften down their new crudeness. White, cream, blue-lilac, and bronze-crimson may accompany the red; mauve, purple, cream, and white, the rose and carmine.

An avenue of hollyhocks following the path, or little carriage sweep, will give a rare importance to the entrance to a villa; hedges of the stately plants can shut off roadway or tradesman's walk, for there are four-foot althæas now, in addition to the giants; shrubberies made of a few evergreens and numerous hollyhock groups are always satisfactory. Single plants dotted round a lawn, a different kind of viola carpeting each of the round beds cut for them, will have, to some eyes, a fairer effect than that produced by similar employment of standard roses.

Small gardens given up to one colour, either with or without white, prove pleasing; gold is probably most cheering of all, as it seems to catch and retain the sunshine; the use of yellow-leaved shrubs, such as golden privet and euonymus, immensely aids the effect. Artists tell us that only by having large expanses of pure colour spread out can the vision ever hope to appreciate their intrinsic beauties, and there is no doubt that we spoil half our gorgeous flowers by scattering them among others of different hues. It has been well said that few persons of taste would tolerate the combination of tints in a room that are to be found in nine herbaceous borders out of ten.

Overcrowding is to be avoided: this does not mean that the modern method of carpeting must not be pursued, but the dwarf plants should seem to be nestling naturally at the feet of the taller ones, and ought each to have room to develop fully. A rockery fails to be pleasing unless some of its rocks rise out of the vegetation and florescence. The viola family has never, perhaps, been represented thoroughly in one small garden, yet this could easily be done. Giant fancy and show pansies, violas or bedding pansies, the various forms of the Horned Violet (Viola cernuta), sweet violets in profusion, are not the only beautiful border and bed fillers. There is also the Bird's-Foot Violet (Viola pedata), the Colorado Violet (V. Rydbergi), the shade-loving blue Viola calcarata, and the Summer Violet (Viola cucullata). Pansies on the shady side, and bedding pansies on the sunny one, will blossom until winter in the window boxes.

There remains another uncommon scheme. By means of evergreen shrubs and plants, used alone, flowering ones intermixed with those valued only for foliage, a small pleasure ground can be made beautiful in winter as well as in summer.

M. H.

BASKET OF ROSE MADAME ABEL CHATENAY.
One of the three baskets of garden roses for which Mr. J. Mattock was awarded the First Prize at the National Rose Society's Show.

THE VINE MAPLE.

A quite large number of acers possess flowers of a showy character, as is instanced by the small red flowers of A. rubrum, which appear in March; the yellow flowers of A. obtusatum, which open a little later; the long, drooping racemes of yellow blooms found on A. macrophyllum, and the common sycamore, the small red blossoms of A. palmatum varieties, the subject of the present note, and many others.

The Vine Maple, Acer circinatum, is a Californian species, which is met with either as a small tree or large shrub, the latter being more frequently the habit presented under cultivation in Britain. The leaves are distinct from those of other maples by their somewhat rounded character. Each one is divided into six or seven lobes, of which five are considerably larger than the others. When they first appear they are of a delicate shade of green flushed on the upper surface with reddish-brown. The flowers appear early in May as the leaves are developing, and are arranged in drooping inflorescences. The most conspicuous part is the calyx, which is red. As a contrast there are yellow stamens, while the corolla is white. As the flowers are borne with great freedom a pretty effect is made amongst the delicately coloured leaves. A further period of beauty obtains in autumn, for, previous to falling, the leaves take on brilliant orange and scarlet tints. Like the majority of the maples it succeeds in any ordinary garden soil, whilst it may be expected to grow in most parts of the country.

D.

Asparagus.—This is now growing very freely, and will need supports to prevent the stems being broken by the winds. Good pea sticks are very useful for this purpose. Stakes and strings can also be used. Hoe carefully through the beds and keep them perfectly clean; a sprinkling of artificial manure will do the beds good, and will strengthen the growths.—Geo. Ellwood, Swanmore Park Gardens.

Russelia juncea.—What a pretty object this makes in the warm greenhouse if the main shoots are secured to an upright stake, and the minor rush-like branchlets allowed to dispose themselves at will. They have all more or less a drooping tendency, and when laden towards the points with their small bright red, tubular-shaped flowers, present a very pleasing effect. Not only this species, but R. sarmentosa and Lemoine's hybrids, are well worth growing.—W. T.

HARDY AZALEAS.

The month of May, remarkable though it be for its wealth of flowering trees and shrubs, has nothing to surpass the various hardy azaleas; indeed, for brilliant effect their only rivals are their near allies the rhododendrons. Of these last the range of colour is not nearly so great as in the case of the azaleas, whose flowering season is nearly over before many of the rhododendrons are at their best. Botanists, as is now generally known, include all the azaleas in the genus Rhododendron, but from a gardening standpoint the two are so distinct that for general purposes they may well be kept separate.

The charm, to many, of novelty cannot be claimed for these hardy azaleas, as they have been popular for generations, and in my young days an annual treat was afforded by the azaleas in flower in Messrs. Osborn's nursery at Fulham, long since covered with the all-conquering bricks and mortar. Again, to my personal knowledge, the azalea beds of Kew have during the season been the Mecca of devoted flower lovers for over forty years, and at that time many of the specimens were old bushes. That their popularity is in no ways diminished was well shown by the endless stream of visitors during the time they were in bloom. Quite a long list of garden varieties is given by Loudon as occurring in the catalogue of Messrs. Loddiges for the year 1836, as having been raised at High Clere in 1830, or before, and the Belgian varieties of 1829 or earlier.

The raisers of that time made use principally of A. calendulacea, a North American species, with brilliantly coloured blossoms, to whose influence we owe many of the orange, orange scarlet, and various red forms; A. nudiflora, also from the Western Continent, whose flowers are of varied tints; A. occidentalis and A. viscosa, also American kinds; and A. flava or pontica, a native of the Black Sea region, with yellow blossoms.

As might be expected from the intercrossing of the several species with flowers of such diverse tints, there is a wide range in the colour of the blossoms, as they vary from white to vivid scarlet, through all the intermediate shades of yellow, orange, salmon, and orange-scarlet, as well as different tints of pink.

Some of the older varieties have honeysuckle-like blooms, thus showing a good deal of the influence of A. nudiflorum, but in all, or nearly all, of the newer hybrids the blossoms are larger, and the petals broader owing to the important part that A. sinensis, or mollis, as it is generally called, has played in their production. From this source we have obtained such varieties as Anthony Koster, perhaps the most popular of all the hardy azaleas, and for flowering under glass is extensively cultivated. As a great number of the older varieties of hardy azaleas were raised in Belgium, they are often known as Ghent azaleas.

The Chinese A. sinensis, or mollis, is characterised by a dwarfer habit and larger flowers, borne in more massive clusters than the older hybrids. They are also earlier in expanding, so that they are sometimes cut by late spring frosts, added to which their somewhat lumpy habit renders them decidedly lass graceful than some of the others. From an artistic standpoint those varieties whose tender unfolding leaves serve as a setting to the newly-expanded blossoms, are decidedly preferable.

Azalea occidentalis, a white-flowered species from California, incidentally alluded to above, flowers naturally towards the latter part of June, and on account of its late blooming qualities it has been employed by the hybridist in the production of varieties that serve to extend the azalea season.

Other species of azalea that have played but little, if any, part in the production of the garden varieties of to-day are A. ledifolia, a native of China and Japan. Its blossoms are pure white, and the entire plant is very hairy. A. rhombicum, from Japan, is remarkable from its rhomboid leaves, while the lilac-purple flowers are borne, as a rule, in April. A. Vaseyi, a native of the mountains of North Carolina. The flowers are white, suffused with pink, and expand early in the season. It is a delightful species, and though now known in gardens for many years, is still decidedly uncommon.

Considering their great merits, it is difficult to understand why these hardy azaleas are not more generally planted. There is a widespread idea that peat soil is absolutely necessary to their well doing, but such is by no means the case, as they will thrive in loam provided it is free from lime. If the soil is of too adhesive a nature leaf-mould, peat, or sand, may be incorporated with it to the advantage of the azaleas. A very important matter in connection with these handsome shrubs is to bear in mind that in common with many of their relatives they are very impatient of drought, hence it is useless to expect them to thrive in a parched-up soil. Their roots are so fine as to be almost hair-like, hence they quickly suffer if allowed to become too dry. Owing to the close, compact nature of their root system these azaleas, even when they have been standing in one spot for years, may be removed with but little risk; in fact, if it is done early in the autumn, and the plants are well watered so as to settle the soil around the roots, they will flower well the following spring.

The different hardy azaleas are seen to the best advantage if planted in bold masses or groups, in which case a judicious selection of colours is necessary. For gardens of limited extent, planted as single specimens, or as groups of three on the grass, a very pleasing effect is produced. Though the above remarks refer solely to the beauty of the flowers, it may be noted that the foliage of most of the hardy azaleas is in the autumn very richly tinted.

W. T.

FIRST PRIZE COLLECTION OF EIGHTEEN VARIETIES OF GARDEN ROSES.
Exhibited by A. Tate, Esq. (Mr. W. Mease, gardener), at the National Rose Society's Show.

Everyone interested in a garden should obtain a copy of the ALPHABET OF GARDENING, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price, bound in cloth 1s. 6d. net, post 1s. 9d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

AN ATTEMPT TO INTRODUCE OLEARIA SEMIDENTATA INTO THE BRITISH ISLES.

(Concluded from page 506.)

I was now anxious to get farther afield towards the Horns, at the southern part of the island, and was fortunate in finding Mr. W. Jacobs, who volunteered to accompany me. It had rained 15 parts during the day, and the next morning broke thick and foggy, delaying our start, but we got away on horseback about 9 a.m. and travelled south, our destination being Mr. Blyth's place, about fifteen miles off. The track—for there are no roads—lay over the higher country, undulating and boggy, with occasionally a deep ravine through which flowed a small river considerably swollen by the rains. The country over which we passed was covered with Pteris esculenta (the Bracken Fern), some Phormium tenax, Dracophyllum arboreum, and Styphelia robusta in the drier parts; while Dracophyllum paludosum occupied the more swampy ground. The fog was fairly thick, and I could get no general view of the island, and it was so boggy that we constantly had to dismount and lead over the bad places; while at the best the horses were nearly up to their hocks in the peat. After some time we came across Olearia semidentata in full flower: it is a beautiful sight, covered with its purple daisy flowers like a glorified Michaelmas daisy. The ray florets are light mauve, and the centre is a dark purple. Masses of plants were to be seen, the largest being about 3ft. to 4ft. high, and in places where patches had been burnt seedlings were coming up in thousands. I endeavoured to photograph some of them, but it was most difficult in the wind and fog. A peculiar kind of rush-like grass, Lepyrodia Traversi, seems to grow in association with Olearia semidentata, and greatly helps to harden the bog and make it easier to walk about on. The beautiful Epacrid Dracophyllum paludosum was also in full flower, and the white patches made a lovely contrast with the olearia and the brilliant red berries of Styphelia robusta, a combination which existed on the edges of the drier ground. At last we came to a lonely, steep gully full of bush, including tree ferns and Senecio Huntii in abundance, where we halted for lunch and where, in spite of the fog, I was able to obtain some good photographs. Eventually we arrived at the Te Tuku gully—very steep and precipitous—across which a bad track led. The gully at the mouth where we crossed is about 600ft. high, about half a mile wide, and covered with bush. When we arrived at Mr. Blyth's house, about four o'clock, I explained to him that my mission was to obtain specimens of a rare plant (Aciphylla Dieffenbachi), which I had heard grew on the cliffs near his house, and he immediately led me to the spot. It was growing on the precipitous slopes of the cliffs, which are here 600ft. high, one flowering plant only being accessible, which we obtained. The edge of the cliff was covered with Phormium tenax, long grass, some Astelia nervosa, Veronica chathamica, more erect than the type, and the lovely little pink or white-flowered Geranium Traversi; while on a ledge of the cliff below I noticed some of the ordinary forest trees, also a mass of Myosotidium nobile (the Chatham Island Lily), and the giant nettle, Urtica australis. I also found Olearia chathamica in abundance growing on the cliff a little farther along, also Senecio lautus and S. radiolatus. Through the kind hospitality of our hosts we stayed at Te Tuku the night, with the promise of more Aciphylla Dieffenbachi the next day. Sure enough, on a small detached cliff island some two miles on our way back Mr. Blyth showed me a quantity of it growing, and I was able to take good photographs and get some specimens and plants. Unfortunately only the male plants were still in flower, the females having already gone to seed. This was most disappointing, because Mr. T. F. Cheeseman in his "Flora" is inclined to agree with Mr. Kirk in considering that it will ultimately form the type of a new genus; but hitherto no flowering specimen of the female has been obtained. The plant is very scarce except in patches in inaccessible places, and is said to occur also on Pitt Island in places similar to where I found it. It is probable that it is a good deal scarcer than formerly, since it must have suffered from the depredations of cattle, which eat it readily wherever they can get at it. Other plants are similarly threatened with extinction, namely, Myosotidium nobile, Phormium tenax, and Aciphylla Traversi.

"The weather continued foggy and damp all this time, but when we were nearly back again at Weitangei it cleared, and came out a glorious evening, so that I was able to get a view at last. When next morning broke, however, it was as bad as ever, and it rained in torrents all that day, and continued throughout the next, making it quite impossible to get about the country. On the 11th it seemed finer, and I started off with Mr. Cox to visit the shores of the Great Lagoon (Te Whanga) and the country between it and Lake Huro. Growing on the low limestone cliffs bordering the lagoon I found Styphelia Richei (which does not occur in New Zealand, but is found again in New South Wales), Styphelia robusta, Sophora tetraptera (Koi), Phormium tenax, Linum monogynum, Geranium Traversi, Veronica Dieffenbachi, and Samolus repens, the latter a lovely little creeper, which, like Salicornia, seems to like a place where the salt spray can reach it. The samolus resembles the plant found in New Zealand, but is altogether a finer thing, and probably deserves the distinction of var. chathamicus. The country between the lagoon and Lake Huro, and especially along the lagoon coast, is very pretty and park-like, and the forest trees growing close together form woods. Here corynocarpus reaches a maximum height of 45ft., with a thick stem in proportion, and the other forest trees are all larger than I had before seen them. In these woods occurs Plagianthus chathamicus, referred by Cheeseman to P. betulinus. It appears to differ in having larger flowers and foliage; and, as the small-leaved form of the mainland is not present in the Chathams, it seems reasonable to follow Dr. Cockayne and call it P. chathamicus. Before getting home we were wet through again, but during the morning I managed to get some photographs showing Veronica gigantea, 20ft. high. Thus ended the first seven days of my visit, the total rainfall being 3.10in., with only once a glimpse of the sun. The 12th was spent in getting dry and in packing the plants, but I got wet again after a short excursion into the Lake Huro swamp in search of carex.

"In the evening our steamer appeared on the scene; but, as I soon learned from the captain that he had yet two more days' work down the coast and loading at Weitangei, I started off with Mr. Cox on the 13th, which was fine and calm, for what is known as the Tobacco country. This district is so called not because it grows tobacco, but because it was once purchased for a few cigars. It is the country lying southward, and comprises the highest ground, worst bogs, and greatest quantity of Olearia semidentata; the place of all others I was longing to get to, but up till now quite impossible owing to the bad state of the weather. The way first led through fine pasturage and patches of lowland forest, including a very fine patch of Cyathea Cunninghami. Out on the moorland we saw Dracophyllum arboreum and Styphelia robusta—a bush of the latter standing isolated attracted my attention more than two hundred yards off by the scarlet colour of its berries. After crossing a fine gully, in which was Senecio Huntii, the giant groundsel, in full flower, the ground about a mile further on became wetter, and Dracophyllum paludosum, tiny plants a mass of flower, appeared. Soon came Olearia semidentata, at first odd plants, then in masses, acres and acres of it everywhere and in full flower, and presently we found Olearia chathamica scattered about; and next came to a large bog all yellow with sphagnum and green, apparently, with watercress; patches of flax here and there, and also Carex appressa var. sectoides. Here we halted for lunch, and I discovered several bushes of an entirely white form of O. semidentata, unknown to Mr. Cox; he also found a lovely pink variety. Through the bog flowed a small stream, and it seemed there would be a difficulty in obtaining water to wash down our sandwiches; but on getting nearer I discovered the supposed watercress to be a mass of Marchantia cephaloscypha, and that one could walk on it everywhere, as it formed a crust over the surface of the bog. On going farther across the bog I was surprised to find a very large area of this liverwort nearly an acre in extent, growing on a considerable slope; so much so that one could slide on it. The ground at its edges was some feet higher, irregular, and covered with O. semidentata; it immediately gave me the idea of a glacier, the lateral moraines being formed by the olearia. I obtained several photographs of this remarkable formation, which I called the "glacial bog," as a distinction from the Olearia-Lepyrodia bog. The day was fine throughout, and by far the most enjoyable one I had spent on the island. We returned early in order that I might pack the plants obtained, which included one nice plant of the white variety of O. semidentata. The 14th was spent in embarking the plants and repacking them into a Wardian case which I had on board, and we sailed in the evening about 6 p.m., reaching Lyttelton on the 17th, just in time to catch the evening boat to Wellington, where I left the plants ready to bring them to England on the 30th December. Thus ended a very rough but interesting trip, in which I was very greatly assisted by the kindness and hospitality of the inhabitants of the Chatham Islands. My thanks in particular are due to Mr. Cox and Mr. Alec Shand."

LAVENDER.

The fragrance of lavender is one of the happiest and most lasting memories of the floral year, and although not a native plant, it is nevertheless quite typically English, as it has been known to English gardens for over three hundred years. There are several forms of Lavandula vera cultivated in gardens; the type grows into a bush some two to three feet in height, and produces dingy-coloured flowers. The corolla segments are small, and of a weak shade of blue. The best-known form is a counterpart of this, except in regard to the flowers, which are conspicuous, and in handsome spikes of a deep violet blue. Curious, but interesting, is the fact that both these forms are reproduced in miniature. The dwarf forms are very compact in growth, and much greyer in the leaves, indeed both forms, by lightly pruning them, may be kept under twelve inches for several years. The best form is that having violet-blue flowers; this I had originally from France, under no particular name, but it is identical with the variety known as the Munstead lavender. So charming a subject should be largely used in every garden, and, if possible, in broad masses; this particular form begins to flower early in July, quite a month before the other kinds. On any large scale the Munstead lavender can be employed to excellent purpose as a foreground to the taller kinds; alone, in masses, or in lines, it wins general approval. Varieties of lavender are readily propagated by cuttings inserted in sandy soil during September and October, treating them on similar lines to bedding violas; the plants may be placed in their permanent positions any time during the following year. Lavender succeeds best in a well-drained soil, preferably that containing limestone or chalk in an active form.

Thomas Smith.

NEW PLANTS, ETC.

ROSES.

Juliet.—This lovely rose we have previously described on the occasion of its receipt of an Award of Merit on July 20, 1909. It is a wonderful rose, and improves on acquaintance, its bright orange-red and yellow colouring combining to produce a colour effect absolutely unique among roses. The fragrance of the variety is very delightful, and there is little doubt that Juliet has a great future. F.C.C., R.H.S., July 5. Messrs. W. Paul and Son, Waltham Cross.

Mrs. Foley Hobbs.—A fine H. T. variety, with very shapely flowers of a deep cream or ivory-white colour. It is broad-petalled, and promises to be a good exhibition rose. A.M., R.H.S., July 5. Messrs. Alex. Dickson and Sons, Newtownards.

Mary Countess of Ilchester.—A large full centred rose of great beauty; it is broad-petalled and of a rich rose colour shaded with pale violet. A.M., R.H.S., July 5. Messrs. Alex. Dickson and Sons.

Rayon d'Or.—A distinct and effectively coloured variety that has Soleil d'Or for one of its parents. The flowers are rather large, moderately full, and of a rich yellow colour, the back of the outer petals splashed with crimson. It was raised by Pernet-Ducher, and attains a height of about thirty inches. Gold Medal, National Rose Society, July 8. Dr. Waddell, Roselands, Baldock, Herts.

BEGONIA MRS. W. L. AINSLIE.

This is not a new variety, but it is an excellent one, free in growth and bloom. It has big double flowers of the purest golden yellow hue. A.M., R.H.S., July 5. Messrs. Blackmore and Langdon, Twerton-on-Avon.

DELPHINIUMS.

Belladonna semiplena.—This variety has almost double flowers, and these are of a pretty soft shade of blue. A.M., R.H.S., July 5. Mr. Amos Perry, Enfield.

Lamartine.—A splendid variety of comparatively dwarf habit, and bearing fine spikes of large deep violet-purple flowers. A.M., R.H.S., July 5. Mr. Amos Perry, Enfield.

GLADIOLUS EDWARD VII.

An elegant gladiolus, said to be a cross between Ardens and Crimson Queen. It belongs to the early-flowering group, and adds needful colour to it. The flowers are larger than those of most early varieties, and they open well. The colour is deep rich orange-red, with a large whitish central area, shaded with purple on each of the three lower segments. A.M., R.H.S., July 5. Mr. Frank Lilley, Guernsey.

Radishes.—Sow seeds, at ten-day intervals, in good ground partially shaded. Good radishes are assured if a dressing of old potting soil is applied at sowing time. Protect from birds.—G. E.

Cucumber Lockie's Perfection is one of the most reliable varieties for frame culture; free in setting and continuous in bearing, it yields a prolific crop of excellent quality under the most trying conditions. I have grown it for a number of years without the use of the orthodox hotbed. A double-light frame vacated by violets is relined with fresh soil, the cucumber being planted without further preparation. Close and careful attention is necessary both in regard to airing and damping down, as the only warmth obtained is that from the sun's agency, consequently early closing is diligently observed. Frame cucumbers require to be thinly trained, and once the plants are in full bearing, a light top-dressing of rich soil at intervals will enable the plants to produce the maximum yield over the longest period. The earliest fruits from frames under this system were cut on May 26 this season, and as a rule the supply from this source is prolonged until October. —Thomas Smith.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

COOL-GROWING ONCIDIUMS.—There are several oncidiums that thrive excellently under cool or intermediate house treatment. Some of them are annually imported in large quantities, so that they are procurable at a modest cost. The flowers of the different species and natural hybrids of this genus vary considerably both in size and the colour of the flowers. In the majority of cases they are attractive, and exceedingly useful subjects for decorative purposes. There are numerous methods under which the plants may be cultivated. They are often found growing in greenhouses on a piece of rough bark or stump of wood, on rafts, in baskets and pots; while only recently I noted in one of the miners' greenhouses several large specimens of O. flexuosum covered with flower spikes growing in tubs, these being exhibited at most of the local shows in the North of England. They are in most cases profuse in flowering, and it may be reasonably suggested that the free-flowering characteristics of some of the species often lead to detrimental effects, especially where they have not been relieved of their flower spikes within a reasonable time after they have become expanded.

NEW ROSE JULIET.

A remarkably distinct and beautiful rose raised by Messrs. William Paul and Son, and exhibited by them at the Holland Park Show, when it received a First Class Certificate; the flowers are bright orange-red and yellow.

ONCIDIUMS suitable for cultivation in a temperature normally from 50 to 55 deg. in winter belong to the Brazilian section, which includes such well-known and popular species as O. concolor, O. crispum, O. curtum, O. Forbesi, O. Mantini, O. Gardnerianum, and others of this section. The whole of the above-mentioned species are best procured as imported plants. When received they should be carefully cleaned of all dead and decaying matter about the base; also of any scale or insect pests that may have secreted themselves. This is desirable, as only last year we found several imported plants of O. Marshallianum literally infested with mealy bug.

POTTING ONCIDIUMS.—Select pots or shallow pans just large enough to contain the roots comfortably. Fill to one-half their depth with clean broken crocks. After the plants are placed in position fill in the remaining space with a compost consisting of about equal proportions of fibrous peat, chopped sphagnum moss, and broken leaves, with sufficient silver sand added to render the compost porous. This compost should be pressed firmly about the base of the plants. They should be watered as soon as potting is completed. Rain water should always be used, for it will be found that with hard water the sphagnum moss rarely grows satisfactorily. More frequently it dies, and the decay thus set up quickly causes decomposition of the remaining constituents of the potting compost. After the first watering very little water will be required until the new growths are produced, when more liberal treatment must be afforded, and continued until the plants have flowered. After flowering they take a prolonged season of rest, during which time only sufficient root moisture is necessary to retain the pseudo-bulbs in a normally plump state.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

POINSETTIAS.—The latest batch of these plants should now be nicely rooted and transferred to a position where they will obtain more light and air, though at the same time they must not be allowed to get the full force of the midday sun, the young leaves being especially susceptible to burning. The earlier batches will at least be ready for transferring into 48's or 32's, and if they have been fairly well hardened they may, after potting, be transferred to a brick pit where just a small amount of heat may be given in cold or wet weather; but as mentioned in a previous calendar do not grow them too sappy, as long, ungainly plants are not useful for decorative purposes. Pot the late batches on as soon as fit, for they should all be well established in their flowering pots by the middle of August.

EUPHORBIA JACQUINÆFLORA.—This bright and useful winter-blooming plant should also be ready for transferring to its flowering pots as soon as established; if an empty melon house is available the young plants may be trained up the wires, but before doing this it is wise to give the house a good cleaning down to rid it of all spider or thrip, both of which are rather apt to attack the euphorbias. If this position can be accorded them, and they are given a fair amount of heat and sun, they will grow quickly, and, what is very essential, be well ripened; as the pots get full of roots liquid manure may be given them pretty freely, but on no account must they be overwatered.

OTHER WINTER-BLOOMING STOVE PLANTS that should be potted on are Ruellia macrantha, justicias in variety, Thyrsacanthus rutilans, etc. Most of these plants like a fairly light mixture of loam and peat, with a good sprinkling of sand to keep the soil very porous, and all of them may be cultivated in a warm frame, at least for a month or two, until such plants as caladiums, gloxinias, etc., are taken out of the warm houses, where they should be transferred from the frames. When rooted nicely most of these plants will take water pretty freely, and thorough good syringings overhead should be given on all fine days, and the frames be closed fairly early in the afternoon to conserve the sun-heat.

CELOSIAS.—These prove very useful for decorative purposes during the late autumn and early winter, and young plants raised from seed last month should be moved on as they require it. A fairly warm temperature, with a fair amount of moisture, suits these plants well, and whilst in the young state frequent syringings should be given them to keep down spider, which is rather a troublesome pest to celosias during the generally hot, dry months of July and August. These late-sown plants should not be over-potted, 48's being quite large enough to flower them in, and in this size pot they will make plants quite large enough for most purposes, provided they are liberally fed with liquid manure when coming into bloom, at which time syringing should be withheld and rather more air given to the plants.—Thomas Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

LATE GRAPES.—In changeable weather similar to that experienced last month, houses containing late grapes will require more than usually close attention, in order to prevent the vines receiving injury from chills, or from their leaves becoming scalded. It is easy at such times, unless we are constantly on the alert, to be caught napping by sudden bursts of sunshine, especially when they take place after spells of dull weather, and then the vines may be considerably injured in a surprisingly short space of time, and disfigured for the season. The bunches of grapes should be examined now, while the scissors can be conveniently used, and any seedless berries be carefully removed. Keep sub-lateral growths (except in spaces where there is a dearth of leaves) closely stopped at one leaf. Mildew is sometimes troublesome, particularly if the proper temperature is not maintained, and should it appear flowers of sulphur and skim milk should be mixed to the consistency of paint, and the pipes, after being made quite hot in the evening after the house is closed, should be painted with the preparation. This, if carefully carried out, will readily destroy the parasite, but if excessively followed may bring trouble by causing the berries to rust. Thrips seldom appear in vineries that are carefully managed with respect to atmospheric moisture. Fumigating is the best remedy, but the good flavour of the grapes would be sacrificed if it was practised at this stage of the fruits' development, and should this pest appear the best means to adopt would be to sponge the leaves with soft soap solution. The roots of young vines planted in newly-made borders are liable to attacks of wireworm; should this be troublesome bury carrots in the surface of the border, examine them frequently, and destroy the pests found attached to them. Give needful attention to watering, mulching the borders, and feeding with suitable liquids or compound manures.

YOUNG VINES.—Vines raised this year and intended for yielding an early crop of fruit next season, will have made considerable progress in their fruiting pots, and will require more frequent attention to watering, and a moderate amount of manurial assistance. Train the leading growths as they lengthen to a trellis placed near the glass, stop them when they have reached about nine feet in length, and also all side growths at one leaf. Well syringe the vines in the morning, and again when the house is closed for the day; this will both invigorate the plants, and keep them clean and free of red spider. Once the rods commence to brown use less atmospheric moisture, increase the ventilation of the house, and leave the ventilators slightly open at night, by which means the vines will be prepared for removal to a sunny sheltered position outdoors. Newly-planted young vines that have limited rooting space should have needful attention to watering, and have, if necessary, the borders mulched. If properly managed the leading growths will have been stopped after having reached a length of about six feet, and beneath this point the lateral growths should be stopped at one leaf, but sufficient of the upper shoots to cover the top portion of the trellis should be allowed to extend.

TOMATOES FOR FRUITING IN WINTER.—There should be no further delay in sowing seeds for the winter crop of fruit. Sow thinly in shallow pans, place them in a cool frame, and as soon as the plants have made rough leaves put them singly in small pots, and subsequently shift into large pots as required. Keep the plants sturdy by freely ventilating the frame by day and night, or by placing them outdoors in a sheltered position with their pots plunged in ashes. Good loam, with a little manure from a spent mushroom bed, and some crushed mortar rubble, made firm by ramming, answers well as a rooting medium.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

TOMATOES UNDER GLASS. — The plants raised from the spring sowing being in full bearing, will need care and attention to keep them fruitful and healthy. They must not be allowed to become dry, or they will crack after watering; and do not overfeed them, but rely on light top-dressings of loam. With the loam mix a little burnt garden refuse and a small quantity of a suitable artificial manure, and occasional waterings of liquid manure from the farmyard. Good liquid manure for tomatoes is made up with one bushel of cow manure, one bushel of fresh horse droppings, a peck of soot, and a tub of water. Place the material in separate bags of good size, where it would have room to be well pressed when placed in a tub of water. When plants from later sowings are ready for their fruiting pots, the best materials are turfy loam and small quantities of mortar rubble and burnt garden refuse.

TOMATOES ON OUTSIDE WALLS are growing away and flowering well where old lights were placed over them at planting time. Lightly tap each stake daily to assist in dispersing the pollen and thus ensure the setting of the fruits. Top-dress with a moderate quantity of the above compost. Should hot weather return later, top-dress with horse droppings.

AUTUMN SOWN ONIONS.—The bulbs have now attained their full size almost, and as a preventive from splitting they can now be safely lifted. They must be lifted with care and well dried before they are stored. No better place can be provided for them than under garden lights. Allow a free passage of air under the frame by placing a brick under each corner. Remove the lights in dry weather, and turn the onions over daily to well dry and ripen them.

SPRING SOWN ONIONS.—Those raised from seed sown in boxes early in the year are now bulbing nicely. Keep the bed clean and use the Dutch hoe regularly, and occasionally sprinkle artificial manure or soot during the next month. Keep a sharp look out for mildew; treat it by speedily removing any and every affected part of the growth and at once burn it. As a cure, try equal parts finely crushed powdered lime (fresh) and sulphur, and dust the plants with the mixture when moist from dew. The main crops should be treated similarly to the above, but in this case finely sifted burnt garden refuse can be mixed with the regular sowing of soot broadcast.

CABBAGE.—Before further notes appear on this calendar of operations, the first sowing of cabbage must be made. A sowing should be made about the 21st of the present month, and seven days later. Sow in firm but well-prepared ground, and use a fair amount of burnt garden refuse with the soil. Net the seed bed to protect the seed from birds. From this sowing very nice little cabbages should be obtained towards the end of March and early in April, if in a sheltered position. For this crop sow Sutton's April and Ellam's Early.—Geo. Ellwood, Swanmore Park Gardens.

EXHIBITIONS AND MEETINGS.

National Sweet Pea Society.

(*Concluded from page* 548.)

well-coloured bunches of King Edward Spencer. Etta Dyke, George Herbert, Othello Spencer, Countess Spencer, and Clara Curtis. Mr. T. Jones followed, and Mr. F. J. Harrison secured the third place.

In the class for four bunches of American varieties there were but four entries staged, Mr. A. E. Usher again leading with Miriam Beaver, Marie Corelli, W. T. Hutchins, and Senator Spencer. Mr. T. Jones was a good second, while Mr. Robert Wright was third. The maiden growers class for six bunches was well supported, though some of the entrants failed to stage. The first prize went to Mr. Geo. Reid, Downfield, Dundee, for some well-grown peas. Dr. J. E. Phillips was second, with Mr. G. Baldwin third. The Horace Wright Challenge Cup for small growers was well supported, Mr. F. Green, Morris Road, Southampton, winning with good examples of Helen Lewis, Elsie Herbert, Clara Curtis, Evelyn Hemus, John Ingman, and Osta Ohn. Mrs. Howard Young, Filton Avenue, Horfield, Bristol, was second with a nice level display; while Mr. L. C. B. Hockin, High House, Sutton Green, was third, the whole forming a very fine class.

VOSS CUP.

The Walter Voss Challenge Cup for small growers was a good class, though some of the exhibitors had dropped out. Mr. E. D. Marshall, Early Rise, Reading, was first with neat examples of Mrs. Hardcastle Sykes, Etta Dyke, and Elsie Herbert. Mr. W. T. James, Kempston Hoo, Bedford, followed with larger flowers, though not so good. Mr. A. J. Dixon, Culmington Road, Ealing, was third. The smaller classes were well filled and the flowers good, taking them all round.

FLORAL DECORATIONS.

The dinner tables were, as usual, numerous and particularly well done. Mrs. W. Maslin, Ongar Hill Cottages, Addlestone, was first with a beautiful display in pink and cream, with light foliage; Mrs. A. Robinson, Park Hill, Carshalton, was second, and Mrs. de Buriatte, Wraysbury, third. Mrs. W. Maslin was again first for an epergne with a very dainty design; Mrs. Vokes, Horsell, Woking, was second, and Miss M. Jones, Wem, third. There were nine entries in the vases, most of which were excellent. Mrs. Vokes won the first prize with a beautiful arrangement; Mrs. W. Maslin was second, with similar colouring, and Miss. M. Jones was third.

TRADE DISPLAYS.

Messrs. Jarman and Co., Chard, had a tasteful exhibit, having a nice background, with trails of asparagus. An arch of Mrs. Townsend was the feature; but other good varieties were noted, all being well arranged. Messrs. Jones and Sons, Shrewsbury, had a fine floral arch covered with receptacles of various varieties, while underneath were tall vases nicely arranged. Messrs. Kelway and Son, Langport, had a nice display in vases and bamboo stands. The latter were lightly arranged with asparagus and gypsophila. From Messrs. E. W. King and Co., Coggeshall, came a charming exhibit. An arch, the pillars of which were formed with Mrs. W. King, was really fine, as were also the masses of Anglian Orange, Anglian Pink, Paradise Ivory, and Queen Mary.

Messrs. Sutton and Sons, Reading, had a splendid exhibit, arranged most gracefully in columns, Helen Lewis, Mrs. Hardcastle Sykes, Kitty Clive, Paradise Ivory, Yankee, and Primrose Spencer being especially fine. Mr. C. W. Breadmore also had a good exhibit with blooms arranged in tall bamboo stands, also in vases, King Alfonso, George Breadmore, Dazzler, Elsie Herbert, and Freda being especially good.

From Messrs. H. J. Jones, Limited, Lewisham, came a fine stand of his white sweet pea, Beatrice Stevens. Miss Hemus, Upton-on-Severn, had a really fine display, Primrose Paradise, Helio-Paradise, Cerise Paradise, and Paradise Apple Blossom being noteworthy.

Mr. R. Bolton, Carnforth, had a fine exhibit, which included vases of Charles Foster, Mrs. Wilcox, King Edward Spencer, Marjorie Willis, and Audrey Crier. The large masses at the back gave them a good effect. Messrs. Dobbie and Co., Edinburgh, had a delightful display. The chief varieties were Masterpiece, Earl Spencer, St. George, Clara Curtis, and some promising seedlings.

Messrs. G. Stark and Son, Great Ryburgh, staged some fine kinds in a variety of stands. Giant Pale Rose, Florence Wright, Mrs. Duncan, Improved George Stark, and Mrs. C. W. Breadmore were all good. From Messrs. W. Atlee Burpee and Co., Philadelphia, came vases of Dainty Spencer, W. T. Hutchins, Maud Adams, Mauve Spencer, and Mrs. Routzahn.

A pretty arrangement came from Mr. Jas. Box, Lindfield. The tall arches were gracefully filled with delicately coloured varieties, while Dodwell F. Browne formed a good centre. Mr. W. Deal, Kelvedon, exhibited some nice vases of his specialities, which included Bertrand Deal, Colleen, Queenie, Winsome, Prince Olaf, and Giant Waved Cream.

Messrs. S. Bide and Sons, Limited, Farnham, Surrey, also had a large display, most varieties being arranged in blocks of colour. Mr. W. O. Cautley, Bury St. Edmunds, also put up a pleasing exhibit. Messrs. G. and A. Clark, Limited, Dover, had an attractive bank of vases. The flowers were particularly bright. Mr. W. E. Alsen, Denmead, Hants, exhibited a highly effective display of kinds raised by Mr. J. Agate, Havant. The blooms were of high quality, and the fine new variety Stirling Stent was strongly represented. The varieties Moneymaker, Mrs. E. Noakes, and A. A. Fabious were also very fine.

Mr. J. Stevenson, Wimborne, also brought a display of well-coloured flowers. Orange Queen, Rosie Adams, and Mrs. Hardcastle Sykes being good.

The decoration of the music gallery by Mr. C. H. Curtis, hon. secretary, and Mr. H. D. Tigwell, Harrow View, Greenford, was quite a feature of the show. Large palms occupied the background, while vases of sweet peas added to tall epergnes well filled with blooms produced a fine effect, and appropriate greenery gave the whole a pleasing finish.

A FINE GROUP OF CHOICE DELPHINIUMS.
Exhibited at Wolverhampton by Messrs. Blackmore and Langdon, who were awarded the first prize in the class.

MEDALS.

Gold.—To Messrs. E. W. King and Co., Coggeshall; Messrs. Sutton and Sons, Reading; Mr. C. W. Breadmore, Winchester; Mr. Robt. Bolton, Carnforth; and Messrs. Dobbie and Co., Rothesay.

Silver-gilt.—To Messrs. Jones and Son, Shrewsbury; Mr. W. J. Unwin, Histon; Mr. W. E. Alsen, Denmead; Mr. Jas. Box, Lindfield; and Messrs. C. H. Curtis and H. D. Tigwell.

Silver.—To Messrs. Jarman and Co., Chard; Mr. J. Stevenson, Wimborne; Messrs. J. K. King and Sons, Coggeshall; Messrs. Robt. Sydenham, Limited, Birmingham; Messrs. J. Kelway and Son, Langport; Miss Hemus, Upton-on-Severn; Messrs. Stark and Son, Great Ryburgh; Mr. W. Deal, Kelvedon; Messrs. S. Bide and Son, Farnham; Mr. W. O. Cautley, Bury St. Edmunds; and Messrs. G. and A. Clark, Dover.

NOVELTIES.

First-class Certificate and Silver Medal and best variety of the year to Stirling Stent, a rich orange-salmon variety, from Mr. J. Agate, Havant.

Award of Merit.—To Masterpiece, a lavender variety, from Messrs. Dobbie and Co., Edinburgh; Arthur Green, a purple and mauve variety from Messrs. Dobbie and Co.; Mrs. Hugh Dickson, a fine cream pink, from Messrs. Dobbie and Co.; and to Cherry Ripe, from Messrs. Gilbert and Son, Dyke, Bourne, Lincs, a charming cerise variety.

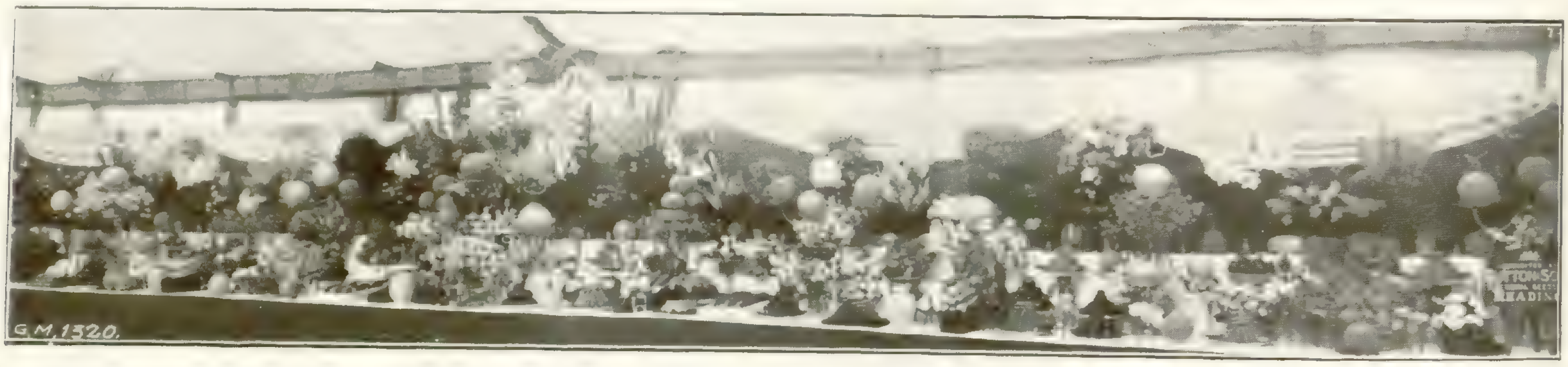
Wolverhampton Floral Fete.

For twenty-two years the Wolverhampton Horticultural Society has held its annual Floral Fête, and great has been the success that has attended their efforts. The show of the present week, which opened on Tuesday in glorious weather, was one of the largest and most beautiful of the whole series, and everybody seemed delighted. The reasons for the great success of the Wolverhampton shows are not far to seek. A capable and obliging secretary is backed up by a band of enthusiastic and energetic workers, and the affairs of the society go with a swing because they have never fell into a rut. Year by year new classes are added, good prizes are offered, and everything possible is done to make it a pleasure to exhibit here. The organisation of the show is about perfect, even in minor details. These are the reasons why we are once more able to record a most successful show.

GROUPS.

Four groups were built by well-known competitors, Messrs. J. Cypher and Sons, Cheltenham, being the victors. The groups were rather different in style to the stereotyped squares, being arranged on a ground space of 30ft. by 12ft., thus giving a first-rate frontage; and, moreover, the four exhibits moulded together, as it were, in a far more pleasing manner than is usually the case. Messrs. Cyphers' group was remarkable for rich colouring and the abundance of choice orchids and other stove plants that were set up in a very masterly manner. Mr. J. V. Macdonald, gardener to Sir G. H. Kenrick, Birmingham, was second, his group being a trifle hollow, but very good in the foreground. Mr. W. A. Holmes, Chesterfield, came third, and Mr. W. Vause, Leamington, fourth.

Messrs. Cypher and Sons also led in the group restricted to foliage plants, showing some beautiful crotons, caladiums, aralias, and other good things, all arranged with good effect. Second prize went to Mr. W. Holmes, and Mr. Wm. Vause came third. In a class for twenty plants confined to eight-inch pots, in and out of bloom, Mr. Vause was given the leading place. He had nice ixoras, an example or two of Erica Bothwelliana, and some crotons. Messrs. Cyphers' second prize lot was more varied in character, three-parts of the plants being well flowered. Mr. C. Weaver, gardener to B. H. Maunder, Esq., Tripull, was third.



A TASTEFUL ARRANGEMENT OF FLOWERS, FRUITS, AND VEGETABLES.
Exhibited by Messrs. Sutton and Sons at Wolverhampton.

Mr. F. Davis, Pershore, took first in a class for a group of any one kind of flowering plant, Messrs. Blackmore and Langdon, Bath, being second. Begonias were the subject in both groups. Mr. W. B. Burchill claimed first for a collection of coleus, showing some beautiful pyramidal plants. Classes were provided for fuchsias, caladiums, pelargoniums, and one or two other old favourites, but were not well filled.

Great interest centred around the class for a rock and water garden arranged on 25ft. by 12ft. space. Messrs. J. Backhouse and Sons, York, who scored, had a bold and massive arrangement of stones, rising abruptly at back, and finished off with a background of bamboos, maples, and conifers. Water trickled down the rocks, and found its way to a deep gulley spanned by a rustic bridge, and partly hidden by boulders in the foreground. Choice plants were used with great taste and discretion. Mr. J. E. Knight, Tettenhall Nurseries, Wolverhampton, came second, his plan being on the lines of rocky recesses with a lily pool and rock mounds in front. Shrubs were freely used, and the rocks were clothed with a variety of flowering plants. Messrs. W. Artindale and Son, Sheffield, were placed third. Their exhibit was very interesting, and contained a quantity of good alpine plants bearing an abundance of bloom. Yellow and white callas were plentiful around the margins of the water pool.

ROSES.

Wolverhampton would have been a good show even if roses were the only feature. This has been so for several years, and 1910 is no exception, in spite of weak blooms here and there. In the big class for seventy-two varieties, Mr. Hugh Dickson, Belfast, was awarded premier place, showing a very even and well-made lot of flowers. King's Acre Nurseries, Hereford, were second, big blooms of Mildred Grant and William Shean being among their best. Messrs. R. Harkness and Co., Hitchin, third; Messrs. F. Cant and Co., Colchester, fourth. Messrs. Harkness and Co. led for forty-eight blooms; Mr. H. Dickson second; Messrs. Townsend and Son, Worcester, third. King's Acre Nurseries scored for twelve triplets, their Lyon and Mildred Grant being strong points; Messrs. Townsend and Son second; Messrs. Harkness and Co. third. The competition was keen in this class.

Mr. W. T. Mattock, Oxford, came first for twenty-four varieties, showing Dean Hole, White Maman Cochet, Mrs. E. Mawley, and other well-known sorts; Messrs. Perkins and Son, Coventry, were second; King's Acre Nurseries third. For twelve varieties of introduction within the last three years, King's Acre Nurseries led with Lady Ursula, Joseph Lowe, Walter Speed, Mrs. E. J. Holland, His Majesty, Mrs. H. Brocklebank, Lyon, Pius X., Margaret, Rhea Reid, White Killarney, and Col. R. S. Williamson. The second prize went to Mr. Hugh Dickson; Messrs. F. Cant and Co., third. For twelve dark (one variety) Mr. Hugh Dickson scored with Hugh Dickson; King's Acre Nurseries, second, with the same variety.

Messrs. Frank Cant and Co. led for twelve light-coloured, with Mrs. Theodore Roosevelt; second went to Messrs. Townsend and Son, Worcester, with Dean Hole. For twelve varieties teas Mr. W. T. Mattock led, followed by Mr. John Mattock, New Headington, Oxford. Mr. W. T. Mattock also scored for nine vases of teas, five blooms of each. The class for twelve bunches of decorative roses made a capital show, Mr. J. Mattock's winning lot including such good things as Betty, Madame Melanie Soupert, and Richmond. Mr. W. T. Mattock came in second with ramblers and other small-flowered sorts. Mr. J. Barrow, Oadby, Leicester, came third. Messrs. Perkins and Sons' bowl of Lyon rose with foliage was grand. It was the best of the large number of entries in its class. Mr. Barrow, Leicester, scored for a vase of roses arranged for effect, the blending of colour being well carried out.

AMATEURS' ROSES

were in strong force, R. Foley Hobbs, Esq., Worcester, claiming first in thirty-six varieties, and again for six triplets. For twenty-four varieties the first went to Mr. J. O. Hinckley, gardener to J. A. Fellows, Esq., Attleborough. Mr. Foley Hobbs again came to the fore for twelve varieties, while Mr. Hinckley scored for twelve teas. In the local class for eighteen blooms Mr. J. Eggington was victor; a lady exhibitor, Miss Leeke, of Shifnal, winning for twelve. The best bowl in the amateurs' section came from Miss Jenks, Codsall; and Miss E. Davis, of Pershore, won for a vase of roses. The amateurs' and cottagers' tent contained some excellent exhibits, but we regret space forbids a detailed account of all the classes.

HARDY FLOWERS.

The three collections of hardy herbaceous flowers, arranged on 15ft. by 5ft. of staging, which were entered for competition for £30 total prizes, were a very powerful class, and the winners, Messrs. W. Artindale and Son, Sheffield, had a big job to wrest the coveted award from their fellow competitors. The several varieties of liliums, choice iris, good delphiniums, and a few such things as Tritoma Tucki, were the points on which their strength lay. Messrs. Harkness and Sons, Bedale, were a close second, with gorgeous salmon poppies and delphiniums, together with a great variety of smaller subjects. Messrs. G. Gibson and Co., Bedale, were third.

An imposing display was made by half a dozen collections of delphiniums, and competition was very keen. Messrs. Blackmore and Langdon, Bath, led off with a choice and varied lot of really first-rate varieties. Size of individual bloom, substance, and symmetry were excellent, while colours to suit all tastes were included. Messrs. Harkness and Sons came second with another very interesting lot, length and density of spike being particularly good. Messrs. Gibson and Co. were third.

A very interesting class was that for an artistic display of violas and pansies on a 7ft. table. Mr. W. Pemberton, Bloxwich, who secured first prize, had vases filled with fine blooms, backed up by a mirror festooned with violas and fern. Messrs. Bostock and Son, Birmingham, were second for a display carried out on similar lines. A bright yellow viola, Moseley Perfection, was conspicuous on the stand. It was a fine flat flower, of capital colour, and was awarded a first-class certificate. Mr. W. Chipman, New Oscott, came third, large flowers being staged well, but on either side the group too much bare mirror was rather a drawback.

SWEET PEAS

occupied a large amount of space, and were well shown, in spite of recent bad weather. In the society's class for eighteen varieties Mr. E. Jones, gardener to G. H. F. Robertson, Esq., J.P., Gresford, led off with a very creditable lot of flowers nicely arranged, and including some very choice things. Mr. W. Marple, Penkridge, came second, his Constance Oliver and Herbert Marple being good; Mr. W. Marden, gardener to Dr. Phillips, Malpas, third.

In the class provided by Mr. Henry Eckford, Mr. Jones again led, showing fine vases of John Ingman, Henry Eckford, Apple Blossom, etc. The same exhibitor carried off honours in Mr. Robert Sydenham's class, where he was followed by Mr. A. H. Hickman, Kidderminster. Mr. W. Marden scored for the six vases, with beautiful blooms, Mr. E. Jones being second. Messrs. Bakers, Wolverhampton, offered prizes for twelve bunches sweet peas. Mr. W. Marden again winning, with Mr. G. Atkins, Wrexham, and Mr. J. F. Simpson, gardener to Lieut.-Col. C. T. Mounder, Tettenhall Wood, following.

Messrs. Perkins and Son, Coventry, were awarded first for bridal and two bridesmaids' bouquets, the former being of white orchids and lily of the valley, and the others of pink carnations.

FRUIT.

Mr. N. F. Barnes, gardener to the Duke of Westminster, Eaton Hall, Chester, secured premier award for a collection of fruit. Mr. Barnes had eight grand bunches of grapes, a large Countess melon, and dishes of Royal George peach, Souv. du Congrès pear, Worcester Pearmain apple, and Elruge nectarine, all being excellent. Second prize went to Mr. W. Parker, gardener to J. Drakes, Esq., Market Rasen. Mr. S. Barker, gardener to the Duke of Newcastle, Worksop, led for four bunches of grapes with Black Hamburgh, Buckland Sweetwater, Madresfield Court, and Muscat Alexandria. The same exhibitor led for six nectarines; whilst Mr. H. Taylor, gardener to Lord Hatherton, Penkridge, had the best three dishes of strawberries. Mr. Barker was again first for peaches, and Mr. W. Parker, of Market Rasen, for tomatoes. In another class for six varieties of fruit, confined to gentlemen's gardeners, Mr. Barnes, of Eaton, again led, the quality of every dish being superb,

A class was provided for ten varieties of vegetables, and Mr. J. Gibson, gardener to the Duke of Portland, Welbeck, was accorded first prize with good peas, Globe beet, Canadian Wonder beans, etc. Mr. A. R. Searle, gardener to the Marquis of Northampton, had very well-grown peas, cauliflowers, tomatoes, and carrots on his second prize stand. A group of choice fruits in pots came from King's Acre Nurseries. A fan-shaped Cardinal nectarine carried about fifty well-coloured fruits, and standard currants and gooseberries were really pretty.

NON-COMPETITIVE CONTRIBUTIONS.

Non-competitive exhibits were numerous and excellent. Indeed, year after year, the trade advances a stride or two beyond their best achievements of the past, and we wonder what our leading exhibitors will do in another decade. Messrs. Dobbie and Co., Edinburgh, made a brave show with sweet peas and violas. Among the herbaceous plants so well shown by Messrs. Dicksons, Limited, Chester, was a grand bunch of Lilium odorum, a long trumpet variety of a rich cream colour, with chocolate anthers. Mr. C. H. Herbert, Acocks Green, showed his perpetual-flowering pink Progress, and a perfect laced border pink, Princess May. A new galega, Her Majesty, was shown by the same exhibitor.

Messrs. E. Webb and Sons, Wordsley, Stourbridge, occupied two tables, between which a series of arches were stretched, forming a covered walk. Sweet peas and smilax adorned the arches, and on the tables were a host of vegetables, interspersed with gloxinias, lilies, and other flowers. Mr. F. Green, gardener to Lady Grey, Enville Hall, showed a big group of Malmaison carnations. The plants showed robust vigour, and many of the blooms were very fine.

The display of choice melons, tomatoes, peas, and other vegetables, staged by Messrs. Sutton and Sons, Reading, were of superb quality, and were staged in a most pleasing manner. The sweet peas, poppies, and other flowers used for decoration, were beautifully arranged, and the whole effect was charming.

An artistic arrangement of sweet peas came from Messrs. W. H. Simpson and Son, Birmingham. Some very elegant and tasteful floral designs were staged by Messrs. E. and H. Suckling, the Wolverhampton florists. Mr. H. N. Ellison, West Bromwich, once more displayed charming ferns, among which the new Polypodium glaucum crispum was conspicuous. The carnations shown by Mr. C. F. Waters, Balcombe, Sussex, were a grand lot, and most admirably staged. A bank of violas, embracing about 100 choice varieties, came from Messrs. W. Artindale and Son, Sheffield. Grand roses were put up by Mr. Edwin Murrell, Shrewsbury. A two-dozen stand of Lyon were of rich colour, and several choice garden roses were set up on tall bamboo stands.

Messrs. Clibrans, Altrincham, grouped immense hydrangeas in a setting of choice ornamental shrubs. The popular centaureas were shown in fine form by Messrs. Jarman and Co., Chard, who also had bright zonals, and a good lot of roses. Messrs. Robt. Sydenham, Limited, showed sweet peas in their rural table decorations. The arrangement was tasteful, and the peas were of good quality.

Messrs. Tom B. Dobbs and Co., Wolverhampton, arranged in the open a model garden with beds of summer flowers, neatly edged with box, and interspersed with grass walks. Rustic pillars and a canopied arrangement of woodwork in the centre were draped with pink rambler roses, and an old-time well-head, styled the Wishing Well, draped with ferns, were among the features of an exhibit that attracted much attention. Rustic arches, pillars, and seats were displayed by Mr. J. E. Knight, Wolverhampton. Between the various devices were beds of scarlet zonals, clipped box trees, and other ornamental shrubs.

A PORTION OF A MODEL GARDEN.
Arranged by Messrs. Tom B. Dobbs and Co., at the Wolverhampton Show.

Cambridge Horticultural Society.

JULY 7.

The summer exhibition of this society was held on the above date in the grounds of Trinity College, which, by reason of their beauty and high keeping, are admirably adapted for the purposes of a flower show. The weather was cold and dull, and the exhibition suffered somewhat from the unfavourable weather experienced during the earlier part of the week. The arrangements were, as usual, remarkable for their completeness, and reflected much credit upon Mr. A. Matthews, the hon. secretary, and Mr. F. E. Fordham, the assistant secretary.

ROSES.

Roses usually form a glorious feature of the summer flower shows at Cambridge, and this year a remarkably fine display was expected. The entries were more numerous than usual, and a considerable proportion of these came from the leading trade growers. But, owing to the heavy rains, more particularly in the Colchester district, at least two-thirds of the entries had to be cancelled. Notwithstanding this reduction in the number of the entries, there was a good display of roses, and this was remarkable for the preponderance of the high-coloured varieties, which produced a brilliant effect. In the open class for thirty-six blooms Messrs. J. Burrell and Co., Cambridge, were first with an even stand of finely-developed blooms, conspicuous among them being Ulrich Brunner, Mrs. E. Mawley, G. C. Waud, Her Majesty, Caroline Testout, and Liberty. The Rev. A. J. Fellowes, Attleborough, was a good second with blooms that were rather uneven, some being exceptionally fine, while others bore evidence of the unfavourable weather that had been experienced. In the open class for twenty-four blooms, distinct, Messrs. J. Burrell and Co. again occupied the first place, and had a good stand, in which The Lyon, Frau Karl Druschki, Ben Cant, Gustave Piganeau, and His Majesty, a crimson rose of recent introduction, were especially well represented. The Rev. A. J. Fellowes was again second with an excellent box of blooms. The best box of twelve teas was that shown by Messrs. J. Burrell, whose blooms of Mrs. E. Mawley, The Bride, Golden Gate, Catherine Mermet, and Harry Kirk were of high quality.

The five or six classes for roses, in which the competition was limited to members, were remarkably well filled, the entries being numerous, and the quality higher than might have been expected. Mr. W. Dyson was successful in obtaining premier honours in the class for twelve blooms, distinct varieties, with an even box, in which the pure white Frau Karl Druschki was conspicuous. Mr. W. Dobbs followed closely for second place with blooms of great excellence, and Mr. H. Lowe, gardener to H. E. Inglis, Esq., was third. In the class for six blooms Mr. Dobbs was successful in obtaining the post of honour with finely developed blooms remarkable for their uniformity, and the other successful exhibitors in the class were Mr.

H. Coulson and Mr. W. Dunn, the last-named exhibitor being also first for triples, both of mixed varieties and teas, and for six teas.

MISCELLANEOUS CUT FLOWERS.

Several classes were provided for cut flowers of zonal pelargoniums, and the finely developed trusses produced a brilliant display of colour. For twelve varieties of zonal pelargoniums, not more than three trusses of each, Mr. W. Farrington, gardener to R. J. Fuller, Esq., was first with tastefully arranged trusses of high quality; Mr. J. Andrews, gardener to J. H. Linton, Esq., followed closely for second place, but his flowers suffered from the trusses having been tied in too closely. Mr. Farrington was first also for six varieties, and Mr. W. Abrahams was second. Annuals in vases were admirably staged, and the premier award was made in favour of Mr. Todd, gardener to W. A. Briscoe, Esq., for a collection of six kinds of exceptional excellence, and Mr. A. Edwards, gardener to Dr. Keynes, was a close second. Sweet peas were splendidly shown, the entries being numerous, and the flowers high in quality. In the great class for eighteen bunches the competition was very strong, and the premier place was occupied by Mr. A. Pepper, gardener to A. Hurrell, Esq., with a collection comprising the leading varieties that evinced high-class cultural skill and much taste in arrangement. Mr. A. Nightengale, gardener to G. French, Esq., was second with a meritorious collection, and Mr. J. Hall was third with a collection containing good flowers, but rather too closely packed to show them to advantage. For twelve vases Mr. W. Dobbs was a splendid first, and Mr. Nightengale was a good second; and for six Mr. T. S. Watson occupied the first place.

Seldom are cut flowers of stove and greenhouse plants so well shown as on this occasion, all the collections being more or less meritorious. Mr. R. Smith, gardener to R. C. Foster, Esq., was successful in winning the first with a collection in which Allamanda Hendersoni was splendidly represented. Mr. J. Todd was a capital second. In the first-prize six from Mr. T. W. Birkenshaw there was an exceptionally good spike of the brilliantly coloured Clerodendron fallax; Mr. H. Ansell was second with a collection that contained some good orchids, but lost in the setting up. The collections of hardy flowers, arranged in vases, were numerous, well arranged, and of high quality, and formed a splendid feature. Mr. H. Ansell was first for six, in which the richly-coloured Centranthus coccineum and a crimson sweet william were especially good; Mr. J. Wright, gardener to A. Matthew, Esq., was a very close second with flowers of high quality. The classes for twelve vases of hardy flowers were especially strong, and at the head of the numerous exhibitors was Mr. R. Bowyer, gardener to Mrs. R. Burn, with a collection in which Lilium umbellatum, L. candidum, Lychnis chalcedonica, Alstroemeria aurantiaca, and other well known subjects were represented at their best. Messrs. Warren and Son and Mr. J. Hall were second and third respectively with excellent collections.

PLANTS.

Tuberous begonias formed a feature of outstanding importance, for the classes provided for them were numerous, and the collections with which they were so well filled were of a high order of merit. For twelve Messrs. Warren and Son were first with finely flowered examples; for six Mr. J. Wright won with grand specimens; and for three Messrs. Warren and Son were first. In competition for the prizes for six doubles the leading prizewinners were Mr. Nightengale and Messrs. Warren and Son. Coleus were largely shown, and, on the whole, of great excellence. Mr. R. Smith, gardener to R. G. Foster, Esq., was first for six; and Mr. Dyson and Mr. Wright were first and second for three, with finely coloured examples. Mr. H. Ansell and Mr. J. Wright staged splendidly flowered specimens in the class for six gloxinias, and in the class for three the exhibitor last-named obtained premier honours with specimens of much merit. Zonal pelargoniums are usually well shown at Cambridge, and on this occasion they were, on the whole, of great excellence, the most successful of the exhibitors being Mr. F. Newman, who was first both for twelve and six specimens.

There was a brisk competition in the classes for stove and greenhouse plants, ferns and groups. Chief among the competitors in the class for groups was Mr. Kirkpatrick, who was first with a bold arrangement of plants of high quality. Mr. Dyson was second with a group in which caladiums were strongly represented. Mr. Kirkpatrick was first also for six specimen fine foliage plants and for six exotic ferns, in both cases staging well-known kinds. Mr. H. Ansell obtained premier honours for three ornamental-leaved plants, and also for six and three stove and greenhouse plants in bloom, and for six orchids, Mr. Kirkpatrick being second for the last-named. British ferns were represented by a well-grown collection of scolopendriums staged by Mr. J. Hall, who obtained premier honours.

FRUIT AND VEGETABLES.

Fruit and vegetables constituted two strong features, for both classes of products were plentiful, and the quality was high throughout. The class for collections of six dishes of fruit was well filled, and at the head of the several competitors was Mr. T. W. Birkenshaw with fine grapes, peaches, cherries, nectarines, and a ripened melon. Mr. T. Todd was a capital second, his peaches, cherries, and strawberries being of high quality. Mr. R. Smith was first with Black Hamburgh in splendid condition, and Mr. T. W. Birkenshaw was first with fine Buckland Sweetwater. The last-named was first for peaches, and for a melon. In competition for the prizes for a collection of six kinds of vegetables Mr. T. Todd won with very fine cauliflowers, carrots, potatoes, and tomatoes. Mr. A. Pepper had an excellent collection for second place, and Mr. T. W. Birkenshaw, who was third, also had a collection of great excellence. The single dishes were particularly strong, and prominent among the successful exhibitors were Mr. Todd, Mr. Lelliott, Mr. T. W. Birkenshaw, Mr. Jones, Mr. Pepper, Mr. Linton, and Dr. Keynes.

Bath Floral Fete.

In the beautiful and famous Sydney Gardens, Bath, another success was added to the already long series of splendid flower shows held under the direction of the Bath Floral Fête and Band Committee, on Wednesday and Thursday, July 6 and 7. In many senses Bath is a garden city, and within easy distance of this old city there are a large number of interesting and beautiful private gardens, therefore it is small wonder that the annual show is a good one. So many people also visit Bath for its waters, consequently, given fine weather, the fête is sure of a large and fashionable attendance. Excellent music is provided, in addition to beautiful flowers displayed in a beautiful garden

NURSERYMEN'S ROSES.

In the principal class for roses, seventy-two blooms, distinct, are required, and here the leading award fell to Messrs. Alex. Dickson and Sons, Newtownards, who were in good form, and had Dr. Andry, Suzanne M. Rodocanachi, A. K. Williams, A. Hill Gray, Countess of Annesley, Mrs. Foley Hobbs, Lyon Rose, and Frau Karl Druschki. Second prize fell to Mr. J. Mattock, New Headington, and third to Messrs. G. Cooling and Son, Bath. Thirty-six trebles makes a fine class, and here again Messrs. A. Dickson and Sons led the way, and showed fine sets of Countess of Annesley, Lady Helen Vincent, Frau Karl Druschki, Dean Hole, Mrs. W. J. Grant, Mrs. Sharman Crawford, and Chas. J. Grahame; Mr. J. Mattock and Messrs. G. Cooling and Son were second and third respectively.

Mr. H. Drew, Longworth, led for eighteen trebles, and had Frau Karl Druschki, Marie Baumann, and Captain Hayward in good form; Mr. Rowland Adams, Bath, second. Mr. Drew also scored for thirty-six blooms, distinct, and was followed in order of mention by Mr. R. Adams and Messrs. A. A. Walters and Son, Bath. Mr. J. Mattock secured the leading honours for eighteen teas and noisettes, and his best blooms were Mdme. Jules Gravereaux, Marechal Niel, White Maman Cochet, Mrs. Edward Mawley, and Catherine Mermet; Mr. Drew second.

AMATEURS' ROSES.

In the leading amateurs' division the Rev. G. T. Henslow, Chippenham, had things very much his own way, and he showed splendid flowers, remarkably clean and bright. He appeared to be the only exhibitor of twenty-four blooms, and of a dozen trebles, and here he was awarded first prizes, and showed remarkably fine specimens of Mrs. Roosevelt, La France, Caroline Testout, A. K. Williams, W. Shean, Mrs. J. Laing, Countess of Derby, Frau Karl Druschki, David Harum, and Kaiserin A. Victoria.

In another division the Rev. R. Powley, Upton Scudamore, Warminster, took first prize for eighteen blooms, his best being White Maman Cochet, Mrs. J. Laing, Caroline Testout; Mr. Wm. Smith, Box, second; and Mr. W. J. Ball third. For eight trebles the Rev. R. Powley again scored, and White Maman Cochet and Pharisaer were excellent in his stand.

In the open amateurs' class for nine T. and nine H.T. roses, the Rev. G. T. Henslow won first place with beautiful specimens of Jean Sisley, Elizabeth Barnes, Francisca Kruger, etc., and here, as well as in the class for a dozen H.T. varieties, where he was again first, his flowers were very bright and fresh; Miss Fisher, Potterne, Devizes, was second for a dozen H.T. roses. Mr. W. J. Ball, Chippenham, was first for a dozen blooms in another section, while for four trebles the awards were given in order to Mr. W. J. Ball, Mr. Pryor, and Mr. W. Smith. In the local section Mr. W. Smith, Box, was first for a dozen roses, distinct, with Mr. E. V. Pryor second, and Dr. R. G. Knox, Freshford, came to the front for six blooms. The Rev. G. T. Henslow led for eighteen teas or noisettes; and the Rev. R. Powley scored for a dozen blooms, showing a very fine Mrs. Mawley. For six trebles, teas or noisettes, the Rev. G. T. Henslow led with Auguste Compte, White Maman Cochet, and Mollie Sharman Crawford, with the Rev. R. Powley second. In a lower division Mr. W. Smith and Mr. W. J. Ball were first and second respectively for six tea roses.

OPEN ROSE CLASSES.

Messrs. A. Dickson and Sons, Newtownards, put up a fine dozen vases of roses, five blooms in each, and secured the premier award in this open class with Horace Vernet, A. K. Williams, Florence Pemberton, Ulrich Brunner, Mrs. W. J. Grant, etc.; Rev. T. G. W. Henslow, Chippenham, second, and Mr. J. Mattock third. The Rev. T. G. Henslow scored for twelve blooms of any other than a tea rose with La France; Mr. J. Mattock second with Mrs. J. Laing; and Mr. H. Drew third with Dean Hole. Messrs. A. Dickson and Sons led for twelve blooms of a tea or noisette rose with the beautiful Mrs. Edward Mawley; Mr. J. Mattock second with the same variety, and the Rev. T. G. Henslow third with the pretty Auguste Compte.

Messrs. A. Dickson and Sons led for six blooms of any new rose of 1908-9 with Walter Speed, Mr. J. Mattock coming second with Lyon Rose. The most decorative arrangement of roses on a space 10ft. by 4ft., was made by Mr. Rowland Adams, who had fine flowers of popular varieties in stands and boxes, backed by sprays of rambling varieties; Messrs. G. Cooling and Son, second.

Mr. J. Mattock scored for a display of eighteen bunches of garden roses with, as usual, a very tasteful effort, that contained fine bunches of Papillon, Mdme. Abel Chatenay, Marie Van Houtte, Betty, Mdme. An-

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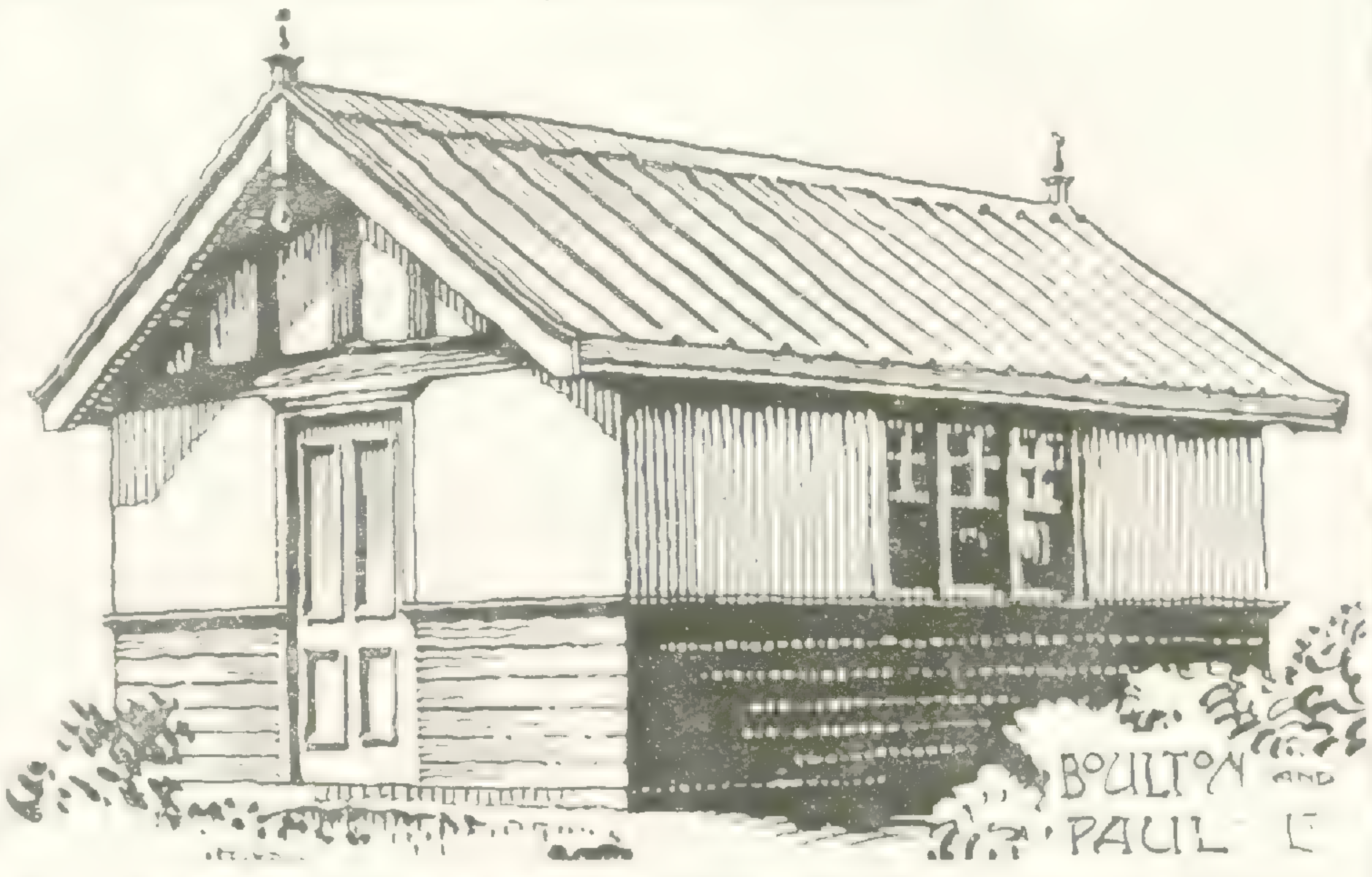

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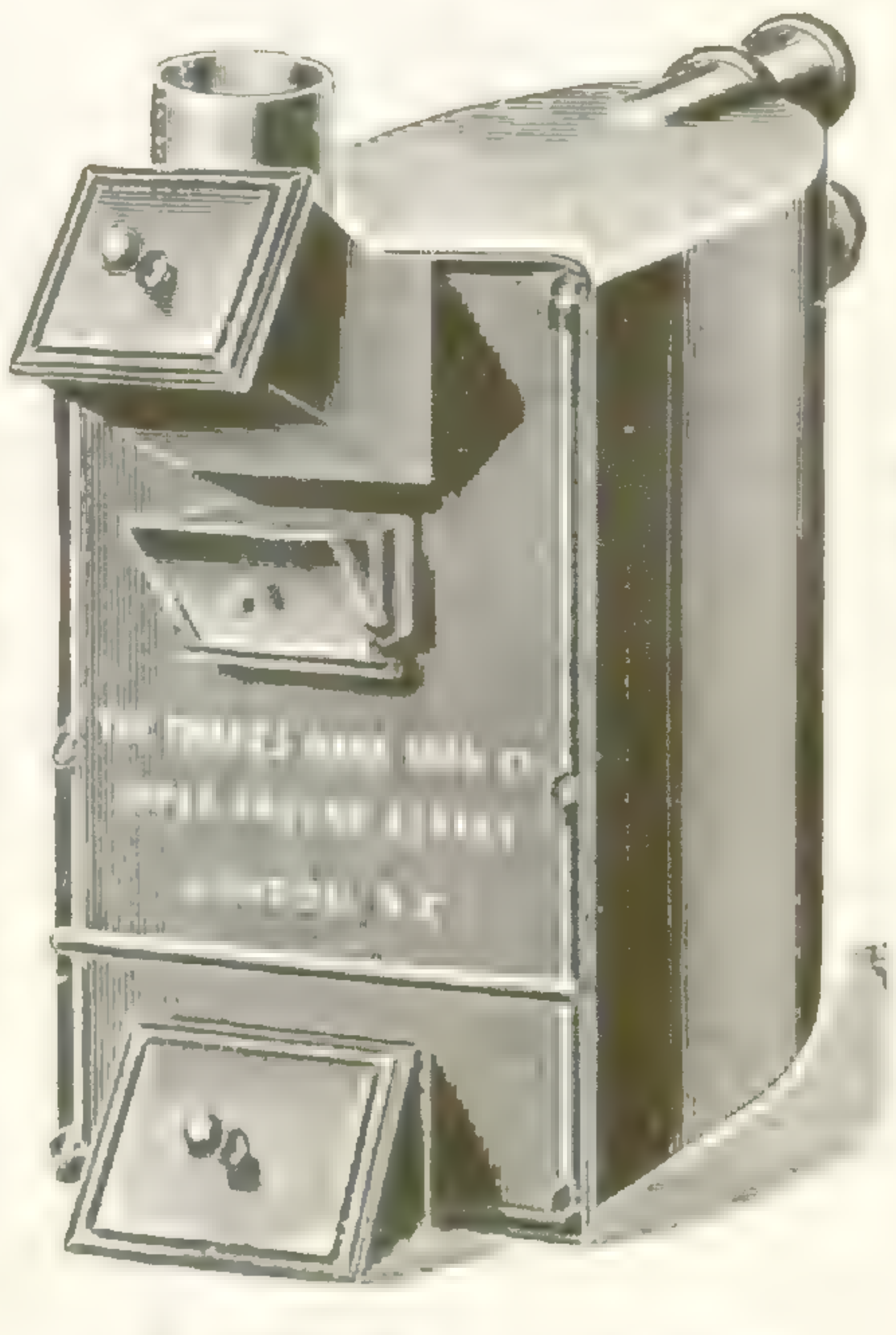

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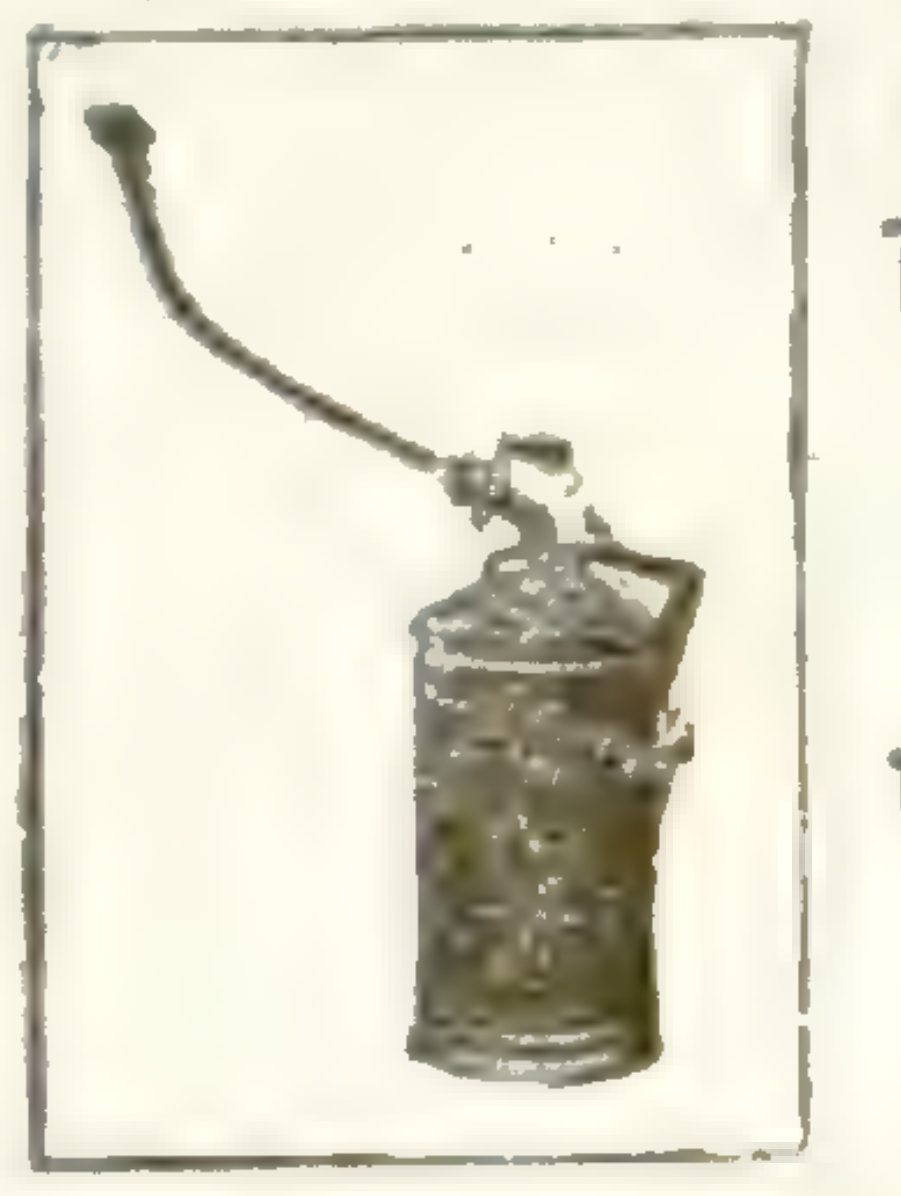

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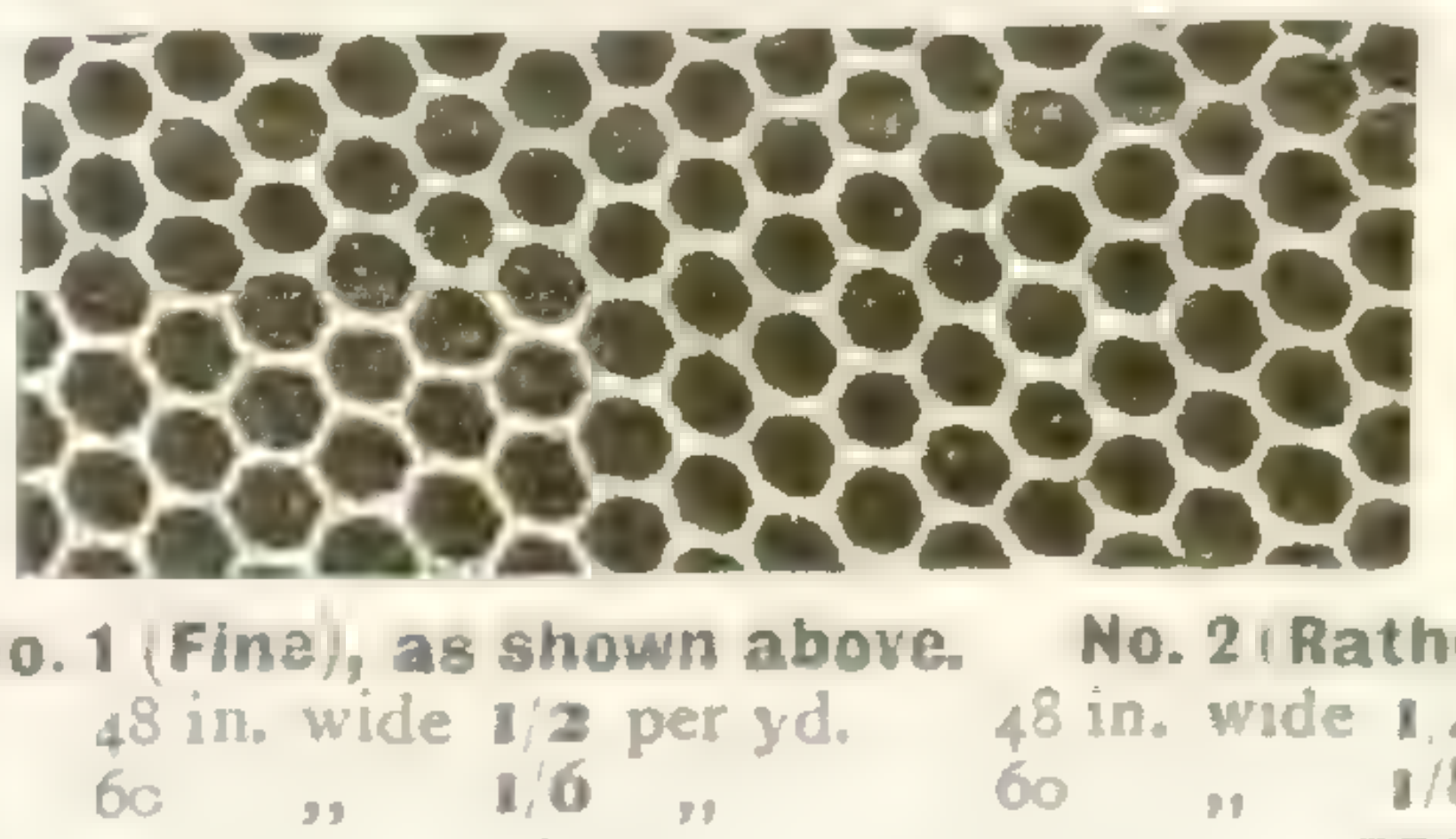

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toine Marie, and Liberty; Messrs. A. A. Walters and Son, second; and Messrs. G. Cooling and Son, third. The Rev. R. Powley had the best nine bunches of garden roses; Mr. W. F. Godwin, gardener to W. A. Hicks, Esq., Batheaston, second.

GROUPS AND PLANTS.

Two very artistic groups of plants were set up, and here the premier award was secured by Mr. W. Sim, who used palms, ferns, Lilium auratum, carnations, Humea elegans, and a few orchids with excellent effect; Mr. E. C. Pearce, gardener to W. Wailes, Esq., second. Messrs. Blackmore and Langdon, Twerton, put up the best collection of begonias, on a space 12ft. by 3ft., and here they displayed some of their own superb varieties, splendid flowers, and excellent plants; Mr. J. Walter second. For a tastefully arranged table of plants Mr. W. Sims took chief honours, followed by Mr. Pearce; both showed stove and greenhouse plants.

Begonias are always a good feature. For six plants in 10in. pots, single varieties, Mr. J. Walter, Bath, and Mr. J. Dyke, Bath, were placed in order of mention, while for double varieties, under similar conditions, Mr. A. C. Palmer, Twerton, scored with a grand lot, carrying splendid blooms; Mr. J. Dyke second, and Mr. J. Walter third. Mr. J. Walter was first for a specimen single as well as for a specimen double begonia.

Mr. W. H. Coles, Bath, had the best gloxinias, with Mr. R. Adams a good second. Mr. Strugnell beat Mr. J. T. Curtis for table plants in a close competition. In Messrs. Sutton and Sons' class for gloxinias Mr. W. Sim, gardener to Major H. Doherty, Bath, was well to the front.

CUT FLOWERS.

Mr. G. Humphries, Chippenham, annexed the chief award for twelve bunches of sweet peas, and his best vases were of Mrs. Hardcastle Sykes, W. T. Hutchins, Senator Spencer, Marjorie Willis, Evelyn Hemus, Miriam Beaver, and Primrose Spencer; Mr. T. H. Bolton, gardener to the Earl of Devon, Powderham Castle, Exeter, second; and Mr. L. Fletcher, gardener to G. A. H. White, Esq., third. For a table of sweet peas Mr. E. Viner, Bath, was the victor, followed in order by Mr. M. L. Pierce, Bristol; and Mr. J. T. Curtis, gardener to Sir W. Howell Davies, Bristol.

Mr. G. Humphries led for six bunches of sweet peas with beautiful blooms of Mrs. Routzahn, Mrs. Hardcastle Sykes, Asta Ohn, Paradise Red Flake, Paradise Ivory, and The Marquis; Mr. J. Wicks second; and Mr. W. F. Godwin third; there was a good competition. Mr. E. Viner, Frome, led in another class for six bunches of sweet peas, followed by Mr. T. H. Bolton and Mr. Strugnell.

Mr. L. Fletcher, gardener to G. A. H. White, Esq., Chippenham, had the best set of a dozen bunches of herbaceous flowers, and was followed by Mr. J. Wicks, gardener to Lady Sybil Codrington, Badminton. Mr. Charles Wall, Bath, was awarded first prize for a collection of carnations, and Messrs. Blackmore and Langdon were placed second.

Two dozen bunches of zonal pelargoniums proved an attractive class, and here Mr. G. Humphries, Chippenham, was first, and among his best varieties were Shelley, Mentmore, Cassiope, and Mrs. Ewing; Mr. J. Wicks, gardener to Lady Codrington, second.

In the classes for floral decorations Mr. J. T. Curtis, Mr. W. H. Coles, Miss Iris Hicks, Batheaston; Miss Scott White, Bath; and Mrs. E. Hall, Warminster, were leading prizewinners.

FRUIT AND VEGETABLES.

Mr. W. Strugnell, gardener to Captain Walter Long, D.S.O., Rood Ashton, had the best collection of dessert fruits, showing Holborn Favourite melon, Brown Turkey figs, Black Hamburgh grapes, and Humboldt nectarines.

Strawberries were splendid. For six dishes of thirty berries each Mr. J. Ricketts scored with Eleanor, The Laxton, Royal Sovereign, and Sir Joseph Paxton in good style; Mr. E. J. Ricketts second; and Mr. E. Fisher, Batheaston, third. Mr. Thomas Evry led for three dishes with Sir Joseph Paxton, Givon's Prolific, and Royal Sovereign; Mr. J. Ricketts and Mr. E. J. Ricketts following. Mr. J. Ricketts scored for one dish with grand fruits of Royal Sovereign.

Mr. F. Wart, Bath, scored for a collection of vegetables, his Model tomatoes, onions, and peas being excellent dishes. He was followed by Mr. G. Horsell, jun., King Street, Bath, who was first prize winner in the class for six dishes of vegetables, beating Mr. A. J. Andrews, of Batheaston. Mr. Thomas Evry had the best collection of salading. In Messrs. Sutton and Sons' class for six kinds of vegetables Mr. A. J. Adams and Mr. T. H. Bolton were first and second respectively, while in a similar class provided by Messrs. Webb and Sons Mr. Strugnell and Mr. Evry took first and second prizes.

NON-COMPETITIVE.

Messrs. Sutton and Sons, Reading; Mr. J. Milburn, Bath; Messrs. A. A. Walters and Son, Bath; Mr. W. H. Coles, Weston Road; Messrs. Young and Co., Hatherley; Messrs. Blackmore and Langdon, Twerton; and Mr. F. Eames, Frome, all put up non-competitive displays that added to the interest and extent of the show.

Penarth.

The Penarth Rose Society is quite juvenile as on July 6 it held its second annual exhibition in the Penarth Cricket Field. The show was a fairly large one, and roses and sweet peas were extensively and finely shown, some of the competitors coming from long distances. Penarth Show is a fine example of what an enthusiastic set of officers and committeemen can do in a new district, and we feel sure that if financial support is forthcoming Penarth will soon be numbered among the really good provincial shows. There are many good gardens in the neighbourhood, and it ought to be possible to stir up the enthusiasm of the miners and dockmen of Penarth and Barry, and so create a show that will compare with those already so famous in the Newcastle district. Mr. Gerhold, the secretary, throws his heart and soul into the work of the society, and Mr. Maurice Bailey, secretary of the Cardiff Society, is a member of committee, and the society is fortunate in having the Earl of Plymouth as its president.

Although rain held off, the day was not a pleasant one, as a gale of wind was blowing in the morning, and in the small hours of the day it overturned one tent, and played havoc with the plants already arranged in the group class.

ROSES.

Roses were the leading feature, and the chief class was for a collection of cut roses arranged artistically on a space 9ft. by 4ft., with their own foliage and buds. There were two beautiful displays, and not much to choose between them. Both competitors had good flowers, and made excellent use of the brighter-hued tea and hybrid tea varieties, and showed bold arrangements that were just a trifle crowded. Premier award was in favour of Messrs. S. Treseder and Sons, Pwyel Coch Nurseries, Cardiff, and second prize was awarded to Mr. W. J. Crossling, of Penarth.

Mr. Crossling was first for a dozen varieties, five blooms of each, in vases, and his best blooms were of Dean Hole, Frau Karl Druschki, Mrs. J. Laing, S. M. Rodocanachi, Caroline Testout, and Ulrich Brunner; second award fell to Messrs. J. Jefferies and Son, Cirencester, and third to Messrs. Stephen Treseder and Son.

The King's Acre Nursery Company, Hereford, scored for twenty-four roses, distinct, with good flowers of Countess of Oxford, Frau Karl Druschki, Liberty, Mildred Grant, Marie Baumann, Fisher Holmes, Lady Helen Vincent, etc. Messrs. S. Treseder and Son, second; and Messrs. J. Jefferies and Son, third. These three competitors were placed in similar order for two dozen tea and H.T. roses, and, though they showed well, the light flowers showed plainly the effects of recent storms.

The King's Acre Nursery Company, Hereford, led the way for a dozen trebles, and were followed in order by Messrs. S. Treseder and Son, and Messrs. J. Jefferies and Son. There was a strong competition in the class for a dozen blooms of one variety, and here Messrs. J. Jefferies and Son scored with A. K. Williams in fine form and colour, Messrs. S. Treseder and Son coming second with J. B. Clark; and the King's Acre Nursery Company third with Hugh Watson.

For twelve blooms of any one light rose Mr. J. Dean, gardener to J. W. Pyman, Esq., Raithwaite, led with handsome specimens of Frau Karl Druschki; Mr. W. J. Short, Lynwood, East Road, second with Mrs. Sharman Crawford. In the amateurs' section, for six trebles, Mr. R. Foley Hobbs, Gloucester, won the first prize and the cup, presented by Mr. E. J. Luen, with a handsome set of flowers of Frau Karl Druschki, Mdme. Jules Gravereaux, Bessie Brown, Victor Hugo, etc., all clean and of large size; Mr. W. Jarrett Thorpe, Hucclecote, second.

Mr. Foley Hobbs also scored for eighteen blooms, in not less than a dozen varieties, thus winning a cup, presented by Messrs. Kaiser and Sons, Cardiff; Mr. Wheeler, gardener to Mrs. Jenner, Wenvoe Castle, last year's winner, was second, and Mr. Jarratt Thorpe third. For six bunches of decorative roses, Mr. Febray, gardener to J. W. Courtis, Esq., Farrenden Croft, Llandaff, led with good bunches of Mdme. Jules Gravereaux, William Allen Richardson, Mrs. Flight, etc.; Mr. Foley Hobbs coming second, and Mr. F. A. George, Redhill, Worcester, third. Mr. Foley Hobbs scored in the class for a dozen blooms in not less than six varieties, and here he had fine specimens of Frau Karl Druschki, Mamie, and Mrs. J. Laing; Mr. Wheeler, second, and Mr. Jarratt Thorpe third.

In a local class for a dozen blooms, in not less than six varieties, Mr. H. Hand, Plymouth Road, led, with Mr. E. R. Payne, Plymouth Road, second.

Mr. Foley Hobbs had the best five flowers of one variety, in a vase, winning with Frau Karl Druschki; Mr. Wheeler, second.

Mr. Foley Hobbs was chief prizewinner in the class for an arch of roses and rose foliage, scoring with Blush Rambler; Mr. H. Smith, gardener to Mrs. G. Morel, Rogermoor House, second; and Mr. W. Paton, Westbourne Road, Penarth, third.

SWEET PEAS AND OTHER FLOWERS.

Mr. Wheeler, Wenvoe Castle Gardens, won first prize in the open class for eighteen bunches of sweet peas, distinct varieties, with well-grown, clean flowers of Nancy Perkins, Senator Spencer, Mrs. A. Ireland, Ralph Crossling, Mrs. Chas. Foster, Helen Grosvenor, and Wenvoe Castle; Mr. W. Shackson, gardener to Mrs. Rees Jones, Porthkerry, Barry, second; and Mr. E. Harvey, Victoria Bridge, Penarth, third. Mr. Shackson scored for nine bunches of sweet peas, distinct, with very bright flowers, Mr. Wheeler coming second, and Mr. Jarratt Thorpe, third. Mr. E. Harvey was a good first in the local class for nine bunches, distinct; Mr. F. Jones second, and Mr. Vaughan, gardener to Miss Jenkins, Min-y-don, Marine Parade, third.

Mr. Wheeler was again to the fore in the class for six varieties of sweet peas, and here he showed Wenvoe Castle, Nancy Perkins, Sveira Lee, Mrs. Gerhold, and Mrs. Hardcastle Sykes in fine form; Mr Shackson, second; and Mr. Wood Davey, Stanwell Road, Penarth, third. Mr. J. H. Lees, Greenfield Avenue, Dinas Powis, scored for six vases of sweet peas, and was followed by Mr. J. Phillips, Redlands Road, Penarth. Mr. C. W. J. Williams had the best three bunches, and Mr. E. Harvey the best single bunch arranged for effect. Mr. Wheeler had the best bunch of one variety artistically arranged, and he showed Mrs. C. W. Breadmore in fine style.

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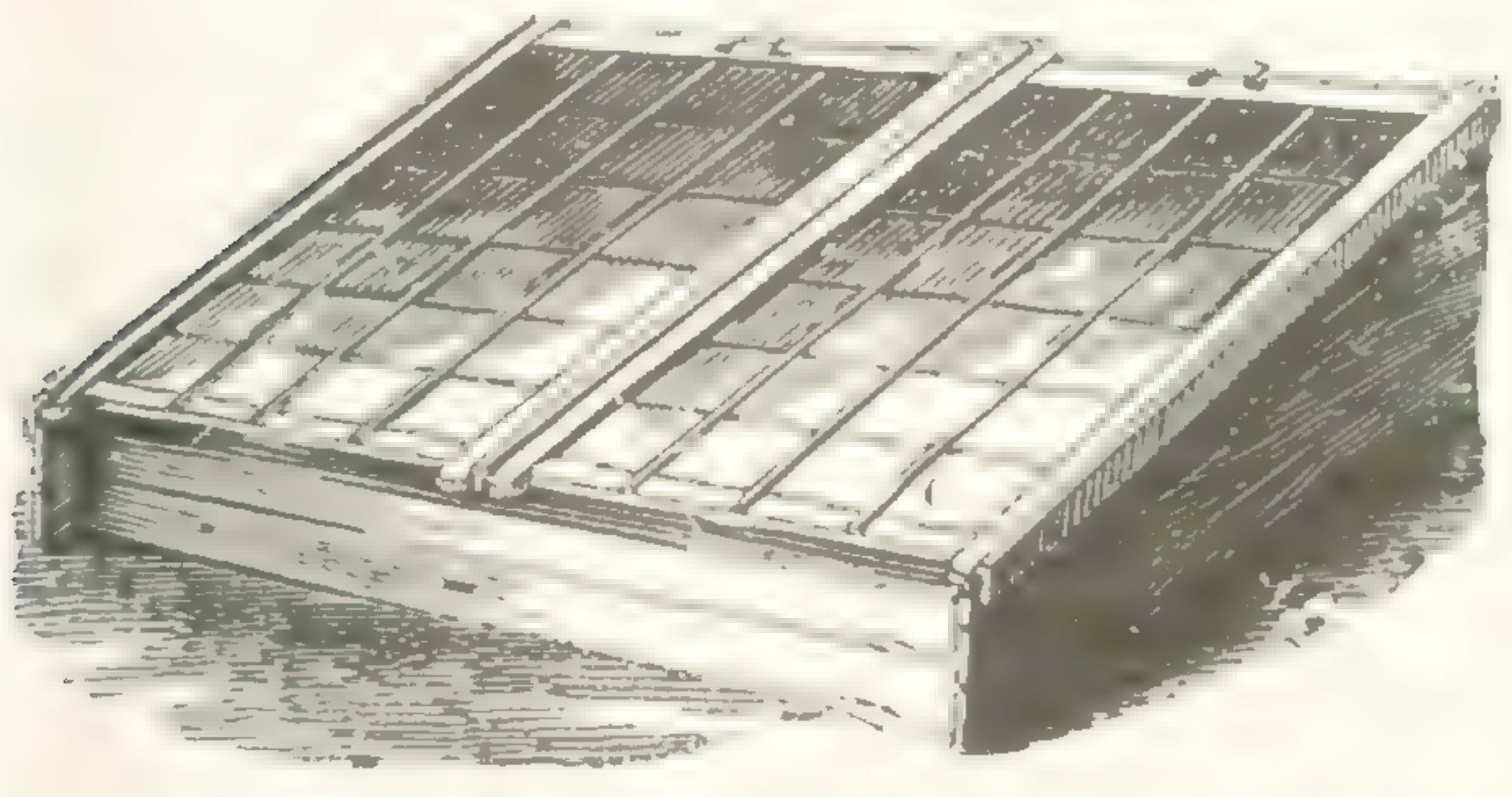

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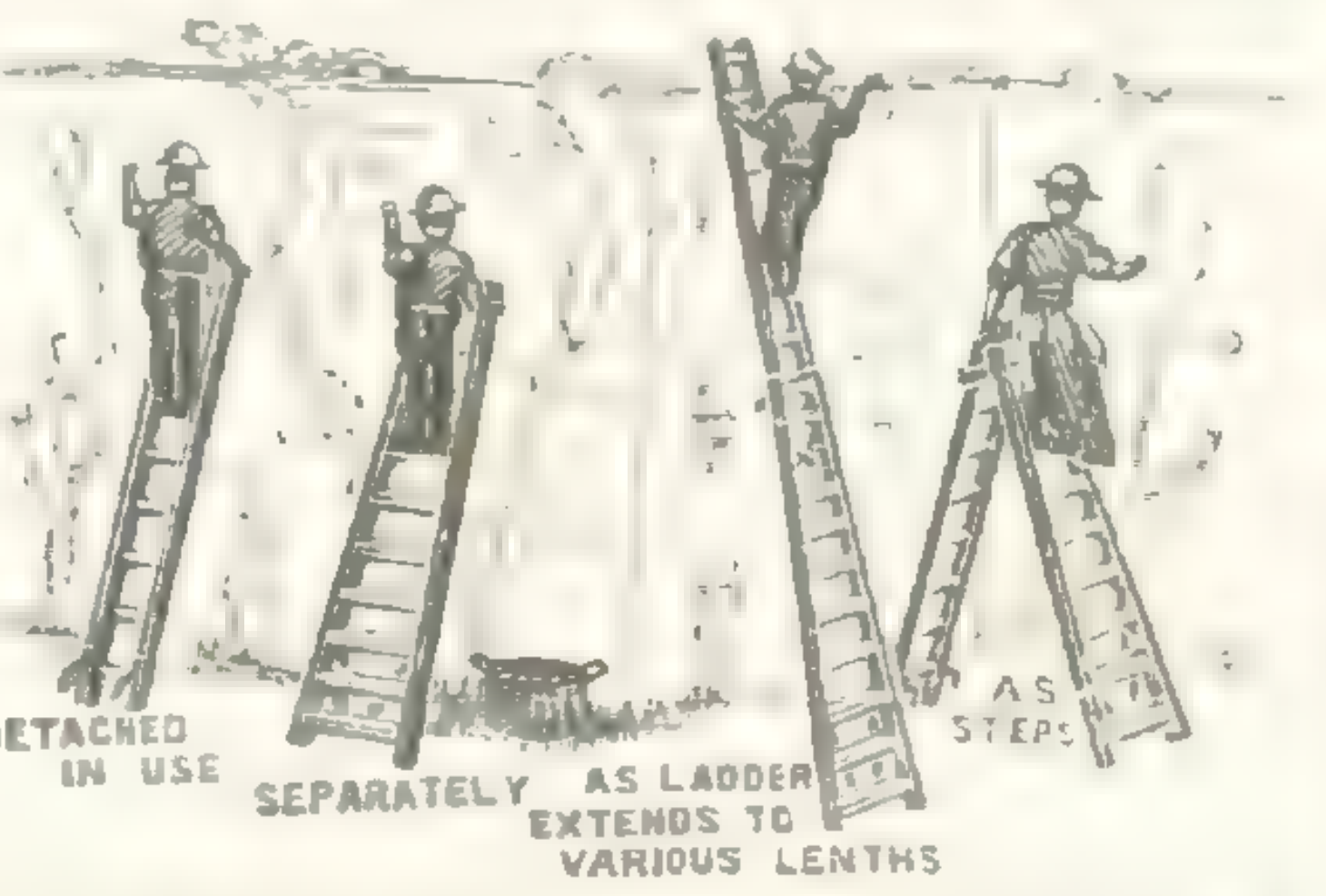

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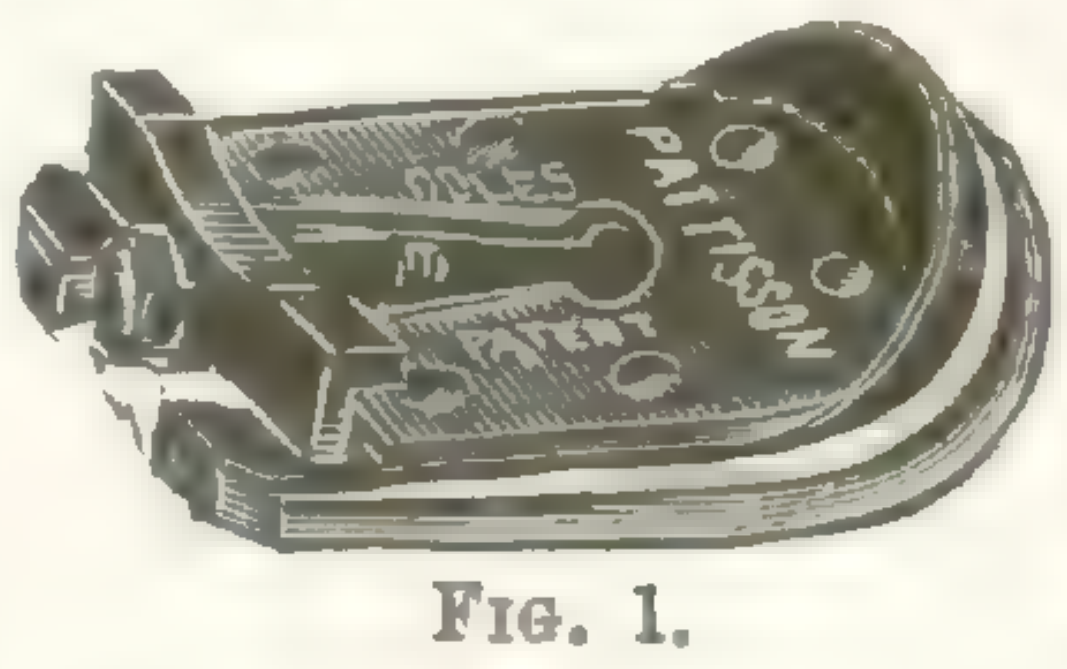

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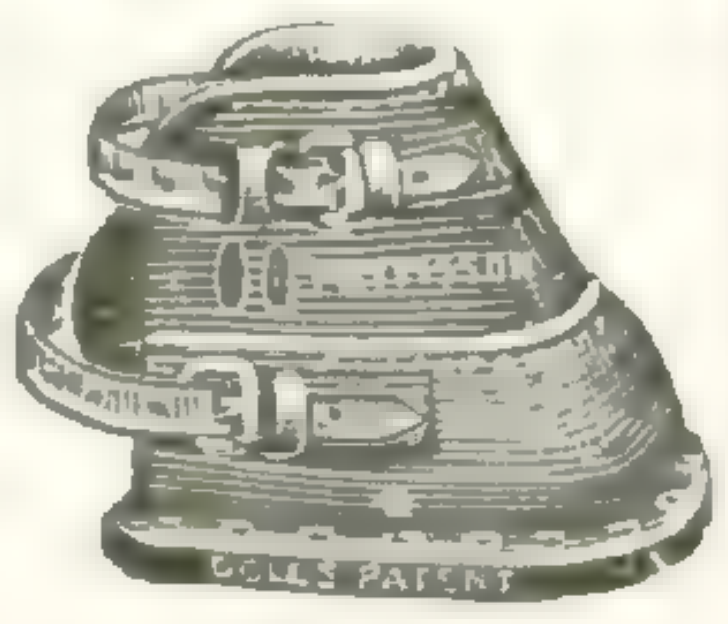

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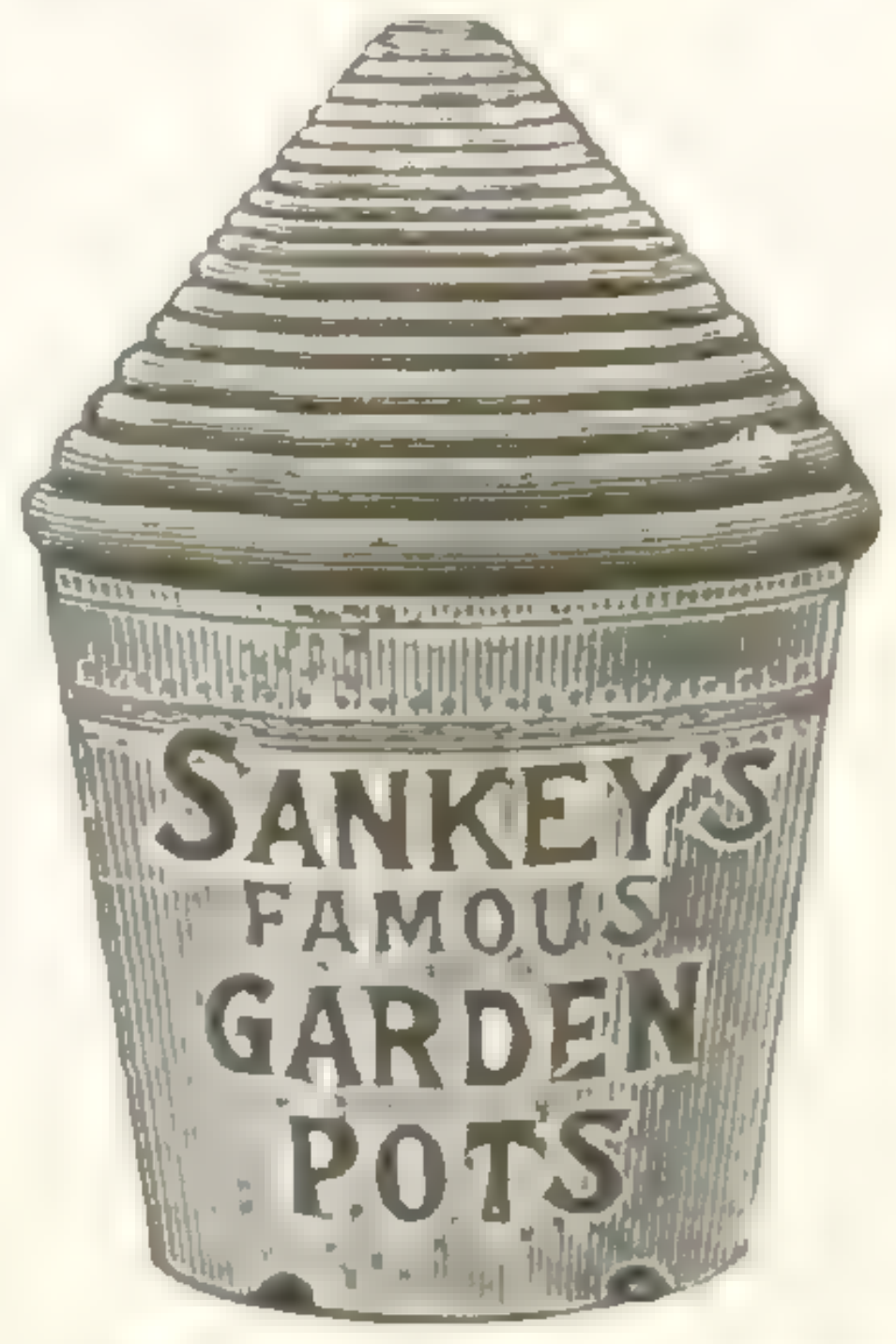

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INDEX and Title Page to Vol. LII. (comprising the weekly numbers from January to December, 1909), price 2d., by post 2½d.

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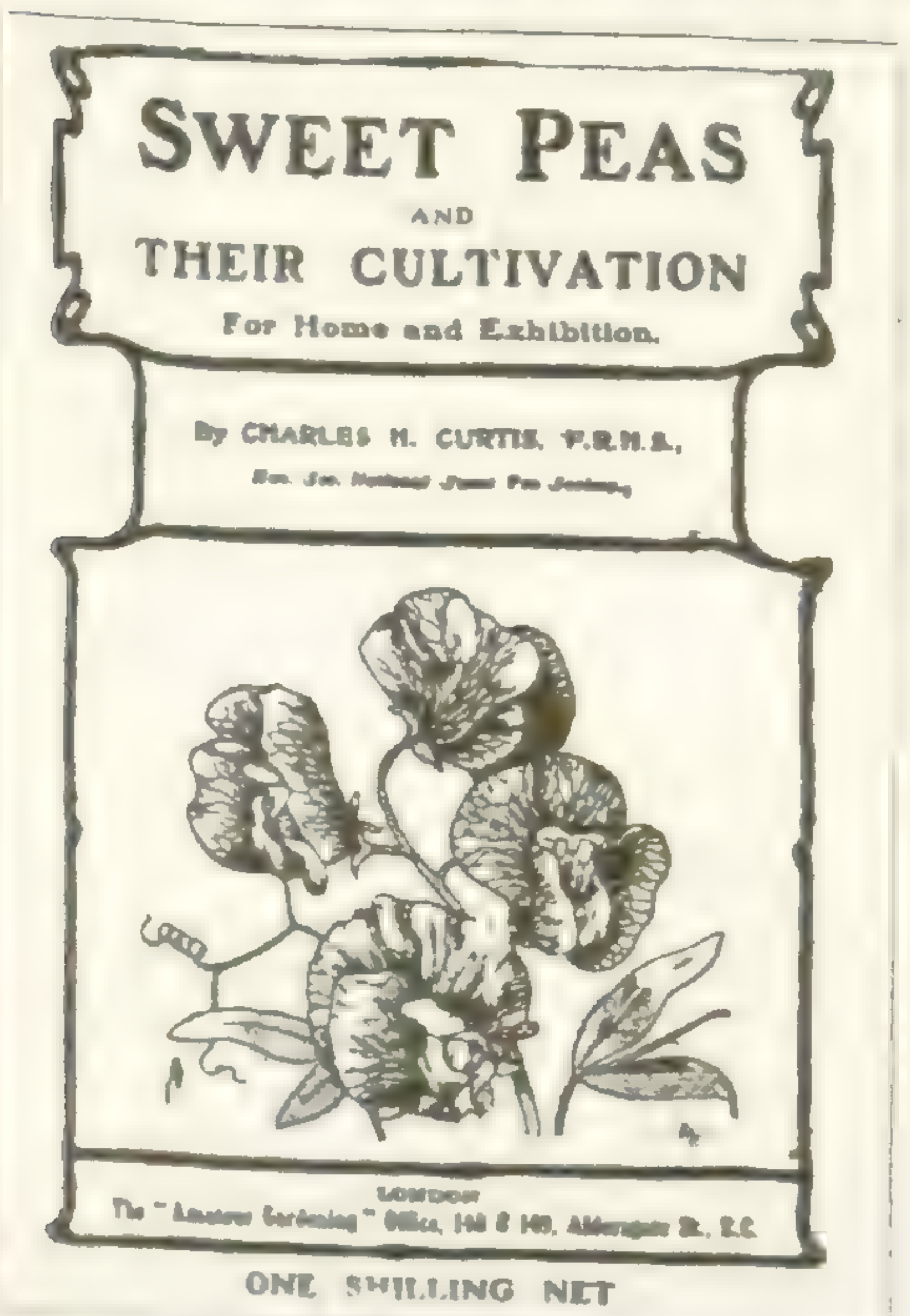

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there were two competitors, both of whom showed creditably; first prize was won by Mr. C. Wall, and second by Mr. Dean, gardener to J. W. Pyman, Esq., Raithwaite. Mr. Wall and Mr. Wheeler were first and second respectively for six vases of carnations, three blooms in each. Mr. J. Wadley Stuart, Ponteanna House, Cardiff, had the best six vases of border carnations in an amateurs' class, while Mr. Wheeler scored for half a dozen bunches of Malmaison varieties, and was easily first for a vase of twelve blooms of any one carnation with Cecilia in good form.

Mr. T. Richards, gardener to A. R. Moxey, Esq., St. Maeburns, led for half a dozen bunches of violas or pansies, but it was a mistake to provide so small a class and admit both pansies and violas.

Six bunches of hardy flowers was a fine class, and though the competition was good, Mr. W. Horne, gardener to Major-General Lee, The Mount, Dinas Powis, was an easy first with grand bunches of Coreopsis grandiflora, Galega officinalis, Lilium elegans, L. tigrinum, etc.; Mr. C. A. Williams, Wean-y-Cwm, Dinas Powis, second; and Mr. J. W. Kaiser third.

GROUPS AND PLANTS.

In the class for a group of plants arranged on a circular space of 50 sq. ft., there were two competitors, and first prize fell to Mr. Horne, gardener to Major-General Lee, and second to Mr. G. Wall, gardener to J. E. Morgan, Esq., Brynderwen, Llandaff, but neither was in proper form owing to the damage done to the plants by the fall of the tent over night. It was agreed beforehand that the prize money should be equally divided, and the silver cup be withheld for the year.

Table plants were very well shown, Mr. G. Wall, gardener to J. L. Morgan, Esq., scoring with a neat, bright set of crotons, dracænas, aralias, and pandanus; Mr. T. Richards second. Mr. Wall and Mr. Richards were also first and second respectively for six ornamental foliage plants in six-inch pots.

Mr. S. F. Jones, gardener to Lady Morel, The Lindens, led for six tuberous begonias in a very fine competition, and he scored with big specimens a yard through; Mr. W. Davies, Grove Place, was second; and Mr. J. James, 2, Redlands Road, was third. For six begonia blooms, three double and three single, Mr. H. J. Pilcher, Station Road, was first. Gloxinias, six plants, made another good class, and here Mr. F. Jones was to the front with large plants that would have looked a great deal better had the flowers been neatly staked; Mr. T. Mann, gardener to G. Lewis, Esq., Cathedral Road, Cardiff, second.

There were a few non-competitive exhibits, notably those of hardy flowers from the King's Acre Nurseries, Hereford; carnations from Messrs. Young and Co., Hatherley; and hardy flowers, including some of the new primulas, etc., from Mr. W. E. Evans, Llanishan.

CARDIFF AND COUNTY HORTICULTURAL SOCIETY. 22nd Annual Show. SOPHIA GARDENS, CARDIFF. WEDNESDAY and THURSDAY, July 20 and 21st, 1910. Liberal Prizes in every section, amounting in money and plate to nearly £500. Two Programmes of Music each day by His Majesty's renowned 1st Life Guards Band. A Grand Display of Fireworks each evening by Messrs. W. and J. Wilder, Birmingham. Mr. John Studts up to date Fun of the Fair, each day. Tents lighted by the Blanchard Patent Incandescent Oil Lamps. Popular prices. Tickets and schedules may be obtained from the Secretary, Mr. A. MAURICE BAILEY, 24, Duke Street, Cardiff.

LICHFIELD GREAT FLOWER SHOW, August Bank Holiday. Many open clasees. Trade space free. Apply for Schedules to Mr. J. GLADMAN, Secretary, Lichfield.

PERTHSHIRE SWEET PEA SOCIETY'S
EXHIBITION.
(OPEN CLASSES).

The above Exhibition will be held on
SATURDAY, JULY 30th, 1910.

Judge, Mr. Walter P. Wright.

Schedules from Hon. Secretary—
Mr. [illegible] HALLEY,
Priory Villa, Glover Street, Perth.

ANSWERS TO CORRESPONDENTS.

DAHLIAS. B. G., Brighton: Limit the growths to six per plant, and very carefully tie these up or they will be damaged by wind. You will find half a dozen growths quite sufficient.

COLOUR CHART FOR FLOWERS.—S. P. M., Badminton: The colour chart or "Repertoire de Couleurs" can be obtained from the Secretary, Royal Horticultural Society, Vincent Square, Westminster, for 15s. post free.

GROWTHS ON APPLE STOCK.—H. P. W., Canterbury: All growths that appear below the union of the graft with the stock should be removed so that all the energy is directed towards the proper development of the scion. The latter needs some care, especially in wet windy weather, and if not carefully tied to a stake there is a danger of its being wrenched out at the point of union. Loosen the ties so as to afford room for the swelling.

WINTER FRUITING TOMATOES.—S. W., Twyford: Sow seeds at once, and place them in a warm pit to germinate. Keep the seedlings near the glass and pot them singly into large sixties as soon as fit. Larger pots, say ten-inch, will be needed before long, but as soon as they are established in their first pots a position in a cool house should be provided, while as soon as in their fruiting pots, they should be put out of doors for a while, bringing them indoors again before cold weather sets in.

DAMAGED SWEET PEA BUDS.—W. E. J., Hounslow: The damage to the flower buds of your sweet peas is due to the action of sparrows. Why these little pests tear open the buds at this season of the year it is difficult to understand, but possibly they have discovered a little nectar is available, or it may be the damage is done from sheer mischievousness. We have experienced similar trouble this last week or so, and have recottoned the rows of sweet peas, hung up some pieces of bright tin and old mirror glass, but with only partial success. If it were not for killing the blackbirds and thrushes, we should set abundant traps of red-leaded pea seeds for the sparrows; at any rate, we feel like slaughtering the latter by some means, and think that the fear of death is about the only thing that will stop these birds from continuing their depredations.

CREAM-PINK SWEET PEAS.—C. S. T., Leamington: The National Sweet Pea Society regards the following cream-pink sweet peas as too much alike for inclusion with each other in any stand of sweet peas set up in competition at its exhibitions: A. B. Bantock, Earl of Plymouth, Holdfast Belle, Kitty Lea, Mrs. Hugh Dickson, Mrs. Henry Belle, Mrs. Routzahn, Sutton's Queen, and Romani Rauni. Another set of too-much-alike cream-pink varieties is Constance Oliver, Doris Usher, and Nell Gwynne. The complete lists of too-much-alike varieties is published in the society's schedule.

PROPAGATION OF HYDRANGEAS.—H. G. T., Newport: Hydrangea Hortensia may be propagated any time during July and August from cuttings of the partially-ripened new growths. Many growers wait until the old plants have finished flowering, and then put in a batch of cuttings, inserting these firmly in a mixture of loam, old mushroom bed manure and sand, and putting each cutting in a two-inch pot. Water well, and place in a cold frame, keeping the cuttings shaded in bright weather.

INEXPENSIVE DAFFODILS.—L. E. R., Felixstowe: The following is an excellent selection of inexpensive varieties: Emperor, Golden Spur, Henry Irving, Her Majesty, and P. R. Barr, of the yellow trumpets; Empress, Grandee, J. B. M. Camm, Mrs. Walter Ware, and Victoria, of the bicolor trumpets; Albicans, C. W. Cowan, Mrs. Thompson, and William Golding, of the white trumpets; Queen of Spain, of the Johnstoni varieties; Beauty, Autocrat, Frank Miles, Mabel Cowan, Sir Watkin, and Stella superba, of the incomparabilis group; Barri conspicuus and Flora Wilson, of the Barri section; and Duchess of Westminster, Grandiflorus, and Ornatus, of the poet's section; M. Magdaline de Graaff, and Mrs. Langtry, of the Leedsi section.

EVERGREEN FLORAL EDGINGS.—M. D. H., Bristol: There are several plants available for edging beds or borders, and that look well all the year round, but especially so when in bloom. These include double and single arabis, London Pride, various aubrietias, sedums, Cerastium Biebersteini, thrift, and even violas if they are regularly replanted.

ROSES.—T. S., Purley: "Roses and Their Cultivation" will meet your requirements in every way. It may be obtained post free for 2s. 10d. from the GARDENERS' MAGAZINE office, 148, 149, Aldersgate Street, E.C.

EMPLOYMENT AT WISLEY.—O. R., Woodbridge: Full particulars respecting employment at the Royal Horticultural Society's gardens at Wisley may be obtained from the secretary of the society, but you will find the conditions attaching to admission in the society's "Book of Arrangements" for 1910.

NAMES OF PLANTS.

W. G. J., Wendover.—1, Genista cinerea; 2, Cytisus scoparius; 3, Centranthus ruber.

B. B., Northampton.—1, Hoya carnosa; 2, Tacsonia Van Volxemi; 3, Fuchsia triphylla; 4, Plumbago capensis alba.

L. J. S., Saffron Walden.—1, Selaginella amœna; 2, S. hæmatodes; 3, Asplenium Fabianum; 4, Adiantum tenerum.

C. N. N., Sydenham.—1, Strobilanthes Dyerianus; 2, Molucella lævis; 3, Sonerila Hendersoni; 4, Panicum plicatum.

N. F., Birmingham.—1, Abies Douglasi; 2, Juniperus chinensis; 3, Sequoia sempervirens; 4, Spiræa Douglasi; 5, Phalaris arundinacea.

G. E., Ryde.—1, Erigeron speciosum; 2, Odontoglossum concinum; 3, Alstroemeria peruviana; 4, Lilium Martagon; 5, Clarkia elegans; 6, Nigella Miss Jekyll.

FORTHCOMING ENGAGEMENTS.

SATURDAY, July 16.—Edgware Horticultural Society.
Reading Rose and Sweet Pea Show.
TUESDAY, July 19.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "Insects Affecting our Crops," by Mr. Fred Enock, F.L.S., F.E.S.; Scientific Committee at 4 o'clock.
Royal Scottish Arboricultural Society's Exhibition at Dumfries; Two days.
WEDNESDAY, July 20.—Cardiff Horticultural Society; Two days.
Liverpool Rose and Sweet Pea Show; Two days.
Coventry and Warwick Horticultural Society; Two days.
Luton Rose and Sweet Pea Show.
Thornton Heath Horticultural Society.
THURSDAY, July 21.—Dunfermline Summer Show; Two days.
TUESDAY, July 26.—York Agricultural Show, Horticultural Section, at Leeds; Three days.
East Cowes Summer Show; Two days.
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Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

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MR. TAYLOR, Head Gardener to Sir James Mackay, Chesterford Park, Essex, can highly recommend J. WREN as HEAD GARDENER, where two or more are kept; thoroughly experienced in all branches, Inside and Out; good references; age 31; married, three children; leaving when suited. J. WREN, Meesden, Buntingford, Herts.

GARDENER (Head, where one or more are kept); life experience in all branches; age 35; married, no family WELLS, 40, Malden Road, Boreham Wood Herts.

GARDENER (Head Working); experienced in the cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, etc.; also Hardy Fruit culture; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head of two or three), age 34; life experience in all branches; Inside and Out; well recommended; two children, 3½ and 6 years. W. SAWYER, 4, Gun Road, Knebworth Stn.

GARDENER (Head Working, where two or more are kept); life experience Inside and Out, can be well recommended; age 36; married, one in family, 13 years. T. WEST, near New House Farm, Ninfield, Sussex.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; prize winner; leaving own request; no young children; youngest 14. W. BLOOMFIELD, Staplehurst, Kent.

GARDENER (Head Working, where one or two more kept, or good Single-handed); experienced Inside and Out; good references, and recommended; age 27; married when suited. W. CROUCHER, 11, North Terrace, Hythe, Kent.

GARDENER (Head Working where two or more are kept); life experience in all branches; age 42; 7 years in present place as Head. STEVENS, 197, Blackstock Road, Finsbury Park, N.

GARDENER (Head Working, where two or more are kept); good all-round; can be well recommended; married when suited; age 36. PEARCE, Ridley, near Wrotham, Kent.

GARDENER (Head). — Mr. PRINSEP, Buxted Park, Uckfield, will have much pleasure in recommending his Foreman, J. BROWN, to any Nobleman or Gentleman requiring the services of a thoroughly practical Man; age 32.

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GARDENER (good Single-handed where help is given or Head of two); good all round experience, both inside and out; 8 years and 10 months' reference; eldest boy of three 14 years old; life experience; wife willing to help in house or laundry; good ironer. HARRY GOOD, Ivinghoe, near Tring, Bucks.

GARDENER (Single-handed), thoroughly experienced Inside and Out; married; age 31; 2 children; excellent refs.; disengaged July 23. A. H. PLUMRIDGE, Winchester Hill, Stockbridge.

GARDENER (Single-handed, or where help is given); good experience Inside and Out; married, no family; age 37; excellent references. SAUNDERS, Lyndale, Crutchfield Lane, Walton-on-Thames.

GARDENER (Single headed) seeks SITUATION; 12 years' good experience; good reference. Address, A. DODD, 64, Northfield End, Henley-on-Thames.

FOREMAN (Inside).—Mr. DYE, Tring Park Gardens, Tring, Herts, wishes to recommend C. BALCHIN as above; 12 years' experience in Fruit, Plants, Carnations, and Malmaisons, House and Table Decorations; age 26; good references.

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GARDENER (Second, Inside or Inside and Out); 12 years' experience; Single; age 28; excellent references. D., 60, Bennett Road, Kemp Town, Brighton. (No circulars.)

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FIRST JOURNEYMAN, Inside and Out (chiefly Inside). J. CASWELL, The Gardens, Westwood House, Colchester, Essex, seeks SITUATION as above; 11 years' experience; good references; age 24; Bothy preferred. (No circulars.)

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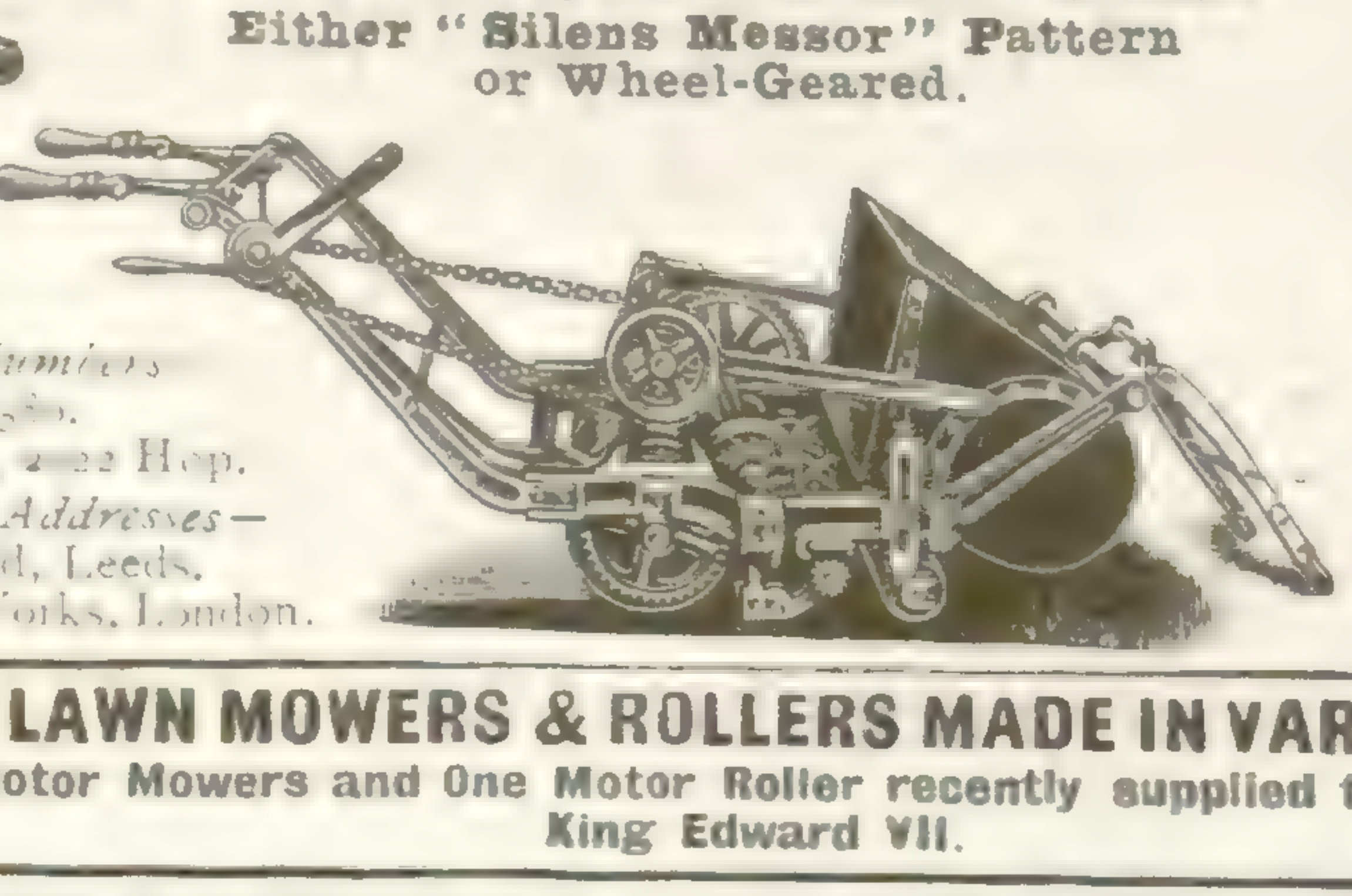

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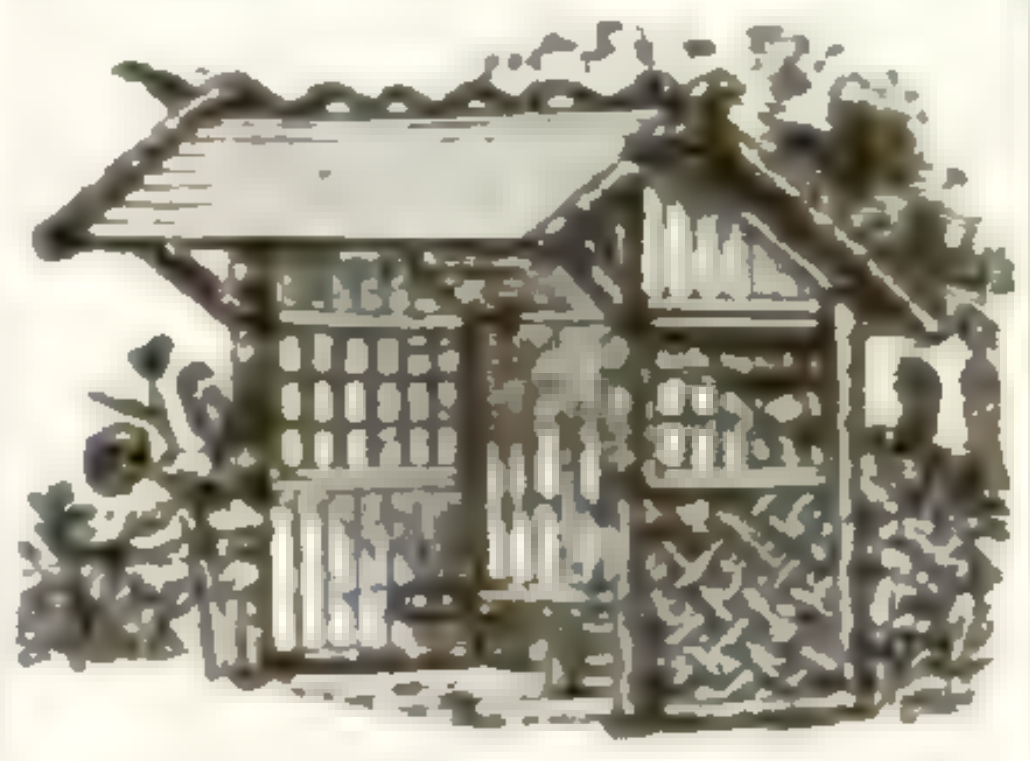

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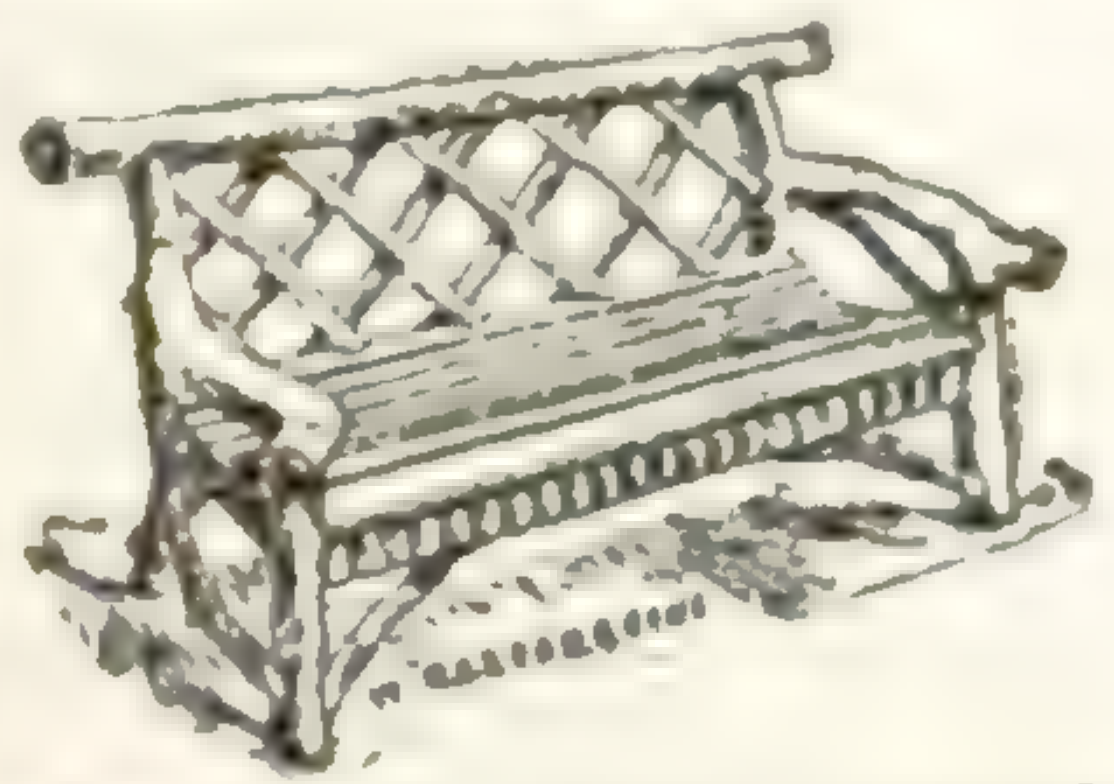

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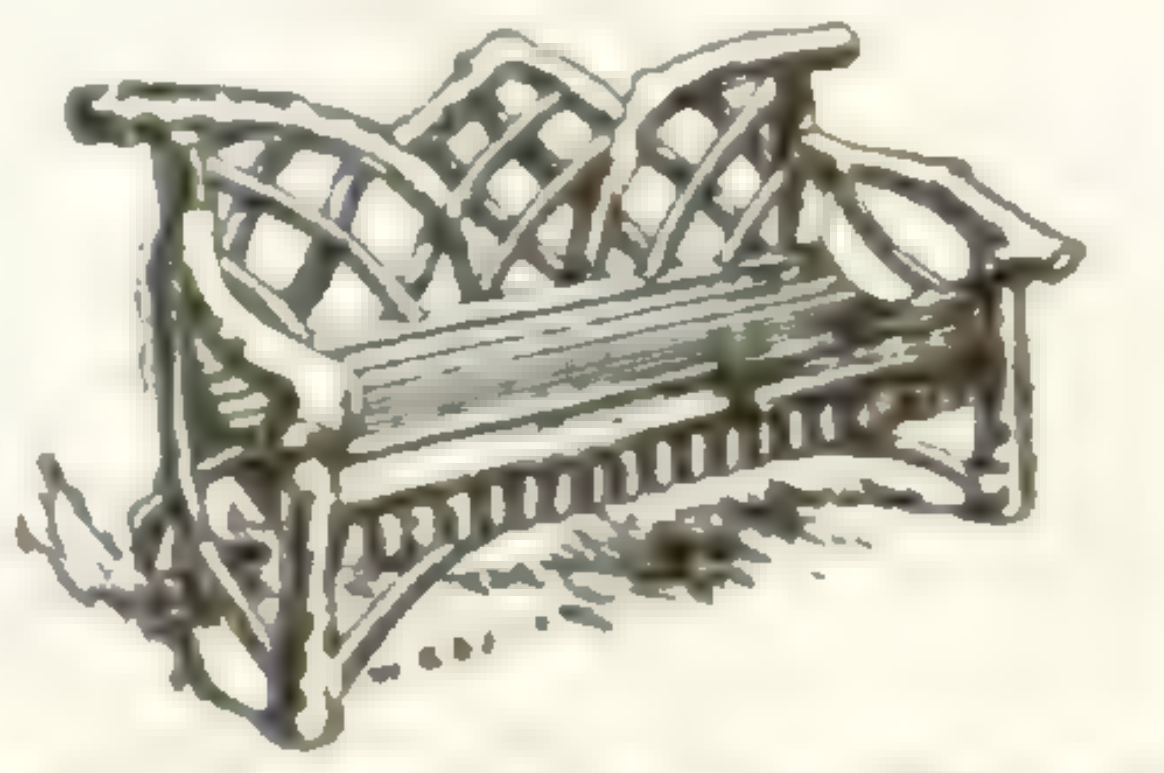

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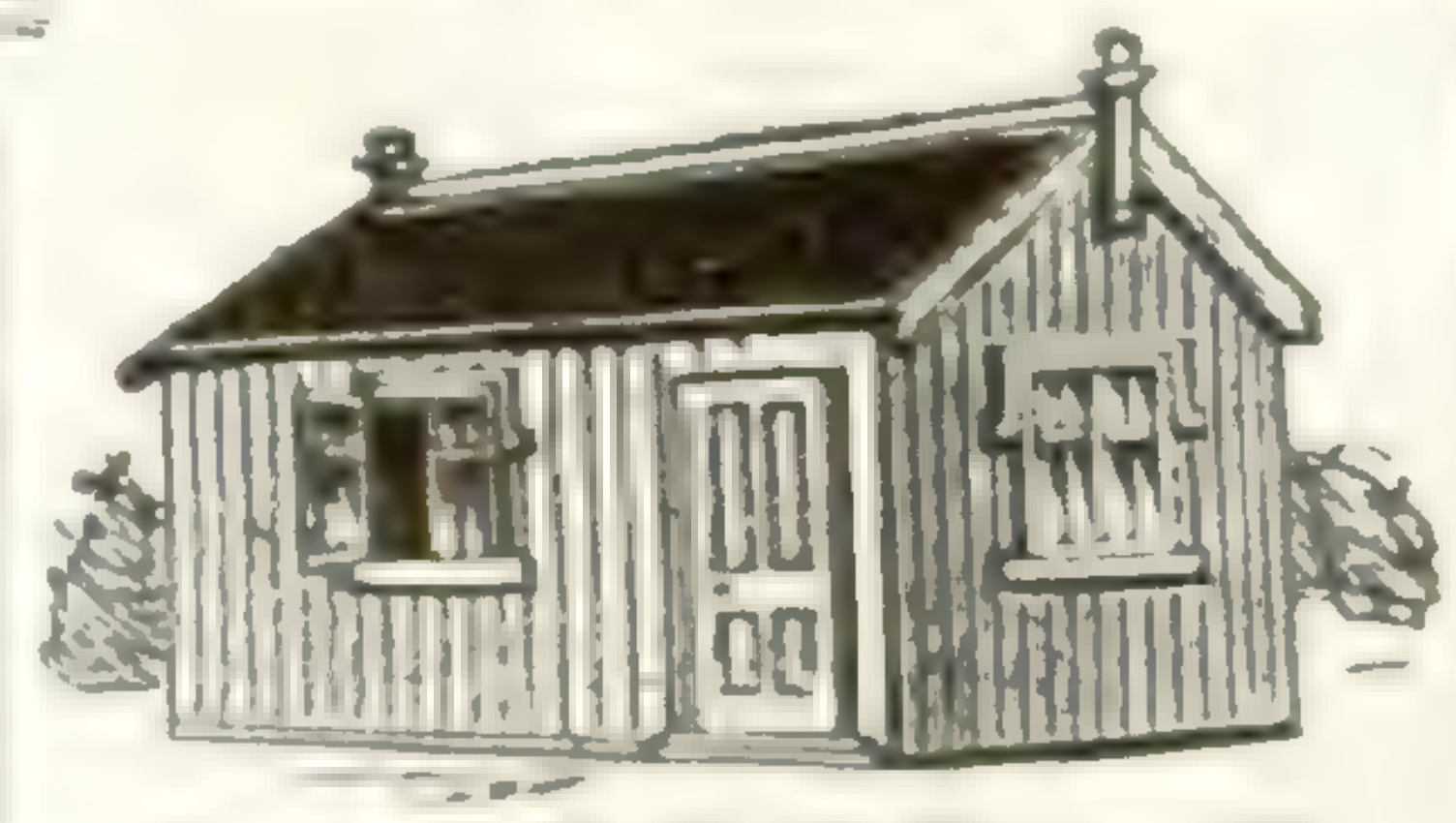

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THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Insects and Flowers.

Undoubtedly one of the most wonderful phases of floral evolution is embodied in the relations of the insect world to that of flowers in connection with the reproduction of the latter. To the old botanists the fertilisation of seed by the pollen was a profound mystery, presenting so many apparently contradictory phenomena that the fundamental principles were obscured; and even when it was recognised that the pollen and the embryo seed represented separate sexual elements, which needed to be brought together by some agency in order to ensure reproduction, how this was effected in many instances failed to be detected. It was not, indeed, until Charles Darwin discovered, and made known, the great underlying principle that cross-fertilisation, and not self-fertilisation, was established as a fundamental factor in the economy of vigorous plant life, that the agency of the insect tribes in effecting this was established as another. The older botanists were puzzled by many facts which militated against the primary and natural idea that the pollen of an individual flower was destined to fertilise the embryo seed in the immediate vicinity, that is, of the same flower. It was often noticed that when the stigma matured the anthers bearing the pollen were already depleted and withered, or vice versa, the period of maturity not coinciding, so that the assumed object appeared to be always frustrated by this lack of agreement, and in many other ways, the flowers were so designed as to lead to a similar apparently fruitless result. Hence every theory which was put forward found vigorous opponents, and was destroyed by further evidence owing to the lack of recognition of the principle Darwin eventually enunciated. The same ignorance also blinded even the keenest investigators as to the reason of the multiformity of flowers, and the intricacy of many of their structures. The operation of self-fertilisation assumed by them was so fundamentally simple, why then should such diversity exist in the forms designed to carry it out? Still more puzzling was the question, Why should Nature so often frustrate her own plans by the phenomena of non-conformity observed? Darwin's observations directed to the most puzzling flowers of all, the orchids, threw, however, a flood of light upon this question. In them, as in other members of the floral world, it became clear that they were individually designed with the utmost skill to attract particular insects to them, and that their visits resulted in the transference of the pollen away from the flower which produced it to another at a distance. It was then recognised at once that this operation not only solved all the previous puzzles of non-accordance in the periods of maturity of stigma and stamen, but also accounted for the multiformity of floral structure by its special adaptation to the multiform types of the fertilising agents, the insect world. By this discovery enormous additional interest was imparted to botanical study. Every flower became an absorbingly interesting study when it became clear that its form, colour, scent, nectaries, markings, and internal arrangements were all cunningly designed to ensure, first, a visit from a bee, moth, or other insect, and then that this visit should ensure the involuntary attachment of some of the pollen to the visitor's body, either as dust or adhesive masses, which it was bound, on its next visit to another flower, to bring into contact with the ready stigma. The insects themselves became also more interesting to the entomologist, since it was also recognised that they were so formed, and provided with hairs as to be particularly adapted for the office which they thus performed. The deep, narrow corolla had its long-tongued moth, the shallow calyx its corresponding bee, covered with retaining hairs, and so on, and the discovery furthermore aroused the interest of the agriculturist, since, among many other instances, it revealed the secret of non-fertilisation of the clover introduced into the Antipodes, and the necessity of the subsequent introduction of the essential humble-bee, which alone was so constructed as to fertilise it. A further proof of this interrelation between the floral and the insect worlds as an essential to the production of more and more attractive flowers was then recognised in the fact that whenever this was dispensed with, as in the case of the wind-borne pollen of conifers, willows, and other plants, involving, of course, no selection by greater attractiveness of colour or other lures, the flowers were always inconspicuous, and of the simplest form. Furthermore, Darwin proved that the cross-fertilisation, to which end so much diversity and beauty had been engendered, invariably resulted in more vigorous offspring, a greater number of seeds, and of larger size; and, in short, constituted Nature's provision against that weakness which is, as we know, engendered by constant inbreeding. Another proof of the far-seeing and beneficent Power which dominates the universe.

MR. W. J. UNWIN.

Mr. W. J. Unwin, of Histon, Cambridge, whose portrait we give in this issue, occupies a high position in the sweet pea world, because of the many beautiful varieties he has raised and distributed. Mr. Unwin used to grow sweet peas largely for market, but the growing enthusiasm for, and popularity of the Queen of Annuals, led him to take a keener interest in the flowers he grew. He discovered a wavy sport of lovely pink colouring about the same time Countess Spencer appeared, but it differed from the latter in shade, and also proved to be fixed when grown in quantity; it was named Gladys Unwin. Mr. Unwin is a member of the Executive Committee of the National Sweet Pea Society, and has been a strong supporter of the society's policy of conducting independent trials of sweet peas, and he also very heartily supported the movement for the promotion of the Sweet Pea Conference held last winter. Mr. Unwin has given to the floricultural world such good sweet peas as Gladys Unwin, Edna Unwin, Doris Burt, E. J. Castle, A. J. Cook, Frank Dolby, Mrs. Alfred Watkins, Nora Unwin, Phyllis Unwin, and the newer Mrs. W. J. Unwin, and a fine new stock of Clara Curtis, that gained a F.C.C. in 1909. Mr. Unwin is continuing his work as a raiser, and has a number of beautiful new seedlings on trial.

Baron Schroder's Will.—The will, dated August 6, 1908, with four codicils, of Baron Sir John Henry William Schröder, Bart., has been proved. The estate has been sworn for probate as of the gross value of £2,079,611 9s. 4d., the net personalty being sworn at £1,970,927 16s. 2d. The late Baron bequeathed large sums to charities, and he left to the Gardeners' Royal Benevolent Institution £1,000 and to the Royal Gardeners' Orphan Fund £500. To Mr. Henry Ballantine, for so long a period head gardener at "The Dell," he left a legacy of £1,000, and, in addition, "one original orchid, to be chosen by him, and all the smaller plants which have been taken from it." To Mr. Clark, orchid foreman at The Dell, he left one original orchid, to be chosen by him after Mr. Ballantine has made his choice, and all smaller plants which have been taken from it. The sum of £3,000 was left for distribution amongst all the servants in his employ at the time of his death, including garden and stable employees, not otherwise mentioned in his will.

Horticulture at Reading.—Considering that Reading is surrounded by gardens of more or less importance, that it has a horticultural college, and numbers among its commercial activities a seed firm whose reputation is world-wide, it is surprising that the horticultural society which has its headquarters there is so indifferently supported that unless there is a change for the better the exhibitions will have to be discontinued. The society held its annual meeting the other day, and this had been adjourned from the previous week owing to a quorum not having been present. According to the balance-sheet the subscriptions for 1909 amounted to £115 11s. 6d.; special prizes, £31 19s. 6d.; and admission to the exhibition, £27 5s. The expenditure included £110 11s. 6d. for prizes and medals, £18 1s. for band, £22 19s. 3d. printing and stationery, and £11 for illuminations. The net result, as stated by Mr. W. Dunlop, who presided, was a loss of £25 on the year's work. As this loss reduced the reserve fund to £40, the shows would, he said, have to be discontinued unless greater support was forthcoming. Subsequent to the annual meeting, it was decided by the executive committee to hold this year's show on August 24. The Reading Horticultural Society was established 53 years ago, and for a long period was prosperous, its exhibitions being some of the finest held in the provinces. Her Majesty the Queen has consented to become a patroness of the Reading Rose Society, of which Lady Rufus Isaacs is the president.

R.H.S. Examination of School Teachers.—We have received from the Rev. W. Wilks the recently issued report on the Royal Horticultural Society's examination of school teachers in cottage and allotment gardening, held on April 27 last. From this we learn that 362 candidates presented themselves for examination, an increase of 75 per cent. on the previous year. Of these 47 obtained a place in the first class, Mr. H. Newman, Dudley Port, Tipton, and Mr. F. N. Smart being bracketed for the premier position. The examiners, Mr. Alexander Dean, V.M.H., Mr. F. Chittenden, F.L.S., and Mr. James Hudson, V.M.H., report that they experienced much difficulty through candidates failing to comply with the printed instructions for the conduct of the examination. This applies particularly to the answering of two or more questions on the same sheet of foolscap, although each sheet had a plainly printed heading "Commence each question on a fresh sheet." This carelessness was not to be expected from school teachers accustomed to examinations, the more so since it has not been experienced in the three examinations of the society for gardeners held this year under precisely similar regulations. In Section A many candidates were too discursive, and wasted time in enlarging on the botanical or physical nature of plants rather than concisely expressing their practical knowledge of the actual cultivation, when such information only was required by the question. In most answers on successional cropping the routine was correctly described, but the replies of many showed a want of practical experience. A marked improvement was discernible in familiarity with fruit and flower culture, and there was evidence of dependence on personal observation rather than on the authority of text-books. In Section B. there was also an improvement on last year, a greater proportion of the candidates having given attention to illustrative experiments. Still, many again regarded a text-book statement of fact as proof of its truth, and a paraphrase of a question as an answer to it.

M. Nonin.—This well-known French chrysanthemum grower, the president of the Paris Chrysanthemum Committee, has recently been appointed a Knight of the Legion of Honour. It is rare for a chrysanthemum grower to obtain so high a distinction, and we are sure M. Nonin's English friends will unite with us in offering him our congratulations.

Nomenclature of Garden Hybrids.—The nomenclature of plants received a full share of attention from the members of the recent International Horticultural Congress held at Brussels. As regards garden hybrids, it was, as recorded in "Nature," agreed that the specific name may be expressed in Latin, or in a vulgar tongue and written in Roman characters; if possible, it should be a single word, but, at any rate, not more than three words. Various suggestions had been made as to the system of nomenclature for artificial hybrids in which two, three, or more genera are involved. In the case of bigeneric hybrids, the general custom was confirmed of forming a Latin generic name by the combination of the names of the parents; the specific name, also in Latin form, is to be separated from the generic by the sign of hybridity, thus, Læliocattleya × Smithii. For plurigeneric hybrids the recommendation of the Royal Horticultural Society of London was adopted, namely, the use of a conventional generic name, derived from that of some person of distinction, with the termination ara, e.g., Lawrenceara.

Cross-bred Pinks.—Mr. J. Douglas contributed to the recent meeting of the R.H.S. Scientific Committee a number of flowers of seedlings, the result of crossing the ordinary white form with the pink called Rubican. The seedlings showed in a marked manner the influence of the latter, and some very beautiful forms were among them; 10 to 12 per cent. of the seedlings bore single flowers, and no fringed flowers were among the singles.

Value of Seaweed as a Fertiliser.—The high estimation in which seaweed is held as a manure for farm crops is shown by the compensation that has been awarded to three farmers in Fifeshire, who have been deprived of the privilege of gathering seaweed in consequence of the construction of the Rosyth naval base. The case was submitted to arbitration, and evidence was heard at great length on behalf of both parties. The award has been issued and seaweed has been assigned a place of considerable importance as a fertiliser. The claims of the three farmers were £1,137 10s., £1,523, and £750, and the referee awarded them £544 10s., £630 14s. 5d., and £385 5s. 9d., with costs. The respective offers made by the Admiralty were £440, £484, and £330.

Japan-British Exhibition.—On the 15th inst. there was a distribution, under the presidency of Prince Arthur of Connaught, of the first instalment of the awards made to British and Japanese exhibitors at the White City. Messrs. William Paul and Son, of Waltham Cross, were awarded the Grand Prize for their large and beautiful display of roses, which includes dwarfs, standards, and pillars, and is not less remarkable for the taste shown in the arrangement than for the development of the many hundreds of plants. Messrs. Kelway and Son, of Langport, were awarded a gold medal for their extensive, attractive, and interesting exhibit of plants in the grounds of the exhibition.

Monument to Ernest Calvat.—In recognition of the services rendered to horticulture by the great French chrysanthemum raiser, M. Ernest Calvat, it has been decided by the French National Chrysanthemum Society to start a subscription list to raise the necessary funds for the erection of a monument to his memory. Those of our readers who desire to contribute are requested to send their subscriptions to Mr. Harman Payne, 141, Wellmeadow Road, Catford, S.E.

Grasses at Whitechapel.—A highly interesting feature of the Country in Town Exhibition, at the Whitechapel Art Gallery, was the series of grasses arranged by Mr. W. Mark Webb, F.L.S., the hon. secretary of the Selborne Society. Messrs. Sutton and Sons, of Reading, specially prepared a series of useful grasses, and Mr. J. F. Rayner, F.R.H.S., of the Botanical Garden and Laboratory, Highfield, Southampton, contributed a large series of other forms.

Students at R.H.S. Gardens, Wisley.—We are informed that there are now but very few vacancies remaining for students wishing to commence the two years' course of study at the Wisley Gardens of the Royal Horticultural Society in September next. Youths over the age of sixteen and young men wishing to avail themselves of the tuition and training offered by the society should make application immediately on forms to be obtained from the Secretary of the R.H.S., Vincent Square, Westminster. An entrance fee of £5 5s. is charged, and students board and lodge at their own expense in the adjoining villages. The training given includes both a scientific and a practical knowledge of gardening, and various germane examinations are prepared for, including the diploma of the school, given to students who show a sufficiently high standard of knowledge at the completion of the two years' course.

Plant Diseases.—We have to acknowledge several leaflets from the Board of Agriculture relating to gardening and farming. Those of special interest to gardeners are: "Leaf Diseases of Celery," and "Leaf Shedding in Conifers." Copies of these leaflets may be obtained, free of charge, and post free, on application to the Secretary, Board of Agriculture, Whitehall Place, London. Letters of application need not be stamped.

EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

JULY 19.

The hall on this occasion was not quite so crowded as at the last few meetings, still the floor space was quite full. The best features of the show were undoubtedly the large exhibits of fruit trees in pots and the numerous exhibits of hardy flowers, while the sweet peas would have done credit to the National Sweet Pea Society.

FLORAL COMMITTEE.

Messrs. Barr and Sons, Covent Garden, arranged a nice display of hardy flowers, in which the collection of liliums were the chief feature. Amongst the best were L. chalcedonicum, L. canadense, L. testaceum, L. croceum, L. superbum, and L. Browni. The decorative sage, Salvia virgata nemorosa, made a pleasing feature throughout the exhibit, while the brilliant colours of the phloxes were very striking.

Messrs. Jas. Veitch and Sons, Lim., Chelsea, occupied a large run of tabling with a varied display. The Java hybrid rhododendrons at once attracted attention, as did also a group of Kalanchoe flammea. Some well-flowered plants of Hibiscus magnificus were also attractive. Fuchsias, both as standards and decorative plants, were interesting. The best of the latter were Brilliant, Rose Phenomenal, the hybrid Coralle, Sylvia, Masterpiece, and Beauty of Exeter. Abutilons in variety were also in evidence, while a basket of sweet williams denoted a fine strain. The same firm also staged a good exhibit of border carnations in pots, the most attractive being Countess of Radnor, Bendigo, Mrs. R. Morton, Bedemere, and Ben Beale.

Mr. Frank Lilley, Guernsey, had a splendid display of early-flowering gladioli, arranged in bamboo stands. Some of the most conspicuous varieties were Sarnian Gem, General Scott, Blushing Bride, Princess Victoria, Princess May, and Ne Plus Ultra.

Hardy flowers from Mr. M. Prichard, Christchurch, Hants, were very fine. The chief features were Dianthus Napoleon III., Hemerocallis Baroni, astilbes in variety, Iris Kæmpferi, and some good bright phloxes.

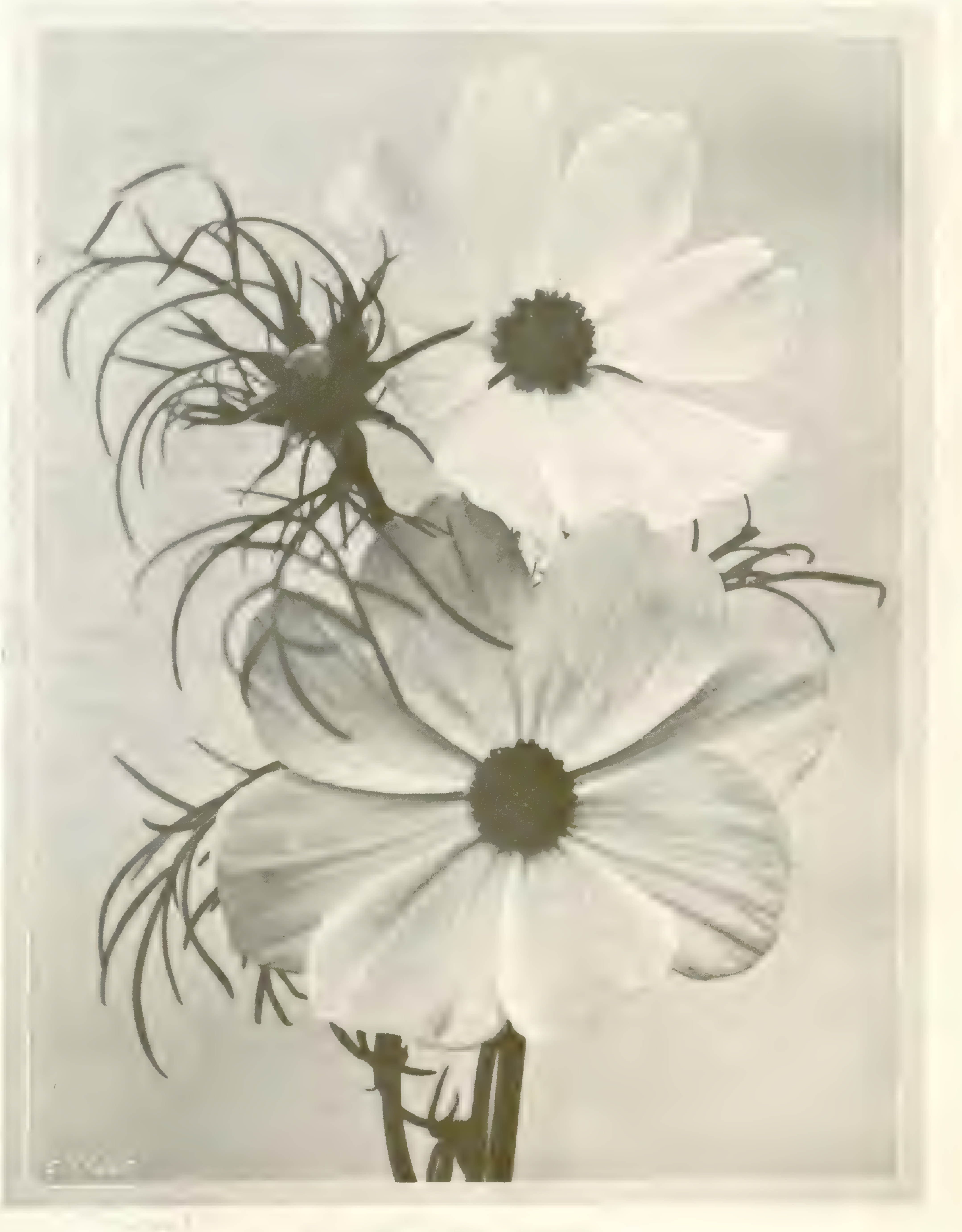
Mr. Clarence Elliott, Six Hills Nursery, Stevenage, presented a pleasing rock garden, on which the chief items were the masses of Campanula pusilla and its white form, while Tunica saxifraga fl. pl., was also much admired.

Hardy flowers from Messrs. G. Bunyard and Co., Maidstone, occupied a large space, and were nicely set out. Perhaps the campanulas were the most prominent vases. They included C. urticifolia alba, C. lactiflora, and C. verticifolia. Phloxes were also seen in good variety, as were also spiræas and potentillas.

Messrs. R. Wallace and Co., Colchester, had a delightful display of aquatic plants surrounded with hardy flowers. A very natural pool of water contained nymphæas, well opened, with magnificent clumps of Iris Kæmpferi, astilbes in variety surrounding it, while somewhat apart from the natural display were grouped, with other hardy flowers, celsias, liliums, and eremuri, the whole forming a charming exhibit.

Messrs. H. B. May and Sons, Upper Edmonton, arranged a fine exhibit of crotons on the floor of the hall. Needless to say, the whole of them were well grown, but the colour was very fine. The most attractive were B. Comte, Mars, Baron James de Rothschild, Thomsoni, and Emperor Alexander, while on the opposite stage was arranged a beautiful table of ferns, chiefly adiantums, nephrolepis and gymnogrammas.

Phloxes and violas from Messrs. W. Wells and Co., Lim., Merstham, were very fine, the former being exhibited in pots. The most striking varieties were Mrs. J. Harkness, Iris, Mrs. A. Baker, and Elizabeth Campbell. The violas were displayed in vases, and formed a pleasing front.



COSMOS ROSE QUEEN.

An early-flowering variety of great merit. The flowers are large, of fine form, and a rich rose colour. A.M., R.H.S., July 19. Messrs. Dobbie and Co.

Messrs. W. Paul and Son, Waltham Cross, staged a splendid exhibit of roses. Tall specimens of White Dorothy Perkins and Hiawatha occupied the background, while bamboo stands and baskets were filled with individual varieties. The new hybrid tea, Florence Haswell Veitch, a deep red, impressed one with its vigour, while the Lyon Rose was staged in a mass. Other noteworthy baskets contained Wm. Shean, Dorothy Page Roberts, and Grace Molyneux.

The exhibit of sweet peas from Messrs. Dobbie and Co., Edinburgh, consisting of varieties of their own introduction, was very fine, the tall columns of such varieties as The Marquis, John Ingman, Mrs. Hugh Dickson, Masterpiece, Menie Christie, Isobel Malcolm, and Mrs. Collier being superb, while the vases in front were equally beautiful. These included several new varieties, notably the orange Earl Spencer, and the mauve-pink Marion Cuthbertson. Mr. F. A. Wellesley, Woking, exhibited Sweet Pea Mrs. F. A. Wellesley, a fine pure white variety. Mr. C. W. Breadmore contributed a vase of Sweet Pea Iris, a beautiful salmon-pink variety; and Messrs. J. R. Pearson and Sons, Lowdham, contributed their bright pink Sweet Pea Elfrida Pearson. Messrs. Dobbie also exhibited several annual flowers, notably the new early-flowering Cosmos Rose Queen; Gypsophila carminea, a charming form, with carmine coloured flowers; and a fine strain of calendulas.

From Messrs. Gunn and Son, Oulton, Birmingham, came a fine, well-displayed exhibit of phloxes. Some of the prominent varieties were Tapis Blanc, Dr. Charcot, Iris, Selma, and Countess of Ilchester. The same exhibitors also had baskets of violas.

Mr. F. Dutton, Iver, Bucks, staged a large exhibit of cut border carnations, which were quite a change from the perpetual varieties of the past few months. A few of the most attractive were W. H. Parton, Miss Willmott Helmsman, Heatherbell, Bendigo, and Lemberg.

Mr. Jas. Douglas, Great Bookham, also staged some fine carnations. A few of the best were Daffodil, Ellen Douglas, Hercules, Renown, and Mrs. Robert Berkeley.

Mr. Amos Perry, Hardy Plant Farm, Enfield, had a fine group of astilbes and spiræas arranged on the floor of the hall in imposing style. Each variety or species was represented by huge clumps. The best were Spiræa venusta magnifica, S. v. elegans, S. v. Peggy, and Astilbe Ceres, A. Gerbe d'Argent, with some very promising seedlings, while some well-grown funkias and a fine clump of Senecio macrophyllus completed the display.

Roses from Messrs. B. R. Cant and Sons, Colchester, were chiefly of the decorative type, though many vases of exhibition varieties were displayed. Some of the best were General Gallienne, White Dorothy Perkins, and Peggy, while a number of new varieties were of great promise. These included St. Helena, Elizabeth, the pink seedling from Frau K. Druschki, and Claudius.

Astilbes from Mr. George Arends, Ronsdorp, Germany, attracted much attention, for they were splendidly developed and contained new colourings. The most distinct were Salmon Queen, Venus, Ceres, Cream Pearl, Pink Pearl, and Vesta. Some of these varieties are destined to become very popular with the market growers.

The upper end of the hall was occupied by a fine collection of carnations from Sir Daniel Gooch, Bart. (gardener, Mr. Wilkinson), The Hylands, Chelmsford. They were nicely displayed in bamboo stands and vases. The most conspicuous varieties were Princess of Wales, Duchess of Westminster, Maggie Nettlefold, Marmion, and H. J. Jones, with a few good border varieties. The exhibit was materially assisted with suitable foliage plants.

Mr. Webster, gardener to E. J. Preston, Esq., Kelsey Park, Beckenham, sent specimen stove plants, so seldom seen at the hall. The whole were well grown and in fine condition. The foliage plants were Dracæna Victoria, a fine plant and in grand colour; Kentia Belmoreana, Pteris Childsi, and the flowering plants included Clerodendron Balfouri, a fine specimen in the pink of condition; and Statice profusa. Suitable decorative plants formed the background, with Caladium argyrites as an edging.

Messrs. W. Cutbush and Son, Highgate, had a large exhibit of hardy flowers on the floor of the hall. The chief features were Pentstemon Newbury Gem, Erica coccinea, potentillas in variety, campanulas, and well-coloured plants of Shortia galacifolia, while a pool of nympheas was surrounded by suitable subjects.

Messrs. Stuart Low and Co., Bush Hill Park, had an effective exhibit of roses arranged in bamboo stands and vases, Betty, Madame Ravary, and Lyon Rose being most conspicuous.

H. D. Broughton, Esq. (gardener, Mr. Gregory) sent a box of nice, clean, fresh roses, chiefly hybrid teas.

A nice group of carnations in pots came from Mr. Chas. Turner, Slough. The plants were well grown and the flowers rich in colour. A few good ones were Sylvia, Sunset, King George, Jocelyn, and Pearl. Mr. Turner also exhibited cut trusses of his new rambling rose Flame, a beautiful variety with rose-pink flowers.

Messrs. T. S. Ware and Co., Lim., Feltham, had a good display of hardy flowers, with some boxes of rock and alpine plants. The phloxes were very varied and bright. The crinums, too, were interesting.

ORCHID COMMITTEE.

Orchids were not numerous, but Messrs. Sander and Sons, St. Albans, made a nice exhibit, in which the cattleyas were the most prominent. They included a fine specimen of Cattleya Gaskelliana alba, C. Rex, C. mollis, and C. Wavriniana. Pescatorea Lehmanni was a good form. Odontoglossums figured largely, some being very good, especially O. excellens, O. crispum, with a wealth of flowers, O. Xanthotes, and O. ardentissimum.

Messrs. Stuart Low and Co., Bush Hill Park, also had an interesting and beautiful group, in which were noted nice plants of Cattleya gigas, several plants of Cattleya Rex, C. Miss Williams, and C. Gaskelliana alba. Oncidiums in variety were much in evidence, while the quaint Stanhopea Wardi was conspicuous. Dendrobium Dearei and Odontoglossum Pescatorei were also noted.

From Sir J. Colman, Bart. (gardener, Mr. Collier), Gatton Park, Merstham, came a small collection, which included two beautiful forms of Odontioda Bradshawæ, Cattleya Rex in fine flower, Odontoglossum Queen of Gatton, and Pachystoma Thomsoni.

Sir Trevor Lawrence, V.M.H., Burford Lodge, Dorking, sent Cypripedium W. R. Lee, with eight beautiful flowers; Brasso-Cattleya Joan, Calanthe japonica purpurea, and some very interesting botanical species.

FRUIT AND VEGETABLE COMMITTEE.

Messrs. Jas. Veitch and Sons, Lim., Chelsea, staged a large collection of vegetables nicely arranged. Ellam's Early Cabbage was grouped in the centre, with a collection of cabbage lettuces running through the whole exhibit. Good examples were Crystal Palace Gem, Marvel, and Ohio. The tomatoes were also in force, and included good dishes of The Hastings and Sunnybank. Turnips in variety, vegetable marrows, spinach, and carrots were all seen in numerous varieties.

From the Church Army Garden Association, 55, Bryanston Street, W., came a table of vegetables, grown on the waste plots of ground in Westminster. They could not be described as first class, but they were serviceable, and had been grown on what were rubbish heaps a few months ago.

Messrs. G. Bunyard and Co., Maidstone, had a fine collection of fruit trees in pots, chiefly peaches and nectarines, all carrying a wealth of ripe fruit. In the former were noted excellent examples of Peregrine, Duke of York, and Earliest of All. A large standard Fig St. John was carrying a fine crop of ripe fruit, while plums were represented by good examples of Early Orleans. A pair of Foster's Seedling grapes were trained fan shape, and had first-rate crops.

Another very large exhibit of fruit trees in pots came from Messrs. Jas. Veitch and Son, Lim., Chelsea. A central group of standard figs attracted much attention. All were well fruited, and especially Brown Turkey, Castle Kennedy, and Violette Sepor. The peaches were the picture of health and carried good crops, the chief being Duke of York and Peregrine; while the nectarines included Lord Napier, Early Rivers, and Dryden. A fine fan-trained tree of Peach Royal George was also conspicuous. A few pears were also included in this really fine and instructive display.

AWARDS.

Gold Medal.—To Messrs. Jas. Veitch and Sons, for collection of fruit trees in pots.

Silver-gilt Knightian.—To Messrs. Jas. Veitch and Sons, for collection of vegetables; to Messrs. G. Bunyard and Co., for collection of fruit trees in pots.

Silver-gilt Flora.—To Messrs. Dobbie and Co., for sweet peas; to Sir D. Gooch, for carnations; to Messrs. H. B. May and Sons, for crotons and ferns.

Silver-gilt Banksian Medals.—To Mr. Amos Perry, for spiræas; to Messrs. R. Wallace and Co., for hardy plants; to Mr. E. J. Proctor, for specimen plants.

Silver Flora.—To Messrs. H. Cannell and Sons, for begonias; to Messrs. B. R. Cant and Sons, for roses; to Mr. Jas. Douglas, for carnations; to Messrs. S. Low and Co., for orchids; to Messrs. Sander and Son, for orchids; to Messrs. W. Paul and Son, for roses; to Messrs. Jas. Veitch and Son, for greenhouse plants.

Silver Banksian Medals.—To Messrs. G. Bunyard and Co., for hardy flowers; to Messrs. Carter Page and Co., for violas; to Messrs. W. Cutbush and Son, for hardy flowers; to Messrs. Gunn and Son, for phloxes, to Mr. F. Lilley, for gladioli; to Mr. M. Prichard, for hardy plants; to Mr. G. Reuthe, for hardy plants; to Messrs. T. S. Ware, Lim., for hardy plants; to Messrs. Barr and Sons, for hardy flowers.

Bronze Flora.—To Mr. L. R. Russell, for hardy fuchsias.

Bronze Banksian.—To the Church Army Association, for vegetables.

First Class Certificates were awarded to Cattleya Warscewiczi Low's variety, from Sir G. Holford; to Cattleya O'Brieniana alba, Messrs. S. Low and Co.

Awards of Merit.—To Oncidium Sanderæ, from Messrs. Sander and Son; to Cattleya Artemis, from Sir G. Holford; to Pescatorea camellosa, from Messrs. Charlesworth and Co.; to Sweet Pea Iris, from Mr. C. W. Breadmore; to Fuchsia Sylvia, from Messrs. Jas. Veitch and Sons; to Sweet Pea Mrs. F. A. Wellesley, from Mr. F. A. Wellesley; to Astilbe Salmon Queen, from Mr. G. Arends; to Astilbe Venus, from Mr. G. Arends; to Rose Flame, from Mr. Charles Turner; to Sweet Pea Elfrida Pearson, from Messrs. J. R. Pearson and Sons; to Senecio glastifolius var. Hon. Vicary Gibbs, from Mr. E. Beckett; to Cosmos Rose Queen, from Messrs. Dobbie and Co.; to Sweet Pea Earl Spencer, from Messrs. Dobbie and Co.; to Sweet Pea Marion Cuthbertson, from the same firm; to a strain of calendulas, from Messrs. Dobbie and Co.; to Carnation Mrs. Robert Berkeley, from Mr. J. Douglas; to Gypsophila carminea, from Messrs. Dobbie and Co.

Cultural commendations were also granted to Sir G. Holford, Sir T. Lawrence, and Sir J. Colman.

National Rose Society.

SALISBURY, July 13.

It is a pleasure to be able to state that the exhibition held in the spacious Victoria Park, at Salisbury, was as successful as the great show held a few days previously in Regent's Park. There was good competition and fine roses everywhere, while the display of new seedling roses was especially fine, and, according to Mr. Mawley, the hon. secretary of the N.R.S., this display of new varieties was a record one. The show was held in conjunction with the Wilts Horticultural Society, and was blessed with a gloriously fine summer day.

NEW ROSES.

The new roses were a great feature, and the two Irish firms were very much in evidence.

A gold medal was awarded to Arthur E. Coxhead, and to Mrs. Amy Hammond, from Messrs. S. McGredy and Son, Portadown. To Mrs. Cornwallis West and to Mabel Drew, from Messrs. A. Dickson and Sons.

Silver-gilt medal to Earl of Gosford, from Messrs. S. McGredy and Son.

Card of commendation to Mrs. T. W. Massey, from Messrs. S. Bide and Sons, Farnham. To Mrs. Lucy Williams, and to Rescue, from Mr. J. Mattock, Headington, Oxford.

NURSERYMEN.

There were six entries in the Jubilee Trophy class, where three dozen blooms, distinct, are required, and here Mr. Hugh Dickson annexed the trophy with a very fine set of full, clean blooms, among which Konigin Carola, Mildred Grant, Rhea Reid, Mrs. D. McKee, Leslie Holland, Helene Guillot, Pharisaer, and Mrs. Stuart Clarke were magnificent. It was a rare good box. Messrs. A. Dickson and Sons, Newtownards, came second, and they had H. V. Machin, S. M. Rodocanachi, and Molly Sharman Crawford very fine. Messrs. D. Prior and Son third.

There were four competitors in the large class for seventy-two blooms, distinct, Messrs. D. Prior and Son securing the leading award with a moderate set, in which C. J. Grahame, Mdme. Melanie Soupert, Mrs. Cocker, Bessie Brown, J. B. Clarke, and Liberty were good; Messrs. Frank Cant and Co. second, and Mr. Hugh Dickson, Belfast, third.

There were four competitors in the class for two dozen trebles, and here, by an oversight, Messrs. A. Dickson and Sons were disqualified for duplication. Mr. Hugh Dickson, Belfast, was awarded first prize for fine flowers that, however, opened very fast in the heat of the tent, and were showing open centres before all the judging was finished; Lady Helen Vincent, Richmond

Mildred Grant, Lyon Rose, Mdme. Melanie Soupert, Mrs. T. Roosevelt, Lady Ashtown, Hugh Dickson, and Mrs. Stewart Clark were the best flowers; Messrs. Frank Cant and Co. second; and Messrs. D. Prior and Son third.

The best thirty-six blooms were contributed by Mr. George Prince, Longworth, Berks, who had excellent examples of Dean Hole, Mrs. E. Mawley, Mrs. D. McKee, and Mrs. J. Laing. There were seven competitors, and the remaining awards were secured in order by Messrs. G. W. and H. Burch, Peterborough; and Messrs. J. Burrell and Co., Cambridge. Five competitors staged in the class for sixteen trebles, and here Messrs. G. and W. H. Burch were first with a good set, in which Mdme. Jules Gravereaux, Wm. Shean, Lyon Rose, Ulrich Brunner, and F. K. Druschki, were the best; Mr. G. Prince, Longworth, was placed second; and Messrs. G. Cooling and Son, Bath, third.

For twelve flowers of any white or yellow rose, Mr. G. Prince led with a lovely lot of the Lyon Rose, though how this can be called a yellow passes understanding; Messrs. F. Cant and Co. second with Frau Karl Druschki: and Mr. W. Leggett, West Bergholt, third, with Bessie Brown. Mr. H. Drew, Longworth, led for a dozen blooms of any light pink or rose coloured rose, with some excellent flowers of Mrs. Edward Mawley. Messrs. F. Cant and Co., Colchester, second, with Mrs. Theodore Roosevelt; and Mr. G. Prince third with Mrs. E. Mawley; there were six entries. Mr. Hugh Dickson scored for a dozen flowers of a crimson rose with the new and handsome Leslie Holland; Mr. H. Drew second with Alfred Colomb; and Messrs. F. Cant and Co. third with Hugh Dickson.

Messrs. D. Prior and Son scored for a dozen exhibition roses in vases, five blooms of each, with a handsome set of F. K. Druschki, Killarney, Mrs. J. Laing, Mrs. T. Roosevelt, Lady Ashtown, Caroline Testout, etc.; Mr. G. Prince second. Messrs. F. Cant and Co. led for nine blooms of Harry Kirk with handsome flowers; Mr. H. Drew second, and Mr. G. Prince third.

Mr. G. Prince had the best set of a dozen trebles, teas or noisettes, and here he had Mdme. Jules Gravereaux, Souv. de Pierre Notting, Maman Cochet, Medea, Mrs. E. Mawley, and Comtesse de Nadaillac in fine form; Mr. H. Drew second.

There were four displays of decorative roses, each consisting of eighteen distinct varieties. Mr. J. Mattock, Headington, secured the premier award with a beautiful collection, in which Maharajah, Bellefleur, Lady Waterloo, Betty, Macrantha, Mrs. F. W. Flight, and Hebe's Lip were finely shown; Messrs. Cooling and Son second; and Mr. G. Prince third. Messrs. W. Spooner and Son, Woking, appeared to be the only exhibitors in the class for a dozen bunches of decorative roses, and they were awarded first prize for a clean, bright set of Harry Kirk, Lady Battersea, Betty, Mrs. P. Blair, Marquis de Sinety, etc.

AMATEURS.

The amateurs' Jubilee trophy for the best two dozen blooms, distinct, was won by Mr. F. Dennison, Leamington, who scored among seven competitors with a very bright, clean set of good sized blooms that included C. J. Grahame (silver medal H.T.), Mrs. E. Mawley, Lady Moyra Beauclerc, Lady Ashtown, Ulrich Brunner, Mildred Grant, Caroline Testout, W. Shean, Hugh Watson, F. K. Druschki, and Mdme. Jules Gravereaux; Mr. E. B. Lindsell second; and Mr. P. Foley Hobbs third. Mr. F. Dennison was also first for three dozen blooms, and here he had G. L. Paul, Caroline Testout, Her Majesty, Lyon Rose, and S. M. Rodocanachi as his best; Mr. E. B. Lindsell had again to be content with second place; and Mr. W. Boyes, Middleton-on-the-Wolds, was third; Mr. H. V. Machin, Worksop, was awarded an extra prize.

For eight trebles, Mr. H. V. Machin scored with A. K. Williams, Mildred Grant, J. B. Clark, Her Majesty, F. K. Druschki, Ulrich Brunner, Mrs. J. Laing, and Gustave Piganeau, all in good form; there were six competitors; Mr. E. B. Lindsell second, and Mr. Dennison third. For nine H.T. blooms, one variety, Mr. F. Dennison led with Her Majesty; Mr. Conway Jones second with Dean Hole; and Mr. Machin third with Mrs. T. Roosevelt.

In the division for growers of fewer than 1,000 plants, the Rev. F. Page Roberts annexed the premier award for six trebles with good specimens of F. K. Druschki, Mrs. T. Roosevelt, Mrs. J. Laing, Lady Ashtown, and Mildred Grant; Rev. R. Powley second, and Mr. W. Jarratt, Thorpe, third. The Rev. F. Page Roberts, Strathfieldsay Rectory, Mortimer, led for eighteen blooms, and he had Earl of Warwick, Mrs. J. Laing, Mildred Grant, and F. K. Druschki in good style; Rev. R. Powley, Upton Scudamore, second; and Mr. W. Jarratt, Thorpe, Gloucester, third. Rev. R. Powley scored for six H.P. roses, one variety, with Frau Karl Druschki; Mr. Jarratt, Thorpe, second, with Gladys Harkness; and Rev. Page Roberts third with F. K. Druschki.

In a lower division Dr. Lamplough, Alverstoke, scored for a dozen blooms, with Miss Fisher, Potterne, Dorset, second, and Mr. M. Whittle, Leicester, third. Mr. G. W. Cook, Radstock, Whetstone, scored for nine blooms in a class open to growers of fewer than 1,000 plants, and he was followed by Mr. A. C. Turner, Walton-on-Thames, and Dr. Hayes, Dunster. In a lower division Mr. Upton and Mr. Richards were first and second respectively for nine blooms, and in the same division Mr. W. Partington, Petersfield, led for six blooms, followed by Rev. T. Kershaw, Corsley, and Miss H. C. Aylmer, Southampton.

In the extra amateurs' class Mr. Upton was first for four trebles, with Dr. Hayes second, the latter gaining a silver medal for his Maman Cochet. Dr. Lamplough had the best six blooms of one variety—Bessie Brown; while for six blooms of new roses Mr. Conway Jones scored with Lyon Rose, Lady Ursula, Queen of Spain, Molly Sharman Crawford, Avoca, and Albatross; Mr. Dennison was second, and Mr. W. Boyes third.

In the open amateurs' class for a dozen tea roses, Mr. Alex. Hill Gray, Bath, scored for White Maman Cochet, Mdme. Blanche Martignat, Molly Sharman Crawford, Mdme. Jules Gravereaux, Medea, Mdme. Cusin, Muriel Grahame, Mdme. H. Berger, Dr. F. Guyon, Maman Cochet, E. V. Hermanos, and Mrs. E. Mawley, all very bright and clean; Mr. Conway Jones second. Mr. A. Hill Gray had the best nine flowers of a tea rose, and he showed White Maman Cochet; Mr. Conway Jones second, with Mdme. Jules Gravereaux.

In another division the Rev. R. Powley came to the front for nine tea roses, distinct, followed in order by Mr. W. Jarratt, Thorpe, and Mr. R. Foley Hobbs. Dr. Hayes, Dunster, had the best six tea roses, a good set, with Dr. Lamplough second, and Mr. A. Searle, Bassett, third.

In an extra class for six tea roses, three blooms of each, Mr. A. Hill Gray was well to the front again with Souv. de Pierre Notting, Auguste Comte, Mdme. Constance Soupert, Maman Cochet, Mdme. Jules Gravereaux, and White Maman Cochet; Rev. R. Powley second, and Mr. Conway Jones third. For six blooms of any tea rose, Mr. M. Whittle scored with Mdme. Jules Gravereaux, with Dr. Hayes second, and Mr. Whittle third.

The Rev. J. H. Pemberton, Havering, Essex, scored for a dozen bunches of decorative roses, and his bunches of Una, Mdme. Alfred Carriere, Lady White, and Lady Curzon were especially good; Mr. H. V. Machin second. Mr. A. C. Turner, Walton, led for six bunches of decorative roses, followed in order by Rev. R. Powley, and Mr. G. W. Cook.

DECORATIVE CLASSES.

Miss Hammond, Burgess Hill, led the way for a bowl of roses with a tasteful arrangement of Irish Elegance; Mr. C. Hall second, and Mrs. G. W. Cook, Whetstone, third. For a vase of roses, Mrs. Colston Hall, Warminster, scored a first, with Mrs. Carey, Stratford-sub-Castle, second; and Mrs. G. W. Cook third. Miss E. Burtt, Winterbourne, Dauntrey, led in the table decoration class with a light arrangement of Dorothy Perkins; Mrs. G. W. Cook second, with Lyon Rose; and Miss Hammond third, using the single Muriel Jamieson.

Ipswich.

In the beautiful grounds of the Upper Arboretum, the Ipswich and East of England Horticultural Society held a splendid exhibition on Thursday, July 7. One large cruciform marquee was well filled with roses, herbaceous flowers, groups, and plants; another tent was occupied by floral decorations and hosts of sweet peas; and yet another tent held a splendid display of fruits and vegetables.

CUT FLOWERS.

Cut flowers are always a strong feature at Ipswich, and this year, despite the weather, the display was well up to the average. The silver challenge cup for thirty-six roses was won by Messrs. D. Prior and Son, Colchester, in whose set Frau Karl Druschki, Liberty, Dr. Andry, Avoca, and Mrs. Laing were finely shown. Messrs. Frank Cant and Co., Colchester, were a close second, and they had a perfect bloom of the rich-hued Richmond, which secured the silver medal as the best bloom in the open classes. For a dozen trebles, a dozen teas or noisettes, six blooms of one H.P., six blooms of a T. or noisette rose, and for a dozen tea or hybrid tea roses, Messrs. D. Prior and Son secured premier awards, and in most cases were the only exhibitors. For twelve long-stemmed blooms of a H.P. rose Mr. E. W. Mowers, gardener to W. F. Paul, Esq., Ipswich, led with Frau Karl Druschki, very clean and good, with Messrs. D. Prior and Son second with larger blooms of the same variety, but less perfect in form.

In the amateurs' classes for roses the good old favourites, Frau Karl Druschki, Mrs. J. Laing, Caroline Testout, and Horace Vernet, and such moderns as Mrs. E. Mawley, Richmond, and Mildred Grant, were all very much in evidence. Mr. W. Cooke, gardener to the Rev. H. Berners, Polstead Hall, Colchester, scored for twenty-four blooms, and for twelve teas, and was second to Mr. F. Farrow, gardener to F. Corder, Esq., Ipswich, for twelve blooms, the latter showing Oscar Cordell, Caroline Testout, and Frau Karl Druschki finely; Mr. B. S. King, Rushmere, second. Mr. Corder led for six H.P.'s, one variety, with Frau Karl Druschki, and had the best (silver medal) bloom in this set. Mr. B. S. King led for six teas and six H.P.'s, distinct, but Mr. Corder was to the front again for six tea roses, and for twelve blooms, not more than two of one variety. For three vases of roses Mr. Corder was to the front with fine arrangements of big blooms, with Mr. Cook second, and Mr. Salter, gardener to Colonel Reade, Stutton Hall, third. Mr. Andrews, gardener to the Hon. W. Lowther, Campsea Ashe, was first for garden roses.

Thirty-six bunches of herbaceous flowers makes a big class, and here there were two entries; Mr. R. C. Notcutt, Woodbridge, scored, and had good liliums, yellow irises, alstroemerias, delphiniums, galega, campanulas, spiraeas, etc., well set up. Mr. C. Jacobi, Henley Road, Ipswich, second, with some fine gaillardias, delphiniums, anthemis, campanulas, etc., but with smaller bunches than Mr. Notcutt had. Mr. H. Rogers, gardener to Lord Rendlesham, Rendlesham Hall, had the best set of four varieties of carnations, three blooms of each, with Malmaison varieties. Mr. Andrews had the best set of six bunches of irises, and showed English varieties well. Twelve spikes of delphiniums formed an effective class, and here Mr. Notcutt just managed to beat Mr. Andrews, but both had splendid spikes of these useful stately flowers.

Mr. F. J. Cheesman, Barham, led for a dozen bunches of sweet peas in the open class, in face of a keen competition, and he had pink varieties conspicuously good; Mr. B. Brooks, gardener to C. K. Norman, Esq., Brantham, second. There were from six to a dozen entries in most of the sweet pea classes open to amateurs, and it was interesting to notice that such varieties as Constance Oliver, Frank Dolby, Mrs. C. W. Breadmore, Countess Spencer, Etta Dyke, and Mrs. A. Ireland were very popular and well represented. Mr. Cheeseman led for nine varieties, with Mr. S. Farrow, gardener to Mrs. Luther Holden, Rushmere, second; and Mr. G. E. Gooding, Ipswich, third. Mr. W. F. Paul scored for nine bunches of twenty spikes each, while for nine bunches of twelve spikes each Mr. Andrews just managed to beat Mr. Paul, his flowers being cleaner and fresher. Mr. E. Beaumont, gardener to Mrs. H. J. Shaw, High View, Belstead Road; and Mr. A. Hanson, Ipswich, were other leading prizewinners in classes for sweet peas.

Mr. Donald C. Warnes, Bramford, Ipswich, annexed the silver cup for eighteen bunches of hardy flowers, with Mr. R. Dow second; this is the second time Mr. Warnes has held the cup, and he was again a good first with popular border flowers and roses. The silver cup for six bunches of herbaceous flowers fell to Mr. T. Vinyard, with Mrs. Watkins, Carisbroke, Westerfield Road, a good second.

PLANTS AND GROUPS.

In the plant classes Mr. Paul scored for a specimen foliage plant with a well-coloured croton, and for a specimen flowering plant with a huge hydrangea. Mr. V. D. Colchester, Ipswich, had the best three ferns, showing beautiful plants of the maidenhair fern in the best possible condition. Mr. C. Boughey, gardener to the Rev. A. C. Johnson, Capel, scored for three hydrangeas, with large plants well furnished with large trusses of fine pink blooms. Mr. C. R. Steward, Anglesea Road, was to the front with six gloxinias, but he should not have left the cotton wool protection at the base of each flower—it spoiled the effect of his set. Mrs. W. H. Burroughes, Burlingham, Ancaster Road, had the best six tuberous begonias, but none of the entries in this class were quite up to the mark. Mr. Boughey had the best six zonal pelargoniums in a keen competition, and his neat, well-grown plants carried fine trusses of bloom; Mr. T. Vinyard second. Mr. Boughey was also first for an ivy-leaved pelargonium with a big Souv. de Charles Turner.

There were numerous group classes, but in most of the displays overcrowding was all too much in evidence. Mr. H. J. Southgate, St. Helen's Nursery, Ipswich, led in the open class with a pleasing exhibit, in which coleuses and begonias provided excellent colouring; Mr. V. D. Colchester second. Mr. W. F. Paul beat Mr. Colchester for a semicircular group of tuberous begonias, and had much the best exhibit, both culturally and artistically. Mr. S. Farrow scored in the amateurs' division for a group 9ft. by 5ft., and he had a very lightly disposed exhibit of popular greenhouse flowering plants; Mr. W. P. Burton, Ipswich, second, with a heavy-looking group. For a smaller group Mr. Paul was first, and Mr. Burton second.

FRUITS AND VEGETABLES.

Mr. W. Messenger, gardener to C. H. Berners, Esq., Woolverstone Park, was the chief prizewinner in the class for a decorated table of dessert fruit, winning with a splendid display of magnificent figs, good grapes, peaches, melon, nectarines, strawberries, etc. Mr. Andrews came second, but gained the highest points for decorations with cattleyas and francoa sprays and oleander blooms; Mr. W. F. Paul third. In the class for white grapes Mr. Messenger and Mr. Andrews were first and second respectively with Muscat of Alexandria, and they occupied similar positions for black grapes with Black Hamburgh. Mr. Messenger scored for nectarines, for peaches, for four dishes of strawberries, and for heaviest dish of strawberries.

In the vegetable classes Mr. Andrews scored in wholesale fashion, and had splendid produce all through; he was first for collections in Messrs. Sutton's, Webbs', F. Smith's, and Notcutt's classes, and led for potatoes, cauliflowers, carrots, etc. Mr. Messenger, Mr. Dow, Mr. H. Okedon, Mr. S. Farrow, Mr. C. B. Cowell, and Colonel Read were other leading prizewinners in the very fine vegetable division of the show.

NON-COMPETITIVE.

Mr. R. C. Notcutt, Woodbridge, had a pleasing array of hardy flowers and a miniature water garden. Mr. C. Buck, Ipswich, had roses and other hardy flowers, and a pool, in which ducks disported and round which irises, etc., were planted. Messrs. J. K. King and Co., Coggeshall, and Mr. W. O. Cautley, Nowton, Bury St. Edmunds, both showed sweet peas extensively, and groups of hardy flowers were contributed by Messrs. Fred Smith and Co., Woodbridge; Messrs. Abbott and Sons, Ardleigh; and Messrs. Thompson and Morgan, Ipswich.

Walsall Floral Fete.

JULY 18.

Ideal show weather ushered in the thirty-first annual floral fête of this enterprising society, which is so admirably managed by the committee and its capable secretary, Mr. W. H. Saunders. As usual, the show was held in the public arboretum, with its picturesque and spacious landscape features. The exhibition well maintained the traditions of the society.

PLANTS.

The leading feature was formed by the groups of plants arranged for effect (not to exceed a 12ft. circle). There were three groups, and the chief honours were obtained by Mr. G. V. Macdonald, gardener to Sir G. H. Kenrick, Whetstone, Edgbaston, and the artistic exhibit formed a pleasingly effective contrast to the larger one, which secured second honours at the recent show held at Wolverhampton. A very good second was Mr. W. R. Manning, Dudley, who had a well-balanced and light arrangement. Mr. W. Vause, Leamington, was placed third, with an excellent group. It may be stated that richly-hued codiæums prevailed in all three exhibits. Ferns were a refreshing feature, and the large specimens staged by Mr. S. Morris (gardener to Mrs. Brace, Walsall), and Mr. John Smith (gardener to Captain A. D. Cozens), were highly commendable, and the prizes were awarded in order of the names. Excellent also were the collections of plants for table decoration. These consisted of fine foliage plants, and Messrs. W. R. Manning, Wm. Vause, and S. Morris were the respective winners of prizes.

CUT FLOWERS.

Roses were largely and well staged, the blooms being in the main fresh and bright. In the class for forty-eight blooms Messrs. Perkins and Sons, Coventry, scored; Mr. W. H. Frettingham, Beeston, Notts, second; and Messrs. J. Townsend and Sons, Worcester, third. For twenty-four blooms the last-named firm led with a smart collection; second, Mr. W. H. Frettingham; and third, Messrs. Perkins and Sons. For twelve roses the Coventry grower was to the front with fine examples of Count Raimbaud, Florence Pemberton, Horace Vernet, Queen of Spain, Lyon Rose, Hugh Dickson, Mildred Grant, A. K. Williams, Gustave Piganeau, Her Majesty, Frau Karl Druschki, and Madame Chedane Guinoisseau. The second and third prizes were allocated to Mr. W. H. Frettingham and Messrs. Townsend and Sons, in close order. In the class for twelve blooms (not less than six varieties), open to amateurs and gentlemen's gardeners, Mr. C. F. Hurst, Streetly, Mr. H. J. Kirby, Streetly, and Mr. W. H. South, Walsall, were the highly creditable winners.

Sweet peas were numerously staged, and claimed equal admiration with roses. In the class for six varieties (25 sprays being considered an ideal vase), Mr. W. Marple, Penkridge, led with beautiful examples of Isabella Lady Stainer, a delectable white, Syeira Lee, a gem, Helen Grosvenor, Queen Victoria Spencer, John Bolton, and Elsie Herbert; second, Mr. J. R. Burd, Penkridge, with Frank Dolby, Apple Blossom Spencer, John Ingman, Evelyn Hemus, Marjorie Willis, and Helen Lewis; and Mr. H. Wakeman, Freshfield, third. There were several other exhibits more or less meritorious. Pansies and violas were most attractively set up by Messrs. W. Pemberton, Bloxwich; Mr. W. Chapman, Erdington; and Mr. A. Marshall, Leamore; and won in the order named. Dinner table decorations, arranged by ladies only, were notable, especially in the winning exhibits, for much artistic taste was displayed by the competitors. Miss F. Jenks, Codsall, won the coveted position with an exquisite arrangement of pink sweet peas and Selaginella caesia, with also a few dainty fronds of maidenhair fern. Mrs. R. Chapman, Erdington, was a close second with pink carnations and sprays of Francoa racemosa.

Mr. W. Marple, Penkridge, offered prizes for six distinct varieties of sweet peas. Mr. J. Delbridge, Penkridge, had a walk-over with fine examples of Helen Lewis (2), Mrs. C. Foster, Paradise, Elsie Herbert, John Ingman (2), Frank Dolby, Marjorie Willis, Tom Bolton (2), Mrs. Collier, and Paradise Ivory. Messrs. Robert Sydenham, Lim., Birmingham, Lim., provided prizes for nine distinct varieties of sweet peas. The first honours fell to Mr. A. H. Hickman, Kidderminster, with a grand collection, comprising Helen Lewis, Mrs. Hardcastle Sykes, Etta Dyke, Paradise Ivory, Evelyn Hemus, The King, Constance Oliver, George Herbert, and Black Knight. A close second was Mr. W. Chapman, with Sunproof Cream, Etta Dyke, Black Knight, Countess Spencer, The Marquis, Mrs. Hardcastle Sykes, as the best; third, Mr. W. Delbridge. Messrs. Bakers, Wolverhampton, also offered prizes for six distinct varieties of sweet peas; and Mr. H. Wakeman, Finchfield, scored with a fine collection; Mr. J. R. Burd, Penkridge, second, and Mr. F. T. Massey, Finchfield, third.

For the society's prizes for twenty bunches of herbaceous cut blooms Mr. W. Chapman annexed the first honours with a well arranged assortment of bright and fresh flowers; second, Mr. W. Pemberton.

VEGETABLES.

Messrs. Webb and Sons, Wordsley, provided prizes for a collection of vegetables, six distinct kinds. Mr. E. Deakin, Hay Mills, won with neat and bright cauliflowers, onions, Intermediate carrots, Duke of York potatoes, Giant Long-pod beans, and a symmetrical dish of runner beans; second, Mr. E. Stonehouse, and third, Mr. A. H. Hickman, [illegible] with good specimens. Messrs. Daniels Bros., Norwich, offered prizes for six distinct kinds, and the winners were Mr. A. H. Hickman and Mr. W. Thompson, Walsall, with good exhibits. Mr. W. Pemberton, Bloxwich, provided prizes for a collection of vegetables, six kinds, and Mr. F. Webster, Walsall, and Mr. E. Stonehouse, Hammerswick, were first and second respectively.

Amateurs' and cottagers' productions were both numerous and highly creditable.

HONORARY EXHIBITS.

Silver medals were awarded to Messrs. Ellison and Son, West Bromwich, for [illegible]; to Messrs. Jarmans Bros., Walsall, for [illegible] designs; to Mr. Foden, for a collection of herbaceous flowers; to Mr. Gough, Wednesbury, for a collection of plants. Certificates of Merit were awarded to Mr. W. Marple, Penkridge, for new sweet peas, Federation, a beautiful rose and cream coloured self with white ground, and to Evelyn Stainer, a creamy white ground and lovely shade of pink. His Sir [illegible] Stainer, a beautiful deep carmine self, the judges desired to see again. Mr. W. Marple was awarded a silver medal for a collection of about three dozen varieties of sweet peas and half-a-dozen seedling delphiniums of promise.

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THE FRINGED PINK.

Were it not that it suffers so greatly in our winters that it is little better than a biennial with us, Dianthus superbus would be among the general favourites in a most delightful class of plants. It possesses the great virtue of fragrance, while the charmingly fringed petals add much to its attractions to the admirer of floral grace. The colour of the blooms is a kind of rose, as a rule, although it varies, and has a tendency to approach red. The petals are cut for almost half their length, and thus the flowers have a most distinct look we do not see in any other of the genus Dianthus with which I am acquainted. It varies in height, generally being from eight inches to as much as eighteen inches high. The leaves are rather like those of a sweet william in appearance, and the flowers rise well above the foliage.

This fringed pink delights in a rather poor soil, although it will grow vigorously on a rich one. It is in the former, however, that it has any chance of proving perennial, and it is thus worth while providing it with such a position as it prefers.

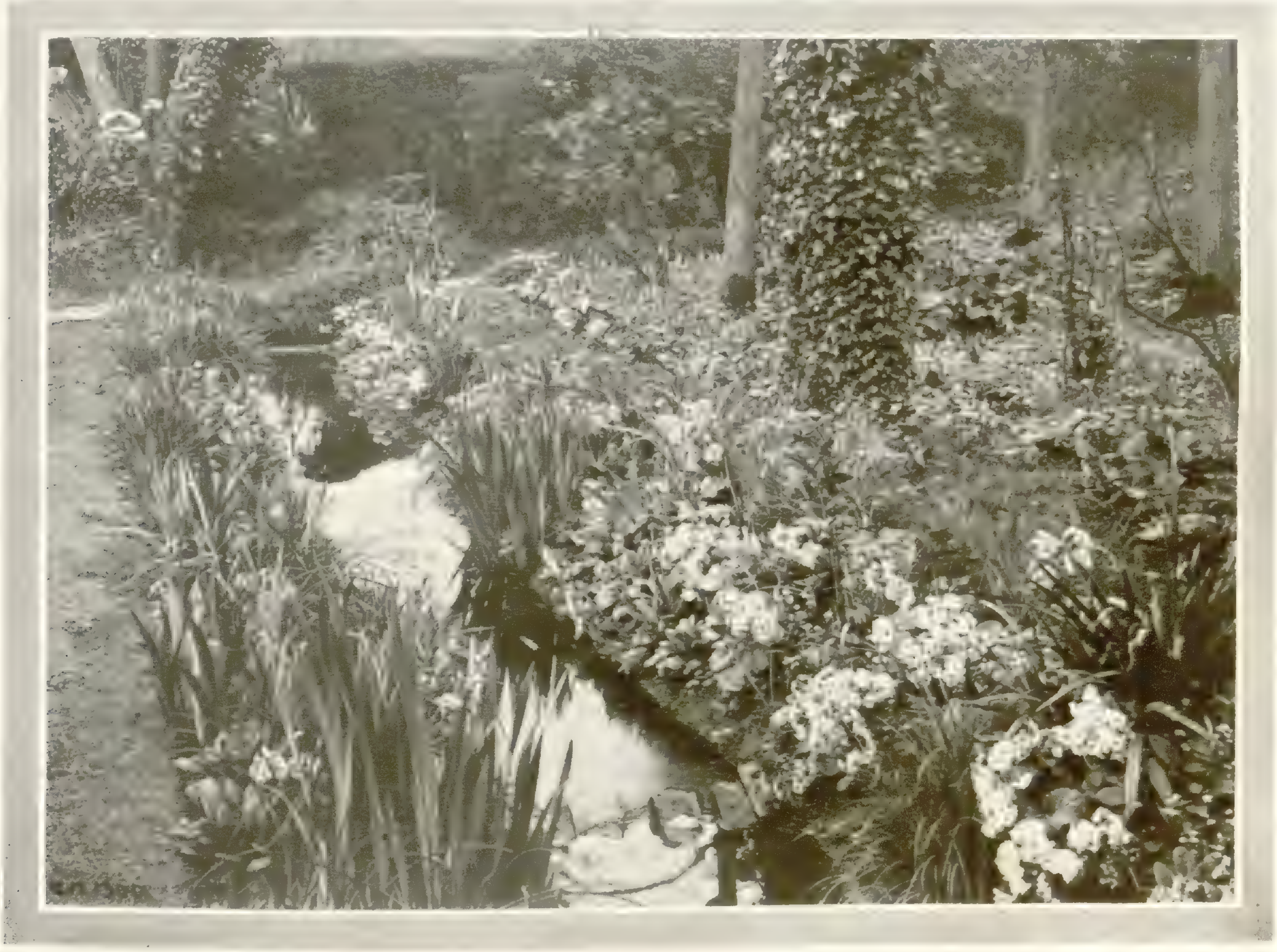
A choice position is not necessary, and a roughish part of the garden, with plenty of stones in the light soil, will give the fringed pink a better chance of remaining an occupant for two or three years.

It seeds freely, and seeds can be saved, or purchased, and sown in the open or under glass in May or June. It can be raised by putting a few seeds into the crevices of old walls with friable mortar, a little of which can be picked out and some soil put in, the seeds being placed a few together, and a little soil put on the top. Very small plants can also be put in. The short life of D. superbus is its great drawback, and this deters many from cultivating it. The late Rev. C. Wolley Dod raised hybrids between D. superbus and D. caesius, the Cheddar pink, and some of these are much more perennial in our climate than D. superbus itself. In addition to raising from seeds, which are easily procured from the seedsman or saved in one's own garden, D. superbus can be increased by cuttings or pipings, as in the case of the garden pinks. S. A.

PRIMULA OBCONICA BY THE WATERSIDE.

The great value of the varieties of Primula obconica in beautifying the conservatory and greenhouse from early in the autumn until the season of spring is well advanced is fully appreciated by the general body of horticulturists, and in a large number of gardens they occupy a prominent position among the plants grown for decorative purposes. Hitherto they have been used exclusively for the decoration of glass structures and indoor apartments, but recently attention has been directed to their suitability for enhancing the attractions of the flower garden, and a short time since an outdoor display came under our notice that proved to demonstration their adaptability for association with moisture-loving plants on the margin of water.

During the greater part of the ten years that Mr. J. Dickson has been head gardener at Woodside, Chenies, the charming seat of Adeline Duchess of Bedford, he has devoted a considerable share of his attention to the improvement of these primulas, and the success he has achieved in increasing the size of the flowers and the creation of new colours has been so great that their usefulness in the production of attractive colour effects has been materially enhanced. Not satisfied with the varied charms of the forms of Primula obconica as seen under glass, Mr. Dickson has turned his attention to their utilisation in water scenery, and employs them with good effect on the margin of a small stream that intersects the lower part of the wild garden, in which spring flowering bulbs annually constitute a surprisingly beautiful feature. Primula obconica and its varieties are not hardy, but when planted in a sheltered position, as at Woodside, they are well able to resist the effects of late spring frosts, and can be depended upon to produce a bright display of flowers from the time they are planted out until they are destroyed by severe frost in the autumn. The manner in which the plants are arranged on the banks of the stream is so clearly shown in the accompanying ilustration as to render description unnecessary. It must, however, be mentioned that the plants are put out about the middle of May, and strong examples in full bloom are invariably selected for garden adornment. As will be seen, the beautiful Primula Cashmeriana grows with great vigour, and blooms freely on the banks, as also do other primulas and polyanthuses in variety. G.



PRIMULA OBCONICA BY THE WATERSIDE

In the gardens of Woodside, Chenies, the residence of Adeline, Duchess of Bedford.

Weigela Eva Rathke.—This is now a well-known shrub, but, though it was distributed about twenty years ago, it still (as far as my experience goes) stands out as the most continuous flowering of all the varieties in cultivation. Out of doors its claret-red blossoms are borne throughout the entire summer.—W. T.

Erica cinerea.—Just now the different varieties of this erica form an exceedingly attractive feature among hardy heaths. A great point in favour of this species is that it comes into beauty after the spring-flowering kinds are past, and serves to bridge over the season until the heather develops its blossoms. In colour, the flowers of Erica cinerea vary from white to bright red.—W. T.

BELVEDERE ST. LAWRENCE, ISLE OF WIGHT.

Lord Walsingham has for many years taken the greatest interest in this garden, and has sent there numerous rare and tender plants, which he has procured from the Continent. I have visited it on several occasions, and, being in the Isle of Wight this summer, motored over to have another look at it.

Since my last visit there have been serious losses. The winter four years ago was a very severe one for that locality, 13 degrees of frost being registered, and the thermometer was down to that point for several days consecutively, while the wind was very cutting, and many of the tenderer subjects succumbed. The most serious loss was a splendid bush of the very rare Lagunaria Patersoni, from Norfolk Island. This shrub was 6ft. in height and 6ft. through, and every summer was covered with flowers. Belvedere is probably the only garden in England where this extremely scarce plant was successfully grown in the open. The echiums, of which there were quite a number in the old days, were also lost, as was a fine bush of Sparmannia africana, about 10ft. high, which flowered profusely; and many other plants perished.

However, in spite of this unfortunate experience, there are still a large number of rare and interesting plants in the garden. Watsonia Ardernei blooms finely here, as it does in other gardens in the Isle of Wight, and Hydrangea scandens was growing very strongly. There was a healthy young plant of Brachyglottis repanda, which should do well, as it flourishes to perfection in South Devon, and flowers freely. There was an extremely large and fine example of the beautiful autumn-flowering Perowskia atriplicifolia. I noticed a plant labelled Cornidia integerrima, a name that I am unable to find in the horticultural dictionaries. Drimys Winteri, 8ft. high, had just concluded its flowering, but Sophora flavescens was bearing its clusters of yellow blossoms. Purshia (Onosmodium) tridentata was studded up its stems with pale yellow flowers, and Salvia dichroa, for which this garden is famous, was commencing to perfect its flower spikes. This plant is a native of the Atlas Mountains in North Africa, whence it was introduced by Lord Walsingham. It dies down early in the autumn, and throws up new growth in October or November, which is sometimes injured by the frost. Though quite unprotected, I have never lost it, though it has died in colder districts in Devonshire. With me it exceeds 9ft. in height, and is a splendid sight when in full flower. I believe it is not in commerce. Of olearias there were a good specimen of O. macrodonta, several bushes of the uncommon O. Traversi, O. Fosteri, and O. stellulata. Fuchsia boliviana hybrida, 5ft. in height, was exceedingly pretty, with its clusters of long, drooping crimson flowers, as was the pink-blossomed Escallonia suspensa, a plant that is not mentioned in Nicholson's "Dictionary of Gardening." Shepherdia argentea was 10ft. high, and the Himalayan Hovenia dulcis, a white-flowered evergreen, was 8ft. in height.

There were great masses of Platycodon grandiflorum, and Æthionema grandiflora was a sheet of pink blossom, and there was also a large colony of Chelone (Pentstemon) barbatum, while a great group of Mertensia virginica was in full bloom. Lavatera maritima bicolor, common in the south-west, was doing well, and there was a healthy tree of Edwardsia (Sophora) microphylla 8ft. high, though it was said not to flower very freely. A curious creeper was Ephedra altissima, from Northern Africa. This is a very rampant grower, and had entirely covered with a maze of slender shoots a broken-down tree to a height of 8ft. Cytisus elongatus, unnoticed by Nicholson, was about to perfect its yellow blossoms, and Jasminum primulinum was the picture of health. Cassia floribunda appeared to be very similar to the better-known C. corymbosa, which is so largely grown in the open in Devon and Cornwall. Rehmannia angulata, which remains out all the winter, was in full flower, and very healthy, and there was a large colony of Gentiana thibetica, a herbaceous species, which dies down in the winter, and bears white flowers.

There were twelve little bushes of bouvardias, but they were badly cut down by the frost four years ago, and were not as large as at my previous visit. The sorts are the scarlet B. triphylla and the white Alfred Neuner. Veronica exaltata is a pretty variegated shrub, but Nicholson does not mention it. There were great bushes of Bowkeria Gerardiana, formerly known as B. triphylla. It is a native of South Africa, and bears a profusion of white flowers about an inch across, much resembling a calceolaria in form. It is a very rare shrub, and not in commerce, but succeeds admirably in South Devon. The Mexican Fendlera rupicola was smothered in narrow-petalled white blossoms about an inch across, and was a very pretty sight. At Belvedere it seeds freely. Stauntonia latifolia had formed an impenetrable mass over some rockwork, and Muehlenbeckia complexa had ascended a tree with a tangle of twining shoots to a height of 20ft.

There is at Belvedere a large specimen of Clematis tangutica, which has never flowered, though far smaller plants, the produce of seed procured from another source, have bloomed freely. This spring, when I was in Cornwall, I saw a very large specimen of this clematis, which its owner informed me had never flowered, so that there is evidently a shy-blooming form of it. Salpichroa rhomboidea, a native of Buenos Ayres, was a pretty climber, bearing countless small white flowers. A large colony of Brodiæa laxa in full flower made a delightful picture, and Bletia hyacinthina was blooming well, while a fine specimen of Kniphofia Northiæ was blossoming. Pancratium illyricum was evidently quite at home, as it flowers with the greatest freedom, and numbers of self-sown seedlings have sprung up around the parent plants.

Cyclamen persicum, generally a greenhouse plant, here thrives in the open on a sloping bank, and as many as 200 flowers have been produced by a single corm, while freesias, ixias, sparaxis, babianas, and tritomas are present in quantity. Cypripedium spectabile was in fine flower, and was evidently happy, while the splendid Ostrowskia magnifica was also in bloom. Curcuma angustifolia, with white flower spikes, was very attractive. This species is not alluded to by Nicholson.

Polygonum baldschuanicum had rambled for a long distance over the top of a pergola, and made a very pretty picture with its innumerable drooping flower clusters. A very fine plant of Solanum aviculare, many feet in height and diameter, was growing in front of a summer house, and was bearing its violet-purple flowers in abundance. This is a tender subject, and is often killed in the winter in South Devon. Of climbers there were present Vitis Thunbergi, which assumes gorgeous colouring in the autumn; Akebia lobata, Thladiantha dubia, a Himalayan plant remarkable for its brightly-coloured fruit; Bignonia Tweediana, growing over a summer house; Actinidia chinensis that had made shoots over 15ft. in length; Ramondia Nathaliæ was flowering well; and Androsace lanuginosa was a sheet of bloom; great clumps of Agapanthus umbellatus were the picture of health, and were commencing to throw up numerous flower spikes; and Erythrina crista-galli and Jaborosa integrifolia were evidently at home, and the rare Incarvillea compacta was flourishing.

Among the other shrubs noticed were Daphniphyllum glaucescens, Osteomeles anthyllidifolia, Cestrum elegans, Jamesia americana, with white corymbs of flower; Mallotus japonicus, just coming into bloom; Calophaca Woolgarica, Diervilla Eva Rathke, Tricuspidaria lanceolata, Deutzia kalmiæflora, the most beautiful of all the deutzias; Potentilla fruticosa, 5ft., with yellow flowers; Correa viridis, Nandina domestica, Carpenteria californica, Lagerstrœmia indica, 7ft. in height; Xanthoceras sorbifolia, 12ft.; Halesia tetraptera, 16ft.; Diospyrus cordata, Cassia corymbosa, Leonotis leonurus, Sutherlandia frutescens, Callistemon salignus, Clianthus puniceus, Distylium racemosum, just coming into flower; Clerodendron trichotomum Feijoa Sellowiana, and Parrotia jacquemontiana, which bears yellow flowers.

There was also a bed of seven good bushes of Citrus trifoliata, which should be handsome if they bloom well. Mesembryanthemums were a gorgeous sight, and there was a splendid collection of succulents planted in the crannies and fissures of the natural rock, which crops out in the garden. Among these were noted Opuntia salmiana, O. humilis, O. Rafinesqui, O. arborescens, O. xanthostema rosea, O. glauca, Agave Victoria Regina, Cereus peruvianus, C. flagelliformis, Mammillaria centricirrha, M. missouriensis, Echinopsis Zuccariniana, E. Eyriesi, Gasteria verrucosa, and numbers of other plants of the same section, many of which were in flower. There were large masses of Campanula punctata, a plant that is rare in gardens, and the pretty white Gazania nivea longiflora was an interesting plant. In the pond in front of the house, in which the best of Marliac's water lilies are grown, was Crinum aquaticum, which bears pink flowers, and Thalia dealbata. On a wall near the pond was a good plant of Cantua dependens, which often flowers well. On the house were climbing Clematis Nellie Moser, Clematis The Gem, blue; Ceanothus Veitchi, Jasminum primulinum, Ampelopsis sempervirens, which died down last year, and is now about 7ft. in height again; Bignonia grandiflora, and white Banksian rose.

Mandevilla suaveolens had reached to the eaves of the house, and was very strong, but last year, from some unexplained cause, it died down to the roots and is now breaking again from the base. Other plants in this portion of the garden were Romneya Coulteri, Dianella nemorosa, throwing up flower spikes over 2ft. in height, bearing lavender-blue flowers, Plectranthus fruticosus, and Andromeda japonica. The most ornamental of the climbers on the house at the time of my visit was undoubtedly Actinidia arguta, not mentioned by Nicholson, which had grown to the eaves of the house, and was covered with countless clusters of white flowers with black-tipped stamens.

Wyndham Fitzherbert.

NOTES FROM HERE AND THERE.

A strong characteristic of the rosarian is his intense enthusiasm, and the man who is in a position to grow hundreds of plants displays it to a marked degree when he is preparing his blooms for exhibition in July, but not one bit more so than the humble cottager, who, with his three dozen plants to cut from, brings all his skill as a grower and exhibitor to bear in order that he may board his modest dozen blooms at his own particular show. Tell it not in Gath, but it was on a Sunday evening recently that I spent a delightful hour in the garden of a cottager rose grower who was preparing for a show in the following week, and was fearful lest he should not be able to get a dozen blooms in the varieties asked for. How he bemoaned the fact that his best Mrs. W. J. Grant was just over, and with what concern did he bend over a promising-looking Druschki flower, and tie up the petals with a bit of soft wool! We went on from one plant to another, considering the prospects of this and that bloom for the show, wondering whether one would be over, and another not open enough, and the reward for all the preparation and dead earnestness of the man was, at the most, a seven and sixpenny prize. But there was the honour, I must not forget that, and the intense desire of the grower to beat a workmate of his who is also a keen rosarian. The initial expense was little, for the man had budded most of his roses with his own hands, his shades were primitive and home-made, and by force of necessity everything had been done with a view to economy, but no exhibitor in a class for seventy-two could display more zeal and whole-souled interest in the cult of the rose.

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Speaking of roses, how the varieties of the rambling type have come to the front in the past few years, and, go where you will, you see attempts at pergolas clustered over with these charming members of the rose family. What you see at such shows as the Temple and Holland Park one year you get in gardens the years following, and as I write the gardens of cottagers and amateurs round about are aglow with Crimson Ramblers and Dorothy Perkins. These roses, by the way, have dropped out of Temple Show company merely through the fact that they are commonplace, and their places are taken by newer introductions, such as Excelsa, White Dorothy, Coquina, Debutante, Milky Way, and Minnehaha, but it does not take long for roses to be distributed, and it is surprising how quickly this is done even while the varieties are in the novelty stage, and the plants are at novelty price. I do not think that the popularity of other sections has declined one bit as a result of the advance of the ramblers, but it simply means that one more item has been added, and by the addition the interest in roses has increased. The rambling roses appeal to all, for they are beautiful in the extreme, and they grow for the most part in a delightfully luxuriant manner, in which one sees Nature as she appears in wild creation. Therefore I think the interest in this section must advance rather than decline.

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"Have you a Japanese garden yet" "No; but I hope to have one soon." This little dialogue recently passed between two ladies who are noted for always being in the fashion where gardening is concerned, and I am reminded by it that Japanese gardening is the latest craze. Probably it has been increased by the examples of Japanese art in gardening that are on view at the Japan-British Exhibition; but I am wondering whether we have anything to gain by introducing Japanese ideas into English gardens. In Japan the Japanese style is correctly in keeping with the country, and the tastes of the people, but I wonder how many of the visitors to the Temple and Holland Park Shows were impressed with the specimens of Japanese gardens displayed, except in the sense that they were novelties, and pretty. I have seen several miniature Japanese gardens, with their pools, bridges, pigmy trees, stone lanterns, and the rest, and I have thought what wonderful fellows these Japanese must be, and then I have compared their creations with some old English gardens I know, where nothing is cramped and limited, and I have concluded that, whatever may be right for Japan, there is nothing for England like an English garden. In the way of ornament some may admire a stone lantern, but it flavours of the East, and for an English garden I should much prefer the disused stones from an old cider mill, such as are usefully employed with pleasing effect in many an old-world garden in the West of England.

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In reading the leader on experiments in fruit culture which appeared in a recent issue of the Gardeners' Magazine, I note that at Woburn the experiments have proved that unpruned trees have given the best results, while those severely pruned are the least satisfactory. This information is useful to the market grower, who, by the way, has learnt that severe pruning is by no means profitable, but I am afraid it does not help the private gardener much, because he is bound by the laws of necessity to be a severe pruner. He has a kitchen garden, where he has to grow a supply of vegetables for household use, and by right of custom the vegetable quarters are surrounded by bush and pyramid trees, which are expected to produce their annual contribution to the fruit room. What is the gardener to do? While the trees are small there is nothing to trouble about, and he can withhold his pruning knife, but as they grow bigger he sees them encroach further and further on to the vegetable ground, and there is no help for it: they must be kept back. I will admit that the kitchen garden method of fruit culture is cramped and unnatural, so far as the pruning goes, and the trees, encouraged by the manure given to the vegetables, make rank growth, and ask as plainly as trees can, let me grow, and I will bear more fruit, but the gardener is a victim of circumstances, and for the sake of the cook and the kitchen he has to deny them. I contend that the gardener who succeeds by judicious root pruning and summer pruning in getting average crops of fruit, and keeping the trees within the limits of the space alloted to them, should be complimented on his skill as a fruit grower, and not be criticised because force of circumstances compel him to be a hard pruner. I see mistakes sometimes when the gardener keeps the head of the tree back by pruning severely but lets the roots have full play, and the result is that he grows wood that is more suitable for flower stakes than for producing fruit; but there are many skilful gardeners who know how to hold the balance even, and they do what is expected of them—grow fruit and vegetables as well on a limited space. If every gardener were provided with a kitchen garden in which to grow his vegetables, and a plantation or orchard for his apples and pears, he could then withhold his pruning knife, and allow his trees to grow more freely and naturally, but as things are he must remain a pruner of the more severe order, and do the best he can.

H.

THE VICTORIA PLUM.

This is undoubtedly the most popular plum of the present day, alike with the amateur and the market gardener, and, taking it all round, it is the most useful plum of its season. If one has space for only one plum tree one would not go far wrong in planting this. In 1907, that remarkable plum year, a grower told me he sold plums at £5 a ton, but as soon as the Victoria season was over he was able to get 10s. a bushel nearly £20 a ton. It is lacking in flavour except when grown under the best conditions, as on a wall, and allowed to hang until it is thoroughly ripened. It is then juicy and sweet. An important point in its cultivation is the thinning, which should never be omitted, as the fruit is of poor quality otherwise, while the tree may be exhausted for one, or perhaps two, seasons afterwards.

The Victoria succeeds in any form of tree, but it is a plum with a character, with considerable individuality. One of its peculiar traits is its liability, in some soils and situations, to the loss of whole branches by gumming. This loss may be reduced to a minimum by doing the final pruning as soon as the fruit is picked, instead of cutting the tree when the leaves are off. If such pruning as is necessary is done in mid-September there is a month or more for the wounds to heal up by the bark growing slightly over the cut edge. Another peculiarity of the tree is that of making very strong shoots, not necessarily from all parts of it, but sometimes only one or two on the tree. If these are allowed to run their full length they become very brittle, and if they ever bear a heavy crop of fruit they will probably break with the weight of it. This can be avoided by pinching out the points of these gross shoots as soon as they are noticed, and so preserving a balanced growth. This is a better way than letting the shoots grow their full length and then cutting them back late in the autumn, as they attain too great a strength, but either way is better than leaving the shoots till the winter, for shortening then is very likely to induce gumming. With trees which have been in full bearing a few years some recommend the thinning of the fruit spurs. This is easily done with dwarf trees, but less easily with standards, though it would pay even better with the latter in the increased size and improved quality of the fruit, with reduced loss from broken branches.

The Victoria is one of those famous varieties of fruits we owe to chance, for it was found growing in a garden at Alderton, in Sussex. It was first called Sharpe's Emperor, and was afterwards sent out by a nurseryman named Denyer, at Brixton, at a high price, as a new variety, in the middle of the last century. Alger Petts.

Mushrooms.—The late beds inside have been very fine indeed for the time of year. This is attributed chiefly to the external conditons which in this part have been invariably wet, with the exception of a dry week during June. It is wise to always spawn a bed inside during May, and thus be independent of the beds that are made up outside. These latter are the better if fresh material is placed over them, removing entirely that which has become decayed; at the same time, look closely for slugs.—G. Ellwood.

HYPERICUMS.

The numerous species of hypericums flower late in summer and early in autumn, and seeing that the majority of shrubs bloom at an earlier period, their brilliant colouring is very welcome. In common with many other families of plants very considerable diversity is found both as regards habit, size, and growth, and, further, they are widely distributed geographically, being found in Europe, Asia, Northern Africa, and North America. Almost without exception they are impatient of root disturbance, but established plants, groups, or colonies can be maintained in rude health over a long term of years by judicious thinning and pruning, together with enrichment of the soil with manure each winter, or season.

The hypericums are not adapted for very hot and dry positions, and seldom appear happy so placed, while, on the other hand, they are found to grow vigorously in partial shade.

Propagation is a very simple matter, as a stock can be raised either from seeds, layers, or cuttings. The seeds germinate readily when sown in pans, and placed in an unheated frame in spring. The seedlings, when large enough, should be planted in nursery beds in the reserve plot. Cuttings may be inserted early in the autumn, preferably in a bed of sandy soil made up in an unheated frame, and with the following spring they will start away very freely, and speedily grow into bushy little specimens. Layering can be carried out at any time, and I would advise that the selected growths be slightly notched at the point where they are pegged down, and held in position.

The following will form an excellent selection: H. densiflorum, which attains a height of about two feet, and has rich golden flowers. H. Androsæmum is a European species, and as seen planted in colonies of from six to a dozen plants is very effective. It bears large heads of yellow flowers, and the fruits are black when ripe. H. Hookerianum is worthy of notice, and perhaps may be regarded as one of the most desirable. It is a native of the Himalayas, and attains a height of four feet; the brightly coloured flowers are about two inches in diameter. H. Moserianum is free in growth, and possesses a continuous blooming habit, the display being maintained from midsummer until the autumn; the flowers are rich yellow. H. aureum is rendered very attractive by the fact that the lemon-coloured flowers possess rich golden stamens. It is of medium growth, and is seen at its best in September. The same applies to H. hircinum, a native of Southern Europe. H. Kalmianum is practically evergreen, or at least the foliage is retained until spring in the West of England. It is a native of North America, and rarely exceeds two feet in height. H. elatum, from the Canary Islands, forms a handsome specimen, and should be represented in every garden. H. Buckleyi, which is a capital plant for carpeting large tufts, is very showy upon the rockery. This is not intended as an exhaustive list, but it represents the best for garden decoration.

Walter H. Aggett.

CATTLEYA MENDELI STUART LOW.

A remarkably fine form of this handsome species. The flowers are pure white except that the throat of the lip is soft yellow. F.C.C., R.H.S., July 5. Messrs. Stuart Low and Co.

SOME GOOD ROSES FOR THE GARDEN.

Papa Gontier is not a new rose, it is an old one, but certainly not grown so extensively as it deserves to be. For many years I grew it in a corner facing north-east where, it seemed to me, there was always a cold current of air passing, even on hot summer days. The rose in question grew freely and flowered profusely; in their bud stage the blooms were long, pointed, and of exquisite colour. The foliage was ample, large, glossy, and never bore traces of mildew. For such bleak positions I can strongly recommend this variety, as it will thrive in an almost pure clay medium.

Comtesse de Nadaillac is generally recommended for exhibition only, but I have found it an excellent garden rose, and, moreover, very good for walls. I grew it in a cold north border, and trained the branches to a wall about 6ft. high, and the plants did remarkably well. The variety Madame de Watteville was similarly grown, and with equal success. Young shoots grew readily from the base of the plants, and the flowers borne on these were, in regard to both varieties, very richly coloured.

G. Nabonnand can scarcely be surpassed as a true garden rose. Its long, pointed buds, opening pale flesh colour with centres, are exquisite. The bushes are growing, and bear flowers from June October.

G. B.

NEW PLANTS, ETC.

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NEW ROSE EDWARD MAWLEY.

A large deep crimson hybrid tea rose, raised by Messrs. S. McGredy and Son, and exhibited by them at the National Rose Society's Show, July 8, when it was awarded a Gold Medal.

CATTLEYA MENDELI STUART LOW.

A fine form of this handsome species. The flowers are large, waxy in texture, and pure white with golden throat. F.C.C., R.H.S., July 6. Messrs. Stuart Low and Co., Bush Hill Park Nurseries, Enfield.

ROSES.

Edward Mawley, H.T.—A remarkably distinct and effective variety; the blooms of full size, with large petals, the colour deep crimson. Gold medal, National Rose Society, July 8. Messrs. S. McGredy and Son, Portadown.

Mrs. Joseph H. Welche, H.T.—A distinct variety, the flowers large, and of good depth, the colour rich rose-pink. G.M., N.R.S., July 8. Messrs. S. McGredy and Son.

Lady Hillingdon, H.T. — A beautiful variety that will be found a useful addition to the roses of special value for the supply of cut flowers; the blooms are of medium size, and a deep yellow colour. G.M., N.R.S., July 8. Messrs. Lowe and Shawyer, Uxbridge.

Evelyn Dauncey, H.T.—A pleasing variety, the blooms of average size, and of good form, the colour rich salmon-pink. Silver-gilt medal, N.R.S., July 8. Messrs. S. McGredy and Son.

Mrs. George Shawyer, H.T.—A promising variety, the flowers of good form, and a pleasing rose-pink hue. S.G.M., N.R.S., July 8. Messrs. Lowe and Shawyer.

St. Helena, H.T.—A beautiful variety, the blooms large in size, full, and of fine form, the colour soft yellow, with deeper centre. S.G.M., N.R.S., July 8. Messrs. B. R. Cant and Sons, Colchester.

Mrs. Foley Hobbs, H.T.—A beautiful variety, the flowers large, of good depth, and superb form; the colour ivory white. S.G.M., N.R.S., July 8. Messrs. Alex. Dickson and Sons, Newtownards.

Mrs. Cornwallis West, H.T.—A distinct and beautiful variety; the blooms large, very full, of great depth, and finely formed, white, highly fragrant. G.M., N.R.S., July 13. Messrs. Alex. Dickson and Sons.

Mabel Drew, H.T.—An exquisitely beautiful variety, the blooms large and of fine form; the colour sulphur-yellow. G.M., N.R.S., July 13. Messrs. Alex. Dickson and Sons.

Arthur E. Coxhead, H.T.—A beautiful variety, the blooms of good size, with very broad petals, the colour deep rose-red. G.M., N.R.S., July 13. Messrs. S. McGredy and Son.

Mrs. Amy Hammond, H.T.—A distinct and beautiful variety; the blooms large and of superb form; the colour rich cream tinted with flesh-pink. G.M., N.R.S., July 13. Messrs. S. McGredy and Son.

Earl of Gosford, H.T.—A fine variety; the flowers large and of good form, the colour crimson with scarlet shading. S.G.M., N.R.S., July 13. Messrs. S. McGredy and Son.

Mrs. T. W. Massey, H.T.—A very pretty single rose of a pleasing shade of sulphur-yellow, reminding one in form of Irish Elegance. Card of Commendation, N.R.S., July 13. Messrs. S. Bide and Sons, Farnham.

Rescue, H.T.—A single variety with large rose-pink flowers having a yellow centre. C.C., N.R.S., July 13. Mr. J. Mattock.

NOTES ON SOME GARDEN PESTS.

Celery Fly.

This pest makes itself specially obnoxious in many gardens, and in some years does much damage. The fly lays its eggs on the leaves any time from June to September, and when the eggs hatch out the little grubs burrow into the leaves and feed upon their internal substance, leaving only the skin or cuticle remaining. It is a troublesome pest sometimes, and when the maggot is once in the leaf, of course, no syringing is of any avail. If the plants are carefully looked over every week or so the grubs may be killed by pinching the part of the leaf in which a grub is resident without destroying the leaf. This will keep it at bay if it is noticed in time, but the better way is to prevent the fly laying its eggs, which is fairly easy in a long spell of dry weather, but impossible in wet. If the plants are syringed with a weak solution of paraffin and soft soap it will prevent the flies laying their eggs, and the same result may be accomplished by keeping the plants dusted with soot. When celery has been badly affected the surface soil should be buried deeply after the plants are taken up, as the chrysalis passes the winter in the soil.

Slugs

are some of the commonest pests on damp soils, though in many gardens on light soils they are scarcely ever seen. There is no royal road to success in getting rid of them. They seem to disappear in a dry spring or summer, and then when a damp time comes they multiply so quickly as to regain their wonted numbers in a very short time. They have a very decided liking for beer, and there is no better trap for them than small heaps of bran steeped in it, while brewers' grains are only less excellent. Dusting the ground with freshly-slaked lime on a damp morning will destroy many of those too small to pick off, though a second application is necessary to destroy the larger ones. Soot is an effectual barrier so long as no rain comes, though it needs using with care; while in dry weather a loose surface is scarcely less so. Good traps may also be made of many materials—lettuce or cabbage leaves, pieces of tile, inverted pans, slices of potato, etc.

The same remarks apply in part to snails, though for such big things the best remedy is hand-picking, especially with the aid of a lantern after dusk. Where stone fruit is grown on walls careful search should be made under the leaves occasionally, the apricots being their special favourite. In some gardens

Wood Lice

(alias sow bugs) are greater pests than the foregoing, greater, perhaps, than many are conscious of, as they seldom work by daylight. Nothing in the vegetable world seems to come amiss to them, as they will gnaw away the collar of a plant—its most vital part—or attack a peach just against the stalk a week or so before it is fully ripe, causing it to fall prematurely. Tidiness in a garden is a check upon their increase, and toads are very fond of them, but the most effective way is to set traps and regularly examine them. Inverted flower pots with a little hay in the bottom, hollowed out pieces of potato or carrot, pieces of tile or rotten board, are suggestions of what may be done in this direction. I recently caught 128 wood lice in a flower pot at one time. When caught they are rather fugitive things to step upon, and a vessel of boiling water is more convenient.

Earwigs

are often regarded as greater enemies than wood lice, their work being in similar directions, though perhaps florists' flowers are their special prey. Where flowers are attacked nothing is more effectual than inverted flower pots containing a little hay supported by the flower sticks to which the plants are tied, while in the case of wall fruit trees there is nothing so good as the hollow stems of broad beans cut into six-inch lengths, and fixed between the branches of the fruit trees and the wall. Both of these traps must, of course, be attended to, though not necessarily every day.

The above are some of the pests of most general occurrence with which I have had to contend in my own garden. But they are not by any means all. There is the

Asparagus Beetle,

the larvæ of which eat up the feathery foliage during the summer, and so weaken the plants for the next season. They may be kept at bay, if not exterminated, by spraying with a solution of paraffin emulsion of soft soap, and by drawing away the surface soil with a hoe in the autumn and burying it.

Apple Blossom Weevil.

We see birds pecking away at the apple blossom in the spring, and hear people remark upon the damage they are doing, whereas really they are picking out those weevils which, by the time the blossom is open, have eaten away or damaged the essential part of the flower. This is a very troublesome pest to combat, and here I can only give a general recommendation to keep the place tidy and the stems and branches of the trees clean.

Wireworms.

Wireworms must be mentioned, as so many are troubled with them, especially in gardens recently made out of meadow turf. The best way is to trap them with pieces of carrot, potato, or rape cake, especially the latter. The traps should be slightly under the surface of the soil, with a skewer stuck through each piece to show where it is. The perfect form of the wireworm, of which there are several species, is the click beetle or skip-jack.

Pear Midge.

This must be mentioned, as it is such a worrying thing to those who have it. You think you have a good crop of pears set on a given tree, but when they reach the size of medium gooseberries they fall off, and when you examine them you find them black inside, with little grubs in the decaying tissue. These bury themselves in the surface soil, and remain there till next year. The best thing is to clear up the dropped pears at this season every day, or even twice a day, and if the surface can be scraped off in the autumn and buried so much the better. A good dressing of kainit at the time the grubs are falling to the ground is effective, as it kills any that come into contact with it. But it may kill the grass too, or seriously damage it, as kainit contains a good deal of salt. ALGER PETTS.

BULBS.—A practical treatise on the cultivation of hardy, hothouse and greenhouse bulbous and tuberous rooted plants is "BULBS AND THEIR CULTIVATION," by T. W. Sanders, price 2s. 6d. net, or by post 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

SWEET PEA WEEK.

Notwithstanding the crowded hours of horticultural life during the early part of July the sweet pea enthusiasts made their arrangements so that in addition to the splendid two-days' exhibition at the Royal Horticultural Hall, Westminster, and a dinner and talk on Tuesday evening, they had two full days among the growing sweet peas out in the country. The show was a great success floriculturally, and we understand that the takings at the doors were sufficient to rather more than balance the increased expenditure of a two-day display.

Over fifty members started from Waterloo by the 9.20 a.m. train to Woking on Thursday, July 14, to pay a visit to the Society's trials of sweeet peas held this year under Mr. Charles Foster's direction at the Times Experimental Station, Sutton Green, Guildford. A heavy mist hung over London and gave promise of a fine day, a promise that was amply fulfilled an hour or two later, for the sun shone gloriously, and the weather was delightful. At Woking Station numerous members from other directions joined the party, and seventy-two proceeded by brakes to Sutton Green, four miles away, and a few others travelled by cycle or motor.

Mr. and Mrs. C. Foster met us at Sutton Green, and at once we proceeded to inspect the trials, after relieving the hon. secretary of a goodly number of "Trials Lists." Everyone had many good words to say for the conduct of the trials, and it was an agreeable surprise to find the plants so well grown and the flowers so fine and numerous, especially as the site was a clover field last year. It was evident that Mr. Foster had worked hard to secure such excellent results. There were 242 rows in the novelty trials, and a further 163 rows in the purity trials, making a total of 312 rows of sweet peas that exhaled a delightful fragrance which mingled with the scent of new-mown hay from the park beyond and the honeyed sweetness of the lime-tree blossoms.

After an examination of the trials one thing forcibly borne in upon the minds of all of us was the vast improvement in fixity that has taken place during the last three years. Raisers must not run away with the idea that there is practically no room for improvement—far from it, there is room for a great deal of improvement yet, and that improvement is absolutely necessary if the faith of the public in the reasonable stability of sweet pea stocks is to return. The Guildford trials also show that a very high percentage of fixity can be secured, and the public will soon find out the firms that maintain a high standard in this respect. However, there were plenty of "mixed" rows, both in the novelty and the purity trials, and a great joke of the day was that a trial of "mixtures" was mixed! In other words, an American stock of a supposedly fine mixture of Spencer varieties contained a considerable percentage of grandiflora or unwaved flowers. A French firm's stocks of fairly popular varieties were also badly mixed, and yet these were, we understand, only grown one year in France, from English stocks, before being sent to Guildford. But the sweet pea cult has not begun yet in France, though since the Comte d'Estienne and M. Vilmorin were both at the show, and visited the trials, we may expect a good beginning shortly.

Sterling Stent was somewhat of a disappointment to most of us in the trials, not that it was mixed or lacked colour, but because it was not a strong grower. What we want is a sweet pea the same colour as Sterling Stent, with the size of bloom and vigour of growth and constitution seen in Helen Lewis and John Ingman. The varieties that gained awards at the hands of the Floral Committee were good, but there were other varieties that appealed as strongly to the party of enthusiasts. Everyone appeared to be struck with the beauty of Ruby, one of Mr. Aldersey's seedlings, with brilliant orange shading and large flowers. It evidently needs shading, but is of good Spencer form, and a fine grower. Iris, from Mr. C. W. Breadmore, pink, with a beautiful orange-salmon flush was another good thing, and Mr. Bolton's red-maroon seedling was very generally admired, as it has good distinct colouring and big bold blooms. Mr. Bolton's Afterglow is a fine new blue-lavender, and there was only one rogue in the row. Other flowers that attracted attention were Lady Rose, Charles Foster, Mrs. W. J. Unwin, Uncle Sam, Helen Grosvenor, Mrs. George Charles, and Red Star.

Luncheon was served in a tent close to the sports ground, and the rest and refreshment were thoroughly enjoyed. Mr. C. Foster presided, and welcomed everyone in the name of Lord and Lady Northcliffe. Mr. N. N. Sherwood voiced the sentiments of all present in a few well-chosen words when moving the thanks of the society to Lord and Lady Northcliffe for permission to hold the trials at Sutton Green, and for their generous hospitality. To Mr. and Mrs. Foster heartiest thanks were also accorded. After lunch we strolled round the gardens of Sutton Place and enjoyed the beauties of the rose, rock, water, and lily gardens, the herbaceous borders, and the grand old trees in the gardens and park. A welcome cup of tea followed, and then our numbers were gradually reduced until about forty-five (about half the total) were left when Waterloo was reached at 6.50. It was a great day.

On Friday morning, in anticipation of another fine day, thirty-four sweet pea enthusiasts took tickets for Kelvedon and Mark's Tey, but others joined the early train on its way, and some met the party at Kelvedon, where brakes were waiting to convey us to Messrs. Hurst and Sons' trial grounds. We have seen the trial grounds of this firm on many occasions, but never have the sweet pea trials been finer there than this year, while the wonderfully extensive trials of culinary peas and of a large series of flowers and vegetables proved very interesting. Here sweet peas are grown only to test the purity and fixity of the stocks, being grown elsewhere for seed, and no special culture had been given, but the rows were well filled, and the hundreds of thousands of dainty blooms made a charming picture. It was very interesting to find so many one-time favourites here, varieties that have long since departed from the gardens of those who are keen growers, indeed, lots of these old varieties were quite unknown to many of the party, for many of the enthusiasts are new recruits to Flora's army.

Through the fields we walked to Prested Hall, where Mr. N. N. Sherwood, the society's president, is making for himself a very delightful garden. In a tent beyond he had provided luncheon to which we all showed the fullest appreciation. Mr. C. W. Breadmore tendered the thanks of the company in graceful fashion, and we all heartily joined in drinking to the health of the President, Mr. N. N. Sherwood, and the Treasurer, Mr. Edward Sherwood, both of whom responded. As ladies accompanied the parties in larger numbers than in previous years, "The Ladies" was given by the President, and acknowledged by the Hon. Secretary.

The time table of the day was rigidly adhered to, and soon we were on the way to Messrs. Dobbie and Co.'s grounds at Mark's Tey, and here the five acres of sweet peas, to say nothing of a long avenue of clumps of sweet peas, were a revelation of skilful culture. The purity or fixity of the stocks being grown for seed was remarkable, and it was obvious that in the great majority of cases scarcely a plant had been removed. Here we saw Syeira Lee in full beauty, and Mrs. Hugh Dickson in grand form, and Nubian, Sunproof Crimson, Clara Curtis, a variety practically identical with Cherry Ripe, the true John Ingman, Masterpiece, Mrs. Andrew Ireland, Mrs. C. W. Breadmore, Edrom Beauty, Elsie Herbert, Earl Spencer, Mrs. Hardcastle Sykes, and many another variety filled us with delight and envy. Mr. W. Cuthbertson smiled at our enthusiasm, and even his able henchman, Mr. Andrew Ireland, admitted that the sweet peas were "no so bad." There was one outstanding novelty among the host of seedlings, and it is a bold, beautiful flower, of excellent waved form, cream ground, with delicate red flaking at the base and centre of the standard. In colour, shape, and pose it was delightful, and everyone regarded it as a fine new break.

We could have stayed here for hours, but the time table was enforced, and the hon. secretary inexorable, and so we went into the great barn to tea, and, after Mr. Edward Sherwood had thanked Mr. and Miss Cuthbertson for their kindness and hospitality, we proceeded to Mark's Tey Station, and thence dispersed to our various homes—Scotland, Belfast, Chester, Winchester, Birmingham, Bangor, Colwyn Bay, Southampton, etc., etc.—all tired but very satisfied with the "outings," and promising to meet again under equally auspicious circumstances in 1911, if the fates are kind.

Charles H. Curtis.

VIEW OF THE NATIONAL SWEET PEA SOCIETY'S TRIALS
At the Times Experimental Station, Sutton Green, near Guildford.

Cocos Weddelliana as a Room Plant.—This elegant palm is often regarded as delicate, but in reality it will succeed quite as well in the dwelling house as most of the others. The roots are not at all vigorous, hence it must not be overpotted—indeed, this caution applies to palms in general. It should also not be allowed to stand in stagnant water, while shading from the sun is also essential.—W. T.

Pentstemons and Antirrhinums are making a bold show this season, and many exceptionally beautiful shades of colour are now to be found among these. Planted in bold clumps, either in beds or on the shrubbery borders, they are equally fine, and it is not to be wondered at that these are fast taking a prominent position in the flower garden during the summer months. The removal of the centre flower spike—when the flowers are beginning to fade—will cause the side growths to develop rapidly, which, in their turn, will give a good display of colour later in the season. Many of the dwarfer kinds of antirrhinum are exceedingly useful as bedders pure and simple, admirably taking the place of geraniums and other less hardy flowers, especially if grown in distinct colours, as can now be done either by cuttings or from seeds.—W. H. Warren, Aston Clinton Gardens.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

SELENIPEDIUMS.—This section of the so-called slipper plants are often included in gardens with cypripediums, from which they differ in having three-celled ovaries. The species are natives of the mountainous parts of South America. They are, in most cases, very interesting, and include some of the most beautiful of the lady's slippers. The hybrids that have been produced by the intercrossing of the different species are decided acquisitions. They are robust growers, and where they are provided with suitable accommodation they grow very quickly, and soon make large specimens. They require a warm intermediate house, but they will grow satisfactorily in the ordinary stove, under the same conditions as that usually provided for a collection of stove plants. I consider the conditions of a stove too warm, and would recommend a somewhat lower temperature, as their growth is then less rapid and they flower more freely. The whole of this section are what may be termed "out of fashion." I do not think it is from the want of appreciation, but more because the plants are such vigorous growers that they would soon require more space than can really be afforded. With the exception of one or two of the rarer species, they are plentiful in cultivation, and procurable for a modest outlay. Their potting requirements are the same as that usually given to cypripediums. The best time to attend to repotting is when the new roots make their appearance at the base of the newly-developing growth, plants being in a more or less active state throughout the year. They require liberal root moisture at all seasons, and a fairly moist atmosphere. The best species include S. caricunum, one of the smallest, but I think one of the most beautiful of the genus. It has a curious habit of growth; the narrow leaves spring in tufts from stout, creeping rhizomes, and quickly form into a close dense mass. It does not like being disturbed for repotting purposes, and I consider it is never so satisfactory as when the roots have become potbound. A plant will thrive in the same pot for a long time if care is taken annually to remove all decaying material and matter from the surface, and replace with fresh compost. S. caudatum and the white variety S. c. Wallisi are undoubtedly the finest members of the genus, and where they can now be induced to grow satisfactorily they are always subjects for admiration. The species is now seldom imported, and the plants have become scarce in cultivation. S. Lindleyanum is a robust growing species with quaint green and brown-purple marked flowers. It does best in a hot humid atmosphere. S. longifolium is a free-growing species, well worthy of consideration; the best varieties are S. l. Hincksianum and S. l. Roezli. The latter has always struck me as being a distinct species, but they have become so mixed up of late years that it is difficult to procure the original form. S. Schlimi and its variety, S. S. alba, are two of the most wonderful little plants we have. The pretty rose-tinted, ball-like flowers of the type are always admired. It is not over plentiful, and is not so frequently seen as formerly. The species is of dwarf stature, and does best in the intermediate house. It is from this miniature species that we have derived, by cross-fertilisation, the whole of what is termed the S. Sedeni family, including S. cardinalis, S. albo-purpureum, S. Cleola, S. leucorrhedum, S. Schroderæ, etc., all of which are so well known that they need no recommendation from me. In most cases these possess a robust constitution, and are suitable subjects for amateurs. The hybrids from S. caudatum, such as S. Dominianum, S. grande, S. nitidissimum, etc., are all worthy of consideration, and are easily procured.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

PELARGONIUMS.—The show and fancy will have ripened their wood and should now be pruned. The current year's growth of the show varieties should be cut rather hard back; but the fancy varieties should be less severely pruned. In each case the shape of the plant must be taken into consideration when pruning. After the plants are pruned and cleaned, place them in a cool frame till they start into growth; subsequently give more room; ventilate freely, and syringe overhead morning and evening. For the present water sparingly.

WINTER FLOWERING CARNATIONS.—Plants that were raised from layers some time ago will be ready for potting off, 2½-inch pots being the most suitable. When the plants are about six inches high, pinch out the points to induce them to produce side growths. When the pots are full of roots shift into 5-inch ones, and grow them in a cool house or frame. Strong plants for flowering early will derive benefit from supplies of weak liquid manure. Give attention to staking and tying the shoots, as when these become bent they do not readily recover.

MALMAISON CARNATIONS.—These and other summer flowering carnations should be layered immediately they go out of bloom to ensure strong plants for flowering next season. The best method is to turn the plants out of their pots and replant in frames. Only those in a healthy condition should be used for propagating purposes. If necessary, the foliage should be thoroughly cleaned. In preparing the layers care should be taken not to make the cut too long, about one inch being sufficient. When the layering is finished give the soil a good watering, and close the frame, the latter being kept somewhat close and the soil moist until the layers are rooted and ready to be severed from the parent plant, then give air freely.

CYCLAMENS.—If last season's plants have been kept with a view to their blooming in winter, they should now be turned out of their pots, and the greater part of the old material shaken from about the roots. Repot the corms at once, using clean pots of moderate size. After they have been potted they should be placed in an unheated frame near the glass. Syringe them overhead every morning and evening, but do not ventilate or give much water till growth has recommenced. The surroundings must be kept moist or red spider will put in an appearance.

CINERARIAS will now require a shift into larger pots, using leaf-soil, good fibrous loam, and sand, with some soot added. Avoid large pots, and grow in small ones, and keep well supplied with liquid manure. These will be found much handier for decorative purposes. Those newly potted should be grown in a cool frame, giving a little shade when the sun is strong, and syringe twice daily.

FREESIAS.—Bulbs that were grown last year must now be shaken from the soil and the largest bulbs be repotted, using 4½ or 5 inch pots. When potted, place in a shaded corner till about the end of August, when they can be given frame shelter.

ZONAL PELARGONIUMS for winter flowering should have attention as to pinching the points out to induce them to become bushy. When the pots are filled with roots apply liquid manure, and avoid allowing them to become dry; as when they become dry and remain so for any length of time the lower leaves suffer.—W. Staward, Belford Hall Gardens.

THE FLOWER GARDEN.

VIOLETS intended for winter flowering should receive unremitting attention for several weeks to come. Most of the plants are now making rapid growth, and producing runners in abundance, but these, if allowed to remain, will exhaust the parent plants, consequently their removal is important. The plants should be examined several times, and the surface of the beds kept stirred with the hoe; the recent heavy rainfall has, up to the present, kept red spider in check, but in case of a spell of hot weather, a sharp outlook must be kept for this pest. Occasional syringings overhead with one of the many approved insecticides will aid in keeping the plants in health. Liquid manure given at their present stage of growth will also keep the plants growing vigorously, and mature the crowns, which is highly essential.

WALLFLOWERS intended for spring bedding—if not already done—should be transplanted without delay. After they have become established they should, if inclined to be straggling in growth, have the points removed. This will keep them dwarf and of a more pronounced bushy habit, which for bedding purposes is absolutely necessary.

ERYTHRINA CRISTA-GALLI (Coral Plant) is an exceedingly useful and attractive plant for plunging in the borders, or as a specimen on the lawn. In sheltered and suitable positions it will withstand an ordinary English winter out of doors. Its large, brilliant scarlet flowers are very effective and lasting. It is of very easy cultivation, and if grown from seed will, with good treatment, bloom during the second or third season, usually in July and August. Ordinary greenhouse treatment will grow erythrinas to perfection. After flowering the plants should be stood out of doors in the full sun to ripen the crowns, after which the growths—which are semi-herbaceous—may be cut down to the woody crown, and the plants dry stored during the winter months, and restarted again in the spring.

GENERAL REMARKS.—As most of the subjects used in the flower garden have reached their maximum condition, it will be well to make notes of the general arrangements, so that errors may be rectified for another season. Roses should be examined now and again for the purpose of removing bad or decaying flowers, and the shortening back of abnormally long growths. All climbers should receive constant attention, releasing all twisted growths, and carefully securing these.—W. Hedley Warren, Aston Clinton Gardens, Tring.

HARDY FRUITS.

STRAWBERRIES.—Preparations should now—if not already done—be made for the planting of new beds in a few weeks hence; the ground should be trenched at least two feet deep at once. This will allow the soil to well settle down before the plants are set out early in September. As the work of trenching proceeds a liberal dressing of well-decayed farmyard manure should be added. If the soil is of a light sandy composition cow manure should be used, but in dealing with heavy, retentive soils use one-half rotten stable manure and one-half road scrapings and burnt garden refuse. Old beds that are to be retained for fruiting next season should be trimmed up, removing all runners and decayed leaves. At the same time give the soil a deep hoeing between the rows. Any plantations that are not required for next season should—as soon as the fruit is gathered—be dug up and burnt. Autumnal-fruiting varieties should be given copious supplies of water during this month and next, and clean straw should be laid around the plants. As soon as the fruits have formed frequent applications of weak liquid manure will be beneficial to accelerate the swelling. All runners should be pinched off as soon as they make their appearance, unless required for the propagation of plants for new beds.

GENERAL WORK.—Nets should be placed over Morello cherries to protect the fruit from birds. Continue to tie in the growths of all fruit trees grown on walls. These should be thinly dispersed to allow plenty of light and air to ripen the fruit and mature the wood. Strict attention should be paid to the giving of water to the roots of all wall trees if required. Keep in check insect pests by vigorously syringing the trees with clean water every afternoon. Sweet varieties of cherries which have had their fruits gathered should be thoroughly syringed with some approved insecticide to cleanse the wood and foliage of insect pests. In gathering fruit for preserving be careful to see that it is quite dry or the preserves will not keep. Nets that are not required for further protection of fruit should be rolled up when dry, with a label attached stating their length and width, and placed safely away in a dry shed or loft. Continue to summer prune apple and pear trees. In some cases it will be found that secondary shoots have developed; these should be cut back to one leaf. All trees that are carrying heavy crops should receive plenty of liquid manure, and at the same time give the final thinning to all trees that are carrying a superabundance of fruit. The scions on all newly-grafted trees will be growing away freely now; these should be examined, and, if required, should receive support with small stakes. Loosen all ties as the swelling of the stock and scions renders necessary. Examine raspberry plantations, and remove—by pulling them up—all superfluous growths that are not required to produce fruiting canes for next season. The budding of all kinds of fruit trees should now be taken in hand; where any of this work is undertaken patience must be exercised to ascertain whether or not the buds are in a fit state and the stocks in a proper condition to be operated upon.—Henry R. Farmer, Cardiff Castle Gardens.

Potato Sutton's Ringleader.—Potatoes have a value no other vegetable can boast of; their use extends to every section of society, and their season covers the entire year. Consequently the potato question is one of the gardener's "hardiest perennials." It is scarcely possible to produce new potatoes too early in the year, so that wherever facilities exist, forwarding of the crop in frames, or in pots under glass, should be liberally practised; while a warm, sheltered border in the open should always be reserved for the earliest outdoor produce. Among potatoes claiming recognition as the earliest, I find none to equal Sutton's "Ringleader," as from a comparative trial in the open during the past two years this variety has outclassed its competitors. From tubers planted on March 16 potatoes were ready for lifting on June 15, tubers weighing from 2½ to 3 ounces being produced in some twelve weeks. Sutton's "Ringleader" is a white-fleshed kidney potato, of moderate vigour as regards the haulm; the tubers are of excellent flavour, and the yield is high.—Thomas Smith.

NORTHAMPTON MUNICIPAL HORTICULTURAL & ORNITHOLOGICAL SOCIETY.

GRAND EXHIBITION OF
FLOWERS, FRUITS, VEGETABLES,
BEES, BIRDS, POULTRY, and RABBITS.
AUGUST 3rd and 4th, 1910,
At
ABINGTON PARK, NORTHAMPTON.

Entries Close July 27th.

Schedules on application to the Secretary,
JAS. B. PALMER.
56, Cyril Street, Northampton.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

(*Concluded from page 570.*)

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Gloucester.

JULY 12.

Delightful weather attended the twenty-second exhibition of roses held on the above date in the Spa Field, which proved a floral triumph, for, in addition to the Queen of Flowers competitions, there was even a keener competition in the several classes set apart for the multitudinous colours and development of the odorous sweet pea, fully 13,000 spikes having been arranged in some 700 vases, which filled a double staging 200 feet long in the centre of a monster marquee.

ROSES.

Of these, there was a decrease of entries in the amateur division, but in the trade class fully 1,000 specimen blooms were in competition, in boxes. In the big class, for four dozen single trusses, Messrs. Alex. Dickson and Sons, Newtownards, secured the champion award for a noble display, the back row blooms being massive and of perfect form, particularly noticeable being Mildred Grant, Dr. A. D. Browne, Marie Baumann, Lady Barham, F. K. Druschki, Mrs. T. Roosevelt, Her Majesty, Duchesse de Morny, Ulrich Brunner, Mrs. J. Laing, Hugh Dickson, Madame Hausmann, Mamie, Duchess of Portland, Horace Vernet, Princess Marie Mertschersky, Mrs. C. C. Harrison, Princess Marie (new), and Conway Jones, a new rich crimson. The second prize was awarded to the King's Acre Nursery Company, Hereford, whose collection included some fine blooms of Alfred Colomb, Gustave Piganeau, Mrs. E. Mawley, Earl of Dufferin, Ernest Metz, Gladys Harkness, Lyon Rose, Cynthia, Althea, and Dr. A. D. Browne. The Headington roses received the third award, Mr. J. Mattock's best being Earl of Warwick, M. Grant, J. B. Clark, Lohengrin, Mons. J. Hill, Ben Cant, Countess of Caledon, and Duke of Teck. For thirty-six singles, five competed, Mr. H. Drew, Longworth, Berks, staging the premier collection, which included fresh, full size blooms of La France, F. Michelon, H. Vernet, Papa Lambert, Duchess of Portland, Mrs. J. W. Grant, Countess of Annesley, and Dean Hole. The second prize was awarded for a balanced set of the Cotswold roses from Messrs. J. Jefferies and Son, Cirencester. Mr. W. H. Frettingham, Beeston, Notts, third.

The class for eighteen trebles was a full one, there being six competitors, Messrs. Alex. Dickson and Sons were first, and their blooms were excellent in both size and colour; very fine were the blooms of Mrs. John Bateman, Ulrich Brunner, Caroline Testout, C. J. Grahame, Lady Ashtown, Her Majesty, Duchess of Portland, Prince Arthur, and Mrs. John Laing; the King's Acre Nursery Company second, and Mr. J. Mattock third; Messrs. Jefferies and Son and Mr. W. H. Frettingham receiving special mention. For eighteen teas, there were half-a-dozen good boxes, Messrs. Alex. Dickson and Sons leading, having specially good blooms of Princess Mary (new), Eric (new), Mad. Vermorel, Mad. Cusin, and Muriel Grahame; Mr. H. Drew, second; Mr. J. Mattock third. For a dozen trebles, Messrs. A. Dickson and Sons and Mr. H. Drew shared the awards. For twelve dark roses, one variety, six boxes were staged, Messrs. Alex. Dickson and Sons were first with Horace Vernet; Mr. J. Mattock second with J. B. Clarke; and Mr. H. Drew third with Avoca. For twelve blooms of a light rose, nine boxes were staged, Messrs. Alex. Dickson and Sons and King's Acre Nursery Company having Mildred Grant, and Mr. A. Middlecote, Upton, St. Leonards, Frau Karl Druschki.

In the open amateurs' section, Mr. Conway Jones, Hucclecote, led in the classes for eighteen singles, eight triplets, twelve teas, and six treble teas (in vases); his blooms were generally finely developed; he had particularly good flowers of Dean Hole (premier bloom in the section, and awarded the N.R.S. silver medal), Countess of Caledon, F. K. Druschki, Mamie, Mad. J. Gravereaux, Mrs. J. Laing, Duchess of Portland, Lady Ashtown, Hugh Dickson, Ulrich Brunner, Mrs. T. Roosevelt, Dr. Felix Guyon, Mrs. E. Mawley, Molly S. Crawford, the two Cochets, and Auguste Comte; Mr. G. R. Bonnor, Barnwood, was second in the above classes, and first for nine teas. The twelve bouquets of garden roses formed a fine feature, Messrs. Fuller and Maylam, Cheltenham, Mr. W. H. Frettingham, and Messrs. J. Jefferies and Sons sharing the awards in the open division.

SWEET PEAS.

These appeared to overpower the roses, having the advantage of tiers in contrast to the flat surface of the side stages. Twenty-four classes were arranged, and each and all were admirably filled, and the best known varieties in white, crimson, scarlet, rose, carmine, yellow, buff, blue, blush, pink, cream, lavender, mauve, magenta, and maroon were represented. For twenty-four varieties, Mr. W. J. Thorpe, Hucclecote, secured the premier award for a grand collection, comprising the following varieties, viz., Zarina, Geo. Stark, Nora Unwin, Helio Paradise, The Marquis, Paradise, Lucy Hemus, Elsie Herbert, George Herbert, Queen Victoria Spencer, Prince Asturias, Ivory Paradise, Paradise Constance Oliver, Mr. Townsend, Othello Spencer, Paradise Beauty, Paradise Apple Blossom, Helen Lewis, Zephyr, and Mrs. C. W. Breadmore. For twelve vases, there were eleven exhibits, the first prize and silver medal going to W. Meath Baker, Esq., Hasfield Court (Mr. J. Aplin, gardener); for six varieties, to G. N. Walker, Esq., Woolten House; and for three, to A. V. Wright, Esq., Gloucester.

In the local classes for nine varieties, the premier award was secured by Sir H. Parry, Bart., Highnam Court; while for six there were ten exhibitors, Thos. Thorpe, Esq., Trocester, leading. In the class for a dozen vases (Messrs. Jefferies and Sons' prizes), W. Gordon Canning, Hartpury, was first in a good competition. In the single variety classes nearly one hundred vases were staged, and the first cards went to—white, Mrs. Sankey Spencer; yellow or buff, Paradise Beauty; blush or pink, Countess Spencer; orange, Helen Lewis; rose or carmine, Paradise Carmine; scarlet or crimson, The King; maroon, Bronze Paradise; lavender, Mrs. Chas. Foster; blue, Zephyr; picotee-edged, Elsie Herbert; and fancy, Mrs. A. Ireland. In the open amateur class for twelve varieties (Mr. R. Sydenham's prizes), the first prize was awarded to Mr. G. R. Bonnor; Mr. F. A. Mayo, Mitcheldean, leading for six vases. The tables arranged with sweet peas, etc., were very pretty, the cards going to Miss L. A. Nicholas, Miss E. E. Riddle, and Mrs. Harold Clark.

CARNATIONS.

There were three displays of carnations, arranged on a given space, Mr. A. Prentice, gardener to W. Gordon Canning, securing the premier award for a compact lot of flowers, very largely Malmaison; Messrs. J. Jefferies and Sons were second with an arrangement on light stands; Mr. A. Statham, gardener to Colin MacIver, Esq., Blaisdon Hall, third.

NON-COMPETITIVE.

Messrs. Wheeler and Sons, Gloucester, had a most effective pyramidal trophy of sweet peas on tiers and margined with cut roses; Messrs. A. G. Winfield and Sons, fifty vases of sweet peas; and Messrs. Young and Co., a collection of carnations, as extras; Messrs. Jefferies and Sons also arranged another display of carnations, etc., on bamboo stands.

Edgware Rose and Sweet Pea Show.

JULY 16.

Under highly favourable climatic conditions, the Edgware Horticultural Society held its annual exhibition of roses, sweet peas, and other products of the garden in the grounds of North Lodge, the residence of R. Thorne, Esq., and this was so great a success that all concerned with the management had good cause to be satisfied with the results. Excellent as was the exhibition last year, that of Saturday last was a marked advance, more especially in the case of roses and sweet peas, which constituted the two leading features. The five challenge cups that were offered in the classes for these flowers were keenly contested, and the whole of the collections staged were more or less good, many being of quite exceptional excellence.

SWEET PEAS.

There were five classes for sweet peas, and as the flowers had expanded in dry and moderately warm weather, and under the influence of subdued sunlight, they were remarkable for the splendid development of their colours, and for their freedom from markings, which are usually such serious defects in flowers that open in showery weather. There was a strong competition in the great class, open to nurserymen only, for twenty-four bunches, distinct, and at the head of the competitors was Mr. C. W. Breadmore, of Winchester, who was awarded the silver challenge cup and the cash prize offered as the premier award. The collection was one of the finest he has yet staged, and prominent among the varieties represented were Marjorie Linzee, Ivy Herbert, Senator Spencer, Dazzler—an effective variety with scarlet flowers, Mrs. H. Sykes, Mrs. R. Hallam, King Alfonso—a crimson variety that is said to bear the full exposure to brilliant sunlight without injury, Marquise, Earl Spencer, Mrs. A. Ireland, and Freda, pure white. Mr. W. J. Unwin was a capital second with a collection of much merit, the flowers being large, fresh, and bright. Messrs. E. W. King, Coggeshall, was third with flowers evincing cultural skill of a high order. The most important of the several classes open to amateurs only was that for twelve bunches, distinct, in which the Blair Challenge Cup was offered as the first prize. There was a considerable number of collections in competition, and the coveted award was made in favour of Mr. H. K. Judd, Glenberrie, Edgware, who had George Stark Improved, Evelyn Hemus, Prince of Asturias, Helen Lewis, Marquis, and Constance at their best; Mr. W. Fowler had a remarkably good collection for second place, the flowers a trifle under full size, but very clean and bright in colour; Mr. R. Blair, Hermitage, Edgware, was third, with flowers that were rather small, but of excellent colour, and tastefully set up. Mr. C. Wainright, the president, had admirably grown flowers, but they lost points in arrangement. For twelve bunches and nine bunches, in each case distinct, Mr. H. K. Judd obtained premier honours with flowers of excellent quality; Mr. Judd was first also in the class for a display of sweet peas; he had flowers of high quality, but overcrowded. The second prize collection was plainly yet tastefully arranged, but the flowers were of medium size. Two collections were disqualified in this class. The schedule stipulated that there should not be more than one vase of any one variety, and in striving after artistic effect, the exhibitors put two or more varieties in several vases, and thereby brought about duplication, and its consequent result. The cottage gardeners and allotment holders also exhibited these fragrant flowers largely and well. Mr. C. W. Breadmore exhibited a large and attractive collection not for competition.

ROSES.

These were not less satisfactory than were the sweet peas, for the entries were numerous, and the competitors included a considerable proportion of amateur and professional rosarians who usually occupy conspicuous positions on the prize lists of the National Rose Society. Five or six competitors contended for the prizes in the trade class for thirty-six roses, distinct, and the premier award was made in favour of Messrs. R. Harkness and Co., Hitchin, who had a stand of splendidly developed blooms, those of Dean Hole, Horace Vernet, and Exposition de Brie, being among the best; Messrs. B. Cant and Sons, Colchester, were second with excellent blooms, among which we noticed Marie Baumann in a high state of development; Messrs. F. Cant and Co., Colchester, followed closely for third place with blooms of good quality. In competition for the prizes for twelve teas, Messrs. B. Cant and Son occupied the post of honour with a highly meritorious stand, in which were exceptionally fine blooms of Mrs. Dudley Cross, Maman Cochet, Madame Jules Gravereaux, and Mrs. E. Mawley; Messrs. F. Cant and Co. and Messrs. D. Prior and Son showed well for second and third places.

The principal class for amateurs without restriction as to their place of residence was that for twenty-four roses, and in this there was a spirited contest. Here Mr. E. B. Lindsell, Bearton, Hitchin, scored, and won for the second time the Edgware Challenge Cup, staging, as is his wont, blooms distinguished by their large size and high finish. The varieties represented by especially good blooms included Mrs. Stewart Clark, Dupuy Jamain, Madame Melanie Soupert, Duchess of Bedford, Mrs. E. Mawley, Hugh Dickson, Her Majesty, and Frau Karl Druschki. Mr. G. Speight, Market Harborough, staged a meritorious box for second place. The same exhibitors were first and second also for twelve teas, both staging well for the relative positions.

Garden roses were splendidly shown, and in the trade class for twelve bunches Messrs. F. Cant and Co. were first with an exceptionally fine collection, in which the brilliant Ecarlate, the fine striped Rosa Mundi, the single pink Lady Curzon, and the pink rambler Debutante, were conspicuous; Lady Gay and Minnehaha and Rosette de Legion du Honneur were also well represented. Messrs. W. and J. Brown, Peterborough, were a good second, and Messrs. Harkness third. In the amateurs' class for six bunches, Mr. G. W. Cook, Miss B. Langton, and Mr. H. R. Darlington were the prize takers in the order of their names, all staging collections of a high order of merit.

At the head of the several exhibitors in the amateur class for twelve roses, open only to growers with less than 1,000 plants, was Mr. G. W. Cook, Radstock, Whetstone, who had finely developed blooms of The Lyon, Princess M. Mertchersky, a beautiful rose of the palest pink hue, Mrs. T. Roosevelt, Madame Paul Olivier, a deep, well-formed flower of good depth, and other varieties; Mr. A. C. Turner, Walton-on-Thames, was a good second, and Miss B. Langton followed closely for third place. In the classes for amateurs resident in the society's district there was a spirited competition. For twelve blooms, Mr. J. Hart, Potters Bar, and Mr. H. R. Darlington were first and second, both staging well; Mr. Hart had Hugh Dickson very fine, and in Mr. Darlington's stand was a splendidly finished bloom of Avoca. The successful competitors in other classes in this section were: Miss B. Langton, Mr. W. Fowler, Mr. J. Pavey, Mr. G. W. Cook, Mr. H. R. Darlington, Mr. H. K. Judd, and Mr. A. Merck. In the classes for bowls and baskets of roses, Miss B. Langton, Mrs. Howard Williams, and Mr. H. K. Judd were the most successful of the competitors. Mr. E. J. Hicks, Twyford, had a remarkably fine collection of roses, in which The Lyon was conspicuous, and roses not for competition were also shown by Messrs. W. Cutbush and Son, Highgate, and Messrs. Brown, of Peterborough.

Several classes were provided for vegetables, and the most important of these was for ten kinds, in which Mr. D. Dumbelton and Mr. C. Wainright were first and second with produce of a remarkably high quality. There were also numerous classes for cut flowers other than roses and sweet peas, and for plants, and we regret that space will not permit of their being referred to in detail.

Norfolk and Norwich Rose Show.

This fixture was held on Thursday, July 7, in the beautiful grounds of Carrow Abbey and Carrow House, Norwich, by kind permission of the Right Hon. James Stuart and the Misses Colman. Unfortunately from the time of opening until the close the weather was about as bad as it could be, rain falling more or less the whole time, with a chilly wind. As a result also of many days of heavy rain and hail, trade growers of roses could not send their blooms, and Mr. H. Morse, Eaton, Norwich, was the only nurseryman to make a display. He had some very good blooms of the newer kinds, including a large quantity of The Lyon, and these came in for much admiration. The medal for the best bloom was secured by Mr. T. Notley, gardener to E. G. Buxton, Esq., Catton, with a superb Frau Karl Druschki. The Rev. J. A. L. Fellowes won the challenge cup for the best thirty-six blooms, distinct, and also another challenge cup for twenty-four blooms grown by an amateur. Mr. R. Balls, gardener to Miss Penrice, Witton, gained first for twelve blooms, one variety, with fine examples of that good old variety La France. Garden or cluster roses were poorly represented. Sweet peas were a great feature; these seemed to have come through the weather much better than the roses. A keen contest was witnessed for the challenge cup presented by Messrs. Daniels Brothers, Lim., Norwich, for the best twenty-four bunches, distinct. Mr. T. Notley, last year's winner, again secured it. His blooms were massive, with extra stout long stems, and the arrangement was carried out to the best advantage.

Mr. Lewis Smith, gardener to Robert Fellowes, Esq., Shotesham Park, Norfolk, made a beautiful display of forty-eight bunches of distinct herbaceous flowers. He had some very choice subjects in the group, and they were arranged and set up as well as one could wish. This was considered the best exhibit in the show, and as such it received the silver-gilt medal of the R.H.S. Mr. Smith also secured first position with exotic flowers, his orchids, gloriosa, and other subjects being greatly admired. Mr. Quin, gardener to Lord Stafford, Cossey Hall, was a large exhibitor and prizewinner in the sweet pea classes, and he had also in the fruit section the best single bunch of black grapes.

Mr. W. Chettleburgh, gardener to Colonel Rous, Worstead, Norfolk, had some fine herbaceous flowers, especially deserving of notice being Chrysanthemum maximum Queen Alexandra. He was also the recipient of many prizes in the fruit and vegetable sections, special mention being due to his peaches and nectarines. Mr. W. Hilsdon, gardener to Sir Frederick Adair, Bart., Flixton Hall, Suffolk, won first place for thirty-six bunches hardy flowers, the colours of his early gladioli were very intense. Mr. Hilsdon had the best collection of fruit, grapes, figs, and peaches, his group being especially well finished. Mr. William Allan, Gunton Park Gardens, was in his best form in the carnation sections, his blooms of St. Cecilia being superb examples. He also exhibited several dishes of the Gunton-raised strawberries, and these were in every class winners of prizes.

Vegetables were well represented; the best collection came from Captain Jickling, Catfield Hall. Tomatoes and salads were well shown by Mr. William Laws, gardener to G. E. White, Esq., Eaton, Norwich. The best peas were staged by Mr. Wilby, gardener to F. A. Bainbridge, Esq., Hethersett. Lettuces were abundant, and had evidently profited by the wet weather. Onions, cauliflowers, turnips, and beans were all well shown.

The trade growers made some interesting displays. Messrs. Daniels Brothers, Lim., Norwich, made a fine feature of sweet peas. They also had a good array of carnations and roses, and a varied collection of greenhouse subjects in pots. Messrs. G. Stark and Son, Ryburgh, exhibited a fine collection of sweet peas; Messrs. Cutbush and Son, Highgate, N., contributed a display of herbaceous flowers and aquatic plants; Mr. G. W. Miller, Wisbech, made a pretty show of orchids; and Mr. Robert Holmes, Tuckswood Farm, Norwich, demonstrated the characteristics of the new loganberry, Phenomenal, from America. He exhibited sprays as cut from the plant, and these were covered with ripe fruits.

Finchley Horticultural Society.

The annual exhibition of this admirably-managed society attracted some five or six thousand visitors, who could not well have been otherwise than fully satisfied with the fine display of the products of the garden that had been provided for their entertainment. In addition to the flower show they had the privilege of free access to the beautiful gardens of the Manor House, the residence of A. W. Gamage, Esq., president of the society, and with an excellent display of fireworks with which the day's proceedings were brought to a close.

ROSES AND SWEET PEAS.

These fragrant and attractively-coloured flowers formed two distinct and remarkably fine features, for both classes were shown in large numbers, and in exceptionally good condition. There was a very spirited competition in the class for twelve roses, and Mr. E. R. Smith, Milford Lodge, Muswell Hill, occupied the premier position with splendidly-developed blooms, those of Mrs. Theodore Roosevelt, Duchess of Bedford, Melanie Soupert, Dr. Andry, and Frau Karl Druschki being especially noteworthy. Miss B. Langton, Raymead, Hendon, followed closely for second place with blooms of much merit. Mr. E. R. Smith was first also for twenty-four with grand blooms, and Mr. H. Whitnell, who occupied the second, had an exceptionally good stand, in which Marie Baumann, and Francois Michelon were seen at their best. Miss B. Langton had the best six teas and noisettes, and for six blooms Mr. E. R. Smith and Mr. H. A. Tubbs, Fairview, Torrington Park, were the most successful exhibitors. For six blooms of one variety Mr. J. Turk, Fairlawn, Totteridge, was first with La France, and Miss B. Langton and Mr. H. Whitnell were second and third with the popular Frau Karl Druschki.

The arrangements of roses were especially good. For a vase of rambler roses Mr. W. B. Tubbs scored with the brilliantly-coloured Crimson Rambler, and Mrs. Howard Williams obtained second place with Blush Rambler. In competition for the prizes for a bowl of roses Mrs. Howard Williams proved to demonstration the possibility of arranging roses of exhibition quality in an artistic manner. The bowl contained twenty-[illegible] blooms, and every one of them would have rendered good service on an exhibition board. Mr. W. B. Tubbs, who was second also had good blooms, tastefully arranged. In the vase class Mrs. Howard Williams had a beautiful arrangement of Killarney. For five blooms staged in a vase, Mr. J. Turk and Mr. E. R. Smith were first and second and for four trebles the prizes were shared by Miss B. Langton, and Mr. A. Laxton, Friern Park, Barnet.

Sweet peas had more liberal encouragement on this occasion than in the previous year, and the result was increased competition, and a very fine display. The most important of the numerous classes was that for twenty vases, distinct varieties, and the premier award was a magnificent challenge shield, of the value of twenty-five guineas, presented by the president. The competition was spirited, and in the result the winner of the shield was Mr. Hopkins, gardener to F. A. Wellesley, Esq., Woking, who on this occasion surpassed his previous efforts with one of the finest collections that has yet been exhibited. The flowers were of the largest size, finely-coloured, and without a blemish, and the stalks were of a great length, but not unduly stout. The varieties included George Stark, Marie Corelli, Florence Wright, Princess Juliana, Mrs. C. W. Breadmore, Constance Oliver, John Ingman, America Spencer, Mrs. Hugh Dickson, Elsie Herbert, Earl Spencer, and Etta Dyke. Mr. C. R. Lewis, Friern Park, Barnet, was second with an attractive set. In competition for the prizes for eighteen varieties Mr. W. B. Tubbs, Mr. T. Aley, and Mr. P. Highatt were the prizetakers in the order of their names, all staging well. There was a very strong competition in the class for nine varieties, the entries being numerous, and the quality high throughout. Mr. J. Turk was a capital first, his blooms being of large size and tastefully arranged. Mr. W. B. Tubbs and Mr. J. F. Catesby, Woodside Park, who were second and third, also staged excellent collections. In a second class for nine bunches Mr. E. P. Cooper, Muswell Hill, obtained premier honours.

PLANTS.

Ample provisions were made for plants available for exhibition at this season of the year, and the large marquee devoted to them was rich in interest and attractions. The outstanding feature of this section of the show was formed by the fuchsias, which are seldom shown round London in so high a state of development. In the group class Mr. Aley scored with an arrangement in which the plants were of high quality, and tastefully disposed. Mr. Grace, Finchley, and Mr. Gosling were the most successful exhibitors of gloxinias. Mr. Edginton, Field House, North Finchley, and Mr. Finch, Hampstead, had the finest fuchsias. Mr. J. Salter scored for hydrangeas. Mr. J. Turk and Mr. Aley had the best table plants, Mr. Finch was first for six stove and greenhouse plants with a fine set. Mr. W. Bryern had petunias of grand quality. Ferns were particularly good, as shown by Mr. J. Turk and Mr. Finch, who were first for four and six respectively. Mr. Gregory staged richly-coloured caladiums and finely-developed celosias. Mr. Gosling and Mr. G. W. Earp were very strong in the class for six begonias, and Mr. Touch contributed the winning collection of six orchids.

FRUIT AND VEGETABLES.

Fruit was not over plentiful, but that staged evinced cultural skill of a high order. For black grapes Mr. Gregory and Mr. J. Turk were first and second respectively, and in the corresponding class for white grapes Mr. Salter obtained premier honours, and Mr. Gregory was second. Mr. Gregory had the best peaches, and the finest strawberries were those from Mr. H. Saunders. In one of the two classes for collections of vegetables Mr. Laxton and Mr. Edginton were first and second, and in the other Mr. Aley and Mr. Gosling occupied the corresponding positions. The best salad was that shown by Mr. Salter. In competition for Messrs. Sutton and Sons' prizes for a collection of vegetables Mr. Edginton occupied the first place, and Mr. H. Saunders was second.

Cardiff, JULY 20.

Held, as usual, in the Sophia Gardens—than which there are few finer places for a show, the Cardiff Society was fortunate in securing a larger number of entries than in the year 1909, when it came of age. In the matter of trade displays the show fell rather below the standard of last year, but in all the competitive classes a higher excellence was obtained. Groups, hardy flowers, roses, sweet peas, table decorations, and vegetables were finely shown, and the cottagers' and children's exhibits were of great interest and large extent.

GROUPS AND PLANTS.

Messrs. J. Cypher and Sons, Cheltenham, secured the premier award for a group of plants arranged on a space of 100 square feet, culture and artistic arrangement being all taken into consideration. The Messrs. Cypher had a fine central palm, and they scored heavily with their highly-coloured crotons and liliums, while Humea elegans and Cocos Weddelliana added the needful elegance. Second prize fell to Mr. W. E. Pierce, gardener to Henry Oakley, Esq., Caldicot, whose crotons, Kalanchoe flammea, and liliums were used to full advantage. Mr. D. Macintyre, gardener to Lady Hill, Rookwood, was placed third for a light and pretty group, but the central arch of plants was not satisfactorily finished.

In the smaller group class Mr. W. Horne, gardener to Major-General Lee, Dinas Powis, led with a bright but rather solid mound of crotons, Clerodendron fallax, statice, and Francoa ramosa; Mr. G. Hill, gardener to F. L. Morgan, Esq., Llandaff, was a good second; and Mr. A. Brown was third.

Mr. A. Brown, gardener to the exors. of the late Hainwell, Esq., Grove House, led for three specimen ferns with a large gymnogramma, Davallia bullata, and Microlepia hirta cristata; Mr. J. W. Jones, gardener to Lady Morel, The Lindens, Penarth, second; and Mr. Collier, gardener to A. Parsons, Esq., The Elms, Cardiff, third. Mr. W. L. Melhuish, Clive Road, Cardiff, scored for half a dozen pelargoniums, with low, neatly-trained and freely-flowered examples, each about a yard across.

Some wonderfully fine fuchsias were shown, great tall pyramids, but they were not yet in full bloom; Mr. Macintyre led for six specimens, with Mr. Chas. Garrett, Llewellyn Street, second, and Mr. G. Nurse, Wellington Street, Cardiff, third.

ROSES.

There were five collections of roses, arranged with their own foliage on a space of 9ft. by 4ft. 6in., and here Mr. George Prince, Longworth, was awarded the first prize for a fine exhibit, in which Pharisaer, White Maman Cochet, Viscountess Folkestone, Lyon Rose, Mdme. Abel Chatenay, Souv. de Stella Gray, and Crimson Rambler were very much to the fore. The King's Acre Nursery Company, Hereford, came a capital second.

Messrs. J. Jefferies and Son, Cirencester, came to the front in the class for a dozen trebles of roses, and won with fine specimens of A. K. Williams, Mildred Grant, Lyon Rose, Caroline Testout, Frau Karl Druschki, Bessie Brown, and Muriel Grahame; Messrs. S. Treseder and Son second, and Mr. Prince third. Mr. George Prince led for a dozen trebles of tea roses, and his best sets here were of Mrs. E. Mawley, Madame H. Berger, Muriel Grahame, White Maman Cochet, and Comtesse de Nadaillac; Mr. H. Drew second, and the King's Acre Nursery Company third.

CARDIFF SHOW: PART OF MESSRS. JARMAN AND CO.'S EXHIBIT.
Showing Centaureas (Sweet Sultans).

In a close competition Mr. George Prince scored for twenty-four roses, distinct, with a box of brilliant blooms of Victor Hugo, Horace Vernet, Richmond, Lyon Rose, White Maman Cochet, Mrs. E. Mawley, Ben Cant, S. M. Rodocanachi, Dean Hole, etc.; Mr. H. Drew second, and Messrs. Stephen Treseder and Son, Cardiff, third. For eighteen tea roses Mr. George Prince took first place, and had lovely flowers of Comtesse de Nadaillac, Madame Constant Soupert, White Maman Cochet, Muriel Grahame, Golden Gate, and Myles Kennedy; Mr. Henry Drew second, and the King's Acre Nursery Company, third.

The King's Acre Nursery Company led for a dozen blooms of any tea rose with a fine box of Mrs. Edward Mawley; Mr. George Prince, Oxford, second, with White Maman Cochet; and Mr. H. Drew, Longworth, third, with White Maman Cochet. The premier set of twelve H.P.'s or H.T.'s came from Mr. W. Jarrett Thorpe, who had Hugh Dickson, Lyon Rose, and William Shean in fine form; Mr. G. R. Banner second, and Mr. Foley Hobbs, third.

Mr. W. Jarrett Thorpe, Hucclecote, Gloucester, had the first prize set of a dozen tea roses, and showed beau flowers of Maman Cochet, White Maman Cochet, Souv. de Pierre Notting, and Constant Soupert; Mr. T. Bircher, gardener to G. R. Banner, Esq., Barnwood, Gloucester, second; and Mr. R. Foley Hobbs, third. The King's Acre Nursery Company, Hereford, had the best dozen blooms of any H.P. or H.T. rose, and showed Mildred Grant; Mr. G. Prince second with Lyon Rose; and Mr. J. Crossling, Penarth, third with William Shean.

Mr. R. Foley Hobbs, Thorneloe, Worcester, came first for a bowl of roses, followed by Mr. Wheeler, gardener to Mrs. Jenner, Wenvoe Castle, second, and with Mrs. Mackintosh, of Mackintosh, Cottrell, third.

SWEET PEAS.

Sweet peas were splendidly shown, and, together with the table decorations, occupied one huge tent, and a second one of considerable dimensions. For eighteen bunches, distinct, Mr. Thomas Jones, Pen-y-lan, Ruabon, was a splendid first with superb blooms of Etta Dyke, Miriam Beaver, Audrey Crier, Mrs. C. W. Breadmore, Stirling Stent, Asta Ohn, Clara Curtis, Menie Christy, Dazzler, John Ingman, Zarina, Elsie Herbert, May Gerhold, Marjorie Linzee, and Wenvoe Castle; Mr. Vernon Hill, Mendip Nurseries, Langford, Bristol, was second; and Mr. W. J. Godfrey, Exmouth, third.

CARDIFF SHOW: FIRST PRIZE BASKETS OF FLOWERS.

Exhibited by Messrs. Hodge and Co. The carnations are Aristocrat and Mrs. H. Burnett.

Mr. T. Jones was also to the fore again in the class for six vases of sweet peas, winning the N.S.P.S. silver medal with Mrs. C. W. Breadmore, Elsie Herbert, Asta Ohn, Earl Spencer, John Ingman, and Mrs. Routzahn, all grandly represented; Mr. Pettifer, gardener to R. T. Raikes, Esq., Treherfydd, Brecon, second; and Mr. Taylor, gardener to Alan Gibb, Esq., The Croft, St. Andrews, third. Mr. Wheeler, Wenvoe Castle, led for six bunches of sweet peas in a local class, and here he had Wenvoe Castle, Clara Curtis, and Marjorie Willis in good form; Mr. S. H. Byass, Bridgend, second; and Mr. J. Jonathan, Chain Cottage, Abergavenny, third.

There was a fine competition in Messrs. Sydenham's class for a dozen bunches of sweet peas, distinct, and here Mr. Wheeler, Wenvoe Castle, scored a first with good bunches of America Spencer, Marjorie Willis, Paradise Ivory, Countess Spencer, etc.; Mr. Howard Young, Horsfield, Bristol, second; and Mr. E. Harvey, Dinas Powis, third. Mr. J. Rees, Dinas Powis, led for six bunches of sweet peas in a Cardiff class, followed in order by Mr. J. Buckland, Lavernock, and Mr. T. Pretty, Marshfield.

In the Eckford class for a dozen bunches of sweet peas Mr. Thomas Jones, Ruabon, was an easy first with grand bunches of Tennant Spencer, Helen Lewis, Othello Spencer, Dodwell F. Brown, Nora Unwin, Aurora Spencer, St. George, Countess Spencer, Constance Oliver, Florence Norton Spencer, Clara Curtis, and John Ingman; Mr. H. Baker, gardener to J. Cropper, Esq., M.D., Chepstow, second; Mr. J. Fanks, gardener to J. W. Waddell, Esq., Ravelstone, third.

Mr. Thomas Jones was an excellent first for eight bunches in Messrs. Webbs' class, and here he had Etta Dyke, Audrey Crier, Tennant Spencer, Elsie Herbert, John Ingman, Mrs. Routzahn, and Othello Spencer in grand condition; Mr. A. H. Cossam, gardener to R. T. England, Esq., Rumney Court, second; and Mr. A. W. Morris, Penarth, third.

CUT FLOWERS.

This section was especially good, and of much interest. In the class for a collection of hardy flowers it was unfortunate that Mr. W. Treseder, Cardiff, failed to properly interpret the schedule. Cut flowers were required, and he had the double gypsophila represented as a pot plant, and so had to be disqualified. Mr. W. J. Godfrey, Exmouth, secured the premier award with some fine bunches of scabious, violas, pentstemons, gladioli, gaillardias, coreopsis, antirrhinums, geums, etc.; Messrs. Rich and Co., Bath, came second with a bold exhibit, in which varieties of Chrysanthemum maximum were finely shown. In a class for a collection of annuals, Mr. H. Went, Llandaff, was to the front with salpiglossis, sweet sultans, Phlox Drummondi, double godetias, annual chrysanthemums, sweet peas, stocks, and celosias; Mr. Febrey, gardener to J. W. Caurtis, Esq., Fairwater, second; and Mr. Thomas, gardener to H. Webb, Esq., J.P., Castleton, third.

Mr. Went also annexed the first prize for a dozen bunches of herbaceous flowers, and here he showed finely and set up grand flowers of Campanula lactiflora, Lychnis chalcedonica, Coreopsis grandiflora, Gladiolus Colvillei alba, Chrysanthemum maximum Mrs. J. Fersteeg, Lilium speciosum, Lathyrus latifolius, gaillardias, Helenium pumilum, delphiniums, Galega Hartlandi, and Lythrum Rosy Queen; Mr. Frank Bouskell second, and Mr. W. Horne third.

Mr. Went scored for six bunches of hardy flowers with splendid sheaves of gladiolus, Lilium candidum, Galega Hartlandi, Sidalcea candida, Erigeron speciosum, and Chrysanthemum maximum Wm. Robinson; Mr. F. Bouskell, Market Bosworth, second; and Mr. W. Horne, third. Mr. C. Wall scored for a collection of border carnations and picotees, and Mr. C. F. Waters, Balcombe, Sussex, had the premier set of perpetual and Malmaison carnations, winning with a well set up lot of fine blooms of popular varieties.

FLORAL DECORATIONS.

These always form a prominent feature at the Cardiff show, and on this occasion there was a keen competition in all classes. In the open class for table decorations there were a dozen competitors, and nine entries in the class for sweet peas only.

Miss Dolly Gomer, Rouilly Road, Cardiff, scored in the class for a table decoration with a pretty design in white, cream, and mauve sweet sultans; Mr. J. T. Curtis, Stoke Bishop, Bristol, was second with orchids, etc.; and Mrs. Colston Hall, Warminster, third, with Gottfried Keller and Irish Elegance roses. Miss Muriel Burgess, Stow Park Avenue, Newport, won the first prize for a table decoration in sweet peas with a very pleasing design in pink varieties; Mr. J. T. Curtis, gardener to Sir W. Howell Davies, M.P., Stoke Bishop, Bristol, came second, with a daring but pretty table of cream, lavender, and orange tinted varieties; Mrs. H. A. Gerhold, Penarth, came third with a lovely blending of pink varieties, but she had used the foliage of Thalictrum adiantifolium too freely in the centre and base of her exhibit, otherwise her position would have been a higher one.

For two baskets of flowers, orchids excluded, Messrs. Hodge and Co., Albany Road, Cardiff, were placed first for beautifully arranged baskets of carnations, one filled with the scarlet variety, Aristocrat, and the other with the lovely pink Mrs. H. Burnett; Mr. W. Treseder was second with a basket of carnations and a basket of roses, a trifle heavy in each case; Mr. P. Thomas, Cardiff, third. The best epergne of flowers suitable for a table decoration was of Gloriosa superba, scarlet anthurium spathes, and tiny caladium leaves; this was arranged by Mr. Horne, gardener to Major-General Lee, Dinas Powis; Mr. Percy Phillips, Newport, came second with cream and orange sweet peas very prettily disposed. The best bride's bouquet was a pretty arrangement, composed chiefly of Odontoglossum crispum and Phalænopsis Rimestadiana, by Mr. W. Treseder; Mr. P. Thomas was placed second for a handsome but rather too large design in odontoglossums. For a basket of flowers arranged for effect, Mr. W. Treseder scored with a choice arrangement of bright-hued orchids.

Mr. P. Thomas scored for a hand bouquet, orchids excluded, with a charming design in Mrs. H. Burnett carnations; Mr. W. Treseder second, and Mr. J. Hodge third. Mr. W. Treseder scored for a bouquet of roses with a pleasing design of Madame Abel Chatenay; Mr. J. Crossling second, with Richmond; several of the unplaced bouquets in this class were not properly finished.

FRUIT AND VEGETABLES.

Fruit was not largely shown, but there was a fair competition, and, of course, it is full early to secure a large display in this division.

Mr. Wilkins, gardener to G. A. Gibbs, Esq., M.P., Tyntesfield, Flaxbourton, Bristol, led for two bunches of white grapes with neat, well-coloured clusters of Muscat of Alexandria. Mr. Parry, gardener to D. C. Lysaght, Esq., Portskemett, scored for a pair of bunches of black grapes with Madresfield Court, and he was also first prize winner in the class for one bunch of a black grape. Mr. Cooper, gardener to Captain B. Marling, Clanna, Llandovery, had the best bunch of a white grape, and won with Muscat of Alexandria.

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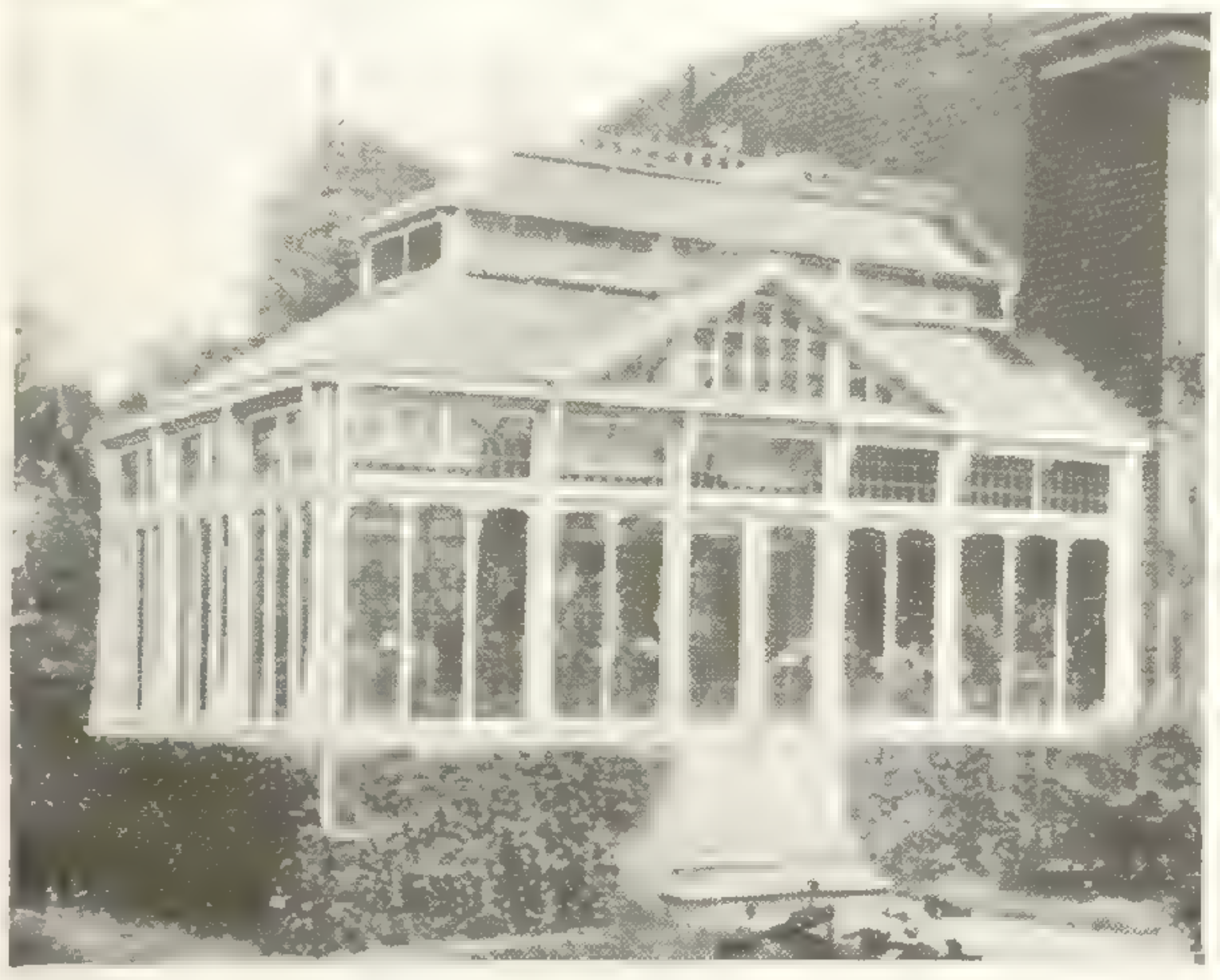

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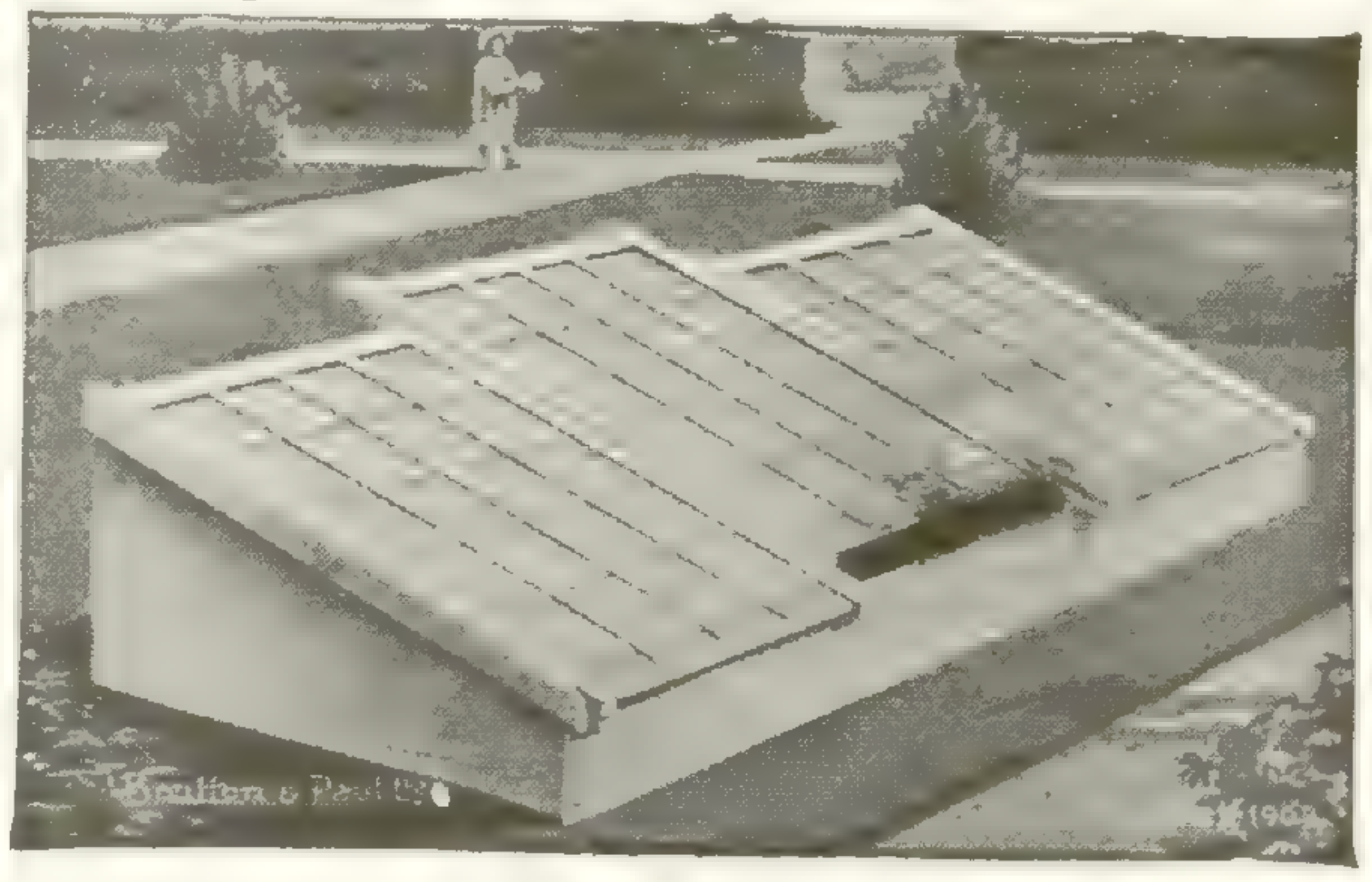

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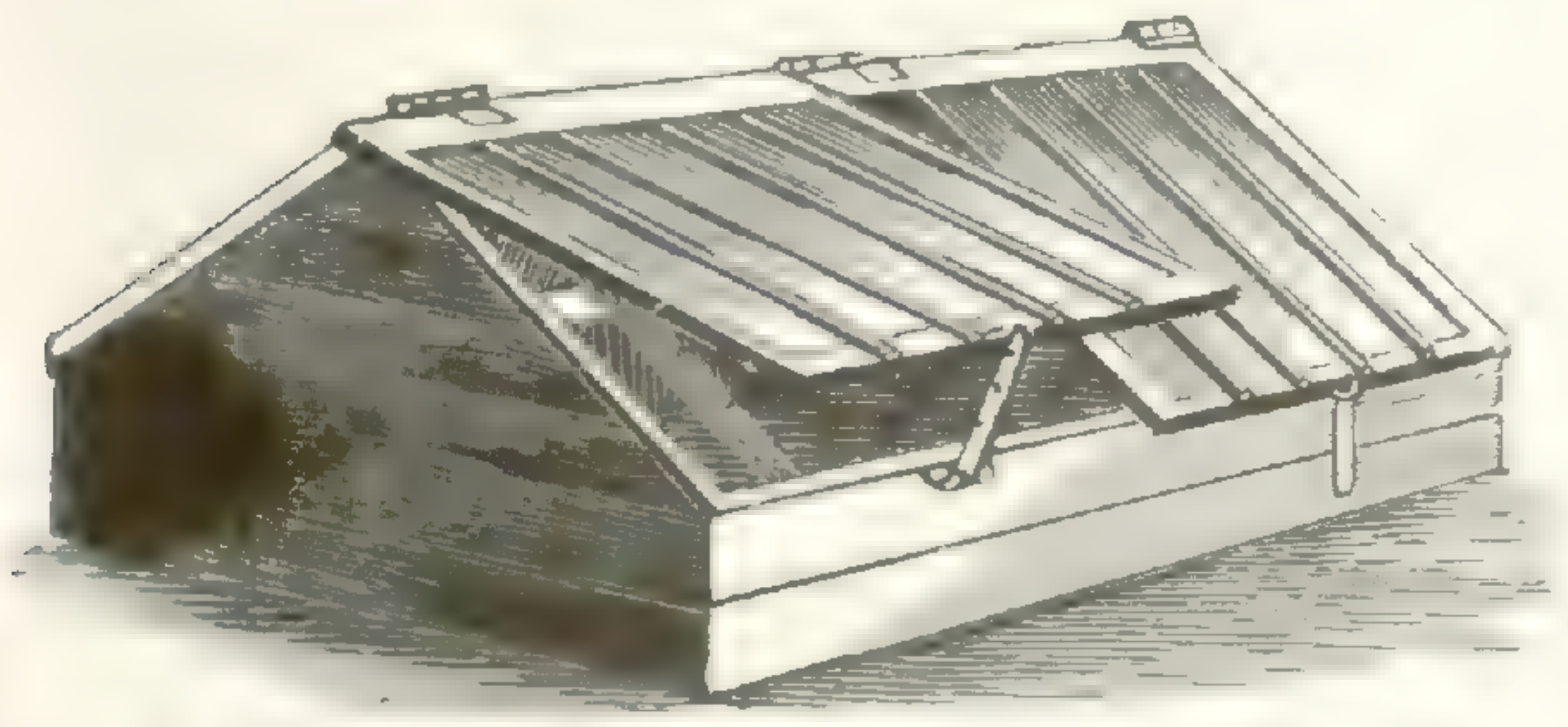

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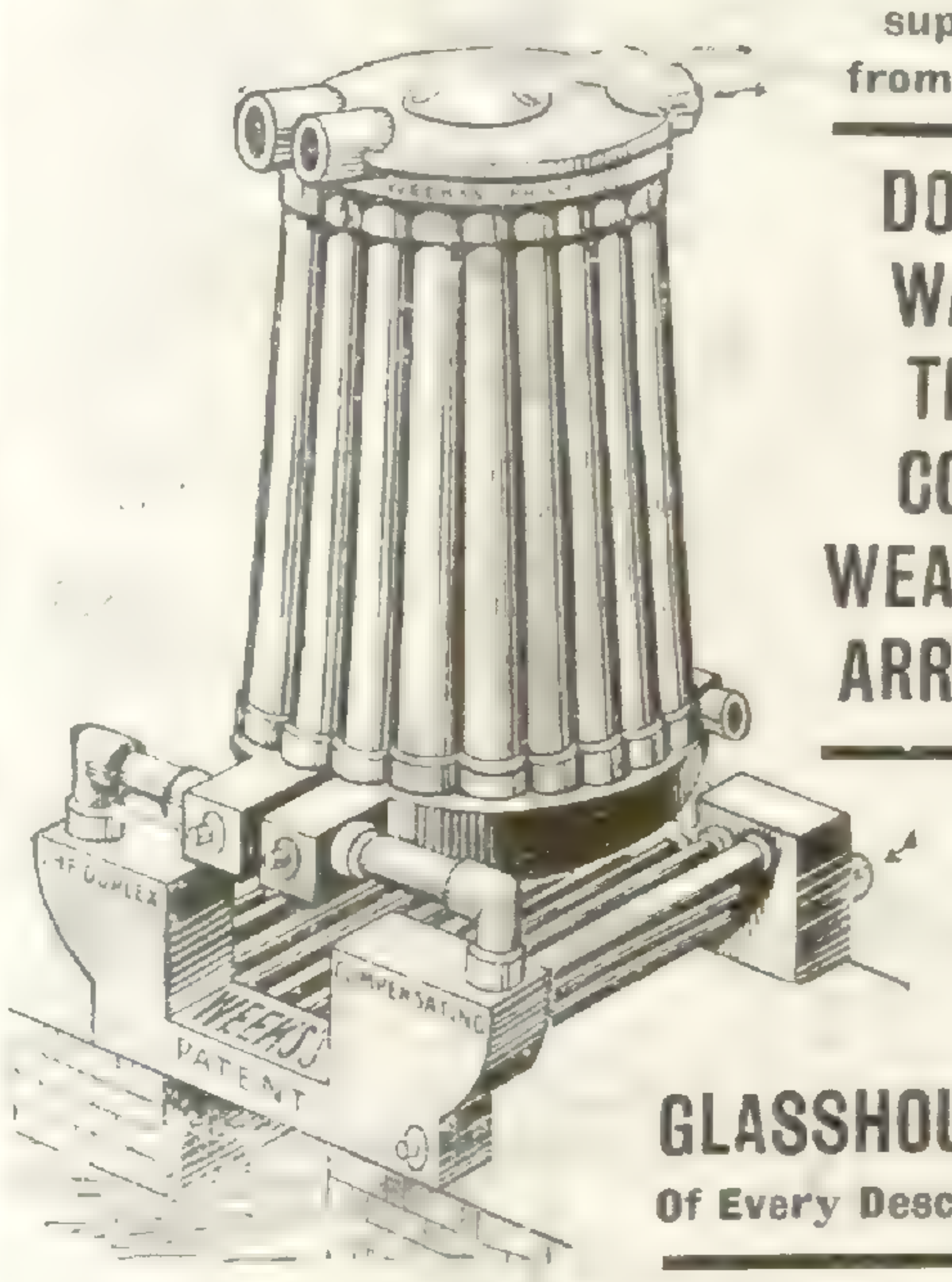

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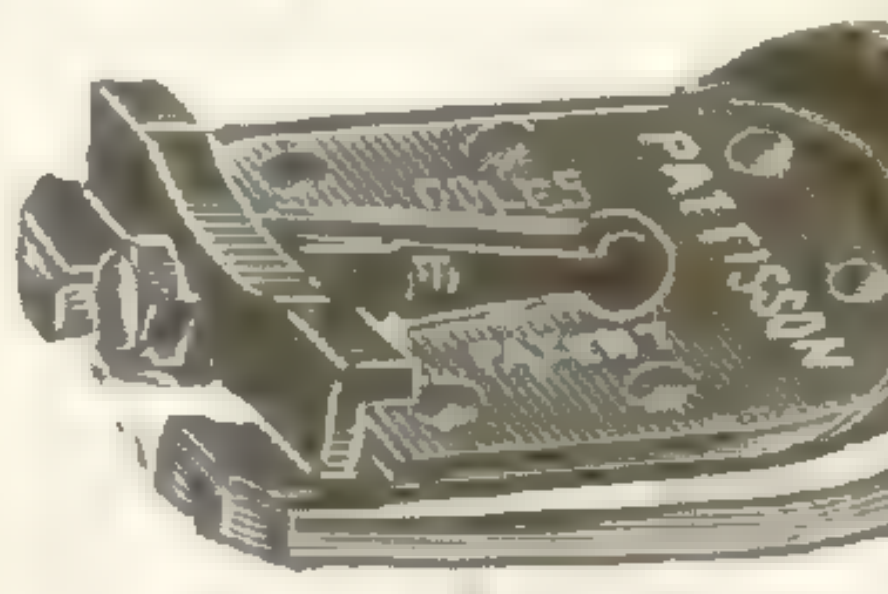

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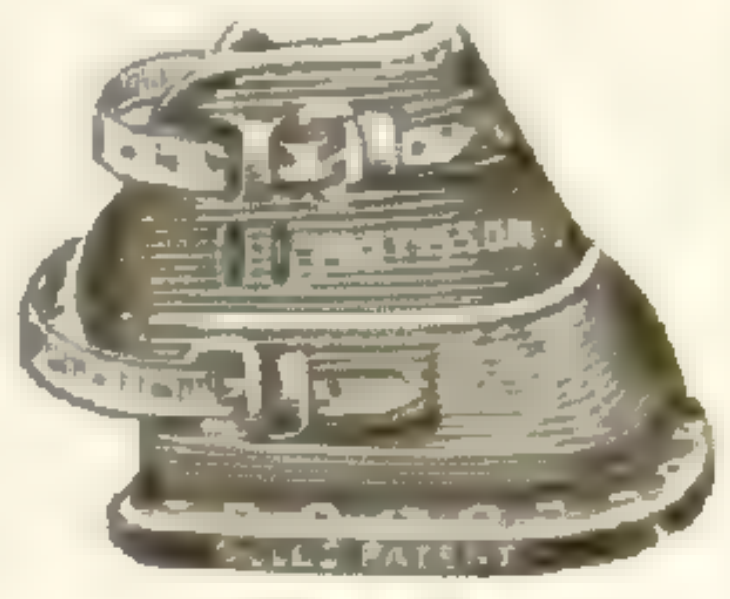

FIG. 2.

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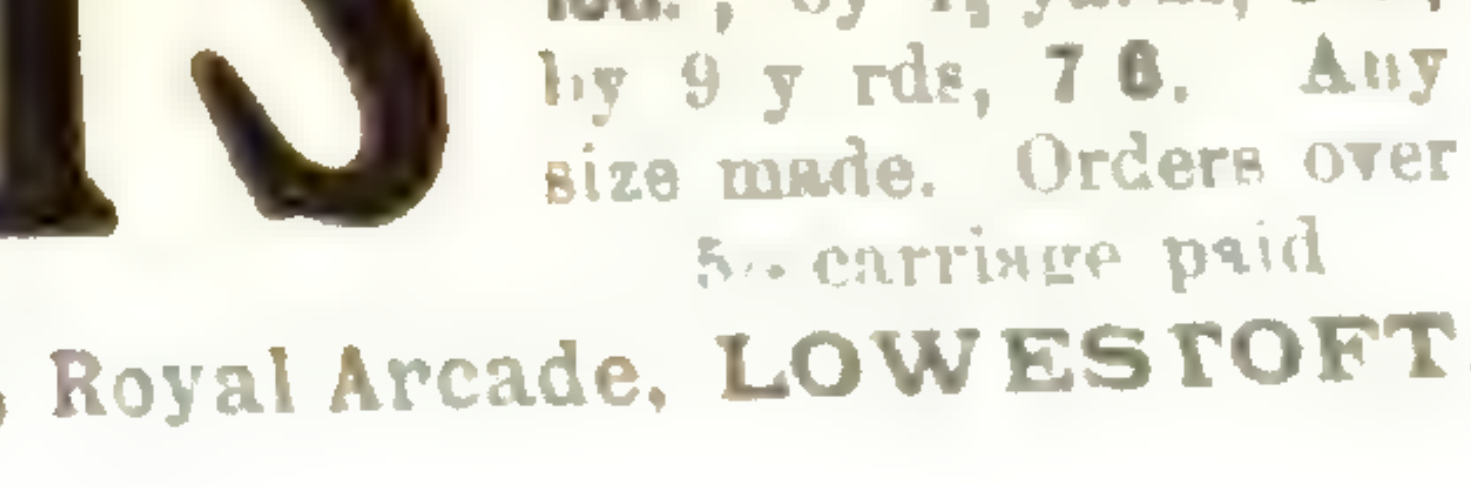

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KNIGHT, Royal Arcade, **LOWESTOFT.**

Mr. Horne had the best dish of strawberries.

The best decorated dessert table was the one arranged by Mr. W. Treseder, Cardiff, who showed excellent grapes, Pineapple nectarines, a pineapple, melon, and strawberries, and used cattleyas, oncidiums, and other choice flowers to decorate the table; second prize fell to Messrs. Hodge and Co., Albany Road, Cardiff; and third to Mr. C. J. Ellis, Weston-super-Mare.

Vegetables were very well represented, and in the majority of exhibits the produce was well arranged. Mr. A. R. Searle, gardener to the Marquis of Northampton, Castle Ashby, had a very fine collection of nine distinct kinds of vegetables; and Mr. Shackson, gardener to Mrs. Rees Jones, Porthkerry Road, who did well at Penarth the other day, was an excellent second. In the Messrs. Sutton's class for six kinds of vegetables Mr. Shackson was first, but in the Messrs. Webb's class he was second to Mr. Searle, while Mr. Cox, gardener to Mrs. Bernard, Oakfield, Bridgewater, was third prize winner.

NON-COMPETITIVE.

Trade displays were numerous, though scarcely so many in number or so extensive as in 1909, but they were sufficient to add greatly to the interest and attractiveness of the show.

Sweet peas were finely shown by Mr. Henry Eckford, Wem, Salop, who had a pretty exhibit of large bunches of Othello Spencer, Clara Curtis, Mrs. C. W. Breadmore, Countess Spencer, Dodwell Brown, etc. Messrs. G. Stark and Son, Great Ryburgh, contributed a bright display of sweet peas, and in this group George Stark Improved, Mrs. Duncan, and Mrs. C. W. Breadmore were well shown. Messrs. Toogood and Sons, Southampton, had a small temple of sweet peas over beautifully green grass. Messrs. J. C. Wheeler and Son, Gloucester, displayed sweet peas and well-grown carnations to great advantage.

The King's Acre Nursery Company, Hereford, brought a remarkably good exhibit of peaches, nectarines, gooseberries, and grapes, all growing in pots, and freely fruited; they also had a display of hardy flowers. Messrs. E. Webb and Sons' tall temple of sweet peas was a great attraction, and the base of the temple was furnished with gloxinias, sweet peas, melons, tomatoes, and other Wordsley specialities. Messrs. Young and Co., Hatherley, displayed well-grown perpetual carnations in very pleasing fashion. Messrs. W. H. Rogers and Son, Southampton, showed their bright scarlet pelargonium Jas. T. Hamilton. Messrs. Jarman and Co., Chard, put up roses, sweet peas, and pelargoniums, but the best part of their display consisted of sweet sultans (centaureas) The Bride, Bridesmaid, Bridegroom, and the golden-yellow Honeymoon, and these charming flowers were greatly admired. Mr. H. N. Ellison, West Bromwich, brought a group of choice ferns. Messrs. Clibrans, Altrincham, showed roses, and Messrs. Blackmore and Langdon, Twerton, had a few delphiniums and cut begonias. Mr. Evans, Llanishen, contributed hardy flowers and hardy plants liberally and well. Messrs. A. A. Walters and Son, Bath, showed hardy flowers, and Mr. Eames, Frome, also had good bunches of hardy flowers. Mr. Vincent Slade, Taunton, sent zonal pelargoniums and Mr. W. J. Godfrey brought up pelargoniums, gladioli, and Solanum Wendlandi, from Exmouth; while from Guernsey Mr. F. Lilley brought gladioli, and Mr. L. R. Russell, of Richmond, contributed a group of ornamental evergreen shrubs.

MEDALS.

Gold.—Mr. Henry Eckford, Wem, Salop, for sweet peas; Mr. Farmer, gardener to the Marquis of Bute, Cardiff Castle, for group of stove and greenhouse plants; King's Acre Nursery Company, Hereford, for fruit trees in pots and flowers; Messrs. E. Webb and Sons, Stourbridge, for sweet peas, fruits, and vegetables; Messrs. Young and Co., Hatherley, for carnations; Mr. L. R. Russell, Richmond, for hardy shrubs; and Messrs. W. and H. Evans, Llanishen, for hardy flowers.

Silver.—Messrs. J. Wheeler and Son, Gloucester, for sweet peas and carnations; Messrs. G. Stark and Son, Great Ryburgh, for sweet peas; Messrs. Toogood and Sons, Southampton, for sweet peas; Messrs. Jarman and Co., Chard, for sweet sultans, sweet peas, and roses; Mr. H. N. Ellison, West Bromwich, for ferns; Mr. F. Lilley, Guernsey, for gladioli; Mr. Evans, Frome, for hardy flowers; Mr. W. J. Godfrey, Exmouth, for greenhouse and hardy flowers.

Bronze.—Mr. V. Slade, Taunton, for zonal pelargoniums.

PANSIES AND VIOLAS.

These popular plants are being used more extensively every year for bedding out. When properly treated they continue to flower from spring till autumn; they are fairly hardy, do not take up much room when in their winter quarters, and are comparatively easy to grow. Plants that possess so many good points are bound to enjoy a high degree of popularity. They are not faultless, however. There is a tendency to degenerate rapidly if good culture be neglected. Named varieties should be very carefully propagated at this season.

A naturally sandy soil is very suitable. Where this does not obtain, road grit, or plenty of coarse sand should be mixed with the original. The border should face north, north-west, or north-east. A south border is not a good one for the cuttings. The soil should be dug up and the road grit mixed with it to a depth of quite nine inches, as these plants form roots freely. But after the digging, and when the soil has dried partially, it should be trodden down a little—if sandy.

Strong runner-like shoots make the best cuttings as they will continue to grow and not bloom. These shoots are found near the base of the plant, and are free from flower buds. Of course, cuttings may be taken from any part of the plant, but it is advisable to remove all flower buds found on them.

Having otherwise prepared the beds, scatter some sand on the surface so that some of it will be borne down by the dibber when the holes are made. The cuttings, resting on this sandy base, will soon form roots, and if all flower buds be pinched off as soon as seen, strong plants will be available before severe weather comes.

To make a cutting it is only necessary to sever the stem below a joint and to remove the two basal leaves. Keep a sharp look-out for earthworms, as they often draw in the leaves of the cuttings, loosening the latter in the soil, and thus preventing rapid root action.

G. B.

Lilium longiflorum Out of doors.—We are so accustomed to see this lily treated as a pot plant that its great beauty out of doors is apt to be overlooked. There are many forms of this lily in cultivation, and we obtain bulbs from many quarters of the globe — namely, from Holland, Bermuda, Japan, South Africa, and the Azores—but of them all for outdoor culture I prefer the Japanese bulbs, whether the variety be the dark-stemmed one known as grandiflorum, or that bold form with green stems that we used to call Wilsoni.—W. T.

Rhododendron Victorianum.—On page 486 your correspondent, Mr. W. A. Cook, takes exception to my reference regarding this rhododendron as a good garden plant. He does not, however, appear to have read the context, for at the commencement of the note I stated that it is one of the most striking of the tender garden forms. Thus it will be at once seen that I did not recommend it for outdoor culture, and I have yet to learn that a subject which needs protection in winter cannot be regarded as a good garden plant, there being, at least from my point of view, both indoor and outdoor gardening.—K.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

ŒNOTHERA YOUNGI.—W. W., Maidenhead: This beautiful golden-yellow flower is a fine garden plant, and will grow in almost any soil and situation, provided it has sunshine. It is a gay summer flower that is well worth growing because of its brilliance and continuity. Œ. Youngi is generally regarded as a variety of Œ. fruticosus. Planted among the bright and deep scarlet Paul Crampfer pelargonium, Œ. Youngi assists in the production of a gorgeous effect.

MIMULUS LUTEUS IN THE WATER GARDEN.—F. W. S., Newmarket: There are not many places in the garden where Mimulus luteus fails when once it is established. We have seen it flourishing on the rock garden, among stone steps, in herbaceous borders, and in window boxes, but we have never seen it so fine as when covering a low bank close to the edge of water, and in full sunlight. You will find no difficulty in establishing this mimulus.

INFESTED RASPBERRIES. — J. H., Lyndhurst: The infestation and consequent damage are due to the raspberry beetle (Byturus tomentosus), a little pest capable of doing a very great deal of damage. They chiefly attack the blossoms during the end of May and in June, but in recent years, probably owing to cold spring weather, they have continued to appear well into July. Bags soaked with paraffin placed under infested canes, and the latter shaken vigorously, will answer for the beetles that fall, but very much may be done to prevent further infestation by cutting out the fruiting canes as soon as the crop is gathered, and burning them. At the same time, thin out the new canes, remove all weeds and rubbish from the row, and burn every bit of this waste material. In the autumn, after the leaves have fallen, remove and burn the latter, and remove and burn or deeply dig as much of the surface soil as can be removed without injuring the raspberry roots, putting some thoroughly good soil mixed with manure in its place.

PROTECTION OF CERTIFICATED SWEET PEAS.—E. C. S., Weybridge: We understand that the National Sweet Pea Society has this matter under consideration, and will issue a copyright design to be affixed to each packet of sweet peas of a certificated variety sent out by the raiser during the year of introduction. Without this copyright label the seeds cannot genuinely represent the certified stock, and any infringement of the copyright will be proceeded against by the society. At least, that is how we understand the matter.

MEALY BUG IN GRAPES.—F. L. I., Byfleet: We sympathise with you, because there is no way of clearing mealy bug from bunches of grapes than that of washing, and it is a slow process, and spoils the appearance of the grapes. Do the best you can in this way, and do not admit plants of any kind into the vinery. After the grapes have been cut you may commence operations by forcible syringings with insecticide, and vaporising, but the great opportunity will come in the winter when the leaves have fallen. You must then deal with the pest thoroughly, and make no mistake about cleansing the house and rods in a most effective manner. If after the house is cleaned all the woodwork is painted and the walls washed with hot lime-wash, to which paraffin has been added, it will all help to eradicate the pest. Write us again in the autumn

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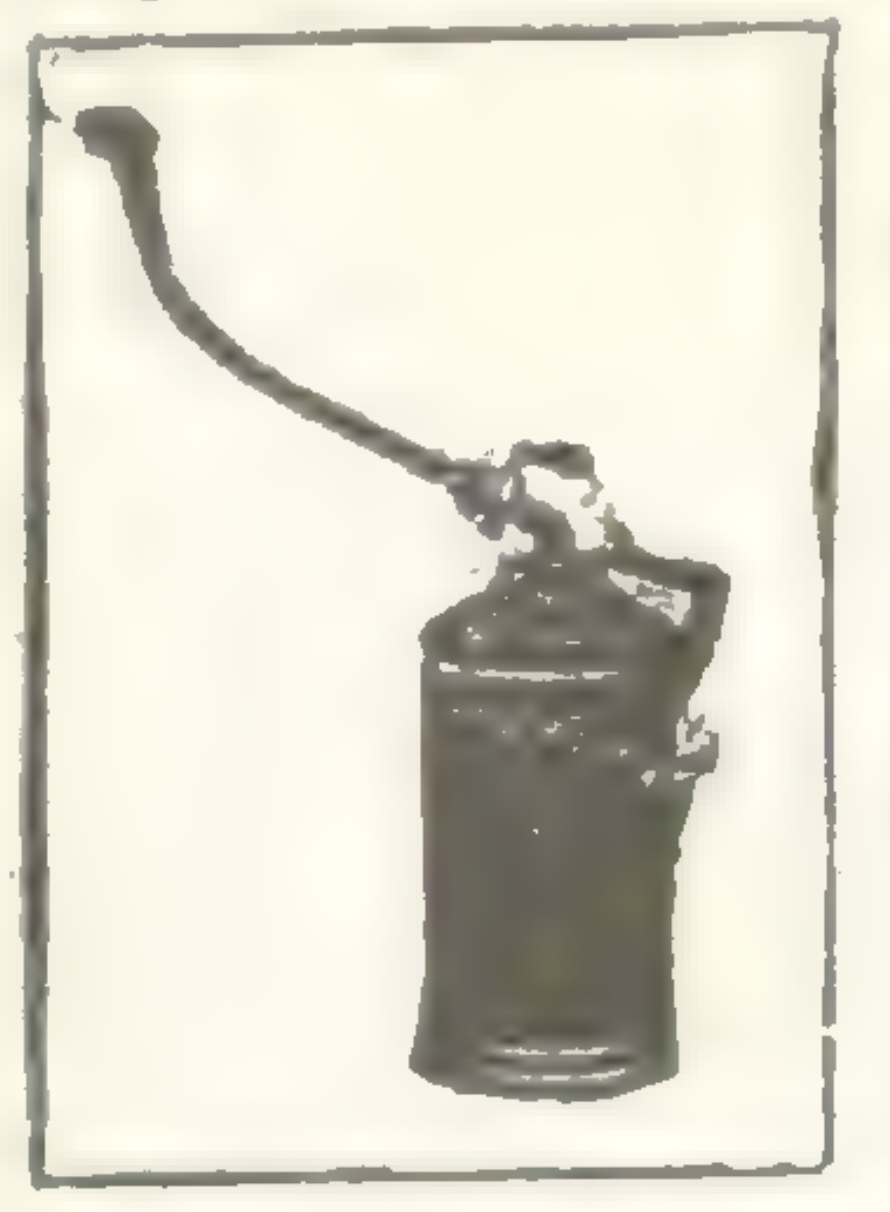

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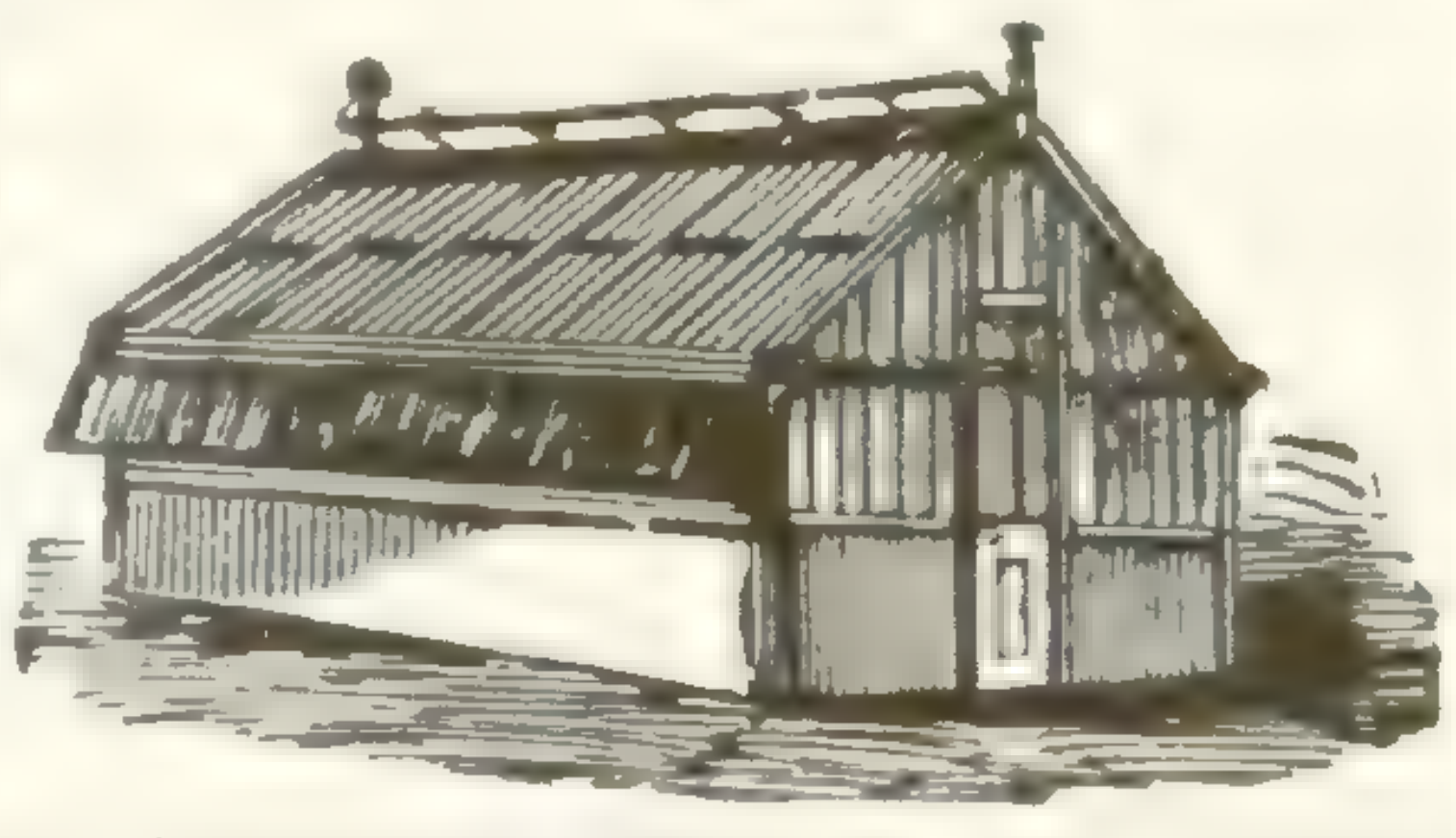

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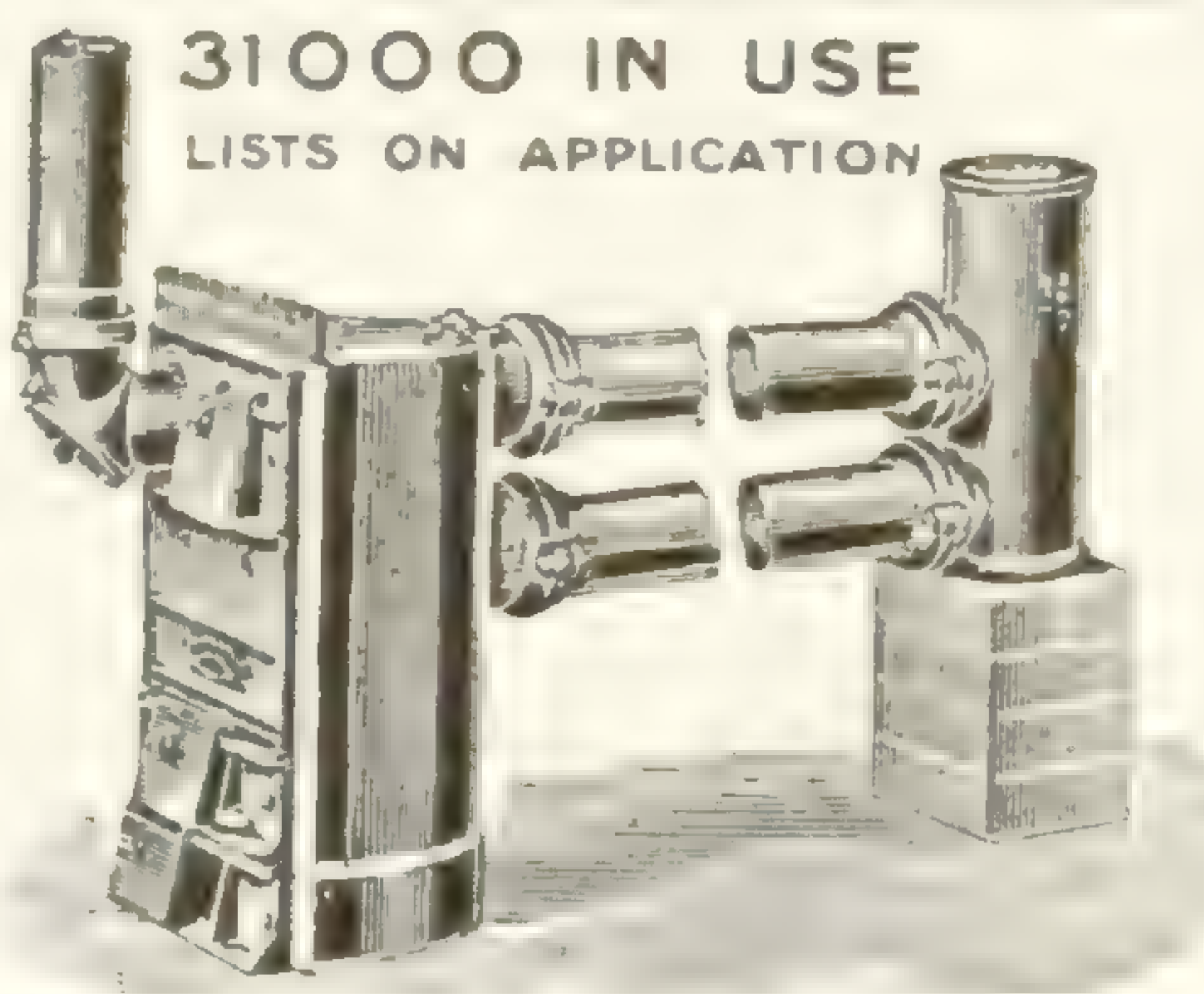

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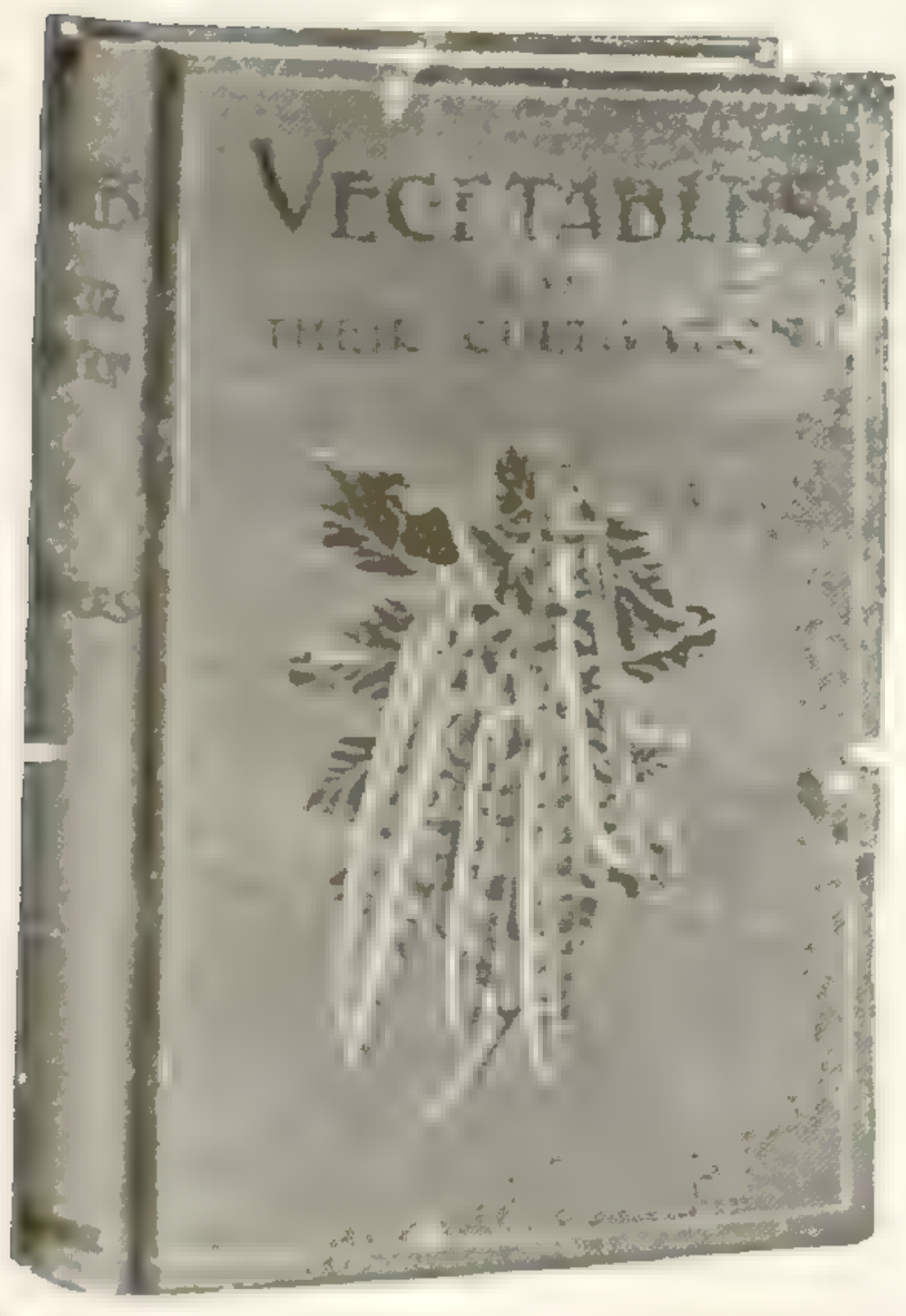

By T. W. SANDERS, F.L.S., Editor of "Amateur Gardening," etc., etc.

Formation of the Vegetable Garden.
Soils and Their Treatment.
Manures and Their Uses.
Crops and their Rotation.
Calendar of Garden Work.
Cultural Details for Each Vegetable.
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Please send me a copy of "**VEGETABLES AND THEIR CULTIVATION,**" by post, for which I enclose remittance of **5/6.**

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Address ....

and we will advise you how to proceed. We are glad you like the GARDENERS' MAGAZINE. You will find our "Work for Week" columns of great value in your efforts to rehabilitate the garden you have now charge of.

FOSTER'S SEEDLING GRAPE.—S. E. R., Devizes: The late Dr. Hogg stated that Foster's White Seedling grape was raised about the year 1835 by Mr. Foster, gardener to Lord Downe, Beningborough Hall, York. This, and Lady Downe's Seedling, were both obtained at the same time from the same pot of seedlings, which were the result of a cross between Black Morocco and White Sweetwater.

NAMES OF PLANTS.

F. T., Carshalton.—Lilium Browni.

F. L. I., Byfleet.—Jacobinia cornea.

F. A. N., Surrey.—1, 2, and 3, are garden varieties of Iris Kæmpferi; No. 4, we do not recognise.

D. S., Gateshead.—1, Salvia sclavea; 2, Spiræa palmata; 3, Trachelium cæruleum; 4, Kalanchoe flammea.

G. S., Ryde.—1, a garden form of Veronica Andersoni; 4, Crassula coccinea; 3, Spiræa Douglasi; 4, Deutzia crenata fl. pl.

M. L. J., Blandford.—1, Campanula lactiflora; 2, Molucella lævis; 3, Passiflora Kermesina; 4, Mimulus luteus; 5, Galega Hartlandi.

NAMES OF FRUIT.

J. E. G., Amersham.—White Dutch.

F. L. I., Byfleet.—The fruits were so small that it was not possible to name them with any degree of certainty, because of their lack of character. We think 2 is Barrington; 3, Lord Napier; 4, Early York; and 5, Elruge. Send again next year, when we hope you will have been more successful. The strawberry is Louis Gauthier.

The Holiday Season.—We are now in the midst of the holiday season, and many of our readers are considering the question of when and where they will go for a short period of rest and change from the cares and anxieties inseparable from the management of gardens. Some may be contemplating a Continental holiday, but those who have the care and responsibility of large gardens can spare but a short time from home, and consequently avoid journeys extending beyond the boundaries of the United Kingdom. Happily there is no scarcity of interesting and enjoyable haunts in England where one may, if so inclined, improve one's knowledge of the British flora, or visit places that have played important parts in the history of this country. The Great Central Railway publishes an excellent little booklet, entitled "Strolls in Beechy Bucks," which shows what a delightful time may be spent in that tract of delightful country, with its old-world villages, breezy heights, peaceful vales, and beautiful woodlands. Students of history or lovers of poetry may visit within the limits of a fortnight the homes of Milton, Gray, Penn, Burke, Waller, Disraeli, and Hampden, and that with but little fatigue or expense. Further north the Great Central Railway affords remarkable facilities for visiting the "Dukeries," the most famous gardens of which were recently described in these pages; while those who prefer a holiday by the sea can travel by an excellent service of trains or steamboats to such admirable resorts as Scarborough, Whitby, Cleethorpes, Isle of Man, Southport, or Lytham. The company has just published a special programme of the arrangements they have made for the holiday season, and as this shows the facilities offered to over 300 towns and holiday resorts, we would advise those of our readers who are desirous of arranging an enjoyable holiday to obtain the programme and guides issued by this progressive company. Applications should be addressed to the Publicity Department, Great Central Railway Offices, 216, Marylebone Road, London, N.W.

OBITUARY.

MR. GEORGE TUBB.

We much regret having to record the death of Mr. G. Tubb, which recently occurred at Minley Manor, Hants, where for more than thirty-five years he was head gardener to three generations of the present owner's family (Laurence Currie, Esq.). During his long and faithful service many improvements and alterations in the gardens were carried out by Mr. Tubb, under the direction of his employers, whose confidence he enjoyed to the last. Mr. Tubb passed away from heart failure following paralysis. He was always a warm supporter of the Gardeners' Royal Benevolent, being connected with the Reading Auxiliary of that excellent institution.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

DATE. 1910. JULY 10 TO JULY 16.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
July 10—Sunday	1 6	53	50	59	48
,, 11—Monday	5 42	55	53	65	52
,, 12—Tuesday	1 24	55	53	68	52
,, 13—Wednesday	9 48	58	55	71	53
,, 14—Thursday	8 54	57	56	70	49
,, 15—Friday	5 30	57	54	67	55
,, 16—Saturday	3 42	56	53	68	54
Means	(total) 36 6	56	53	67	52

DATE. 1910. JULY 10 TO JULY 16.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
July 10—Sunday	trace	57	59	57	44
,, 11—Monday	—	59	59	57	52
,, 12—Tuesday	—	59	59	57	45
,, 13—Wednesday	—	59	59	57	48
,, 14—Thursday	—	61	60	57	45
,, 15—Friday	—	62	61	57	50
,, 16—Saturday	—	61	61	57	52
Means	(total) —	59	59	57	48

Crassula coccinea.—Model little plants of this crassula are now to be seen in the florists' shops of London—and, in fact, sometimes on the costermongers' barrows. All of them are grown in the regulation 48-pot, that is to say, one 5in. in diameter There are several varieties, but the richest coloured forms seem, as a rule, to sell best.—W. T.

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MARKETS.

COVENT GARDEN.

Flowers.

Flowers of all kinds that are now in season are plentiful.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	6	0	to	[illegible]	[illegible]
Asparagus	per bun.	1	0		1	[illegible]
Carnations	per doz. blms.	1	0		[illegible]	[illegible]
,,	per doz. bun.	10	0		12	[illegible]
Cattleyas	per doz.	6	0		[illegible]	[illegible]
Coreopsis	per doz. bun.	1	6		2	[illegible]
Cornflowers	per doz. bun.	1	0		2	9
Croton leaves	per bun.	1	0		2	[illegible]
Delphiniums	per doz. bun.	4	0		[illegible]	[illegible]
Eucharis	per doz.	2	0		[illegible]	[illegible]
French fern	per doz. bun.	0	[illegible]		[illegible]	[illegible]
Gaillardias	per doz. bun.	1	6		2	[illegible]
Gardenias	per doz.	2	0		2	[illegible]
Gladiolus	per doz. bun.	3	0		[illegible]	[illegible]
Gypsophila elegans	per doz. bun.	2	0		2	[illegible]
Iris	per doz. bun.	2	6		5	[illegible]
Lapagerias	per doz.	1	6		2	[illegible]
Lilium auratum	per bun.	2	0		3	[illegible]
,, candidum	per doz.	1	0		1	[illegible]
,, speciosum	per bun.	1	6		2	[illegible]
,, longiflorum	per bun.	2	0		3	[illegible]
Lily of the Valley	per doz. bun.	5	0		10	[illegible]
Marguerites	per doz. bun.	1	6		2	6
Mignonette	per doz. bun.	2	0		3	0
Odontoglossums	per doz. blms.	1	0		2	[illegible]
Pelargoniums	per doz. bun.	3	0		5	0
Poppies (Iceland)	per doz. bun.	1	0		1	[illegible]
Roses	per doz.	1	0		2	6
Smilax	per doz. trails	3	0		4	0
Spiræa	per doz. bun.	4	0		[illegible]	[illegible]
Statice	per doz. bun.	4	0		6	0
Stocks	per doz. bun.	2	0		4	[illegible]
Sweet Peas	per doz. bun.	1	6		[illegible]	[illegible]
Tuberoses	per doz. blms.	0	4		[illegible]	[illegible]

Fruits.

The supplies are rather limited with good demand.

		s.	d.		s	d.
Apples, Tasmanian	per case	9	0	to	13	0
,, Australian	per box	8	0		11	[illegible]
Apricots	per box	0	9		1	6
Bananas	per bun.	3	6		10	0
Cherries	per box	0	9		1	6
,, French	per ½-sieve	4	0		10	6
Currants, Black	per ½-sieve	6	0		8	[illegible]
,, Red	per ½-sieve	5	0		6	6
Figs	per doz.	1	6		6	[illegible]
Gooseberries	per ½-sieve	2	0		3	6
Grapes, English	per lb.	0	8		4	0
,, Guernsey	per lb.	0	6		2	0
Lemons	per case	10	0		30	0
Melons	each	0	8		2	0
Nectarines	per doz.	3	0		10	0
Oranges	per case	10	0		16	
Peaches, English	per doz.	3	0		12	6
Pears, Australian	per package	12	0		18	0
Pineapples	each	2	6		4	6
Raspberries	per basket	1	6		2	0
Strawberries	per peck	1	0		2	0

Vegetables.

Vegetables are plentiful and of high quality but the demand is rather falling off owing to the holidays.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	[illegible]	[illegible]
Beans, Dwarf	per lb.	0	4		[illegible]	[illegible]
Beet	per bush.	2	0		[illegible]	[illegible]
Cabbages	per tally	2	0		[illegible]	[illegible]
Carrots, new	per doz. bun.	2	0		[illegible]	[illegible]
Cauliflowers	per doz.	2	0		[illegible]	[illegible]
Cucumbers	per flat	3	6		[illegible]	[illegible]
Endive	per doz.	1	0		[illegible]	[illegible]
Lettuce, Cos	per score	0	4		[illegible]	[illegible]
Marrows	per doz.	1	0		[illegible]	[illegible]
Mint	per doz. bun.	2	0		4	[illegible]
Mushrooms	per doz. lb.	7	6		10	[illegible]
Mustard and Cress	per doz. pun.	0	[illegible]		[illegible]	[illegible]
Peas	per bush.	1	[illegible]		4	[illegible]
Tomatoes	per doz. lb.	4	[illegible]		[illegible]	[illegible]
,, Guernsey	per doz. lb.	3	[illegible]		[illegible]	[illegible]
Turnips, new	per doz. bun.	2	6		[illegible]	[illegible]
Watercress	per doz. bun.	0	3		[illegible]	[illegible]

LONDON POTATO MARKETS.

Supplies rather heavy with moderate demand.

		s.	d.		s.	d.
English Round	per cwt.	4	0	to	4	6
English Kidneys	per cwt.	4	0		4	6
English Epicures	per cwt.	3	0		3	6
Jerseys	per cwt.	4	0		5	[illegible]
St. Malo	per cwt.	4	6		5	0
Dutch	per bag	3	0		3	6

FORTHCOMING ENGAGEMENTS.

TUESDAY, July 26.—York Agricultural Show, Horticultural Section, at Leeds; Three days.
East Cowes Summer Show; Two days.
National Carnation Society, Horticultural Hall.
WEDNESDAY, July 27.—Leamington Horticultural Society; Two days.
Southampton Carnation and Sweet Pea Show.
Haywards' Heath Horticultural Society.
Kingston Horticultural Society.
Bishops Waltham Horticultural Society.
Chesterfield Rose Show.
THURSDAY, July 28.—Horticultural Club Outing to Prested Hall, Essex.
SATURDAY, July 30. — Mickleover Hor[illegible] Society.

Employment THE GARDENERS' MAGAZINE Register.

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HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

MR. TAYLOR, Head Gardener to Sir James Mackay, Chesterford Park, Essex, can highly recommend J. WREN as HEAD GARDENER, where two or more are kept; thoroughly experienced in all branches, Inside and Out; good references; age 31; married, three children; leaving when suited. J. WREN, Meesden, Buntingford, Herts.

MR. E. R. BEVAN highly recommends his late HEAD GARDENER; 13 years in his service; life experience in all branches; most capable and trustworthy; 39; married, one child. H. KING, Rempstone, Corfe Castle.

E. A. WIGAN, ESQ., Conholt Park, Andover, can recommend his late Foreman, D. NORGATE, as GARDENER, HEAD, where several are kept; age 29; single; 14 years' good experience in all branches. NORGATE, South Street, Ropley, Alresford, Hants.

GARDENER (Head); life experience in growing all kinds of fruit and plants, including orchids; also kitchen and flower garden; can be highly recommended. W. LAMBERT, The Common, Kenilworth, Warwickshire.

GARDENER.—Mr. HANSON strongly recommends his Foreman, H. BLACKWELL, as HEAD, where five or more are kept; 13 years' practical experience Inside and Out; excellent references; age 28. Address H. BLACKWELL, Cheveley Park Gardens, Newmarket, Cambs.

GARDENER (Head, where one or more are kept); life experience in all branches; age 35; married, no family WELLS, 40, Malden Road, Boreham Wood Herts.

GARDENER (Head Working); experienced in the cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, etc.; also Hardy Fruit culture; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; prize winner; leaving own request; no young children; youngest 14. W. BLOOMFIELD, Staplehurst, Kent.

GARDENER (Head Working, where two or more are kept); good all-round; can be well recommended; married when suited; age 36. PEARCE, Ridley, near Wrotham, Kent.

GARDENER (Head Working where two or more are kept); life experience in all branches; age 42; 7 years in present place as Head. STEVENS, 197, Blackstock Road, Finsbury Park, N.

GARDENER (Head Working or good Single-handed); life experience in all branches; good references from present and previous employers as to ability and trustworthiness; no family. GARDENER, 28, Martell Road West, Dulwich, S.E.

GARDENER (Head Working, where two or more are kept); life experience Inside and Out, can be well recommended; age 36; married, one in family, 13 years. T. WEST, near New House Farm, Ninfield, Sussex.

GARDENER (Head Working, where one or two more kept, or good Single-handed); experienced Inside and Out; good references, and recommended; age 27; married when suited. W. CROUCHER, 11, North Terrace, Hythe, Kent.

SITUATION WANTED.—Gardener (Head Working, where two or three are kept); well up in Vines, Melons, Figs, Cucumbers, Tomatoes, and Flowers; early and late forcing; age 41; life experience; abstainer; married, 1 child; good refs. W. E. S., 52, Corporation Road, Gillingham, Kent.

GARDENER (good Single-handed where help is given or Head of two); good all round experience, both inside and out; 5 years and 10 months reference, eldest boy of three 14 years old; life experience; wife willing to help in house or laundry; good ironer. HARRY GOOD, Ivinghoe, near Tring, Bucks.

GARDENER (Single-handed); married; age 27, seeks SITUATION; experienced Inside and Out; 5½ years' excellent reference last situation. Apply W. G. CONN, 7, Coombe Road, Sydenham.

GARDENER (Single-handed); thoroughly experienced Inside and Out; knowledge of modern bee keeping; excellent references; married; age 31; two children. A PLUMRIDGE, High Street, Stockbridge, Hants.

GARDENER (Single-handed or where help is given); good all-round Man, Inside and Out, willing to be useful; good references. Apply WITHERS, Dymboro House Gardens, Midsomer Norton, Bath.

GARDENER seeks SITUATION (Single-handed or Under); 10 years' experience; age 25. E. C., 10 Avenue Villas, Cricklewood Lane, Hendon, N.W. No Circulars.

GARDENER (Single-handed) seeks SITUATION; 12 years' good experience; good reference. Address, A. DODD, 64, Northfield End, Henley-on-Thames.

GARDENER (Second, Inside or Inside and Out); 12 years' experience; Single; age 28; excellent references. D., 16, Bennett Road, Kemp Town, Brighton. (No circulars.)

GARDENER (Second, where four or five are kept); five years' good reference; single. Apply, GOWER, Scaynes Hill, Haywards Heath.

FIRST JOURNEYMAN, Inside and Out (chiefly Inside). J. CASWELL, The Gardens, Westwood House, Colchester, Essex, seeks SITUATION as above; 11 years' experience; good references; age 24; Bothy preferred. (No circulars.)

JOURNEYMAN (Inside and Out), age 24; 8 years' experience; can be well recommended; nearly 2 years' present situation. A. FUZZENS, Ossington Hall Gardens, Newark.

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JOURNEYMAN-IMPROVER, age 20, seeks SITUATION, inside, or inside and out; well recommended; 3 years' good experience, inside and out at The Moot, Downton. S. FURNELL, Morgan's Vale, Downton, near Salisbury.

MR. J. SHELTON, Wildernesse Gardens, Sevenoaks, Kent, will be pleased to recommend A. BOOKER as JOURNEYMAN (Inside); age 21; 4 years' experience. Apply as above.

GENTLEMAN wishes to recommend Young Man as GARDENER (Under) in Kitchen Garden, or Kitchen Garden and Pleasure Grounds; age 21; abstainer; good references. BARRELL, Frating, Colchester, Essex.

MR. W. HUMPHREYS, Buckden Towers, wishes to highly recommend a respectable Young Man as GARDENER (Under); over five years' experience, Inside and Out; age 26, Bothy preferred. G. WORLEY, Buckden, Huntingdon.

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YOUNG MAN seeks SITUATION in private place, under Head Gardener; age 23; Inside and Out, or Inside. Apply Mr. PLATT, 21a, Grove Place, Hoylake.

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SITUATION COUPON

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For JULY 30, 1910.

Please Repeat my Advertisement.

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Address..

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Date..

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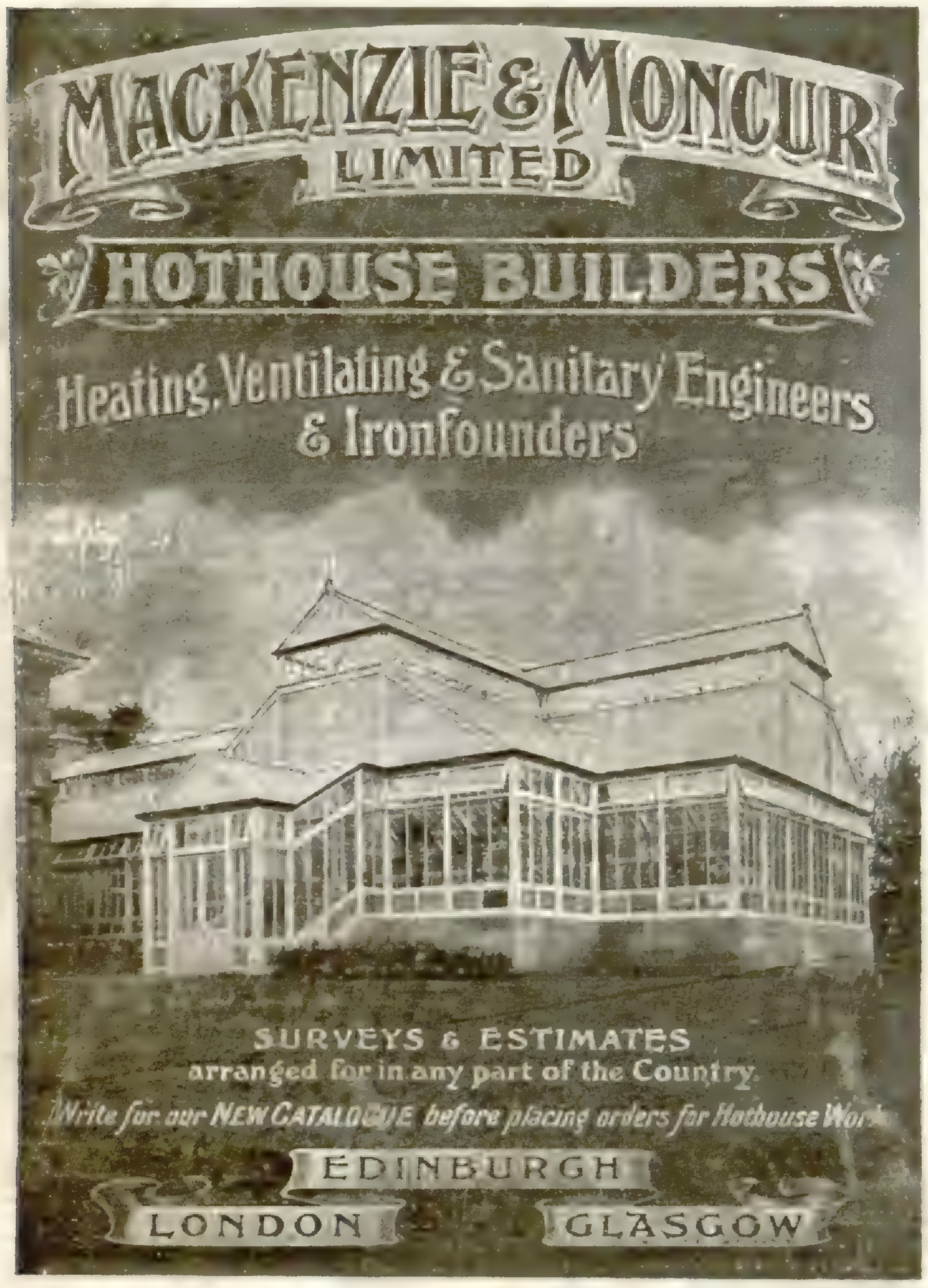
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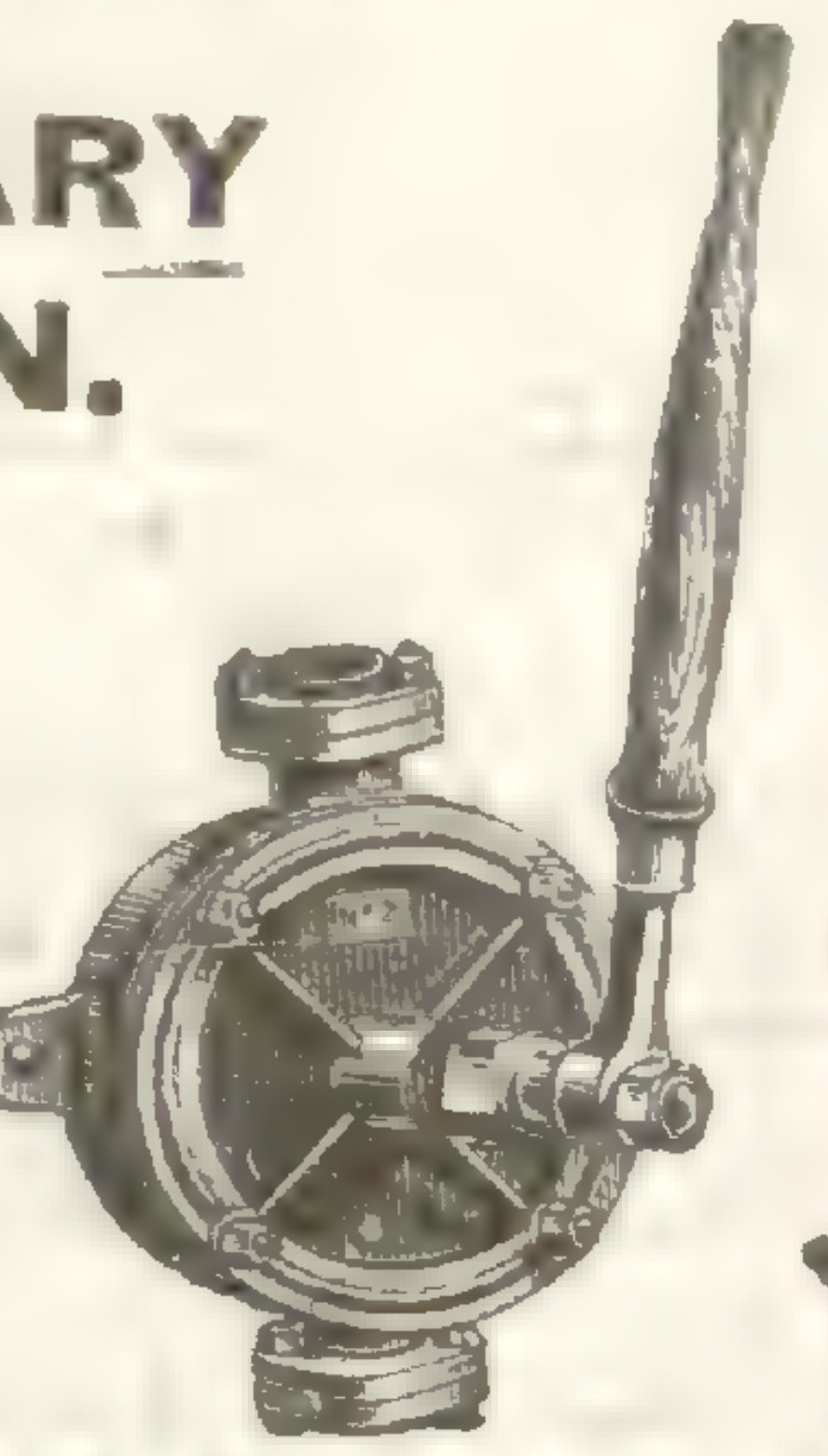

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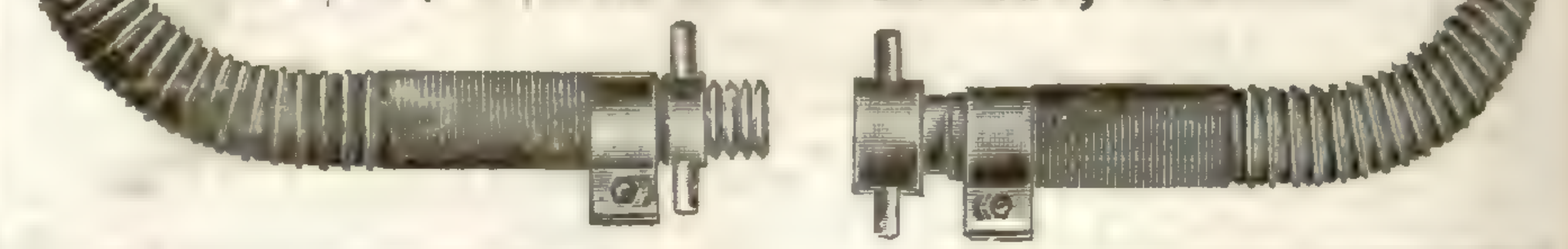

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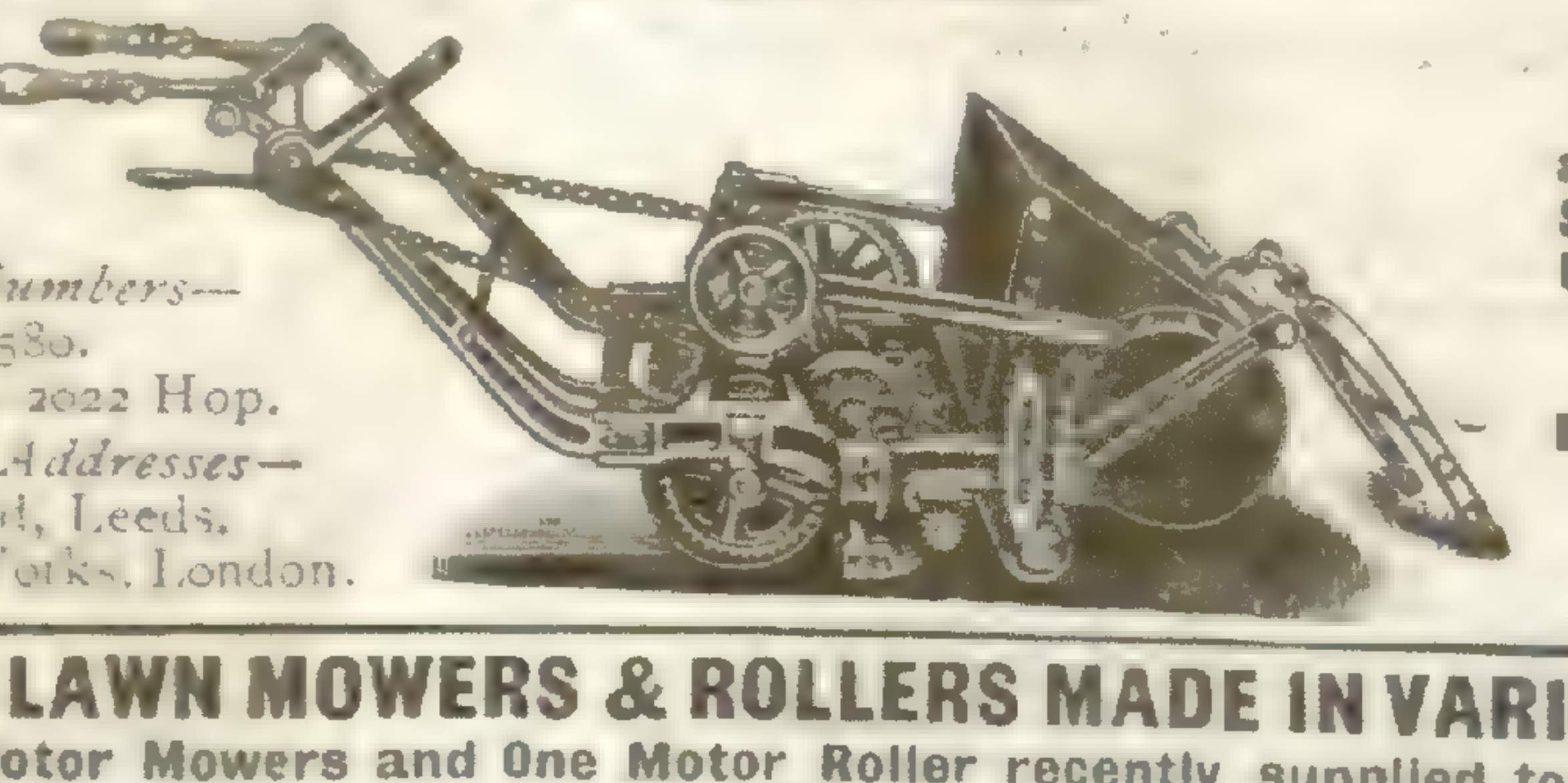

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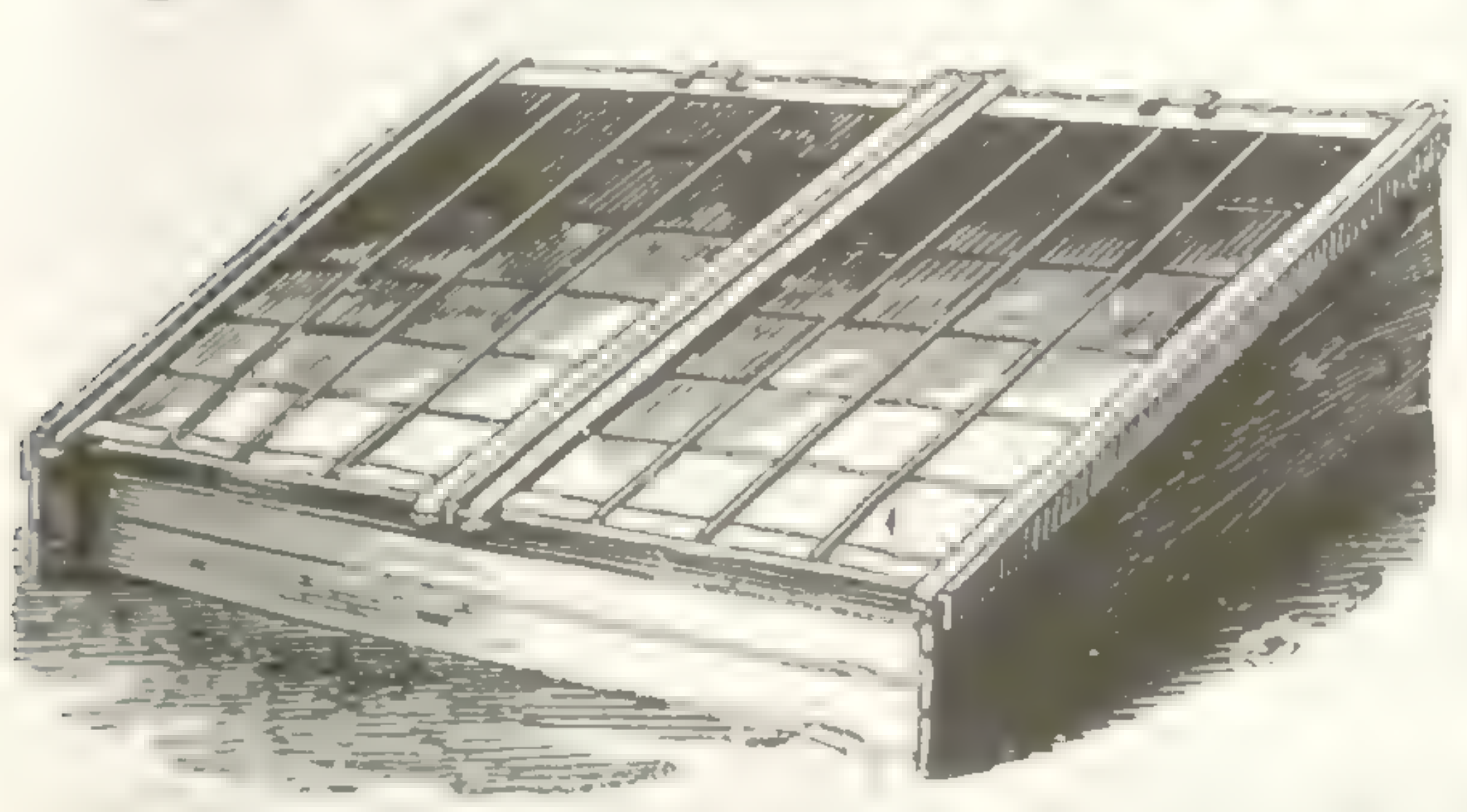

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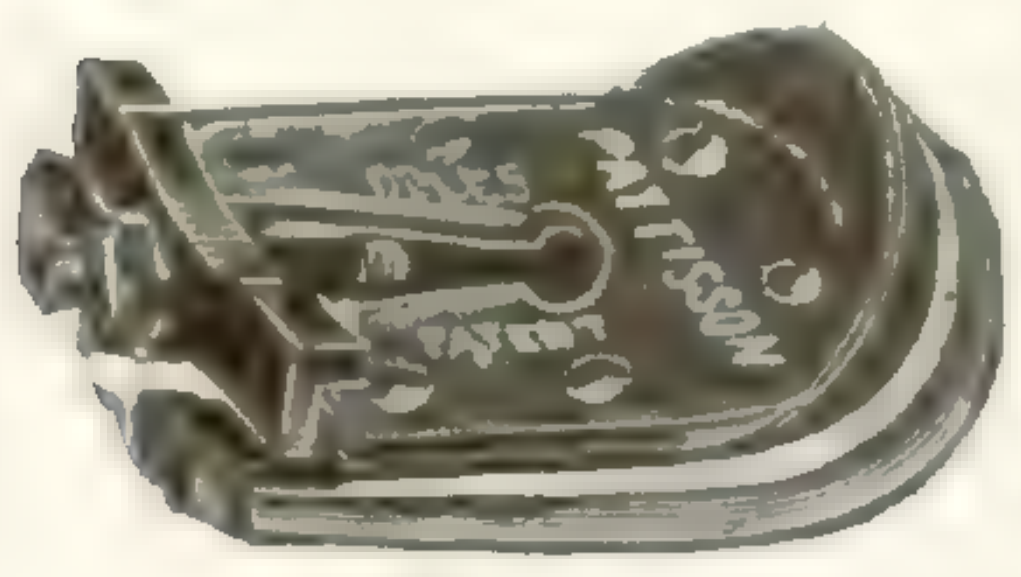

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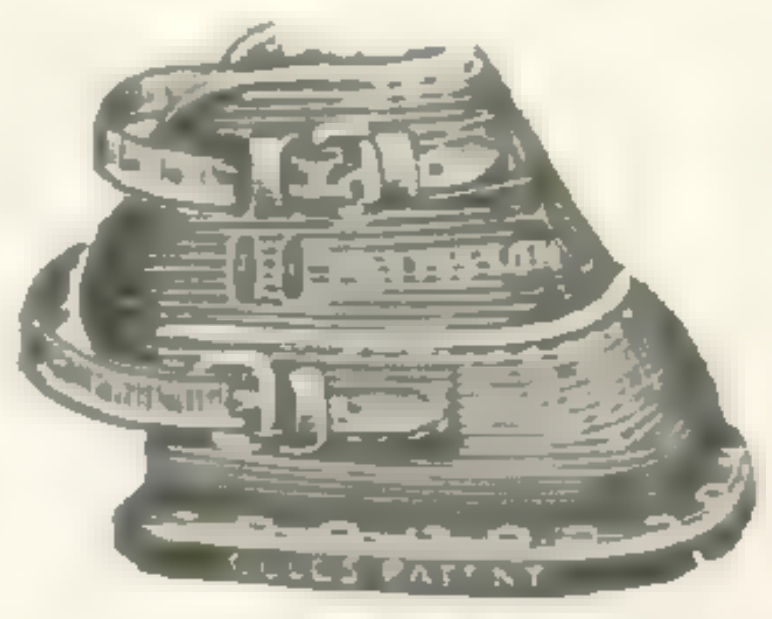

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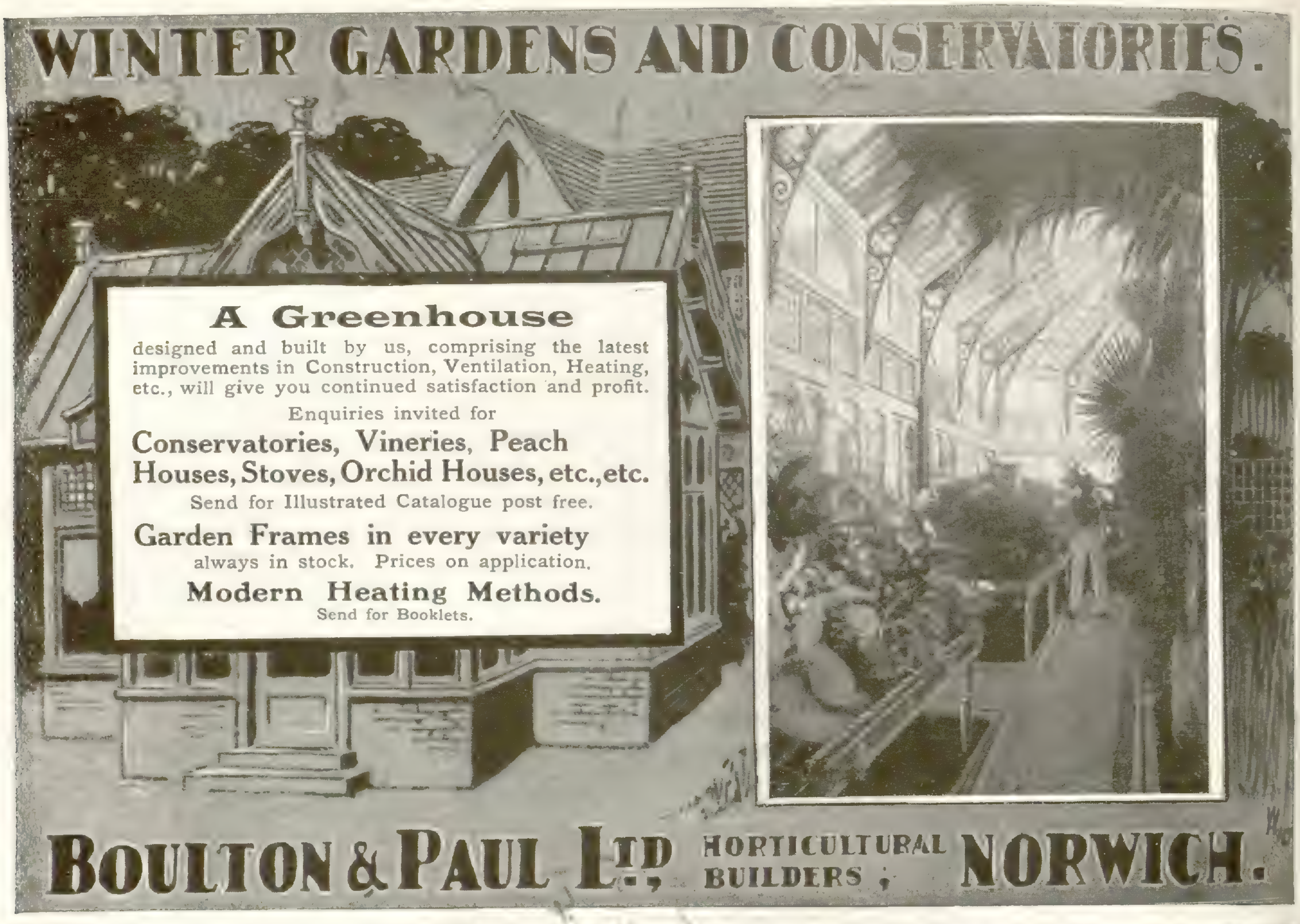

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VOL. LIII.—No. 2,961. SATURDAY, JULY 30, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Colour in Garden Scenery.

Although the season in which alterations in the garden and planting operations can be the most successfully carried out is not yet with us, the question of colour in garden scenery is one that might with advantage be carefully considered. All the finest of the trees and shrubs that are of special value in the production of distinct and attractive colour contrasts are now at their best, and as there is ample moisture within reach of their roots, and the leaves have not had to bear the stress of brilliant sunlight, they may be expected to retain their distinctive leaf colouring until the summer season has become merged into that of autumn. This being the case abundant opportunities will be afforded during the next two months for studying, not only the leaf colouration of the several kinds, but also their habit of growth and suitability for the various positions that gardens and pleasure grounds usually afford. A knowledge of the leaf tints and other distinctive characteristics of trees and shrubs best suited to garden planting, as a large proportion of our many readers are aware, is essential to their successful use in the creation and improvement of gardens. Therefore we very strongly advise all who are engaged in garden management, or actively interested in the ornamental aspects of gardening, to take full advantage of the opportunities they may have for studying the various forms of arborescent and ligneous vegetation. Happily, much more attention is devoted to ornamental trees and shrubs at the present time than at any previous period in the history of gardening in this country, and, as the result, an immense improvement has been effected both in the making of selections and in the methods of arrangement. There is room for still further improvement, and with the continuance of the study of tree life that is so evident on all sides at the present time there is full justification for assuming that there will at no distant date be a material acceleration of the rate of progress. The question of the colour effects that may be produced by the use of hardy and other plants would be well within the scope of the heading to this note; but its consideration would open up a wide subject, and it therefore appears advisable to limit the consideration of colour in garden scenery to the effects that can be produced by the foliage of trees and shrubs. In suggesting that the kinds with golden, silvery, glaucous, purple, and bronze leafage should in many gardens be more freely planted than has yet been considered desirable, we are most anxious we should not be understood as advising their being planted in a lavish manner. We are anxious to make this quite clear because of our acquaintance with a number of gardens in which shrubs with golden leafage have been so liberally planted as to appreciably reduce the refreshing beauty characteristic of a garden that has a proper balance of colouring in the leafage of its occupants. It should be constantly borne in mind that the prevailing colour in nature is green, and that there is no colour so refreshing to the eye. If this be done it will be readily understood that golden and silvery hues should not be more liberally employed than is necessary to the production of distinct and pleasing contrasts in conjunction with green grass and leafage. While it is necessary there should be a proper balance between the green leafage and the golden, silvery and purple hues, it is essential to the maintenance of the garden in an attractive state throughout the year that both deciduous and evergreen trees and shrubs should be planted in due proportions. A considerable proportion of the deciduous kinds with richly-coloured foliage are so attractive in their summer garb that the planter might almost be excused for giving them an undue preference. Their summer charms should not, however, be allowed to exercise too great an influence when a selection is being made, for at no season of the year are bright hues more greatly appreciated in the garden than during November and the three following months, when the beds and borders are flowerless. The merits of such effectively-coloured subjects as golden cupressus, euonymus, retinosporas, thuias, and yews; golden and silver hollies; and glaucous abies and cedars for contributing to the charms of the garden during the late autumn and winter months should have full recognition, and these should be planted in due proportions where the conditions are favourable to a healthy growth and a full development of richly-coloured leafage. We refrain from specifying the names of the several kinds because we are anxious our readers should, if they are not already familiar with them, make their acquaintance while they can be seen at their best: it must be mentioned that while the hollies and euonymus will thrive in most gardens, the coniferous trees are only suitable for gardens that are beyond the influence of the atmospheric impurities incidental to large towns. The deciduous trees afford a considerable range in the making of a selection, but it will be found more satisfactory to select a few of the best kinds and to plant several examples of each than to make a large selection and to plant only one of each of the forms selected. The golden catalpa, elms, oaks, poplars, and Späth's golden dogwood; the silvery variegated acer, the Abele poplar, and the Aspen and the White Beam tree, both of which are remarkable for the silvery hue of the under-

MR. EDWARD WHITE.

side of their leaves; and the purple-leaved beech, birch, plum, and nut, are all of so high an order of merit that they should be included in a limited selection. The golden-leaved privet is the most useful of all the shrubs with golden leafage, but it enjoys so high a degree of popularity as not to require a word of comment other than to suggest that it is possible to plant it too freely.

Mr. Edward White, whose portrait we have the pleasure of giving herewith, has long occupied a foremost position among the leading landscape gardeners of this country, and the splendid work he has accomplished in the creation of new gardens and in adding to the charms of old ones fully justifies the high place that has been assigned him. Mr. White was for some years in partnership with the late Mr. H. E. Milner, V.M.H., and, on the death of that distinguished landscape gardener and garden architect, he succeeded to the business which he has since carried on with ever increasing success. The successful results that have been obtained in the conduct of the business are probably due to the fact that Mr. White does not belong to any particular school of garden design, but evidently believes that a landscape gardener should be able to do the best work in any style. His work, of which there are examples in every county of England, and in not a few of the counties in Ireland and Scotland, certainly suggests the holding of such beliefs. Whether that be the case or not, the examples of his work that have come under our notice prove to demonstration that he is equally happy in the carrying out of the various styles in garden design that now find favour in Great Britain, and, for the matter of that, on the Continent also. Mr. White, it should be mentioned, has not confined his activities to this country, but has worked in France, Spain, Germany, Austria, Sweden, and Poland. It would be interesting to give some account of the many examples of Mr. White's work at home and abroad, but, as that is not now possible, it should be mentioned that his most important complete works include Moulton Paddox, near Warwick, the residence of Mr. Robert Emmet; North Bovey Manor, Devonshire, the seat of the Hon. W. F. D. Smith; Joyce Grove, Oxon, the residence of Mr. Robert Fleming; Ardross Castle, Ross-shire, the seat of Mr. C. W. Dyson Perrins; Glenort Castle, co. Wicklow; a park at Chantilly for Baron E. de Rothschild; and Dr. Von Schwabach's gardens at Berlin. It is a point of some interest that Mr. White's firm arranged "garden cities" fifty years before the phrase was coined, and that the picturesque development of building estates forms at the present time an important part of Mr. White's work. We should add that Mr. E. White is the hon. secretary of the forthcoming International Horticultural Exhibition.

Vacant Land Rendered Profitable.—On Thursday, July 21, 1910, Lord Carrington, President of the Board of Agriculture, accompanied by Mr. Richard Winfrey, M.P., and Mr. E. J. Cheney, Small Holdings Commissioner, conducted by Mr. Joseph Fels and Mr. R. L. Castle, visited the grounds held by the Vacant Land Cultivation Society from the Gas Light and Coke Company at West Ham. Over an hour was spent in the inspection of the well-cropped plots, of which there are 266 on an area of 33 acres, and the visitors expressed much satisfaction with the results obtained by the men. Lord Carrington closely questioned several of the plotholders with regard to the value of their produce, used or sold, and the information elicited indicated an average of £8 to £10 per plot of 20 sq. rods. In every case, especial value was attached to the supplies of fresh vegetables for home use, the men, wives, and children thus benefited numbering over 1,200. As mementoes of the occasion, the visitors carried away fine bunches of brightly-coloured sweet peas.

Preservation of Cheddar Cliffs.—The National Trust has completed the purchase of the property in the centre of the Cheddar Cliffs, on which is situated the quarry that has caused much disfigurement to the gorge in recent years. The National Trust hopes that, by the purchase of this property, having regard to the position and the professed intentions of the owners of the rest of the gorge, the cliffs have been secured from all danger of further spoliation.

The National Sweet Pea Society's Provincial Cup has just been won, at Luton, for the third year in succession, by Mr. Thos. Stevenson, gardener to E. A. Mocatta, Esq., Woburn Place, Addlestone, and therefore becomes the property of the winner. Mr. Stevenson has had to travel with his flowers to Saltaire, Dublin, and Luton, but, notwithstanding the distance, he has beaten all comers, and worthily won the cup presented to the society a few years ago by Mr. Edwards, of Haydon Hall, near Harrow.

Meteorological Observations at Kew.—Frequent visitors to Kew and Richmond will know that the Kew Observatory is in the Old Deer Park, Richmond, and that a large amount of work done in it has been in connection with the National Physical Laboratory. In future, and as soon as the necessary arrangements can be made, the work of testing watches and other scientific instruments will be transferred to Teddington, and the observational and experimental work in meteorology and geophysics will be continued under the direction of the Meteorological Office by Dr. C. Chree, and thus the Observatory will be the central observatory of the office. The Eskdale Muir and Valencia Observatories have also been placed under the directorate of the Meteorological Office.

An Interesting Coincidence.—"The Leader," a Melbourne paper, is just to hand containing an account of the Malvern Chrysanthemum Show. It says: "All the leading awards were won by Mr. W. T. Pockett, son of Mr. T. W. Pockett, the great Australian seedling grower." Considering the rivalry that existed between Pockett's seedlings and those of the great French raiser, the late Mr. Ernest Calvat, it is interesting to read that the award for the best bloom in the show was made to Mr. W. T. Pockett, who won with Madame Carnot, one of Calvat's most famous varieties. This result, it is said, was not begrudged by chrysanthemum enthusiasts, who recognise the remarkable manner in which this old favourite has maintained its vigour.

Wheat Production.—In planning the programme for the meeting of the British Association, held in Canada in August of last year, it was felt that no more appropriate subject could be chosen for consideration than that afforded by wheat, Winnipeg being now the focus point of a great area devoted to the growth of the cereal. Arrangements were therefore made in advance to hold a joint meeting of the chemistry, botany, and agricultural sections, and to obtain communications from various gentlemen known to be specially conversant with the subject in one or other of its aspects. Several papers of far-reaching importance were read, and in order to bring to the knowledge the valuable information that is contained in them, the Board of Agriculture have, with the permission of the British Association, issued them as a supplement to the "Journal" for the current month. In doing this the Board of Agriculture have rendered the farming community a valuable service.

Roridula dentata.—At a recent meeting of the Royal Society of South Africa, held at Cape Town, Dr. R. Marloth made some interesting remarks on the biology of Roridula. The Fly-bush (Roridula dentata) is a distinct shrub attaining a height ranging from one to four feet, and grows on the mountains near Tulbagh and on the Cedar mountains. As the leaves are provided with many stalked glands, which secrete a very viscid fluid, numerous insects adhere to the leaves and perish there, hence the shrublet is universally considered to be an insectivorous plant. Experiments have, Dr. Marloth stated, shown that the fluid secreted by the glands does not possess any digestive properties, and that it is quite different from the fluid secreted by droseraceous plants. The fluid is a kind of balsam, and probably affords protection to the plant against the attacks of creeping animals, such as snails, caterpillars, earwigs, etc., and the capturing of other insects is merely accidental, and of no advantage to the plant. Roridula dentata and R. Gorgonias, the only two species of the genus, are consequently to be excluded from the list of insectivorous plants.

New Park at Friern Barnet.—It will be remembered that when Alderman Sir William Treloar, Bart., was Lord Mayor of London, he and the then Sheriff, Colonel and Alderman Sir William H. Dunn, M.P., attended at Okehampton, Devon, to open a park presented to that town by Mr. Sydney Simmons, J.P. The same gentleman, says the "City Press," has now most generously given a beautiful estate of about 22½ acres, known as Friary Park, Friern Barnet, to the public. It was to be opened by the Lord Mayor, but owing to the death of King Edward VII. the ceremony had to be abandoned. Sir William Treloar and Sir William Dunn attended, however, on Thursday, and addressed about 2,000 children, who had gathered there in connection with some sports that had been organised.

Trees and Shrubs for Town Gardens.—Mr. A. D. Webster, superintendent of Regent's Park, made a very interesting contribution to the Country in Town Exhibition at the Whitechapel Art Gallery. It included examples of trees, herbaceous and bedding plants that have been found suitable for smoky localities; a bed of ornamental-leaved plants; printed lists of trees, shrubs, etc., suited for London; lists of water-fowl from British birds that have been seen in Regent's Park; and a trophy of tools used in town gardens. The trees and shrubs recommended by Mr. Webster for town gardens are as under: Phillyrea la Osmanthus ilicifolius, Euonymus ra Euonymus japonicus, Euonymus albo-variegata, Euonymus aurea, Colutea arborescens (Bladder Senna), Olearia H

Olearia macrodonta, Clematis montana, Cupressus erecta viridis, Syringa vulgaris (Common Lilac), Skimmia fragrans, Cratægus pyracantha, Aucuba japonica, Ailanthus glandulosa, Ribes sanguineum, Ribes missouriense, Forsythia viridissima, Forsythia suspensa, Hibiscus celeste, Hibiscus totus albus, Juniperus tamariscifolia, Azalea procumbens, Cotoneaster microphylla, Cotoneaster buxifolia, Arctostaphylos uva ursi, Podocarpus andina, Liriodendron tulipifera, Vitis purpurea, Vitis variegata, Vitis Coignetæ, Vitis Veitchi, Ligustrum (Golden Privet), Aralia Sieboldi, Almond, Sumach, Corchorus japonicus, Andromeda japonica, Ilex crenata (Holly), Senecio elæagnifolius, Lycium chinense (Tea Plant), Ivy, Emerald Green, English Ivy, Potentilla fruticosa, Salisburia adiantifolia, Fig, Brown Turkey, and Cornus (Dogwood).

Saltaire Rose and Sweet Pea Show, held on Tuesday, July 19, was a great success, and the gate receipts amounted to £266 19s. The society's subscription list amounts to £150, and the total revenue to about £500—a very creditable achievement for a society only yet in its eighth year.

Hexham Fruit Show and Congress.—The arrangements for holding the fruit show and congress at Hexham on October 20 and two following days are making good progress, and there is full justification for anticipating an interesting exhibition and a conference of much value educationally. From an appendix to the schedule that has been recently issued we learn that the committee, "with a view to prevent the public being misled by a show of all sorts of apples, many totally unsuited for planting in the north," have placed the following restrictions on trade exhibits from growers outside the four northern counties (Cumberland, Durham, Northumberland, and Westmorland), (1) Varieties of fruit shown must have been supplied by the firms exhibiting to growers within the four northern counties, except varieties introduced since 1900; (2) any variety introduced since the year last named may be exhibited, but the older varieties are limited to the twelve apples and the two pears mentioned in the schedule.

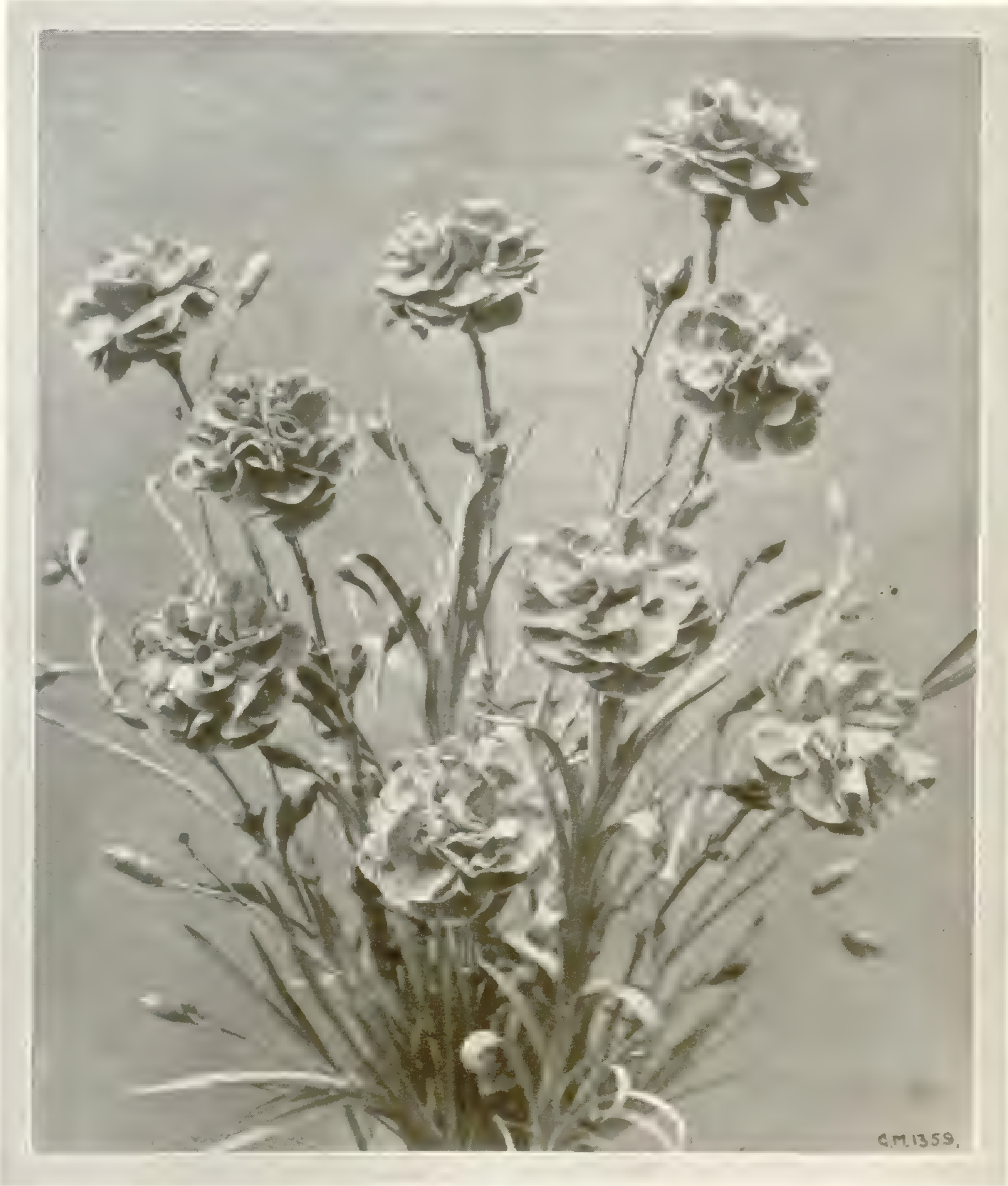
An Exhibition of Forced Shrubs will be held at Boskoop in April, 1911, under the auspices of the Boskoop Pomological Society, which will celebrate its jubilee next year.

Plant Remains in Peat Mosses.—The council of the Royal Society of Edinburgh has awarded the Neill Prize for the biennial period 1907-8, 1908-9, to Mr. F. J. Lewis for his papers in the society's "Transactions" on the "Plant Remains in the Scottish Peat Mosses."

Ruins and Vegetation.—An interpellation has, writes the Rome correspondent of "The Times" lately been made in the Italian Chamber of Deputies calling the attention of the responsible Minister to the danger of planting flowers and shrubs at the base of ancient ruins and, particularly, of the ruins in the Forum. The question seems to have been inspired by two well-known members of the archæological world, and sums up a good deal of loose criticism which has for some time past been levelled against the work of the Director of the Forum and Palatine, Commendatore Boni. The Forum has presented many very different aspects during the last half century, but never has it shown a more rare and exquisite beauty than it has this year. There was the first early period of neglect, when trees, grass, and wild creepers covered the high mounds which concealed its buried ruins—a period which was not without a certain picturesque quality of its own. Then, after much patient clearing and exploration came the time when the Forum resembled nothing so much as a stonemason's yard—a cold, naked waste of broken marble and stone, with no touch of green life to relieve its dreary and repellent ruins. Then came a period of judicious and careful planting, chiefly carried out by the present Director, during which the Forum grew in beauty every year. The claims of archæology were considered first; no tree or shrub was planted where it could interfere with present or future research, no creeper was allowed to threaten destruction to ancient walls, and no flower was admitted that could not show a classical origin of its own. But cypresses, laurels, and bays were planted, and now flourish in corners that were once bare and ugly, and give shade at the side of modern paths; ivy kindly curtains and conceals the new brick supports and buttresses which had to be erected here and there, and with the help of other creepers disguises restorations which, though necessary, are neither beautiful nor interesting in themselves; and all the intervals between, the bare spots left by exploration, the borders of the old buildings, and the summits of shapeless mounds of broken masonry, are clothed with green grass and made gay with the spring iris, the summer roses, and such flowers as the old Romans knew.

NATIONAL CARNATION SOCIETY.

This society held its thirty-fourth annual exhibition at the Royal Horticultural Hall, Vincent Square, Westminster, on Tuesday, July 26. The entries were numerous, more so than usual, but they were not sufficient to well fill the big hall, consequently the general effect was not good. There were some grand flowers in the leading classes, but there were also many poor ones in the smaller classes. The undressed flowers arranged in vases attracted most attention from the general public, but the specialists lingered lovingly around the flowers staged in paper collars on boards. The society, as it appears to us, does not enter with sufficient heartiness into the business of popularising the carnation: florists' flowers, bred to the florist's ideal, do not attract the general public nowadays—freedom, effect, colour, elegance are all needed, and rightly-grown and staged carnations can provide these.



YELLOW GROUND FANCY CARNATION PASQUIN.

First prize bunch exhibited by Mr. Jas. Douglas, Great Bookham, at the National Carnation Society's Show on Tuesday, July 26.

FIRST DIVISION.

Mr. James Douglas, Great Bookham, secured the premier award for eighteen bizarres and flakes in not less than a dozen varieties with beautiful blooms of Gordon Lewis, Master Fred, Recorder, J. D. Hedderley, Peter Pan, Admiral Curzon, Torchlight, G. Melville, Meteor, Sarah Payne, J. D. Hextall, Rowena, Arthur, and Sportsman; Mr. C. Blick, Hayes, was second with smaller, but very clean, bright flowers. First prize for eighteen selfs was also won by Mr. James Douglas, who scored with clean examples of Daffodil, Bob Acres, Seivewright, Caruso, Queenie, Miss Willmott, Kate Nickleby, Ruby, Mrs. Henwood, Cardinal, Mrs. R. Gorton, W. H. Parton, and Mrs. Griffith Jones; Mr. C. Blick second.

Some glorious flowers were shown in the class for eighteen fancy carnations, and here there were again only two entries; Mr. C. Blick led with big brilliant flowers of Donald McDonald, Bombadier, Medusa, The Marquis, Pasquin, Outlaw, Vandyck, Prince Albert, Prince Arthur, Skirmisher, Leslie (very fine), Arabella Stuart, Dauntless, Lieut. Shackleton, Victory, San Remo, and R. Morton; Mr. J. Douglas second. For eighteen white ground picotees Mr. J. Douglas led once more with an even set of J. Smith, Harry Kenyon, Mrs. Sharp, Miss Cartwright, Amy Robsart, Favourite, Amelia, Mrs. Twist, Thos. Williams, Lena, Brunette, Little Phil, Gannymede, Fortrose, and Clementine; Mr. C. Blick second with smaller flowers.

Eighteen yellow ground picotees brought out only two competitors, and here Mr. Douglas led the way again with Margaret Lennox, Cymbeline, Goblin, Onward, Togo, Lady Galton, Her Majesty, Styx, Ophir, Archie Brown, Lady Fremantle, and Exquisite; Mr. C. Blick again second.

In the section for undressed flowers Mr. James Douglas, Great Bookham, was a capital first for six self carnations, three blooms of each, staged in vases with carnation foliage; he showed Mrs. Robert Berkeley, Mrs. T. E. Henwood, Agnes Sorrell, Mrs. Griffith Jones, Daffodil, and a red seedling; Mr. C. Blick second. Mr. Douglas was first for six yellow ground fancies, shown in similar fashion, and here he staged big blooms of Alice Byron Stuart, Gloriosa, Lord Steyne, Liberté, Mrs. Penton, and Queen Eleanor; Mr. Blick a close second.

In the class for six yellow ground picotees, shown under similar conditions, Mr. James Douglas led with Exquisite, Togo, Ophir, Santa Claus, Onward, and Margaret Lennox; Mr. C. Blick second. Mr. Douglas also beat Mr. C. Blick for twelve trebles of selfs, fancies, and yellow ground picotees, showing a fine set of Lord Steyne, Gloriosa, Daffodil, Liberté, Ruby, Togo, Onward, Renown, Alice Byron Stuart, Margaret Lennox, Mrs. Robert Berkeley, and Kate Nickleby; Mr. Blick had a good set of slightly smaller flowers.

SECOND DIVISION.

Mr. H. R. Taylor, Cheam, was a capital first for a dozen flakes and bizarres, showing very brilliant flowers of Torchlight, Bedouin, Trio, Torchbearer, Gordon Lewis, and G. Morland; Messrs. Phillips and Taylor, Bracknell, second, and Mr. W. Sydenham, Melbourne, third. Mr. H. R. Taylor also secured a first for a dozen self carnations, and here he had Maud Allan, Ellen Gotswaltz, Carabas, and Cardinal in good form; there were seven competitors, and Mr. Hayward Mathias, Stubbington, was second, and Messrs. Phillips and Taylor third.

Premier award for a dozen yellow ground fancies was secured by Mr. Hayward Mathias, who had immense flowers of Mars, Daniel O'Connor, Linkman, Father O'Flynn, Hecla, N. Thurstan, Devonian, Highland Lass, Orlando Sport, Orlando, Mars, and Liberte; Mr. C. Wall, Bath, second, and Mr. W. Sydenham, third; seven entries. Mr. H. R. Taylor, annexed the first prize for a dozen white ground picotees, and he showed Queen of Spain, Pride of Leyton, John Smith, and Little Phil in fine form; Mr. W. Sydenham second, and Mr. H. Mathias third. The best set of a dozen yellow ground picotees came from Mr. H. Mathias, who had clean specimens of Gloria, Mrs. Heriot, Constance, Vera, Togo, Exquisite, and Goblin; Mr. W. Sydenham second, and Mr. C. Wall third; six competitors.

In the "undressed" section Mr. H. R. Taylor scored for four trebles, selfs, with Mr. H. Mathias second; five entries. For four trebles, fancies, Mr. R. Morton, Woodside Park, N., led among nine competitors, and was followed by Mr. H. R. Taylor, and Messrs. Philips and Taylor. For yellow ground picotees, four trebles, Mr. H. R. Taylor came to the front again, with Mr. H. Mathias second and Mr. W. Sydenham third.

The best set of nine varieties, three blooms of each, in vases, came from Mr. H. R. Taylor, and included Solomon and Ann Hathaway in first-rate condition; Mr. H. Mathias second, and Mr. R. Morton third.

THIRD DIVISION.

This division is for amateurs only, while in the two previous divisions the trade are admitted.

In this division Mr. G. D. Ford, Acocks Green, led for six bizarres and flakes, followed in order by Mr. C. A. Linzee, Alresford; and Mr. J. J. Sheldon, South Woodford. For six selfs, Mr. G. D. Ford was again the chief prize-winner, and he showed well; Mr. C. Alcock, Liverpool, second, and Mr C. A. Linzee third; ten competitors.

Mr. C. A. Linzee led for yellow ground fancies with R. Buchanan, Sam Weller, Orlando, Pasquin, Linkman, and Orlando Sport; Mr. C. Alcock second, and Mr. G. D. Ford third; ten entries. Mr. Ford was also to the front for six white ground picotees; Mr. E. J. Price, Bourneville, second, and Mr. J. A. Fort, Winchester, third. For yellow ground picotees, six blooms, Mr. J. J. Keen, Southampton, was first; Mr. C. A. Linzee second, and Mr. G. D. Ford third.

In the undressed section Mr. C. Alcock led for three pink or rose selfs with Lady Hermione; Mr. E. J. Price, Bourneville, second with Camilla. For three blooms of a white self Mr. Alcock scored with Sir Galahad, and Mr. E. Charrington, Limpsfield, second, with Mrs. Eric Hambro. Mr. E. J. Price scored for three crimson blooms with Ashantee, Mr. C. A. Linzee second with the same variety. Mr. C. Linzee led for three yellow selfs with Daffodil; Mr. F. E. Gray, Leyton, second with the same variety. Mr. D. Linzee scored for three scarlet flowers with Brigadier; Mr. D. Walker, Kilmarnock, second with Cardinal.

Mr. D. Walker scored in the terra-cotta class with Mrs. R. C. Cartwright, and Mr. E. J. Price was second with the same variety. Mr. Price led for a yellow ground picotee with Goblin; Mr. E. Charrington second with Togo. For a yellow ground fancy Mr. C. Alcock led with Lord Steyne and Mr. J. Fairlie, Acton, second with Ronny Buchanan. Mr. C. A. Linzee led for a light ground fancy with Sebright; Mr. J. Fairlie second with Millie. For a self of any other colour than previously mentioned Mr. C. Alcock scored with Duchess of Wellington, a silvery heliotrope; Mr. E. J. Price second with Cantor, purple-crimson. For six varieties of selfs or fancies Mr. J. Fairlie led the way, followed in order by Mr. C. Alcock and Mr. D. Walker.

In the fourth division, for small growers, there were many flowers that showed evidence of great skill and care, and suggested some strong competitors in the future. The chief prize-winners in this division were Mr. J. H. Linington, Newport; Mr. W. T. Ball, Chippenham; Mr. S. J. Payne, Woodford Park; Mr. C. A. L. Brown, Hatfield Peveril.

MARTIN SMITH CLASS.

In the Martin Smith Memorial Class for a dozen selfs, fancies, and yellow ground picotees, three flowers of each, undressed, there were four competitors, and here Mr. H. R. Taylor, Cheam, scored with fine flowers of H. Buchanan, Lord Steyne, Maud Allan, Ophir, Sultan, Cardinal, Duchess of Wellington, Miss Willmott, Togo, Carnival, Erl King, and Snowflight. Mr. R. Morton, Woodside Park, second, and Miss Schiffner, Lewis, third.

OPEN CLASSES.

In the open section for nine flowers of undressed blooms, one variety, Mr. J. Douglas did well again. For a pink or rose self Mr. Douglas was first with grand flowers of Miss Willmott; Mr. A. R. Brown, King's Norton, second with the same variety. Mr. Douglas led for white selfs with Mrs. T. E. Henwood; Mr. A. R. Brown second with Sir Galahad.

For a crimson variety Mr. Douglas scored with Agnes Sorrel in fine form; Mr. A R. Brown second with Ameer. For a yellow self Mr. Douglas led with lovely flowers of Daffodil, Messrs. Phillips and Taylor, Bracknell, second with Red Rover. The best nine flowers of a yellow picotee were of Ophir, from Mr. H. R. Taylor; Mr. Douglas second with Margaret Lennox. Mr. Douglas scored for a terracotta variety with a fine bunch of Mrs. Griffiths Jones; Mr. Lehmann, Thornton Heath, second with Elizabeth Shiffner. Mr. Douglas was first for yellow ground fancies with Pasquin (see illustration); Mr. H. R. Taylor second with Ronny Buchanan. For a white ground picotee Mr. Douglas scored with Delicia, and Mr. H. R. Taylor was second with Nizam.

FLORAL DECORATIONS.

Mrs. A. Robinson, Carshalton, won first prize for a table decoration of carnations with a pleasing exhibit of yellow flowers; there was, however, a rather too free use of greenery. Mrs. E. J. Price came second with a pretty table of Mrs. H. Burnett carnations.

NON-COMPETITIVE.

Herbaceous phloxes were the feature of a large group of hardy flowers put up at the end of the hall by Messrs. Barr and Sons, Covent Garden; Lady Hermione, Jung-frau, L'Aiglon, Pharaoh, Antonin Mercie, and Etna were conspicuously good varieties. Lythrums, lysimachias, senecios, heleniums, and coreopsis were also represented. Messrs. J. Peed and Son, West Norwood, put up a group of perpetual border and Malmaison carnations, these being chiefly represented by growing plants in pots; the crimson-scarlet Malmaison variety Mrs. J. Coles was largely shown.

Roses were exhibited by Messrs. Stuart Low and Co., Bush Hill Park, Enfield, the principal varieties on view being Liberty, Lyon Rose, Joseph Lowe, Betty, Frau Karl Druschki, Mrs. W. J. Grant, and Madame Abel Chatenay. A few ferns or rose foliage along the front of the group would have greatly improved it. Mr. H. Lakeman, Queensberry Nursery, Thornton Heath, displayed border and perpetual carnations in good style, and he showed yellow ground fancies and picotees in good condition and considerable variety. Messrs. H. B. May and Sons, Edmonton, submitted a fine lot of choice ferns, campanulas, etc. Messrs. G. and A. Clark, Dover, showed hardy flowers.

A large and attractive group of carnations, well arranged, was set up by Messrs. Wm. Cutbush and Son, Highgate, N. Here in large vases were staged some charming blooms of Lady C. Waring, Enchantress, Mrs. Burnett, Harlowarden, Mrs. W. T. Omwake, Mikado, Countess of Onslow, White Perfection, and Victory, and such Malmaisons as Soult, Blush, etc. Mr. A. F. Dutton, Iver, Bucks, showed a number of good bunches of well-grown carnations, and put these up in good style. From Mr. Charles Turner, Slough, came a group of carnations in pots, all sections being represented by bright flowers of leading varieties. Mr. Williams, Oxford Road, Ealing, submitted a table of rustic flower stands filled with carnations.

Strawberries.—There must now be no delay in preparing a compost for strawberries to be shifted into their fruiting pots. A suitable one consists of heavy moderately [illegible] loam at the rate of three barrowloads to [illegible] of pulverised dry horse manure, with the addition of a seven-inch potful of soot. The should be well mixed, and in a moderately dry condition when used. The pots should be clean, and in arranging the drainage place a piece of wire gauze beneath the crocks to exclude earthworms. In potting, which should be done as soon as the plants layered in small pots are well rooted, [illegible] the compost tolerably firmly, and leave sufficient space upon its surface for the convenience of watering. Arrange the pots closely together as the potting operations proceed, upon a firm bed of ashes [illegible] in an open sunny position, so that they [illegible] shade each other. In due time arrange them far enough apart to prevent crowding. Remove runners as they appear, attend to necessary watering, and in fine weather syringe overhead in the morning and evening.—COOMBER.

SIX GRAND SINGLE ROSES.

Among the numerous single roses, or those only slightly removed from being single, the following half a dozen are head and shoulders above the rest. Singles are more fugitive than doubles, but those named last longer than the majority, and have the additional charm of being thoroughly perpetual, and produced in such large trusses that a constant display is assured.

Irish Elegance cannot fail to please. It would be difficult to imagine a more decorative rose than this. It is a capital grower, and keeps in good shape. From the very first opening of its buds these are full of charm. Certainly few varieties are more suited for a vase. The colour is bronzy-orange in the bud, changing to various shades of apricot. Of branching habit, and the trusses well spread out. It needs a good single to gain the National Rose Society's gold medal, but this succeeded.

Maharajah has very large flowers, these being four and a-half to five inches in diameter. This is not nearly so handsome in the bud stage, but opens into a grand flower of the deepest velvety crimson. Very rich golden anthers heighten the effect, which is also helped by the exquisitely dark green foliage surrounding the flowers. The petals are of great substance. It generally has three buds to a truss, and these open in succession even when cut. It makes a useful decorative variety for the home, while as a pillar rose it has few equals in its class. It is an early bloomer, and produces a second display in the autumn. I find it better to prune less than in the case of most varieties.

Gottfried Keller appears to be a cross between the well known Austrian Copper Briar, but, unlike that variety, is a perpetual bloomer, although not equal in that respect to Irish Elegance. It is not quite single. The flowers are apricot with golden-yellow centre, and the outside of petals dark yellow. Very beautiful.

Irish Beauty is a pure white, and is one of the freest flowering and sweetest scented roses we have. The golden anthers are very prominent, and the large trusses make a grand display throughout the season. This is another capital grower.

Bardou Job is about as far removed from being single as Gottfried Keller. It has a large flower of bright glowing crimson, sometimes distinctly shaded with maroon-purple, and accompanied by handsome foliage. It is a good and free grower, but rather impatient of the knife, and often throwing out rather awkwardly placed shoots; is best trained to a pillar.

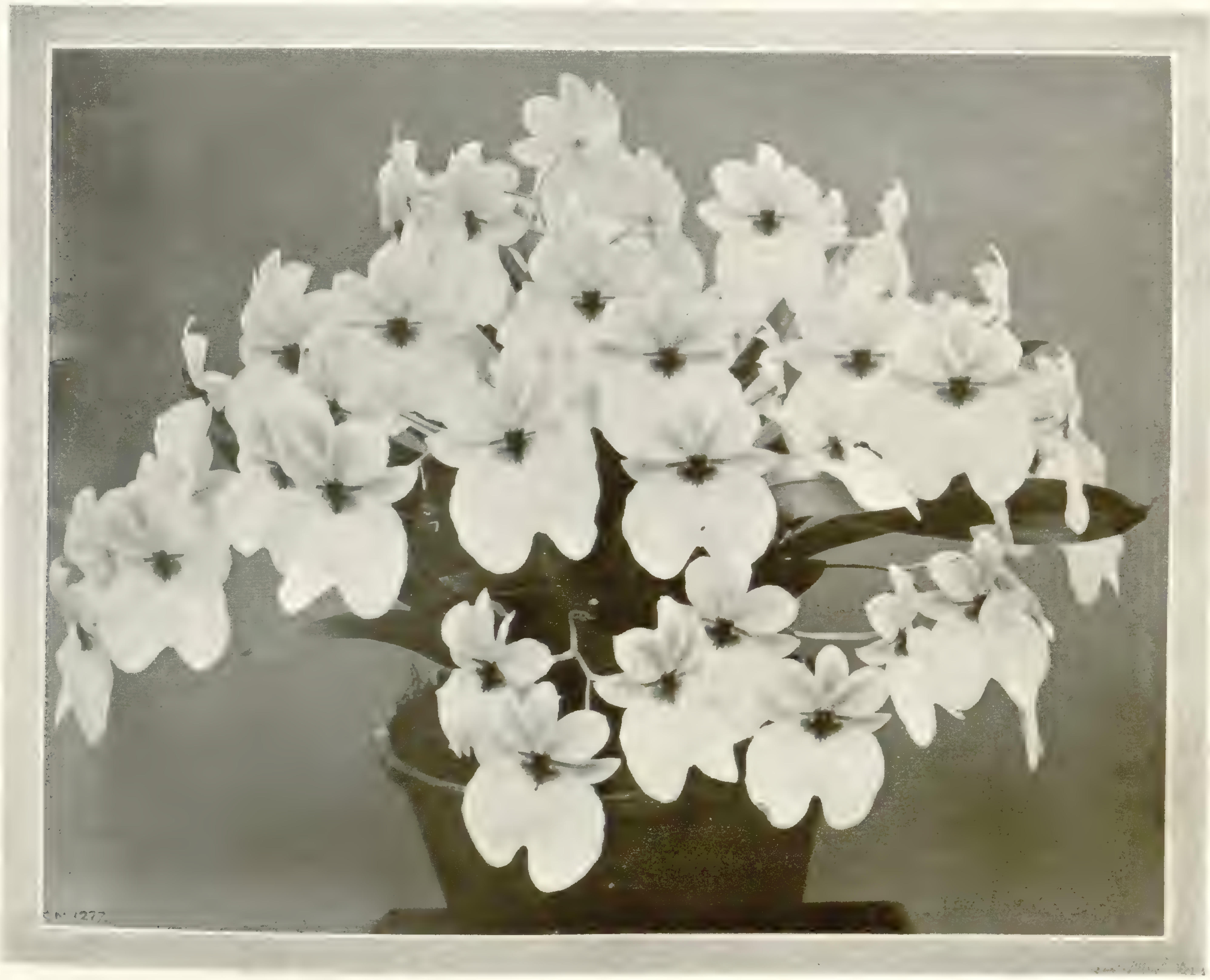
Simplicity. Of this variety I cannot speak so definitely as of the others, but so far as seen this new rose has shaped exceedingly well. The blooms are not quite a single, and they are pure white, of great size, and peculiarly cupped. It has an upright habit, and flowers on laterals. I think very highly of it, or I could not see my way to include so new a rose in this select list.

The above have one advantage over most singles because they are not merely summer bloomers as the majority, but give a lasting show of beauty. One point should not be lost sight of, and that is the way in which the blooms travel. Cut while in the bud stage, and packed firmly, they expand upon arrival, and appear almost as fresh as when upon the tree, and a very large number of buds can be packed into a small box. None of the above are wild, rampant growers like the Wichuraianas.

A. P.

MILTONIA VEXILLARIA VIRGINALE.

The effectiveness of good plants of Miltonia vexillaria when in full bloom is well known to all lovers of orchids, and the only regret in connection with the plants is that the flowers are not among the most suitable for cutting, as they show the effects of the smallest bruise quickly. To those who know only the rich rosy-flowered type of Miltonia vexillaria the distinct varieties found in the larger and more select collections of orchids come as a revelation. In some of these the size of the flower is greatly increased, and in others the colouring is intensified. In others again the marking at the base of the broad lip is altered, shortened or extended, lighter or darker. In a few of the varieties the whole flower is white or whitish, and these form a section of exceptional loveliness. One such variety is represented in the accompanying illustration; it is M. vexillaria virginale. In this the flowers are white, with the sepals and petals shaded with rosy-pink. The disc, or base of the lip, is yellow, with a reddish stain. The specimen shown is a fine one from Lieut.-Colonel Sir G. Holford's collection, at Westonbirt; it carried about a dozen spikes of bloom, and was greatly admired when exhibited by the clever grower, Mr. H. Alexander, before the Royal Horticultural Society.



A FINE SPECIMEN OF MILTONIA VEXILLARIA VIRGINALE.
Flowers white; sepals and petals shaded with rose-pink.

SOILS AND MANURES IN RELATION TO PLANT GROWTH.

In the growth of crops we know that some of the raw materials are taken from the atmosphere and that others are taken from the soil; we also know that the raw materials which are actually used in building up and constructing the plants are carbonic acid, a colourless gas, taken in by the apertures in the leaf from the atmosphere, and water taken up by the roots from the soil and transmitted to the leaf by the stem. We learn, further, that the sap of the plant is conveyed away from the leaf to certain minute bags, botanically termed cells, of which there are such a large number in the stem, and there stored up for future use in building up new shoots and roots. Further, we learn that the ultimate reserve which is stored up at the end of the period of growth is stored up for the purpose of constructing its flowers, fruit, and seed by means of which in the primitive state the plant propagated itself and perpetuated its species.

Constituents of Plant Food.

Besides carbonic acid, the colourless compound gas from the atmosphere, and water from the soil, the growing plant also requires nitrogenous compounds in the form of nitrates, as well as mineral substances—potash, lime, phosphates, etc.—and these are obtained in very weak solution from the soil. All these raw materials are absolutely necessary for the existence of all plants. Taking them as a whole we find that carbonic acid is obtained from the atmosphere, and that water, nitrogen compounds and mineral food are obtained from the soil.

Now the gardener looks at the growing plant from a somewhat different point of view from which the plant would regard itself. The gardener regards it as a factory for making flowers or fruit, or for the construction of green leaf tissue; it is, therefore, natural that he should aim at supplying these raw materials in the most favourable form, and in the maximum quantity, so far as it can be made use of for the purpose of turning out the maximum quantity of manufactured material that is required.

The gardener will ask in what way he can influence the supply of plant food. If he turns his attention to the atmosphere he will conclude that this is quite beyond his control; he cannot increase or modify the carbonic acid gas, neither can he increase the amount of sunlight, nor increase nor modify the temperature of the atmosphere. Consequently he will have to confine his attention entirely to the plant itself, and to the soil in which it lives. He will devote his attention to the former with a view to securing the most efficient and healthy kind, and also with a view to finding a variety which will produce the maximum crop of the desired product under favourable conditions. And when he has done that he will devote his attention to the soil. He will try and learn all that he can about the soil with a view to obtaining a maximum return. No apology is necessary to the gardener for suggesting a careful study of the soil he cultivates. We all know that large sums of money are spent annually in forking and ploughing and hoeing, and in other forms of tillage; also that the application of manure, whether natural or artificial, is exceedingly expensive; therefore it is necessary that we should understand the origin and composition, and methods of improving the soil.

Origin and Formation of Soils.

Soils are formed by the activity of certain natural agents upon rocks. These agents are the atmosphere, rainwater and flowing water, alternating heat and cold, the influence of vegetation upon primitive soil, and finally the activity of certain organisms in soil—"biological" activity, we call it—because it is the activity of living organisms that have their abode in the soil.

With regard to the action of the atmosphere upon rocks, the atmosphere consists of three gases—nitrogen, oxygen, and carbonic acid; and in 10,000 pints of air we will find approximately 7,906 pints of nitrogen, 2,090 pints of oxygen, and four pints of carbonic acid.

The importance of all this with regard to the formation of soils is that oxygen combines with certain ingredients found in rocks, particularly with iron, to form powdery "rusts" which crumble down and cause the mass of rock to drop into fragments, and these fragments constitute some of the most important constituents of soil.

Harpenden. J. J. Willis.

(To be continued.)

RED SPIDER AND PERPETUAL CARNATIONS.

It has been the wont of the inexperienced in times past to associate carnations with disease. If an attempt to grow the divine flower failed it was not the fault of the grower, but that of some disease. But now that the flower's simple requirements are becoming more generally known we hear less mention of disease. Why, even rust, which used to so unnerve quite experienced gardeners, has now lost its dread, not that the danger of it is less, but simply that we understand it more, and know how to cope with it in the right way.

In my opinion I believe that the common pest, red spider, is, without the slightest exaggeration, the most difficult of all pests to effectively fight, and conquer. Stigmonose and several similar diseases are nothing more nor less than the after effect of this little pernicious insect, which is capable of doing more harm than what it is generally credited with. The present is undoubtedly the best and easiest time of the year to fight it, because the growth is free, and in a sufficiently hard condition to allow of remedies being used with a minimum amount of ill effect upon the plant.

In my experience I have not found any vaporiser or fumigant that is able to exterminate red spider, and nearly all the effective remedies are used in a liquid form. To simply charge the atmosphere with moisture in a greenhouse will not destroy red spider, and does but little to check it. A well-directed force of water must strike and dislodge the insects, and so check their increase, and, no matter what liquid agency you use, the force with which it strikes the insect plays quite an important part, if, indeed, it is not the crux of the whole matter. Many of the best American carnation growers declare that clear water is the best remedy, with adequate pressure behind it, and our friends across the Atlantic have cause to know more about red spider than we.

However, the following are good preparations, of which I can speak with personal experience:

Dissolve 1oz. of common salt in a gallon of water. This should be sprayed in the early morning with a very fine spray, reaching every part of the plant, particularly the underside of the leaves, and a few hours after it should be washed off with the hose or syringe. This is not done with the idea of washing off the salt, because that would do no damage if it remained, but it is to wash off the red spider, many being then in a half-dead state.

Boil a half-pound cake of ivory or common yellow soap in a gallon of water until dissolved. When applying this liquid dilute with clear water one to ten. This should be applied early in the morning, and washed off later in the same way as recommended for salt water, except do not spray it on in the first place with quite so much pressure, the object being to coat the entire plant over with the soap solution in the first place.

Of course there are many other remedies, but the above are, perhaps, the best for this season of the year.

Montagu C. Allwood.

LAYERING STRAWBERRIES.

The time is once more here when the work of layering strawberries must receive attention. Layers intended for pot culture and for forcing should be dealt with first. The point to which I wish to specially refer now is the method of fastening the layer in the compost in the small pot. I know that some cultivators lift rooted layers and pot them. It is not a course I would take. Others use squares of turf, and duly pot the rooted layers; others, again, layer directly into the fruiting pots. This plan I cannot recommend because the compost must remain for such a long time before the pots are filled with roots, and is liable to become sour. The majority use small pots, and, in due course, shift into fruiting pots. This is the method I advise any inexperienced cultivator to adopt. With regard to the manner in which the layers are made secure in the soil in the small pots, I prefer flat stones. They are easily procured, readily applied, and keep the soil in the pots moist, thus hastening the formation of new roots, and so enabling the cultivator to have his young plants well forward. Pegs make the layers secure, but do not prevent the soil drying up, thus less labour is required in the matter of watering when stones are used. The first strong layers should be secured, and these are available while the fruits are ripening: some persons do not limit the number of layers from the different plants, but use as many as they can procure. Now, I think three are sufficient, as there is a big strain put upon the old plant just at this stage, and we want the young plants to be as strong as possible.

G. B.

Rhododendron Countess of Haddington.—Mr. W. A. Cook [illegible] 486) is quite in error in referring to [illegible] rhododendron as a Nuttalli cross, as [illegible] a hybrid between R. Dalhousiæ and R. [illegible] tum, which is, indeed, evident from [illegible] spection of the three when in flower. [illegible] only is this the recognised parentage [illegible] R. Countess of Haddington, but from [illegible] flower of R. Dalhousiæ fertilised with [illegible] pollen of R. ciliatum I obtained plants which, when they bloomed, proved to be identical with Countess of Haddington itself.—W [illegible]

Crotons and Dracænas that [illegible] intended to be grown into specimens, [illegible] have done well during the early part [illegible] summer, may require a further shift to [illegible] them through the winter. This should [illegible] done at once, so that they may become [illegible] established in the new soil before [illegible] begin to shorten to any appreciable [illegible] In most instances rather lighter soil may [illegible] used than when potting in the spring, and [illegible] roots taking to this more freely, and [illegible] is not the likelihood of their being [illegible] watered during the winter months.—[illegible]

NEW PLANTS, ETC.

CATTLEYA O'BRIENIANA ALBA.

Cattleya O'Brieniana is supposed to be a natural hybrid between C. Loddigesi and C. Walkeriana, and it has rosy-purple flowers, but the variety alba is a distinct albino, and its only colour is a little pale yellow stain in the throat of the lip. The rest of the shapely flower is pure white. F.C.C., R.H.S., July 19. Messrs. Stuart Low and Co., Bush Hill Park, Enfield.

CATTLEYA WARSCEWICZI LOW'S VAR.

A grand plant of this superb variety was shown, carrying fourteen splendid flowers. The flowers are large and of rich rosy-purple colour, while the lip is almost wholly deep crimson-purple, with a very small yellow mark on each side of the throat. F.C.C., R.H.S., July 19. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt Gloucester.

CATTLEYA ARTEMIS.

This very pretty hybrid, between Cattleya Iris and C. Gaskelliana, has pink sepals and petals, and a handsome crimson-purple lip that is edged with pale rose, and has an orange-shaded centre and white throat. A.M., R.H.S., July 19. Lieut.-Colonel Sir George Holford, Westonbirt, Gloucester.

ONCIDIUM SANDERÆ.

This new orchid resembles O. Kramerianum in many respects. The narrow upper sepals and petals are purplish brown; the lower and broad sepals are bright golden yellow, marked with red: and the handsome yellow lip has red marginal markings. A very showy species. A.M., R.H.S., July 19. Messrs. Sander and Sons. St. Albans.

PESCATOREA LAMELLOSA.

An interesting orchid, closely allied to P. cerina. It has creamy-yellow flowers with dark purple markings on the raised crest of the lip. A.M., R.H.S., July 19. Messrs. Charlesworth and Co., St. Albans.

MILTONIA VEXILLARIA LAMBEAUIANA.

This very beautiful variety has large pure white flowers with pale yellow disk at the base of the lip, and a few rosy lines around it. A.M., R.H.S., July 5. Messrs. Sander and Sons, St. Albans.

CALENDULA DOBBIES' STRAIN.

A grand strain of double calendulas with flowers four inches across, and varying in colour from pale yellow to richest orange. A.M., R.H.S., July 5. Messrs. Dobbie and Co., Edinburgh.

ASTILBE ARENDSI.

The above title has now been given to the useful race of hardy astilbes raised by crossing A. Davidi with A. floribunda and other kinds, but A. Davidi has in each case been the pollen parent, because, as a seed parent, A. Davidi produces strong-growing but shy-flowering progeny.

A. Arendsi Venus.—This has bright rosy-violet flowers, and has an excellent habit. A.M., R.H.S., July 19. Mr. Arends, Ronsdorf, Germany.

A. Arendsi Salmon Queen.—A charming variety with lovely plumes of salmon-pink flowers. A.M., R.H.S., July 19. Mr. Arends, Ronsdorf, Germany.

COSMOS ROSE QUEEN.

A beautiful and graceful garden flower with much divided foliage, and pretty single flowers three inches across, rich rose colour with yellow disc. Illustrated on p. 567 in our issue of July 23. A.M., R.H.S., July 19. Messrs. Dobbie and Co., Edinburgh.

RAMBLER ROSE FLAME.

A beautiful new rose of the rambler or multiflora type. It is said to grow about 9ft. high. The flowers are of a rich and bright shade of rosy pink with light centre; they are semi-double, and produced in large and effective clusters. A.M., R.H.S., July 19. Mr. Charles Turner, Slough.

CARNATION ROBERT BERKELEY.

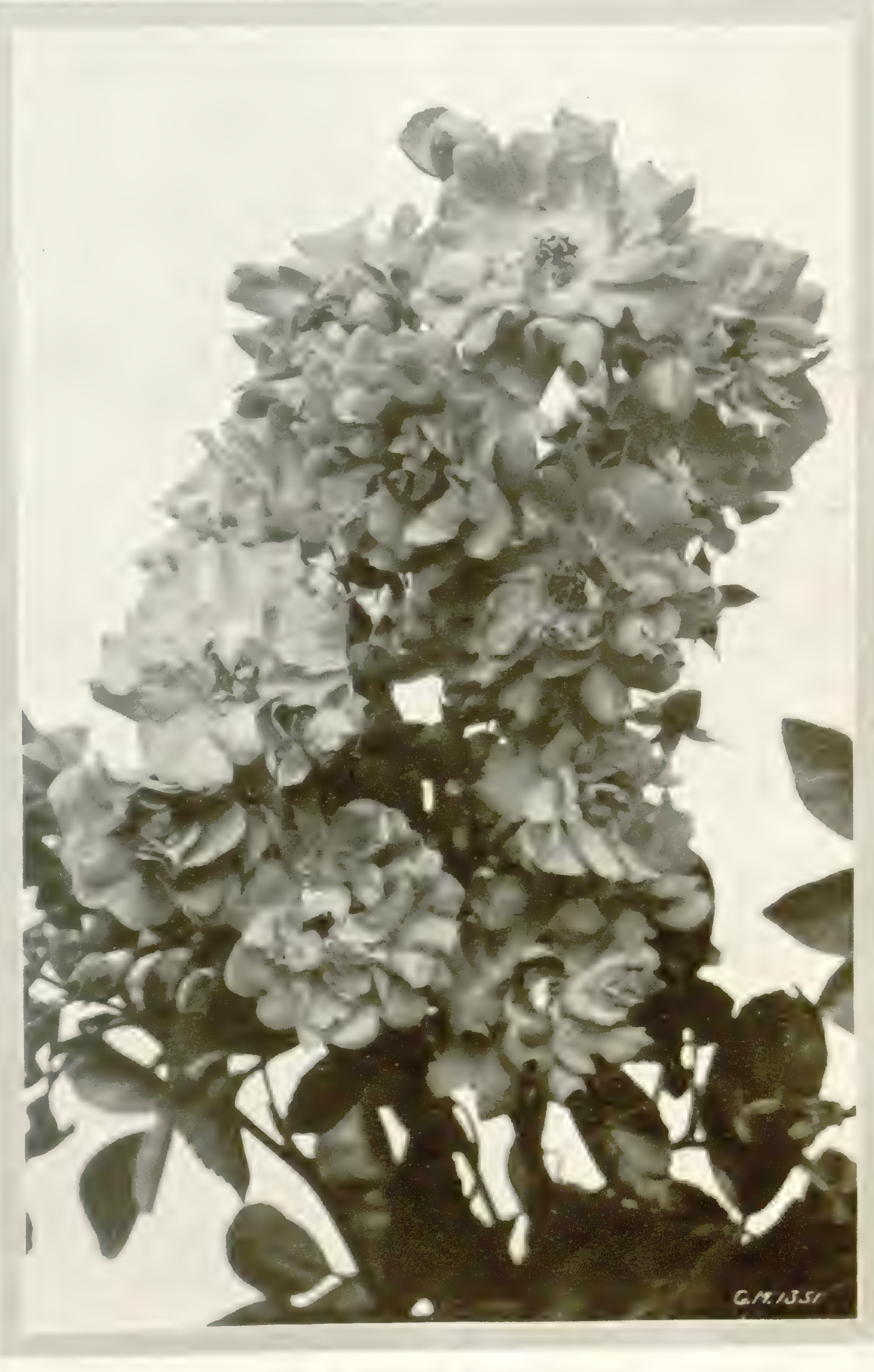
A refined border carnation of excellent form, and of a soft pink shade. A.M., R.H.S., July 19. Mr. Jas. Douglas, Great Bookham.

BOUVARDIAS.

Bouvardias generally bloom most profusely in the autumn and during the early part of winter; their lovely flowers are so useful that they are always much appreciated. During the first three months of the new year the plants, if properly cared for, will continue to bear flowers. As a rule amateurs are afraid to subject them to a cool temperature, and it is a mistake to keep them in a rather high temperature. Of course, the later blossoms are borne on the younger shoots, and these must not be unduly forced in a very warm house. Keep them well exposed to the light, and when the weather is mild enough air must be admitted freely, else the plants will be considerably weakened, both for growing on again and the production of cuttings. Old plants that are being grown on in pots should be supplied judiciously with some approved artificial manure. In this way the growth will be strengthened and flowers be freely produced.

Inexperienced cultivators are very often much puzzled to know what kinds of plants are the best for winter flowering in a temperature of about 55 deg. to 60 deg. The bouvardias are most suitable, especially where sprays and button-holes are in constant request; and, furthermore, they can be grown in the open during the summer months; either in pots or planted out. But I advise those who have not had any experience of the planting-out method to keep all the plants in pots and partially plunge them in a bed of ashes in an open position. A piece of slate or tile should be placed under each pot to ensure free drainage and prevent worms entering.

G. B.



NEW RAMBLER ROSE FLAME.

Flowers rich rose-pink, and produced in large clusters. A.M., R.H.S., July 19. Mr. Charles Turner.

DELPHINIUMS.

The delphinium is a power in the flower garden, and that power is increasing each year. What is it that makes the delphinium so popular? Surely its stateliness, its great beauty and effectiveness in the garden and the ease with which it can be cultivated. Some of its popularity is due to the raisers of new varieties, for undoubtedly a wide range of form and colour in any good garden flower ensures a large patronage, as so many tastes are provided for. Delphiniums will grow in almost any kind of soil and situation, but there is a marked difference in the results obtained when good culture and an open position are afforded, as compared with poor culture, over-crowding, and a position overshadowed by trees. Some amount of shelter from the prevailing winds is a great advantage to delphiniums, because their succulent stems are readily snapped by wind pressure unless there are several ties and a stake, and even these are not wholly successful when the clumps are large ones and a half-gale follows rain. Good soil, mulching, due thinning, and careful staking are the chief points to be remembered in delphinium culture.

DELPHINIUM BELLADONNA SEMI-PLENA.

A distinct and beautiful variety with semi-double light blue flowers. A.M., R.H.S., July 5. Mr. Amos Perry.

But good culture will not turn a poor and out of date variety into a good one, therefore every garden lover should add some new varieties to his collection each year. A visit to such a collection as that formed during the last few years by Mr. Amos Perry, of Enfield, would enable one to select a fine set of pleasing varieties, these ranging in colour from almost pure white up to intense blue-purple, through all shades of lavender and light and dark blue. There are single, semi-double, and double varieties, and there is some variation in the length, form, and density of the spike, so that every taste seems to have been provided for. Some delphiniums bloom earlier than others, therefore some care should be exercised in making a selection so as to secure as long a flowering season as possible.

For those unable to visit the collection at Enfield Mr. A. Perry provided a splendid opportunity at the recent fine exhibition at Holland Park, when he displayed hundreds of varieties, and some thousands of glorious spikes of bloom in great groups, quite filling one tent with a superb exhibit of these grand hardy flowers. It is safe to assert that never has there been such a magnificent exhibit of delphiniums as this one was. There were six great groups, and one of these is shown in part in the present issue.

It is not the purpose of this note to discuss varieties at any great length; but Mr. Amos Perry has a remarkable collection of all the finest varieties obtainable in addition to a large range of seedlings. Varieties of Delphinium belladonna have been brought very prominently to the front by him, and Lamartine is one of these, and its deep violet-purple flowers are very pleasing. The semi-plena variety, of which an illustration is given herewith, is another fine thing; it is not too double, but just double enough to enable the flowers to last longer than if they were single. Persimmon, Amos Perry, Carmen, Duke of Connaught, Lizzie, King of Delphiniums, Sir George Newnes, La France, Mdme. Violet Geslin, Blue Fendre, and Rev. E. Lascelles, are a few other varieties of surpassing loveliness, seen both at Holland Park and at Mr. Perry's nurseries at Enfield.

A FINE CORDON PEAR.

The variety Durondeau, is a very handsome pear, and when the trees are planted near walls and treated as cordons some excellent specimens may be obtained. A number of years ago, when I took charge of a large garden enclosed and sub-divided by very high walls, which were supported by strong buttresses, I planted a cordon fruit tree in the front of every buttress. Knowing how adaptable the variety Durondeau was to such treatment, I planted quite a large number of trees, and did not afterwards regret doing so. It was quite an easy matter to grow fruits equal to those seen in fruiterers' shop windows, and priced at sixpence and ninepence each. As the tree on the front of the buttress was very prominent it received the maximum amount of sunshine, air, and light, with the result that the wood and buds matured well and the fruits attained to a large size and were very highly coloured three-parts of the way round instead of, as in many instances, on one side only. The variety is a free grower and clean, and does best on the quince stock.

G. B.

Combretum purpureum.—As might be expected of a native of Madagascar, this needs the temperature of a stove for its successful culture. It is quite distinct from any other occupant of the same structure. It has a climbing habit, and is furnished with neat evergreen leaves and light scarlet flowers, several of which are [illegible] together to form a loose, somewhat [illegible] panicle. It flowers from now onwards for a considerable time. It was introduced as long ago as 1818, and is sometimes met with under the name of Poivrea coccinea.—W. T.

NOTES FROM KEW.

Posoqueria macropus.

Many members of the order Rubiaceæ, to which the posoqueria belongs, have blossoms with long tubes. Well known examples are to be found in the bouvardias, but in Posoqueria macropus this feature is greatly pronounced. The plant in question forms a rather upright branching shrub, clothed with oblong-shaped leathery leaves. The flowers, borne in good-sized corymbs, consist of a long slender tube nearly a foot in length, while the expanded mouth, like a five-pointed star, is 1½ inches or so across. The flowers are white, and very fragrant. From the great length of their tubes the flowers of this posoqueria are partially drooping, and present a most singular, yet striking appearance. The species under notice is a native of Brazil, from whence it was introduced in 1896. A specimen of it is just now in flower in the stove compartment of the T range.

Impatiens Hawkeri.

When this species of balsam was first introduced from the Sunda Isles, in 1886, comparatively few members of the genus were generally grown. Now, however, with later introductions, the case is altogether different, and numerous kinds of impatiens are to be met with in gardens. The well known Impatiens Sultani was distributed some three or four years before I. Hawkeri, and the appearance of this last, with its richly-coloured blossoms, aroused much interest. Unfortunately, however, I. Hawkeri proved to be very susceptible to the attacks of a small mite, such as often affects begonias, and so badly does the balsam suffer that it is now not often met with. In the intermediate portion of the T range a good example is, however, flowering freely. The flowers are larger than those of I. Sultani, and of a rich carmine-red shot with purple.

Gloriosa Carsoni.

This, which has been by some writers referred to as a less pronounced climber than some of the others, has mounted well up the roof of the stove portion of the T range, and is just now flowering freely. It belongs to that section with broad, smooth segments, and in shape recalls G. Planti, or virescens. The flowers are yellowish towards the centre, with the broader portion of the segments of a dull reddish tint. While some flourishing examples of the old and well known Gloriosa superba are in the same structure, the greenhouse (No. 4) furnishes an illustration of the fact that stove heat at this season is by no means necessary for this gloriosa, as under quite cool conditions it is growing freely, and, what is more, the flowers are particularly attractive by reason of their brightness of colouring.

Pelargonium echinatum.

Many of the visitors to Holland Park found a good deal to attract them in the splendid collection of species and scented-leaved varieties of pelargonium sent from the famous gardens at Aldenham. Anyone about to take up the culture of these plants must on no account overlook the claims of Pelargonium echinatum, a curious, yet at the same time beautiful species. The stems of this are stout and club-like, and furnished with rigid spine-like stipules. The lobed leaves present a greyish appearance from the profusion of silky hairs with which the upper surface is clothed. This species is very free flowering, the blossoms being borne in large branching umbels. They are not large, being individually from one-half to three-quarters of an inch across, the colour pure white, with a deep purple blotch on each of the two upper segments. It is flowering in the cool portion of the T range, and close by is P. Stapletoni, almost a counterpart of the other, but with bright rose-coloured flowers, the dark blotch still remaining. I cannot find the name of Stapletoni in any reference to hand, but it bears a great resemblance to some forms raised at Chilwell by Mr. Pearson, and given first class certificates by the Royal Horticultural Society in 1878. The varieties were named Ariel, Beauty, Pixie, and Spotted Gem. They were all a good deal in the same way. I have not met with these varieties now for some years, but was forcibly reminded of them by seeing P. Stapletoni in bloom.

Lilies.

Out of doors the lilies at Kew, as at other places, are scarcely up to their usual standard. Under glass, however, some good flowering examples are to be met with. A pretty effect is produced in the greenhouse by interspersing Lilium longiflorum with the comparatively new L. sutchunense. This last, at a first glance, suggests a slender-growing form of the Tiger lily, but closer inspection, and the appearance of the bulbs, points out a closer affinity to L. Maximowiczi, or L. pseudo-tigrinum. Dotted among the long white trumpets of L. longiflorum, and [illegible] over-

PORTION OF MR. A. PERRY'S DISPLAY OF DELPHINIUMS
At the Royal Horticultural Society's Show, Holland Park.

topping them, the bright red, gracefully reflexed flowers of L. sutchunense are particularly striking. Inside, the segments are dotted with dark brown. Under glass the flowers are decidedly paler than those which have developed in the open ground; indeed, some at the back of the Palm House, where they have been exposed to sun and air, might almost be regarded as bright scarlet in tint. This lily is a native of Western China, and first flowered at Kew in 1899 from bulbs sent by M. Vilmorin. After that it was, I believe, sent home in quantity by Mr. Wilson.

Lilium philippinense.

This pretty lily may be described as an attenuated form of Lilium longiflorum, the stem being more slender, the leaves quite grass-like, while the flower tube is very slight. It has also the pleasing fragrance of the longiflorum section. The blooms at Kew are mostly solitary, but I have seen the lily bearing three to five flowers on a stem. This lily was first collected by Gustave Wallis on the island of Luzon, in 1870, and has since been occasionally sent to this country.

Lonicera etrusca superba.

This honeysuckle, from Southern Europe, is hardy only in the more favoured parts of the country, but it has been long shown at Kew what a grand climber it is for a large structure from which frost is excluded. Both in the greenhouse and in the Temperate House it is very fine. It is an exceedingly vigorous grower, that bears immense clusters of yellow flowers, varying in depth of colour according to the time they have been expanded. They are also very sweetly scented.

K.

SILENE PENDULA COMPACTA

There are several forms of this useful annual, single and double, rose, pink, and white, none of which exceeds six inches in height under normal conditions. Its principal value is as a spring bedder, when, massed together, it produces a very fine effect, either by itself or in combination with other judiciously chosen plants of somewhat similar habit of growth. It is sometimes used for surfacing beds of spring bulbs, or taller plants, like wallflowers and doronicums, though most will agree that for many bulbs plants of a less compact habit are to be preferred. For an edging its compactness makes it eminently suitable, but the colour of the pink and rose varieties does not agree with the pink of hyacinths, the purple of aubrietia, or other similar colours.

By sowing at different times flowering plants may be obtained from spring to autumn, but we have little room for it in the summer, and it is best treated as a biennial by sowing it in the late summer for spring display. As soon as there is any spare ground in the kitchen garden in August this should be prepared as a seed bed, and the seed sown broadcast and raked in. When the seedlings get into the third or fourth leaf they should be roughly thinned to two or three inches apart, when, by October, they will make nice strong plants three or four inches across, ready to be planted in their flowering positions, and this is the best time to transplant them.

Though this cannot be regarded as a choice spring flower, or even as one of the prettiest, yet the ease with which an unlimited supply of good plants can be obtained, and a mass of colour produced, certainly give it a place in every gardener's mental list of kinds to be grown when occasion requires.

Alger Petts.

HOEING AND WATERING.

During the present season the chief work in the vegetable garden is that of hoeing, and the more time that can be devoted to this important operation the better. The Dutch hoe is an extremely useful implement for clearing soft, succulent weeds, which rapidly spring up between the rows of seedling vegetables before the latter have been thinned out. At a later stage, however, when thinning and planting out has been completed, and the ground has become consolidated by heavy rains, as they have been during the past few weeks, it is necessary to use some form of hoe that is capable of stirring the surface of the soil and breaking up hard caked surfaces, as if this is not done the plants will not grow freely.

In many cases, where the ground is hard, especially between the stronger-growing plants, such as green vegetables, and also in earthing up potatoes, it is preferable to use a fork, as the ground can be stirred to a greater depth, and any coarse lumps can be broken up as the work proceeds. Unfortunately there are many gardeners who—perhaps not through their own fault, but simply because they are denied the necessary labour—have to content themselves with the mere chopping down of weeds. This is only one of the good effects to be derived from hoeing, but it is by no means the most important one.

Considerable economy could be effected if farmers and gardeners were more certain as to the germinating capacity of the many varieties of seed which they purchase. This is why the testing of all seeds that are to be used on the farm or garden has been so much advocated from time to time. For example, in the present season I tested three varieties of mangold seed, and found that the germinating percentages were very irregular, due probably to the fact that old seed had been mixed with new. Whether this was actually the case one cannot definitely say. The same germination is, however, in evidence in the field, for since the recent heavy rains, a large percentage of the seed is germinating quite a fortnight to three weeks later than that considered to be the best-quality seed of the sample.

Again, in the garden we usually find that such crops as carrots are too thickly sown, and this is often the case with turnips, parsnips, beet, etc. Even the numerous varieties of green vegetables are frequently spoiled by thick seeding. If the thinning out, hoeing, or "singling" of these seedlings is taken in hand as soon as they are large enough to handle, all well and good; but unfortunately they are frequently left until they have become well established, when the result is often disastrous. Only the other day a friend of mine was thinning out a bed of carrots in which the plants were some eight inches or so in height. During the operation numerous carrot flies were flitting over the bed, with the probable result that they deposited their eggs by the sides of the remaining plants, especially if the soil had not been firmly replaced. In any case the risk was great, and one which should have been avoided as far as possible.

Moreover, in the case of cabbages and other green crops, if the seedlings are not soon transplanted the beds cannot be properly hoed or weeded, the plants become drawn and weak, with the result that they do not recover themselves sufficiently to make strong, sturdy growth. In planting out spring onions it is always found that tiny plants and those which have not been carefully grown on in boxes, can never make up this loss when planted in the permanent bed, however carefully they are attended to, and the same applies to most cultivated plants.

If the time devoted to watering in the garden was given to the work of hoeing or forking between the rows of plants, much better results would be secured. There are very few garden plants, and particularly vegetables, that require watering, with the exception of the following: Celery and leeks are often planted out of good soil in boxes into trenches, and afterwards allowed to suffer from want of water, whereas in order to ensure a steady and rapid growth during the growing season they should be kept continuously moist, and when thoroughly established the addition of liquid manure is highly beneficial. The same remarks apply to peas, runner beans, and onions, provided, of course, that they are not growing in soil that has been too liberally manured.

I have often seen peas growing in excessively rich soil, and making an excess of haulm instead of producing well-filled pods, and the same may be said of celery growing in moist situations and where heavy dressings of manure have been applied in the trenches. But during drought several good soakings of liquid manure undoubtedly stimulates the plants, and carries them on through the most critical period of their growth. Exhibition onions, for example, are benefited by weak solutions of liquid manure; or, if preferred, the plants may receive a dressing of finely-ground nitrate of soda at the rate of about two ounces to a square yard; but, being an active nitrogenous manure, this must not be overdone, or the growth will be so stimulated as to become rank and leafy. The time to withhold water from plants is in the autumn, as soon as they show signs of maturing; as, for example, as soon as peas and beans have set their pods, or where celery or leeks have become well developed, or onions begin to turn yellow. All liquid stimulants are then unnecessary and even harmful, as moisture in any form can no longer be of benefit.

Old Basing. J. C. Newsham.

Hydrangea arborescens grandiflora.—This hydrangea is a form of the North American Hydrangea arborescens, and differs from the type in the fact that the large, sterile blossoms, which are the showiest part of the inflorescence, are so numerous as to form a compact, rounded head. In the ordinary kind they are limited to a scattered few around the outside of the cluster. This newer variety has made considerable headway in popularity within the last few years, and promises to be even more extensively grown.—W. T.

Broccoli.—Broccoli is a crop calling for more than ordinary care in planting, more particularly with those varieties yielding their heads in winter and spring. The crucial point in cultivation is to secure a well-developed plant of short jointed growth. The ground should be in good heart, but not freshly loosened; that from which early turnip, carrot, or similar crops have been drawn will meet the case. Close planting should be avoided, and sufficient space allowed for the full development of each plant; towards autumn the lower leaves may be removed in order to admit the full measure of light and air, and thereby further the ripening of the crowns as far as possible before the approach of winter. Broccoli grown under field conditions are hardier than those grown upon rich garden quarters, and are often more profitable. Field culture gives more woody tissue in the plants; the leaves and stems are less succulent, the plants being dwarf and robust, and the curds are of a good table size, generally measuring from three to five inches in diameter.—Thomas Smith.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEEDLING CYPRIPEDIUMS.—Cypripediums of the winter flowering section that were raised from early sowings will, in many instances, be sufficiently advanced to produce roots. Providing the seed bed is in good order, it is not necessary to remove them, but I consider that the sooner the seedling cypripediums of this class can be given a separate receptacle the better the progress. Where potted separately they are treated individually, which is practically impossible where the plant providing the seed bed has to be cared for. The seedlings are liable to suffer from excess of moisture, which is practically the only quantity necessary to maintain them in health at the season in which they are developing their flowers. Where seedlings are pricked off at the present season they make considerable growth during the next two months, and they become so well established that they are enabled to withstand the trying winter months, and make considerable headway during the early spring.

COMPOST FOR SEEDLINGS.—The most suitable mixture for any of the plain-leaved section of cypripedium seedlings consists of about equal parts of fibrous loam, peat, and sphagnum moss, with sufficient rough sand or finely broken crocks to render the compost free and porous. The compost should be pressed moderately firm. For any of the tessellated leaved section we dispense with loam and use only peat and sphagnum, chopped fine, in about equal portions. The size of pots used should be governed by the strength of the seedlings. The pots should be clean, and filled to about one-half their depth with clean broken crocks. After the seedlings have been pricked off, water, using rain water, and also a can to which a fine rose is affixed. The plants should then be placed in a position within reasonable distance of the glass roof, either by raising the staging, suspending several together in a pan or basket, or, better still, if placed on a shelf with a thin layer of broken coke to ensure ample drainage. They must be protected from the direct rays of the sun, but otherwise they should have the benefit of all the obtainable light. Occasional spraying overhead will be found beneficial in hot, dry weather, and with careful attention to watering little difficulty will be found in their successful cultivation.

OLDER PLANTS.—Plants of one or two years' growth that have not sufficiently advanced to be likely to produce flowers this winter should, if they require more room, or the compost has become decomposed, be repotted at the present season. It will be found that in most cases root action has commenced, and when in this state, with favourable outside conditions, they quickly become established. The compost mentioned above, but of a coarser nature, is suitable for these also. It should be pressed moderately firm, and less drainage should be used as they gain strength. The more delicate constitutioned kinds, such as the hybrids of C. niveum, C. bellatulum, and their allies, also produce new roots at the present season, and where any repotting is necessary they should be attended to without delay. These should have ample drainage, and a liberal proportion of lime rubble intermixed with the potting compost will be beneficial.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

WINTER-FLOWERING BEGONIAS.—No time should now be lost in putting these into their flowering pots, especially those that were rooted early. A compost consisting of loam, leaf-soil, silver sand, with a fair amount of dried cow manure, well broken up, and a little charcoal, should suit all the winter-flowering sections, as they all require soil of about the same texture. The pots should in all cases be thoroughly cleaned and well crocked, and if this latter is done well water may be given quite freely after the pots are filled with roots. Potting should be moderately firm, using the rammer only to make sure of there being no vacant spaces at the side of the pot. For the largest and the earliest plants of Gloire de Lorraine and Gloire de Sceaux seven-inch pots will be quite large enough. In pots of this size huge specimens may be grown. For the smaller and later batches five and six-inch pots will be quite large enough, and the plants will be more convenient for use in decorations. After potting endeavour to have all this class of plants together in one house, or houses, where they may be treated properly. A melon or cucumber house just cleared of a crop is in every way suitable for them. Keep them as near the glass as possible, taking care with the watering for a time, but give morning and evening sprayings overhead, as well as among the pots. Keep the house shaded and close at least for a few weeks, as they grow away much more freely than if treated to a fair amount of sunlight and air. They must, of course, be inured to both as the season advances, and the young plants commence to show flower. After potting put one stake to each plant, and give a tie whenever necessary. This should carry them well into the time when they may be staked out if required, but for most purposes those trained or tied to the one stake have the best appearance.

PROPAGATION.—Continue the propagation of all classes of plants that are useful for decorative purposes, including coleus, panicums, tradescantias, and selaginellas in variety, also a batch of croton cuttings may be put in now, and these will be found very useful subjects for decoration in November if rooted in three-inch pots.

GLOXINIAS.—The main batches of these are now going out of bloom, and where this is the case they may be removed to a cooler house or frame. Do not withhold water too soon, but continue to give them supplies of liquid manure until the foliage begins to show signs of natural decay, when water may be gradually withheld, giving the plants or corms a chance of being thoroughly well ripened in the sun. This season's seedling plants will be well in flower, and these should be kept growing as long as possible, treating them as above as soon as they go out of flower.—Thomas Stevenson, Woburn Place Gardens, Addlestone.

FRUITS UNDER GLASS.

MIDSEASON PEACHES.—As soon as the trees are cleared of fruit leave the ventilators of the house fully opened, and daily syringe the trees in order to keep them clean, and relieve them of any red spider that may have effected a lodgment while the fruit was ripening. In cases where it is required give the borders enough water to moisten them through, and discreetly add liquid manure to the water, or give a light dressing of suitable soluble artificial manure in such cases where it is needed, the conditions of the trees as to vigour being taken as a guide in these matters. Carefully examine the trees and remove all useless wood, which will be chiefly found amongst the shoots that have this season carried fruit.

LATE PEACHES.—The fruits in late peach houses are now near the second swelling stage, and, with a view to improve the colour, means should be taken, if not already done, to expose them as much as possible to the light. The supply will, however, be lengthened if the fruits on the underside of the branches are left shaded. Continue up to the time the fruits begin to ripen to vigorously syringe the trees, and supply them with necessary water and manure, but at that period discontinue these practices until the fruit is gathered. In the case of outside borders, now that they have become warmed by the sun, they may, after dressing them with artificial manure, be mulched with partially decayed stable litter. Still avoid the crowding of wood by removing superfluous shoots, and secure the points of those left. Unless done in order to accelerate the ripening of the fruit no artificial heat should be used, and the house, on favourable occasions, should be freely ventilated.

CUCUMBERS.—At this season of the year, in order to keep cucumber plants in a satisfactory bearing condition, it is necessary to give the plants at frequent intervals top-dressings of fresh compost suitably mixed with manurial compounds. Plentiful supplies of diluted liquid manure should likewise be given, a moist atmosphere maintained, and the plants be well syringed morning and evening. Keep the shoots properly thinned and stopped at one leaf beyond the fruit; be careful not to overburden the plants, and cut the fruits before they become large and tough. Make new plantations as required. Carefully managed young plants produce fruits of the highest quality.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

SEAKALE.—This crop has made wonderful progress during the constant wet weather of the past two months. The bed should now be attended to, and the crowns be reduced to one to each plant. Take every care to promote the building up of strong, well-ripened crowns by the autumn by frequently stirring the soil with the Dutch hoe, and apply a good dressing of soot during showery weather.

ENDIVE will now need to be transplanted in ground previously occupied by potatoes, etc. Put the plants fifteen inches apart each way, and well water in. Also make good sowings of the Batavian varieties on similar ground, and plant out as soon as the seedlings are large enough.

LATE PEAS.—Pay close attention to these with a view to ensure a supply extending over as long a period as is possible. There are now many varieties with strong constitutions for the late supply, and if the necessary details are carried out they rarely fail to crop. The chief requirements are deeply dug soil, with plenty of moisture at the roots and overhead, and a nice mulching of manure that is partly decayed. To ward off mildew a few crystals of permanganate of potash is very beneficial, adding just enough crystals to colour the soft water to the shade of claret. Well spray weekly where mildew commonly pays visitations.

AUBERGINES AND CAPSICUMS that are nicely setting their fruits may have liberal waterings of farmyard manure, and regularly sprayed with tepid water. Keep a sharp look-out for red spider, but if the frame is closed early and thoroughly sprayed, and the roots prevented from getting dry, very little fear need be entertained on that point. As the ripening process advances employ more air and a drier atmosphere.

VEGETABLE MARROWS.—The dull weather so far experienced is not favourable to a good "set" of fruits; where this is the case the growths must be thinned out, the points stopped, and the flowers pollinated. Those in frames are still cropping freely, showing how necessary it is to have a few under glass at all seasons.

FRENCH BEANS.—It will be advisable to make a good sowing in frames, where later the lights can be placed therein, and so lengthen the season of this desirable vegetable.

TURNIPS.—Up to date these have been very fine. A good breadth can be sown where potatoes have been lifted. Sow in drills at twelve inches apart. Red Globe and Snowball are first-rate varieties for the present sowing.

COLEWORTS.—No cabbage is more useful than these for late autumn and winter use. The plants raised from the first sowing are now quite ready for planting. Ground previously occupied by early peas is very suitable. Make later plantings in quantity for succession, allowing a distance of one foot each way.—G. Ellwood, Swanmore Park Gardens.

EXHIBITIONS AND MEETINGS.

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Handsworth.

It was a good show that was held on Friday, July 22, in Handsworth Park, Birmingham, under the auspices of the Handsworth Horticultural Society. Unfortunately the weather was not so good as one wished, the frequent showers having the effect of keeping down the attendance. However, that is a matter beyond the control of the energetic committee and secretary, who are to be heartily congratulated on engineering a really interesting exhibition of high-class horticultural products. Handsworth Show deserves success, and there is every possibility, and indeed probability, of its attaining a very high position among provincial flower shows. The park is a beautiful spot for a show of this kind. Good prizes are offered, and there seems to be plenty of enthusiasm among the band of workers, who only need the support of the upper classes in the district to ensure further and rapid growth.

GROUPS.

The open class for a group of plants arranged for effect on 300 square feet of space, brought four entries, Messrs. J. Cypher and Sons, Cheltenham, winning easily and well. This firm always has something good to show, and the style is varied from time to time. On this occasion the central feature was a broad arch clothed with fuchsias, ferns, Begonia Gloire de Lorraine, etc., and surmounted by a noble kentia. The corners were picked out with Cocos Weddelliana on mounds of flowering plants and small, brightly coloured crotons. The groundwork included beautiful cattleyas, caladiums, and other effective plants, with Lilium longiflorum and tall specimen crotons admirably arranged in such a manner that whilst one could see right through the group there were no bare spots. Mr. J. V. Macdonald, gardener to Sir G. H. Kenrick, Edgbaston, was a close second, using some excellent crotons and other fine foliage plants to good purpose, but was somewhat lacking in flowering plants. Third prize went to Mr. Cryer, gardener to J. Arthur Kenrick, Esq., Berrow Court, Edgbaston, and fourth to Mr. W. Vause, Leamington.

Messrs. J. Cypher and Sons had the best twelve stove and greenhouse plants, and showed immense statices, ixoras, allamandas, Bougainvillea glabra, Rondeletia speciosa major, etc. Mr. W. Vause, Leamington, came second, and Mr. A. Cryer third. Mr. Cryer scored with six caladiums, showing beautiful plants, and he was followed by Mr. J. Winter, gardener to C. A. Palmer, Esq., Park Hill, and Mr. W. H. Kelland, gardener to A. Sanders, Esq., Hampstead Road, Handsworth. Mr. J. Winter was awarded first for a group of tuberous begonias, which were set off with selaginellas, caladiums, etc. Second prize went to Mr. W. H. Kelland. The same order was maintained in the class for six coleus.

Mr. H. N. Ellison, West Bromwich, gave prizes for twelve ferns, in pots between five and six and a-half inches in diameter. Two entries were forthcoming, and some good plants were staged in both collections, Mr. T. Perks, Ashley House, taking the lead, Mr. C. Thomas, Handsworth, being awarded second prize.

ROSES, ETC.

Roses were shown freely, and were of good quality. There were seven entries for twenty-four distinct varieties, Messrs. Perkins and Sons, Lim., Coventry, securing leading honours with a stand of really good flowers, Mildred Grant, Margaret, and Lyon Rose being well shown. The King's Acre Nurseries, Lim., Hereford, came second. Mr. John Mattock, Oxford, third, and Mr. W. T. Mattock, Headington, was allowed an extra prize. Messrs. Perkins and Sons again scored with twelve distinct varieties, the best blooms being William Shean, Her Majesty, and Mildred Grant. The King's Acre Nurseries, Lim., had Maman Cochet, Frau Karl Druschki, and Bessie Brown among their second-prize dozen. Mr. John Mattock was awarded equal third with Mr. W. T. Mattock.

For twelve teas Mr. W. T. Mattock led, his Mrs. E. Mawley, White Cochet, and Maman Cochet being good blooms; the King's Acre Nurseries, Lim., were again second, and Mr. John Mattock third. A good display was made by the garden roses, staged in twelve bunches, and Mr. J. Mattock's first-prize lot included Sulphurea, Madame Ravary, Betty Berkeley, and other very pretty things. Second prize was awarded Mr. W. T. Mattock, and third to Messrs. Townsend and Sons, Worcester.

Border carnations are always strong in the Midlands, and good things are expected in the Birmingham district. We were not disappointed so far as concerns the winning exhibits in both the twenty-four blooms and twelve blooms. Mr. A. R. Brown, Wychall Nurseries, King's Norton, was winner in both classes, and showed beautiful flowers of choice and up-to-date varieties, including Ajax, Alcestris, Aleppo, Otway, and Charles Edmonds, all of which are of Mr. Brown's introduction. Mr. F. Oldnall, gardener to F. Hawkes, Esq., Devonshire Road, Handsworth, came second in the twenty-four's, spoiling his exhibit by putting six varieties in each of four vases, instead of setting up each bloom separately. Mrs. Joseph Jester, West Bromwich, came second in the twelves, showing some good clean white grounds and a white self and crimson self.

A capital class was that for twelve bunches of violas, distinct varieties. It brought half a dozen strong entries, and not only were the flowers of high quality but the staging was well done. Mr. William Chipman, New Oscott, was awarded premier place, his Agnes Kay, Mrs. Chichester, Nancy Marsh, and Lady Grant being very choice. Messrs. Bastock and Sons, Moseley, were a very close second, their bunch of Moseley Perfection being as near the standard its name suggests as anything we have seen. Messrs. W. Pemberton and Sons, Bloxwich, came third, their earthenware bowls detracting from the effect of the flowers. Mr. H. Allen, Headingley Road, Handsworth, an amateur, made so good a show that he was worthily awarded an extra prize.

Hardy herbaceous flowers were catered for in a class for twenty-four bunches, and Mr. William Chipman, New Oscott, was the successful exhibitor, followed by Messrs. Bastock and Sons, Moseley, and Messrs. W. Pemberton and Sons, Bloxwich. Chrysanthemum maximum, Coreopsis grandiflora, Aconitum napellus, and other seasonable flowers were staged in both exhibits.

The best twenty-four bunches of sweet peas came from Mr. William Marples, Penkridge, whose flowers were clean, fresh, and well put up; Helen Lewis, America Spencer, Syeira Lee, and Evelyn Hemus were included in the collection, also one or two good seedlings. Mr. A. Langston, Wychbold, Droitwich, was second, and Mr. J. R. Burd, Penkridge, third. Messrs. Robert Sydenham, Lim., Birmingham, offered special prizes for sweet peas grown from their seeds, the principal winners being Mr. Delbridge, Penkridge; Mr. E. Deakin, Hay Mills; and Mr. W. Clarke, Lower Hagley. In Messrs. Webb's class Mr. R. Dawes, Dorridge, and Mr. H. Davis, Stourbridge, were winners.

TABLE DECORATIONS.

These were a very strong feature, and the fourteen tables made a very pleasing display down the centre of the tent. In the class confined to lady exhibitors the first prize went to Miss C. Williams, 91, Holyhead Road, Handsworth, who carried out a most delightful arrangement of yellow and copper

FIRST PRIZE COLLECTION OF BORDER CARNATIONS AT HANDSWORTH SHOW.
Exhibited by Mr. A. R. Brown, King's Norton.

roses with trails of selaginella and adiantum. Miss A. Faulkner, 33, Station Road, Handsworth, came second with Mrs. Burnett carnation, set off with fern and gypsophila. Mrs. Holder, New Oscott, came third. In the open class Mr. W. T. Mattock scored with a beautiful arrangement of single roses, second prize going to another tasteful display carried out in orange-tinted roses by Miss Townsend, Broadheath, Worcester. Mr. J. Winter came third.

VEGETABLES AND FRUITS.

The first-prize collection of nine dishes of vegetables came from Mr. E. Deakin, Hay Mills. The peas, onions, and cauliflowers were good samples, and the collection was staged in an attractive manner. Mr. A. T. Rainbow, Northfield, came second, and Mr. R. Davis, gardener to H. Watson Smith, Esq., Stourbridge, third.

LOCAL CLASSES.

A number of classes were provided for gentlemen's gardeners and amateurs within a radius of five miles of Handsworth Park, and the exhibits filled a large tent with good plants and flowers.

For a group of stove and greenhouse plants occupying 12ft. by 8ft., Mr. J. Winter, gardener to C. A Palmer, Esq., Park Hill, was awarded first. Fuchsia triphylla was freely used with crotons, caladiums, and a variety of other good plants. Mr. C. Thomas, gardener to W. Lister, Esq., Handsworth, was placed second, his group being rather overdone with white flowers and white leaved plants.

Mr. T. Perks, gardener to J. Boston, Esq., J.P., Ashley House, Handsworth, received first in the smaller, semi-circular groups. Mr. W. Pearl, gardener to A. J. Rabone, Esq., Hampstead Hall, scored for three exotic ferns, Mr. T. Perks coming second, and Mr. H. Kelland third. Mr. A. Cryer led for six exotic ferns with some fine specimens, while for the six British ferns, first honours were accorded Mr. J. Innis, gardener to Mrs. [illegible], Church Lane, Handsworth, Mr. W. Pearl being second.

Fuchsias were well shown by Mr. C. Thomas, gardener to W. Lister, Esq., who won first for six good pyramidal plants, his followers being Mr. Cryer and Mr. Kelland. Mr. J. Winter had a dozen double zonals, for which he was awarded first in the class for twelve flowering plants of one kind, Mr. T. Perks securing second, using fuchsias. Some good specimen stove plants were shown by private gardeners, Mr. A. Cryer securing first for six. Mr. J. Winter was second. A number of cut flower classes in the gentlemen's gardeners section were well filled, the exhibitors already mentioned accounting for most of the prizes. Handsworth cottagers are evidently very enthusiastic gardeners, otherwise they would not have mustered so strong an array of exhibits as were placed before the judges. Flowers and plants, as well as vegetables were staged in quantity, and many of the exhibits were of a high order of merit. The children's wild flower classes were also the source of much interest and enthusiasm.

NON-COMPETITIVE.

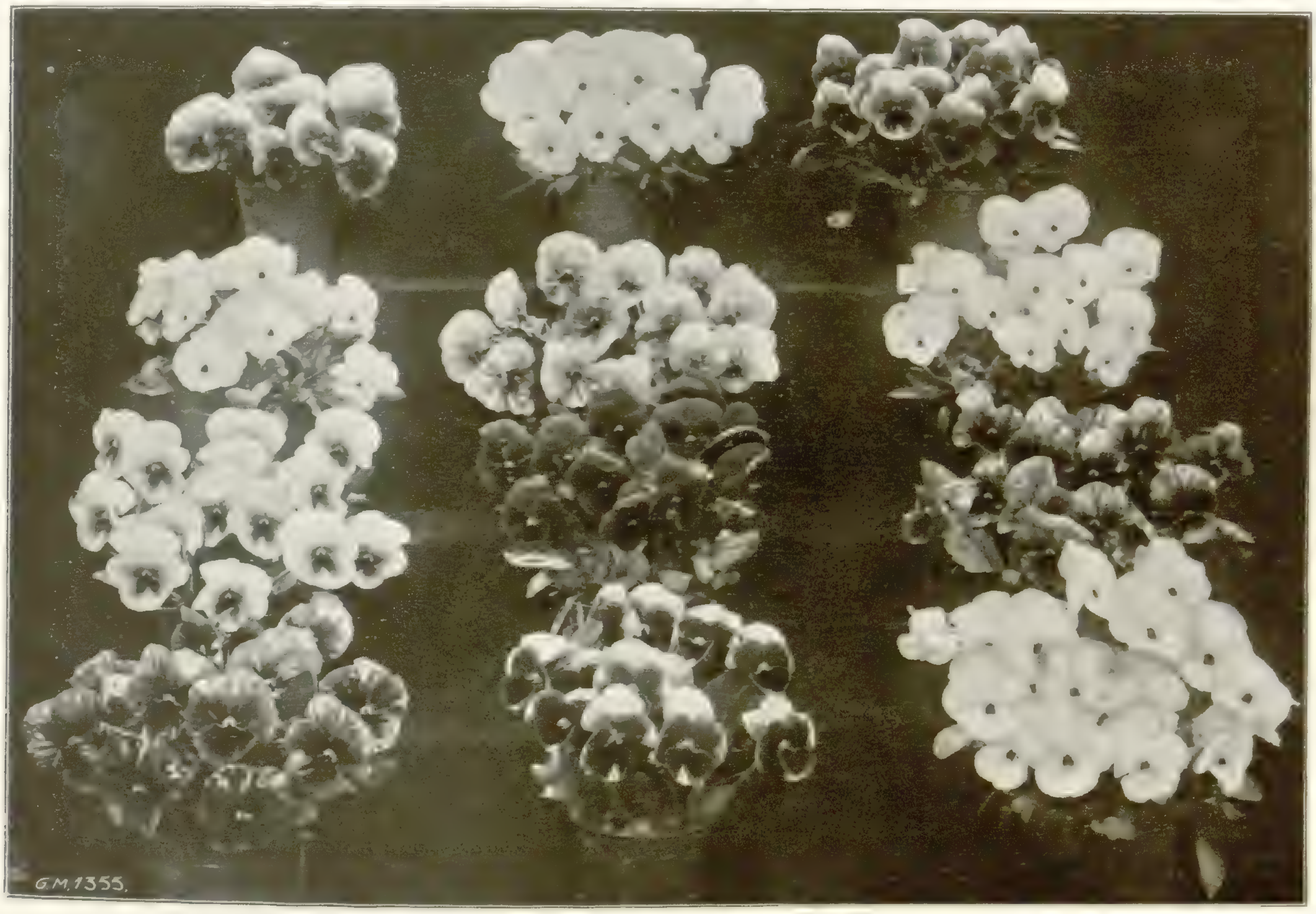
A large silver cup and medals were offered for the best trade or non-competitive exhibits, and some good displays were forthcoming.

Hardy herbaceous flowers were well staged by Messrs. T. B. Groves and Son, Wyndley Nursery, Sutton Coldfield; Funkia undulata variegata marginata, Meconopsis aurantiaca fl.-pl., and Sidalcea Listeri were among many other beautiful subjects shown. A silver medal was awarded. In an extensive and varied collection of violas staged by Messrs. W. Artindale and Son, Sheffield, we noted Immortalite, a fine lilac; Chocolate, of rich velvety colour, indicated by its name; and Mrs. H. Pearce, a large broad-petalled white. Messrs. Artindale also staged hardy perennials in choice variety. The silver cup for the best trade exhibit was awarded to this firm.

The ferns set up in a tasteful manner by Mr. H. N. Ellison, West Bromwich, were representative of practically all species suitable for greenhouse or room cultivation. The variegated Dracæna Bruanti Souv. de Francois Buyse was also shown in shapely plants. Silver medal. Messrs. Hewitt and Co., Solihull, Birmingham, made a bold and effective display with all the choicest hardy flowers of the season. Liliums, spiræas, and a host of other herbaceous flowers were supported by a nice selection of roses, sweet peas, and carnations. Silver medal. Cactus dahlias of good varieties and quality (considering their earliness) were shown by Mr. J. E. Knight, Wolverhampton. Upwards of 50 varieties were exhibited.

A special silver cup was offered for the best display of roses, the varieties and method of staging being left to the exhibitor. Mr. John Mattock, of Oxford, put up a choice selection of the newest and best varieties in cultivation, being specially strong with large masses of Lyon Rose, Hugh Dickson, Madame Melanie Soupert, Frau Karl Druschki, and the best of the ramblers. The silver cup was awarded for this group, Messrs. W. and J. Brown, Stamford, being the runners up.

Quite a collection of well-designed and useful spraying machines was exhibited by Alpha Extinguisher, Lim., Ross, Herefordshire. Their horizontal knapsack, and conical hand sprayers were the source of much favourable comment. The variety of nozzles, jets, and other fittings, which are all interchangeable, add greatly to the value of these excellent machines. The exhibit gained a silver medal.



FIRST PRIZE COLLECTION OF VIOLAS AT HANDSWORTH SHOW.
Exhibited by Mr. William Chipman, New Oscott.

Newcastle-on-Tyne Flower Show.

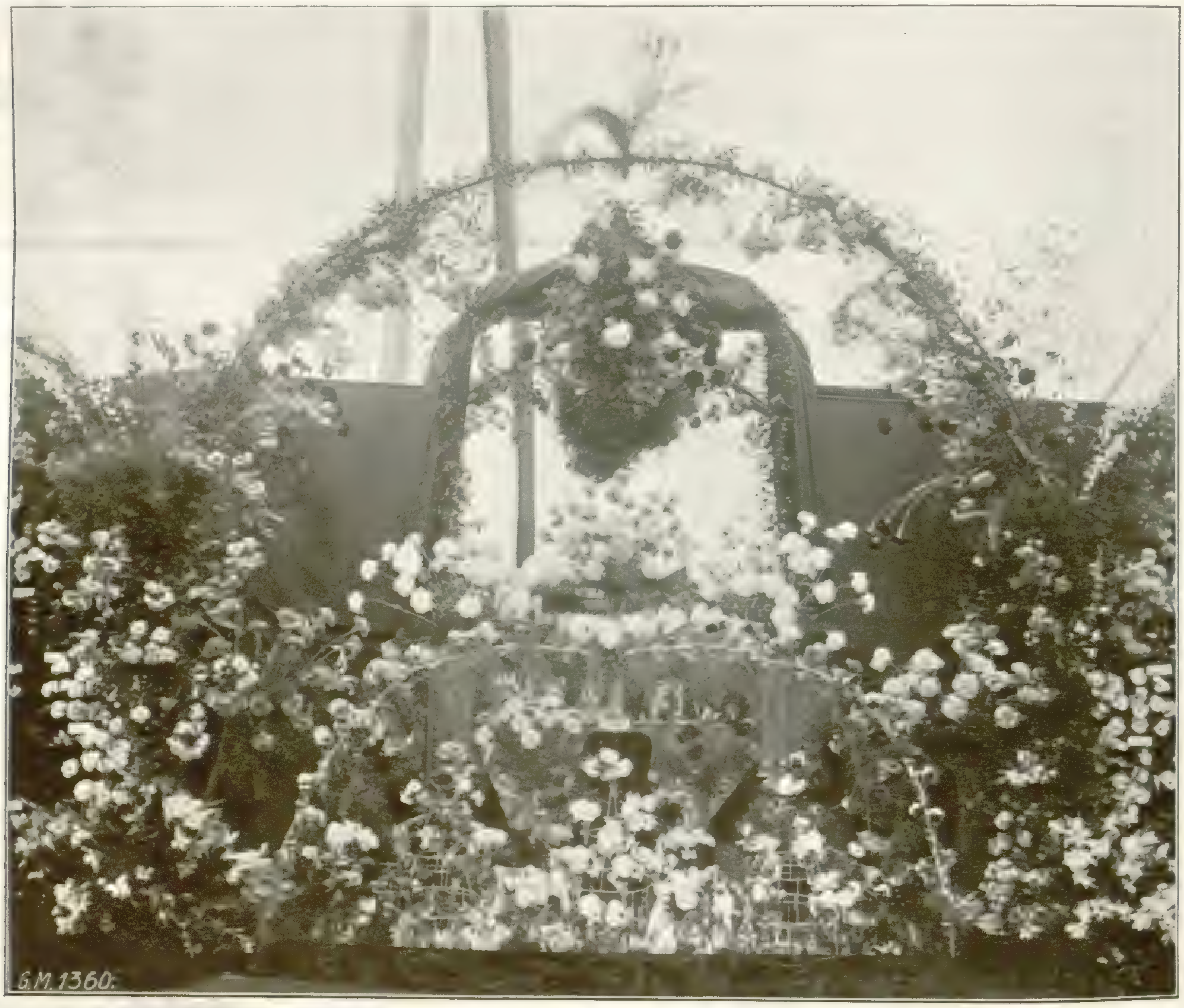
This exhibition was held at Newcastle-on-Tyne on Wednesday, July 20, and two following days. The first day was most unfortunate, rain falling during the greater part of the afternoon, and the strike of the railway employees not only prevented a number of exhibits reaching their destination, but the irregular train service kept many visitors away. The show on the whole was one of the best we have seen at this centre, the quality of the products being of a very high standard. We were particularly impressed by the finely arranged group set up by Mr. T. Bell, from the gardens of A. E. Bainbridge, Esq., Lynwood Jesmond, the sweet peas shown by Mr. Keith, from Sir G. O. Trevelyan's garden at Wallington, and the specimen plants grown and shown by the pitmen.

The class for a group 25ft. by 12ft. brought seven competitors. Mr. Bell's first prize group contained finely coloured crotons, foliage, and flowering plants, among the latter being several spikes of Odontoglossum crispum; the whole of the plants showed high culture, and the group was tastefully arranged; Mr. H. H. Hilliar, Green Park Gardens, Darlington, was second, with a group that compared favourably with the former, the roses and other flowering plants giving brightness, and the arrangement was tasteful; Messrs. Carnagie and Co., Newcastle, were third; and Mr. G. W. Pinkney, Brookfield Gardens, Stockton-on-Tees, fourth. In the class for a group of carnations, to be shown in pots as grown, Mr. W. Lawrenson, Newcastle, was first, and Mr. D. Marshall, Yarm, second. In the class for six plants in bloom, huge specimens of bougainvilleas, rondeletias, stephanotis, allamandas, clerodendrons, statice, etc., were shown, and Mr. J. Ellison, Crumlington, was first, Messrs. R. Arthur and J. Harrison were second; and in the class for four specimen plants in bloom, these exhibitors were placed in the same order, the specimens being remarkably good.

For eighteen bunches of sweet peas, Mr. E. Keith was a splendid first, showing, among others, St. George, Queen Alexandra, Elsie Herbert, Tom Bolton, Apple Blossom, John Ingman, and Mrs. Hardcastle Sykes. Mr. T. Bell, Whitley Bay, second. Mr. Keith was first in all the other classes for sweet peas. For twelve bunches of flowers of herbaceous plants, Messrs. Harkness and Co., Bedale, were first, Messrs. Gibson and Co., second, Messrs. Longster third. There was a very fine display in these groups. For a group of cut carnations, arranged for effect, Mr. W. Lawrenson was the only exhibitor, and deservedly received the premier prize. In the class for 48 roses, distinct, Mr. Hugh Dickson, Belfast, was first with beautifully finished flowers of the finest of the hybrid teas and hybrid perpetuals; and Messrs. G. Gibson and Co., Bedale, were second. In the class for twenty-four, distinct, Mr. Hugh Dickson was again first, and Mr. Walter Lacey, Gosforth, second. For twelve distinct varieties, Mr. H. Dickson obtained premier honours, Messrs. G. Gibson and Co. were second, and Mr. Lacey third. For twelve blooms of any one variety, Mr. H. Dickson occupied the first place with Mrs. E. Mawley; and Mr. T. Park, Askew Mill, was second with Mrs. J. Laing.

The fruit classes were well filled, and the exhibits fairly good in quality. In the class for eight dishes, distinct kinds, Mr. J. Brennand, gardener to J. E. Hathaway, Esq., Baldersby Park, was a capital first; Mr. W. Nicholls, gardener to Lady Beaumont, Charlton Towers, York, was second. For four dishes, distinct kinds, Mr. Brennand was first, Mr. Nicholls second, and Mr. G. Shotton, gardener to Mrs. Swan, Prudhoe Hall, third. For four bunches of grapes, Mr. Nicholls was first with good average bunches of Madresfield Court and Muscat of Alexandria; Mr. Ferguson, gardener to H. B. Watson, Esq., Long Benton, was second, and Mr. Mark, gardener to Miss Muschamp, Farnley Hall, Corbridge, third. For two bunches of white grapes, Mr. T. Bell, Mr. Nicholls, and Mr. Shotton were the prize winners. In the class for two bunches of Black Hamburgh, Mr. Shotton was first, Mr. W. Lambert, gardener to Earl Grey, Howick, second, and Mr. Brennand third. For two bunches of black grapes, any other kind, the winners were Mr. J. R. Gardiner, Mr. Nicholls, and Mr. Ferguson. Peaches were well shown by Mr. Shotton, and Mr. G. Hillier, Darlington. For a dish of nectarines Mr. Brennand, Mr. Hilliar, and Mr. Nicholls secured the awards. In the limited class for four dishes of fruit, Mr. Mark and Mr. Shotton were first and second.

There were some remarkable trade displays. Messrs. Sutton and Sons exhibited a fine table of flowers, fruit, and vegetables in variety (gold medal); Messrs. J. Forbes, Lim., showed phloxes in very remarkable variety, pentstemons, carnations, violas, etc. (gold medal); Mr. W. Lawrenson, Newcastle and Yarm, had a grand bank of ferns, roses, herbaceous and other cut flowers (gold medal); Mr. Hugh Dickson, Belfast, staged roses, etc. (silver medal); Messrs. Gibson and Co. had ro and herbaceous cut flowers in variety (silve medal); Messrs. Stuart and Mein, Kelso, contributed perpetual flowering carnations, etc.; Mr. F. J. Bell, Whitley Bay, violas, sweet peas, etc.; Mr. H. Inness, Croft Spa, Darlington, had a miscellaneous collection of orchids, which was much appreciated; Messrs. Ord Bros., North Shields, ferns, palms, and foliage plants; Mr. O. R. Lamb, Gosforth, foliage, flowering plants, and shrubs in ornamental tubs and baskets.



CENTRAL PORTION OF MESSRS. W. ARTINDALE AND SONS' EXHIBIT AT LEAMINGTON SHOW.

Leamington, JULY 27 and 28.

The second show held by the Leamington and County Horticultural Society was a remarkably fine one, and that a society can in its second year fill six large marquees with exhibits from all parts of the country speaks well for the energy and enthusiasm of its officers. Rarely do we see the horticultural trade in greater force or better form than on Wednesday last, and if the Leamington show continues to grow year by year it will soon leave many an older show far behind.

GROUPS.

Three groups of plants were staged for the £50 offered as total prizes, and, as usual, these exhibits constituted one of the best and most attractive features of the show. Arranged on a space 20ft. by 12ft., with a front both ways, the exhibit made a grand display. First prize was secured by Messrs. J. Cypher and Sons, Cheltenham. A low arch was the central feature, composed of Origanum hybridum, and surmounted by a kentia. Bright crotons and caladiums were freely used, and also a number of choice orchids. Mr. Macdonald, gardener to Sir G. H. Kenrick, Whetstone, Edgbaston, was placed second, and his was certainly a very fine group; the centre was carried to a good height, the arch being taller than in Messrs. Cypher's display. The crotons used to mark the corners, and others to give relief in the body of the group, were richly coloured, while ixoras, Fuchsia triphylla, and francoas were well used among other flowering plants. Mr. W. Vause, Leamington, came third, and he had a conical centre and mounded corners, with crotons freely used between.

Messrs. J. Cypher and Sons came first with a dozen stove and greenhouse plants, Mr. Vause being second. For three coleus, Mr. Finch, gardener to Alfred Holt, Esq., Oaklands, Leamington, scored, and for fuchsias the lead was taken by Mr. W. G. Jones, gardener to Mrs. Rayson, Newstead House, Leamington, Mr. S. Bradshaw following. Mr. H. J. Finch, gardener to J. H. Burley, Esq., The Grange, Leamington, won for three ferns, Mr. Thos. Parry, Warwick, being second, and Dr. Elkington, Fenny Compton, third. Mr. Parry also came to the fore for six table plants, his followers being Mr. W. Vause and Mr. S. Foster. The best three zonal pelargoniums were those staged by Mr. W. J. Jones, Mr. A. J. Friend following. Mr. W. Ellis Masters, Paradise Street, Warwick, scored for six begonias, and Mr. W. J. Jones won with gloxinias.

CUT FLOWERS.

Roses made a magnificent show, the big collection, for which a 25-guinea cup was offered, bringing one of the strongest competitions we have seen. Mr. George Prince, Longworth, was the winner, his stand being beautifully arranged. Lyon Rose was freely used on tall bamboo stands, and columns of lighter varieties threw up the rich colouring of that telling variety. Ramblers were used as a background, and vases of choice hybrid teas filled up the base. Messrs. Gunn and Sons, Olton, had beautiful Frau Karl Druschkis, Lady Chesterton, Killarney, and other good things in their second prize group. Mr. John Mattock, Oxford, filled third place with a massive arrangement of fine flowers, his central feature being a great shield-like stand of Lyon Rose and Frau Karl Druschki. The King's Acre Nurseries, Lim., won the prize for twenty-four varieties with shapely blooms, well staged; Messrs. Perkins and Sons, Coventry, coming second, and F. Dennison, Esq., Cranford, Leamington, third. Messrs. Perkins and Sons scored with twelve H.P.'s, showing Gustave Piganeau Duke of Edinburgh, and other favourites; the King's Acre Nurseries, Lim., followed, and Mr. Geo. Prince brought up the rear. For twelve teas Mr. Geo. Prince led the way, his Comtesse de Nadaillac and Muriel Grahame being fine. Mr. W. T. Mattock took second place. Mr. Prince also won for six teas, Mr. Henry Drew, Longworth, Farringdon, taking second place, and Mr. W. T. Mattock third. In the six bloom class the King's Acre Nurseries, Lim., won with Frau Karl Druschki, Messrs. Perkins and Sons coming second with A. K. Williams.

A good class was that provided for twenty-five distinct kinds of herbaceous flowers, and a challenge cup, value 25 guineas, was offered as chief prize. Unfortunately three competitors misread the schedule, or understood "kinds" to be "varieties." This error led to their disqualification. It cannot be too plainly stated that two varieties of a species do not constitute

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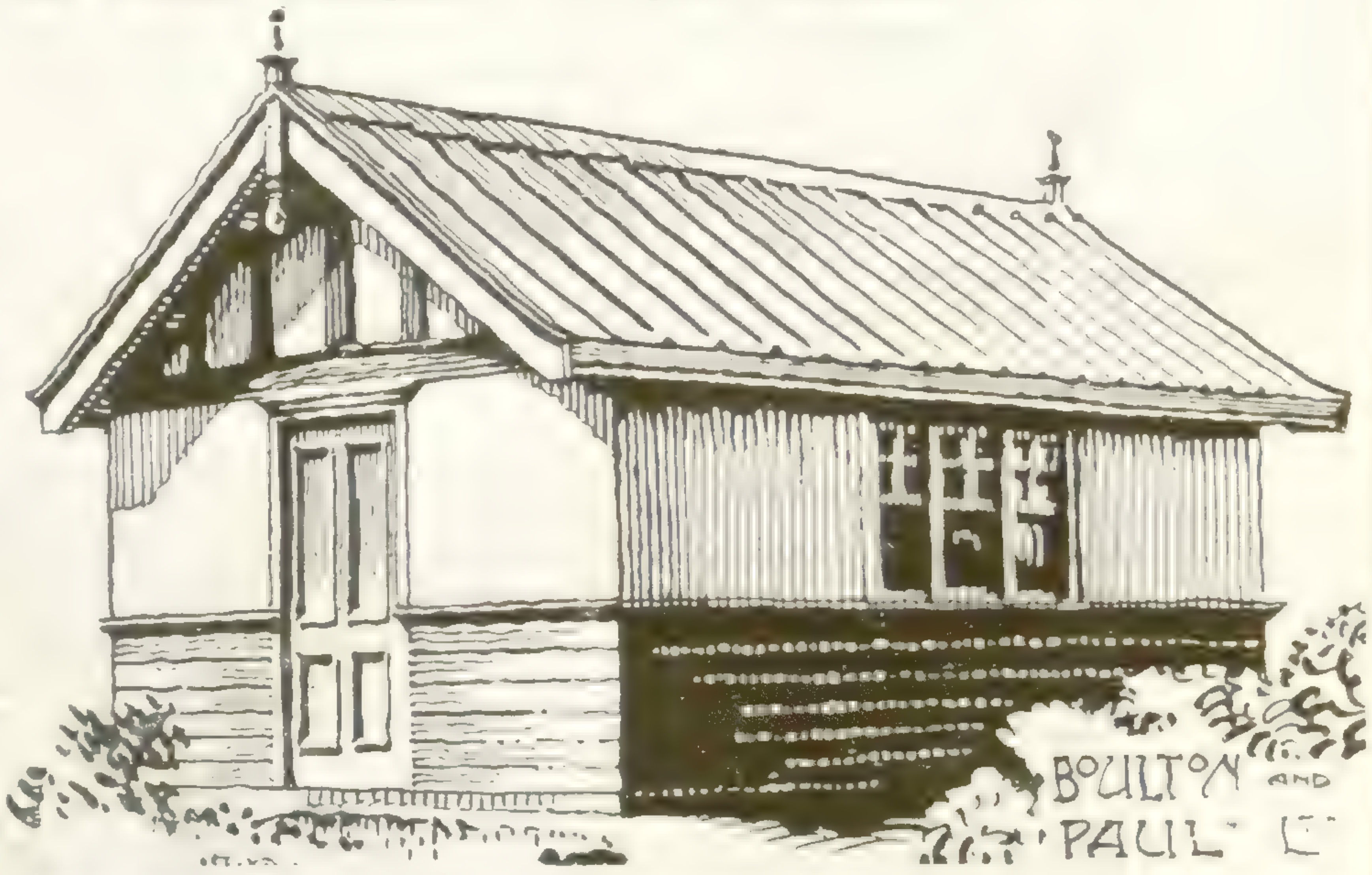

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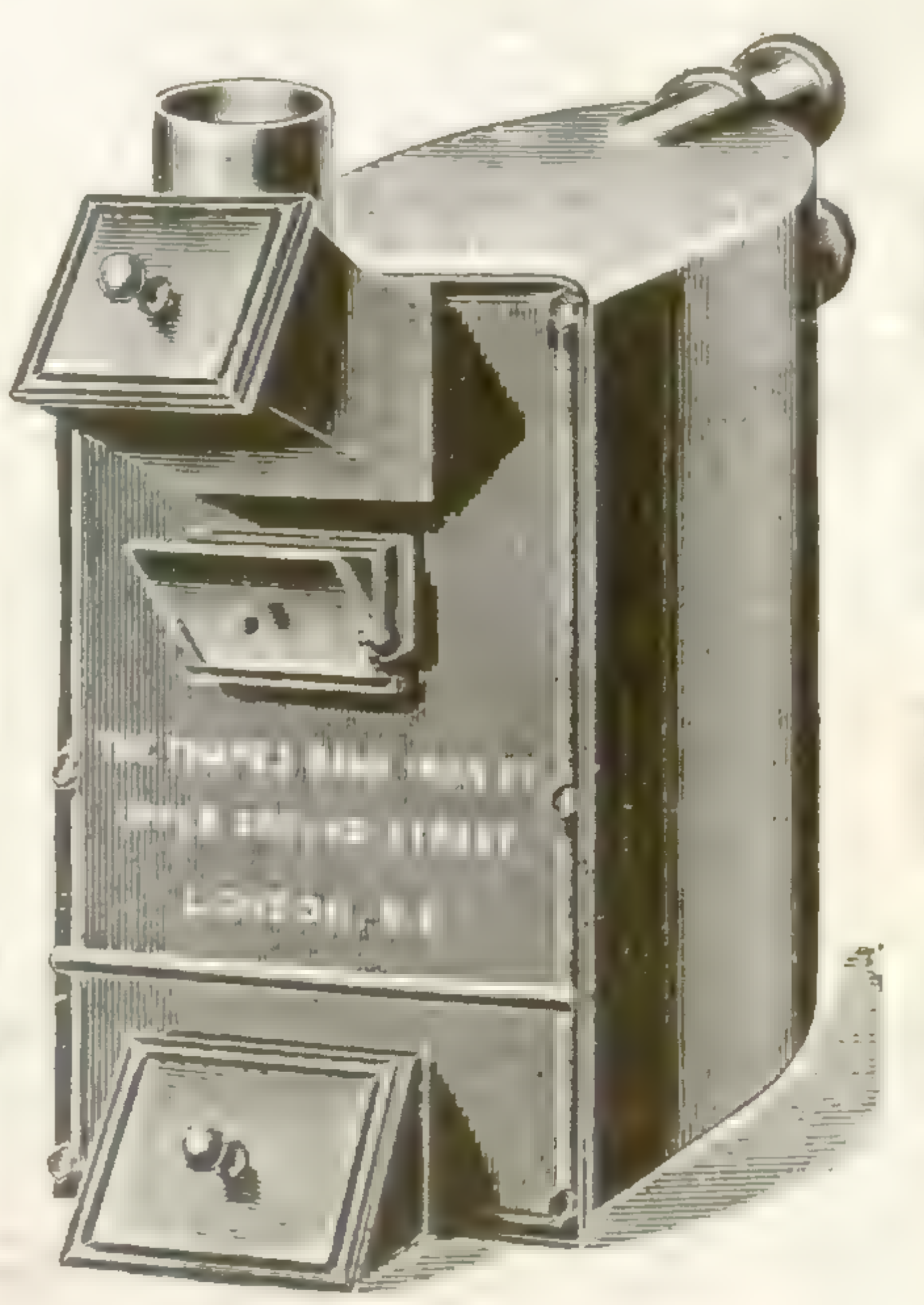

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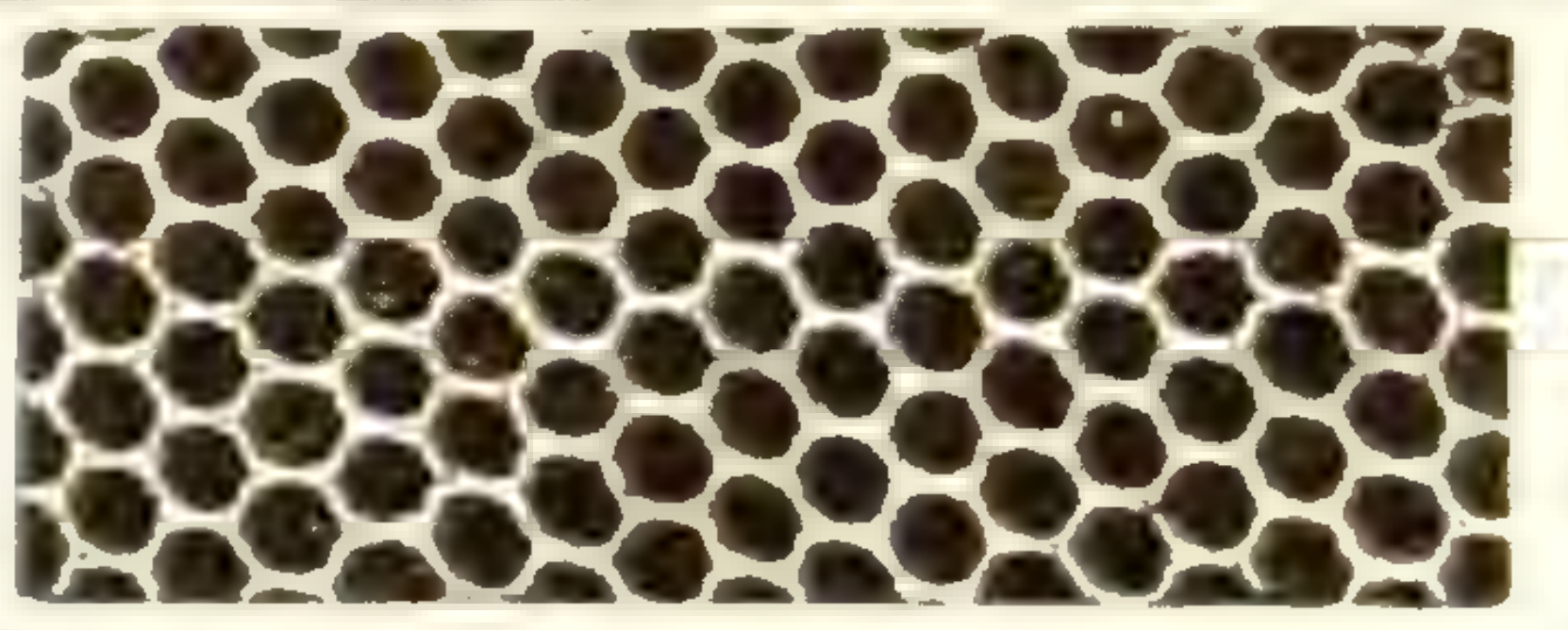

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two kinds. The exhibits were grand, and it is unfortunate that three should have been outclassed. The two remaining exhibits were awarded first and second prizes, the former going to Mr. Frank Bouskell, Market Bosworth, Leicestershire, the latter to Mr. J. H. Marsden, Malvern Link.

For twelve bunches of hardy herbaceous flowers the first prize went to Mr. C. H. Herbert, Smallwood Nursery, Acocks Green, who showed his new white galega among other good things; Mr. Frank Bouskell, Market Bosworth, was a good second; third prize went to Messrs. Kimberleys, Queen's Road Nursery, Kenilworth.

The best twelve bunches of sweet peas came from Mr. Thomas Jones, Bryn Pen-y-lan, Ruabon, who staged remarkably fine flowers of Tom Bolton, Audrey Crier, Dazzler, and other up-to-date varieties. Mr. W. Hicks, gardener to F. Twist, Esq., Dalicote, Coventry, came second with Zephyr, Queen Alexandra, Mrs. Hugh Dickson, etc.; Mr. W. Marple, Penkridge, took third place. Many prizes were offered by Messrs. R. Sydenham, Lim., and other firms, for sweet peas, and good flowers were shown in all these classes.

Mr. W. Harper, florist, Leamington, scored for twelve bunches of stove and greenhouse flowers; Mr. W. Vause being second.

FRUITS AND VEGETABLES.

In the open class for eight dishes of fruit the 25-guinea challenge cup was won by Mr. Gibson, gardener to the Duke of Portland, Welbeck Abbey. His Crimson Galande peaches and James Grieve apples were excellent. Mr. Gibson was also awarded first prize for the floral decoration of his exhibit. Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, took second place, showing good Triomphe de Vienne pears, Kirk's plums, and some fine grapes. Mr. Goodacre scored for four dishes of fruit, Mr. Gibson having to take second place. Mr. J. Lloyd, gardener to Lord Willoughby de Broke, led for two bunches of black grapes; Mr. C. Harding, second; and Mr. James M. Bush, Banbury, third. Mr. Bush came out on top in the white grape class; Mr. S. Foster, Hockley Heath, being second; and Mr. Gibson, third, but Mr. Gibson led with peaches, and also with nectarines.

Quite a number of prizes were offered by seed firms for produce grown from their seeds, and the competition in these classes was very keen. Messrs. Dickson and Robinson, Manchester, offered prizes for six kinds of vegetables, Mr. S. Foster, gardener to F. E. Muntz, Esq., Umberslade, Hockley Heath, winning first prize with good cauliflowers, peas, carrots, and potatoes; Moneymaker tomato was also well shown. Mr. J. Lloyd, gardener to Lord Willoughby de Broke, Compton Verney, Kineton, was a very close second, and Mr. G. P. Blackman, gardener to Captain W. H. Starkey, Bericote House, Leamington, third. In Messrs. Sutton's class, Mr. John Hudson, Gunson Road, Leicester, scored with splendid peas, tomatoes, etc. Mr. Edward Deakin, Hay Hall, Hay Mills, Birmingham, came second, his carrots being beautiful models of Sutton's New Intermediate; Mr. G. F. Hallett, gardener to Sir Thos. Hesketh, Bart., Easton Neston, Towcester, third.

In Messrs. E. Webb and Sons' class the lead was taken by Mr. E. Beckett, Aldenham House Gardens, Elstree: his Stourbridge Marrow peas, New Bountiful potatoes, and White Tripoli onions were very fine. Mr. J. Hudson, Leicester, followed with good cauliflowers, Market Favourite carrots, and other capital vegetables; Mr. Thos. Wright, Charles Street, Warwick, was placed third, and Mr. E. Deakin fourth.

AMATEURS' AND GENTLEMEN'S GARDENERS.

In the group class confined to amateurs and gentlemen's gardeners, Mr. H. J. Finch, gardener to J. H. Burley, Esq., The Grange, Leamington, scored with a tasteful group, containing liliums, orchids, and crotons, interspersed with small ferns, caladiums, and other useful plants. Mr. A. J. Friend, gardener to the Misses Robinson, The Newlands, Leamington, was second, and Mr. E. M. Garlick, gardener to R. M. Griffin, Esq., Quorn House, Milverton, third. F. Denison, Esq., Cranford, Leamington, had the best dozen roses, and also won for six teas and six blooms of any one variety, staging Dean Hole in good form. Mr. W. Ellis Masters, Paradise Street, Warwick, scored for six cactus dahlias, followed by Mr. Chas. Taylor, 23, Leam Street, Leamington, and Mr. F. E. Dawes, Hockley Heath, Birmingham.

Among amateurs not employing a regular gardener Chas. Hanson Sale, Esq., Arden Hill, Atherstone, Leicester, scored for twelve roses, followed by Mr. W. Nash, 60, Newcome Road, Coventry. In the class for six blooms this order was reversed.

Mr. W. Nicholls, gardener to the Rev. — Hodgson, Clopton House, Stratford-on-Avon, put up the winning four dishes of fruit; his Muscat grapes, melon, Bellegarde peaches, and Rivers's Orange nectarines were all good. Mr. C. Harding, gardener to the Marquis of Hertford, Ragley Hall, Alcester, was second, and third prize went to Mr. C. L. Blackburn, gardener to Capt. W. H. Starkey, Leamington. The winner for two bunches of black grapes was Mr. J. Lloyd, Mr. W. Kean, gardener to C. T. Garland, Esq., Moreton House, Moreton Morrell, winning for white grapes.

Mr. J. Lloyd scored for six kinds of vegetables, followed by Mr. Thos. Parry, gardener to Mrs. Chappell, Wellesbourne Hall, Warwick, and Mr. S. Foster, gardener to F. E. Muntz, Esq., Umberslade, Hockley Heath. Mr. Lloyd won first place both for kidney and round potatoes, and Mr. Thos. Parry scored with long-pod beans and turnips.

NON-COMPETITIVE.

The non-competitive displays made up a grand show by themselves, and thoroughly deserve a much more detailed report than time and space permit. A capital display of cut begonias, mostly double, came from Messrs. T. S. Ware, Lim., Feltham. Messrs. Wm. Artindale and Son, Sheffield, were in fine form, and their large collection of violas was artistically arranged and set off by arches of rambling roses and smilax; herbaceous flowers, roses, carnations, and gladioli were also shown by them. Mr. H. N. Ellison, West Bromwich, brought ferns, which were shown in his usual tasteful manner. A large and choice group of spiræas and other bog plants came from Mr. Amos Perry, Enfield; the group was arranged in a very pleasing style, and among the choicer subjects were Spiræa venusta magnifica, S. gigantea carnea, and S. venusta elegans. A choice selection of floral designs was exhibited by Miss Ada Brandstone, 34, Bedford Street, Leamington; orchids, carnations, asters, and sweet peas were deftly worked into very pleasing bouquets and other devices.

Sweet peas in the choicest varieties were put up by Mr. H. Eckford, Wem, and Othello Spencer stood out conspicuously among the others, being a capital contrast to the paler colours. Messrs. W. H. Simpson and Sons, Birmingham, also showed sweet peas. Violas came from Mr. W. L. Pattison, Shrewsbury, and a variety of hardy flowers from Messrs. J. H. White and Co., Worcester, contained several really good things. Mr. G. Lange, Hampton, had a very fine lot of perpetual flowering carnations, and his blooms of the best varieties were well grown, and displayed in tall glass vases. The early flowering gladioli from Mr. Frank Lilley, Guernsey, were very brilliant and beautiful; King Edward VII. was one of the newest and finest varieties. Messrs. Bakers, Wolverhampton, arranged a model water garden, suitably furnished with nymphæas, and backed up by spiræas, bamboos, etc.; border flowers were also shown.

Messrs. Hewitt and Co., Solihull, made a bold display of hardy border flowers, roses, and sweet peas, while tritomas, liliums, and some new lythrums were among the more noticeable of their other subjects. Very bright and effective were Mr. Vincent Slade's zonal pelargoniums. Staplegrove Nursery, Taunton, has turned out good flowers for several years, and these were among the best. Liliums, alstrœmerias, and Romneya Coulteri were prominent on Messrs. Dickson's stand; the Chester firm is always strong in choice perennials.

The temple of sweet peas put up by Messrs. E. Webb and Sons, Wordsley, was beautifully furnished. On the table beneath were good melons and vegetables

Messrs. Webb were awarded the 25 guinea challenge cup for the best non-competitive exhibit in the show.

A very choice group of dracænas, alocasias, and other foliage plants, came from Mr. L. R. Russell, Richmond. Messrs. Jarman and Co., Chard, once more effectively displayed their charming sweet sultans, and their new sweet pea Mrs. Townsend. Among the vegetables which were skilfully staged by Messrs. Clibrans, Altrincham, were Chilian beet, Seakale beet, various types of tomatoes, and other uncommon things that ought to be more widely grown. Messrs. Young and Co., Hatherley, Cheltenham, had perpetual carnations of splendid quality. The Messrs. Young have capital taste in arrangement, their flowers being so put up that every bloom could be seen to advantage.

Messrs. R. Sydenham, Lim., Tenby Street, Birmingham, arranged choice sweet peas in admirable fashion, using their well-known rustic table decorations, which lend themselves so well to artistic arrangement of these lovely flowers. A group of well-grown caladiums was exhibited by Messrs. John Peed and Son, West Norwood, London, S.E.

A group of hollies, conifers, and other choice shrubs was arranged in the open by Messrs. John Waterer and Sons, Lim., Bagshot; the weeping forms of variegated hollies were particularly fine, and Abies nobilis was well represented, while Spiræa Anthony Waterer added a fine touch of colour.

Liverpool Horticultural Association.

JULY 20 and 21.

This society held its second rose and sweet pea show in the Corn Exchange, and secured an entry more than double that of last year. The sweet peas were the predominant feature, although they are almost a failure in the neighbourhood of Liverpool. The roses were only moderate, lacking in size and freshness. The herbaceous cut flowers were well shown, excellent bunches being staged.

For eighteen hybrid tea roses Mr. E. Jones, gardener to G. H. F. Robertson, Esq., Gresford, was first, having good blooms of Mildred Grant, Killarney, Caroline Testout, etc. For eighteen blooms Mr. Jones again led, having good blooms of Dean Hole, Frau Karl Druschki, etc.; Mr. G. Nisbet, gardener to Miss Robinson, second. For twelve varieties, Mr. W. Bourhall, gardener to A. E. Gunson, Esq., Freshfield, was first, and also scored for six distinct varieties.

In the class for twenty distinct varieties of sweet peas Mr. W. Davies, gardener to Dr G. E. Phillips, Malpas, secured the silver vase presented by Mr. H. Middlehurst, his best flowers being Dazzler, Tom Bolton, Sunproof Crimson, and Asta Ohn. Mr. E. Jones was a strong second. For twelve distinct varieties Mr. E. Jones took the lead, with Mr. W. H. Shaw second. For twelve distinct varieties with waved standards, Mr. W. Davies was to the fore, and Mr. E. Jones followed. For one bunch of Sutton's Queen Mr. E. Jones took the lead, with Mr. W. E. Ward second.

In the amateurs' class for twelve distinct varieties Mr. W. Bindloss, Formby, and Mr. E. M. Allen, Formby, were placed as named; while for six varieties Mr. Bindloss again led; second, Mr. G. Faulkner.

For twelve vases of hardy herbaceous cut flowers Mr. W. J. Shaw won with a highly creditable collection, with Mr. G. Nisbet second; for six vases Mr. Shaw was again to the fore, with Mr. C. Bradshaw second. Mr. Jos. Bather led in the amateurs' section, and also had the best six trusses of single begonias and of double begonias.

Six varieties of carnations or picotees, three

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Only with BIRD'S Custard do you really obtain
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blooms of each, found Mr. Smith, gardener to Percy Cornelius, Esq., to the front with a good set, including Dido, Agnes Sorrel, Hesperia, etc.; Mr. Charles Russell, gardener to Charles Alcock, Esq., second. For twelve blooms Mr. Smith was again the winner, followed by Mr. C. Russell. For six blooms Mr. Smith and Mr. G. A. Turner were placed as named. For six blooms (amateurs) the prizemen were Messrs. G. A. Turner and E. M. Allen.

For a dinner table decoration of sweet peas Mr. E. Jones and Mrs. F. Allen were first and second; and for the ladies' table, sweet peas excluded, Mrs. E. Jones and Mrs. McFall were placed as named, both using carnations.

As usual, a number of non-competitive exhibts were staged. The following received gold medals: Messrs. Alex. Dickson and Sons, W. Rowlands, and R. Manson for roses; Messrs. Dicksons, Chester, and W. Conway and Sons, Halifax, for herbaceous cut flowers; Messrs. Young, West Derby, carnations; Mr. C. W. Breadmore, Winchester; and Mr. H. Middlehurst, Liverpool, sweet peas. Messrs. R. P. Ker and Sons, Liverpool, plants, vegetables, and fruits; Mr. W. L. Pattison, Shrewsbury, pansies. Silver medals to Messrs. Thomas Davies and Co., Liverpool, for cut flowers, and to Messrs. Bees, Lim., Liverpool, for roses, etc.

Birmingham Horticultural Society.

JULY 20.

The second summer show of roses and hardy garden flowers was held on the 20th inst., in the Botanical Gardens, Edgbaston, and was a record over any of a similar character. Notwithstanding the rainy afternoon, there was a good attendance of visitors, and it may be interesting to remark that the visitors were augmented by a goodly proportion of members of the Bath Gardeners' Debating Society, who came after an early visit to Highbury, the seat of the Right Hon. Joseph Chamberlain. After partaking of a welcome tea in the large marquee in the Botanical Gardens, the visitors from Bath made a hurried inspection of the Nettlefold alpine rock garden, and other chief features in the grounds, and then proceeded to the exhibition held in the enlarged orchestra hall and annexes. The visitors were much gratified by being conducted by the courteous curator, Mr. Humphreys, over the gardens.

Prizes were offered for roses and hardy garden flowers, and the members of the trade were invited to send non-competitive exhibits, and the result was a large and attractive display.

Messrs. Gunn and Sons, of Olton, made a large display of roses, chiefly in masses, also one of herbaceous phloxes. A gold medal was worthily awarded to the combined display. Messrs. Bakers', Wolverhampton, set up a splendid display of sweet peas (silver-gilt medal); Messrs. Robert Sydenham, Lim., contributed a choice assortment of sweet peas, effectively arranged in the centre of the exhibition hall in their artistic "rustic" stands (bronze medal); Mr. H. N. Ellison, West Bromwich, contributed one of his well-known and attractive displays of ferns (silver medal); and Mr. C. H. Herbert, Acock's Green, near Birmingham, set up representative collections of hardy flowers, including also several bunches of his popular pink Progress, and many other seedlings of promise, notably Queen Mary, a sweetly-scented flower with richly laced broad petals (silver medal). Mr. A. R. Brown, King's Norton and Moseley, contributed a nice collection of roses (bronze medal). Mr. F. Lilley, Guernsey, sent a charming collection of early-flowering gladioli (bronze medal). Messrs. Bastock and Sons, Moseley, set up a most artistic arrangement of violas (bronze medal), and gained an award of merit for their rich yellow viola Moseley Perfection. Mr. W. P. Wilcox, Moseley, had a pleasing collection of begonias, gloxinias etc. (bronze medal).

COMPETITIVE EXHIBITS.

These were an advance upon the corresponding exhibits of last year, but hardly equal to the extent that might have been expected, considering the resources of the district. In the class for six varieties of roses, Mr. F. Jefferson, Lapworth; Mr. F. W. Blood, Edgbaston; and Mr. H. Anderson, Shirley, were the winners, with fairly good blooms. For three varieties, Mr. T. E. Weatherlogg, Yardley, was first, and Mr. C. Holden, New Oscott, third. For nine varieties of sweet peas, Mr. G. Deakin, Hay Mills; Mr. H. Anderson, and Mr. S. Smith, Bournville, were placed as in the order named. For six varieties of hardy border flowers, Mr. J. W. Mee, Harborne Tenants' Garden City, was placed first for a choice lot; Mr. H. Anderson was second, and Mr. E. Tilt, New Oscott, third.

There was only one collection of begonias, but what a grand display of begonias might have been, had some of the principal growers in the Birmingham district exhibited examples of their cultural prowess.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, July 19.

Present: Mr. E. A. Bowles, M.A., F.E.S., F.L.S. (in the chair); Messrs. J. T. Bennett-Poe, M.A., E. M. Holmes, F.L.S., W. Hales, J. Fraser, F.L.S., A. Worsley, J. Douglas, V.M.H., W. Fawcett, F.L.S., and F. J. Chittenden, F.L.S. (hon. sec.).

SAXIFRAGA TELLIMOIDES.—Mr. Fraser showed a plant of S. tellimoides, and commented upon its peculiarities. It is a native of Japan, and has affinities with the American S. peltata and with S. Jamesii, which is also American, but it agrees with none of the recognised sections completely. It is, perhaps, nearest the section Isomena, but differs in the peltate leaves. This species was discovered by Maries in 1880, first flowered in this country in 1885, fertile seeds being produced in 1892. It was put into commerce by Messrs. Vilmorin in 1897.

SEMINAL VARIATION IN CAMPANULA LACTIFLORA.—Mr. Bowles showed seedlings of Campanula lactiflora, having abnormally narrow leaves and very narrow petals, the corolla being cut almost to the base. One had blue flowers, and had been derived from a blue-flowering plant, the other bore white flowers, and had occurred near a clump of the white form. The variation was in the same direction as that seen in the variety of C. rotundifolia, known as soldanellioides.

SPIRÆA ARUNCUS.—Mr. Bowles also showed a specimen of Spiræa Aruncus, bearing both staminate and hermaphrodite flowers. Up to the present only the staminate form had been known in his garden.

East Anglian Horticultural Society.

At the July meeting of this flourishing society Mr. F. Endersby, gardener to J. H. Gurney, Esq., Keswick Hall, Norwich, read a very practical and lucid paper upon "Cyclamen Culture." He ably dealt with all details, from seed sowing to blooming, and the growing on again of the old corms if so desired. The essay was listened to with marked attention, and brought forth a lengthy discussion in which the prominent local growers of the flower took part. The exhibition was a very fine one of herbaceous flowers, sweet peas, and roses.

The day following the meeting about 100 members and friends journeyed to Flixton Hall, the seat of Sir Frederick Adair, Bart., for their annual summer excursion. Mr. W. L. Walks, the secretary, had made capital arrangements for the transit and feeding of the party. Mr. W. Hilsdon, the head gardener at Flixton, met the party at the gate and piloted them through all the glass-houses, shrubberies, rockeries, herbaceous borders, etc., of this well-kept place. Mr. Lewis Smith, who acted as president, accorded a most hearty vote of thanks to Sir F. Adair for his permission to visit the beautiful gardens, and to Mr. Hilsdon for the trouble he had taken to make the visit both pleasurable and educational.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

Date. 1910. July 17 to July 23.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Temperature of the Air. At 9 a.m. Wet Bulb.	Temperature of the Air. Day Highest.	Temperature of the Air. Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
July 17—Sunday	—	62	58	65	55
,, 18—Monday......	—	56	54	59	55
,, 19—Tuesday	8 6	59	53	67	46
,, 20—Wednesday .	—	61	56	63	54
,, 21—Thursday ...	0 39	62	60	68	53
,, 22—Friday........	2 54	58	57	64	55
,, 23—Saturday ...	7 18	61	56	66	54
Means ...	(total) 18 48	59	56	64	53

Date. 1910. July 17 to July 23.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	Temperature of the Soil at 9 a.m. At 2 ft. deep.	Temperature of the Soil at 9 a.m. At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
July 17—Sunday	0.01	61	61	58	53
,, 18—Monday.....	0.26	60	60	58	55
,, 19—Tuesday......	—	59	60	58	40
,, 20—Wednesday.	0.09	60	60	58	49
,, 21—Thursday ...	0.08	61	60	58	57
,, 22—Friday........	trace	60	60	58	54
,, 23—Saturday ...	—	60	60	58	50
Means ...	(total) 0.24	60	60	58	51

ANSWERS TO CORRESPONDENTS.

PHOTOGRAPHS.—R. S., Beverley: Clear, bright photographs, silver prints preferably, are necessary for good reproduction. The background is often at fault when specimens are taken, as a garden mat or piece of tiffany is made to do service; and every line of bast in the former, and every crease and dirty mark on the latter comes out distinctly in the photograph, and spoils the picture. A specimen plant should be stood quite clear of any other plant, and be placed before a background that will not intrude in the picture or detract from the merit of the specimen. Good lighting is also important, as the photograph loses half its value if the base or one side of the specimen is merely a black mass. The book to which you refer is published by Messrs. Simpkin, Marshall, Hamilton, Kent, and Co., Paternoster Row, at 5s.

WIREWORMS IN KITCHEN GARDEN.—F. T., Torquay: Wireworms are difficult to eradicate from a vegetable garden, and are often a very great nuisance in gardens newly made from pasture land. In the autumn as fast as crops are removed dress the infested plots with fresh gas-lime at the rate of 56lbs. to the rod, spread this evenly and allow it to remain for four or five weeks. Then dig or trench the ground. The gas-lime will kill all insect and vegetable life it reaches, and cleanse the soil excellently. It is essential that the gas-lime be used early in the autumn so that it will not harm crops sown or planted the following spring. Wireworms may be trapped by placing hollowed halves of potatoes or turnips in the ground a few inches below the surface; a stick should be stuck in each trap, so that the latter may be readily found, removed, and examined.

MUMMY PEA.—J. J., Croydon: The specimen sent is a fasciated growth of the common Pisum elatius, a rosy or blush flowered species found in the Mediterranean region. The frequent assertion that the seeds of this species were found originally in a mummy case is not founded on fact.

FERN WALL IN CONSERVATORY.—Homebird, Streatham Hill: To have the wall built up with tufa in rockwork fashion will cost a considerable sum and probably would not be the success you anticipate. We think it would serve your purpose better to have the wall built of bricks and mortar, both of first quality. On the inside, at the foot of the wall provide a narrow border, well drained, to receive Pteris tremula, P. serrulata major, P. Wimsetti, P. Victoriæ, Nephrodium molle corymbiferum, Cyrtomium falcatum, and other good growers, with a few of the stronger forms of Begonia Rex. Here also should be planted a few pots of the small-leaved Ficus repens, which will soon attach itself to the wall, and cover the brick-work. One close clipping each year, and the cutting back of any strong growths that break away from the wall will keep this green covering quite tidy. At regular intervals along the wall suspend ferns and Rex begonias planted in the earthenware pockets provided by any of the pottery firms advertising in our columns. These are made flat at the back, and have one or two eyes so that they may be hung close to the wall on spikes driven into it. These pockets should be hung so that the frondage of the ferns in one row hides the pockets above, while the ferns in the border hide the lowest row. Selaginella Kraussiana, green or variegated tradescantia, and Helxine Solieroli will serve also to screen the earthenware if planted near the front edge of each pocket.

SPARROWS IN INDIA-RUBBER TREE.—W. T. F., Ibrahimieh: As the use of a gun is illegal, and the hose has not proved efficacious, we suggest that you obtain the services of three or four healthy, active native lads, and give them a reasonable lump sum to clear the tree of nests—payment to follow the clearance. Give these same lads the opportunity of capturing all the sparrows they are able to secure once a week in the tree, and destroying new nests, and if they are like most other lads they will contrive their own traps and methods of procedure. But see that they despatch all the birds they capture. By such methods as this the tree will be made distasteful to the sparrows, and those that escape will move on to a tree in some other garden.

SPLIT PEACH STONES.—G. B., Dublin: When a peach tree makes gross growth as a consequence of coarse downward roots the stones of the peaches often split badly. Another cause of stone-splitting is heavy watering just as the peaches begin to ripen; plenty of water is needed while the fruits are swelling, and if well supplied up to the time swelling ceases little will be needed during the ripening process. A good soaking should follow the removal of the fruits.

NAMES OF PLANTS.

W. C., Datchet.—Lychnis Flos-jovis.

A. J. P., Sidmouth.—Spiræa Bumalda.

G. F., Albury.—Very shrivelled when received; probably Lobelia elatior.

G. S., Ryde.—We have not received any specimens from you during the past week. Those to which you refer are probably those named in our issue of July 23; these arrived too late to be dealt with in our issue of July 16.

FORTHCOMING ENGAGEMENTS.

MONDAY, August 1.—Bank Holiday.
Swanage Horticultural Society.
Hackbridge and Carshalton Show.
TUESDAY, August 2.—Royal Horticultural Society; Committees meet at 12 o'clock; lecture at 3 p.m. on "The Planning and Planting of Small
Gardens," by Mr. A. Clutton-Brock;
Committee at 4 o'clock.
Leicester Summer Show; two days.
Scottish Horticultural Association.
WEDNESDAY, August 3.—Northampton Horticultural Society; two days.
Burwash Horticultural Society.
THURSDAY, August 4.—Midland Carnation Show at Birmingham; two days.
Madresfield Horticultural Society.
SATURDAY, August 6.—French Horticultural Society of London.

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MR. TAYLOR, Head Gardener to Sir James Mackay, Chesterford Park, Essex, can highly recommend J. WREN as HEAD GARDENER, where two or more are kept; thoroughly experienced in all branches, Inside and Out; good references; age 31; married, three children; leaving when suited. J. WREN, Meesden, Buntingford, Herts.

W. J. CLITHEROW, Esq., highly recommends his Foreman to any Lady or Gentleman requiring thorough practical Man as HEAD WORKING GARDENER; five years here as foreman; age 32; married. STEVENS, The Lodge, Boston House, Brentford, Middlesex.

CERTIFICATED GARDENER, highly recommended, as Head Working of four or more, where there is a good amount of glass; good practical experience Inside and Out; Table Decorations, Fruit, Flowers, and Vegetables; recommended for producing good effects in borders, beds, etc.; age 30; married, two boys; please state wages and particulars; interview if necessary. H. CHURCHMAN, Sawston, Cambs.

GARDENER (Head-Working where two or more are kept); German, age 39; married, wife English, no family; 25 years' practical experience in all branches Inside and Out, including House and Table Decoration. 12 years in some of the best establishments in England; present situation five years; excellent references. Highly recommended by C. F. BAUSE, Morland Nursery, South Norwood, to whom apply in first instance.

GARDENER (Head); life experience in growing all kinds of fruit and plants, including orchids; also kitchen and flower garden; can be highly recommended. W. LAMBERT, The Common, Kenilworth, Warwickshire.

GARDENER (Head, where one or more are kept); life experience in all branches; age 35; married, no family. WELLS, 40, Malden Road, Boreham Wood Herts.

GARDENER (Head, where two or more are kept); life experience in all branches; age 30; married, no family; excellent references. ARCHER, Eastcote Lodge Cottage, Pinner, Middlesex.

GARDENER (Head Working); experienced in the cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, etc.; also Hardy Fruit culture; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working), age 45; 28 years' experience; 12 years as head in last place. REEVES, Paddock Road, Bexley Heath, Kent.

GARDENER (Head Working, where two or more are kept); good all-round; can be well recommended; married when suited; age 36. PEARCE, Ridley, near Wrotham, Kent.

GARDENER (Head Working or good Single-handed); life experience in all branches; good references from present and previous employers as to ability and trustworthiness; no family. GARDENER, 28, Martell Road West, Dulwich, S.E.

GARDENER (Head Working), age 31; 16 years' experience fruit and plants, Inside and Out; vegetable and flower garden, decorating, etc.; good references; last two years head of five. W. TALBOYS, Frampton-on-Severn, Stonehouse, Gloucestershire.

GARDENER (Head Working, where one or two more kept, or good Single-handed); experienced Inside and Out; good references, and recommended; age 27; married when suited. W. CROUCHER, 11, North Terrace, Hythe, Kent.

GARDENER (Head Working, or a good Single-handed), where a garden can be kept up well; life experience in lawns, flowers, vegetables, fruits, and plants under glass; good rose grower; can show excellent references; married, age 30. TYLER, Fair Oak, Bishopstoke, Hants.

SITUATION WANTED.—Gardener (Head Working, where two or three are kept); well up in Vines, Melons, Figs, Cucumbers, Tomatoes, and Flowers; early and late forcing; age 41; life experience; abstainer; married, 1 child; good refs. W. E. S., 52, Corporation Road, Gillingham, Kent.

MRS. BUSK wishes to thoroughly recommend her GARDENER, age 32, as SINGLE-HANDED or with help; married, one child; leaving through giving up; good references. Apply, C. BOULT, Manor Cottage, Fritwell, near Banbury.

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GARDENER (Single-handed); married; age 27, seeks SITUATION; experienced Inside and Out; 5½ years' excellent reference last situation. Apply W. G. CONN, 7, Coombe Road, Sydenham.

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GARDENER, Second, where four or five are kept; 9 years' experience; 5 years' good reference; single. Apply, GOWER, Scaynes Hill, Haywards Heath.

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JOURNEYMAN-IMPROVER, age 20, seeks SITUATION, inside, or inside and out; well recommended; 3 years' good experience, inside and out at The Moot, Downton. S. FURNELL, Morgan's Vale, Downton, near Salisbury.

MR. J. SHELTON, Wildernesse Gardens, Sevenoaks, Kent, will be pleased to recommend A. BOOKER as JOURNEYMAN (Inside); age 21; 4 years' experience. Apply as above.

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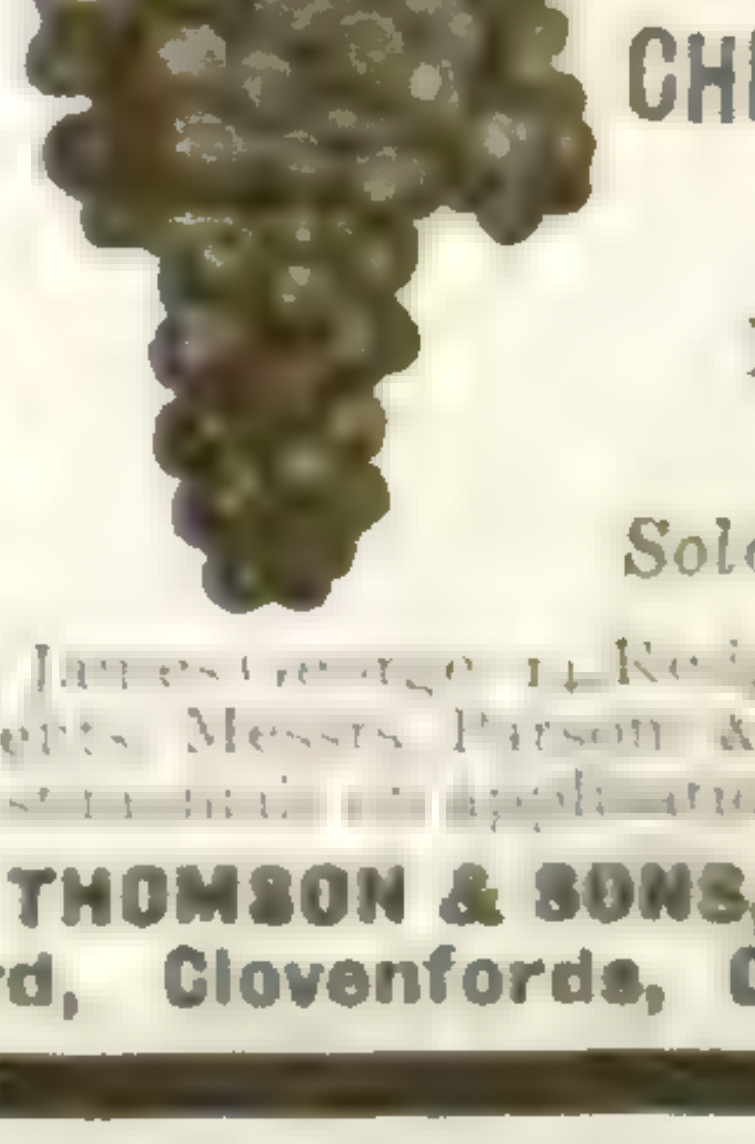

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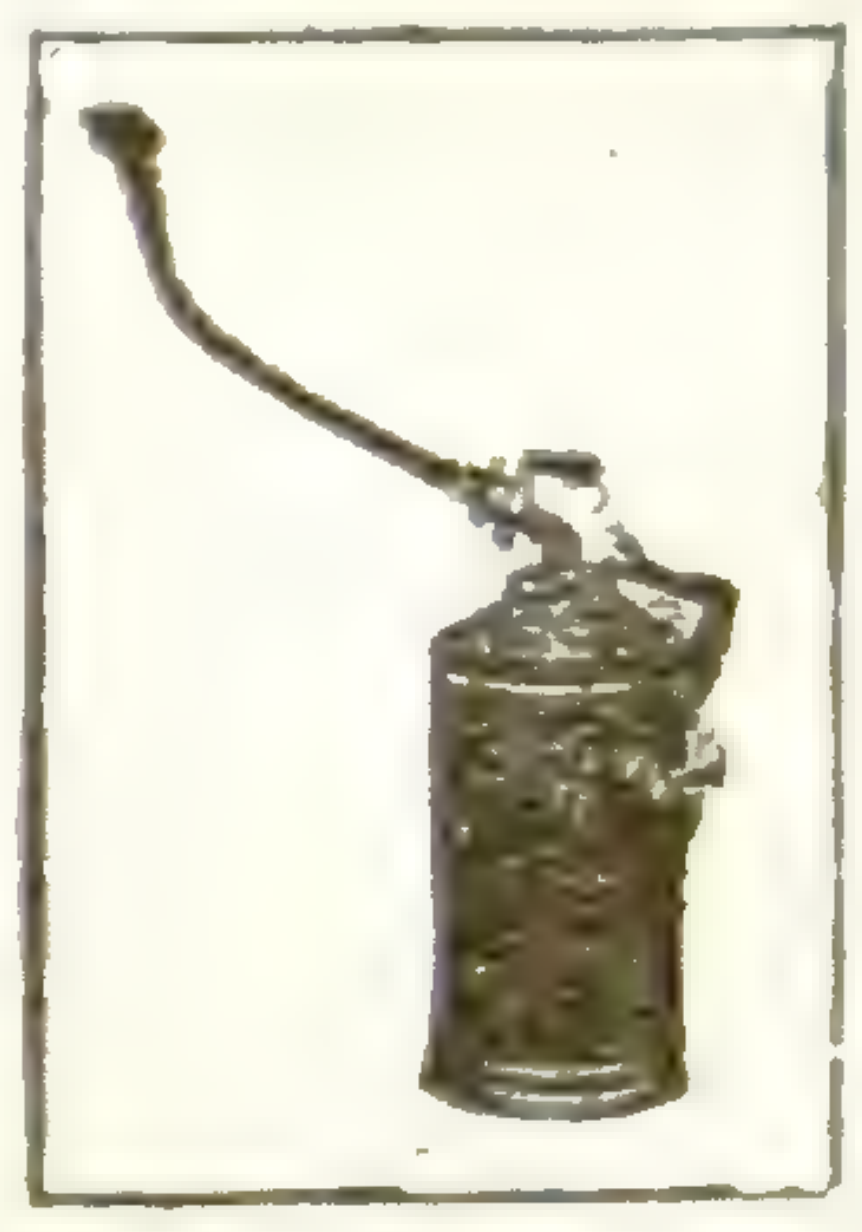

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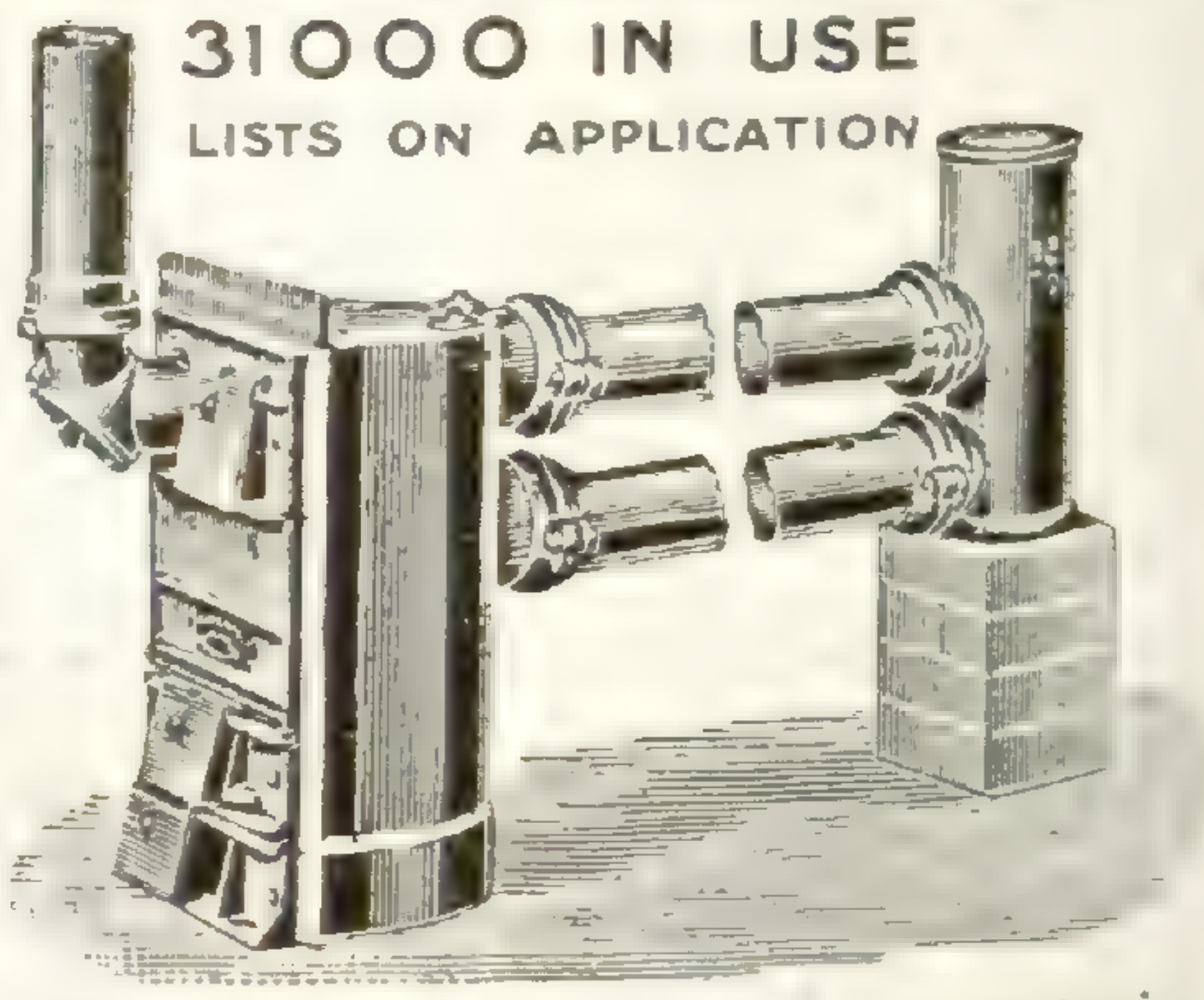

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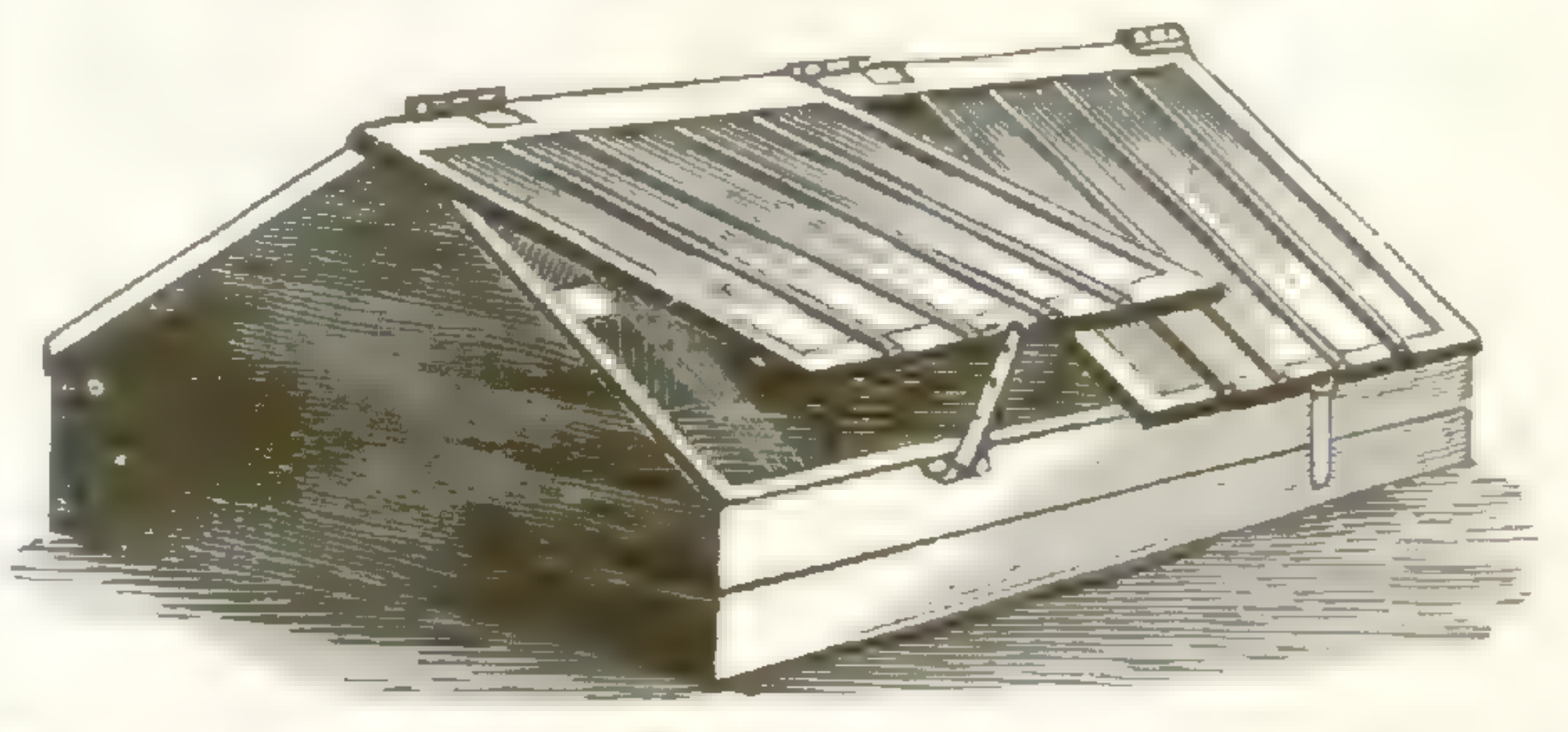

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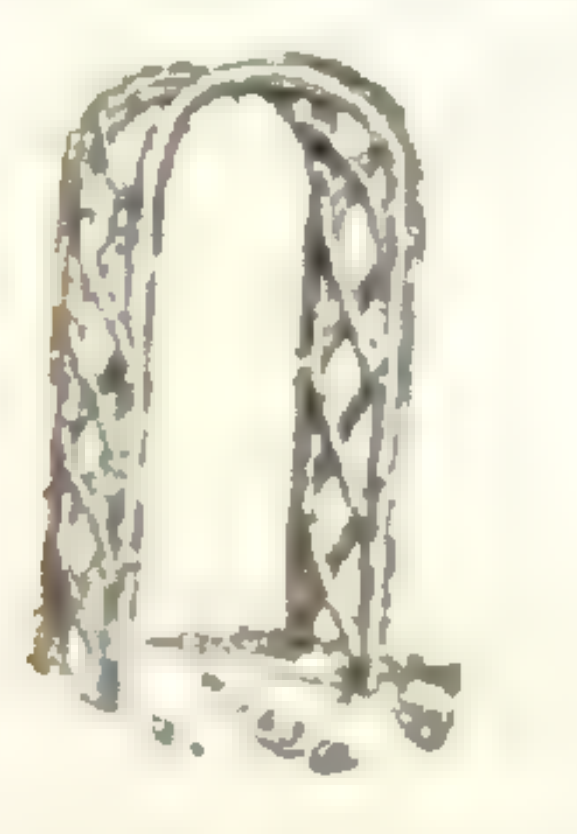

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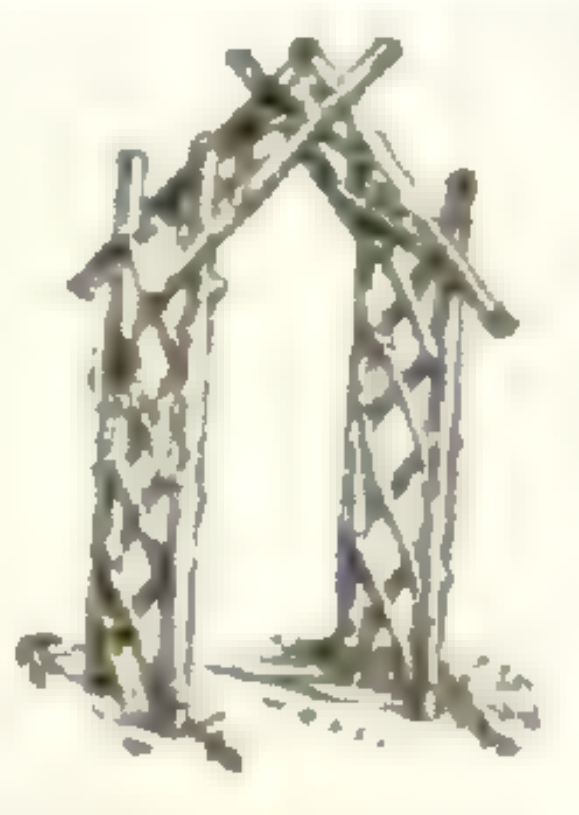

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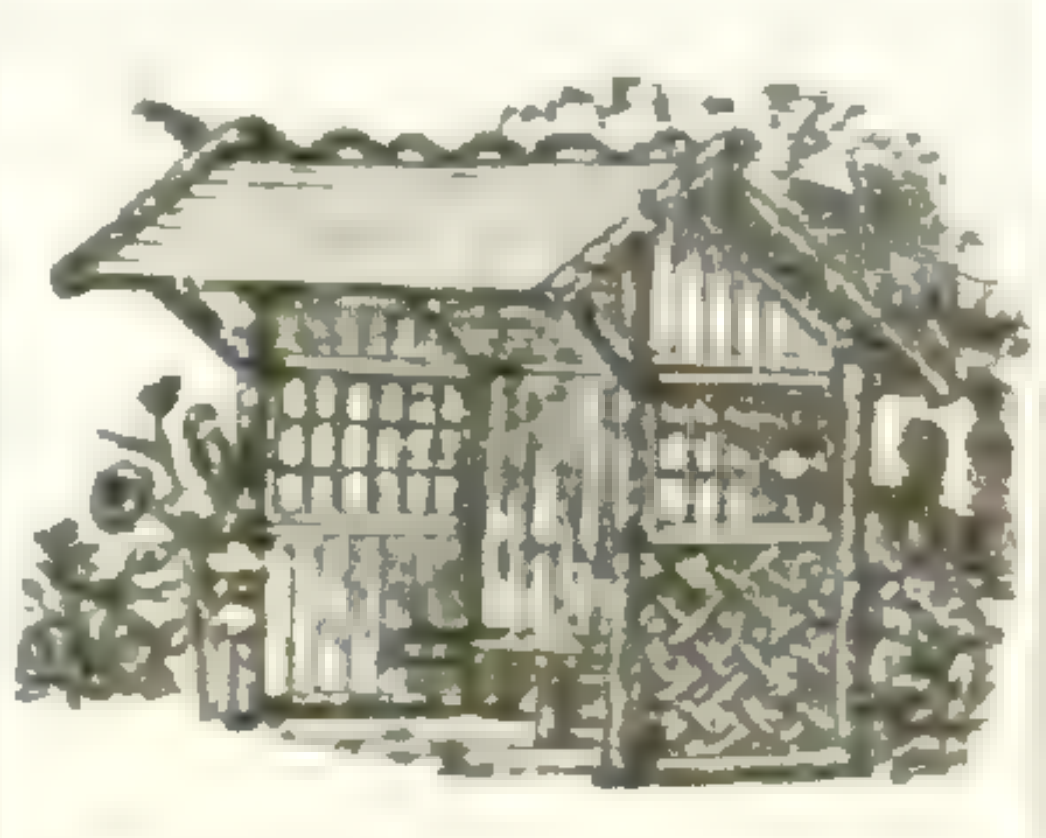

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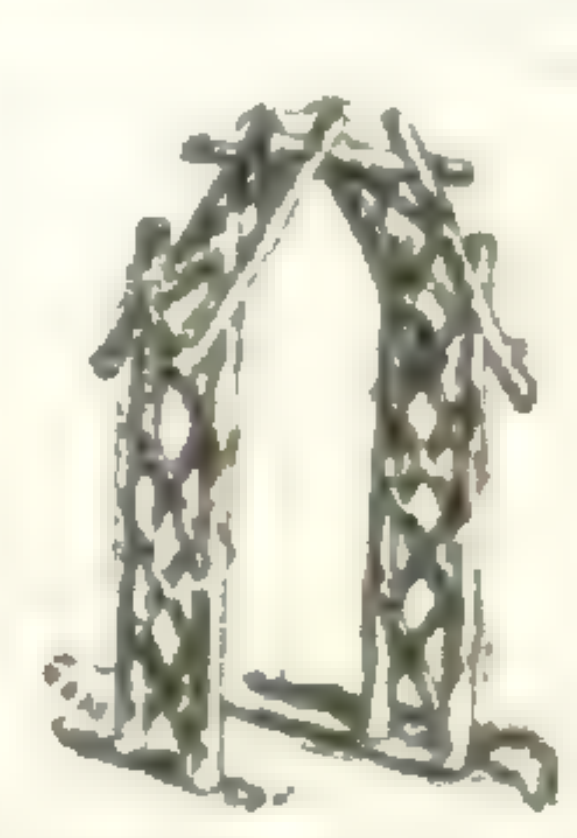

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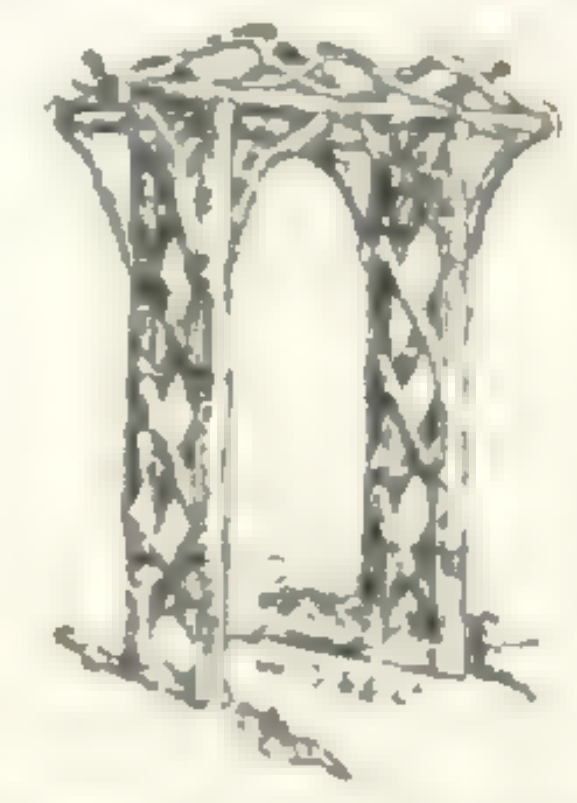

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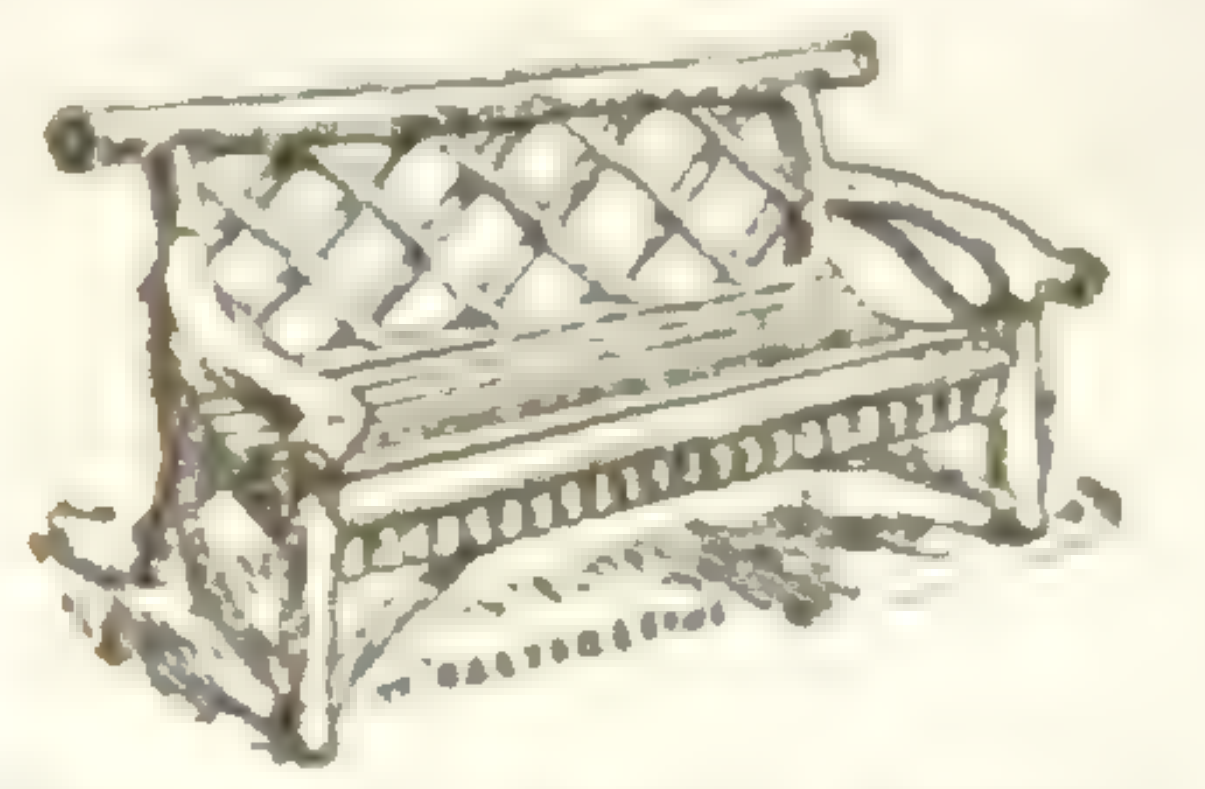

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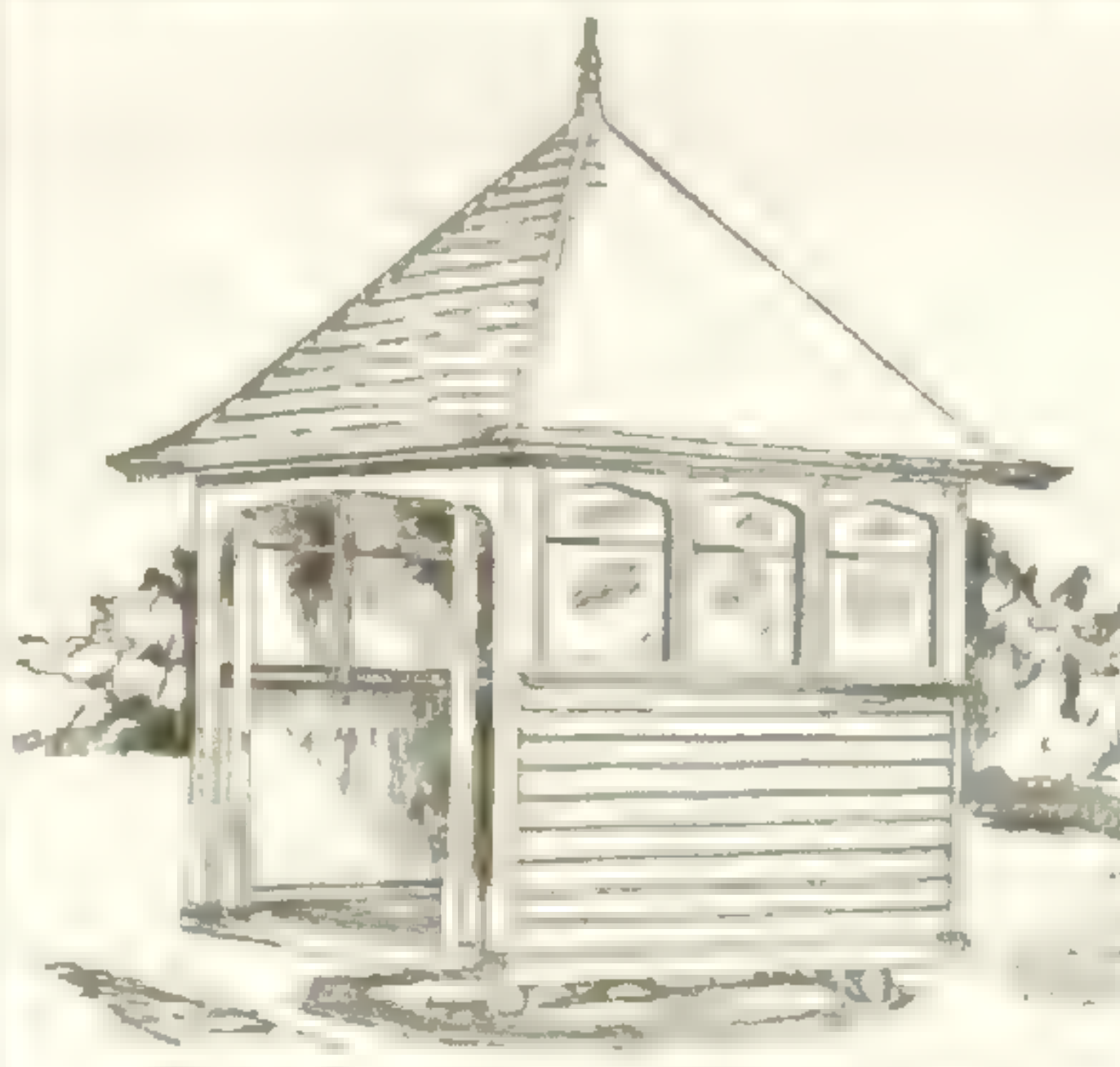

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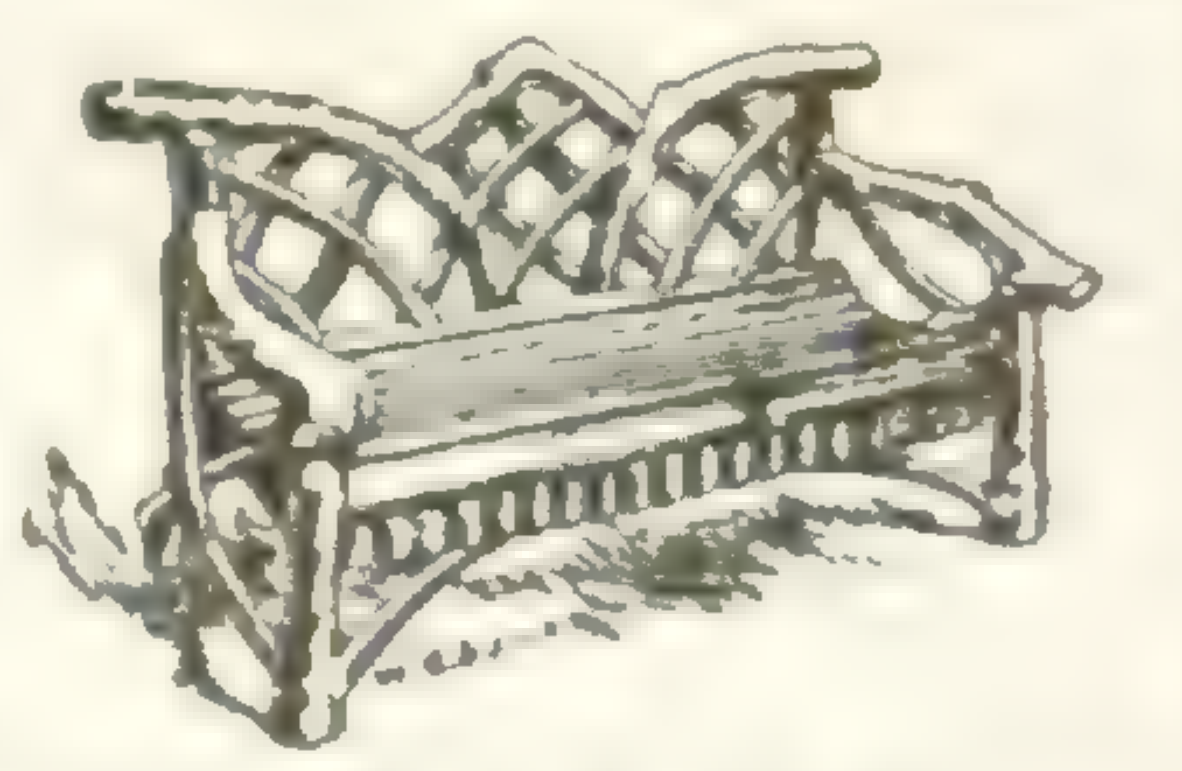

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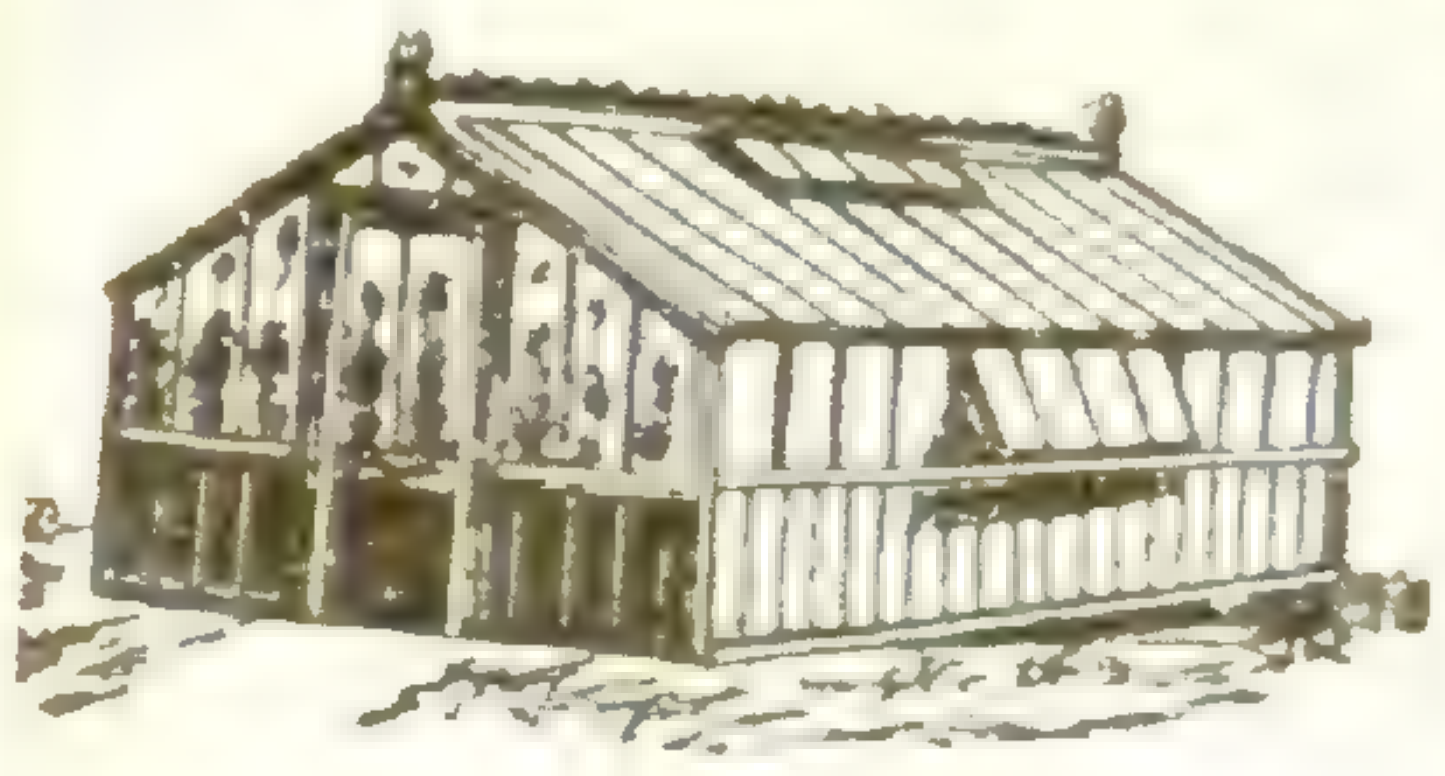

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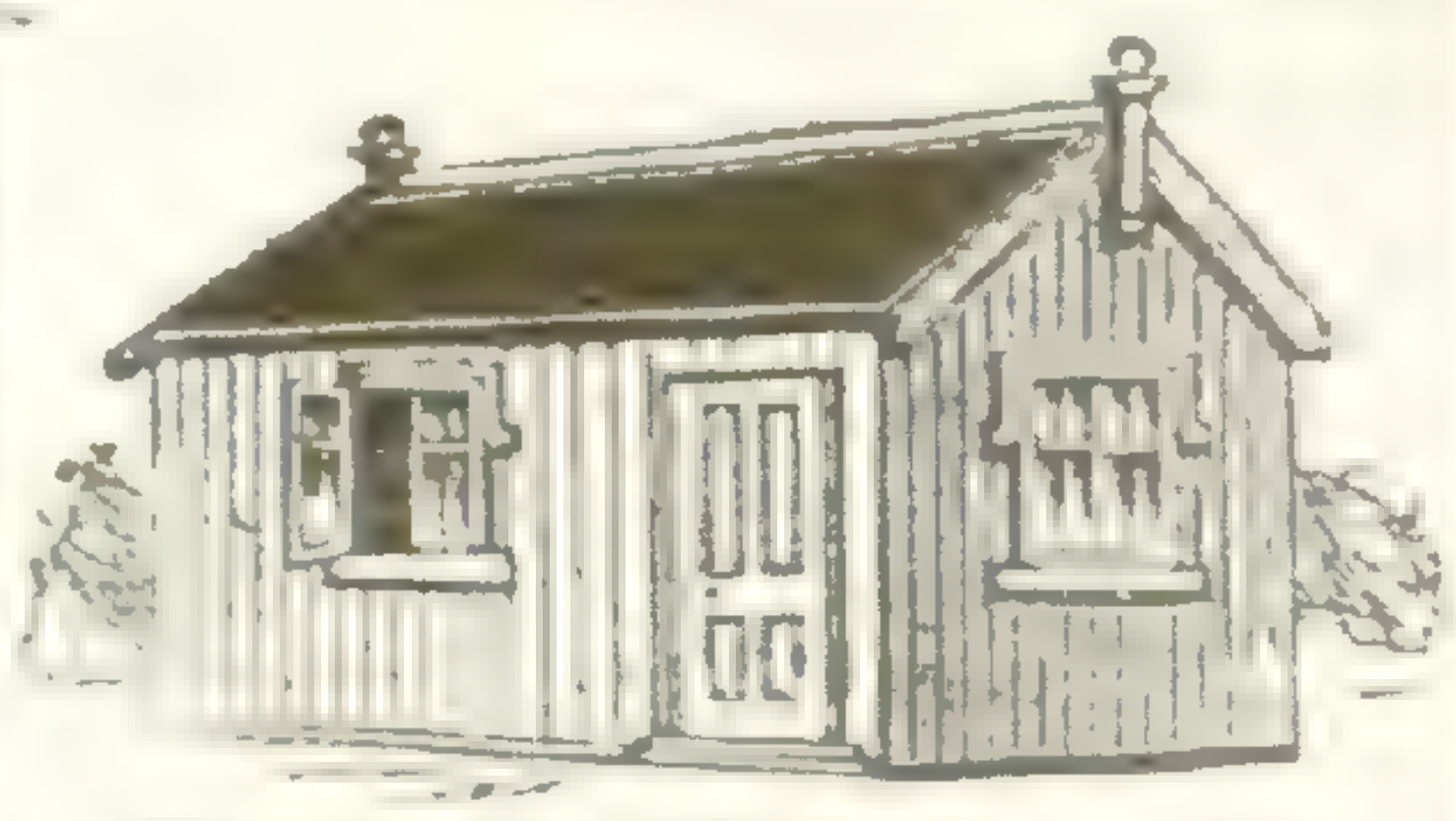

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VOL. LIII.—No. 2,962. SATURDAY, AUGUST 6, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Bulbils.

Although it is not practicable to draw a hard-and-fast line between bulbils and buds, there is a difference between a bulbil and such buds as are so common in flowering plants, the great majority of which bear buds at the point where the leaf is attached to the twig, and from their position are termed axillary buds. It is by virtue of such buds that trees, shrubs, and other vegetation of large growth build up, in course of time, the labyrinthine masses of their foliar system. Such a bud is, in fact, a potential branch, fitted to carry other buds, and so branch again; and as each season of growth adds a ring of wood to the previous season's twig, as it does to the entire tree system of trunk and branches, we can easily see how in course of time a ramification of graded growth results. The fern bulbil, however, differs from such buds by not forming a mere branch destined to extend the permanent structure of the plant, but is an excrescence destined to form a separate and complete plant with roots and fronds, which only require to be brought into contact with the soil to root into it, and thus become entirely independent of the parent. Nature herself brings this about by various means. Many fronds, when they have fulfilled their spore-bearing mission and grown old, develop a weak spot a few inches from the caudex or root-stock, and as a result, though still attached, fall outward, and thus bring any bulbil growths in contact with the soil, thus facilitating development. Other bulbils, like those of Woodwardia orientalis, are produced on the frond surfaces, where they develop two or three rounded fronds admirably adapted to form a parachute, and as they are very slightly attached, a gust of wind may detach them and bear them, more or less gently, with the root downward, to the adjacent soil. Cystopteris bulbifera bears fat, berry-like bulbils, in which the bud proper is embedded in the cleft of an oval mass of nourishment, and such "berries" drop off at a touch, and produce young ferns in profusion around the parent plant. Some ferns produce terminal bulbils at or near the frond tips, and as these develop the resulting plant weighs down the slender top, and in this way reaches the soil and enables the fern to take a stride, as it were, into fresh woods and pastures new. Woodwardia radicans and Camptosorus rhyzophyllus (the American Walking Fern) are types on a large and small scale of this form of bulbil propagation. In the Gleichenias the fronds increase in extension by axillary buds on non-independent lines; but even here the result is never the formation of permanent ramifications as with trees, since the fern tribe has no provision for any annual ring of woody material to strengthen an increasing structure. Curiously enough, although proliferous or bulbil-bearing species of ferns are not rare, we do not number one amongst our forty odd native species—that is, in their normal form. Nevertheless they make up for this by a large number of instances among the abnormal "sports" and their progeny. Thus our native Maidenhair, Adiantum capillus veneris, in its forms of imbricatum, and daphnites, produces marginal bulbils where the spores should be; and Polypodium vulgare var. Cornubiense, sometimes does the same on its finest divided fronds. Quite a number of the Lady Ferns bear bulbils on the frond backs, and one at least on the crests. Lastrea montana has yielded bulbils on the frond stalks; and the Hart's-tongue and Shield Ferns have contributed quite a host of proliferous varieties belonging to many very distinct sections of these variable ferns. In the varieties we have in view for the moment, this proliferous character cannot be clearly imputed to any known diversion of energy involved in the varietal form, since it appears in connection both with very foliose forms and very slender ones, but we are inclined to think that fine cutting and slender subdivision favour bulbil development; and certainly in the Polystichums the most proliferous forms are all of such slender, acutely pointed dissection that the section has been termed acutilobum in lieu of proliferum by the experts, owing mainly to the fact that other forms are proliferous as well, but on sparser lines. Apart from these spontaneously - produced bulbils there are others latent, and to a certain extent patent, with which nature has endowed ferns as an additional security from total destruction by trampling animals or other destructive factors. Thus a section of the base of a frond of the common Male Fern at its thickest part reveals an incipient internal bud, which will assert itself if the main crown be damaged or destroyed, and frequently does so without such impulse, and so forms a lateral offset. Here the presence of a latent bud can be detected by dissection, but inasmuch as many bulbil plants can be induced to appear on caudices of Shield Ferns, Lady Ferns, and others by the destruction of the central axis of growth and careful close treatment, it is clear that such natural provision must involve the faculty of the vital energy left in the still living cells, enabling these to form entirely new centres of growth, and force these to the surface. The now well-recognised fact that the old frond bases of any form of Hart's-tongue—in which base dissection displays nothing beyond the normal cellular structure—will form buds profusely, both on wounded and unwounded surfaces, is another proof of such unseen and often unsuspected provision for the preservation of the species. Curiously enough, numerous experiments

MR. C. R. FIELDER.

which have been made with sections of the far fleshier rhizomes of Polypodium vulgare, taken intentionally without a growing point, have all failed to produce such bulbils, but we would strongly advise further experiments. The best plan, as with the Hart's-tongue bases, is to lay them on damp sand in a glass jar or tumbler, and keep them quite close in a fairly lighted place. With the Hart's-tongue the result is invariably that in a few weeks little white pimples appear and develop into young plants, with roots and fronds, much more rapidly than is the case with spores. So much success has attended experiments in this connection with British ferns, that we are forced to believe that many rare exotics otherwise difficult to propagate might yield similar results on similar lines of culture.

Mr. C. R. Fielder, head gardener to Mrs. Burns, North Mymms Park, Hatfield, occupies a prominent position among the foremost of skilful and up-to-date horticulturists. He is eminently practical, but he understands, and is able to tell in a pleasing manner, "the reason why" of all he does in the garden, and that is saying a good deal. He is no rule-of-thumb practitioner, but a skilful and well-educated exponent of the gentle art of gardening. He has had a varied experience, and after spending a short time in a garden near his home in the New Forest he went to Hampton Court Gardens, where he stayed four years. His next move was to the propagating department at Mr. William Bull's nursery, King's Road, Chelsea, where he had ample practice in the multiplication of a wide range of plants. At twenty-two years of age Mr. Fielder became foreman under the late Mr. W. Denning at Lord Londesborough's garden at Coombe Wood; and afterwards he filled a similar position at Haversham Grange, Twickenham; and Mote Park, Maidstone, when the last-named establishment was held by the late Dowager Lady Howard de Walden. His first charge was Arbury Priory, where he became head gardener and steward to the late Sir Edward Newdigate, and, after four years there, he returned to take charge of the gardens at Mote Park, where he remained until Lady Howard de Walden's lease expired, and then went with her ladyship to her new place at West Malvern, Worcestershire, where for five years he was busily engaged in laying out and planting the gardens and pleasure grounds and superintending the erection of glass-houses. The Dowager Lady Howard de Walden died in 1899, and a few days after her decease Mr. Fielder was engaged by Mrs. Burns at North Mymms, where he has seen the small garden extend under his own supervision and design until it occupies something like forty acres. Mr. Fielder has raised the whitest of white amaryllis, and he has made his mark as a fruit grower, plantsman, and landscape gardener. He is an admirable teacher, and his services as examiner in horticulture have been secured on a number of occasions by the Royal Horticultural Society—sufficient proof, if more were needed, of his unusual capabilities.

Botany at the British Association.—The general arrangements for the meeting of the British Association at Sheffield have been completed, and the provisional programme of the work of each section has been set out. Most of the sections commence proceedings on Thursday, September 1. In the case of Section K., Botany, proceedings will begin with a joint discussion between the Botanical, Chemical, and Physiological Sections, on the bio-chemistry of respiration, Dr. F. F. Blackman and others to take part; a new method of estimating the opening of stomata, Dr. F. Darwin; the paths of translocation of sugars from green leaves, S. Mangham; (1) two synthetic genera of Filicales, (2) note on Ophioglossum palmatum, Professor Bower; the pollen chambers of fossil and recent seeds, Professor F. W. Oliver; the morphology of the ovules in Gnetum and Welwitschia, Mrs. Thoday; further observations on the fossil flower, Dr. M. C. Stopes; chromosome reduction in the Hymenomycetes, Harold Wager; the sexuality of Polystigma rubrum, Professor V. H. Blackman; telophases and prophases in Galtonia, Professor Farmer and Miss Digby; a cytological paper, Dr. H. C. J. Fraser; the zoospores and trumpet-hyphæ of the Laminariaceæ, Dr. Lloyd Williams; plant distribution in the woods of north-east Kent, M. Wilson; the absorption of water by leguminous seeds, A. S. Horne. Professor F. E. Weiss and others are expected to read papers, and the semi-popular lecture this year will be on "Sand Dunes and Golf Links," by Professor F. O. Bower.

August Bank Holiday was favoured by weather exceptionally well adapted to the enjoyment of outdoor life, and dwellers in towns appear to have taken full advantage of their opportunities for participating in the pleasures which parks and gardens are so well able to afford. In London and in the great provincial centres of industrial activity, the public parks and gardens were thronged throughout the day, and the "beauty spots" within a comparatively easy distance were visited by large numbers who appreciate the charms of Nature. The Royal Gardens, Kew, continue to increase in popularity among the masses, and on Monday there were 129,000 visitors.

The Kew Bulletin, just issued, is of considerable interest, as it contains useful garden notes on new trees and shrubs, chiefly Chinese, recently presented to Kew. There is an account of the formation and conduct of the herbarium at the Hong Kong Botanic Gardens; descriptions of African and other plants; an account of a botanical trip in the Malay States of Kedah, Perlis, and Setut; and several notes referring to rubber and rubber cultivation.

Undesirable Water Plants.—Of all the undesirable water plants planted in ponds Villarsia nymphæoides is the worst known to the writer of one of the "Commonplace Notes" in the "R.H.S. Journal." Its pretty neat yellow blossom and bronzy leaf are most attractive, and it would be a welcome plant for the water garden if it would keep in bounds; but it grows and spreads so rapidly that it will quickly cover a large sheet of water and smother all the other aquatic plants in the place. We have tried to eradicate it by thoroughly cleaning out the pond, taking out every root that could be found, and leaving the pond perfectly dry for a month or more. Yet the following year it was as bad as ever. It is a very curious fact that in some ponds and lakes Aponogeton distachyon absolutely refuses to live, in spite of the most careful attempts to establish it, while in others it grows so rampantly as to crowd out everything else. But the pleasant scent of its flowers compensates largely for its other drawbacks. Bullrushes, if kept within bounds, give a pleasing appearance to the margin of a lake, but one ought to be very careful how they are introduced, because they will grow well into deepish water and spread far out, making it very difficult to get them out by the root, and unless they are kept in bounds by pulling them out roots and all they soon diminish the size of the lake, and become a nuisance. Some of the rushes are as bad, and Acorus Calamus is apt to spread too much. With such a host of beautiful aquatic plants to choose from that give little trouble, it is scarcely worth while to plant those of doubtful character.

Awards to Early Peas.—A sub-committee of the Fruit and Vegetable Committee, consisting of Messrs. Alex. Dean, V.M.H., W. Bates, E. Beckett, V.M.H., J. Jacques, G. Hobday, J. Davis, and Owen Thomas, V.M.H., visited Wisley on June 30 to examine early peas, when the following varieties were recommended for an Award of Merit. These were placed before the full committee on July 5, when the awards were approved, the Council confirming them at their meeting on July 19: Hundredfold, sent by Messrs. Sutton and Sons; Laxtonian (re-selected), and Early Duke, sent by Messrs. J. Carter and Co.; and Victor, sent by Messrs. J. Veitch and Sons.

Advantages of Co-operation in Marketing Produce.—The current issue of the official publication of the Agricultural Organisation Society gives two examples of the saving effected in marketing produce by the co-operation of the growers. In one case the members of an affiliated society sent their produce to market individually in half-ton lots at the 9s. 2d. per ton rate, or 4s. 7d. per half-ton lot. The matter was investigated by the central society, and it was found that the growers could by combination market their produce in four ton lots at the rate of 6s. 3d. per ton. This reduction in the rate is stated to be equivalent to an annual saving of £17 per member. The other instance was at Worthing. A local body known as the Worthing and District Market Gardeners' Association, was formed for the purpose of enabling the growers to send their produce to London at the lower rate. The local and central societies and the railway company had a conference, and, as the result of the arrangements that were made, the members of the Worthing society will effect a saving of between £600 and £700 for carriage.

Red Tuberoses.—It was stated in the United States a short time ago that red-flowered tuberoses were grown at Tientsin, China, and, as a consequence, an enterprising florist asked the Consul-General to procure bulbs of this treasure for him. After considerable trouble it was discovered that the red colouring was obtained by placing the newly cut flower stems in aniline dye. But, as uncut flowers of red hue were found, a further search was necessary, and, says the "Weekly Florists' Review," finally a native gardener admitted that these were bulbs of the ordinary white tuberose, reared in ordinary flower pots, in this way: The opening in the bottom of the pot is closed with a cork; the pot is filled with earth mixed to a mud with water in which the colouring matter has been dissolved; the bulbs are planted in this after a number of small incisions have been made in the lower half of the bulb above the roots; a thin covering of uncoloured earth is placed over the earth in the pot to conceal the coloured portion below; and the plant is supplied with water in which the colouring matter has been dissolved. The resulting flowers have the tint of the colouring matter used.

LEICESTER FLOWER SHOW.

AUGUST 2 and 3.

Nearly a quarter of a century has elapsed since the first flower show was held in the Abbey Park, and those who have been associated with the annual gatherings that have done so much to stimulate an interest in horticulture among the residents of Leicester have good cause to be well satisfied with the results. Commenced in a comparatively small way, the Leicester flower shows have steadily grown until they have become so extensive and good as to give them a prominent position among the leading horticultural gatherings in the United Kingdom. This year there were 277 exhibitors and 1,728 entries, and it was satisfactory to observe that the cottagers and allotment-holders contributed liberally of their products. The Abbey Park is one of the most beautiful of Leicester's open spaces, and is admirably adapted to the purposes of a flower show, for it is so spacious as to provide ample accommodation for 30,000 visitors, and so admirably kept and liberally embellished as to afford abundant entertainment to the visitors, and reflect credit upon the Parks Committee, of which Mr. Councillor Collier is the chairman, and upon Mr. J. Burton, the able superintendent of the open spaces belonging to the Leicester Corporation. The great feature of the show held on Tuesday and Wednesday last were the groups of plants arranged for effect, the roses, the decorated tables of fruit, the vegetables, the sweet peas, and the hardy flowers.

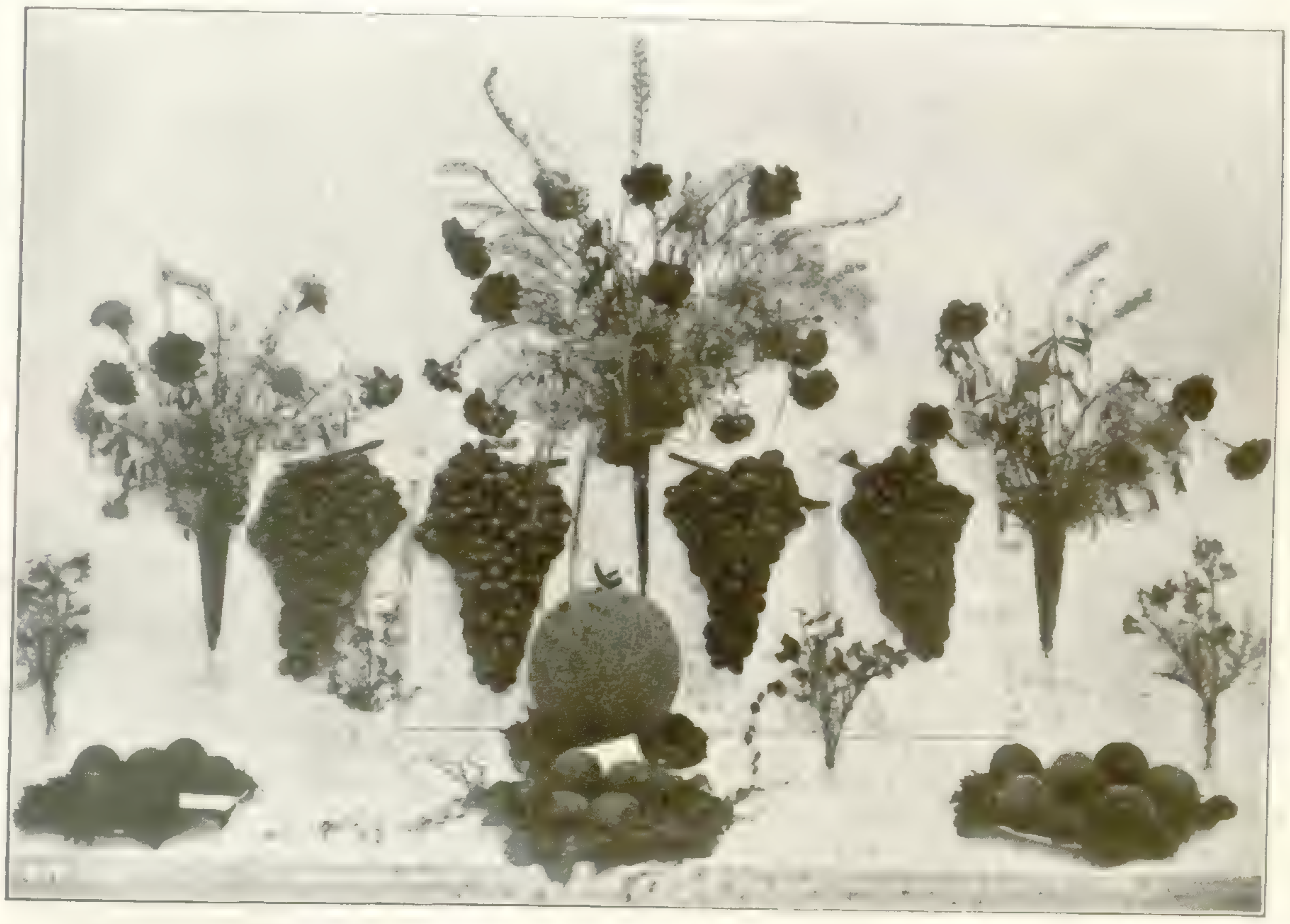
PLANTS.

The outstanding feature of the plant classes was formed by the groups arranged for effect, which, meritorious as they have been in previous years, have not been quite equal to those shown this year. They sufficed to fill a marquee several hundred feet in length, and, as for several years past, Messrs. Cypher and Sons, Cheltenham, occupied the post of honour with an arrangement that materially enhanced their reputation as exponents of the art of plant grouping. To describe the style of arrangement adopted on this occasion with sufficient fulness to convey a clear idea of its characteristic features would require much space. The group, as near as may be, was oblong, and the centre was not formed, as is usually the case, by a pyramidal group of plants, but the graceful palm that formed the centre-piece was stood upon a light arch, and had a few light plants arranged around it. As the arch was high enough to allow the portion of the group beyond to be seen through it, the effect was light and very pleasing. At each corner was a low mound surmounted by a well-coloured croton, and midway between these on either side was a mound surmounted by a finely-developed specimen of the graceful Cocos Weddelliana. Between these, various orchids, Kalanchoe flammea, and fine foliage plants in variety were tastefully arranged. Mr. W. A. Holmes, Chesterfield, was second with a highly effective and tasteful arrangement. It contained rather too many crotons, and as these were all finely grown and richly coloured, the yellow colouring was a trifle too strong. The third prize group, arranged by Mr. H. Rogers, was very light and beautiful, and Mr. Vause, Leamington, who was fourth, had an arrangement deserving of much praise. In the limited class for groups arranged on a space of eighty feet, superficial, Mr. C. F. Oliver, Leicester, and Mr. W. Buckler, Thurmaston, were first and second respectively with arrangements that were a trifle heavy.

Exotic ferns were well shown, and for six Mr. W. Buckler, Mr. C. F. Oliver, and Mr. H. Rogers were the prize-takers in the order of their names. Mr. W. Buckler had the best plant in bloom, and Mr. W. R. Manning, Hadley, the second best. Of great excellence were the fuchsias shown by Messrs. J. Wright and Sons, Mr. H. Rogers, and Mr. C. Ward. Especially meritorious were the zonal pelargoniums contributed to the class for four specimens by Mr. H. Rogers, Mr. C. Ward, and Messrs. J. Wright and Sons, all of whom had large and finely-flowered bushes. Messrs. J. Wright and Sons and Mr. W. H. Allen were first and second for double begonias, and Mr. W. Clanachan and Mr. W. Holmes occupied the first and second places in the class for six table plants. Mr. H. Keeling scored for eight miscellaneous plants, and Mr. W. H. Allen and Mr. W. J. Moore were second and third.

ROSES AND SWEET PEAS.

Roses, if not quite so largely shown as in some previous years, were staged in immense numbers, and produced so glorious a display as to constitute one of the most attractive of the many good features. There was a keen competition in the open class for thirty-six blooms, distinct varieties, and at the head of the several competitors were Messrs. Perkins and Sons, Coventry, who had finely-developed blooms of Madame Chedane Guinoisseau, Lyon Rose, Charles Lefebvre, Mildred Grant, Duke of Connaught, Victor Hugo, Gustave Piganeau, Dr. Odone Browne, Captain Hayward, and other of the leading varieties. The King's Acre Nursery Company, Hereford, were a close second with blooms of great excellence. Especially noteworthy was the fine bloom of Dean Hole, which only missed by a point or two being selected as the premier bloom in the open classes. Mr. W. H. Frettingham, Beeston Nursery, Nottingham, was third with blooms of much merit. Very spirited also was the competition for the prizes for twenty-four roses, distinct, and here Messrs. Perkins and Sons were again first, staging blooms large in size, brightly coloured, and highly finished. Mr. W. Frettingham followed closely for second place with a collection containing a magnificent bloom of William Shean, which was adjudged the best bloom shown in the open division. The King's Acre Nursery Company third. The first and second prizes for twelve teas or noisettes were awarded respectively to the King's Acre Nursery Company and Mr. W. H. Frettingham. The best box of twelve blooms of any one variety was shown by Messrs. Perkins and Sons, who staged the Lyon Rose in grand style. Mr. W. H. Frettingham was a capital second with large, finely-coloured blooms of William Shean, and Mr. W. Bentley, Belgrave, Leicester, was third with medium-sized fresh blooms of Frau Karl Druschki. The King's Acre Nursery Company obtained premier honours in the class for twelve blooms of any one variety with Mrs. E. Mawley.



FIRST PRIZE TABLE OF SIX KINDS OF FRUIT AT LEICESTER.
Shown by Mr. W. Parker, gardener to J. Drakes, Esq., Market Rasen.

The classes for roses in which the competition was limited to amateurs were especially well filled, and for this advanced period of the rose season the blooms were high in quality. Mr. F. Dennison, Leamington, was successful in obtaining premier honours for thirty-six blooms, distinct, these being large in size, bright in colour, and superb in finish. Mr. E. B. Lindsell, Bearton, Hitchin, and the Rev. J. H. Pemberton, Havering, followed closely for second and third places with finely-developed blooms. For the prizes in the class for eighteen roses there was a smart competition between Mr. F. Dennison and the Rev. J. H. Pemberton, and in the result the first and second awards were made in the order of the names; Mr. E. B. Lindsell was a good third. For twelve roses Mr. F. Dennison was again first with a fine box, and Mr. E. B. Lindsell and the Rev. J. H. Pemberton were second and third. Mr. F. Dennison had the best box of six teas or noisettes, and Mr. Upton and Mr. Whittle followed for the second and third places.

The class for twelve blooms, to consist of four varieties, each variety to be arranged in a separate row, was a good one. Mr. F. Dennison occupied the first place with a splendidly-developed set of blooms; the Rev. J. H. Pemberton followed closely for second place, and Mr. W. Boyes, Middleton-on-the-Wold, Yorkshire, who was third, had a splendid box of blooms.

The classes set apart for amateurs and gardeners resident in Leicestershire, were admirably filled. For eighteen blooms Mr. G. Speight, Market Harborough, scored, and Mr. M. Whittle and Mr. Upton were second and third. The successful competitors in the class for twelve were Mr. Upton, Mr. Whittle, and Mr. Speight.

Sweet peas were staged in immense numbers, and produced a great and beautiful display. There was a very strong competition in the class for twelve varieties, in which the whole of the liberal prizes were given by Messrs. Robert Sydenham, Lim. At the head of the numerous competitors was Mr. Hallam, Radcliffe-on-Trent, with a collection evincing cultural skill of a high order, and much taste and judgment in staging. The remaining prizes were awarded as follows: Mr. F. Landsell, Dasford, second; Mr. H. Brown, Stoney Stanton, third; Mr. C. Robinson, Ivanhoe Street, Leicester, fourth; and Mr. G. E. Lewis, fifth. Messrs. R. Sydenham, Lim., also provided prizes for six varieties of sweet peas, and for these also the competition was of the keenest. In the result the premier award was made in favour of Mr. Morris, who had a collection of rare excellence. Mr. E. Sandle, Knighton, was a close second, and Mr. Illston, Barkby, a good third. Some seven or eight other prizes were awarded, but space will not admit of the names of the whole of the winners being given. In the class in which the prizes were given by Messrs. Lamb and Sons, Mr. Hallam was first, Mr. G. E. Lewis second, and Mr. Sandle third. Messrs. E. Webb and Sons gave liberal prizes for six vases of sweet peas, and the entries in the class were very numerous, and the blooms very fine. The principal awards were made to Mr. R. Hallam, Mr. G. E. Lewis, Mr. E. Sandle, Mr. O. Hartshorn, and Mr. F. H. Wagstaff. The varieties throughout showed much judgment in selection.

MISCELLANEOUS CUT FLOWERS.

In the miscellaneous classes for cut flowers Messrs. James Wright and Sons, 69, Market Place, Leicester, were first for twenty-four blooms of double begonias with an excellent stand. In the class for twenty-four blooms of show carnations, Mr. A. R. Brown, King's Norton, Mr. W. Pemberton, Bloxwich, and Mr. W. Barsby, were the prizetakers in the order of their names with excellent stands. For twelve self carnations Mr. A. R. Brown was again first, and Mr. P. Hocart, Melton Mowbray, and Mr. W. Barsby, were second and third. Fancy carnations were well staged by Mr. A. R. Brown, Mr. W. Pemberton, and Mr. W. Barsby. The last-named exhibitors were also the prizewinners in the class for white ground picotees, the blooms being throughout highly meritorious.

FIRST PRIZE COLLECTION OF VEGETABLES (TWELVE KINDS) AT LEICESTER.
Shown by Mr. J. Hudson, Gimson Road, Leicester.

Hardy flowers, in collections without limit as to numbers, were numerous, and produced an attractive display of colour. Mr. W. Weston, gardener to C. F. Oliver, Esq., Knighton Park Road, Leicester, scored with thirty-six vases, in which the finest of the herbaceous phloxes, veronicas, rudbeckias, day lilies, coreopsis, heleniums, and campanulas were well represented. Messrs. J. Wright and Sons were a close second with a collection remarkable for the taste evinced in the arrangement.

Violas were contributed in large numbers, and staged naturally in broad, shallow vases, they produced a highly attractive display. Mr. W. Pemberton was successful in taking premier honours with large and otherwise meritorious blooms. The varieties were Agnes Kay, Minnie J. Ollar, Mrs. J. H. Rolland, Annie Frater, Mrs. Chichester, G. C. Murray, Mary Burnie, Admiral of the Blues, Willie Farmer, George Dunn, and Meteor: Mr. Barsby was second with good blooms.

FRUIT AND VEGETABLES.

There was a manifest improvement in the fruit section as compared with some previous years, and the large array of decorated fruit tables proved so attractive to the visitors as to render it extremely difficult to obtain a glance of them from within a short time of the tents being open to the public. The larger of the two classes for tables of fruit was for nine dishes, distinct, three dishes of grapes, one pine, and one melon being allowed on each table. In addition to the prizes for fruit, a set of prizes was offered for decorations, flowering and fine foliage plants, also cut flowers and foliage arranged in glass, or ware, or loose being allowed at the discretion of the exhibitors. There were five tables in competition, and the premier award for fruit was made in favour of Mr. T. Ireland, gardener to Miss Webb, Newstead Abbey, Nottingham, who had large finely finished clusters of Black Hamburgh, Madresfield Court, and Muscat of Alexandria grapes, splendidly coloured Dymond peaches, Pine Apple and Spencer nectarines, and well-ripened Hero of Lockinge melon. Mr. Ireland was rather weak in his decorations, and was placed third for them. Mr. Parker, gardener to J. Drakes, Esq., Market Rasen, had finely-finished fruit for second place, and was successful in obtaining premier honours for decorations. In the latter he used pink Malmaison carnations with good effect. Mr. J. H. Goodacre, Elvaston Castle, Derby, was third for fruit, and second for decorations. The conditions were the same in the class for six dishes as in that for nine, and in this Mr. Parker was a splendid first for fruit and third for decorations. His clusters of Madresfield Court and Muscat of Alexandria grapes were magnificent, being of immense proportions and perfect in colour and finish. Of high quality also were the melon, peaches, nectarines, and figs. The decorations consisted of bold vases of carnations as a background, and small vases of schizanthus flowers interspersed among the fruit. Mr. J. H. Goodacre was second for fruit and first for decorations, the arrangement of schizanthus sprays being especially tasteful.

Mr. J. H. Goodacre obtained premier honours in the class for four varieties of grapes with large, well-finished bunches of well-known varieties. Mr. W. Parker followed closely for second place, and Mr. T. Ireland was a good third. Mr. T. Sims, Thorpe Satchville, was first for a single dish of black grapes, and in the corresponding class for white grapes Mr. J. H. Goodacre obtained premier honours. Mr. J. H. Goodacre had the best dish of peaches, and Mr. W. Parker staged the finest dish of nectarines.

The display of vegetables was very large, and throughout the quality was fully equal to the quantity. The competition for the prizes offered in the classes for collections was very keen, and in one of those for six kinds there were over a dozen entries. Mr. J. Hudson, Gimson Road, Leicester, again distinguished himself by winning the whole of the first prizes for collections, and in each of his contributions he had produce of which any cultivator might well feel proud. The society provided a class for twelve kinds, and here Mr. Hudson was at the head of the competitors with a tastefully arranged collection, in which the potatoes, onions, cauliflowers, runner beans, and peas were especially noteworthy. Mr. E. Jackson was a good second, and Mr. N. Buxton third. In Messrs. Harrison and Son's class for eight kinds Mr. J. Hudson obtained premier honours with Mr. J. Cauk second. Mr. Hudson was at the head of the large body of competitors in Messrs. Sutton and Sons' class for six kinds, followed by Messrs. F. Dakin, E. Jackson, and Mr. P. Hocart, who were awarded the remaining prizes in the order of their names. Very keen was the contest for the prizes offered by Messrs. E. Webb and Sons for six kinds, and the successful competitors were Messrs. J. Hudson, Mr. Owen Hartshorn, and Mr. N. Buxton.

NON-COMPETITIVE COLLECTIONS.

Contributions to the non-competitive class were numerous and good, and contributed liberally to the interest and attractions of the exhibition. Mr. Walter Bentley, Leicester, exhibited a large and tastefully-arranged collection of roses, and was awarded the silver cup offered for the best non-competitive exhibit. Mr. J. Barrow, Oadby, contributed roses in variety, and of high quality, and was awarded a gold medal.

The end of one of the large rose tents was occupied by a magnificent collection of cut flowers of hardy herbaceous plants, contributed by Mr. F. Bouskill, Market Bosworth, who was awarded a gold medal. The flowers were arranged in large vases on the ground, and produced a surprisingly beautiful effect. Very fine were the gaillardias, phloxes, eryngiums, coreopsis, geums, alstromerias, and chrysanthemums.

Messrs. J. Wright and Son, Leicester, arranged a collection of flowering and fine foliage plants, which filled the end of one of the large tents and produced a rich effect; the award of a gold medal was made. A similar medal was awarded to Mr. C. Warner, Abbey Nurseries, Leicester, for decorative plants in great variety. Messrs. Simpkin and James, Leicester, also exhibited remarkably well, and received the distinction of a gold medal.

Especially attractive and interesting was the remarkably fine collection of sweet peas shown by Mr. W. J. Unwin, Histon, Cambridge. The finest of the varieties, new and old, were represented, and the beautiful novelties attracted much attention. Hardy flowers and sweet peas were splendidly shown by Messrs. Harrison and Sons, Leicester, the firm having among the sweet peas a fine vase of the brilliantly-coloured Stirling Stent.

To this section of the show Messrs. Robert Pringle and Co., Leicester, contributed a large and attractive display of hardy flowers. The same firm also exhibited a fine set of vases of sweet peas. Mr. J. Wilkins, of Syston, arranged a small rockery, which he tastefully planted with alpine plants. Messrs. Macrimmon and Fulton, Leicester, exhibited, not for competition, a large collection of violas, but the style of arrangement was too stiff and formal to show the well-developed blooms to advantage. Mr. G. Underwood, Aylestone Park, Leicester, exhibited sweet peas in variety, arranged in small vases. A remarkably fine collection of these flowers was also shown by Messrs. J. Lamb and Sons, Bingham, Notts, and from Messrs. Jarman and Co., Chard, came a large gathering of the flowers of their fine strain of sweet sultans (centaureas), and a fine lot of cut flowers of zonal pelargoniums.

NATURAL SHADE IN THE GARDEN.

That the position of shade shifts with the passing of the months is a fact not sufficiently recognised and allowed for in garden planning and planting; the bed or border that was sunless during winter becomes visited by genial rays from May to November, and so is fit for the numerous bedding plants that do not need tropical heat, though many perennials would fail there owing to the damp cold of the soil from November back to May. The seat believed to be always in shadow proves to need an awning erected over it to make a rest there enjoyable during summer. The line of shade cast by a row of tall trees is of far less consequence than was supposed. All such details are interesting to the earnest gardener, and well worth putting down in his note book.

One of the most enjoyable kinds of shade is that cast by a fine weeping willow, but we do not plant these trees as frequently as did our ancestors, probably because we seek after more rapid returns for our labour. In one old garden a weeping hawthorn was a delight, beautiful both in blossom and fruit time, with its branches held up by hop poles, and even so almost touching the grass, except where an arch-shaped entrance and exit had been cut. Another feature of the same garden was a shaded parlour made by hollowing out the centre of a majestic variegated holly on a lawn. For dense shade, easy to obtain speedily, the common laurel should be planted on a bank six feet high; if this bank is of semicircular shape so much the better, as the period during which shadow will be cast will be much longer, and a plain rustic bench seat looks so well in the alcove. The sides of the bank should be turfed to within two feet of the top, then harebells, crocuses, and single daffodils may dot the grass, and the soil can be carpeted with pansies on the shady side, violas on the sunny one, among clumps of heather, St. John's wort, London pride, columbines, and tall snapdragons, all hardy enough to dwell comfortably where winds blow.

It should be noticed, and recollected, however, that light, or partial shade, is preferable to dense shadow on many occasions, when a chilly wind tempers sun heat, for instance. Silver birches are seldom planted on lawns, but their exquisite grace and beauty of tint entitle them to such a position. If the ground space permits three birches in a group are as lovely an ornament as can be invented. The colour and elegance of young larches should also be remembered; they can be used in the same fashion, yet look best, perhaps, set in gravel, where their green hue can be fully appreciated by contrast.

A fine way of creating natural shade is one but little practised. Any tall wall that is climbed by ivy or ampelopsis can be made the foundation of a fair arbour by training out the climbers from the top to form a roof, fastening their ends to several hop poles placed a yard or two in front of the wall. The roofing can, of course, be continued all the distance if desired, in which case it forms a kind of leafy colonnade; the effect is more quickly gained by planting a similar climber against each pole.

Wherever an avenue of tall deciduous trees exists the shade should be utilised by setting circular seats round some of the trunks, clearing away a portion of the shrubbery for the purpose; these plain wood benches cost little to construct, and have a better appearance if made of old grey wood and left unpainted. There can scarcely be too many seats with different views and aspects in a garden. Then there is the summer shade that the tallest perennials, hollyhocks, sunflowers, etc., will yield during a few months of the year; why should not a low bench be placed on the north side of a bold group of one of these giant plants? Raised but a foot and a-half from the ground the seat will be comfortable, and protected from the sun's rays.

M. H.

HYDRANGEAS FOR DECORATIONS.

The popularity of Hydrangea hortensia for decorative purposes is a sufficient proof that its merits are fully appreciated by those who have to provide a liberal stock of plants for beautifying the home and the conservatory during the spring and the early months of the summer season. Consequently, there is no occasion to refer to its usefulness, but it may be desirable to briefly refer to the cultural requirements of plants intended for indoor decoration, and to give an illustration of a well-developed example. The plant illustrated was about twenty-eight months' old at the time the photograph was taken, and each of the two heads of bloom was about twelve inches in diameter.

A WELL-GROWN HYDRANGEA.

The propagation of this hydrangea is a very simple matter, as young shoots when they have produced two pairs of leaves form excellent cuttings, which will root nearly, if not quite, as readily as those of a fuchsia. The cuttings should be taken off immediately below the second joint from the top, and have the lower leaves removed. When this has been done insert them singly in small pots, and place them in a pit or house where they can be kept rather close, and screened from sunlight until such time as they begin to make new roots. Need it be said that, when the plants are required to produce good flower heads in the year following strong shoots should be used for propagation, or that where bottom heat is available, the cuttings should have its assistance.

The young plants should be shifted into five-inch pots as soon as the small sixties are filled with roots. A suitable compost is one consisting of fibrous loam four parts, leaf-mould one part, and silver sand half a part. It is not necessary to add decayed manure to the compost, as the plants can be readily assisted with top-dressings of some approved fertiliser, or with liquid manure, as may be the most convenient. They should be kept in a pit or frame throughout the summer months, and if the pots can be partly plunged in a spent hotbed it will be an advantage. Ventilate freely to ensure a firm short-jointed growth, supply liberally with water, and occasionally top-dress with some approved fertiliser, sufficient being applied to thinly cover the surface of the soil.

When the flower buds are formed, remove them from the frame, and place in a sunny position out of doors, the usual precaution being taken to stand the pots on a hard surface to prevent worms entering them. A month or so in the open will ensure the thorough ripening of the wood, and they may then be removed to a frame or cool house, where they will enjoy complete rest. They will not require very liberal supplies of water, but they must have sufficient to maintain the soil in a moderately moist state. Sometimes hydrangeas are kept dry at the roots throughout the season of rest, but this is a mistake, as, in the case of other shrubs, they suffer when kept dry for any considerable period. They may be started in a mild heat in February or March, and when new growth commences shift into six-inch pots, using a compost similar to that advised above.

W.

Everyone interested in a garden should obtain a copy of the Alphabet of Gardening, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price, bound in cloth, 1s. 6d. net, post 1s. 9d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

HIMALAYAN RHODODENDRONS.

The majority of the Himalayan rhododendrons are too tender for general outdoor culture in the British Isles, but in the parts which are not visited by severe frosts a number of species give most satisfactory results. There are, however, one or two kinds which are hardier than the remainder, and of these R. campanulatum is perhaps the hardiest. It may be seen out of doors in many parts of the country, and good-sized examples have been noted in Yorkshire and Northumberland. The parts most suitable for the culture of these plants are, however, to be found in the south-west counties of England, Wales, Ireland, particularly the south and west counties, and the west coast of Scotland, while in sheltered parts of Kent, Surrey, Sussex, and Hampshire some kinds grow well.

The conditions most favourable to rhododendrons are well drained ground with plenty of moisture, a moist atmosphere, and fairly equable temperature. The mist-laden valleys in the vicinity of Falmouth offer ideal homes for these plants, as is instanced by the many fine examples found in the gardens there. In some of these gardens very large collections may be noted, species being well represented, in addition to numbers of the showy hybrids which have been raised from the more or less semi-tender species and those kinds which are suitable for culture in colder parts of the country. The season of bloom in some of these gardens is a long one, and sometimes extends over a period of from seven to eight months.

Although essentially plants for light soil, with a partiality for peaty ground, they may be grown successfully in fairly heavy loamy soil, providing that it is well drained and tolerably free from lime. In the vicinity of Falmouth rhododendrons thrive amazingly in disintegrated granite, which at first sight would hardly strike one as being a suitable rooting medium. This is in the form of stony soil, while granite is present from the tiniest particles to pieces several inches across, much of it, however, being in pieces from a quarter to half an inch across.

Though the flowering period is an extended one, it is probable that the best display in Cornish and South Wales gardens is made during March and early April, for during this time several of the most showy species and their progeny are in bloom.

One of the most common kinds is R. arboreum, which may be met with as a bush ten or twelve feet high, or assuming tree-like proportions, as is instanced in the gardens at Tregothnan and Carclew, near Falmouth, where specimens between thirty and forty feet high may be noted with trunks a foot or more in diameter. R. arboreum is noted for its neat and compact trusses of flowers. The colour varies considerably, for, while the most esteemed forms have blossoms of a rich crimson hue, there are others with rose and white blooms. It has naturally been used as a parent by the hybridist, and some very beautiful hybrids have been obtained, notably by Mr. R. Gill, Penryn. The best forms have usually a silvery under-surface to the leaves.

Another species with rich red flowers and compact trusses is R. barbatum. This forms a large bush, with large green leaves, which are characterised by two rows of stiff hairs on the upper side of the leaf stalk. As a rule mature bushes are from twelve to fifteen feet high.

R. Thomsoni is usually of dwarfer stature than the last-mentioned, though in exceptional instances it grows more than twelve feet in height. Its formal oval leaves stamp it as distinct from other species, whilst its long, tubular, fleshy blossoms, of a rich crimson colour, which are borne in loose trusses, are very showy. Between it and the last-named a very useful hybrid has been raised, which is known as R. Shilsoni. This has the compact trusses of R. barbatum, with the larger blossoms and rich colour of R. Thomsoni. It may be noted that the two species are hardy in the vicinity of London, though the hybrid has been injured by severe frost.

A further rich red-flowered species, which is hardy about London is R. fulgens. This is noted for its compact trusses and its oval foliage, which is covered on the under-surface with a rusty tomentum. Two forms are known, one of which is conspicuous by good-sized blooms, and the other by having flowers which are of a somewhat puny character. R. Falconeri is an eagerly sought after plant, for it is ornamental alike for its flowers or foliage. When mature it forms a large, shapely bush and blossoms freely. At Tregothnan a large bush existed a few years ago, which in a single season carried upwards of 800 trusses of flowers. The flowers are cream coloured and large, and they are borne in shapely trusses six to eight inches deep, and almost as far through at the base. On young, vigorous plants the leaves may be anything up to fifteen inches in length and six inches across, while on older examples they are somewhat smaller. Their principal feature lies in the dense brown felty pubescence which covers the under-surface of the leaves. It is without doubt one of the noblest members of a genus composed almost entirely of showy species, and ought to be in every collection in the milder parts of the country.

In many ways quite as striking a plant is R. grande, for the cream-coloured flowers are borne in even larger trusses, while the leaves are large and handsome. They are, however, quite distinct from those of the last-mentioned species, and are silvery on the under-surface. Mature specimens form very large bushes, and one at Tregothnan has carried 1,200 trusses of bloom in a single season.

Another large-leaved species is R. Hodgsoni. It is remarkable for its strong growth and imposing presence; the flowers are, however, less showy than those of the two last-mentioned kinds, for they are borne in smaller trusses and are purplish in colour.

R. Griffithianum, or R. Aucklandi, as it is frequently called, is another magnificent plant, the blossoms being glistening white and four or more inches across. They are borne in loose trusses, and with great freedom. It has been largely used by the hybridist, and numerous fine hybrids from it, such as Gill's Triumph, Glory of Penjerrick, Dawn, Beauty of Tremough, Kewense, etc., are in commerce.

R. campanulatum approaches R. fulgens most closely in foliage, for the leaves are very similar in shape, while they have the undersides covered with a dense tomentum. The flowers are, however, lilac in colour. A form with white flowers is known, which is exceedingly beautiful.

R. campylocarpum is a comparatively rare species, but one which is eagerly sought after, for it is unique amongst the large-flowered Himalayan species by reason of its yellow flowers. As a rule, it is met with three or four feet high, but larger examples may be noted occasionally. R. cinnabarinum is distinct by reason of its narrow tubular flowers, which may be orange, orange and scarlet, or reddish in colour. The plant is of upright habit, with medium-sized leaves.

R. siliatum differs from the previously-mentioned sorts by being of dense habit, with comparatively short and weak branchlets. The flowers are similar in shape to those of the Indian azalea group of the genus, and are white in colour. It flowers with great freedom and is a most useful plant.

In addition to those already mentioned there are several others of lesser value which may be obtained where a fuller selection of species is required, but those described include the most showy and useful, and would form a good collection for any garden in the southern counties. Further north it would be necessary to set apart a cold house for their culture, and such a house would form a valuable asset to the garden.

Kew. W. Dallimore.

THE MADONNA LILY.

Lilium candidum always imparts a degree of beauty and refinement to a garden when in flower, and in none is its presence more welcome than in that of the cottager, where, under the fostering care of its owner, it generally enjoys a degree of vigour that is painfully lacking in the garden of his more princely neighbour. One of the commonest of lilies, and among the least exacting, it is, however, capricious to the degree that no amount of labour and material will ever obtain from it a favour. Its type of purity is familiar, from its symbolic use in painting and sculpture; its material beauty is known to and enjoyed by a wider circle of admirers than can readily be instanced as the case with any other exotic. The flowers are of the purest white, and bell shaped, the lower ones drooping; they are carried upon stiff, erect, graceful stems, each stem bearing from a dozen to twenty flowers, and are in season during June and July.

This species belongs to the group of lilies producing roots from the base of the bulb only. No stem roots are made. It is a lily that resents disturbance at the root, so that once established, and the bulbs flowering freely, no light inducement should necessitate their removal. It succeeds with a large amount of sunshine, but is generally best in half shade, and will bear the utmost exposure. It flowers year after year at the foot of cottage walls, beside boundary hedges, and in the arid borders of neglected gardens. The soil of the garden appears of less moment to this lily than immunity from disturbance. A good sandy loam, inclined to heaviness, will generally meet its requirements, drainage in winter being an essential.

Planting is best performed early in autumn, as soon as the flower stems ripen being a suitable time; the bulbs are all but buried in planting, and the ground must be made tolerably firm. Early planting favours the development of the radical leaves, which remain evergreen throughout winter, so that the subsequent flowering of the plants is largely influenced by their strength. As a rule, the planting should be done immediately the flower stems have died down. Thomas Smith.

Walmsgate Gardens.

Lonicera sempervirens minor.—This variety of the Trumpet Honeysuckle is one of the best of climbers for the greenhouse, as from spring onwards a succession of its delightful blossoms is maintained. In their scarlet and yellow tints they are brighter than those of most honeysuckles.—W. T.

SEED SAVING.

If it be asked Is seed saving worth while? the answer will in some cases be, Yes; and in others, No. This question is asked, and a partly affirmative answer given, not in a spirit of parsimony, that is, with the idea of saving a few shillings a year, but, rather, assuming one is prepared to spend a certain sum annually on seeds, with the idea of considering how to spend that sum to the best advantage. Most of us have had disappointing experience at one time or another with cheap seeds, on account not only of their poor germinating power, but of their falsity to name. If one were to visit the seed grounds of a third-rate seed grower, what will he see? Beds of pansies, for instance, three parts of which may be more or less fine sorts, but the remainder quite ordinary, or even poor, and as the latter seed much more freely than the former the seed saved from the whole bed will be as to seven-eighths of it or more the produce of varieties of poor quality, even allowing for no deterioration in the seed from the good flowers when grown in such proximity to poor ones. Yet the seed will be dispersed as a fine strain of show, or fancy pansy, to be a disappointment to all buyers of it who know a good pansy when they see it. Or to take another instance, in a bed of French marigolds he will see flowers of various sizes, shades, and markings, and plants of various heights and habits. But if he visits the seed grounds of a good firm he will not fail to notice the remarkably high quality of every flower in a bed of choice pansies. Any plant which is not considered good enough to represent the firm's best strain being at once pulled up; and, the same principle being applied to every seed bed, not only will all the seeds come from plants of varieties of the best strain, but the chances of cross-fertilisation with blooms of others not so good will be reduced to a minimum. When visiting a seed farm some time ago I saw a bed of an antirrhinum in full bloom and producing a beautiful display of colour, but on looking at it closely I noticed there were spikes of various shades of pink, and some difference in the habit of the plants, and I was told that no seed would be saved from the bed. From the above illustrations it is obvious that it does not pay to buy seeds of choice flowers from any but good firms, especially where we want collections of good varieties, and that seed so obtained will often produce better results than any we are likely to get from seed saved by ourselves.

Most of us have at some time or other saved seed from nasturtiums, petunias, marigolds (both calendula and tagetes), wallflowers, primroses, antirrhinums, etc., and we know how, after a year or two, our strain has deteriorated so that little of the original seems left. With florists' varieties, which sport very much—Tom Thumb nasturtiums and Shirley poppies are perhaps two of the most notorious instances—it does not pay to save seed at home for we cannot afford to pull up every plant which is not of the required standard as soon as it comes into flower, and in no other way can we keep a fairly true strain, even if we save seed from selected plants only.

At the other extreme there are flowers which vary so little that we are not likely to get any marked deterioration of strain if we save our seed for two or three years in succession, and many homely flowers might be mentioned as instances of these, such as the old yellow and orange Eschscholtzia californica, cornflowers, canary creeper, sweet sultan, Chrysanthemum coronarium and segetum, Collinsia bicolor, honesty, malope, common mignonette, etc., many of which are almost true species, while others, such as the evening primroses, some of the columbines, sweet rockets, foxgloves, perennial lupins, Myosotis sylvatica, and a host of others, more or less peculiar to certain soils, may be trusted to seed themselves. All we need to do is to pull up occasionally any plant which we see is reverting to a poor ancestor.

Between these two extremes there are some flowers of which we do not want many varieties—as we usually do in the case of pansies, petunias, antirrhinums, Shirley poppies, primroses, etc.—perhaps only one variety, and, moreover, there are some which may be trusted to come fairly true from seed, even when the parent plants have others not so true growing around them. In these cases not only is it economy to save our seed, but we may obtain as good results as from bought seed, possibly better in some cases. With perennial gaillardias, for instance, many like only one kind, the deep crimson with a yellow margin, combined with a not too rambling habit of growth, and we often experience difficulty in getting this by itself when buying seed. But if the first two or three good flowers that come out are marked, and seed saved from them alone, we shall get as many plants as we want of the strain we like best. Similarly with love-in-a-mist, one or two selected flowers will give us as much seed as we want, and that of the best strain procurable, supposing we have got it to start with. In Iceland poppies we are generally satisfied with four or five shades if the flowers are large; and by carefully selecting the seed parents in a good stock we can get as good seed as can be bought. In these two last-mentioned flowers I have obtained a very good strain after several years' careful selection, though the stock was rather indifferent to start with. Pentstemons are another instance in which it will pay to save seed, as we only want the various shades of pink, red, and scarlet, while a packet of mixed seed of florists' varieties often produce too many of the purplish and maroon tints, all, or most, of which we can do without, and many seedsmen do not sell the colours separately. Some years ago I bought a packet of pentstemon seed of large-flowered florists' varieties, the best a leading nurseryman could sell me. The result was a large proportion of Pentstemon barbatus and other small-flowered kinds, and on taking a bunch of flower spikes to the shop where I bought the seed I was assured that they were the result of my bad soil or cultivation!

The above are a few illustrations to show when it is best to buy seed, and that only from a reliable seedsman, and when we may not only economically, but sometimes with advantage, save seed ourselves; when, added to other advantages there is always the possibility that our selection may eventually procure us a strain which cannot be bought because we have originated it ourselves. Many of our choicest florists' flowers have originated in this way.

To revert to the statement at the opening of this article as to spending to the best advantage what we are prepared to spend upon flower seeds, it will be pretty obvious from what has been said that what we have husbanded by saving some of the seeds may be spent with much better results in buying the best seed procurable of those flowers of which it is not advisable for the average amateur to collect the seed for himself, not fighting shy of a half-crown packet if it is necessary to have the best strain, for "we needs must love the highest when we see it." Alger Petts.

CHRYSANTHEMUMS.

Some Seasonable Notes.

Only a part of the season, so far, has been really ideal for these plants. I am quite prepared to learn that many varieties that are naturally early will give cultivators a little surprise this year. Owing to the very cold weather that prevailed during March, April, and May, many varieties did not make their natural breaks in good time--especially the very early sorts. But curiously enough, that grand variety Hon. Mrs. Lopes made the natural breaks with me in very good time. A few of the plants, however, were dilatory in this matter, and so I was enabled to pinch them at will, and thus have specimens which appear to promise crown buds for about August 5 and 12, such buds should, if all goes well with them, develop into fine blooms. Master David was in a hurry to show the first bud, or break, but here again three or four plants were backward, one only, however, being stopped. Master James (a glorious flower) was troublesome in its early stages of growth; persistent bud-formation retarded growth; then the plants made steady progress, and, in due time, about nine were stopped for second crowns; then several more specimens were similarly treated. One, rather early, made a natural break, and this was allowed to grow on, but at the present, by July 16, the shoots were not much more forward than those stopped a week or two after they appeared. Leslie Morrison was very backward, and so all had to be stopped for first crowns. Mrs. Q. Thorne was also stopped for first crowns. Purity, a grand white, made natural breaks, and promises well. That popular variety Mrs. A. T. Miller, was very late in producing the first break. I allowed six plants to break naturally, and pinched twelve others. All are growing very satisfactorily now. The cold winds and rains chilled both soil and plants just before the final potting was done, and Shanklin, Lady Talbot, Reginald Vallis, F. S. Vallis, and Mrs. Q. Thorne lost a few basal leaves.

Feeding.

Some cultivators do not believe in feeding the plants before the buds are "taken," but I think they are few in number. I have always fed the plants judiciously the moment they appeared to require stimulating. It is much better to have a strong plant at the time when the buds show than a weak one. We cannot make weakly plants strong as if by magic. The best specimens are those that are steadily built up, and every cultivator must thoroughly know his plants before he can benefit them by feeding. Some varieties, such as Leslie Morrison, for instance, carry a greater weight of foliage than others, and they need more moisture because of the greater amount of evaporation; and more stimulating food may be given.

A week before, and a similar period after the buds are taken, artificial manures should not be given, but weak doses of liquid manure may be supplied with advantage. Directly the buds begin to swell feed again and continue to do so until the blooms are half developed.

As it is possible that buds will show irregularly in many collections this season, cultivators —- those not much experienced in the growing of blooms for exhibition—must be prepared to hasten and retard their development; and the best way is to begin early enough, and so do it very gradually, as the best results follow.

Bournemouth. G. Garner.

CAMPANULA PUSILLA.

There are several bell flowers of moderate growth that possess much beauty, and are highly attractive when placed under the conditions favourable to their full development, but there are few, if any, that surpass the Small Bellflower (Campanula pusilla) and its varieties. The species is a native of Switzerland, and thrives in the mountain pastures where the herbage is dwarf and scanty, and where the roots can have ready access to liberal supplies of moisture. It may be seen spreading over broad ledges of rock; but invariably low down where the roots have sufficient soil in which to run freely, and have an abundance of water within reach. The Small Bellflower has long been in cultivation in this country, but exactly how long would be difficulty to determine. It was figured in the "Botanical Magazine" (t. 512), as far back as 1801, and in his description of the species, Dr. Sims, the then editor, states that he had "seen this campanula in the Botanic Garden, both at Lambeth Marsh and Brompton, for many years," and he further observes that "it had always preserved its distinguishing features."

Like so many of the plants that have been in cultivation for a considerable period, the Small Bellflower has borne a number of names. By Linnaeus it was considered a variety of Campanula rotundifolia, and is entered in Aiton's Hortus Kewensis as C. rotundifolius var. By Bauhin it was described as C. minor rotundifolia alpina, and by Jacquin it was named C. pusilla, the name under which it is now generally known, and in the "Botanical Magazine," it was figured as C. pumila, the name "by which it has been long known," according to Dr. Sims, "in the botanic garden."

There are two distinct varieties of C. pusilla, one of which is known as pallida, and has pale lavender-blue flowers, and alba, which, as indicated by its name, are white. The flowers of the specific form are deep blue. All the forms are grown with remarkable success by Mr. Constance Elliott, of Six Hills Nursery, Stevenage, as indicated by the fine example of pallida herewith illustrated. A position on the lower ledges in the rock garden is best suited to the display of the charms of the Small Bellflower and its varieties, but the ledge must be large enough to provide ample soil, and so placed that the moisture will be fully equal to the needs of the plants. The best rooting medium is loam, to which a liberal proportion of coarse sand or broken stone has been added.

CAMPANULA PUSILLA PALLIDA.
A charming variety of the Small Bellflower with pale blue flowers, as grown by Mr. Constance Elliott, of Stevenage.

Tricuspidaria lanceolata.—In the West of England this is a delightful outdoor shrub, while in many other parts it needs greenhouse protection. It is a native of the low valleys of Chili and Valdivia, and forms a good-sized evergreen bush whose leaves are peculiarly harsh in texture. The most striking feature, however, is the flowers, which are bell-shaped when expanded, of a bright coral-red colour, and hang suspended by unusually long stalks. The segments are of a very wax-like texture, and before expansion they much suggest ripe cherries. Unfortunately, there is a deal of confusion over the name of this pretty shrub, for it was first known as Crinodendron Hookerianum, then as Tricuspidaria hexapetala. The next change was to Tricuspidaria dependens, a most appropriate name from the drooping character of the blossoms; and, lastly, that at the head of this note. The name of "dependens" is now bestowed upon a white-flowered species whose blooms are really not drooping.—W. T.

MUSHROOMS.

I know it to be a fact that many inexperienced young gardeners are afraid to make an attempt to grow mushrooms except in structures artificially heated. It is certainly a much easier matter to grow them in such places, but elaborately-built houses are not absolutely essential to success, as I have proved during a period of twenty-five years. In that time I have had at my disposal properly-constructed mushroom houses, and in some instances only cool sheds. In these, and in the open air, with the aid of good hotbed material, and, in several cases, only tree leaves, I have grown mushrooms without experiencing a single failure except one partial failure when attempting to grow them in practically all peat moss litter from stables. I will briefly explain how a beginner should work so as to attain success

The hotbed material and the way it should be prepared are very important essentials. Of course, stable manure is the best to use, and with it a small proportion of tree leaves, as the latter induce a steady and lasting heat. Many persons fail because they spawn an ill-prepared bed too soon—while the heat is too high—and then the spawn is destroyed.

The manure must be gathered fresh every morning and spread out thinly in an open shed to partially dry and sweeten. If turned over every morning the rank gases escape, and in this way the manure is sweetened. When sufficient material has been prepared, the bed should be built. But prior to making up the hotbed, throw up the whole of the stable manure into a conical-shaped heap and allow it to remain so for one day and one night, then spread out the material again thinly. Much steam will escape, and so the manure will be finally sweetened.

Having decided upon the position, proceed to make up the bed. Beds may be of any size, but the smallest should measure 4ft. by 3ft., and the largest 12ft. long by 4ft. in width. A very suitable size, however, is an 8ft. long and a 4ft.wide bed. In nearly all cases, where the beds are constructed on floors of sheds, the beds should be flat-topped and 15in. deep at the back, with a depth of 1ft. in front. Where leaves are used they should be added when the bed is being formed. It is a great mistake to remove all the strawy litter from the manure; long straw may be taken out, but the short litter should be left in. Add one barrowload of leaves to three of manure, and thoroughly mix the parts. Shake the manure and leaves lightly over the place where the bed is to be made, and as layer after layer is so put down well tread all so that when all the material is used up the bed will be a very firm one.

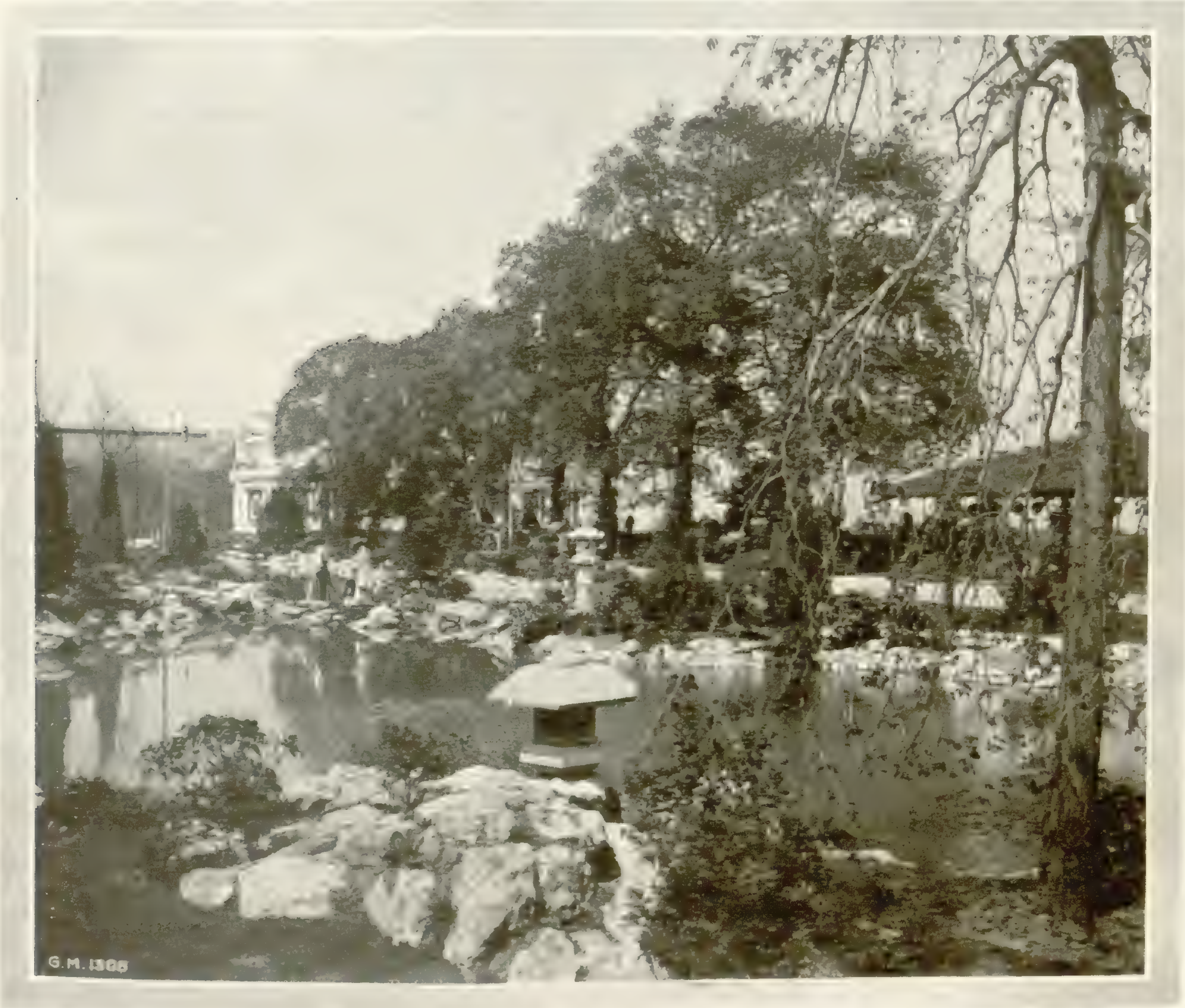
When the heat has reached the maximum, and stands at about 85 degrees on the decline, insert the spawn nearly 2in. below the surface of the manure, and 9in. apart each way. The lumps of spawn should be nearly 2in. square. Beat down the manure again when the spawn is inserted, and follow with a coating of sifted maiden loam 1in. thick. Finally cover with clean straw 1ft. deep. No watering will be required; keep the shed darkened and exclude draughts. In about six weeks' time the first mushrooms will appear. When in full bearing, I like to remove the straw covering in the case of beds in sheds and replace it with sheets of brown paper, as the mushrooms always come pure white under the paper whereas the damp straw stains them. Only water the beds with tepid water if they become dry, but syringe the floor and walls of the shed every day. When the beds have been in bearing for about six to eight weeks, the growth of mushrooms may be stimulated by giving the bed a good watering with tepid liquid manure—from stables, and about the colour of pale brandy—and some salt; the latter being used at the rate of one ounce to a gallon of the liquid manure water.

Beds in the open air may now be constructed. The preparation of the manure and its manner of use should be the same as in the case of beds in sheds; only the beds should be in the form of ridges 4ft wide at the base, and 3ft. high at the ridge. In this case, both a coating of litter and a thatch of straw—and in severe weather, mats—will be necessary.

For beds made of leaves only beech and oak leaves should be used; they must be just slightly damped when the bed is constructed, and I have found it a good plan to put on a layer of maiden loam 3in. deep and insert the lumps of spawn in the centre. Usually, I have noticed that a period of about eight to ten weeks pass before mushrooms appear. Protect these beds in the same way as the others. Outside beds are best made up on the west or north-west sides of walls or fences, but never make them under the branches of trees. G. B.

A CHARMING JAPANESE GARDEN.

In our issue for July 9 we fully described the two Japanese gardens which form such an important and attractive feature of the Japan-British Exhibition at Shepherd's Bush, and in conjunction therewith we gave two illustrations, one of each of the two gardens. As supplementary to these we now give an illustration of another view in the "Garden of Peace," which, as we have already stated, we regard as the most successful of the two examples of the accomplishments of Mr. H. Izawa in the art of garden making in this country. The previous illustration of this garden portrayed Mr. Izawa's skill in the use of running water as a means of scenic effect, and, with the aid of the one given herewith, our readers will have no difficulty in obtaining a clear idea of the characteristic features of a garden designed and constructed in accordance with Japanese ideas, or of appreciating the taste evinced in converting the area into a beautiful garden and the skill shown in the adaptation of the environment to the general design of the enclosure. It is not advisable to repeat the general description of the "Garden of Peace," and we therefore refer our readers to the issue of the date mentioned for information on the characteristics of this delightful example of the landscapists' art as practised in Japan.



[Photo: A. E. Walsham.

GENERAL VIEW OF THE JAPANESE GARDEN, JAPAN-BRITISH EXHIBITION.

Popularly known as the "Garden of Peace."

AMONG THE ALPINE FLOWERS.

"A garden is a lovesome thing, God wot!
Rose plot,
Fringed pool,
Ferned grot——
The veriest school
Of peace . . . ."

Thomas Edward Brown.

"Lovesome," indeed, is the garden, and among the flowers we have in the course of years come to cherish so highly we take much real pleasure in the denizens of the mountains and valleys which, for convenience sake, we call "alpines." These have now, when summer is at its height, no poor task laid upon them. In face of the consummate beauties of the rose, and the many tall flowers of the border at this season, they have to endeavour to hold their own and to continue to give us pleasure. We must all bow to the claims of the Queen of Flowers, and we must all, surely, take inspiration and delight from her perfect charms; but there is no reason why we should not retain a warm corner in our hearts for the quiet beauties which reveal themselves to us in the graceful and ofttimes unassuming alpine flowers. Viewed singly in comparison with the beauties of the rose, their attractions seem few indeed, but in the mass they assume a beauty which appeals ever more to the lover of flowers. The garden without the rose is destitute indeed, but the garden which has plenty of roses and plenty of alpine flowers is more perfect still, as these all give the little pleasaunce features of enjoyment for many months of the year. While bowing then to the claims of the rose, let us see for a few moments what these alpines can give us now.

The Fragile St. John's Wort.

It was not this plant, Hypericum fragile, of which Cowper wrote in his familiar lines:—

"Hypericum, all bloom, so thick a swarm
Of flowers, like flies clothing her slender rods
That scarce a leaf appears."

But at times this little alpine covers itself with bloom as profusely as our native St. John's Worts, and very beautiful is it with its little trailing growth, hardly rising more than a couple of inches above the earth, and making a neat carpet of deep green leaves, of that glaucous hue we see in so many of the hypericums. This carpet is dotted, and at times covered, with handsome flowers more than an inch across and resplendent in yellow, seeming like miniature suns looking upwards instead of shining down upon us. It is a very beautiful little hypericum, and one which seems to be hardy in our climate. It grows in a wall garden well, and shows its beauties to advantage under such conditions; and it is also very beautiful indeed on the ordinary rockery, with its roots well behind the rocks or in a flat pocket of soil, and spreading its neat leaves and showy flowers over the stones, clothing them with Flora's attractions. It appears to be careless of its conditions, but will probably like a soil not too rich, but somewhat hard and dry in summer. A native of Greece, it has not yet come into general cultivation. I do not venture to assert that the treatment I give it is the best, but it is flourishing on a rock garden well up to the sun, in a dryish soil, and facing almost due west. It can be propagated by cuttings or raised from seeds if the latter can be procured.

The Top-shaped Bellflower.

Little apology is required, one thinks, in mentioning again and again such a good campanula for the rock garden as Campanula turbinata, classed by many as a form of C. carpathica, but differing in its dwarfer habit, its neater growth, and in the fact that it has seldom more than one flower on each stem.

The true plant is not so plentiful as it ought to be, and it is always greatly appreciated by those who own it, as we have no little alpine bellflower with upright, open flowers which can surpass it in brightness and beauty, or which is more easily cultivated. It is only a few inches high, and when in full bloom hardly a leaf can be seen for the mass of bright blue flowers. (By the way, the foliage is more hairy than that of C. carpathica). There is, in addition to the blue one, a white variety, which, although not pure white, but tinged with a suspicion of blue, is remarkably pleasing to those who wish a variation from the ordinary colour of the top-shaped bellflower. There is no difficulty to be encountered in cultivating this lovely little campanula, and I have grown it for many years either in the front of the border or on a flat part of the rockeries. In loam, or loam, sand, and leaf-soil, it will flourish perfectly, all it requires being an occasional top-dressing in autumn and spring. It is increased by division, and from seeds. If the plants are in near proximity to other bellflowers hybrid offspring may appear, and I have at present two or three such among self-sown seedlings.

Erica cinerea coccinea.

The ashy-grey heath possesses a considerable number of varieties, and there is hardly one of these which is not of the highest type of the beauty inherent in the ericas. Whatever colour, or shade of colour, they may own all are characterised by beauty, and all are of the greatest service in the furnishing of the garden of alpine flowers. I am selecting for special notice just now, mainly because it seems to have dropped a little out of cultivation and to be undergoing a kind of undeserved obscurity, the pretty variety of Erica cinerea called coccinea. It makes a charming little bush, only a few inches high, of greyish leaves all bedecked with crimson blossoms of high beauty and of a colour distinct from those of its sister-flowers. For brightening up a rockery, these summer and autumn heaths are invaluable, and among them should be included this scarlet-flowered heath, which will grow in loam and does not require the peat so often said to be necessary for these plants.

Other Flowers.

Although there is necessarily some reduction in the mass of floral beauty apparent earlier in the year, there is yet no dullness evident to our eyes as we look over the garden to see its delights. There are masses of sedums, or stonecrops, white, and pink, and yellow, and crimson; there are curious sempervivums, or houseleeks, with clusters of flowers like jewelled stars set at the top of their succulent stems; there are masses of dwarf bellflowers, glowing in the sun of the time; there are yet many helianthemums, or sun roses, bright and effective on the rockwork; there are potentillas, of white and yellow and orange, and brown and scarlet; there are gay erodiums, and geraniums, lithospermums, violas, thymes, thrifts, veronicas, with many other flowers of more or less worth and more or less delight-giving properties to our eyes.

S. Arnott.

For pretty gardens and lovely flowers read The Flower Garden, by T. W. Sanders, F.L.S. An up-to-date work on the formation, planting, and management of the garden, with description and cultivation of flowers and plants adapted for outdoor culture. Price 7s. 6d. net, by post, in box, 8s., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEEDLING ORCHIDS.—Seedling cattleyas of one year and upwards will in many cases have completed their first bulb of the season, and the new roots will be produced from the last-made or developing pseudobulb. At this stage, and more especially at this season of the year, it is desirable that any of the plants requiring more pit room, or where the potting compost needs replenishing, should be attended to without delay. See that ample drainage is given. The potting compost should be of a good lasting nature, especially for the larger plants that are reaching the flowering stage; this will avoid the necessity of disturbing the roots much in the final potting, as they may be transferred to large pots undisturbed if the material is in a good state of preservation. Avoid using much moss. I prefer peat and osmunda fibre in about equal parts with sufficient finely broken crocks intermixed to render the compost porous for the larger sizes. In dealing with smaller plants up to about the second year we find that there is considerable advantage derived by intermixing a liberal proportion of broken leaves and finely-chopped sphagnum moss. These composts should be pressed firm. Carefully shade all freshly-potted plants for a few days from the direct sun and strong light, or the leaves may probably turn yellow and give the plants an unhealthy appearance.

SEEDLING CYPRIPEDIUMS raised from seeds sown during the winter and early spring, particularly those derived from crosses with C. insigne as one parent, will now be developing the second leaf. The young plants may be pricked out several together, or singly in small pots as desired. In raising seedlings the question of housing space quickly arises, and it is well to consider this question at an early stage. There is not much encouragement to raise seedlings if space cannot be afforded for growing them afterwards. Those with any experience will have observed that even from the very best crosses that can be made there are only a very small percentage of desirable varieties, even where large numbers are raised, so that to limit the pricking off of the seedlings to a small proportion narrows down the prospects of getting those which are worth having. Now that orchids can be supplied at the prices of zonal pelargoniums, it is time to look into these matters from a broader basis than the limits of the past. The compost we use for seedling cypripediums are equal portions of fibrous peat, turfy loam, and chopped sphagnum, with sufficient silver sand added to render the compost porous.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

PERPETUAL FLOWERING CARNATIONS.—It will be necessary to secure the shoots to stakes as required. Discontinue the pinching out of the points of the shoots of plants that are required to flower in winter. The best stakes for supporting carnations are thin bamboo points. They are easily obtainable from the sundriesman, and last a considerable time. Syringe the plants occasionally with weak soot water, as this is beneficial to them, and helps to keep down insect pests. Ventilate freely at this season of the year.

MALMAISON CARNATIONS.—One-year-old plants should have a shift into larger pots, those 8 or 9 inches in diameter being a suitable size. Make the soil very firm. After the repotting place the plants in a well-ventilated house or frame, or out of doors in a sheltered position. On no account allow the soil to become saturated with water.

SALVIA SPLENDENS.—The earliest batch may have a shift into their flowering pots, using good turfy loam. Do not allow them to become dry at the roots. Syringe overhead twice daily to prevent thrips or red spider becoming established on the foliage. Free ventilation is essential to the production of robust plants. Pinch back the shoots when the new roots are running freely in the new soil.

CHRYSANTHEMUMS.—These will now have filled their pots with roots and should not be allowed to become dry, and a light top-dressing of some approved artificial manure will be beneficial. The necessary tying of the shoots, taking the buds of the more forward varieties, and the removal of side growths must be attended to. Superfluous shoots must be removed early, and not at the stage when a removal will cause a check. If greenfly be troublesome a dusting of tobacco powder will effect their riddance. Earwigs will now be troublesome, and these must be hunted down, pieces of brown paper crumpled up make useful traps; these should be examined every evening, and the earwigs drooped into a pail of hot water.

SCHIZANTHUSES.—Seeds should now be sown for the purpose of raising plants to bloom in spring, sow in pans filled with light sandy soil, and place the pans in a warm house and shade from bright sunshine. As soon as the seedlings appear, gradually give more light and air to prevent their becoming drawn. When of a suitable size put them into thumb pots, using a rich sandy soil.

REHMANNIA ANGULATA.—A sowing of the seed of this species should be made now for the production of plants for flowering in May next. When shifting the plants into their flowering pots do not use too rich a soil, but pot firmly, so that they will produce compact flower spikes.

CINERARIAS.—Seedlings pricked off into boxes will now require to be put into pots, those 4½ inches in diameter being large enough. When they have filled the soil with roots shift into pots 6 or 7 inches in diameter; use loam, leaf-soil, and sand. After repotting place in cool frame with the pots on a layer of ashes. Keep the ashes well soaked with water, syringe twice daily, and keep a sharp look-out for greenfly; when this is noticed fumigate at once.

CALCEOLARIAS.—A sowing of seed of these attractive flowers should be made at once. When the seedlings are large enough put them singly in thumb pots or boxes, using a rather heavy soil, but one that is quite porous. Good turfy loam and peat well mixed in equal parts makes a good compost.—W. **STAWARD**, Belford Hall Gardens.

THE FLOWER GARDEN.

HERBACEOUS FLOWERING PLANTS still need constant care and attention in the way of needful support to the extra strong growths made during the present season. The heavy rainfall has caused many to make abnormal growths, so that extra care and judgment must be exercised in dealing with them. Hollyhocks should have special care when being secured to the stakes, as they will be injured if secured too tightly at the start. Michaelmas daisies, too, should not be so tied as to present a heavy bunched-up appearance, and nothing tends to destroy the beauty of the herbaceous border more than a stiff. formal manner of staking; all should be done as inconspicuously as possible if a natural appearance is desired.

DWARF ROSES are, in many instances, making very strong growths and showing a second crop of flowers. These should be encouraged as much as possible, and any thin flowerless shoots should be removed. Remove all spent or decaying flowers, and, if needs be, shorten back the growths of H.P.'s that have finished their flowering. On light soils, or when dealing with old-established beds, it is advisable, just at this time, to give the plants extra support in the way of suitable manure—and especially so if no former mulching has been given, or the beds are carpeted with dwarf-growing plants. Climbing and Rambler roses should have their growth loosely secured so as to prevent the young shoots being injured by the wind.

DAHLIAS are now making more satisfactory progress, and regular and constant attention to these will be necessary. If grown for exhibition several stakes will be required for each plant, carefully tying out all growths to the required number, for only by doing this can satisfactory flowers be obtained. During dry weather the soil should be heavily mulched, and liquid manure of some kind be occasionally given. This is a matter, however, requiring a little judgment on the part of the grower, as some varieties do not so readily respond to, or benefit by, feeding so much as others, but the knowledge of this can only be gained by experience when dealing with a multitude of varieties.

THE AUTUMN PROPAGATION of pelargoniums and other bedding plants must soon be taken in hand—in favoured localities the best results are obtained by striking these in boxes placed in the full sun out of doors; in less favoured spots the protection of a cold frame or light, airy greenhouse becomes necessary. It is yet full early to take cuttings of alternantheras, coleus, iresines, and similar plants used for carpet bedding, but for these a warm house, or bottom heat is necessary during the process of striking. Pentstemons and antirrhinums propagate freely in perfectly cold frames; in fact, heat is decidedly injurious. The cuttings of these should be secured as soon as ready, placing them in sandy soil, in deep pans or boxes, or a bed of soil made up in a cold frame or shelter.

IVY EDGINGS to beds or shrubbery borders should have the growths pegged down or shortened back, at the same time taking care to remove all dead or decaying growths; use a knife for this purpose, and so avoid displacing or disfiguring the edgings more than is absolutely necessary. Newly-sown grass plots should be lightly mown with a scythe before any attempt is made to use the mowing machine.—W. **HEDLEY WARREN**, Aston Clinton Gardens.

HARDY FRUITS.

WALL TREES.—Most varieties of fruit trees grown against walls will be swelling their fruits freely now, and these will be greatly benefited by frequent waterings with liquid farmyard manure, alternating it with an occasional application of some approved chemical fertiliser. Fig trees that are carrying heavy crops should receive copious supplies of water to mature and accelerate the swelling of their fruits. Earwigs will become a source of trouble amongst peaches, apricots, etc., as the fruit begins to ripen, and means should be adopted for their eradication. Hollow, dry stalks of the broad bean, or hollow bamboo canes, will be found excellent traps if cut into short lengths and placed amongst the branches of the trees; the traps must be frequently examined, when the earwigs can be shaken or blown out into a paraffin solution or boiling water. All fruits should be exposed to the sun and light as much as possible to assist in the development of high colour and rich flavour. Continue, and finish as soon as possible, summer pruning on all wall trees; these remarks also apply to trees grown in the open quarters. Now is a good time to make careful note of trees that are growing too strongly and form few or no fruit buds, so that root-pruning can be undertaken early in the autumn before the leaves have fallen. Young trees that are bearing heavy crops should have their branches supported with good strong stakes, or if this is not done in all probability many branches will be broken off by the weight of fruit.

RASPBERRIES AND LOGANBERRIES.—Immediately all the fruits have been gathered the old canes should be cut away and the young growths tied loosely and securely to the wires, or whatever supports are used. If the current year's growth appears weak, frequent watering with liquid manure should be given without delay to mature good strong fruiting canes for next season.

ORCHARD TREES.—The turf should not be allowed to grow to within several feet of the main stems, and where it has encroached it should be severely kept back. Trees that are carrying heavy crops of fruit should be given a good dressing of decayed farmyard manure upon the surface soil; this operation will be of the greatest possible benefit both to apple, pear, and damson trees. The grass should be also kept fairly short, either by cutting or grazing. Hedges should be trimmed, and the whole place should be kept as neat as possible. The present is a good time to examine the tree guards, and if any require attention they should be repaired without delay; this is of the utmost importance where cattle and sheep are allowed the free run of the orchard.

FILBERTS AND COB NUTS.—There is every indication that good crops will be general here, although, strictly speaking, this is not an ideal locality for the production of good nuts. The trees or bushes should be examined, and all suckers removed; a good dressing of farmyard manure or decayed vegetable refuse, and liquid stimulants applied to the roots is essential to the production of good fruits. — **HENRY R. FARMER**, Cardiff Castle Gardens.

PHYTEUMAS.

Among the hardy plants deserving extended appreciation are the phyteumas, a genus included within the natural order Campanulaceæ, but whose general character scarcely betrays this affinity.

Of Phyteuma orbiculare Nicholson says, "It is found in pastures and by roadsides on a chalky soil," a statement that virtually contains the key to the genus, as all the species appear to find their requirements supplied when grown in chalk or limestone soil. The flowers are collected into either rounded or spherical heads, and are carried upon slender unbranched stems.

Of the taller species P. betonicæfolium has ovoid spikes of blue flowers, carried upon twelve-inch stems. P. Micheli grows to a height of eighteen inches: the flowers are blue, in ovate spikes. P. orbiculare has blue flowers in close, round heads, on stiff stems, some twelve inches high. P. Scheuchzeri produces deep blue flowers in spherical heads. P. comosa is a dwarf species, and generally regarded as capricious, as it is sometimes difficult to establish: it is both pretty and interesting, and worth almost any effort to secure its well being. Success is most readily secured from strong seedlings if planted out late in spring; the flowers are blue and tube-like, and are borne in umbel-like heads supported by loose stems. P. Halleri has dark violet flowers in oblong heads, and P. Sieberi has flowers of a deep blue in heads of spherical form; both are dwarf in habit.

The flowering season of phyteumas extends from May till August: on the commoner kinds belated blossoms may be found much later. Considerable variety is noticeable in the foliage of the different species, and, being deciduous, is always most refreshing in spring when the new growth is developing: the radical leaves form dainty mounds through which the flowering stems emerge. Phyteumas readily fall a prey to slugs and mice, unless early measures be taken to prevent their attacks. The latter, in particular, are most destructive. The best means of increasing phyteumas is by seed, which germinates freely, the seedlings soon forming good plants, and are suitable for planting on rock gardens, employing the taller kinds on the bolder parts, and yielding positions near the eye-level to the dwarf kinds. They succeed in good garden soil freely mixed with sand, and the position should be well drained and open to the sun.

THOMAS SMITH,
Walmsgate Gardens.

EXHIBITIONS AND MEETINGS.

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Leeds, JULY 26-28.

It is apparently becoming the general thing for agricultural societies to introduce horticulture as a separate branch of their shows, and certainly such an addition is by no means out of place. The Yorkshire Agricultural Society tried the experiment for the first time this week, and having placed the management of the section in the hands of Mr. Peter Blair, who, as usual, worked hard and enthusiastically, the first flower show of the society was distinctly successful. Roundhay Park was the venue of the show, and the exhibits were accommodated in three big tents, in one of which were the big groups, roses, sweet peas, etc., and in the second the cut-flower classes and trade exhibits. The third tent was occupied by the great array of wild flowers exhibited by the school children of the district.

GOLD MEDAL COLLECTION OF ORCHIDS.
Exhibited by Messrs Mansell and Hatcher, Lim., Rawdon, Yorks, at the Leeds Show.

GROUPS.

Five magnificent groups proved the centre of the largest tent, and were of course the great attraction to everybody who visited the show. 350 square feet space had to be covered, which means a big group. The winners of the first prize were Messrs. J. Cypher and Sons, Cheltenham, who had a beautiful arrangement of choice foliage plants, among which were placed orchids of many kinds, liliums, Clerodendron fallax, some small ericas, etc. Over a wide arch in the background was a splendid Kentia, supported on either side by crotons. The sides and corners of the group were furnished with particularly good crotons, while variety of foliage was supplied by alocasias, caladiums, ferns, and a few Cocos Weddelliana. Mr. J. Donoghue, gardener to M. Pickersgill, Esq., Garden Hill, Leeds, secured second prize, his group taking the form of a bed of richly-coloured foliage, out of which rose taller crotons, etc., and flowering plants. Begonia Rex was freely and well used, and over the carpet of verdure the sprays of odontoglossum, oncidium, and other orchids showed up to good advantage. Hiawatha rose rambling round the stems of a fine palm made the central background, good dracænas and silver maples being also used. Third prize went to Mr. Curtis, gardener to James Blacker, Esq., Selby. Here one felt the need of a few larger plants to break away from the rather uniform, although very nice arrangement.

Messrs. Cypher scored for twelve stove plants, showing their huge bougainvilleas, ericas, allamandas, etc., in their usual good style. Mr. J. S. Sharp, Huddersfield, secured second place. Messrs. Stuart Low and Co., Bush Hill Park, Middlesex, were the only competitors in the class for a collection of orchids occupying 100 square feet. They had nice examples of Odontoglossum Pescatorei, O. Williamsianum, Cattleya Gaskelliana, and a number of choice oncidiums.

ROSES.

Messrs. Alex. Dickson and Sons, Lim., Newtownards, won for twenty-four distinct roses with a stand of very large blooms. Messrs. G. Gibson and Co., Leeming Bar, received second, and the third place was taken by Mr. T. Park, Bedale. Messrs. Dickson again led for twelve varieties, showing William Shean, Lady Barham, and other popular varieties. Mr. T. Park secured second in this class, Messrs. Gibson and Co. being the followers.

In the class for twenty-four varieties, from which the trade were excluded, the premier place was allotted Mr. Park. His blooms were a level and clean lot, the varieties being of the best. Mr. B. Mawson, Roundhay, Leeds, was second. For twelve blooms Mr. Park still led, this time being followed by W. S. Heslington, Esq., Ripon.

SWEET PEAS.

Mr. Robert Bolton, Warton, Carnforth, staged a first-rate collection of sweet peas, which was easily first in the class for a collection arranged on 20ft. by 5ft. tabling. Nancy Perkins, Tom Bolton, King Edward Spencer, and Mrs. C. Foster were among the best, and were shown in imposing masses.

Messrs. Aldis and Rowntree, 3, Albion Street, Leeds, followed Mr. Bolton, their peas being also good, but there was room for improvement in the style of staging.

A class was provided for eighteen vases of sweet peas, and the winning exhibit was that of Mr. W. S. Heslington, Yore Gath, Littlethorpe, Ripon. Among his best varieties were Mrs. Hugh Dickson, Mrs. Hardcastle Sykes, The Marquis, and Paradise Ivory. Second prize was awarded Messrs. G. Longster and Son, The Nurseries, Malton, who also had some of the most popular peas in cultivation. Mr. Heslington again scored in the class for twelve bunches, showing Elsie Herbert, Maggie Stark, Evelyn Hemus, and a good vase of Violet Heslington. Mr. G. F. Brotherston, gardener to W. F. Samuelson, Esq., Brockenbrough Hall, Thirsk, was second in this class, the arrangement falling short of that in the winning group. Similar classes to the foregoing were provided for private growers only, and for 18 vases Mr. Brotherston came in for chief honours. His spikes of Constance Oliver, Helen Lewis, Marjorie Linzee, Mrs. H. Bell, and others were fine examples of good cultivation. The second award was made in favour of Mr. S. Shackleton, Keighley, Mr. W. S. Heslington taking third place. Mr. J. B. Harper, York, scored first with the twelve varieties, showing capital flowers, nicely arranged. Mr. S. Shackleton secured second, and was followed by W. S. Heslington for third place.

Mr. C. F. Waters, Balcombe, Sussex, was worthily awarded first in the class for a collection of cut carnations occupying a space of 12ft. by 5ft. His flowers of Winsor, Aurora, Victory, and other popular perpetuals were very fine, and a number of good borders finished off the front. Messrs. Blackmore and Langdon, Bath, came second, good border varieties predominating on their stand, although a good centre was made with Mary Vilven, a cherry-carmine perpetual. Mr. A. F. Dutton, Iver, Bucks, was awarded third prize. In the smaller class Mr. J. Barker, gardener to the Duke of Newcastle, won, showing some Malmaisons of capital quality.

Messrs. Blackmore and Langdon, Bath, scored well in the class for begonias, their group containing some exceedingly fine examples of the flowers they grow so well.

A gorgeous bank of hardy flowers was formed by the entries to the class for a collection of hardy perennials occupying 15ft. by 5ft. Messrs. Harkness and Sons, Bedale, led off with great bunches of salmon poppies,

SANDY (BEDFORDSHIRE).
42nd ANNUAL SHOW, AUGUST 25, 1910.
PLANTS, FLOWERS, FRUIT, VEGETABLES, Etc.
DOGS, POULTRY, PIGEONS, RABBITS, and CATS.
PRIZES VALUE £1,000.
Ten Stove and Greenhouse Plants, £8, £7.
Groups, £10, £9, £8.
Entries close August 18.
Schedules and particulars of W. GREEN,
Secretary, Sandy.

SHEFFIELD CHRYSANTHEMUM
SOCIETY'S SHOWS
Will be held in the CORN EXCHANGE,
FRIDAY and SATURDAY, September 16 and 17;
FRIDAY and SATURDAY, November 11 and 12.
OVER £300 OFFERED IN PRIZES.
Schedules and all particulars on application from
C. COOK, Secretary, City Road, Sheffield.

THE FOUR NORTHERN COUNTIES, FRUIT CONGRESS and SHOW, HEXHAM, 20-22 October, 1910. Particulars of space for Trade Exhibits from the General Secretary, Rev. J. BERNARD HALL, Hon. F.R.H.S., Dalston, Cumberland.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

early gladioli, several fine verbascums, and choice liliums. Messrs. G. Gibson and Co., Leeming Bar, were second, their group including Malva moschata, good gaillardias, and a few late delphiniums.

FRUIT.

Mr. J. H. Goodacre, gardener to the Right Hon. Earl of Harrington, Elvaston Castle, secured first prize for a collection of twelve varieties of fruit. His peaches and nectarines were good, as also his dish of Lady Sudeley apple. Mr. J. Barker, gardener to the Duke of Newcastle, was second, James Grieve apple and Madresfield Court grape being good dishes. Mr. Barker also led in the class for black grapes, and Mr. Goodacre scored for peaches, green-fleshed melon, and nectarines.

THE NON-COMPETITIVE SECTION

was strong, and did much toward making the show. Messrs. Mansell and Hatcher, Lim., Rawdon, Leeds, put up a big and very beautiful group of orchids; vandas, odontoglossums, and oncidiums were conspicuous, and some good sprays of Renanthera Imschootiana, and Epidendrum vitellinum majus made distinct notes of colour. The arrangement of the whole group was very tasteful. Messrs. Stuart Low and Co., Bush Hill Park, staged a small group of choice perpetual carnations, also Lyon and a few others of the newer roses. Good vegetables, hardy flowers, and sweet peas were staged by Messrs. Geo. Massey and Sons, Spalding, who also put up a capital batch of Lilium testaceum, the colour and form of which were very good.

Messrs. Alex. Dickson and Sons' extensive display of roses received a full share of attention from the visitors. The table was occupied by specimen blooms representative of the best of the H.P. and H.T. sections, whilst bamboo stands of choice garden roses made up the background. Messrs. H. B. May and Sons, Edmonton, brought a group of choice ferns, Nephrolepis Marshalli and Polypodium Mayi being among them. Messrs. Aldis and Rowntree, 3, Albion Street, Leeds, put up a big group of hydrangeas, liliums, heliotropes, and other greenhouse subjects. Mr. F. J. Bell, Crescent Nursery, Whitley Bay, showed violas and sweet peas in considerable quantity and variety.

Messrs. Wm. Conway and Sons, Halifax, staged herbaceous flowers, and Messrs. R. H. Bath, Lim., Wisbech, had a big stand of sweet peas, phloxes, roses, and carnations. Mr. H. N. Ellison, West Bromwich, put up nephrolepis, Polypodium glaucum crispum, Cyrtomium Rochfordi, and a host of other choice ferns. Mr. Chas. W. Breadmore, Winchester, brought up a very attractive lot of sweet peas.

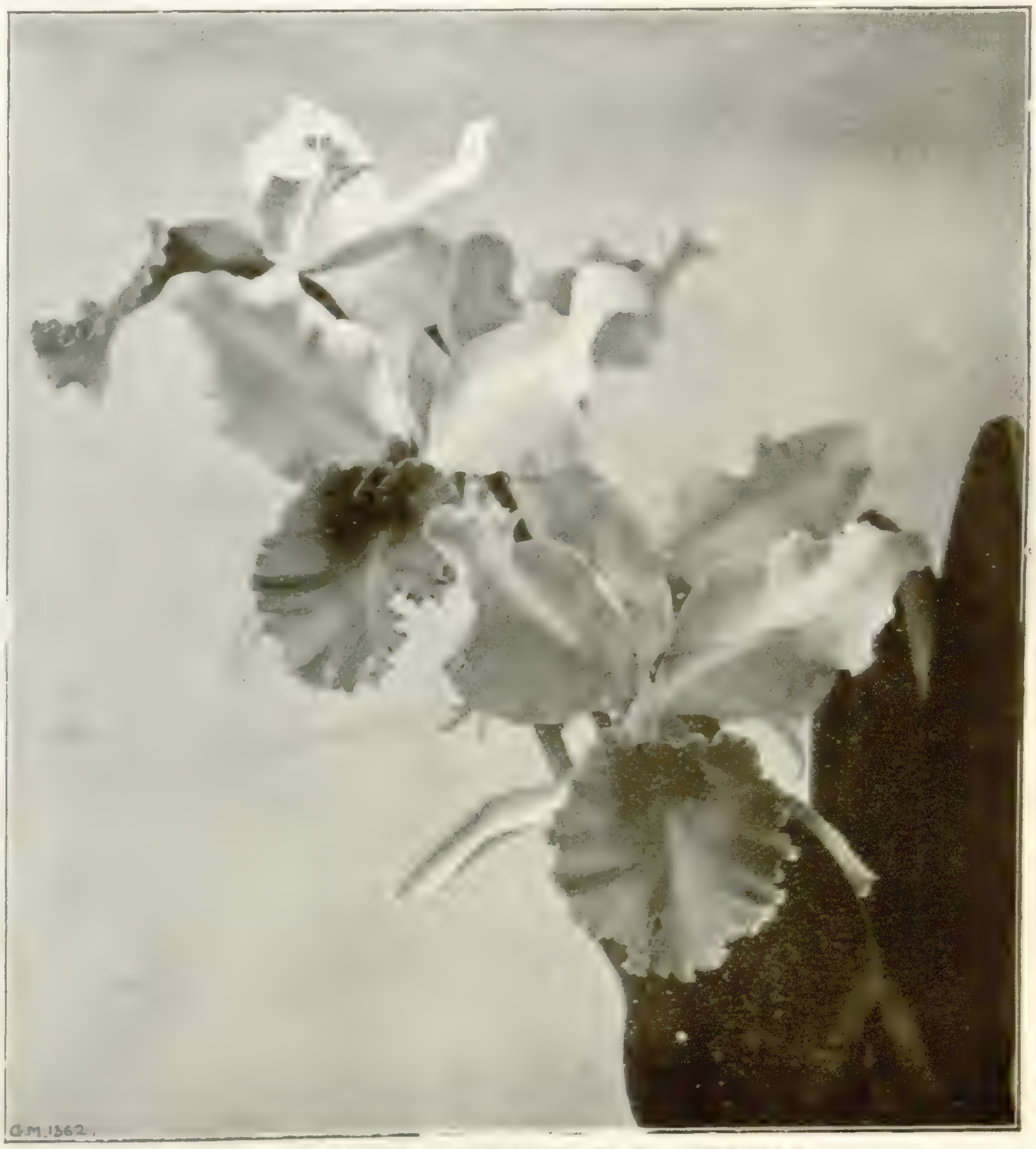
A large and excellent collection of pot fruit trees was staged by King's Acre Nurseries, Lim., Hereford. In addition to peaches and apples there were canes of the loganberry, cordon currants, and gooseberries, and some grapes. A varied collection of herbaceous flowers was staged by Messrs. W. and J. Brown, Stamford, and a new scarlet zonal, named Rising Sun, was exhibited by Messrs. J. Firth and Sons, Avenue Nursery, East Keswick. It looks like being a good bedder, having a habit similar to the old F. V. Raspail. Garden roses came from Messrs. Clibrans, Manchester. The group of all the newer crested nephrolepis, arranged by Messrs. E. J. Batchelor and Sons, Harrogate, was made up of large, well-developed specimens, which showed the full beauty of these elegant ferns. Some nice roses were shown by Mr. Arthur H. Rigg, Shipley Glen, Baildon, Yorks. Baby Dorothy, Dorothy Perkins, and other of the new polyanthas were shown, and a vase of Madame Ravary was very good. A group of carnations in pots was arranged across the end of a tent by Messrs. Kent and Brydon, Darlington. A few palms and ferns were used to set off the flowers, the varieties exhibited being of the best. Messrs. G. Gibson and Co., Leeming Bar, put up a group of herbaceous flowers, among which delphiniums were very strong for so late in the season.

MEDALS.

Gold.—Messrs. Alex. Dickson and Sons, Lim., Newtownards, for collection of new roses; Messrs. Mansell and Hatcher, Lim., Rawdon, Leeds, for orchids; King's Acre Nurseries, Lim., Hereford, for fruit trees; Messrs. H. B. May and Sons, Edmonton, for ferns.

Small Gold.—Messrs. R. H. Bath, Lim., Wisbech, for miscellaneous cut flowers; Mr. C. W. Breadmore, Winchester, for sweet peas.

Silver.—Messrs. George Massey and Sons, Spalding, for cut flowers; Mr. F. J. Bell, Crescent Nurseries, Whitley Bay, for violas and sweet peas; Messrs. G. Gibson and Co., Leeming Bar, Bedale, for hardy flowers; Messrs. W. Conway and Sons, Lim., Halifax, for herbaceous flowers; Messrs. Clibrans, Altrincham, for roses; Mr. H. N. Ellison, West Bromwich, for ferns; Messrs. Stuart Low and Co., Bush Hill Park, Middlesex, for roses and carnations; Messrs. W. and J. Brown, Stamford, for herbaceous flowers; Messrs. E. J. Batchelor and Sons, Harrogate, for nephrolepis; Mr. Arthur H. Rigg, Ardyrig Nurseries, Baildon, Yorks, for roses; Messrs. Kent and Brydon, Darlington, for group of carnations, etc., in pots.



CATTLEYA WARSCEWICZI VAR. OTHELLO.

Flowers rich purple, crimson purple and gold; A.M., R.H.S., August 2; from Lieut.-Colonel Sir George Holford, Westonbirt, Gloucester.

Royal Horticultural Society.

AUGUST 2.

We have on previous and similar occasions pointed out the undesirability of holding an exhibition of the Royal Horticultural Society on the day following August Bank Holiday. We need not labour the point, for if the poor display of August 2 is not sufficient condemnation nothing ever will be. It was a small show, and a poor one, and some of the exhibits were distinctly unsatisfactory. Visitors were few, and many of the regular attendants wished they had stayed away. Instead of the usual half-crown, the admission price was reduced to 6d.

FLORAL COMMITTEE.

Verbascum Caledonia and the golden-yellow Verbascum Harkness' Hybrid Yellow were both splendidly shown by Messrs. Harkness and Sons, Bedale, each variety being represented by a dozen vases of finely-developed spikes; some good gaillardias were also included in the exhibit. Mr. Frank Lilley, Guernsey, contributed a few choice gladioli, and a mound of spikes of the graceful Sparaxis pulcherrima.

The new Cosmos Rose Queen was once

again exhibited by Messrs. Dobbie and Co., Edinburgh, and with this were some very brilliant pot marigolds, their Orange King and Sulphur Queen being unusually fine. The scabious and the flowers of Dimorphotheca aurantiaca, and the rosy and apricot-coloured snapdragons from the same firm were highly meritorious. Mr. W. Wells, Merstham, staged phloxes in great variety, including the white Frau Antonin Buchner (A.M.), lupins, delphiniums, gaillardias, and violas. Messrs. Jas. Veitch and Sons, Chelsea, had a quite small exhibit of annual chrysanthemums, marigolds, candytuft, lupins, and the brilliant Newbury Gem pentstemon. Scarlet Perfection, a deep red border carnation, was shown by Mr. Walter Easlea, Eastwood, Essex. The display of border carnations made by Mr. Chas. Blick, Hayes, Kent, was greatly admired; the flowers were of fine size and well staged in vases. Doris, Jas. Quin, Father O'Flynn, Silvia, Prince Arthur, Grand Duke, Thais, Pasquin, Ronny Buchanan, Sidney Carton, and Captain Scott were yellow ground varieties, all finely represented in this handsome group. Mr. Jas. Douglas, Great Bookham, Surrey, showed several new carnations, the chief of those being Mrs. J. A. Reynolds (A.M.), a bright golden apricot self; and Forester (A.M.), a yellow-ground fancy, very bright, with light scarlet flakings.

In the group of phloxes and varieties of Chrysanthemum maximum, shown by Messrs. Paul and Son, Cheshunt, the latter were very conspicuous. C. m. The Speaker was the largest form, and is of immense size; C. m. G. Sage, C. m. Duchess of Abercorne, C. m. M. Prichard, C. m. King Edward, and C. m. Mrs. J. Fersturg made up a very fine set of these useful flowers. Messrs. Jas. Kelway and Son, Langport, displayed a tableful of gladioli, in a great range of colouring; Kipling, Cornishman, Earl Compton, Walpole, Sir Horace Plunkett, Orby, and Conway Seymour were a few of the most striking varieties in this handsome set. The same firm had a few pyrethrums and gaillardias, and also some delphiniums. Mr. G. Reuthe, Keston, and the Guildford Hardy Plant Company, Guildford, exhibited hardy flowers freely, the former including Campanula Moerheimi, Stenanthemum robustum, Isatis glauca, and Veronica longiflora subsessilis. Campanula isophylla, C. i. pallida, C. i. Mayi, C. i. alba, and C. i. superba were all shown prettily by Messrs. H. B. May and Sons, Edmonton, as pot plants, growing both pendulously and staked erect; with these were choice ferns, and a few ixoras.

FIRST PRIZE GROUP AT NORTHAMPTON FLOWER SHOW.

Exhibited by Mr. J. W. Macdonald, gardener to Sir H. Kenrick, Whetstone, Edgbaston, Birmingham.

ORCHID COMMITTEE.

Mr. E. V. Low, Vale Bridge, Hayward's Heath, presented a small group of select orchids that included Cattleya Pittiana, but nearly all the plants were packed up and had disappeared by 2.30. Mr. Maurice Mertens brought over a few choice odontoglossums from Ghent, but evidently thought it not worth while to keep them on view, and these had also disappeared at the above hour. A splendid specimen of Oncidium incurvum, carrying two dozen spikes of its small and elegant flowers, was brought up by Mr. W. H. White, orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, and most deservedly secured for its grower a cultural commendation.

Mr. G. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, showed Odontioda Goodsoniæ var. Herberti, of good colour, and Odontoglossum crispum Herberti. Mr. Stables, gardener to De Barri Crawshay, Esq., Rosefield, Sevenoaks, brought up a pale yellow form of Odontoglossum ardentissimum, the handsome O. Astarte, and O. Nerissa, the latter a cross between O. nævium and O. crispum, and something like O. Phœbe in general appearance. Mr. H. Alexander, orchid grower to Lieut.-Colonel Sir George Holford, Westonbirt, Gloucester, showed Cattleya Warscewiczi var. Othello (A.M.), a splendid variety with deep-hued lip and sepals and petals of unusually rich purple colour.

FRUIT AND VEGETABLE COMMITTEE.

From the society's garden at Wisley a number of vegetables that had been on trial there were brought up, and Awards of Merit granted at Wisley were here confirmed, as follows: A.M. to cabbage lettuce Supreme, Messrs. Sutton and Sons; cabbage lettuce Icehead, Messrs. Barr and Sons; cabbage lettuce Heartwell, Messrs. Sutton and Sons; cabbage lettuce Green's Favourite, Messrs. Barr and Sons; and cabbage lettuce, White Favourite, Messrs. Barr and Sons; kidney potato Faithlie, Messrs. W. Smith and Sons, Aberdeen; potato Selected Ashleaf, Messrs. Barr and Sons; potato Walker's Seedling, Messrs. Brewer; potato Den's Favourite, Messrs. Den; pea Prince of Peas, Messrs. Sutton and Sons; pea Prestige, Messrs. Jas. Veitch and Sons; and pea Moneymaker. (?)

Improved Winningstadt cabbage was famously shown by Messrs. Dobbie and Co., and is a splendid summer variety of handsome appearance; the beautifully curled Victoria kale was also submitted. Messrs. S. Spooner and Sons, Hounslow, showed a box of picked fruits of Early Red Margaret apple.

AWARDS OF MERIT.

To Cattleya Warscewiczi var. Othello, from Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester; to Carnations Mrs. J. A. Reynolds and Forester, from Mr. Jas. Douglas, Great Bookham; to Phlox Frau Antonin Buchner, from Messrs. W. Wells and Co., Merstham; and the vegetable awards above noted.

MEDALS.

Neither the Orchid or the Fruit and Vegetable Committee granted any medal awards.

Silver-Gilt Banksian.—To Mr. Chas. Blick, Hayes, Kent, for carnations.

Silver Flora.—To Messrs. J. Kelway and Son, Langport, for gladioli; to Messrs. H. B. May and Sons, Edmonton, for campanulas and ferns.

Silver Banksian.—To Messrs. Dobbie and Co., Edinburgh, for annuals; to Messrs. Paul and Son, Cheshunt, for phloxes and herbaceous chrysanthemums.

Bronze Flora.—To Mr. G. Reuthe, Keston, for hardy flowers; to Messrs. W. Wells and Co., Merstham, for phloxes.

Bronze Banksian. — To Guildford Hardy Plant Company, Guildford, for hardy flowers.

Northampton, AUGUST 3 and 4.

The second exhibition held by the Northampton Municipal Horticultural Society in Abington Park, on the above dates, was a far more extensive one than the first; indeed, so extensive was it, and so few of the entrants fell out that the committee had much difficulty in providing sufficient space for the exhibits. This caused a great deal of delay, and instead of having the tents cleared for judging by eleven o'clock, judging could not begin until twenty minutes to one, and there always seemed to be many persons present in the tents besides the officials.

Ten tents were filled with horticultural produce, one with honey, and one with poultry and birds. The cottagers' exhibits quite overran the space provided, and many of the vegetables had to be laid out on the grass outside the tents. The prospects for a great show at Northampton are particularly rosy, therefore we hope that another year Mr. Palmer, the secretary, and the committee and stewards will be able to provide more tent room, and insist that the virtue of punctuality is practised.

A schedule of 176 classes, and about £300 in prize money were provided. The weather on the opening day was not of the best, heavy showers and wind storms being interspersed with bursts of hot sunshine.

A FINE GROUP OF DAHLIAS AND SWEET PEAS.
Staged by Mr. S. Mortimer at the Northampton Flower Show.

GROUPS AND PLANTS.

In the large open class for a group arranged on 160 square feet, there were three competitors for the prizes of £15, £10, and £5 respectively. Premier award fell to Mr. J. H. Macdonald, gardener to Sir H. Kenrick, Bart., Whetstone, Edgbaston, Birmingham, who put up a charming group in which a low arch was the central feature; this was surmounted by a Kentia, and clothed with Selaginella, crotons, Francoa ramosa, and Fuchsia triphylla. The latter plant, so well grown by Mr. Macdonald, figured in the lower part of the display, being associated with crotons, francoa, and liliums in the corner mounds. Crotons, Rex begonias, aralias, a central colony of dwarf ixoras, and Oncidium flexuosum formed the base of this attractive design. Mr. W. Vause, Leamington, was awarded second prize for a good exhibit that lacked the lightness of Mr. Macdonald's. Lilium speciosum, crotons, Strobilanthes Dyerianus, and dracænas were the principal plants used. Messrs. Thos. Perkins and Sons, The Drapery, Northampton, was placed third.

In the smaller group class Mr. J. H. Macdonald was again first, and here he had a lower and more formal arrangement, with Fuchsia triphylla, Oncidium flexuosum, begonias, caladiums, and brilliant crotons tastefully disposed around a spreading central Phœnix. Mr. G. Hallett, gardener to Sir Thos. Hesketh, Bart., Easton Neston, Towcester, second; and Mr. J. Holland, gardener to F. Bostock, Esq., Springfield, third.

Mr. G. Clark, gardener to Miss Waterton, Billing Hall, secured first place for six exotic ferns with fine examples of Nephrolepis exaltata, N. Piersoni, Adiantum Farleyense, A. Mariesi, and A. decorum; Mr. J. Sherman, gardener to Lord Annesley, Holdenby House, second, and Mr. J. Holland third. Mr. David Hollowell, Whiston, scored for three fuchsias with low spreading bushes full of flower; Mr. J. Barkway, Lower Ilwift Street, second. Mr. Holland led for double begonias with medium-sized specimens. Mr. W. T. Rollings, St. John's Hospital, Weston Favell, had the best three pelargoniums, and was very closely followed by Mr. J. Sherman. The latter was placed first for three caladiums, but was second to Mr. G. Clark for three coleuses, the latter showing big, well-furnished, and brightly-coloured specimens.

CUT FLOWERS.

Messrs. Harkness and Co., Hitchin, scored for two dozen roses, distinct, with very clean blooms of Caroline Testout, Comte. de Raimbaud, Lyon Rose, Bessie Brown, Dean Hole. Mildred Grant, etc.; Messrs. G. and W. H. Burch came second; and Mr. Henry Drew, Longworth, third. For a dozen blooms, Mr. F. M. Bradley, Peterborough, scored with fine flowers of Lyon Rose, Comte. de Raimbaud, Queen of Spain, Florence Pemberton, Mildred Grant, Dean Hole, Hugh Dickson, etc.; Mr. Henry Drew, second, and Messrs. Harkness and Co., third.

Mr. W. T. Mattock, Headington, Oxford, scored for a dozen tea roses, and, for the time of year, he had a fine box that contained Boadicea, Muriel Grahame, Golden Gate, Media, Perle des Jardins, Mrs. E. Mawley, Mrs. Myles Kennedy, Bridesmaid, and White Maman Cochet; Mr. H. Drew, second.

In the amateurs' section for roses Mr. G. Speight, Market Harborough, scored for six tea roses: Mr. E. B. Lindsell, Bearton, Hitchin, for four trebles, and for twelve blooms, distinct; and Mr. Speight for eighteen blooms. Mr. J. Holland and Mr. W. T. Rollings won prizes of a lower order of merit.

Premier award for a dozen vases of carnations was won by Mr. C. F. Waters, Balcombe, with good flowers of Aurora, Rose Pink Enchantress, Red Lawson, Enchantress, Edith Waters, Harry Fenn, White Enchantress, Mrs. T. W. Lawson, Winsor, Ceres, Mrs. H. Burnett, and Victory; Mr. A. R. Searle, gardener to the Marquis of Northampton, Castle Ashby, second.

Mr. Hallett led the way in the class for two dozen bunches of sweet peas with a beautiful clean set of America Spencer, Helen Lewis, Senator Spencer, Elsie Herbert, Constance Oliver, The King, Paradise Ivory, Clara Curtis, Marjory Willis, etc.; Mr. A. R. Searle, second, and Mr. S. Cole, gardener to Earl Spencer, Althorpe Park, third. For a dozen bunches of sweet peas, Mr. Silas Cole was to the fore with clean, bright flowers of Mabel Cole, Constance Oliver, Earl Spencer, Gladys Cole, Miriam Beaver, Althorp White, Silas Cole, John Ingman, and Seafoam; Mr. G. Hallett, a close second; and Mr. A. R. Searle, third.

Mr. Searle had the finest set of a dozen bunches of hardy flowers, his best examples being gaillardias, Helenium pumilum, Lilium speciosum, Galtonia candicans, phloxes, and campanulas; Mr. E. Palmer, King Street, Kettering, second.

FLORAL ARRANGEMENTS.

The best wreath was a design worked out in Lilium longiflorum, lily of the valley, roses, carnations and a few cattleya blooms by the Messrs. T. Perkins and Sons, The Drapery; Messrs. Yarde and Co., Wellingborough Road, second; and the Messrs. James, 35, York Road, third. The Messrs. James had the best cross of flowers, arranged with a base of liliums and croton leaves; in the same class Messrs. Yarde and Co. came second with a large design of "The Gates Ajar" style, worked chiefly in stocks, asters, and liliums.

Miss W. Timms, Aylesbury Street, Fenny Stratford, had the best bridal bouquet; Messrs. T. Perkins and Sons, second, and Messrs. Yarde and Co. third. The Messrs James led for a hand bouquet with a design in Mdme. Abel Chatenay roses. Mr. J. W. Timms coming second with cattleyas and odontoglossums, and Messrs. W. and J. Brown, Peterborough, third with yellow roses.

Mr. S. J. Cole, Green Lane, Wolverton, was placed first for a table decoration with a pleasing design in Constance Oliver and Evelyn Hemus sweet peas and trails of selaginella; Mr. H. Law second. In another class Mr. Hallett gained the first place with pink sweet peas, Mr. H. Law second, and Mr. W. T. Mattock third, the latter having a very pretty table of roses.

FRUIT.

Mr. A. R. Searle was to the front in the class for six dishes of fruit, with black and white grapes, peaches, nectarines, figs, and a melon; Mr. S. Cole second. Mr. Searle had the best pair of bunches of black grapes, Mr. Hallett coming second. Mr. Searle also led for white grapes, followed by Mr. E. Cox, gardener to Lady Knightley, Fawsley. Mr. Searle scored for six peaches with Mr. Cole a good second. Mr. Hyland led for nectarines, with Mr. Searle second. Mr. Searle scored for figs, for gooseberries, and for cherries, and Mr. Hallett scored for apples.

In the local classes Mr. A. Childs, gardener to H. A. Attenborough, Esq., J.P., Catesby House, had the best black grapes, and also the best white grapes, showing grand bunches of Buckland Sweetwater in the latter class; Mr. Searle, Mr. S. Cole, and Mr. Hyland were prominent prize-winners in the single dish classes.

The best decorated table of dessert fruit was the one set out by Mr. A. R. Searle, Castle Ashby Gardens, who won with good clusters of Muscat of Alexandria and Madresfield Court grapes, a melon, peaches, figs, cherries, plums, nectarines, and gooseberries, the table being decorated with schizanthus sprays—Mr. Searle had not labelled any of his dishes of fruit. Mr. G. T. Hyland, gardener to Major Hibbert, Ashby St. Ledgers, was second, and his best dishes were of Stanwick Elruge nectarines, Latest of All strawberries, Muscat and Muscat Hamburgh grapes, and Stirling Castle peaches.

VEGETABLES.

In the open class for a collection of nine kinds of vegetables Mr. A. R. Searle, gardener to the Marquis of Northampton, Castle Ashby, won first place among four competitors with fine celery, onions, cauliflowers, potatoes, marrows, carrots, tomatoes, peas, and runner beans, none being labelled; Mr. S. Cole, gardener to Earl Spencer, Althorpe Park, second; and Mr. Hallett, gardener to Sir Thomas Hesketh, Bart., Easton Neston, third; and in neither case was the produce labelled. For Messrs. Yarde and Co.'s prize Mr. Hallett was an easy first with fine onions, celery, tomatoes, carrots, and peas; Mr. A. R. Searle second; and Mr. S. Cole third. Mr. Searle, Mr. Law, Mr. G. Clark, Mr. Hallett, and Mr. Hyland won numerous prizes in the single dish classes.

NON-COMPETITIVE.

As usual, the non-competitive exhibits added materially to the extent and interest of the display. Messrs. Sutton and Sons, Reading, contributed a splendid exhibit of choice fruits and vegetables, the whole being decorated with sweet peas, phloxes, godetias, annual chrysanthemums, and other of the firm's specialities in flowers. Melons were a prominent feature, notably the varieties Superlative, Ringleader, and Sutton's Perfection; Centenary peas and New Red intermediate carrots were also superbly staged. Messrs. Thos. Perkins and Sons, Northampton, showed a large collection of cut flowers, chiefly border flowers, carnations, violas, and sweet peas. Mr. C. F. Waters, Balcombe, Sussex, brought up a lovely lot of carnations, and showed Mikado, Britannia, Rose Pink Perfection, Enchantress, and Edith Waters in grand style. Messrs. R. Harkness and Co., Hitchin, were represented by a display of roses, in which the Lyon Rose, Mdme. Abel Chatenay, and Frau Karl Druschki figured prominently. Messrs. Yarde and Co., Northampton, had a display of useful spraying machines; this firm had also a large exhibit of cut flowers, but the display would have been improved had the bunches been fewer and larger.

Mr. S. Mortimer, Rowledge, Farnham, put up a fine lot of show and cactus dahlias, backed by tall stands of Aurora Spencer, Evelyn Hemus, Mrs. Townsend, Prince of Asturias, Mrs. Duncan, and other good sweet peas. In front were good bunches of popular sweet peas, and a new and distinct orange-tinted salmon variety named Mrs. Henry Bury—a very pretty colour, and flowers of good size and form. Between the tall stands at the back Mr. Mortimer displayed vases of the best forms of the useful Chrysanthemum maximum.

Messrs. E. Webb and Sons, Wordsley, Stourbridge, put up a large and attractive exhibit of finely-grown vegetables, their Nonsuch, Ailsa Craig, Improved Banbury, and Masterpiece onions, Emperor tomatoes, and Stourbridge Marrow peas standing out well among other good things. Sweet peas were prettily associated with maidenhair ferns in pots, and formed an effective setting for the vegetables and melons. Messrs. John Perkins and Son, Billing Road Nurseries, Northampton, displayed pentstemons, border carnations, pelargoniums, begonias, etc., in considerable numbers, but their arrangement was rather flat.

Horticultural Club.

On Thursday, July 28, at the kind invitation of N. N. Sherwood, Esq., V.M.H., the members of this club spent a most enjoyable day at Prested Hall, Kelvedon, Essex, a party of about forty, including a considerable number of ladies, being most hospitably and pleasantly entertained. Leaving Liverpool Street Station by special saloon at 10.55, Prested Hall was reached about one o'clock, after a short drive from Kelvedon Station. The pretty grounds, diversified by streams and tastefully laid out, were first inspected, and then lunch was partaken of to the accompaniment of a military string band provided for the occasion, a gifted local elocutionist subsequently giving some recitations with great effect in the Essex dialect by way of local colour.

After lunch, brakes being provided for the

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The Rt. Honble. Lord BOLTON, Bolton Hall, Wensleydale.
Lady HULSE, Breamore, Salisbury.
Lieut.-General Sir ARTHUR PAGET, Coombe Warren, Kingston-on-Thames.
Sir E. BLOUNT, Mawley Hall, Cleobury Mortimer.
General CLIVE, Perrystone Court, near Ross.
Col. G. N. STARKIE, Huntroyde Park, Padiham.
Col. R. T. GASCOIGNE, Lotherton Park, Aberford, Leeds.
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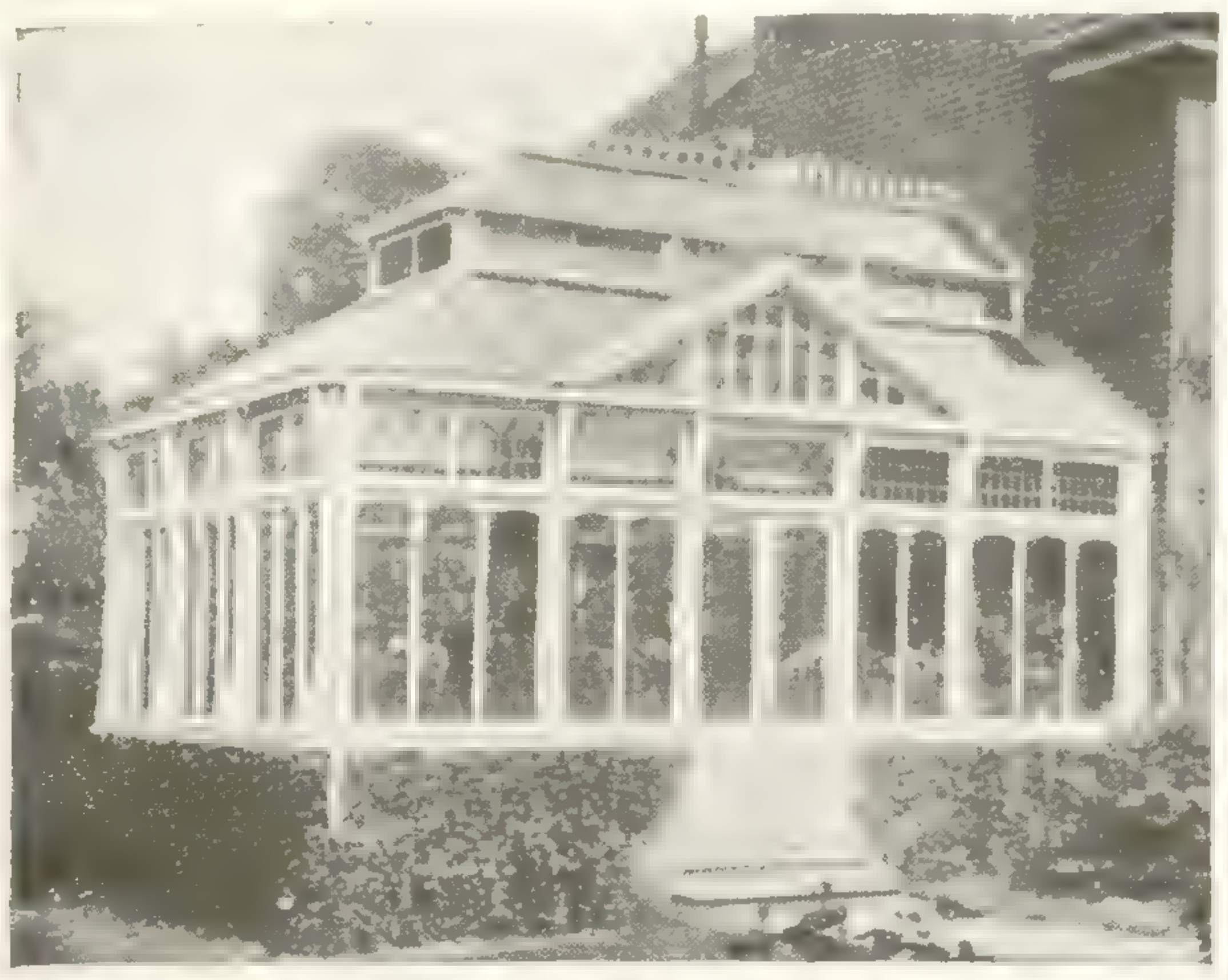

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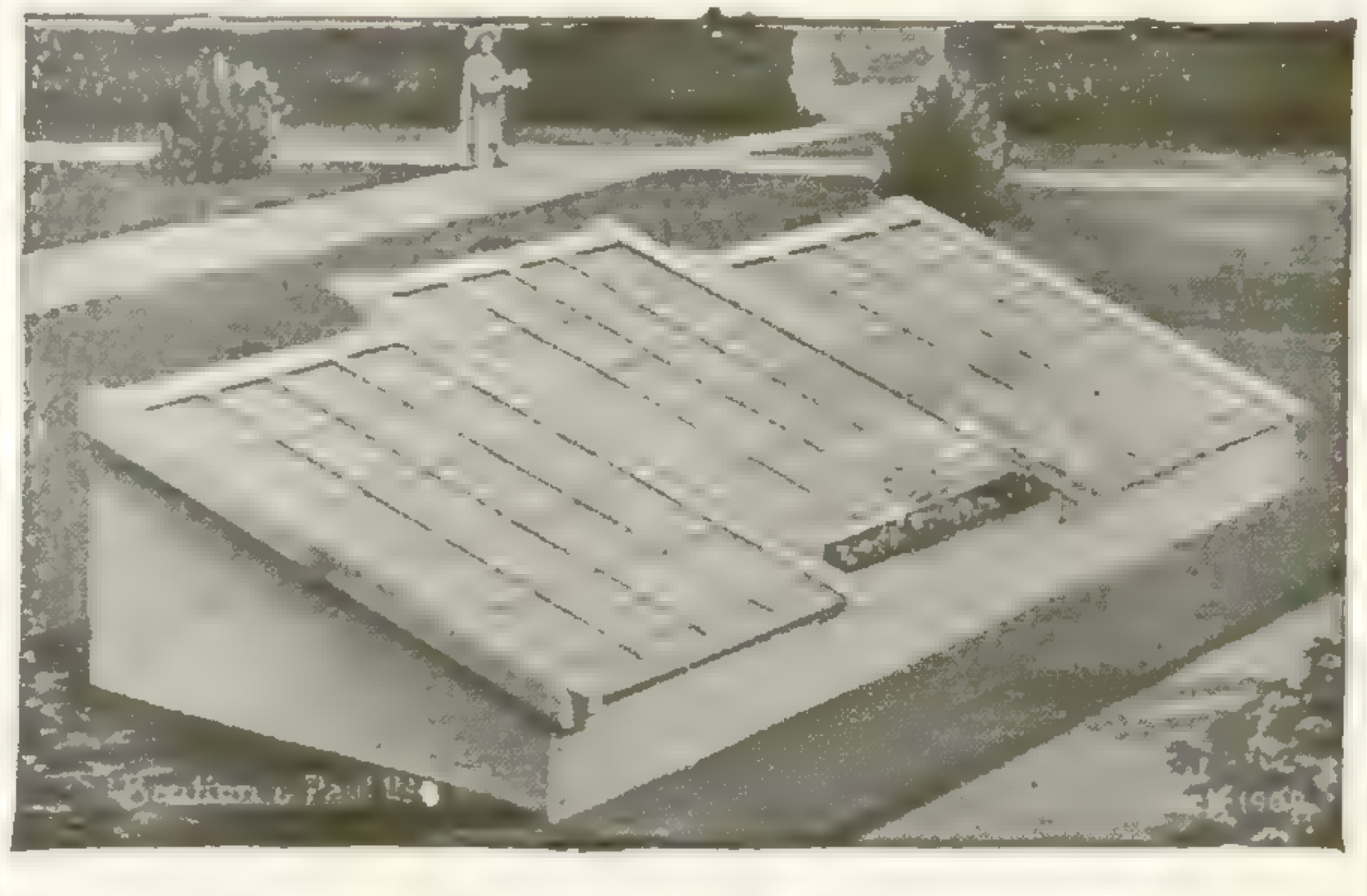

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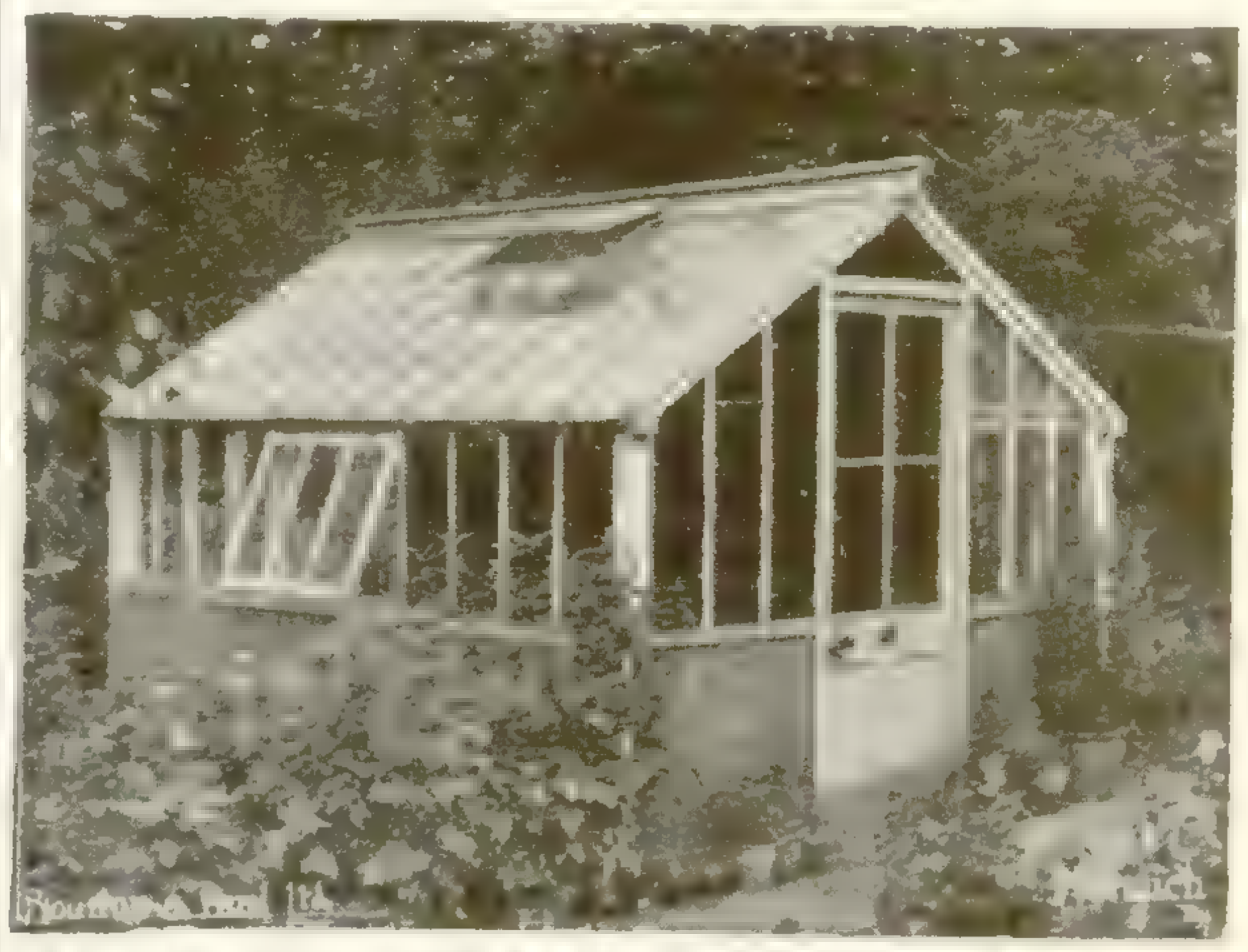

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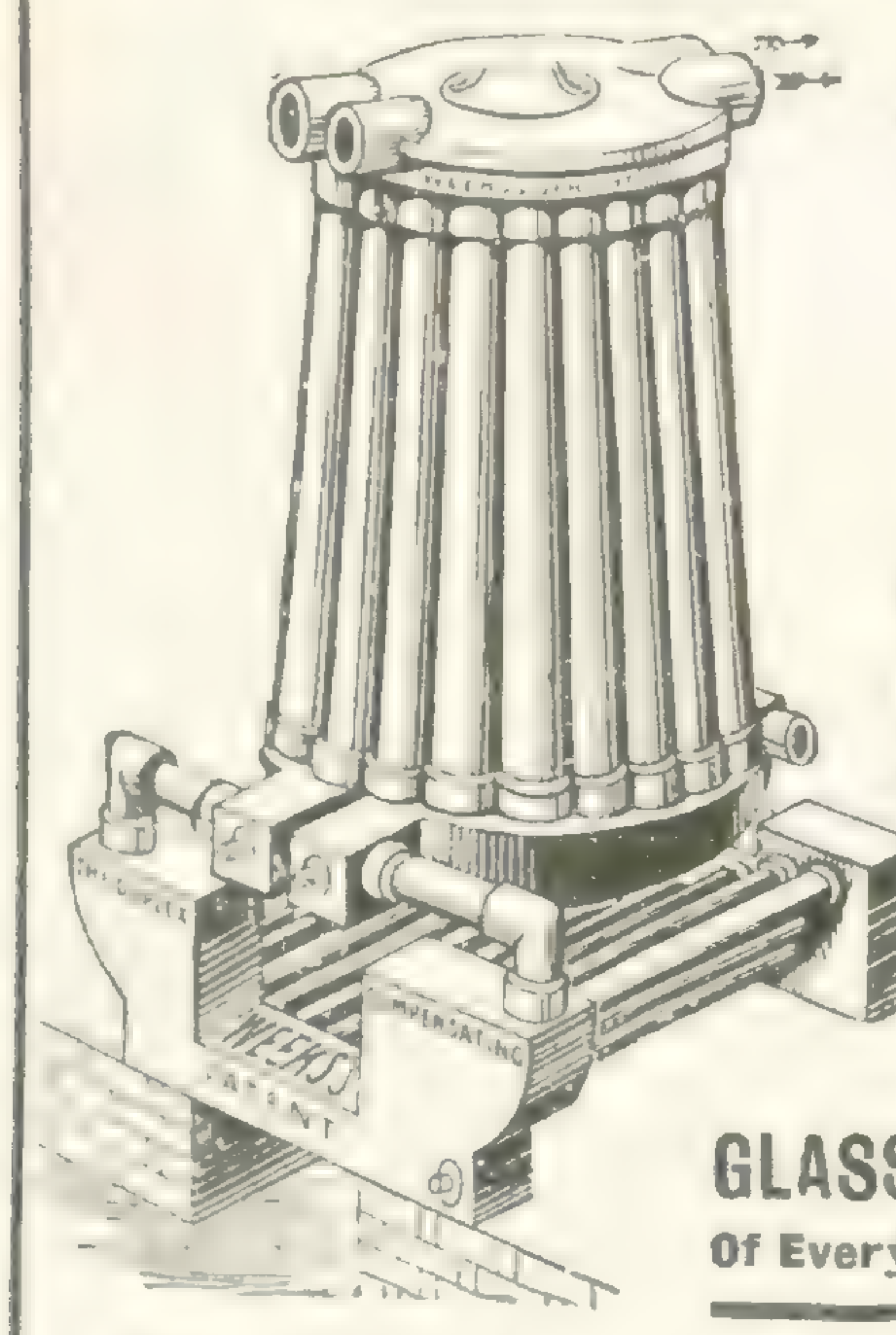

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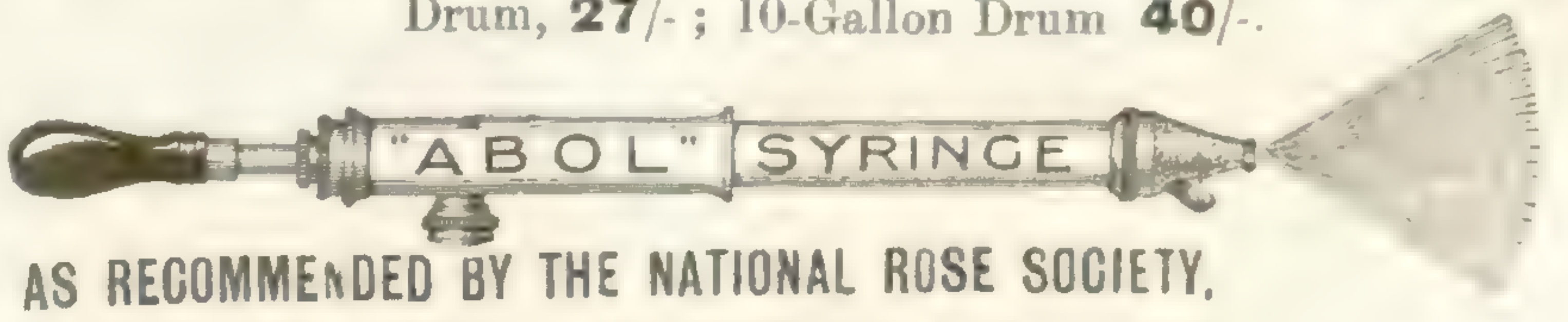

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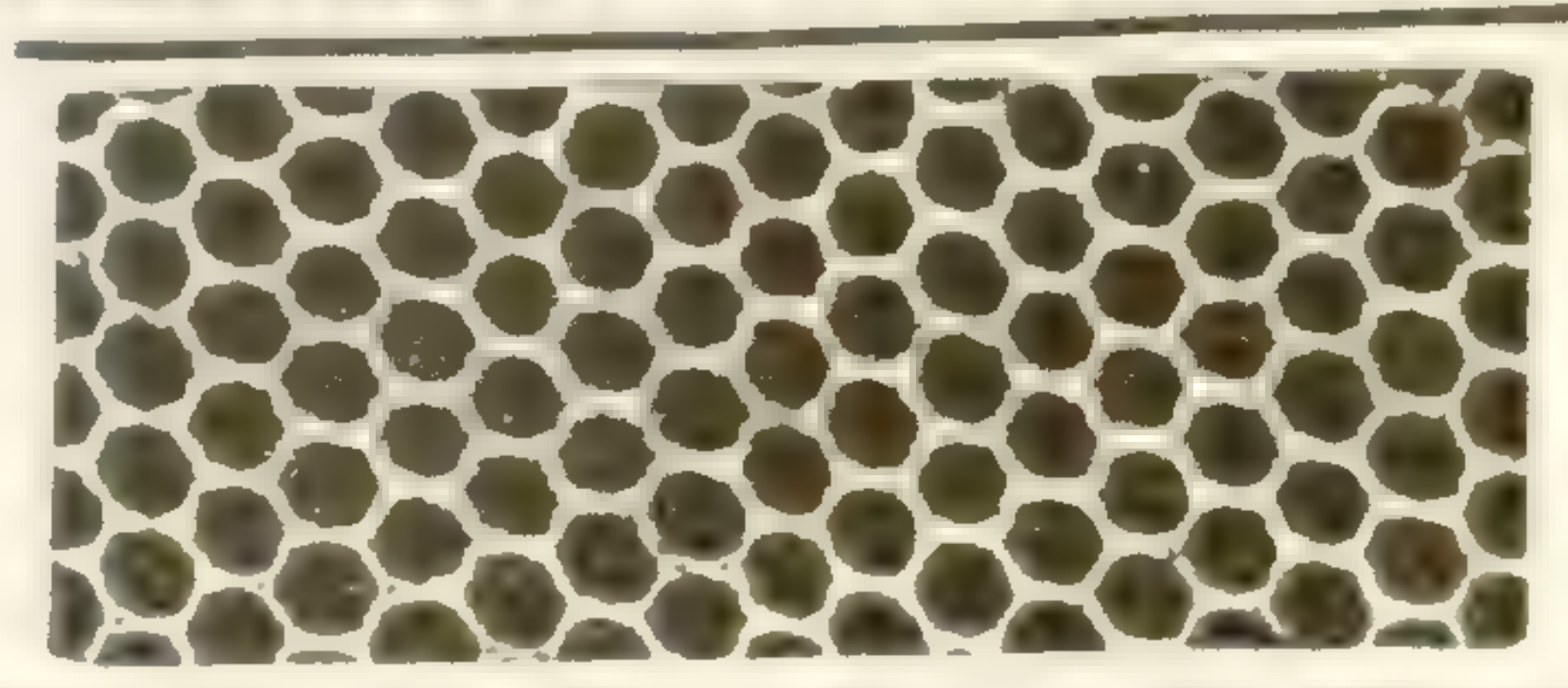

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purpose, the party divided, the majority being driven some five miles or so to Merle, where a splendid mansion of the Tudor period was visited, and an old church inspected, the latter containing some quaint tombs surmounted by recumbent statues of its founders: the Rector kindly gave a most interesting summary of the history of the building. The rest of the party devoted their attention to the trial grounds (Messrs. Hurst and Sons'), in the vicinity, where a very large area of land is devoted to seed raising and experimental studies. On the return of the two parties tea was provided, and a return was then made to Kelvedon Station to await the saloon carriage of the down journey. Fortunately, the Clerk of the Weather was benevolently disposed, and interpolated a typical summer's day in his hitherto mixed programme, the result being by general consent one of the pleasantest outings the club had enjoyed, and a most cordial vote of thanks to the host was passed to that effect.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

DATE. 1910. JULY 24 TO JULY 30.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
July 24—Sunday	1 0	59	53	60	45
,, 25—Monday......	5 24	57	55	63	54
,, 26—Tuesday	0 54	55	50	61	50
,, 27—Wednesday .	2 54	60	55	66	49
,, 28—Thursday ...	7 48	65	59	74	56
,, 29—Friday..	4 54	58	55	68	57
,, 30—Saturday ...	4 10	63	55	68	53
Means ...	(total) 27 4	59	54	66	52

DATE. 1910. JULY 24 TO JULY 30.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
July 24—Sunday	0.26	59	61	58	41
,, 25—Monday....	0.23	59	60	58	54
,, 26—Tuesday......	trace	58	60	58	48
,, 27—Wednesday .	—	57	59	58	45
,, 28—Thursday ...	0.14	60	59	58	53
,, 29—Friday........	—	62	61	58	56
,, 30—Saturday ...	—	61	61	58	48
Means ...	(total) 0.63	59	60	58	49

Thunder at 11.15 a.m. on Monday, 25th.

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ANSWERS TO CORRESPONDENTS.

GREENGROCER'S JOURNAL.—H. J. P., London: You will find the "Journal of Greengrocery" the sort of paper you need; it is, we believe, still published by Biggs and Co., 139, 140, Salisbury Court, Fleet Street, E.C.

CRASSULA COCCINEA.—H. G. C., Hampstead: In the spring, about March, select shoots of Crassula coccinea, about four inches long, and, after trimming the leaves from the lower half of each one, insert the cuttings in pots or pans of sand, and place in a temperature of 55 to 60 degrees. Here they will make roots in a few weeks, and may then be potted singly in three-inch pots in a sandy mixture of fine turfy loam and old manure. When they have taken possession of the new soil remove to a warm, airy greenhouse, and afford them a light position. As soon as growth is made remove the growing point to induce the plant to make several branches. In June a further shift will be necessary into six-inch pots, and after they have become re-established the plants are best set out of doors on ashes in an open sunny position. Bring into the greenhouse in early autumn and afford a minimum winter temperature of 40 deg. If cuttings are not stopped at all they will flower the second year, but the method indicated is the best for securing fine specimens.

FLOWERS AT COVENT GARDEN.—C. E., Durham: We should have thought Newcastle would have been handier as a flower market than Covent Garden. However, if you write to the Superintendent, Covent Garden Market, London, W.C., he will send you a list of flower salesmen with whom you can communicate.

VOLES IN THE GARDEN.—J. C. N., Southampton: The voles are closely related to the mice, and the kinds found in this country are Arvicola amphibius—the Water Rat, and Arvicola agrestis—the Field Vole or Short-tailed Field Mouse, and Arvicola pratensis or Bank Vole. The one that is proving something of a plague in your garden is the Short-Tailed Field Mouse or Meadow Vole. Bait traps with fruit and corn, and endeavour to find and destroy the nests.

SPOTTED CUCUMBER LEAVES.—G. H., Westerhope: The leaves are affected with the cucumber or melon spot disease (Cercospora Melonis). This disease frequently follows dull cold weather, especially when the plants and house have been kept too moist during such a period. Remove the diseased leaves and spray the plants with weak Bordeaux mixture. Very glad to hear from you again, and to know you are succeeding.

PEACH TREES.—J. C. N., Southampton: The trees are making excessive growth, and you evidently keep the borders too wet during the winter. Soon after the few fruits have been gathered, carefully lift, root prune, and replant the trees, adding a good quantity of crushed lime rubble to the soil. Heavily shade the house during the work, and also for several days afterwards, and syringe the trees two or three times a day according to the weather. If the work is carried out expeditiously and well the trees will not suffer nor lose their leaves prematurely.

IRIS FULVALA.—Mr. W. R. Dykes, Charterhouse, Godalming, writes to point out that the pollen parent of his new Iris fulvala (not fulvata), was I. hexagona Lamaurei, and the seed parent I. alata.

SHANKED GRAPES.—C. S., Blackburn: The grapes are badly shanked, but what is the cause of the trouble we cannot say. It may be due to overcropping, bad root action, wet borders, or other cultural error.

DISEASED LOGANBERRIES.—R. E. S., Wellington: Remove and burn all the fruiting canes at once, as they are useless. Fill up and spray the new canes with weak Bordeaux mixture, and in the early winter, when the canes are practically leafless, spray with sulphate of iron at the rate of 2lb. of sulphate to five gallons of water. The disease appears to be closely allied to the Raspberry Spot. Purchase a few young plants, and plant them in another part of the garden.

NAMES OF PLANTS.

G. E. W., Leicester.—1, Delphinium Belladonna; 2, Senecio Clivorum; 3, Vitis Henryi; 4, Chrysanthemum maximum.

M. M., Loudwater.—1, Eryngium alpinum; 2, Romneya Coulteri; 3, Pelargonium denticulatum; 4, Isatis glauca; 5, Euonymus latifolius; 6, Cedrus Deodara.

H. W., Hungerford.—1, Viburnum Lantana; 2, Viburnum Opulis; 3, Cornus sanguinea; 4, see next issue; 5, Bryonia dioica; 6, Lycium barbara. In a collection of wild fruits only those from native plants may be included: covert plants are by no means all native subjects.

FORTHCOMING ENGAGEMENTS.

MONDAY, August 8.—United Horticultural Benefit and Provident Society.

TUESDAY, August 9.—Sevenoaks Horticultural Society; two days.

WEDNESDAY, August 10.—Exmouth Horticultural Society; two days.

East Anglian Horticultural Society.

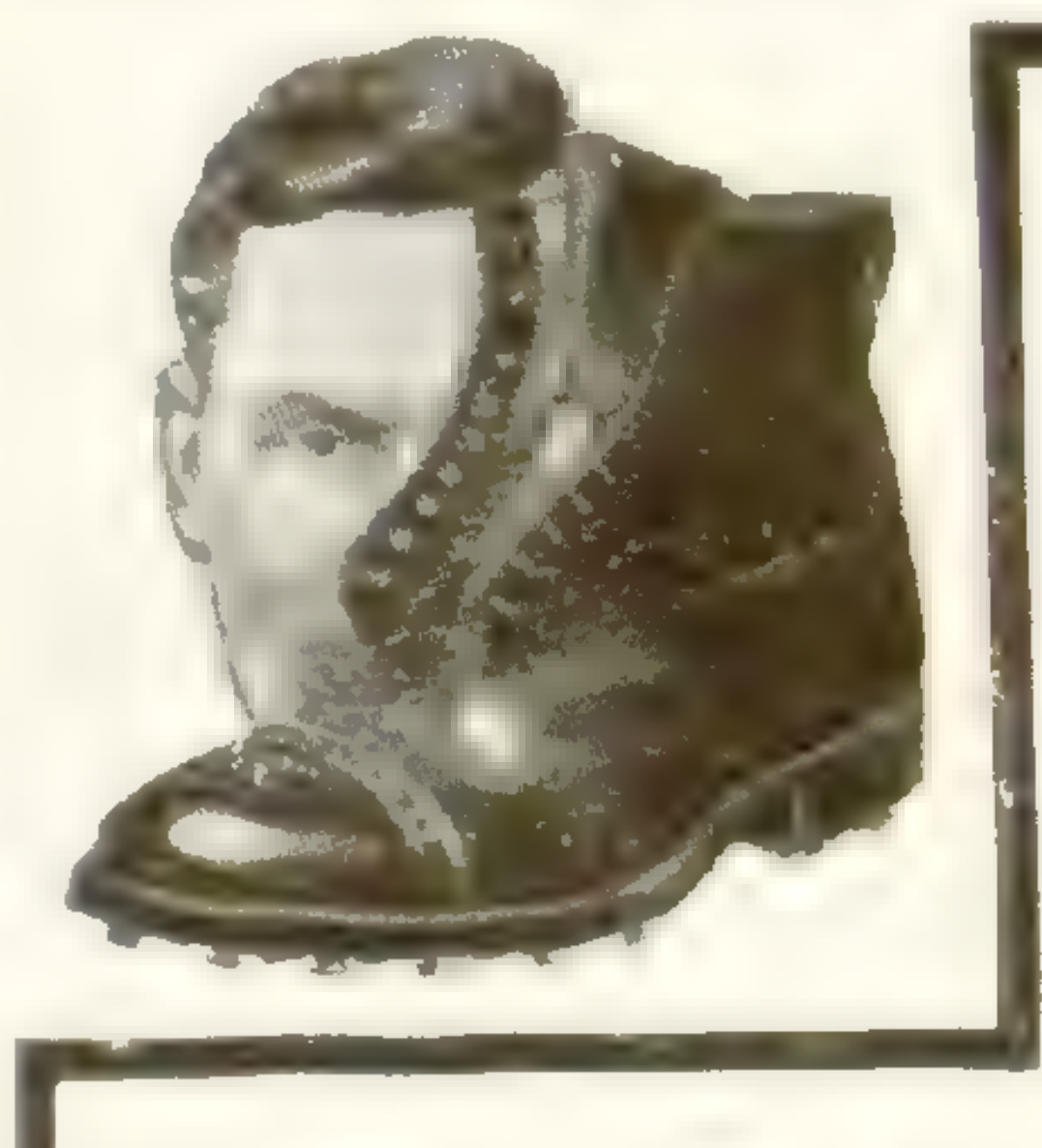
THURSDAY, August 11.—Malmesbury Horticultural Society.

Taunton Horticultural Society.

British Gardeners' Association, London Branch, Excursion.

FRIDAY, August 12.—British Gardeners' Association, Council Meeting.

TUESDAY, August 16.—Royal Horticultural Society; Committees meet at 12 o'clock; lecture at 3 o'clock on "Lesser Known Grapes," by Mr. A. C. Smith; Scientific Committee at 4 o'clock.



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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

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Reg. at the G.P.O. as a Newspaper.

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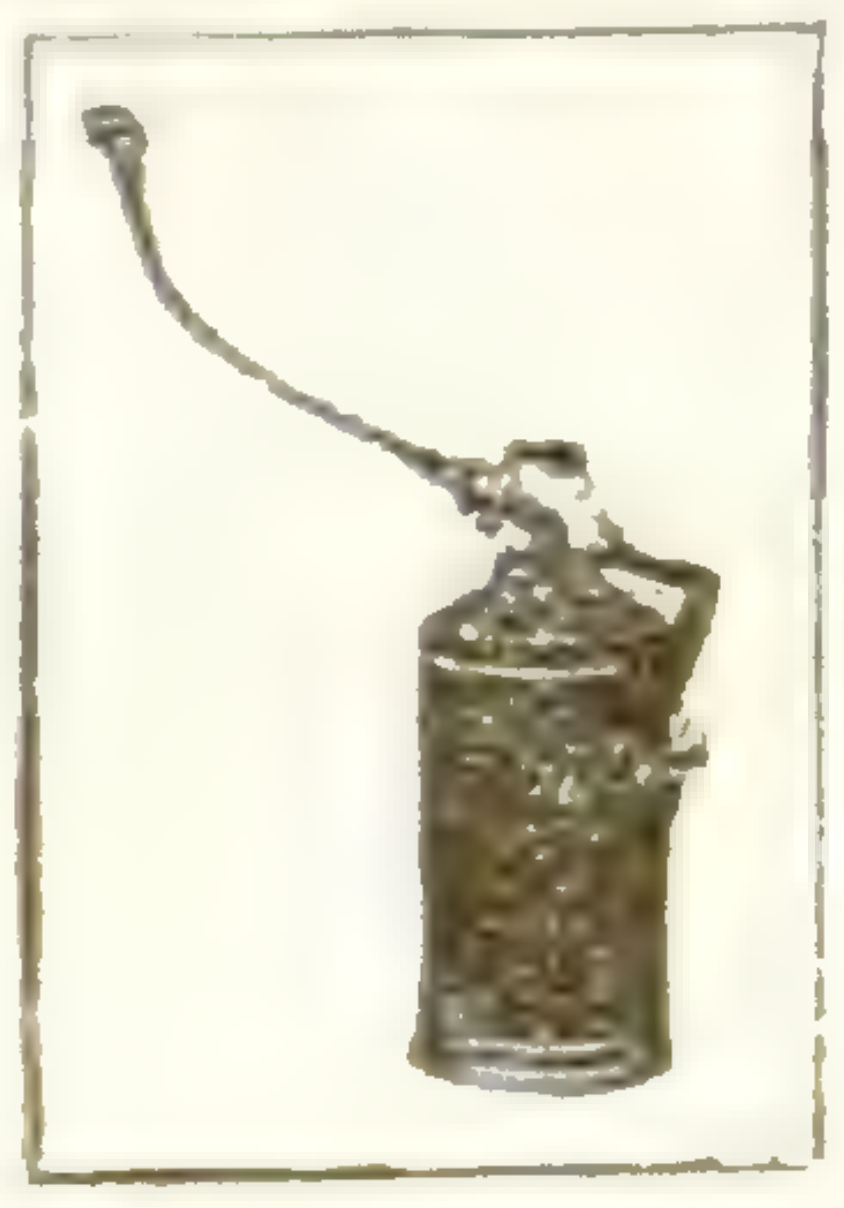

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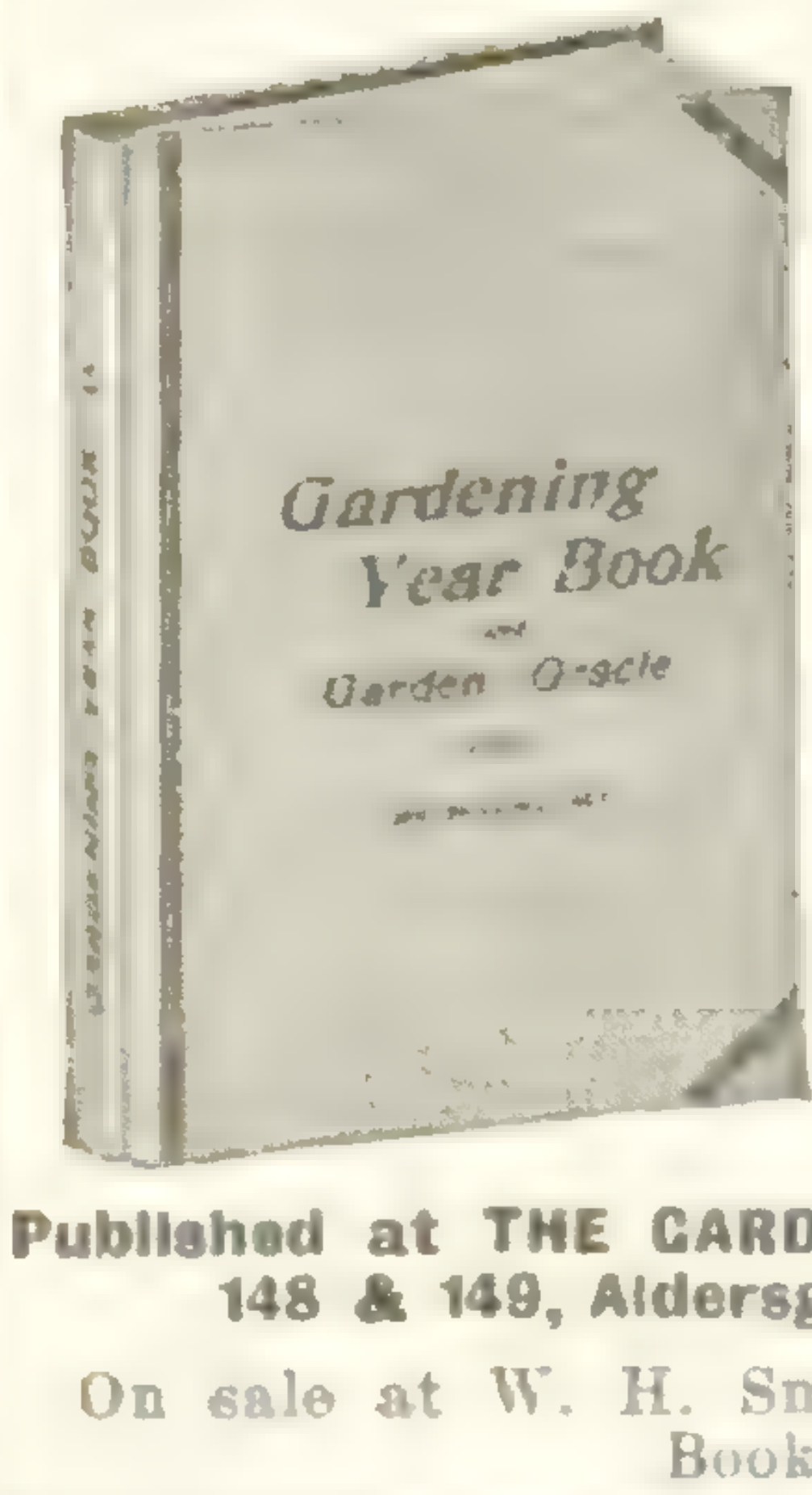

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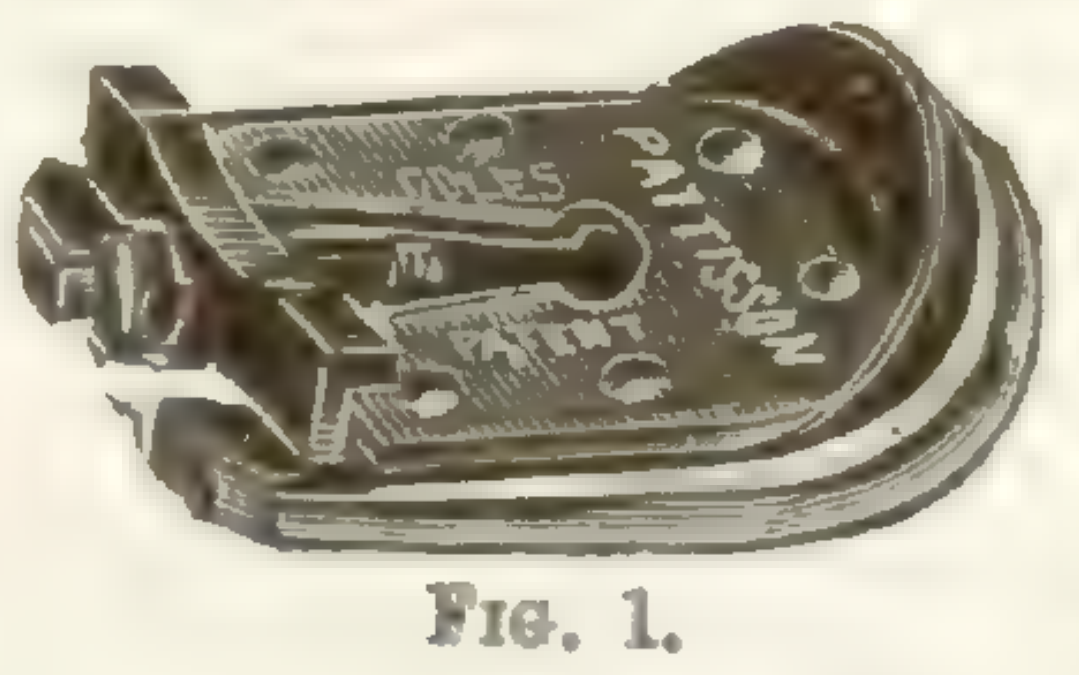

Fig. 1.

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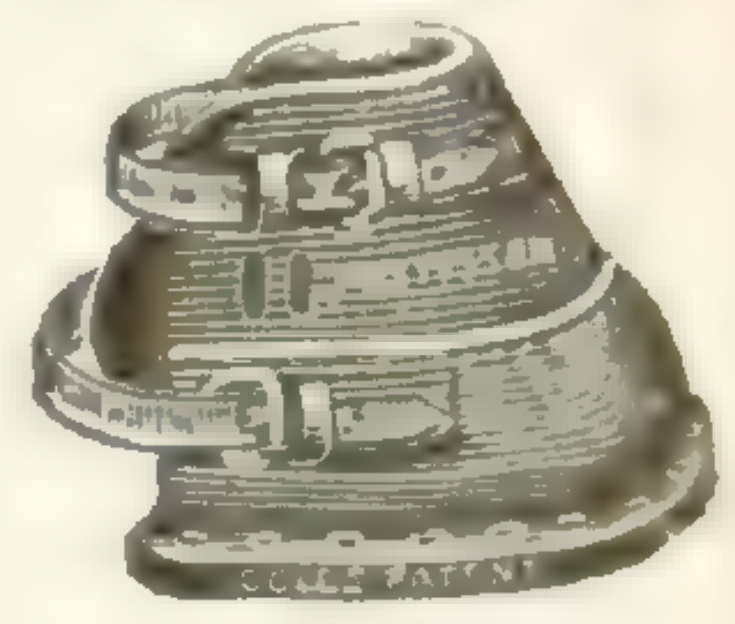

Fig. 2.

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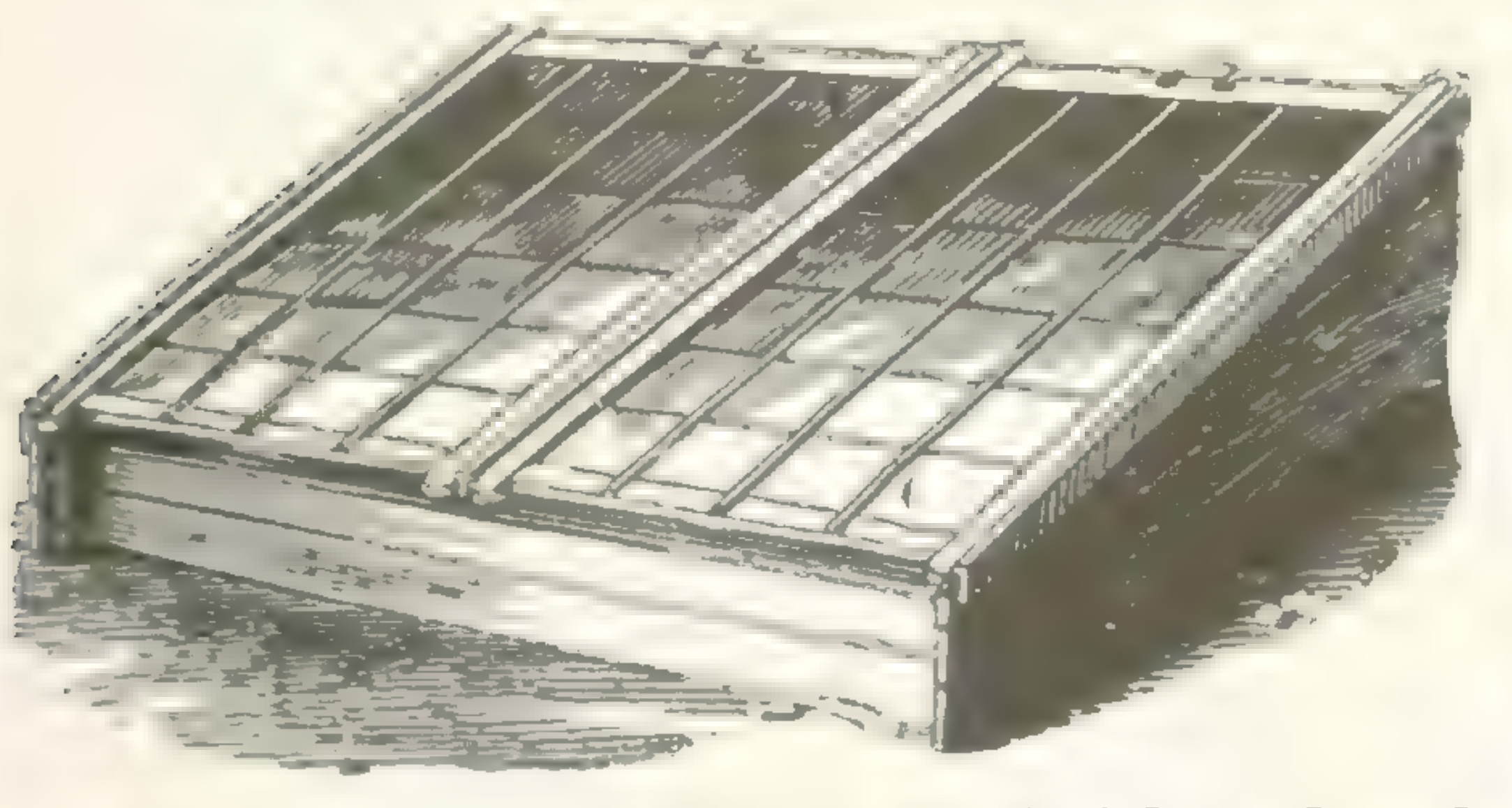

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Tulips, Darwin, mixed	3	0	25	[illegible]
Tulips, double, in the finest mixture...	[illegible]	[illegible]	[illegible]	[illegible]
Anemones, single mixed	1	2	10	0
Anemone, The Bride, pure white	1	2	10	0
Crocus, 1st size, in the finest mixture	1	2	10	[illegible]
Crocus, 2nd size, in the finest mixture	0	8	5	[illegible]
Scilla sibirica, rich blue	1	6	14	[illegible]
Iris, Spanish, mixed	0	6	4	6
Iris, English, mixed	2	0	16	8
Narcis., single, in the finest mixture...	1	4	12	[illegible]
Narcis., Trumpet, in the finest mixture	2	6	20	0
Narcis., double, fine mixture	3	0	25	0
Narcis.-Polyanthus, finest mixed	3	6	30	0
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VOL. LIII.—No. 2,963. SATURDAY, AUGUST 13, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Memorial Parks.

A short time since the Prime Minister stated, in a letter addressed to the Lord Mayor of London, that the Government had carefully considered the various proposals that had been made for raising a memorial to the late King Edward VII., and had arrived at the conclusion that it would be in every way preferable such memorials should be of a local character. The conclusion at which the Government arrived on this question appears to have met with the approval of all who are taking an active interest in the matter, and it is generally felt that it would be far better to provide a memorial in each town, district, or county, as the case may be, that would do honour to the memory of the late King, and be of benefit to the residents, than to combine for the purpose of raising a memorial in some central place. There are many reasons why a number of memorials of a local character should have the preference, but for our present purpose it will suffice to mention but two. A memorial associated with some particular town will appeal more strongly to the residents therein for support, and, as it will, in all probability, take some useful form, it will be ever present in the minds of the residents, and keep green the memory of the greatest King who has ruled over the British Empire. Within a short period of Mr. Asquith's letter being made public, attention was directed by the leading men in a considerable number of the more important centres to the consideration of the question of providing a memorial worthy of the occasion, and adapted to the needs of the respective districts. In some cases the erection of a new hospital, or the improvement of an existing establishment, has been suggested as suitable; in others the provision of a new public park or garden has been recommended. Memorials of other kinds have had their advocates, but the trend of public opinion has been largely in favour of hospital extension and the increase of public parks and gardens, and it is gratifying it should be so, for, as so well known, King Edward VII. gave a large share of his attention to the various institutions that administer to the needs cf the sick and suffering, and evinced the warmest sympathy with the efforts of those engaged in increasing the parks and gardens for public use. The proposed increase of the latter should be a source of much gratification to those who appreciate the importance of open spaces, and we trust that as one result of the movement now on foot there will be a considerable augmentation in their number throughout the United Kingdom. Much has been accomplished within the past quarter of a century to increase the breathing spaces in and near towns, but much has yet to be done before they will equal the needs of the people. It may, perhaps, be considered an overstatement of the case to suggest that every town, however small, should have its open space, but we feel assured our readers will agree with the suggestion that towns of moderate proportions should have an open space wherein the inhabitants can enjoy the refreshing green velvety turf, and bright flowers, and beautiful trees and shrubs. The question is really one that more immediately concerns the older towns of moderate size that are rapidly extending their boundaries, and the new districts that have sprung up in various parts of the country, than it does the cities and great towns, which are provided with numerous and well-kept parks. It is, therefore, much to be desired that in such populous centres the necessity of open spaces for the people should receive attention when the question of raising a memorial to the late King is considered. Parks elaborate in design and costly in keeping are not so much required as open spaces, and good breadths of green turf, and tastefully planted with hardy flowers and beautiful trees and shrubs that can be depended upon to make a satisfactory growth under the soil and climatic conditions that obtain in the district. They should be places where the residents, and especially mothers of families, can spend any spare time they may have when the weather is favourable to outdoor life, free from the rougher elements of human nature, and, it may be, obtain a few lessons in making beautiful any garden they may have at a small cost. The garden should not, as is frequently the case, be planted with the commonest of the trees and shrubs in cultivation, but with beautiful kinds of a distinct character, and of these, happily, there are large numbers which can be purchased at a comparatively small cost. Then there should be beds and borders of hardy flowers that are attractive and require but little skill to maintain them in a thrifty state. There are more than sufficient of these to produce an attractive display throughout the summer and autumn months, without the aid of choice tender plants, to which, of course, there is no objection, provided the park is under the management of a skilled horticulturist. Any open space that is created as a memorial to the late King Edward should be a place for rest and the refreshment of the mind for all classes, and not a place for sports in which alone the strong can engage. Moreover, the societies which exist for the purpose of encouraging cricket, football, and such games, can usually provide grounds in which their members can display their skill. Although we have particularly in view the creation of open spaces as memorials to Edward VII., the question of providing additional parks and gardens of a simple character especially adapted as places of recreation for women and children, is one that immediately concerns Urban and District Councils, for open spaces have an immense influence upon the prosperity of a town or district. We are well acquainted with more than one district in which there is no park or garden, and some hundreds of pounds are lost annually because the more respectable residents move

MR. W. HEDLEY WARREN.

as soon as they are able to other districts where they and their families can have ready access to a pleasant open space.

Mr. W. Hedley Warren has during the past sixteen years occupied the important position of head gardener to Lady A. de Rothschild at Aston Clinton, and during that period he has achieved so high a degree of success as to obtain for himself a prominent position among practical horticulturists of the highest rank. It is interesting to recall the fact that Mr. Warren commenced his gardening career under the late Mr. John Keynes, and that his engagement at the Salisbury nurseries was followed by several years' experience in market nurseries in the South of England. Subsequently he obtained the position of foreman—indoor and out—in the gardens of Terrace House, Southampton, under Mr. William Phelps, who was exceptionally successful as a cultivator of vegetables. Then, having filled an appointment at Netley Castle, Mr. Warren was engaged as foreman at Hamble Cliff, Netley, the residence of the Honourable Mrs. E. Yorke daughter of Lady A. de Rothschild where he remained several years. Sixteen years ago, as already intimated, Mr. Warren was appointed to the charge of the Aston Clinton Gardens, and during that period he has afforded unquestionable proofs of his skill as a cultivator and ability as an administrator. With the sanction, or rather co-operation, of Lady A. de Rothschild, he has endeavoured to improve bothy life in the gardens under his charge. This Mr. Warren considers, and rightly so, is the duty of every gardener where possible, so that the young men under him may be happy and comfortable. The cultivation of choice fruits under glass, the production of cut flowers, and the raising of decorative and bedding plants are carried out on a large scale and on market lines, and vegetable culture is also regarded as a matter of much importance. Exacting as are the duties involved in the management of a garden of the highest class, Mr. Warren has found time for devoting some attention to other matters. Accordingly, we find that for three years he was horticultural lecturer for the county of Bucks under the old régime, and has acted on three occasions as a steward of the Gardeners' Royal Benevolent Institution anniversary festival. He is now, and has for many years been, the secretary and treasurer for the local horticultural society, and secretary for the Higher Education Committee for Aston Clinton. Mr. Warren evidently believes a man, however actively engaged in his ordinary avocations, should have one or more hobbies, for he has two, and these are photography and microscopic work.

Aberrations in Antirrhinums.—Mr. W. Hales contributed to the recent meeting of the R.H.S. Scientific Committee a variety of aberrations in the common antirrhinum, consisting mostly of flowers tending to become regular. In one case the terminal flower had become completely peloric, and on the same shoot the normal corolla had at its base an anterior outgrowth very like the palate in form and colouring.

July in the North.—During the month of July, writes our Aberdeen correspondent, the rainfall has been about three inches, most of which fell towards the end of the month, the first three weeks being decidedly dry. For the whole month we have only had five or six really sunny days, the last half of the month being excessively cloudy. July is the month in which, in these northern regions, thunderstorms most frequently occur, and we had a rather sharp one on the 21st. It did not last long, however, but on the following day we had a repetition on a smaller scale. Strange to say, along the coast of this county we experience the coldest summer in Britain—I mean for parts at a like elevation. There can be little doubt that this is owing to the seaboard of Aberdeenshire projecting so far into the cold waters of the North Sea. Much more rain falls on the West Coast of Scotland, but the air there is milder owing to the influence of the Gulf Stream, as well as to the heat resulting from the condensation of so much atmospheric moisture. The direction of the wind during the month has been mostly south-east, or north-west. We have had very little south-westerly winds. In force, it was light or quiet on twenty-four days; breezy or blowy on other seven, but no strong gale. June and most of July were too dry for the strawberries, hence there are many small ones, and owing to the want of sun the crop, where ripe, lacks sweetness. The turnip and potato crops are both doing well. The showery May made a fair crop of hay, but the weather has been very unfavourable for securing it. Throughout the month the temperature has been low, especially during the cloudy weather, but then July is often a cloudy month here.

Landslide in the Kew Rock Garden.—The tremendously heavy rainstorm that broke over Kew on Friday morning, August 5, flooded the lower part of the rock garden at Kew for some time. A great deal of water also soaked through the bank near the Dripping Well, and brought down a good deal of soil and stones at that interesting point. No very serious damage was done, however, and probably by the time these lines appear, there will be little evidence of the "slide," as prompt measures were taken to repair the bank.

Employees in London Squares.—At Bow Street, on the 3rd inst., before Mr. Marsham, the Duke of Bedford was summoned by the London County Council for employing five male servants without licences. Mr. Pickford, who appeared in support of the summons, submitted that the five men were employed to carry out the ordinary duties of gardeners at Bedford Square gardens and other ornamental enclosures, for the maintenance of which the Duke of Bedford was responsible. Their duties were the laying out and planting flower beds, pruning shrubs, etc., which, in his opinion, brought them within the legal definition of gardeners, and were therefore liable to taxation. An officer in the Taxation Department of the London County Council gave evidence in support of the summons, but he was unable to say whether licences were taken out in respect of the men who are employed in the open spaces under the control of the London County Council. Mr. G. Beck, the foreman of the five men referred to in the summons, was called for the defence, and, in the course of his evidence, stated that their duties were chiefly to mow the grass, roll the paths, cut hedges, and keep the gardens tidy. They had nothing to do with the propagation of plants, as those used in filling the beds were purchased from nurserymen, and they were paid labourers' wages. He received £2, and the other men 30s. a week each. Mr. Bodkin, who appeared for the defence, said the question was of importance, not only to the Duke of Bedford, but to owners of property and parochial authorities who were responsible for the maintenance of open spaces. The work of the men, except for the little planting out they did, was to maintain the enclosures in a state of tidiness, which was not skilled gardening work within the meaning of the Act. Mr. Marsham adjourned the summons to enable him to consider his decision.

Gall on Willow.—Examples of galls on willow (Salix alba) were shown at the meeting of the R.H.S. Scientific Committee by Mr. Bowles. The galls had been obtained from Enfield, and were similar to those shown from the neighbourhood of Buckhurst Hill by Mr. Chittenden in October, 1906. The galls are apparently formed through the irritation set up by a mite (Eriophyes salicis), causing the repeated branching of a shoot which produces small and narrow, rather soft leaves, so that the whole mass measures up to a foot in length and nine inches in diameter. The growth turns bright red in autumn.

Peter Barr Memorial and Gardeners' Orphan Fund.—The Peter Barr Memorial Fund is progressing steadily, but the executive committee are anxious that all who desire to honour the memory of the late Mr. Peter Barr should have ample opportunity of doing so. The general idea is the provision of a sufficient sum of money to always maintain one child through the medium of the Royal Gardeners' Orphan Fund, and also a medal to be awarded annually for special work in connection with daffodils. Mr. Peter Barr's work in the improvement and introduction of daffodils, and among hardy flowers, and his devotion to the Royal Gardeners' Orphan Fund, are well known, consequently the aims of the executive committee should find favour with those who knew Peter Barr and his work, and who desire to keep his memory green in connection with the charity he helped to found. Subscriptions should be sent to Mr. H. B. May, Chingford, the treasurer of the fund. Full particulars will be gladly furnished by Mr. Wm. Marshall, V.M.H., Bexley (chairman), or Mr. Chas. H. Curtis, Adelaide Road, Brentford (hon. sec.) Those who have contributed to the fund since previous publication are Messrs. W. Robinson, H. Backhouse, J. Pope, Dorrien Smith, E. G. A. Nix, the Glamorgan Daffodil Society, Haage and Schmidt, Hurst and Son, Harvey Clarke, W. Welchman, Byvoet Brothers, Guldemonde and Sons, R. and G. Cuthbert, B. Ruys, E. Kerston, Vilmorin and Co., Robert Veitch, Bellis and Meek, G. Forbes, C. Lemeslie Adams, Ant. Roozen and Sons, J. H. Stroud, G. Monro, N. Naylor, Jas. Hunter, Lowe and Shawyer, Dobbie and Co., Mrs. Penton, W. Mauger, C. W. Cowan, Foster and Robins, G. Monro, Jun., Boyd Barrow, — Beamish, W. H. Cranfield, W. Waemar, W. Goldring, Watkins and Simpson, Wheadon and Sons, J. S. Brunton, W. A. Watts, T. H. Lincoln, T. Kime, J. Bunting, J. H. Kerston, Otto Mann, V. van Zanten, P. van der Neer, Van Meerbeck and Co., W. H. Page, Van Hartman, Van der Eest, H. de Graaff and Sons, Chas. Smith and Sons, Arnold Weiss, and Protheroe and Morris.

Prospects of the Potato Crop.—The Board of Agriculture state in their report dated August 8 that potatoes have improved considerably during the month, and that they now appear to be relatively the most promising of all crops. Little disease has been reported.

Spraying Fruit Trees.—In the course of a paper read before the Ontario Fruit Growers' Association on the Spraying of fruit trees, Mr. Max Smith, of Burlington, who is a large and successful grower of fruit, referred to the success he had achieved in renovating an old orchard. With reference thereto, he said: "I do not want to take up your time, but I might just instance one particular orchard of forty acres which had never been sprayed nor pruned nor ploughed nor fertilised in twenty years, so you can all figure about the shape that orchard was in. I got possession of that in March, and I sent about six men there to prune it, and I put on 10lbs. of strong commercial fertiliser around each tree; and I sprayed it very thoroughly according to the directions I have given you, and with the materials of which I have told you. I ploughed that orchard and tried to keep it cultivated throughout the season, and I harvested over 2,000 barrels of beautiful apples. I have known that orchard for the last 20 years, and for the last ten years particularly, and the apples in that orchard have been perfect rubbish; in fact, a year ago I refused the orchard for the picking of it. I controlled the fungus, and I controlled the codling moth to the extent of about 80 per cent."

Plants in the Swansea Parks.—Mr. Daniel Bliss, the Swansea Parks Superintendent, has compiled a catalogue of the trees, shrubs, herbaceous and other plants to be found growing in the Cwmdonkin Park, Swansea. The nomenclature adopted is that of Kew, and the country of origin is given as well as the English name where this is known. The number of species grown in the botanical beds is about 1,000, and in the first part of the catalogue these are listed in their respective natural orders as grown. About 700 species of herbaceous and alpine plants cultivated in the rock garden are given in alphabetical order, and the same method is followed with the shrubs, the herbaceous plants in borders, trees, bamboos, and moisture-loving plants. The latter part of the catalogue is arranged so that a visitor may know what plants to look for in certain parts of the park. If the natural order could be added in future issues in the case of species grown outside the botanical collection proper, this would add to the interest and usefulness of the catalogue. It is, however, a very useful list of plants, somewhat overloaded with advertisements, and sold to visitors for the remarkably low price of one penny.

Local Coloration of Cell Walls.—Professor H. Molisch has published an interesting communication on local coloration of the cell wall in certain water plants induced by manganese compounds. The introduction of manganese salts into cultures of Elodea produces, after a few days' exposure to light, a deposition of brown matter in the outer walls of the epidermis which, on continued exposure tends to mask the green pigment in the leaf. The author notes that the deposition takes place only when the plant is exposed to light, and that a similar result was obtained in leaves of vallisneria, Ranunculus aquatilis, and myriophyllum. As observed by "Nature," the chief point of interest lies in the fact that it furnishes a definite instance of localised action produced by the absorption of a specific element.

A New Italian Orchid.—Reference to what is supposed to be a quite new terrestrial orchid is made in the columns of "Nature" by Mr. W. Herbert Cox, together with an illustration of the plant found by him, and showing the prominent trilobate lip. Mr. Cox writes: M. H. Correvon, who is, I suppose, the greatest living authority on the European orchids observes it "seems to be out of the way of species known." When first I found it. I believed it to be Serapias triloba, but, having studied various authorities, I have since come to the conclusion that I was wrong. They all agree that the lip of triloba is crenulated, but in my specimen there is no sign of that. Triloba is considered to be a hybrid between Serapias lingua and Orchis papilionacea; although the ground was covered with the former, I could not find a vestige of the latter in the whole of that district. Also, the authorities only give the Riviera as the habitat of triloba, whilst I found my plant in mid-Italy, near Florence. In my plant the sepals and petals are each very distinct and separate, not joined into a cap, as in all the other varieties of serapias. It may possibly be a cross between S. lingua and O. laxifolia, but, even so, it differs much from that pictured in Barla's book. It is a somewhat striking plant, as the flowers are very large in comparison to the rest, both the labellum sepals and petals being a very vivid shade of colour between pink and purple, the former a little darker.

THE FRUIT CROPS IN SCOTLAND.

The somewhat doleful accounts of the crops of hardy fruits in many parts of the kingdom that have recently appeared in the pages of the horticultural journals happily do not justly represent the conditions existing in some other parts, to wit, the southern portion of Scotland, where in general the quantity and quality of most kinds may be considered very satisfactory.

Strawberries.

The weather, too, though very erratic at times, was favourable to the strawberry crop, as for a fortnight, when the bulk of the maincrop varieties were ripe, or ripening, no rain fell, and with bright sunshine daily this important crop was secured in excellent condition, and almost free from loss owing to damp and its usual accompaniments. The season for this fruit has been a fairly long one, the first gathering being made from plants of Royal Sovereign growing upon a border having a southern aspect on June 16, while at present, August 5th, Givon's Prolific and Laxton's Latest still provide daily supplies, and promise to do so until the middle of the month at least.

Bush Fruits.

Currants of all kinds are bearing well, the black variety especially so, and the bushes being immune from insects, though measures to attain this end have this year been unnecessary, the fruit is large in size and clean. Gooseberries appear not to have been at all exhausted by the heavy crop of last year, when the fruit was abundant, while at present it is sufficient for all purposes. Raspberries are likewise fruiting well, and seem to revel in the changed weather conditions—wind, mist, and occasional heavy rains—which ushered in the present month.

Cherries.

The sweet varieties were very scanty, many of the fruits falling from the trees after attaining considerable size. Morellos are not heavily cropped, but still fairly plentiful on most of the trees, the individual fruits giving promise of full size, and are colouring well.

Peaches and Nectarines.

These are very partial, some kinds bearing freely, while others are fruitless. Of the former Hales' Early is the most prolific, as well as being the earliest to ripen, which, judging from present appearances, should take place about the middle of the month. Early Crawford, Dymond, and Stirling Castle are the next best in regard to fruitfulness. For several years past Rivers' Orange nectarine has proved the best among the several varieties of this somewhat fickle fruit for outside culture, and the present season is no exception, as it is again ahead, both in respect to crop and healthiness, of all others cultivated here.

Figs.

These in the open are a complete failure owing, probably, to the early and very severe frosts in the autumn of last year, which destroyed the foliage while yet in the flush of vigour, and greatly damaged the young shoots as well. Formerly figs did remarkably well in this part, but for several years past the crops have not repaid the work and expense put upon them. More than any other fruit the fig requires a bright warm period in autumn to ripen both fruit and wood, to ensure rich lusciousness in the one, and thorough maturity of the embryo fruits in the other.

Plums.

These are variable, some kinds bearing full crops while others are quite the reverse. As bush trees in the open Rivers' Prolific, The Czar, and Victoria are carrying far more fruits than are the same varieties against walls. Trained trees of Jefferson, Early Orleans, Belle de Louvain, Lawson's Golden Gage, and Coe's Golden Drop, are all good, but many other kinds are poorly cropped.

Apples and Pears.

The first, though not a full crop, except in the case of a few sorts, are very fair, taken all round, and deficiency in numbers may possibly be compensated for by size and quality, as at the present time the fruits are larger than usual, are growing freely, and the foliage is healthy, and free from insect pests.

Of pears the more popular varieties, as Jargonelle, Williams' Bon Chretien, Louise Bonne of Jersey, Pitmaston Duchess, Jersey Gratioli, and Beurre Diel, are bearing good crops, and the same may be said of many of the newer introductions too numerous to mention specially, further than that, at a fair estimate, the majority are fruitful, more or less, which, considering the very sunless weather last autumn and early winter, and the unripened state of the shoots and fruit buds owing to this, is here considered very satisfactory.

Galloway House, JAMES DAY.
Garlieston, Wigtownshire.

LESPEDEZA SIEBOLDI.

This is one of the latest of our flowering shrubs, for its blossoms do not expand until the latter half of September and October. Although a warm, sunny season suits it best it flowers very satisfactorily even when the weather is not particularly favourable during the summer months. A native of China and Japan, it is under cultivation of subshrubby character, and usually dies each winter to within a few inches of the ground. As this is the case, it is good policy to cut it hard back to the root-stock each spring. This allows of strong shoots three to four feet in length being formed, which bear a profusion of rosy-purple flowers in large panicles, which compose the upper half of the shoot. Like other leguminous plants, it thrives in light, loamy soil. Seeds, which are usually imported, form the best means of increase, whilst little attention other than the annual cutting over is required. D.

THE POPULARITY OF SWEET PEAS.

The experience of another season has enhanced the popularity of the sweet pea; there is nothing like it, and it is quite right to say that no flower of the garden has succeeded in capturing the hearts and affections of so many people. The sweet pea is cosmopolitan to a degree; go into any aristocratic garden you like, and you will be sure to find a selection of up-to-date varieties of sweet peas, and you may pass on from there to the garden of some enthusiastic cottager, and you will find flourishing therein the same varieties. grown just as well, flowering just as freely, and looking equally effective and in place. What other annual have we which adorns all sorts and conditions of gardens alike, which lends itself to varying circumstances so well, and fascinates the public to the same extent?

Have you ever noticed how the man who grows and loves sweet peas—and who doesn't in these days?—likes to go abroad with a few of his favourite flowers in his coat. Men who never wear a buttonhole at any other time of the year break the rule when their sweet peas begin to bloom, and if two men meet, each having a buttonhole of sweet peas, the characteristic reserve of the average Briton vanishes at once, there is no need for formal introduction, and they become chummy without the slightest hesitation or reserve.

Let me just give you an instance. A short time ago I stepped into a third-class railway carriage, having a couple of blooms of Evelyn Hemus in my coat; in the corner on one side was a man with a nice buttonhole of Countess Spencer, and before the train started a third traveller took his seat, and he boasted some four-flowered stalks of John Ingman. There was no need for any introduction, though we were all three total strangers to each other, everything else was taken for granted, for we met on common ground, as we were all sweet pea growers, without being experts, cranks, exhibitors, or anything of the kind. Newspapers lay unheeded on the seat, for there was something else to talk about. Before the train started conversation began in comparing the merits of the several buttonholes, and from that we went on describing our various methods of culture, offering mutual sympathy in cases of difficulty, and chatting over the good or bad qualities of this or that variety, speaking of them as sweet pea growers do in a personal sense, as we might have done if we had been talking about absent friends and acquaintances. It was with genuine regret that we parted, and possibly I shall never meet either of the two travellers again, but if I do the mention of sweet peas will be quite sufficient to renew the acquaintanceship.

Have you ever noticed that sweet peas have an influence in making gardeners of men? I do not mean professional gardeners, of course, but men who grow fond of their gardens, lured to the love by the fascinations of the sweet pea. Let me give you a case in point. I know a man, a townsman to his finger ends, who never had an inch of garden in his life until this year, and when he got it he looked upon his strip of border as a burden and a responsibility. Having some sweet pea seeds left over in the spring I asked the man if he would like to have them, but he wasn't particularly keen about it, and took them because he had to put something in his border, and thought he might as well grow sweet peas as anything else. That man is a different individual to-day, and the change came when his sweet peas began to bloom. The members of our local bowling club complain that they see so little of the man, and the fact is that he spends most of his time in his garden tending his sweet peas, and when not thus engaged he is out and about inspecting the flowers of his friends and neighbours. This is no instance of fiction, but a true fact, and it goes to show what may be done by giving away a few spare seeds rather than leaving them to shrivel up in the bottom of the packets.

The sweet pea is the flower in the garden which above all others teaches the virtue of unselfishness, and men who were positively stingy before become suddenly generous when they commence growing sweet peas. Perhaps one cannot attribute so much credit to them for this change of character as to the sweet pea itself, the cutting of which is an essential item in its culture. I know men who specialise in roses, carnations, and other flowers, and are always pleased to see their friends, and show them round, but the privilege of the latter is to look, and not handle, as the flowers are not intended to be cut and carried away. There is a different feeling altogether with sweet peas, for the grower knows that if he allows the flowers to fade on the plants and form seed pods the display will soon be over, so it becomes the most natural thing in the world for him to cut you a bunch of flowers to bring away with you, after they have undergone a critical inspection on the plants. The grower may affect an air of generosity as he hands you the bouquet, which would lead you to think that the gift comes from the fulness of his heart, but you can come to what conclusion you like about this, and give credit to the flower itself, which makes a law of its own that it should be cut. There are people about who are more than a little selfish in respect of their gardens, and would never dream of giving away a bunch of flowers, but let us hope that all such may become sweet pea growers, and learn the lesson of unselfishness which the flower teaches.

As an exhibition flower the sweet pea is justly popular, and it is doing a good deal to improve the method of staging flowers at exhibitions. I am speaking here more particularly of village shows than big exhibitions, and am thankful to say that, so far as I know, no one has ever yet insulted the sweet pea by exhibiting it on an ugly green show board. In respect of this point I was very much struck the other day by the contrasts at a village flower show. The exhibitors, bound and fettered by the law of habit and custom, had shown their asters, stocks, zinnias, and carnations on the bare flat surfaces of ugly boards, than which nothing could look more unnatural, but they had learnt better things in respect of the sweet peas. It is true one exhibitor showed his flowers in disused Day and Martin's blacking bottles, and another cottager had commandeered every glass and china vase that his wife possessed, but what mattered that, the blooms were standing upright, they were set out in an artistic and tasteful manner, such as is characteristic of sweet peas at shows, and it is hoped that this departure from the beaten track of custom will lead to better things in the methods of exhibiting other flowers at shows.

It is very much to be regretted that so many new sweet peas are sent out before they are fixed, and if this sort of thing continues I am afraid it will affect the popularity of the flower; but I wonder how many people there are who in a quiet way aspire to the raising of a new sweet pea. The world knows a great deal more of Mendel's laws than it would ever have done if the sweet pea had remained the commonplace flower that it once was, and several of my friends have told me in confidence than they have effected some crosses, founded on the principles of the above law, and they hope to get a good thing or two as the result of the same.

In conclusion, the queenly rose may be still our national flower; I don't argue to the contrary, and comparisons are odious, but how far is the sweet pea behind in the affections of the people? This thought occurred to me the other day when I visited an old-established rose show at which classes for sweet peas were introduced a few years ago. There was no overlooking the fact that in point of number the sweet peas overshadowed the roses, and it would be difficult to say which flower came in for the greater share of attention at the hands of the visitors. But there, I have said enough in support of the popularity of sweet peas, and my excuse for writing this article at all is the desire to call attention to phases of sweet pea growing other than those which are strictly practical.

G. H. H.

NEW PLANTS, ETC.

CARNATIONS.

Forester. — A handsome fancy carnation with light, bright yellow ground, and bright red markings. A.M., R.H.S., August 2; Mr. Jas. Douglas, Great Bookham.

Mrs. J. A. Reynolds.—A deep golden-buff self carnation, free-flowering, and of excellent constitution. It should prove a fine border variety. A.M., R.H.S., August 2; Mr. Jas. Douglas, Great Bookham.

PHLOX FRAU ANTONIN BUCHNER.

A fine white phlox with large trusses of big circular blooms. It is very sweetly scented, and apparently grows and flowers freely. A.M., R.H.S., August 2. Messrs. W. Wells and Co., Merstham.

CATTLEYA WARSCEWICZI OTHELLO.

Some varieties of Cattleya Warscewiczi are remarkable for the colouring displayed in the labellum, but in C. W. Othello the sepals and petals are more richly-coloured than usual, being of bright rose-purple hue. The lip is also very handsome, deep crimson-purple, with a small yellow mark on each side of the throat. See illustration on p. 617. A.M., R.H.S., August 2; Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

PROTECTING SEEDS FROM BIRDS.

Experiments have been conducted by the Imperial Biological Institute, Germany, with a view to ascertain the degree to which seed can be protected from the attacks of birds, particularly rooks or crows, by dressing it so as to give it an unusual colour or an objectionable taste or smell. The colours used were blue, red, and green, in the following proportions.—For every 100 parts of seed 0.2 parts of glue dissolved in 8 parts of water, with 2.0 parts of red colour, or from 0.5 to 1.0 parts of Prussian blue, or 0.4 parts of aniline green. Experiments with starving rooks showed that when let loose on the sown beds they ate 3 grammes of seed prepared with Prussian blue, 35 of that treated with red colour, 8 of that treated with green, and 68 grammes of undressed seed. Dressing with blue was shown to be most effective, and the experiments proved that rooks are influenced in their search for food by colour, smell, and taste. For the two latter experiments powdered aloes 0.6 parts with 8 parts of water to 100 parts seed, and creolin—a 3 per cent. solution in 8 parts of water per 100lb. of seed were used. The birds shunned the creolin and aloes.

YELLOW-GROUND FANCY CARNATIONS.

If only our specialists could be persuaded to show the habit of growth of the gorgeous yellow-ground fancy carnations then the popularity of a fine race of garden flowers would be assured. At the recent carnation exhibitions nothing has attracted more attention from the general public than this particular class, and the big and brilliant blooms, arranged regularly on boards, have excited a great deal of wonder. The question often asked has been, "Do these grow as well as ordinary border carnations?" The answer is in the affirmative, but the raisers and trade growers, if they are wise in their generation, will not be content with a verbal answer, but will exhibit growing plants in flower to show the public the capabilities of yellow-ground fancies. Readers of these pages who have scanned the reports will have become familiar with such names as Lord Steyne, Rony Buchanan, Pasquin, Hidalgo, Father O'Flynn, Orlando, Sam Weller, King Solomon, Voltaire, Cardinal Wolsey, Liberté, Molly Maguire, Mandara, Erl King, and Linkman. These all represent splendid varieties, raised chiefly by the late Mr. Martin R. Smith, by Mr. Charles Blick, and Mr. James Douglas. Linkman is as fine in its way as Pasquin, recently figured in these columns; it was shown well by Mr. C. Blick, Hayes, Kent, at the London Carnation Show, and is yellow, heavily marked with scarlet. We may add that Mr. Blick has a fine new yellow-ground fancy that is certain to attain a high position; it is brilliantly marked with orange-scarlet on a yellow ground, and has been named Donald Macdonald.

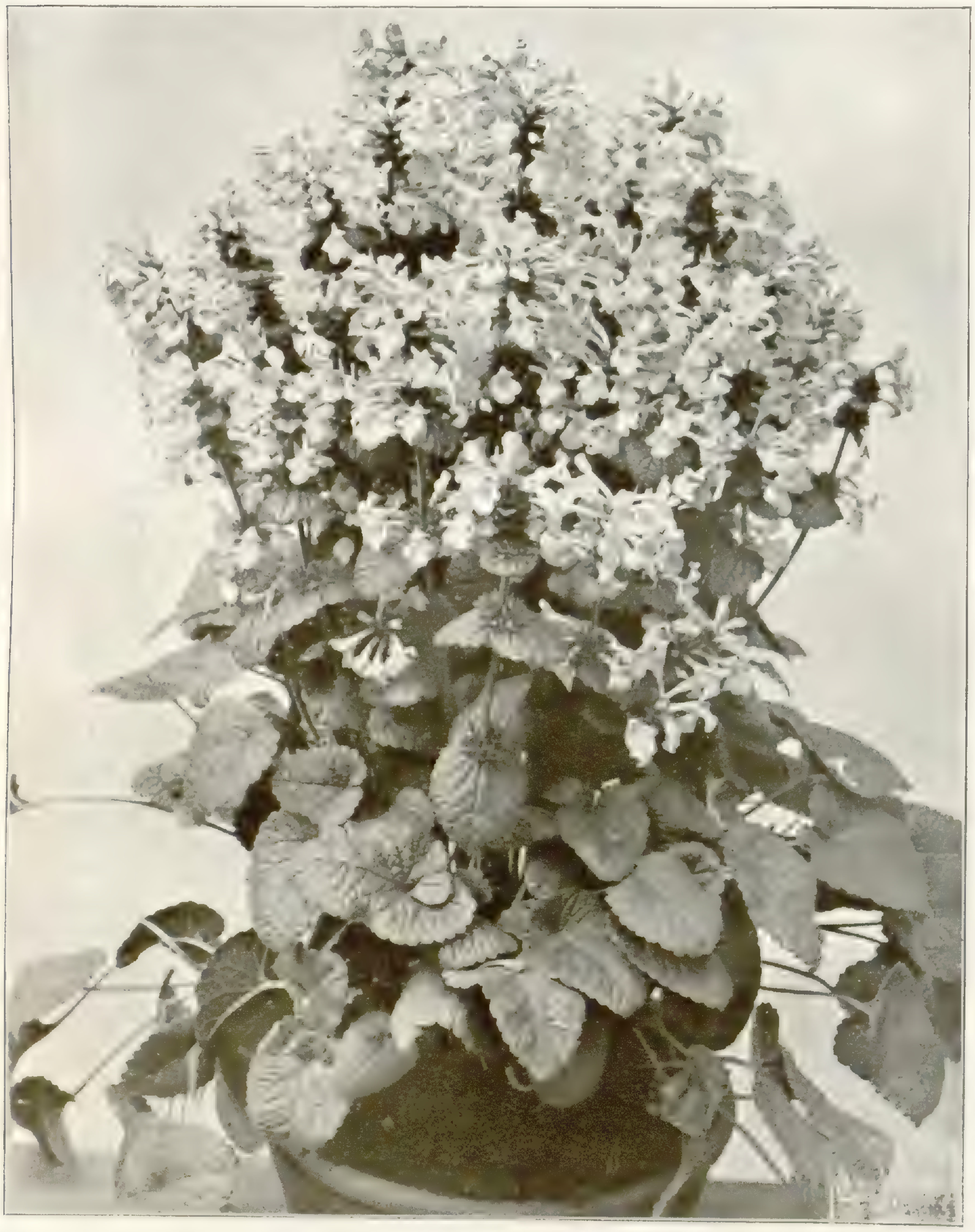
YELLOW-GROUND FANCY CARNATION LINKMAN.
Yellow, heavily marked with scarlet: as shown by Mr. Chas. Blick, Hayes, Kent, at the recent Carnation Show at Westminster.

Maincrop Cabbage.—As soon as practicable after this date a sowing should be made in well-prepared, but firm ground. Sow where no brassica tribe has been for at least two seasons. The object of two sowings is that the first-mentioned can be planted in their permanent quarters five weeks from the seed sowing. If they are well cared for during that time strong plants will be then quite ready. It will be found that the ground is well supplied with warmth, so necessary to a rapid root action. If planting is deferred until October the season is fast waning, the ground mostly wet, and, consequently, the root action slow, with the result that very little growth is made till the following spring. Excellent varieties for this sowing are Ellam's Early, Flower of Spring, and Enfield Market.—G. Ellwood, Swanmore Park Gardens.

THE BULBOUS FLOWERS OF AUTUMN.

Among the curiosities of the vegetable kingdom may surely be counted meadow saffrons, or colchicums, which flower a few weeks after they are planted in autumn. By obtaining a hundred bulbs or so, and putting them in at intervals of a week throughout August and the two first weeks of September, a plot of land can be made exceedingly beautiful from the end of the former month until November. Some growers naturalise the varieties of Colchicum autumnale in grass, and certainly they look very beautiful treated thus, whether on levels or slopes. Yet, as their after carpet of foliage is one of their charms, I consider them more fit for covering stretches of ground beneath tall deciduous trees. It will be necessary to sweep or pick away the dead leaves of the trees when a touch of winter brings them down, but then the meadow saffron leafage will become a joy, and continue until the following June or July.

Few gardeners grow even all the varieties of the common Colchicum autumnale. In addition to the familiar pale rosy-purple, we may have white (single or double, though the latter is rare and expensive), peach-lilac, rose, and dull magenta-purple. These shades harmonise to perfection, some giving a warmer effect than others when massed. In rockeries these may all be used advantageously, and spaces in semi-shade should be filled by the even finer colchicums that enterprising florists have brought us from Greece, Kashmire, the Caucasus, etc. C. speciosum rubrum is deep ruby red, large, and firm of petal; C. tessellatum shows the beautiful markings of rose-purple and white that distinguishes the meadow saffron from all other blossoms; so, too, does the rose and maroon C. Sibthorpi; C. byzantinum is rose-coloured, one of the best; C. Bornmülleri has peach-pink blooms with white centres; C. Bivonæ, peach, and C. Bivonæ superbum, vivid crimson, are perhaps finest of all; C. Parkinsoni is a chequered flower of peach and white, suited to sheltered rockeries only, and needing a cinder mulch during winter.



STACHYS GRANDIFLORA.

A fine specimen recently exhibited by Mr. Amos Perry, Enfield; flowers rich rosy-violet.

It is said that gardeners often plant in turf to keep the blossoms from becoming mud-bedraggled by the heavy rains of autumn. This can be as well prevented, however, by covering the soil of borders or beds with cocoanut fibre refuse, which shows up the pale colours admirably, or else putting the bulbs out in small spaces cleared for them in beds of stonecrops and mossy saxifrages, which give the prettiest display of all. They are suitable for window-box filling, and supply a want for those on the north, north-east, and north-west sides of houses where shade mostly reigns. A trio of fuchsias, preferably with variegated foliage, and a carpet of Sedum album, can give the summer show, and the colchicums, added in August, will soon assert themselves, their leaves remaining, if desired, as a winter effect when dwarf shrubs have been put where the fuchsias stood. A similar method suits garden vases and tubs.

Autumn-flowering crocuses offer yet more opportunities to the bulb-grower. If massed on rockeries, by rock edgings, upon bank-sides, or anywhere in turf or light rich soil, they can give colour effects quite marvellous considering their smallness and the low sum for which they can be purchased by the hundred. The cheapest is Crocus sativus, a thousand bulbs of which cost only 25s. This is a large-flowering species, mauve with deep violet markings and gay orange stigmata. C. speciosus, probably the best known, is brilliant blue, while many connoisseurs consider C. zonatus loveliest of all, so gay is the orange zone in its peach petals.

More costly species are the pale blue and white Crocus pulchellus, the rose-peach, sweet-scented Crocus longiflorus, C. asturicus, all of mauve and purple, and the wondrously hued C. tridiflorus. It is a charming hobby to cultivate both meadow saffrons and autumn crocuses in pots in the cool greenhouse and shady ferneries. Many a flower-loving amateur gardener would be glad to take up their culture in his blossomless shaded conservatory did he but know that perfect success is easy of attainment, and that the winter-flowering, as well as the spring-blossoming species of crocus could be used to keep up a succession until May; the last being quite distinct from the ordinary crocus, and obtainable in great variety.

Gladioli and montbretias make up much of the glory of the autumn bulb garden. There exists often a prejudice against the former, on account of lifting and storing, but the latter will thrive out of doors, in sun or shade, during the most severe winters, and, unless allowed to become overcrowded, never seems to fail to offer a harvest of superlatively graceful bloom-spikes. For these reasons all varieties of montbretias should be included in even small gardens, they will then be found to possess a wider range of colour than is generally imagined.

Last of all the autumn-blooming bulbs is the Caffre Crimson Flag, or Schizostylis coccinea, for in sunshine it blossoms in October, in shade during November. The bulbs are inexpensive, and if the best quality are bought there will not fail to be a rich harvest of the scarlet-crimson spikes. The ideal place for this plant is in nooks of a large shrubbery border, where it will be sheltered from cold and rough winds, and have deep, old soil in which to dwell and increase. It can also be cultivated in pots, but these should be sunk in sheltered semi-shady ground until the buds are colouring, after which it will open in room windows or cold greenhouses.

M. H.

STACHYS GRANDIFLORA.

Under the name of Betonica grandiflora the old garden plant now known as Stachys grandiflora was figured in the "Botanical Magazine" one hundred and seven years ago. The text accompanying the illustration is as follows: "It is at once distinguished from every other known species by the large size of the flowers, and by the whorls being distinct and not forming a spike. It is a native of Siberia, and, consequently, perfectly hardy. Flowers in June and July. Easily propagated by parting its roots, and requires no particular treatment. Introduced by Mr. Loddiges, nurseryman, at Hackney, within these few years. Far exceeds in beauty all its congeners."

By the careful selection of the best forms, having due regard to habit, freedom, and size and colour of flowers, a very fine type of this old plant has now become available for the hardy flower border. A goodly specimen, two or three feet wide, and eighteen inches or more in height, carrying a quantity of spikes of beautiful rosy-violet coloured flowers, is very effective in the border. The plant presents no cultural difficulties, and is a success in any good garden soil. Mr. Amos Perry, Enfield, has a fine form of this old species, and has shown it well on several occasions. The present illustration shows one of his specimens, and indicates the remarkable freedom with which the plant flowers; it may serve to reinstate a species that has been somewhat forgotten of late.

BEST PLANTS FOR GREENHOUSE.—Nearly 300 pages are devoted to the description, propagation, and culture of the best flowers and plants for the greenhouse in THE AMATEUR'S GREENHOUSE, by T. W. Sanders, price 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

SUN ROSES.

When late May and early June come round we are in the full enjoyment of the helianthemums, or Sun Roses, lovely little shrubs, generally of prostrate habit, which cover themselves with bright and dainty flowers of varied colouring. There is hardly anything finer on a rockery or at the edge of a border than a group of these gay flowers, with their crinkled petals open to the sun and seeming to glow with its radiance. Fleeting, perhaps, are their beauties, and on a sunny day when there is a good deal of wind their glory may be over by midday, but the following morning, and day after day, for a while, they are again covered with these gay flowers. In duller weather they last longer in flower, and, much as they like a dry soil, they continue better in bloom if they are supplied with water in dry weather during flowering time.

Cultivation.

Their culture is easy, and they are generally hardy; some of them, perhaps, objecting to a wet position where they are exposed to keen winds in winter, as they are generally evergreen. They are most at home on the rockery, but will delight those who see them close to the front of a dry border or on the front of a sunny shrubbery. They should be planted in almost full sun, and are propagated by cuttings in early spring or October in gentle heat, or under glass in a cool house or frame.

The helianthemums can also be raised in quantity from seeds, sown under glass in spring, and the seedlings pricked off about two inches apart when they can be handled. They should be removed to their permanent quarters when quite small as large plants do not remove well. Mixed packets of helianthemum seeds can be purchased from the seedsmen at a moderate price, and for threepence or sixpence a large number of sun roses of many colours and shades can be raised.

Colours.

These colours are varied in the extreme. There are no blues, although some of the crimsons rather approach purple in their tones; but there are whites, yellows, pinks, roses, creams, scarlets, salmons, browns, and many intermediate shades.

There are also varieties with double flowers, these embracing a considerable number of the colours included above.

The singles are, to the writer's mind, the prettier, but the doubles last longer in bloom, and are exceedingly pretty also. It is of little value to name a large selection of named varieties, but a few may be mentioned for the sake of those who like the choicer varieties, although many among the seedlings will be quite as good for decorative purposes.

The Best Varieties.

Amabile, as sold, is single, and is orange and rose, but the double variety, amabile fl. pl., sometimes sold as Mrs. C. W. Earle, is deep red, and a very fine thing indeed. Jubilee, a double bright yellow variety, and Old Gold, bronzy, are the best of all the double helianthemums, holding their flowers well up, while the others droop their blooms. Of the singles Beauty is pink, with a yellow centre; coccineum is bright crimson; and Golden Queen, yellow.

Balgreen is another fine single yellow one. Magnificent is terra-cotta. Magenta Queen is rosy red, while the dainty Mrs. Croft is rose-pink with silvery-grey leaves. Pink Beauty is pink, as the name would suggest, Snowflake is a beauty with white flowers and yellow anthers; Sulphur Gem has sulphur flowers with a deeper centre; and Yellow Standard has large soft yellow flowers. Vulgare fol. aureum has yellow leaves in winter and spring, and single yellow flowers. Other doubles besides those previously named are Chocolate, Orange, Rose, White, and Yellow, but Amabile fl. pl., Jubilee, and Old Gold are better than the five last mentioned for the reason already given. Surrejanum is a small-flowered variety with soft yellow flowers, and is a dense growing plant, suitable for covering stones. Polifolium roseum is very fine.

The helianthemums can all be kept within bounds, so far as regards size, by cutting them back as soon as they have finished flowering.

Such beautiful little shrubs deserve a place everywhere, their height not exceeding six or seven inches, and their charms at all times rendering them pleasant to look upon. S. Arnott.

HELIANTHUM GOLDEN QUEEN.
An effective variety with yellow flowers.

Potatoes.—This crop perhaps has not looked better in this district than at the present time, early, midseason, and late varieties being equally satisfactory. Providing fine weather now sets in, a heavy crop of the best quality is assured. When the growth of early and midseason varieties is finished do not hesitate to lift the crop and select the "seed" for next year, spreading the tubers in a dry position to well ripen before storing away. If potatoes were lifted earlier not half the complaints would be heard of diseased and bad keeping potatoes. They may lose a little of their skin, but this will not impair their keeping qualities. —G. Ellwood.

WEEPING STANDARD ROSES

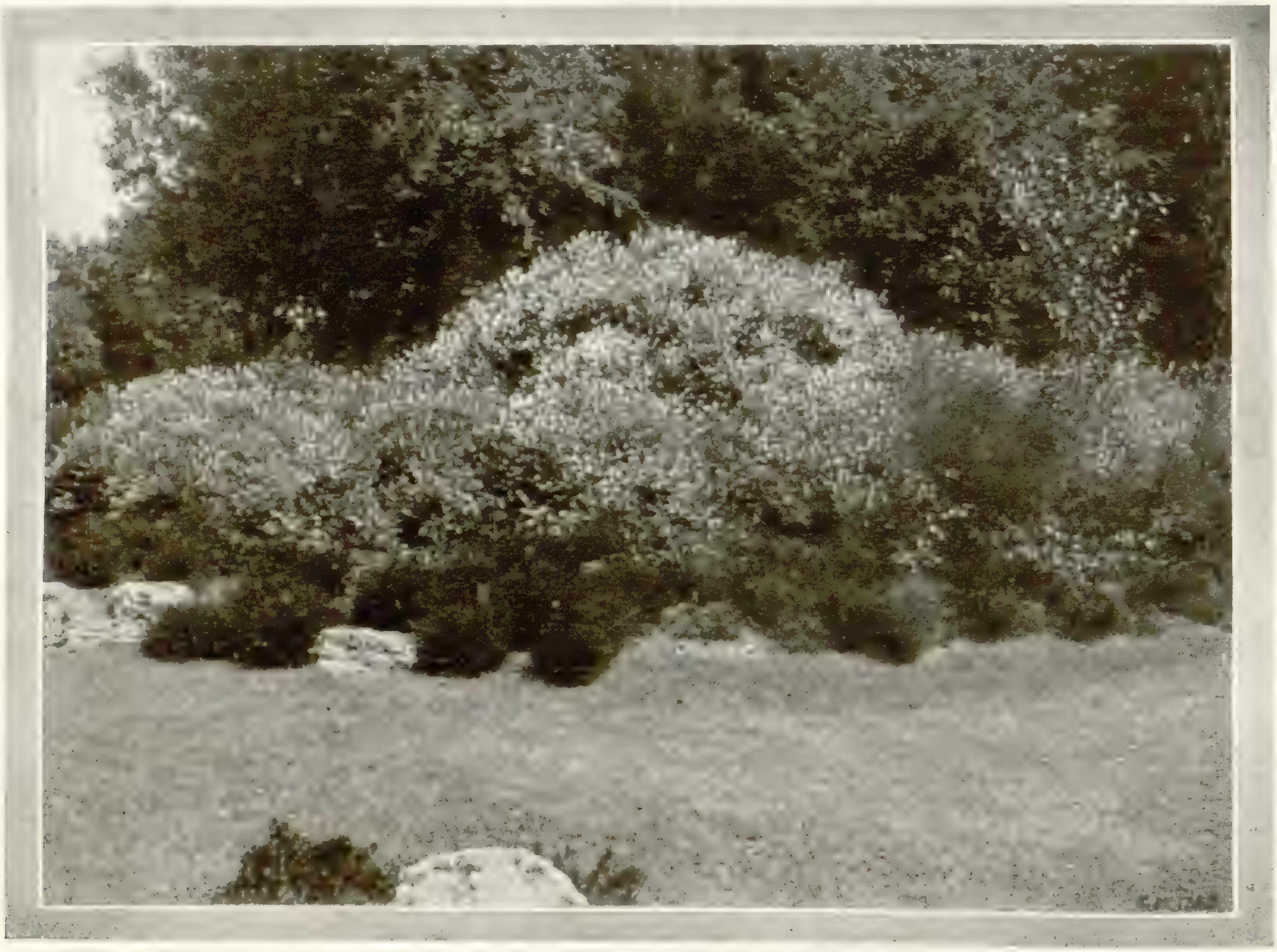
These are so very pleasing that I think a small selection of the best may be welcome. One can have them upon extra tall briar stems, or five to six feet high. In the latter case the plants have the appearance of cascades of flowers hanging down to the ground and are very pleasing. We have been fortunate in obtaining a small number of briar stocks with 7ft. to 9ft. of clean straight growth, and no better roses can be selected for these than the weepers. We plant the willow, ash, and birch in this form, and there is no reason why roses should not be made to serve the same purpose. Many of these are as free-growing and long lived as most ash or willows, with the additional charm of flowers. That they are bare in the winter is no drawback. We do not want shade then; while for the matter of that willows and ash are equally bare.

When one intends to use tall roses it is well to have some arrangement that will keep the top of the plant more in the form of an open umbrella than it would take naturally. This gives a much larger spread, and without it one cannot very well have a small stool or seat beneath.

I would suggest the following varieties: Dorothy Perkins (pink), Hiawatha (crimson), Wichuraiana (white), Evergreen Gem (pale fawn), White Dorothy (white), Delight (carmine), Gracilis (pink), The Garland (nankeen and pink), Evangeline (salmon-pink), Félicité Perpétue (creamy white) and Gardenia (yellow). This gives a good range of colour, and all are extra vigorous growers with a naturally drooping habit. A. P.

VERONICA TRAVERSI.

Within the past thirty or forty years a considerable number of dwarf-growing shrubby veronicas have been introduced to this country from New Zealand, and the more useful of them are found in nurseries where hardy trees and shrubs are largely grown, while several are freely distributed in gardens. All the species and their varieties that are in general cultivation possess merit, but they differ materially in usefulness for garden decoration, as some readily succumb to unfavourable climatic conditions, a severe frost being sufficient to seriously injure them when growing in cold heavy soils, or exposed positions. In the southern and western counties of England, and in the warmer parts of Ireland, a large proportion of the species may be planted with the full assurance of their proving satisfactory. Elsewhere it is advisable to limit the selection to a few of the kinds that can be depended upon to pass through an English winter, unless of exceptional severity, without injury, and to make a satisfactory growth, and produce a profusion of flowers.



VERONICA TRAVERSI.
A beautiful white-flowered evergreen shrubby species, growing on a rock border in the gardens of The Pleasaunce, the residence of Lady Battersea, at Overstrand.

One of the most useful of the New Zealand shrubby veronicas is that known as V. Traversi, which is now plentiful in gardens, as well as in nurseries, and so attractive when growing under favourable conditions as to fully merit the popularity it enjoys. Its comparative hardiness is a strong point in its favour, and when occupying positions where it is not crowded up by stronger-growing shrubs it forms dense shapely bushes that during the summer months bear a profusion of white flowers. It is not necessary to dilate upon the merits of the shrub, but it appears necessary to make some reference to its cultural requirements, for in not a few gardens in which it has been planted the specimens present a far from satisfactory appearance. The compact, dwarf habit of V. Traversi marks it out as of special value for a position on the margin of the shrubbery border, and its suitability for such positions is taken full advantage of. For a time all goes well, and the evenly-shaped bushes contribute their full share to the attraction of the border. Presently the strong-growing shrubs assert themselves, and overshadow their less robust neighbours, and fill the border with hungry roots. Deprived of a sufficiency of food and light, the veronicas languish, making but little new growth, and losing their leaves on the older wood, and present a half-starved and otherwise miserable appearance. There is certainly no beauty in plants grown under such conditions, and we suggest that unless it is reasonably certain they can receive the attention necessary to their maintenance in a healthy state they be not planted in the mixed shrubbery. They must have room enough for their full development, and a moderately liberal amount of food. Sufficient room can be given them by the free use of the knife upon vigorous growing neighbours, and a top-dressing annually of well-decayed manure will suffice for their food requirements.

This species, with two or three other of the dwarf evergreen veronicas, are of much value for the creation of distinct effects in the rock garden, and are frequently planted in the higher parts. Where the precaution is taken to provide a good root run, as, for example, on a broad ledge, where the soil is of some depth, they thrive, and are in every respect satisfactory. In some cases they are planted on ledges where the soil to which the roots have access is small in quantity. Here they may grow fairly well for a time, but the soil quickly becomes more or less exhausted of its nutrient properties, and the plants show signs of starvation. Small ledges are altogether unsuitable for these shrubs, for not only does the store of plant food in the soil soon become exhausted, but the ledges do not catch sufficient of the rainfall to enable the plants to have enough soil moisture. A raised border, arranged in terraces, with the aid of large pieces of stone, such as the one herewith illustrated, is admirably adapted to the requirements of the New Zealand veronicas. This border is in the gardens of the Pleasaunce, the delightful marine residence of Lady Battersea, at Overstrand, and is, especially at this season of the year, a highly attractive feature. In this position, with the needful attention given the border by Mr. Naylor, the able gardener, V. Traversi grows vigorously, and in each recurring summer produces a profusion of its flowers, and, what is not less important, is free from the premature shedding of foliage. G.

Hexacentris, or Thunbergia mysorensis, is one of those uncommon flowering plants, now so seldom met with, and for a stove or intermediate house it is most interesting. It produces its flowers in pendant racemes, resembling a laburnum, but differing in colour, being yellow and brown, a combination of colour reminiscent of Cytisus Andreanus. It should be trained near the roof glass at sufficient height to show the pendant blossoms to advantage. Mr. Emerson grows this well at Belton, one of the good old places where interesting plants are grown.—T. H. Slade.

RODGERSIAS.

Regarded simply as foliage subjects, the various kinds of rodgersia are among the most distinct and ornamental plants for grouping beside water. The oldest and best known species is Rodgersia podophylla, which produces its leaves on footstalks some eighteen inches in height. The individual leaves are bronzy-green, and divided into five broad segments, resembling in a general way the foliage of the horse chestnut, but on a giant scale. When planted in positions fully exposed, and sheltered from violent winds, the leaves become brightly coloured, their autumn tints contrasting admirably with the other occupants of the bog. R. pinnata differs from the latter chiefly in having slightly smaller leaves, which are deeply rugose; so far it has shown none of the colouring in the leaves which characterises R. podophylla; on the other hand, R. pinnata retains its leaves long after the foliage of R. podophylla is destroyed; the flowers of this species are rosy-crimson, and are produced in the form of erect panicles well above the leaves.

R. pinnata alba produces the most conspicuous flowers, and, regarded from this aspect, is the best of the group. Like those of R. podophylla, they are creamy-white, and are carried on panicles three to four feet in height. R. esculæfolia has leaves resembling the horse chestnut, of a rich bronze-green; the flowers are pinky-white, on stems about a yard high.

All the species of rodgersia are deciduous perennials, and only start into growth toward the middle of April. Propagation is effected by division, which, in the case of R. podophylla, is comparatively easy, as it increases at a surprising rate. R. pinnata and its variety, though vigorous growers, are somewhat slow in increasing. The members of this group belong to the saxifraga family, and are all natives of China or Japan.

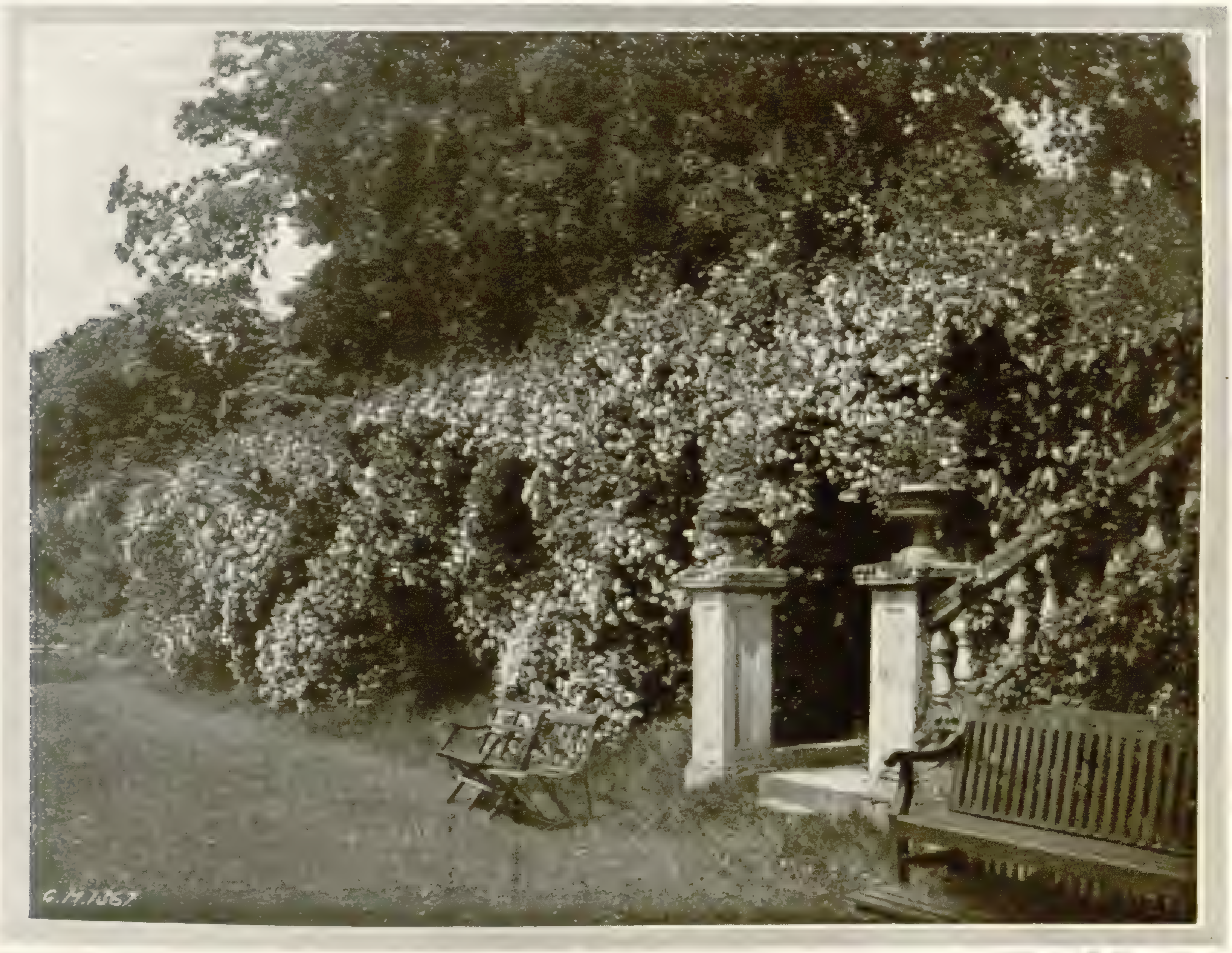
Thomas Smith.

TABLE PLANTS.

The time will very shortly come when these plants will be required for use in the dwelling house. The present season has not been a really good one, as regards the weather, many days being sunless, and the air cold. In these circumstances it is a difficult matter to get that deep, rich colour in the leaves of fine-foliage plants so desirable. I usually grow crotons on shelves quite close to the glass, and do not shade at any time, but great care is taken to keep the atmosphere moist, and to prevent over dryness at the roots, and the attack of insect pests on the leaves. Cultivators who have not had much experience in the growing of such plants as these and dracænas for table decoration, and have kept them shaded, should, early in the autumn, remove the shading, and gradually expose the specimens to the full light and sunshine. If this be done, and water given with great care so as to preserve all the lower leaves in perfect health, very nice plants will be available.

G. B.

Lettuce.—The chief sowing for the spring supply should commence about the 20th of the present month, and ten days later. To be certain of possessing plenty of plants, sow in three positions in the garden. When sowing add a good dressing of old potting soil and burnt garden refuse, and protect from birds with nets if they are troublesome.—G. Ellwood.



[Photo: F. Mason Good.

RAMBLING ROSE FÉLICITÉ PERPÉTUE.
As grown against a wall in the gardens of Sandhurst Lodge, Wokingham.

ROSE FÉLICITÉ PERPÉTUE.

Very much has been written about this old rose, and in recent years attempts have been made to belittle it so that by contrast the newer roses of climbing or rambling habit might have the greater glory. This is not fair treatment. We want all the roses that are really good, and the new ones must stand or fall just as they are better or worse than old ones, or have some distinctive feature. For over three score years and ten Félicité Perpétue has been with us, and there is a great deal to be said for a rose that has graced our gardens for the greater part of that period, notwithstanding the many competitors for such places as it is usually grown in. Félicité Perpétue is an evergreen climbing rose of great value and beauty, and one that rarely fails to provide a fine crop of attractive blush-coloured flowers. It is still worth a place in a selection of climbing roses, and it will not disgrace the newest introductions. It is a good pergola rose, especially fine for pillars and chains along the side of a path, and a pretty picture when well trained over a porch or house front. In many a country village this old rose may be seen in fine condition, and it occupies a prominent position on the walls of many a country mansion. At Sandhurst Lodge, Wokingham, where roses are so well grown, the old Félicité Perpétue is seen to advantage on a wall, and the accompanying illustration serves to show its usefulness, freedom, and great beauty in such a position. This variety, with a few other of the older ramblers, should receive attention when a selection of climbing roses is under consideration.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CALANTHES.—The deciduous calanthes will now have filled their pots with roots, and as the pseudo-bulbs are developing every encouragement is necessary to induce them to mature satisfactorily. Although I do not feed, I see no reason why the process of artificial feeding should be condemned. Different situations and the difference in the conditions under which plants have to be grown necessitate varying methods of culture; there is no class of plants in which the variation in methods of culture is so great as in the case of calanthes. They are, perhaps, more generally grown in gardens than any other orchids, and those who have had to grow them in different places have found the necessity of adopting their practice to the conditions that obtain. It is thus not desirable to condemn methods of treatment and feeding where these produce results which are in every way satisfactory. There is one thing that has always struck me as necessary, and that is to see that the plants have become well rooted before any feeding is given. It is after they have filled their pots with roots that they require a greater amount of moisture, and discreet feeding is beneficial. There is nothing more useful for the purpose than liquid manure, prepared by placing a bag partly filled with sheep or cow manure into a barrel of rain water. If a little soot is added in a separate bag, placed in the same tub, it will be an advantage. Dilute this before use, and add sufficient water to make it weak at first, and increase in strength as the plant brings its growth to maturity. About once a week use the liquid manure. Artificial manures must at all times be cautiously applied. This is the season at which the plants commence to develop what is called black spot in the foliage, and on the pseudo-bulbs. Some writers attribute this to syringing overhead, unfavourable watering, and excessive moisture in the atmosphere. I am quite willing to admit that these may be undesirable conditions of cultivation, but my experience has induced me to hold a different opinion. I have found that, with every precaution, some of the plants of even the most robust-growing kinds will develop this unsightly disfigurement when grown among others of a more weakly constitution that are perfectly clean in foliage. I have come to the conclusion that it is other than cultural treatment that causes the trouble. As the pseudo-bulbs mature more light should be admitted, and the atmosphere kept drier by more liberal ventilation and careful use of the artificial heat at night.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

PLUMBAGO ROSEA.—For winter decorations this plumbago has few superiors, especially where it can be grown in good big batches. Somewhat ungainly in habit as a plant, yet for the production of cut flowers for the decoration of the dinner table it is most beautiful. Unlike Plumbago capensis this species requires a stove temperature nearly the whole season through, and will not put up with anything like such cool treatment. Like most other occupants of the stove, this plumbago requires a fairly open rooting medium, consisting of loam, peat, and sand, with a little charcoal added, and is benefited by a little feeding when the pots become well filled with roots. Young plants rooted early in the summer should now be growing freely. They are preferably rooted in large 60's, three in each. They should be pinched once or twice during the growing season. This will make them fairly bushy, and if transferred to six-inch pots during the present month they will give some good strong spikes of bloom from Christmas on through the winter and spring. Plants a year older are even more productive of good bloom than are the younger ones, and these, if cut hard back after blooming in the spring, should also be fit for potting on, using for these seven-inch pots. If stove accommodation is not available after potting, they may be placed in a heated pit for a month or six weeks, giving them a syringing on fine days. After they are nicely rooted admit just sufficient air to ensure the young shoots growing stockily, but on the approach of cold nights, say quite by the middle of September, they must be removed to a light position in the stove where they will have ample air space between them.

IXORAS.—As these go out of bloom, any that are grown somewhat out of shape should be pruned a little, utilising the strong growing points for cuttings which, if inserted in thumb pots filled with a very fine mixture consisting of peat and sand, will soon take root if placed in the propagating frame. The old plants should have a thorough cleansing either by sponging or syringing well with paraffin emulsion; any plants that require it should be repotted, using a fairly lumpy compost of peat, leaf-soil, and sand, making it as firm as possible, and if carefully watered for a time should be well rooted again before the autumn. The younger plants may be repotted as they require it any time up to the middle of September, it not being wise to shift later.

POINSETTIAS.—Any plants of these requiring a shift should be attended to at once, as if left later they will not have time to be well established in the new soil before blooming. Plants that are nicely established and not requiring a shift may be helped by a little liquid manure. Admit sufficient air to keep the wood and foliage firm, and on all fine days spray lightly overhead both morning and evening, taking care that those in charge do not use the syringe too vigorously, as the least bruise either by the syringe or anything else will make the young tender foliage bleed. Euphorbias will require similar treatment to the above, and if trained up the wires in a melon house, as advised in a previous calendar, they should now be making good stocky growth, which is so essential for the production of good spikes of bloom later on in the autumn.

CALADIUMS.—As the earlier batches of these plants begin to show signs of a cessation of growth, by the foliage turning yellow, the watering must be slightly reduced, but not sufficient to allow the leaves to die down very quickly, or there will be some difficulty in keeping the corms in good condition through the winter. What is necessary is to just gradually withhold water, allowing the foliage to remain on as long as possible, not pulling it off on the least sign of yellowness. Needless to say, the syringe ought to be withheld during the dying down process.—Thomas Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

PEACH TREES IN POTS that are carrying late crops of fruit should be kept clean by being daily syringed up to the time their fruit commences to ripen, and as soon as the fruit is gathered the syringing should be resumed, and continued until the leaves fall. Applications of diluted liquid manure or other suitable stimulant should also be given until the fruit commences to ripen. Trees that have completed their growth, after having yielded an early crop of fruit, and are otherwise prepared for it, should be now moved to a sheltered sunny position out of doors. Subsequently, when their leaves near maturity, trees that require it —and it should be remembered that trees of this kind readily exhaust their compost—should be repotted. In attending to this, young trees should be given a shift into pots of a size larger than those they are occupying, and in carrying this into practice carefully turn the trees out of their pots, remove the crocks, disentangle the outside fibrous roots, and cut back strong bare ones. In repotting use well-drained clean pots; firmly ram the compost, which should be moderately dry when used. This should consist of three parts good loam and one of finely crushed mortar rubble and wood ashes, with the addition of a sprinkling of bone-meal. For a few days after potting protect the trees from powerful sunshine, and until their leaves fall syringe them overhead in the afternoon of fine days, and at all times attend carefully to watering.

FIG TREES IN POTS.—Fruit-bearing trees should be given careful treatment under glass until their fruit is gathered, when they should be gradually hardened before being placed out of doors. Early forced trees, if they have been treated as recommended in a previous calendar, should now be in proper condition for being placed in a sheltered sunny position outdoors, where their pots should be plunged in a bed of ashes. Make certain the drainage is in a satisfactory state, and give plentiful supplies of water, but manures of all kinds should be withheld. Should any of the trees require to be repotted, attend to it at an early date, when young trees should be shifted into larger pots, and those in large pots have their balls of soil, together with their roots, reduced, and be repotted, using efficiently drained pots of the size they have occupied. A compost of fibrous loam, liberally mixed with crushed mortar rubble and bone meal, made quite firm about the roots, answers well as a rooting medium. Plunge the pots, and spray the trees overhead in the morning and evening of fine days.

LATE FIG TREES IN BORDERS.—Trees now swelling their fruit, with their roots confined to a small rooting space, will require frequent applications of diluted liquid manure, or manurial top-dressings, accompanied with copious supplies of water. Thin the fruits, if necessary, by removing those nearest to the points of the shoots, and keep the growths well thinned and stopped, which will both accelerate the swelling and colouring of the fruit, and aid in maturing the wood. Up to the time the fruit commences to ripen maintain a warm temperature, and close the house early enough to secure a warmth, for a short space of time, of about 80, when the trees should be thoroughly syringed, which, together with other benefits, will keep red spider at bay. Once the ripening stage is reached discontinue syringing, maintain drier atmospheric conditions by careful ventilation, and thus prevent condensation of moisture which, if promoted, would cause damage to the fruit.

EARLY FIGS IN BORDERS.—In cases where trees from which the fruit has been gathered are unsatisfactory owing to making robust, imperfectly matured wood, their roots should, as soon as the trees' leaves are sufficiently matured, be bared up to two or three feet of the stems, the most fibrous roots raised near to the surface, and the strong bare ones cut back. Should a new border be necessary, or the drainage need rectifying, the opportunity thus afforded of improving these matters should not be missed. Attend subsequently to syringing in order to prevent the leaves flagging.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

ONIONS (SPRING SOWN).—These generally have finished their growth by the 24th of this month, therefore care must be exercised as regards watering from now onwards. If at all dry, give one more soaking of water, which should be quite sufficient. The only reason why large bulbs fail to keep is caused by imperfect ripening and rough handling. In commencing to harvest them the finer bulbs should be eased with a fork by just drawing a few roots, let them remain so, repeating the operation for three days, when they can with safety be removed from the ground entirely. Place on a soft bed of hay, protecting them from rain. A prepared cold frame would be an ideal place for them, where the lights could be placed over them each night.

ONIONS (AUTUMN SOWN).—It will now be time to prepare a bed for the Tripoli varieties. If it is intended for them to complete their bulbs where sown, the ground should be trenched and manured. If special bulbs are the aim, I would strongly advise sowing the seed about August 20, and ten days later on ground that has been occupied with potatoes by levelling it down and rolling, or made firm, in drills at twelve inches apart, and defer the planting on the prepared ground till the end of February or early March, as the weather may be. First-rate varieties are White Leviathan and Lemon Rocca.

BROCCOLI.—The late or spring varieties can still be planted as ground becomes vacant; they will be found to stand the winter far better than fully developed plants of the same variety, they having more activity whenever the temperature will allow them to grow. Winter greens and plenty of savoys should also be planted. Of the latter choose good sturdy plants.

LEEKS.—The completion of the moulding of the early batch should now be finished, and the plants should be given a good soaking of diluted liquid manure to perfect the blanching process. If the atmosphere is dry, spray the foliage.

CELERY is growing remarkably well this year, and has not been attacked by the dreaded celery fly so far; but as a prevention of an autumn attack give occasional dustings of soot and lime, which will also be useful in keeping off slugs. Earthing up should commence now with the early maincrop, precede this by carefully removing all side growths and small leaves, and if at all dry give a good soaking of diluted liquid manure. When dry commence earthing up to three or four inches, repeating the same operation every ten days. Do not attempt hastening the later plantings, as the longer they are left the better able will be the plants to withstand the severity of a hard winter.

PARSLEY previously sown for winter will require thinning out to ten inches apart. If drawn carefully the thinnings can be planted in cold frames, or at the foot of a south wall make another sowing of the variety Hardy Winter.

GENERAL WORK.—There will be much to do now, though the chief crops are fast maturing. All plots of exhausted crops, such as cauliflowers, peas, spinach, lettuce, etc., should be speedily cleared off the ground and consigned to the rubbish heap. Mulching and watering with constant hoeing must be attended to.—**G. Ellwood, Swanmore Park Gardens.**

SWEET PEAS AT BIRMINGHAM.

A fine table of sweet peas set up by Messrs. Robert Sydenham, Lim., Tenby Street, Birmingham, at the Midland Carnation Show, Botanical Gardens, Edgbaston, Birmingham.

EXHIBITIONS AND MEETINGS.

Midland Carnation Show.

The twentieth exhibition held under the auspices of the Midland Carnation and Picotee Society took place on August 4 and 5 in the Botanical Gardens, Edgbaston. The opening day was fine, and the gardens proved as great an attraction as the show. The recent introduction of numerous exotic animals, birds, and reptiles, in suitable homes was a further attraction.

The carnations were not up to best Midland form, except in a few instances, but the competition was keen in nearly every class. In addition to the carnations there were a few classes for sweet peas, and some interesting non-competitive exhibits. With the exception of Mr. Mathias, the southern growers of carnations were conspicuous by their absence.

DRESSED FLOWERS ON STANDS.

The best set of twelve selfs came from Mr. A. R. Brown, Wychall Lane, King's Norton, who had clean specimens of W. H. Parton, Ayesha, Mrs. Heward Green, Albion, Modesty, Theodore Galton, Solfaterre, Bonnie Dundee, Lyndsay, Elizabeth Schiffner, Alma, and Mulberry; Mr. Hayward Mathias, Medstead, Hants, came second, and Mr. W. Sydenham, Melbourne, third; six competitors. Mr. F. W. Goodfellow, Sutton Road, Walsall, led for six selfs with Sir Galahad, Miss Willmott, John Pope, Dinah, Daffodil, and Cardinal; Mr. G. D. Ford, Oxford Road, Acock's Green, second; and Mr. C. Alcock, Blundell Sands, third; nine entries.

Six competed in the class for a dozen yellow-ground picotees, and chief honours fell to Mr. Hayward Mathias for Gloria, Her Majesty, John Ruskin, Una, Exquisite, Deux, South Western, Mrs. Heriot, Togo, Astrophel, Thisbe, and A. Brown, all very clean, but rather small; Mr. A. W. Jones second; Mr. Wm. Sydenham third; and Mr. C. F. Thurston, Penn Fields, Wolverhampton, fourth. Mr. F. W. Goodfellow scored among eight entrants for six yellow-ground picotees with J. Ruskin, Her Majesty, Santa Claus, Togo, Exquisite, and Mrs. W. Heriot; Mr. G. D. Ford second; Mr. Harry Skeels third, and Mr. E. J. Price, Elm Road, Bourneville, fourth.

The class for a dozen fancy carnations is always an attractive one; here there were seven competitors, and first place was won by Mr. Hayward Mathias with fine specimens of Mrs. Leo Hunter, High Lees, Lord Steyne, Rhea, Linkman, Hidalgo, Hecla, Sam Weller, Father O'Flynn, Devonian, Orlando, and Mrs. Thurstan; Mr. A. W. Jones second; Mr. A. R. Brown third; and Mr. C. H. Herbert fourth. Mr. Goodfellow led for six fancies with splendid blooms of Lord Steyne, King Solomon, Rony Buchanan, Sam Weller, Linkman, and Jupiter; Mr. C. Alcock second; Mr. G. D. Ford third; and Mr. Harry Skeels fourth.

The best stand of a dozen white-ground picotees was adjudged to be the one set up by Mr. C. F. Thurstan, whose varieties were Amy Robsart, Fortrose, W. E. Dickson, White Heather, Thos. William, Excelsior, Brunette, Carrie Goodfellow, Mrs. Hoskier, Fair Maiden, Myra, and Queen of Spain; Mr. C. H. Herbert second; Mr. A. R. Brown third; and Mr. W. Sydenham fourth; six competitors. The Rev. C. A. Gottwaltz, Hadsor Presbytery, Droitwich, led for six white-ground fancies with Lady Sybil, Beatrice, Mrs. C. H. Herbert, Thos. William, Maud Brown, and Elaine; Mr. F. W. Goodfellow, second; Mr. G. D. Ford, third; Mr. W. H. Twist, fourth; six entries.

Mr. Hayward Mathias, Medstead, Hants, scored for a dozen flake and bizarre carnations with clean fair-sized flowers of Sarah Payne, Martin Rowan, G. Melville, W. Skirving, Free Trade, Merton, S. Rudd, R. Houlgrave, Sportsman, and H. Curzon; Mr. C. H. Herbert, second; Mr. C. F. Thurstan, third; and Mr. A. R. Brown, fourth. For six flakes and bizarres Mr. G. D. Ford led, followed in order by Mr. C. J. White, Charlemont Road, Walsall; and Mr. H. Boyes, Walsingham Street, Walsall.

FLOWERS IN VASES.

Mr. Parton scored for twelve single flowers, in vases, with Daffodil, Hildegarde, Lady Hermione, Bridegroom, and W. H. Parton as his best flowers; Mr. C. Alcock second with smaller and bright flowers; Mr. A. R. Brown, third; and Mr. Hayward Mathias fourth. The best six selfs, in vases, were shown by Mr. A. Gordon Russell, Wheatley, Oxford, who showed Sir Galahad, Agnes Sorrel, Cardinal, Mrs. Flight, Enid, and Daffodil; Mr. W. H. Twist, Vicarage Road, Yardley, second; Mr. J. D. Williams, third; and Mr. J. Hancock, fourth.

For a dozen blooms, in vases, yellow grounds or fancies, Mr. W. H. Parton was again to the front, and here he won with good examples of Liberté, Voltaire, Lord Steyne, Merlin, Sam Weller, Mrs. Francis Wellesley, Pasquin, Rony Buchanan, Erl King, Mandarin, R. A. Rowberry, and Westfield Seedling; Mr. A. W. Jones, second; Mr. A. R. Brown, third; and Mr. C. H. Herbert, Hazelwood Road, Acock's Green, fourth; eight competitors. For six single blooms, staged in vases, Mr. J. D. Williams, Corbett Street, Smethwick, led, with Rony Buchanan, Sam Weller, and Mrs. Thurstan as his best blooms; Mr. Joseph Hancock, Park Road, Bearwood, second; Mr. H. Skeel, Cecil Street, Walsall, third; and Mr. C. J. White, Charlemont Road, Walsall, fourth.

The class for a dozen triplets of carnations, set up in vases, was a good one, and there were eight competitors. First prize was won by Mr. W. H. Parton (gardener, Mr. Carpenter), Kingswood Grange, Hollywood, Birmingham, who on this occasion won his 250th prize for carnations. His first prize set here consisted of Sam Weller, Mandarin, Lord Steyne, Merlin, Voltaire, Sappho, Sir Galahad, Rony Buchanan, R. A. Rowberry, W. H. Parton, King Solomon, and Bridegroom; second prize fell to Mr. A. W. Jones, Albert Road, Stechford, who had his flowers set up splendidly with "grass" and buds; Mr. A. R. Brown, King's Norton, third; and Mr. C. Alcock, Blundellsands, fourth.

MR. W. H. PARTON'S FIRST PRIZE TWELVE VASES OF CARNATIONS
At the Midland Carnation Show, Botanical Gardens, Edgbaston, Birmingham.

Mr. G. D. Ford, Oxford Road, Acock's Green, scored a first for six trebles, in vases, with a good set of Linkman, Liberté, W. H. Parton, Crystal, Berenice, and King Solomon; Mr. J. D. Williams second; Mr. Joseph Hancock, third; and Mr. F. W. Goodfellow, fourth.

In the class for three flowers of one variety, in vases, Mr. A. Gordon Russell scored for a white or blush variety with Sir Galahad; and Mr. Parton for a rose or red self with lovely flowers of Mrs. Guy Sebright.

In the smaller amateurs' division Mr. J. B. Willetts, Yardley Fields Road, Yardley, led for six white-ground picotees in the amateurs' section, and was followed by Mr. E. Kenwright, Edith Road, Smethwick; and Mr. A. H. Birchley, Umberslade Road, Selly Oak. For six selfs Mr. A. H. Birchley was first, Mr. J. B. Willetts second, and Mr. T. Payne, Grantham Road, Smethwick, third. For six fancies or yellow-grounds, the prizes fell in order to Mr. J. B. Willetts, Mr. A. H. Birchley and Mr. H. J. Thornton, Maney, Sutton Coldfield. For six selfs, in vases, Mr. Birchley, Mr. Willetts, and Mr. T. Payne won the principal awards. For six fancies, similarly staged, the chief awards went to Mr. Birchley, Mr. Willetts, and Mr. Francis Woodward, Elm Road, Bourneville, in the order mentioned.

SINGLE BLOOM CLASSES.

In the single bloom classes the best scarlet bizarre was Robt. Houlgrave; the best crimson bizarre Master Fred; the best pink or purple bizarre Wm. Skirving; the best scarlet flake Sportsman; the best rose flake Meteor; the best purple flake Gordon Lewis; the best heavy red-edge picotee Beatie; the best light red-edge Mrs. Gorton; the best heavy purple-edge Mrs. G. Chaundy; the best light purple-edge Myra; the best heavy rose-edge Mrs. Twist; the best heavy scarlet-edge Mrs. Sharp; the best light red-edge Fortrose; the best light-edge, yellow-ground picotee John Ruskin; the best heavy-edge yellow-ground Santa Claus; the best yellow-ground fancy Lord Steyne; the best fancy other than yellow-ground, Nizam; the best white self Mrs. Eric Hambro; the best blush self Georgina; the best yellow self Ann Hathaway; the best buff self Mrs. E. Schiffner; the best rose or pink self Mrs. Howard Green; the best scarlet self Cardinal; the best crimson self Cain; the best purple self Royal Purple; and the best self of any other colour was Irene, of heliotrope shade.

In some of these classes the competition was very keen, and the leading prizewinners were those who secured awards in other classes.

SWEET PEAS.

There were five competitors in the class for a table decoration of sweet peas, the prizes offered by Messrs. R. Sydenham, Lim. The premier award fell to Mr. A. T. Blair, Bedford Street, Barford, Stoke-on-Trent, who had a pretty design in Constance Oliver and Countess Spencer, with gypsophila and selaginella trails; Mr. E. Deakin, Hay Hall, Hay Mills, second; and Mr. J. Sceaney, Nursery Road, Harborne, third, with a rather heavy arrangement.

The Messrs. Sydenham also offered prizes for a dozen bunches of sweet peas, and here Mr. Thos. Jones, Bryn Pen-y-lan, Ruabon, was an easy first with grand bunches of Mrs. Routzahn, Mrs. Chas. Mander, Asta Ohn, Clara Curtis, Miriam Beaver, Etta Dyke, Sunproof Crimson, Helen Lewis, Evelyn Hemus, John Ingman, Mrs. Hardcastle Sykes, and Othello Spencer; Mr. J. Haycocks, Gyfelia, Wrexham, was second; and Mr. Deakin, Hay Mills, third. For six bunches of sweet peas Mr. E. Tilt, Sycamore Road, New Oscott, was first with Asta Ohn, Helen Lewis, Evelyn Hemus, George Herbert, Countess Spencer, and Black Knight Spencer; Mr. J. Sceaney, Harborne, second; and Mr. S. Smith, Maple Road, Bourneville, third.

NON-COMPETITIVE.

Messrs. Robt. Sydenham, Lim., Tenby Street, Birmingham, had a delightful table of sweet peas, prettily disposed in rustic table ornaments, the whole making up a most elegant display. The varieties finely represented were Apple Blossom Spencer, Maggie Stark, Constance Oliver, Helen Pierce, Sunproof Crimson, Mrs. Routzahn, Countess Spencer, Evelyn Hemus, Clara Curtis, John Ingman, Etta Dyke, and Tom Bolton; it was one of the best displays the Tenby Street firm has set up. (Silver-gilt medal.) Although their flowers were rather smaller than those set up earlier in the season, Messrs. Jarman and Co., Chard, had a very pretty group of the charming centaureas, for which they are already famous. (Silver medal.)

Messrs. W. H. Simpson and Sons, Birmingham, filled the front of the orchestra platform with a display of sweet peas, and they made up a very pleasing exhibit with Henry Eckford, Helen Lewis, Countess Spencer, Evelyn Hemus, Dazzler, Constance Oliver, St. George, Edna Unwin, Elsie Herbert, and Frank Dolby, etc., set up in fine representative bunches and stands (silver-gilt medal). Mr. Welham, Danesford Nurseries, Bridgend, showed his new double cream-yellow annual chrysanthemum, named A. Welham. Mr. J. J. W. Thackery, Guernsey, sent over a few gladioli and very poor sweet peas. From the Lapworth Nurseries, Hockley Heath, came a collection of hardy flowers that was not at all well set-up. (Bronze medal.)

PREMIER FLOWERS.

Dressed Blooms.—Bizarre carnation—Master Fred, from Mr. Hayward Mathias; flake carnation—Gordon Lewis, from Mr. Hayward Mathias; heavy-edged white-ground picotee—Mrs. Twist, from Mr. W. H. Twist; light or wire-edged white-ground picotee—Mrs. Gorton, from Mr. F. W. Goodfellow; heavy-edged yellow-ground picotee—Santa Claus, from Mr. C. H. Herbert; light-edged yellow-ground picotee—John Ruskin, from Mr. C. Wall; yellow-ground fancy carnation—Highland Lass, from Mr. Hayward Mathias; self carnation—W. H. Parton, from Mr. A. R. Brown.

Undressed Blooms.—Self carnation—W. H. Parton, from Mr. A. H. Birchley; fancy carnation—Mandarin, from Mr. C. Wall; yellow-ground picotee—Agnes, from Mr. A. W. Jones.

First-Class Certificates were awarded to: Dark self carnation—Harry Parton, from Mr. W. H. Parton; fancy carnation, Hecla, from Mr. Hayward Mathias; yellow-ground picotee—Gloria, from Mr. Hayward Mathias; and rose flake carnation—Peter Pan, from Mr. C. H. Herbert.

MEDALS.

In the leading class the point medals were won by Mr. Hayward Mathias, 111 points; and Mr. A. R. Brown, 95 points. In the six-bloom classes, Mr. G. D. Ford secured the silver medal with 72 points, and Mr. F. W. Goodfellow the bronze medal with 69 points. In the single-bloom classes, Mr. C. H. Herbert won the silver medal with 37 points, and in the amateurs' section Mr. A. H. Birchley won the bronze medal with 73 points.

Bishop's Waltham, JULY 27.

The thirty-sixth annual show, held in the Palace Ruins, Bishop's Waltham, was much the best of the series. Originally this society was started for the benefit of cottagers, to whom it has given much encouragement, but latterly it has taken floral decorations in hand, and can now boast of quite one of the finest displays in the country, especially table decorations. Fruit and vegetables, too, receive much encouragement, and a strong committee, with Mr. E. Molyneux as their leader, arrange the details satisfactorily.

FLORAL DECORATIONS.

In an open class for the best decorated dinner table, 6ft. by 3ft., orchids excluded,

SANDY (BEDFORDSHIRE).
42nd ANNUAL SHOW, AUGUST 25, 1910.
PLANTS, FLOWERS, FRUIT, VEGETABLES, Etc.
DOGS, POULTRY, PIGEONS, RABBITS, and CATS.
PRIZES VALUE £1,000.
Ten Stove and Greenhouse Plants, £8, £7.
Groups, £10, £9, £8.
Entries close August 18.
Schedules and particulars of W. GREEN,
Secretary, Sandy.

SHEFFIELD CHRYSANTHEMUM
SOCIETY'S SHOWS
Will be held in the CORN EXCHANGE,
FRIDAY and SATURDAY, September 16 and 17;
FRIDAY and SATURDAY, November 11 and 12.
OVER £300 OFFERED IN PRIZES.
Schedules and all particulars on application from
C. COOK, Secretary, City Road, Sheffield.

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£5, £3, and £2 are offered as prizes, and there were seventeen competitors. After a close scrutiny, the three lady judges awarded the premier position to Miss G. Saunders, Crumpherne, Fareham, for an almost faultless arrangement of Fair Maid carnations and lily of the valley, tastefully associated with suitable greenery. Mrs. E. C. Penn, Droxford, Hants, was a close second with a very similar arrangement of the same flowers, but with just a little trifle too much greenery in the centre. Mrs. Colston Hall, Virginia Lodge, Warminster, was third with single and small yellow roses, deftly arranged in a rather too tall rustic stand in the centre. An extra prize was awarded to Mr. F. G. Bealing, Bassett, Southampton, for a table of Lyon Rose. For a table of wild flowers Miss Elsie Collins, Swanmore Park Lodge, was distinctly ahead with scarlet poppies and camomile; Mrs. W. Parvin, Durley, second.

For a table decoration, confined to members of the society only, Miss D. Gunner, Ridgemede, Bishop's Waltham, was first with nemesias, arranged effectively. Miss M. Luttrell, West Leigh, Botley, second. For the best vase or epergne of flowers Mrs. G. Ellwood was first with pink and white larkspurs; Mrs. Penn second with carnations. Eleven competed in the class for a basket of flowers, the best being a pretty combination of sweet sultans, etc., by Mrs. Colston Hall; Mrs. E. Walters, Fareham House, Fareham, second; and the Locksheath Nursery Company third.

For a basket of wild flowers Mrs. J. L. Sell, Kempton Villa, Luton, was first with a delightful arrangement; Mrs. Colston Hall a close second. Nineteen competed in the class for the best arranged vase of sweet peas, and Mrs. Colston Hall was distinctly first with an effective blending of colours. Mrs. F. G. Bealing second. For a bowl of roses Mrs. Arthur Bide, Alma Nurseries, Farnham, was first with a charming mass of Lyon Rose; Miss V. Crabbe, Aldershot, second with General McArthur.

FLOWERS.

Roses were numerously shown. For six bunches, distinct, Mr. G. Ellwood, gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, was easily first, as he was also with six bunches rambling varieties, in which Lady Gay and Hiawatha figured prominently. Mr. W. Cooper, gardener to Miss Gladstone, Hampton Hill, Swanmore, was second in the latter class with a remarkably good exhibit. Mr. Cooper won the premier position for six bunches of carnations. Mr. B. Peppler, Vernon Hill, Bishop's Waltham, was first for six bunches annuals.

For eighteen bunches of flowers grown out of doors, Mr. H. Child, gardener to Mrs. C. Macrae, Meonstoke House, Bishop's Waltham, was first with a thoroughly representative exhibit of seasonable subjects.

Mr. Ellwood won Messrs. Ladham's premier prize for twelve bunches with quite an ideal set in a stiff competition. Sweet peas were numerous. Mr. E. J. J. Edwards, Portland Place, Bishop's Waltham, won the first place for twelve bunches, distinct, and Mr. Cooper won Mr. Eckford's first prize for twelve bunches, and was first for Messrs. J. Carter and Co.'s prizes, as well as Messrs. Sydenham's for six bunches. Miss Bashford, Soberton Towers, was first in Mr. C. Breadmore's class for six bunches with an attractive display.

FRUIT AND VEGETABLES.

For six dishes, distinct, Mr. Ellwood was first with Muscat of Alexandria and Madresfield Court grapes, a melon, peaches, and nectarines as his best dishes.

For four varieties Mr. Fursey, gardener to H. W. Trinder, Esq., Northbrook House, Bishop's Waltham, was first with good produce. For four varieties of outdoor growth Mr. Barnes, gardener to T. C. Wilson, Esq., The Thickets, Bishop's Waltham, won easily.

Vegetables were numerous and good. Mr. Ellwood won Messrs. Toogood's chief prize for eight dishes; Messrs. Sutton's for six dishes; as well as Messrs. Webb's. Mr. Cooper won Messrs. J. Carter and Co.'s prize for six dishes. Mr. Ellwood had the best tomatoes in a special class.

Southampton Carnation Show.

JULY 27.

The twelfth annual show was held on the pier, and if not so large as some previous ones, it provided a very good display.

DRESSED FLOWERS.

For twelve flakes and bizarres, distinct, three entered, the best coming from Mr. J. Douglas, Edenside, Great Bookham, Surrey, who staged the following in his premier exhibit: Gordon Lewis, Recorder, Rowena, Torchlight, Master Fred, Peter Pan, George Melville, Sarah Payne, Sportsman, J. H. Hextall, and Arthur. Mr. A. R. Brown, Kings Norton, second. For six, distinct, Mr. R. Ransom, gardener to C. A. Linzee, Esq., Brandean Lodge, Alresford, was the only exhibitor, showing good blooms of Sportsman, Master Fred, Mr. T. Lord, and George Melville. In the class for twelve distinct, other than flakes or bizarres, Mr. Douglas was the best of four entrants, staging Sam Weller, Daffodil, Linkman, Hercules, Hidalgo, King Solomon, Lord Steyne, Queen Eleanor, and Dido; Mr. Hayward Mathias, Medstead, Hants, second. Mr. Linzee won in the class for six blooms.

For twelve picotees, distinct, four staged, and Mr. Hayward Mathias led with good blooms of Gloria, Constance, Mr. W. Heriot, Libra, Togo Lady Gascoigne, Exquisite, and Her Majesty; Mr. J. Douglas had here to be content with second place. For six blooms in a similar section Mr. J. J. Keen, 37, Avenue Road, Southampton, was the winner among three contestants, Golden Pippin, John Ruskin, Libra, Her Majesty, and Exquisite being the best flowers; Mr. Linzee second. The premier bizarre or flake was R. Houlgrave, shown by Mr. Linzee, Mr. H. Mathias winning a like distinction for a self with Irma, and for a fancy with Hecla. The best yellow ground picotee was Onward, shown by Mr. J. Douglas.

UNDRESSED, OR BORDER SECTION.

For a display of carnations and picotees arranged with their own foliage in a space 5ft. by 2½ft., three competed, and Mr. H. Lakeman, Thornton Heath, Surrey, was first with a good display of such sorts as Solomon Gill, Santa Claus, Liberté, Togo, Daffodil, and Pathfinder; Mr. E. C. Goble, nurseryman, Ryde, second. In a smaller class Mr. J. Fairlie, Springfield Park, Acton, was first; Mr. J. H. Linnington, Southlands, Newport, Isle of Wight, second. Mr. Linzee had the winning exhibit in a class for twenty blooms, carnations or picotees, arranged for effect in a vase, Mr. J. Fairlie coming second. For six blooms of specified colours there was a fair competition, and Mr. Douglas, with Mrs. T. E. Henwood, was first for any white variety, and Mr. H. Mathias for a pink sort. Mr. A. R. Brown had Mrs. Pope as the best rose or salmon self, and, with Cardinal, Mr. Douglas led in the scarlet class, as also he did with Daffodil for a yellow self, with Mrs. Griffiths Jones as a buff, and Agnes Sorrel as a dark self.

In the fancy ground picotee class Mr. Douglas also won for six blooms with Liberté, Mr. H. Mathias occupying a like position for yellow grounds. Mr. Linzee won many of the premier awards in the smaller classes in similar sections.

Mr. J. H. Linnington, Southlands, Newport, won the silver cup offered by Mr. H. Lakeman, Queensberry Nurseries, Thornton Heath, Surrey, for twelve carnations and picotees, undressed blooms. Mr. Usher, gardener to Sir Randolph Baker, M.P., Ranston, Blandford, won for three blooms each of three American varieties, staged in vases, with a desirable exhibit.

For a dinner table arranged with carnations or picotees there were seven exhibitors, and Mrs. Ernest Ladhams, Wordsworth Road, Shirley, Southampton, was distinctly first with an effective display. Mr. John H. Cape, Ferndown, Wimborne, had the best bouquet, and Mrs. F. G. Bealing, Bassett, Southampton, the best arranged epergne or stand.

SWEET PEAS.

For Messrs. R. Sydenham's prize for twelve varieties there were three competitors, and Mr. F. Green, The Polygon, Southampton, was first with desirable specimens of Countess Spencer, Clara Curtis, Dorothy Eckford, Frank Dolby, and King Edward VII. Five competed for Messrs. Toogood's prizes for nine bunches, distinct, and here Mr. Usher won the premier place with a delightful display of Etta Dyke, Elsie Herbert, Mrs. A. Ireland, John Ingman, Audrey Crier, and Mrs. Routzahn. Mr. C. Wadey, Broadstone, Dorset, won Mr. H. Eckford's premier prize for nine varieties with a worthy exhibit. Miss N. Snellgrove, 10, Oxford Road, Southampton, had the most pleasingly decorated table of sweet peas.

Solihull.

The Solihull and District Horticultural Society held its sixth annual exhibition, as usual, in the richly-wooded park of Malvern Hall (by kind permission of D. Troman, Esq.), on August 1 and 2. The show proved to be a great success, being a considerable advance on its predecessors.

Non-competitive exhibits were a specially fine feature, and Messrs. Gunn and Sons, Olton, eclipsed themselves with an attractive contribution, about 40ft. in length, of grouplets of roses in splendid condition, the outstanding feature being a large group of the Lyon Rose, and amongst the rest of the varieties there were Hugh Dickson, W. E. Lippiatt (a new hybrid tea, rich crimson), Mrs. Joseph Hill, Caroline Testout, Richmond, Liberty, Madame Ravary, White Killarney, Pharisaer, Frau Karl Druschki, and Madame Melanie Soupert in fine condition. Surmounting the foregoing array was a series of wire arches, extending from the front to the back of the staging, and over which were trained shoots of climbing roses; while an arrangement of corresponding pillared plants at the back served to complete one of the most elegant floral creations. A gold medal was awarded, and a similar honour was accorded the firm for a charming rockery and pond, the latter daintily furnished with nymphæas; and a very fine display of phloxes and gladioli.

A gold medal was worthily awarded Messrs. Hewitt and Co., Solihull, for a capital arrangement of herbaceous flowers, carnations, roses, sweet peas, and a pond of suitable water plants and nymphæas. Mr. H. N. Ellison, West Bromwich, was conspicuous with one of his popular arrangements of ferns; a silver-gilt medal was awarded. Messrs. Neale and Sons, Solihull, were awarded a silver medal for a good and representative arrangement of hardy border flowers, and a bronze medal to Mr. T. Eborall for begonias. A first-class cultural certificate was accorded the Manor Fruit Farm Company, Knowle, for grapes, bottled fruits, etc.

COMPETITIVE CLASSES.

In the class for a group of plants arranged for effect, the show was shorn of a portion of its attractions by the unavoidable absence, almost at the last moment, of a notable entrant. Mr. W. Vause, Leamington, was the only exhibitor, and annexed the premier prize with a bold and tasteful arrangement of richly-coloured codiæums, ixoras, liliums, a fine palm, and arundinarias, etc.

Mr. H. F. Foster, gardener to Mr. F. E. Muntz, Umberslade Hall, set up an effective arrangement of codiæums (crotons), caladiums, Lilium speciosum album and rubrum, gloxinias, and pots of Selaginella uncinata, and other dainty subjects, and secured first prize in the amateurs' section, the second honours falling to Mr. T. Warner, gardener to Mrs. Upton, Solihull. The winner of the premier prize in this class, in addition, received a silver challenge cup, presented by Mr. Alfred Hughes, Solihull. There was a keen competition in the class for six stove or greenhouse plants. Mr. W. Vause, Mr. John Warner, gardener to Mrs. Wado, Sandal House, and Mr. T. Warner, won in their order named. Exotic ferns were finely staged by Mr. T. Warner, and Mr. A. Hopkins, gardener to Mrs. W. G. Grenville, Solihull. For three specimens of coleus, Mr. Hopkins won with well-grown and richly-coloured plants, with Mr. T. Warner a close second. Gloxinias were very well staged by Mr. J. Burbidge, the only entrant.

For three fuchsias Mr. John Warner was to the fore with profusely-flowered specimens; Mr. T. Warner second. There were several other exhibits, such as zonale pelargoniums and begonias of more or less merit.

Fruit, though not a leading feature at Solihull, was creditably shown, the chief exponents being Mr. F. E. Muntz, Mrs. Upton, and Mr. Grenville.

Table decorations are invariably well executed at Solihull, but, as a whole, never better than on the recent occasion. There were twelve entrants in the two classes. In the class, open only to ladies residing within six miles of the Public Hall, Solihull, sweet peas allowed, Mrs. Maurrison, Solihull, scored with an elegant arrangement of blush-pink sweet peas; Mrs. Vernon, Howson, Solihull, second with a light and elegant combination of salmon-pink perpetual carnations and white Bridal Wreath, and trails of selaginella, delicately strewn over the light blue muslin, and had it not been for the presence of the latter, which did not harmonise pleasingly with the carnations, the awards might have been reversed. In the class where sweet peas were not admissable, there was a keen contest, and Miss P. M. Pelton was the envied winner with pink carnations and foliage accompaniments, tastefully arranged; Mrs. D. Frowmar was a close second with purplish-blue campanulas (not a very suitable subject by artificial light), and francoa. Miss Irene Upton set up a brilliant arrangement of Alonsoa incisifolia, but its stiff scarlet spikelets presented a comparatively formal aspect.

Hand bouquets, sprays, and button-holes were also an interesting feature. For a hand bouquet, Mr. R. Jones, gardener to Dr. Bernays, and Mr. W. Hopkins, gardener to Mr. W. G. Grenville, were the respective winners; whilst those positions were reversed in the ladies' spray class. For a gentleman's buttonhole Messrs. W. Jones, T. Warner, and W. Hopkins followed in the order named. Roses and cactus dahlias were sparsely shown.

Sweet peas were a striking feature. In the class for twelve varieties, set up in a space not to exceed 6ft. by 3ft., first prize and the National Sweet Pea Society's Silver Medal was won by Mr. S. Thompson, gardener to Mrs. Gladstone, Manor Cottage, Eastcott. Mr. F. E. Muntz, second; and Mr. A. W. Hulse, The Dingle, Solihull, third. There were twelve entrants. For a collection of herbaceous flowers (to occupy a space 6ft. by 3ft.), Mrs. S. J. Page, Hall Green, won with a very nice arrangement; Mr. E. Hughes, Shrub Bank, second, and Mrs. Wade, third. The amateurs' classes were well sustained.

Vegetables always form a striking feature here, both in the amateurs' and cottagers' classes. For Messrs. Sutton and Sons' prizes Mr. F. E. Muntz was first for six distinct kinds.

The vegetables from amateurs and cottagers were extremely well represented, and better long-pod beans, peas, and potatoes could not well be desired. Prizes were offered for window-boxes cared for by Solihull day school children, and, as a whole, they were highly creditable. As usual, sports and fireworks and music were the attendant amusements.

Chepstow Horticultural Society.

This society's twelfth annual show was held on August 2, in conjunction with that of the Chepstow Agricultural Society, in Piercefield Park. Each year since its commencement the society has made favourable progress, at any rate, in so far as its exhibits are concerned, but unfortunately on this occasion the weather was unfavourable, and the attendance less than has been the case at most previous shows.

Of three groups shown, that arranged by Mr. Pearce, gardener to H. Oakley, Esq., was decidedly the best, and not only were the plants used well grown, and suitable in other respects, but they were very skilfully arranged. As a background palms, humeas, campanulas, and Lilium speciosum were chiefly employed, while Papyrus antiquorum, Kalanchoe flammea, Verbena Miss Willmott, achimenes, gloxinias, celosias, crotons, dracænas, palms, etc., edged with fittonias and ferns, completed the group, altogether making a most graceful and effective exhibit. Mr. J. Downie, gardener to W. R. Lysaght, Esq., was placed second with a group composed of well-grown subjects which, unfortunately, were too closely arranged; the third place was taken by Mr. Probert, gardener to H. Clay, Esq., who also staged a good group.

Six tuberous begonias made a good class, the best set being brought by Mr. Probert, who was closely followed by Mr. Phillips, nurseryman, Chepstow, Mr. H. Hare being third. Mr. Cooper, gardener to Sir W. H. Marling, Sedbury Park, had leading honours for six ferns, and staged medium-sized fresh plants of Lomaria gibba, Platycerium alcicorne, Asplenium nidus, Adiantum cuneatum, A. formosum, and Osmunda palustris; Mr. Baker, gardener to Dr. Cropper, Mount Ballan, was placed second. Mr. Canning, gardener to W. R. Price, Esq., was the only exhibitor of six hardy ferns, and deservedly secured the first prize. There were classes for fuschias and pelargoniums which did not attract keen competition.

In the cut flower section, roses, Mr. Baker took the lead for twelve roses with a good set of unnamed varieties; Mr. W. H. Miles, gardener to C. Bathurst, Esq., Sydney Park, second; and Mr. Reese third.

Carnations or picotees, border varieties, twelve blooms, in not less than eight varieties, were splendidly staged, but in no case were the varieties named. Mr. Miles took the lead with large, deep, fresh blooms, Mr. Cooper being a close second, and the Rev. N. S. Barthropp, with fresh, but smaller blooms, third. In a class for six vases of American tree carnations, distinct, and undressed, Mr. Miles was the only exhibitor. Mr. Cooper led for six blooms of any variety, and was followed by Mr. Miles, with the Rev. N. S. Barthropp third. For the best blossom staged in either class, Mr. Miles scored with a fine bloom of an unnamed variety. There were five entries in a class for twelve cactus dahlias, Mr. W. J. Gould taking chief honours with a fine set of unnamed varieties; Mr. G. C. Francis, Welsh Street, Chepstow, being a good second; and Mr. Probert third. Mr. G. C. Francis was first with twelve distinct varieties of sweet peas, twelve spikes of each, and staged Paradise Carmine, Zero, Holdfast Belle, Helen Herbert, Constance Oliver, Paradise Red Flake, Evelyn Hemus, etc., in fine condition; Mr. Canning, who had fine blooms, somewhat badly staged, was placed second, and Mr. Baker third.

Herbaceous flowers in twelve kinds brought G. C. Francis, Esq., again to the front, Mr. Cooper being second, and Mr. Baker third. For six bunches of pentstemons, in three distinct varieties, there were three good lots staged, the best being from Mr. Canning, who was followed by Mr. Probert.

Fruit was staged in good quality, though there were but a few classes devoted to it. The class for three bunches brought three competitors, Mr. Lysaght being placed first with finely-finished, medium-sized bunches of Black Hamburgh; Mr. Cooper second with larger, but not quite so well-finished bunches of the same variety; and Mr. Downie third with one bunch of each of Madresfield Court, Muscat of Alexandria, and Black Hamburgh. Mr. Downie led with peaches, closely followed by Mr. Baker; and Mr. Cooper scored with nectarines, Mr. Baker being second, and Mr. Pearce third. For a collection of eight distinct kinds of fruits, Mr. Downie took the lead with good samples of Black Hamburgh and Foster's Seedling grapes, a melon, peaches, nectarines, figs, apricots, and plums; Mr. Baker was placed second, his best dishes being black grapes, peaches, and nectarines. A grand, but unripe melon, was also staged by Mr. Baker, as one of his dishes. The best collection of hardy fruits was staged by Mr. Probert, Mr. Cooper being second, and Mr. Baker third.

There was keen competition in the twenty classes devoted to vegetables, and the quality of the exhibits was of a high order of merit, but in very few cases were they observed to be named, a state of things that detracted considerably from the interest that would otherwise have been taken in them.

Seven contested in a class for table decorations, and of these Miss Mullens, of Chepstow, secured the coveted position with a tastefully-finished table, in which rose Dorothy Perkins was chiefly made use of. Miss Cropper was placed second, and employed scarlet salvias, montbretias, and Gloriosa superba, and Miss D. Price third. For the best arrangement of cut flowers, not less than six varieties, Mrs. Stanton was first with a charming exhibit, in which The Lyon rose took the most conspicuous part.

Llanishen Horticultural Society.

AUGUST 1.

This society's twelfth annual show was held as usual in the Vicarage Field, where three spacious tents were filled with the exhibits. The show was generally considered to be the best the society has held, the classes collectively were well filled with meritorious subjects, fruit being, perhaps, the weakest division. The exhibits, with comparatively few exceptions, were unnamed, and the exhibition thereby lost much of its educational value. This could be easily rectified in future, with the result that the exhibits would be far more interesting and instructive.

GROUPS AND PLANTS.

There were four circular groups arranged in spaces of about fifty square feet, and the chief of these came from Mr. Wall, gardener to J. L. Morgan, Esq., Penarth, who had bright, graceful, and well-grown plants, the most conspicuous of which were crotons, palms, ferns, Lilium speciosum, Clerodendron fallax, and schizanthus, edged with Panicum variegatum, and Caladium argyrites, the crowning plants being a somewhat rigid Phœnix rupicola. Mr. Huxtable, gardener to J. H. Mullens, Esq., Llanishen, was placed second, and J. E. Turner, Esq., third.

For six specimen ferns, and ornamental-leaved plants, Mr. R. Matthews, gardener to W. H. Cullen, Esq., was placed first with good plants of Adiantum cuneatum, A. formosum, Pteris argyræa, Kentia Fosteriana, Latania borbonica, and Phœnix rupicola; Mr. Huxtable was a good second. For three fuchsias, Mr. G. Nurse, Cardiff, was placed first with tall, well-flowered plants of unnamed varieties, and Mr. C. Clarke, gardener to G. Robertson, Esq., second, with small plants. A dozen tuberous-rooted begonias made a splendid class, as is always the case at Llanishen, the leading exhibitor being Mr.

R. Scoble, who staged large, grandly-flowered plants. Mr. Huxtable was a good second, and Mr. Nurse third. Only two exhibitors staged in the class for six gloxinias, and of these Mr. V. Welch, gardener to the Right Hon. Bishop Hedley, was first with beautifully-flowered plants, and Mr. C. Clarke second.

CUT FLOWERS.

There were four exhibitors of twelve roses, and no one staged exceptionally fine blooms: Mr. H. Weaver, gardener to H. Wood Darey, Esq., took the lead, closely followed by Mr. R. Fisher, gardener to W. North Lewis, Esq., and Mr. R. T. Went. For six carnations or picotees, T. W. Thomas, Esq., was placed first with H. D. Corey, Lord Richness, Lulu, Miss L. Davis, Paquita, etc.; Mr. Went second, and A. W. Morris, Esq., third. For twelve blooms of cactus dahlias, in not less than six varieties, there were six competitors, the chief one being Mr. R. T. Went. Mr. Wall was a close second, and Mr. Boulton, gardener to T. Croisdale, Esq., third. Twelve pansies or violas made a fine class, in which nine competitors took a part. Here Miss Dorothy P. Lewis took leading honours, followed by Mr. Boulton, gardener to T. Croisdale, Esq., and Mr. Scoble. With twelve asters, Mr. Boulton led, and Mr. G. Nurse second, and for twelve bunches of stocks Mr. Went was the only exhibitor. In a class for twelve bunches of perennials, distinct varieties, Mr. Went, as he did at Cardiff, took a decided lead, and staged Campanula pyramidalis, Gladiolus gandavensis, G. Brenchleyensis, Gaillardia grandiflora, Chrysanthemum Robinsoni, Lythrum Rosy Queen, Pentstemon Sutton's Hybrids, Coreopsis grandiflora, Veronica spicata, Helenium pumilum, and Lilium Melpomene: Mr. Nurse was placed second. For sweet peas, nine vases, distinct varieties, twenty stems of each, Mr. E. J. Taylor, gardener to J. E. A. Gibbs, Esq., led with a fine set, comprising Mrs. H. Bell, The King, Countess Spencer, Nancy Perkins, Etta Dyke, May Gerhold, Evelyn Hemus, John Ingman, and Elsie Herbert; Mr. Gerhold, Penarth, was a close second, and staged fine examples of Ralph Crossling, May Gerhold, Clara Curtis, Elsie Herbert, Mrs. C. Foster, Etta Dyke, etc. For six roses, A. W. Morris, Esq., was an easy first, and staged capital blooms of Lady Ashtown, Victor Hugo, Mdme. A. Chatenay, Gloire de Dijon, and Helen Keller; Mr. W. C. Clarke second.

FRUIT.

For grapes, two bunches, any variety, J. E. Turner, Esq., was first with fair examples of Black Hamburgh; Mr. A. Kinghorn, second, with the same variety. Mr. Huxtable was first and Mr. Weaver second for a scarlet-fleshed melon, and Mr. Huxtable and Mr. V. Welch were in the same positions for a white or green-fleshed variety. Peaches were well shown by Mr. Turner and Mr. Wall, who took first and second prizes in the order named. Mr. Roland Thomas was first, and Mr. Huxtable second for a dish of plums; Mr. Wall first, and Mr. Huxtable second for dessert apples; and Mr. Wall and Mr. Went were in similar positions for culinary apples. Raspberries were best staged by Mr. Wall, black currants by Mr. A. Kinghorn, red currants by Mr. Matthews, and gooseberries by Mr. Wall.

VEGETABLES.

These were staged in excellent condition and made one of the most interesting features. Mr. Went, Cardiff, secured the lead with a collection of six kinds, and staged tomatoes, potatoes, cauliflowers, onions, runner beans, and carrots in excellent condition. Other successful exhibitors of vegetables were Messrs. Boulton, Pitman, Gerhold, G. Robertson, Matthews, Wall, Richards, W. Buffy, Nicholls, Hancock, Chappel, and Taylor.

NON-COMPETITIVE.

Non-competitive exhibits were not numerous. The principal ones were an attractive collection of miscellaneous plants from Mr. G. Wells, seedsman, florist, etc., Llanishen, and a full display of herbaceous and other cut flowers from Messrs. H. and W. Evans, of Llanishen. In each case a gold medal was awarded. Mr. Pike, of Llanishen, also staged

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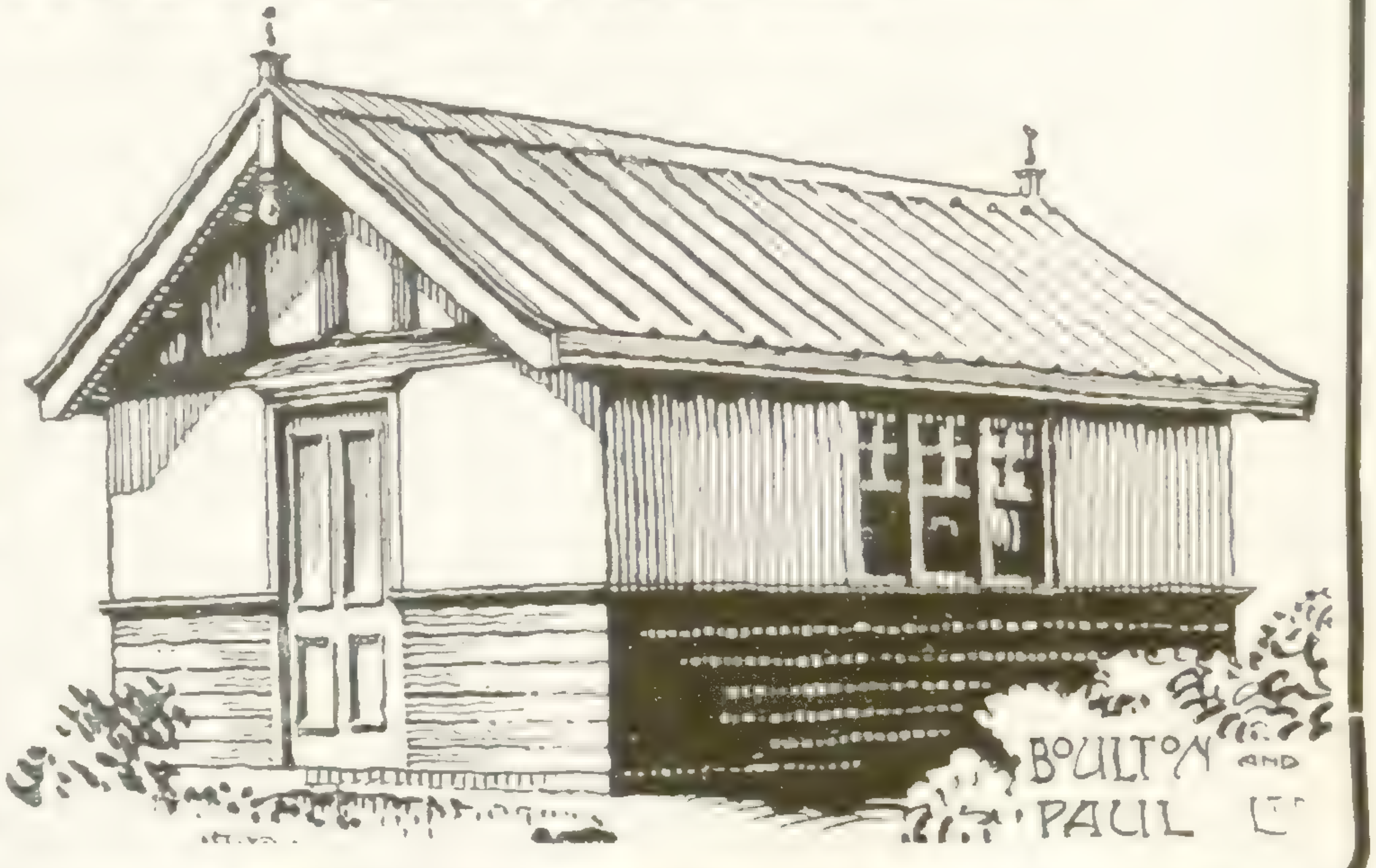

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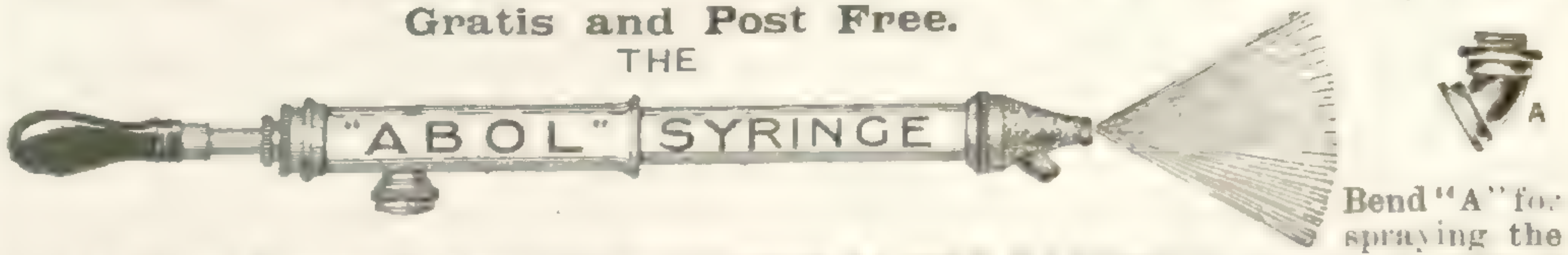

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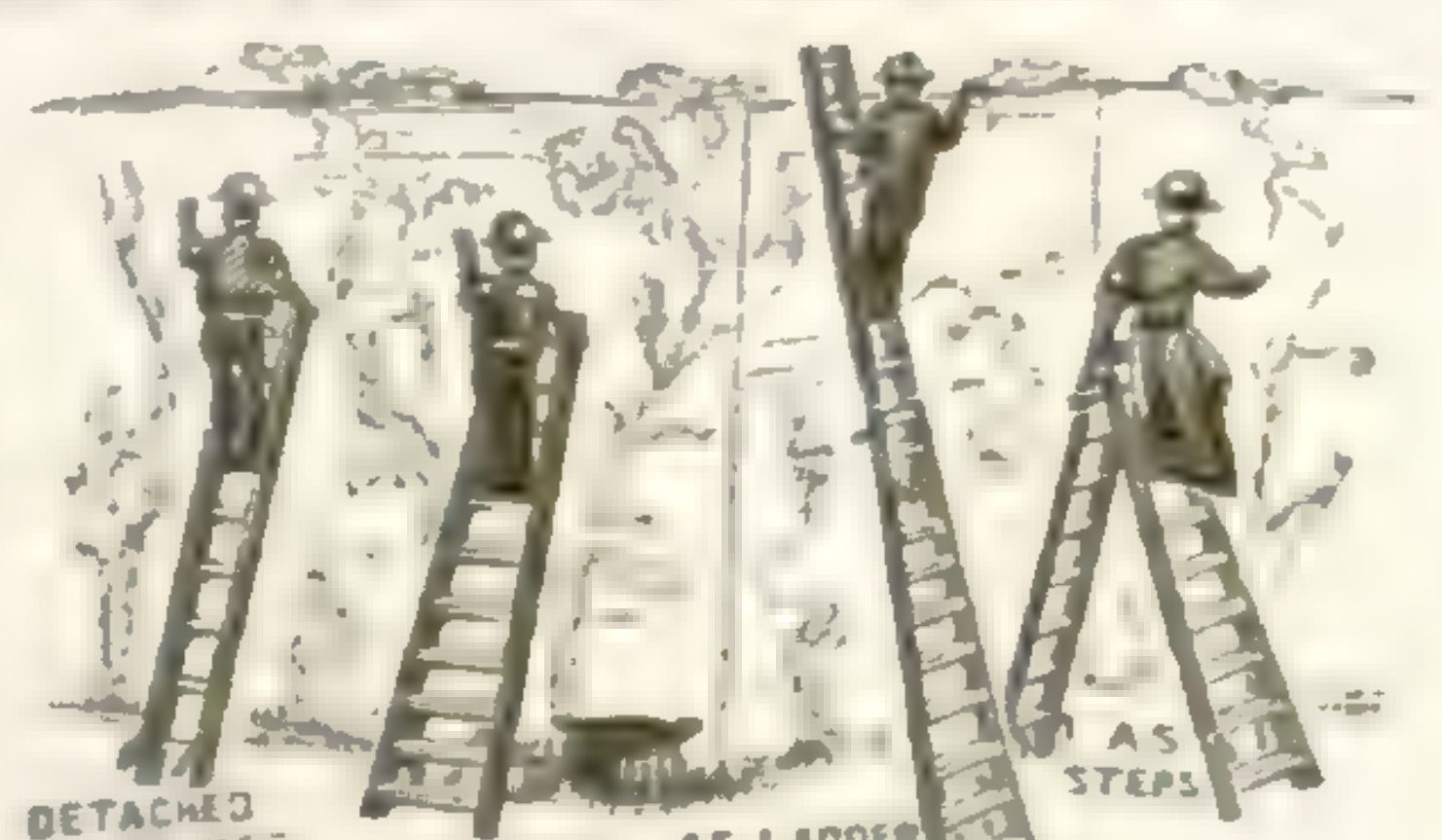

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carnation blooms in quantity, and of splendid quality. Messrs. Lewis and Sons, Cardiff and Penarth, had a large exhibit of horticultural sundries.

DECORATIONS.

Table decorations were much admired, and in many cases deservedly so. There were fourteen competitors, and of these Mr. F. Harvey took the lead with a table decorated chiefly with sweet sultan and Bridal Wreath. The second prize was taken by Mr. G. L. Lewis, who used yellow Iceland poppies, and yellow tropæolums, together with Gloriosa superba—a combination not agreeable to all tastes. Miss M. Morgan and Miss M. C. Lewis, who each used Mrs. F. W. Flight rose with considerable good taste, took equal third prizes.

Basingstoke, AUGUST 1.

The annual show was held in Golding's Park, and was not so numerously attended by exhibitors as in the past. The plant classes showed a distinct falling-off in point of numbers, but there was sufficient to make a creditable display in the four tents erected.

For a group of miscellaneous plants, arranged for effect, Mr. G. Wassell, gardener to W. H. McConnel, Esq., Baughurst, Basingstoke, was first with a bright, effective arrangement of palms, crotons, gloxinias, achimenes, liliums,and carnations, amongst which a very fine pure white dwarf form of Phlox Drummondi was used with effect. Mr. W. Green, gardener to S. E. Bates, Esq., Manydown Park, Basingstoke, was second, with a too formal arrangement of desirable plants.

Tuberous begonias were well shown, and Mr. F. H. Sweet, gardener to J. G. Holt, Esq., Kingsclere, was first for eight plants with double and single varieties, well flowered; Mr. W. E. Perris, gardener to Rev. A. H. Gay, Worting, second. Dr. Maples, Kingsclere, had the best six miscellaneous plants. Mr. Green had pyramidal-trained coleuses, richly coloured specimens, from 4ft. to 6ft. high, and secured a first prize. Mr. C. Wassell was first for four foliage plants, staging Kentia Belmoreana, Dracæna Lord Wolseley, and Maranta zebrina.

Sweet peas were numerous and good. For twelve bunches Mr. A. Childs, gardener to the Hon. Mrs. Baring, Cardover House, Alresford, was distinctly first with clean, large blooms of popular varieties; Mr. R. W. Dean, gardener to L. Simonds, Esq., Audley's Wood, second; six entries.

Gladiolus were well shown by Mr. F. H. Sweet. For twelve bunches of flowers, Mr. Childs was easily first with desirable subjects, all well staged. For twelve show dahlias Mr. Childs was first with shapely blooms of John Walker, Arthur Rawlings, and Henry Walton, etc. For twelve cactus dahlias Mr. Childs was again first with really good blooms of D. B. Crane, J. H. Jackson, Primrose, and Mrs. McMillan; Dr. Maples second. Mr. Sweet had the best three dozen carnations in twelve varieties.

Mr. Childs won for twelve roses with fairly good specimens, and Mr. W. Dean won for twelve bunches of hardy herbaceous flowers with huge sheaves of phloxes, monarda, sidalcea, and Helenium pumilum; Dr. Maples second.

For a collection of out-of-door flowers set up on a 6ft. run of tabling, Mr. R. W. Dean was easily first with roses, spiræas, sweet peas, and carnations effectively displayed. Dr. Maples had the best Black Hamburgh grapes, and Mr. W. Dean was first for any other black with Gros Maroc; and also for Foster's Seedling in the "any other white" class. Melons were numerous, Mr. W. Green winning for a green flesh with Sutton's Ringleader, a fine fruit. Mr. Dean had the best peaches—Gros Mignonne.

For Messrs. Sutton's prize for six dishes of vegetables, Mr. W. Green was easily first with good tomatoes, onions, potatoes, carrots, and cauliflowers. Mr. H. E. Wallis, gardener to Mrs. Trevor Goff, Sherfield Hall, won the premier award in the society's class for eight dishes of vegetables with desirable produce.

For a decorated table for six persons (orchids excluded), Miss N. Wadmore, Woodside, Basingstoke, was easily first with an effective arrangement of pink carnations and sweet peas, with suitable greenery; Miss N. S. Gosling, St. Aubyn's, Basingstoke, second with sweet peas. For a similar-sized table, but with orchids admitted, Mrs. E. Ladhams, Shirley, Southampton, was distinctly first with Odontoglossum crispum, Dendrobium phalænopsis, carnations, etc.; Miss M. Cannon, London Street, Basingstoke, second.

Broughty Ferry Horticultural Association.

The exhibition and sweet pea conference held by this association on August 3 was a great success. There was a good display, and the conference was opened at three p.m. by Lady Baxter, of Invereighty, after which Mr. A. Malcolm, Duns, Berwickshire, who also acted as judge in the competitive classes, gave an interesting address from his expert knowledge of the cult. Mr. William Grant also gave a short address on the aims and objects of the association, and referred in brief to some of the work done during its twenty-two years of existence.

In the evening Mr. James Bethel presided, when Mr. John Macher, Fotheringham Gardens, gave a practical and instructive lecture on "Growing and Showing Sweet Peas, with Hints on Manuring and its Effect." Many practical and helpful hints were brought out in the lecture and the ensuing discussion.

The following were the principal prizewinners in the competitions: Messrs. George Reid, Downfield; John Macher, Fotheringham Gardens; James Bethel, The Grange Gardens; Wm. Grant, Fernhall Gardens; John Bell, Corona Gardens; George Reid, Invertay Gardens; William Grieve, Hazelwood Gardens; George Masson, Estrie Gardens; David Kiellor, Seabourne Gardens; and David Brown, Ethiebeaton Gardens.

Non-competitive exhibits were staged by Messrs. Laird and Sinclair, Messrs. D. and W. Croll, Messrs. Storrie and Storrie, James Younger, Esq., Mount Melville; J. S. Neish, Esq., Afflect Castle; Fergus Baxter, Esq., Balunie; Mr. William Grant, Fernhall; Mr. D. K. Meston, The Lodge Gardens, etc.

The finest flowers shown were Paradise Pink, Paradise Crimson, Paradise Ivory, The King, Douglas Unwin, Tom Bolton, The Marquis, Masterpiece, Evelyn Hemus, Elsie Herbert, Etta Dyke, White Spencer, Clara Curtis, Miriam Beaver, Mrs. Henry Bell, Mrs. H. Sykes, John Ingman, Helen Lewis, Spencer America, and Countess Spencer.

The British Pteridological Society.

On August 1, as customary on the August Bank Holiday, this society held its annual meeting, this time at Moffat, in Dumfriesshire, as affording a good field for fern-hunting before and after the actual business meeting, which was conducted at Beattock Junction for the convenience of some of the members. The report of the society was of a particularly satisfactory nature, the establishment of the "British Fern Gazette," in conjunction therewith, having resulted in the addition of about one hundred new members, and the placing of the society upon a far more substantial and far-reaching basis than before.

Despite the expense incurred by the tentative issue of the first four quarterly numbers, the balance-sheet showed an increase of the funds in hand, evidencing the complete success of the experiment, which it was resolved should become a permanent institution, Mr. Charles T. Druery, V.M.H., F.L.S., having consented not only to continue the editorship, but also, owing to the much-regretted resignation of Mr. G. Whitwell, the hon. secretary since the inception of the society, to undertake the secretarial duties as well. A very cordial vote of thanks was passed to Mr. Whitwell for his valuable services in the past. The treasurer, Mr. Wilson, being also precluded by his engagements from continuing to hold the office, now that the work had so much increased, Mr. W. B. Cranfield very kindly consented to take that office over, specially as this involved a great saving of work owing to his proximity in London to the new secretary, Mr. Druery. The rest of the business was more or less formal, and terminated after the re-election of Mr. Alex. Cowan as president and chairman on that occasion, in a hearty vote of thanks to him for his services in that connection, and particularly for the great trouble he had taken in making the needful arrangements at Moffat for the accommodation of the members.

As usual on such occasions, fern-hunting parties were organised for the exploration of the district, but, as the weather was very fickle, heavy downpours of rain, chilly gales, and general moist conditions handicapping research materially, no very marked "finds" turned up, though a number of angustate and crispate forms of Lastrea montana, the prevalent species, were discovered of sufficient merit to be taken for growing on and testing, prior to which it was hardly deemed safe to definitely name them.

At the meeting it was determined to hold the 1911 meeting at Barnstaple, in Devonshire, in order to afford the many members in the Midlands and the North, where the species are relatively much less numerous, an opportunity of studying the more abundant and more varied fern flora of the South of England. In view of the newly-established position of the "British Fern Gazette" as an organ for the dissemination of a wider knowledge of beautiful fern varieties, and for bringing native fern-lovers into closer touch with each other, it is to be hoped that many such will swell the existing membership, the subscription to which, including four quarterly issues of the "Gazette," is five shillings only. The secretary, Mr. Druery, 11, Shaa Road, Acton, London, W., will be happy to forward all particulars and a specimen number to intending subscribers, on receipt of a postcard.

Bristol Gardeners' Association.

The monthly meeting was held at St. John's Parish Rooms, Mr. Hayball presided over a good attendance. Mr. Taylor, of Bath, read a paper upon "Grape Thinning." The lecturer said the first operation in connection with thinning was disbudding, and in deciding which buds to leave preference should be given to those on the upper side. Ten days after flowering thinning should commence, and seven out of eight berries should be cut out, removing the under-placed berries first, leaving nearly all the berries near the top, as the bareness on the top of the bunches so generally seen was the fault of cutting out too many top berries. The final operation should be done before the berries touch. Muscat of Alexandria should be sparingly thinned at first, but Alicante must not be long deferred.

A good discussion followed, after which a hearty vote of thanks was given to Mr. Taylor.

For four vases of sweet peas Mr. T. Clark was first, and Mr. Binfield second.

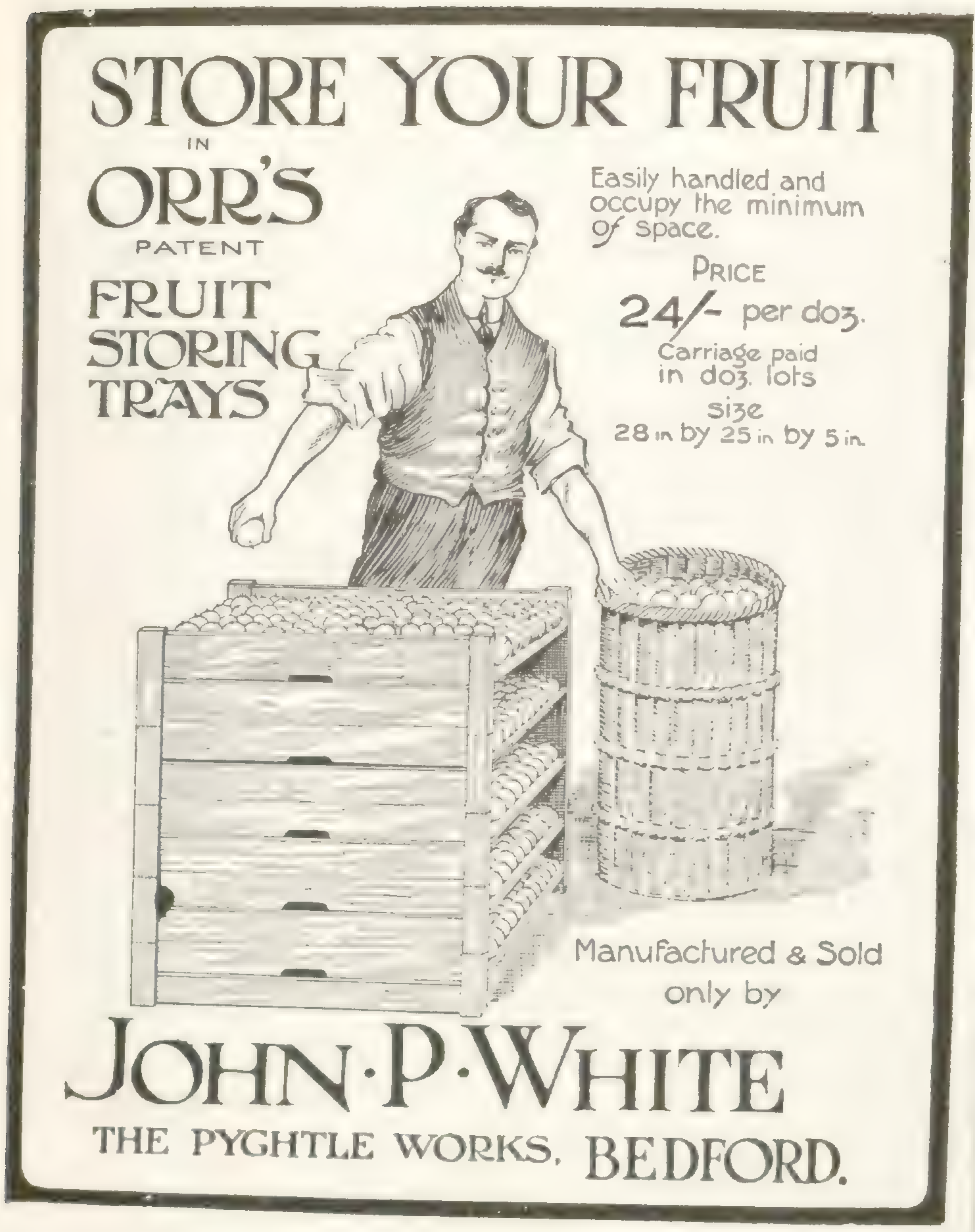
FLOWER SHOW SCHEDULES.

We shall be obliged if secretaries of societies will forward us a copy of their schedule for the present year.

Sheffield Chrysanthemum Society.—This society will hold two exhibitions in the Corn Exchange. The first will include vegetables, dahlias, and early chrysanthemums, and will be held on September 16 and 17; the second, to be held on November 11 and 12, will be the Chrysanthemum Show proper, and the prizes in the open classes are very attractive.

Huddersfield Chrysanthemum Society will hold its nineteenth exhibition on November 11 and 12, in the Town Hall, Huddersfield.

Doncaster Chrysanthemum Society. — The eighteenth exhibition will be held on November 9 and 10, in the Corn Exchange, Doncaster.



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Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

RICHARDIA LITTLE GEM.—We shall be glad if our correspondents who have been successful in the cultivation of Richardia Little Gem will kindly send particulars of the treatment given, as one of our readers fails to flower it.

EARLY POTATOES. — M. L., Bovey Tracey: It is quite time the early potatoes were lifted; indeed, if they are left longer in the ground they will almost certainly become diseased. Lift them, and allow them to remain on the ground until dry, and then store them in the dark in a shed or cellar.

PEAR TREES NOT FRUITING.—C. N., Southampton: Probably the trees are in soil that does not suit them, or the downward roots have reached a cold subsoil. If the trees are not very large lift them as soon as the leaves change colour, and replant on warmer, higher ground. If the work is done early and carefully, there should be no losses.

BOUSSINGAULTIA BASSELLOIDES. — M. E., Warwick: Except in very sheltered places in the south and south-west, this climbing plant cannot be regarded as hardy, and even under such exceptional conditions it will succumb during the sharp frosts of a severe winter. In a cool conservatory it makes vigorous growth, and is a very interesting climber, and in the autumn it bears clusters of white, fragrant flowers. It succeeds in sandy loam over good drainage.

PROPAGATING VIOLAS. — S. P. L., Broadstairs: From the middle to the end of September is usually regarded as the best time to propagate violas by means of the young growths that are then usually plentiful in the centre of each plant. But in the case of special varieties, and where a considerable stock is desired, the work may be commenced at once. The soil should not be very rich, otherwise a rank growth may follow when the cuttings are rooted, and such growth may succumb during the winter. If the flowering growths are cut off at once there will be plenty of young growths to propagate from a month hence, except in the case of a few exhibition varieties that are not so free-growing as others.

CANKER ON DWARF BEANS.—J. J. E., Glossop: Canker on both runner and dwarf bean pods is due to the attack of a fungus. In America the same fungus is said to be parasitic on the living rind of cucumbers, vegetable marrows, water-melons, and musk-melons. On the pods the first indication of the disease is the appearance of small, scattered, dark-coloured specks surrounded by a reddish line. These spots gradually increase in size, and often run into each other, forming irregularly-shaped patches which become sunk below the general level of the surface. In due course the sunken brown patches become more or less covered with a thin whitish crust, consisting of a dense mass of spores or reproductive bodies of the fungus. When mature these spores are carried by rain, insects, etc., and infect neighbouring plants. Pods that are attacked when quite young frequently become variously bent and contorted. The parasite often passes quite through the pod and attacks the beans. If such infected beans are used for seed the crop shows the disease at an early stage of growth, and is killed before the flowering season is reached. Although the appearance of the disease on the pods is generally accepted as the first evidence of its existence, it nevertheless usually appears first on the stem, where it forms brownish sunken patches. If such patches are confined to one side of the stem the plant is not killed outright, and the injury may escape notice; on the other hand, when a diseased patch girdles the stem, the portion above the wound withers and dies. In some instances the leaves are also attacked, and the diseased portions soon become dry and drop out, leaving irregular holes usually attributed to the ravages of insects. As a rule, the pods are infected by spores produced on the stem or leaves, and consequently much depends on dealing with the disease on its first appearance. The Board of Agriculture recommends as a preventive measure that Bordeaux mixture of half the normal strength should be used until the pods are set, after which a solution of potassium sulphide—one ounce dissolved in four gallons of water—should take its place. Even this fungicide should be discontinued when the pods are about half-grown. To make normal strength Bordeaux mixture: (1) Dissolve 20lb. of sulphate of copper (bluestone) in a tub of cold water; (2) slake 10lb. of lime in another vessel; finally, mix the contents of the two vessels in a wooden tub by stirring thoroughly, and make up to 100 gallons. To make this half the normal strength double the quantity of water must be used.

SOWING PANSIES.—W. J. S., Worcester: Seeds may be sown at once in pans or boxes of sandy loam, and placed in a warm frame to germinate. Ventilate as soon as germination takes place, and prick out the seedlings into other boxes as soon as they can be handled. A cold frame will afford ample shelter during the winter, and then in early spring the seedlings should be planted out on a prepared site, where the soil is deep and rich, and contains plenty of leaf-mould. The seeds may be kept until February, and then be sown in gentle heat, but, as the seeds are from carefully fertilised flowers, you had better sow them at once, so as to secure strong plants to bloom early next season, and show their character at once.

CAMPANULA LACTIFLORA.—C. C. W., Moseley: Campanula lactiflora is a strong growing, handsome and effective species, and one eminently suitable for a large herbaceous border. It grows from four to six feet high, and flowers over a long period during summer and early autumn. It is a Caucasian species, introduced as long ago as 1814. There are numerous varieties, ranging from the milk-white type to a fairly deep blue colour. C. lactiflora thrives in any good garden soil, and may be increased by seeds or division.

NAMES OF PLANTS.

C. R., Devon.—1, Indigofera Gerrardiana; 2, Sedum spurium; 3, Sedum album; 4, Inula Helenium.

H. W., Hungerford.—Probably Celtis occidentalis pumila; we should like to see another specimen.

E. C. C. D., Southborough.—1, Erica Tetralix; 2, Erica cinerea; 3, Calluna vulgaris—Common Ling.

W. P. W., Leicester.—1, Trachelium cæruleum; 2, Yucca recurvifolia; 3, Veronica virginica; 4, Sedum spectabile.

J. M., Southampton.—1, Centaurea macrocephala; 2, Santolina Chamæcyparissus; 3, Olearia Haasti; 4, Inula Helenium.

S. R. M., Aylesbury.—1, Hypericum calycinum; 2, Bougainvillea Sanderiana; 3, Spiræa bumalda Anthony Waterer; 4, Gilia androsacea.

C. F., Malpas.—A poor specimen, but apparently Tamarix æstivalis, a species that does well in the South of England, but we know nothing of its behaviour in Cheshire.

E. R. V., Chepstow.—1, Sidalcea Listeri; 2, Limnanthemum peltatum; 3, Erigeron speciosum; 4, Campanula longistyla; 5, Alyssum maritimum; 6, Galtonia candicans.

G. F. T., Taunton.—The flowers had fallen to pieces when they reached us, but, judging from the colour and fragrance of the petals and the style of growth, we believe the variety to be Marechal Niel.

W. H., Swansea.—The damp moss in which they were packed had taken all the colour out of the flowers, but, so far as we were able to judge, there were no true picotees among them. No. 2 is a self, and the others appear to be fancy varieties of no special value.

TRADE NOTE.

AN ATTRACTIVE FLORIST'S SHOP WINDOW.

Modern and up-to-date shopkeepers in any line of business use their best efforts to make their windows attractive. The florist should certainly be able to vie with and excel almost any trade in this respect, his one and only drawback being that the greater part of his wares are rapidly perishable. The value of the advertisement obtained should, nevertheless, compensate for a good deal of loss involved in presenting to passers-by a well-decorated window. When in Wolverhampton recently we were much pleased by the exceptionally fine display made by Messrs. Bakers, the well-known firm of nurserymen and florists. Messrs. Bakers' shop in Lichfield Street has a fine frontage with three large windows, and on the occasion referred to each of the windows was well dressed. The floor space of one window was transformed into a miniature lake, upon the surface of which floated Nymphæas marliacea, carnea, and chromatella, N. fulgens, and N. Gladstoniana. The margins of the water were clothed with mimulus in full bloom, with groups of sarracenias, Butomus umbellatus and the very beautiful Juncus zebrinus, with growths much resembling beautifully-coloured porcupine quills. The bamboos, typhas, and spiræas, which filled the background, completed a very realistic and pretty water and bog-garden. A second window was filled with large masses of early-flowering gladioli, the bright scarlets, delicate pinks, and pure whites of which combined to produce a very fine effect. Sweet peas, artistically arranged, formed the display in the other window, and the splendid bunches of such good things as Masterpiece, Mrs. Chas. Foster, Czarina, Winsome, and Etta Dyke, bore ample testimony to the quality of Messrs. Bakers' stock. Small wonder is it that a throng of highly interested spectators surrounded these windows, and Messrs. Bakers are to be congratulated on their enterprise, which might well be emulated by many another firm.

MARKETS.

COVENT GARDEN.

Flowers.

An abundant supply meets a moderate demand.

		s. d.		s. d.
Adiantum cuneatum	per doz. bun.	6 0	to	8 0
Asparagus	per bun.	1 0		1 6
Asters	per doz. bun.	3 0		5 0
Arums	per doz.	2 0		2 6
Carnations	per doz. blms.	1 0		3 0
,,	per doz. bun.	10 0		12 6
Cattleyas	per doz.	10 0		15 0
Coreopsis	per doz. bun.	1 6		2 0
Cornflowers	per doz. bun.	1 0		2 0
Croton leaves	per bun.	1 0		2 6
Delphiniums	per doz. bun.	4 0		6 0
Eucharis	per doz.	2 0		3 0
French fern	per doz. bun.	0 6		0 9
Gaillardias	per doz. bun.	1 6		2 0
Gardenias	per doz.	2 0		2 6
Gladiolus	per doz. bun.	3 0		4 0
Gypsophila	per doz. bun.	3 0		5 0
Iris	per doz. bun.	2 6		5 0
Lapagerias	per doz.	1 6		2 6
Lilium auratum	per bun.	2 0		3 6
,, speciosum	per bun.	1 6		2 6
,, longiflorum	per bun.	2 0		3 0
Lily of the Valley	per doz. bun.	5 0		10 0
Marguerites	per doz. bun.	1 6		2 0
Mignonette	per doz. bun.	2 0		3 0
Odontoglossums	per doz. blms.	2 0		3 6
Pelargoniums	per doz. bun.	3 0		5 0
Poppies (Iceland)	per doz. bun.	1 0		1 6
Roses	per doz.	1 0		2 6
Smilax	per doz. trails	2 0		3 0
Spiraea	per doz. bun.	4 0		5 0
Statice	per doz. bun.	4 0		5 0
Stocks	per doz. bun.	2 0		6 0
Sweet Peas	per doz. bun.	1 6		2 6
Tuberoses	per doz. blms.	0 4		0 6

Fruits.

Prices are steady and there is an excellent demand all round.

		s. d.		s. d.
Apples, English	per ½ sieve	2 0	to	5 0
Apricots	per box	0 9		1 6
Bananas	per bun.	3 6		10 0
Cherries	per ½-sieve	5 0		12 6
,, French	per ½-sieve	4 0		10 6
Currants, Black	per ½-sieve	6 0		10 6
,, Red	per ½ sieve	5 0		7 6
Figs	per doz.	1 6		6 0
Gooseberries	per ½-sieve	2 6		5 6
Greengages	per ½-sieve	5 6		10 6
Grapes, English	per lb.	0 8		3 6
,, Guernsey	per lb.	0 6		1 3
Lemons	per case	10 0		30 0
Melons	each	0 8		2 0
Nectarines	per doz.	3 0		10 0
Oranges	per case	10 0		16 0
Peaches, English	per doz.	2 0		10 6
Pears, French	per ½-sieve	4 0		7 0
Pineapples	each	2 6		4 6
Plums	per ½-sieve	3 0		7 6
Raspberries	per doz. pun.	2 6		5 0
Strawberries	per doz. pun.	6 0		10 0

Vegetables.

Supplies are splendid, but business is rather quiet.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	3 0
Beans, Dwarf	per lb.	0 3		0 6
,, Broad	per bush.	2 0		2 6
Beet	per bush.	2 0		2 6
Cabbages	per tally	2 0		4 0
Carrots	per doz. bun.	2 0		3 0
Cauliflowers	per doz.	1 6		3 0
Cucumbers	per flat	3 6		7 0
Endive	per doz.	1 0		1 6
Lettuce, Cos	per score	0 4		0 10
Marrows	per doz.	1 0		2 6
Mint	per doz. bun.	2 0		4 0
Mushrooms	per doz. lb.	7 6		10 0
Mustard and Cress	per doz. pun.	0 6		0 [illegible]
Peas	per bush.	3 0		4 6
Radishes	per doz. bun.	0 4		0 10
Parsley	per ½-sieve	1 6		2 0
Spinach	per bush.	1 0		1 6
Tomatoes	per doz. lb.	2 0		3 6
,, Guernsey	per doz. lb.	3 0		4 0
Turnips, new	per doz. bun.	2 0		3 6
Watercress	per doz. bun.	0 3		0 6

LONDON POTATO MARKETS.

The demand is below the average, and prices are low.

		s. d.		s. d.
Round	per cwt.	4 0	to	4 6
Kidneys	per cwt.	4 0		4 6
Epicures	per cwt.	3 0		3 9
Express	per cwt.	3 3		3 9
May Queen	per cwt.	3 9		4 3

CATALOGUES RECEIVED.

GEO. BUNYARD AND CO., LIM., MAIDSTONE.—An interesting and instructive catalogue of strawberries, the varieties being classed as (1) the very best in cultivation, (2) sorts approved in some localities, (3) the best for forcing, (4) true Alpine autumnal strawberries, and (5) new hybrid autumnal strawberries.

F. HERBERT CHAPMAN, RYE.—An illustrated catalogue of rare and choice daffodils.

ANT. ROOZEN AND SON, OVERVEEN, NEAR HAARLEM, HOLLAND.—A very comprehensive and well arranged catalogue of Dutch and Cape bulbs.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

Date. 1910. July 31 to August 6.	Sunshine.	Temperature of the Air.			
		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
July 31—Sunday	6 36	60	56	73	54
Aug. 1—Monday	10 30	60	56	68	51
,, 2—Tuesday	2 42	59	56	63	55
,, 3—Wednesday	11 48	59	57	67	51
,, 4—Thursday	5 36	61	56	73	50
,, 5—Friday	1 42	59	57	69	54
,, 6—Saturday	4 0	59	56	66	50
Means	(total) 42 54	59	56	68	52

Date. 1910. July 31 to August 6.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
July 31—Sunday	—	62	60	58	51
Aug. 1—Monday	0.06	62	61	58	43
,, 2—Tuesday	0.06	62	61	58	52
,, 3—Wednesday	trace	60	60	58	45
,, 4—Thursday	0.31	61	61	59	43
,, 5—Friday	0.16	62	61	59	53
,, 6—Saturday	—	60	60	59	48
Means	(total) 0.59	61	60	58	47

Thunderstorm at Midday on Friday, 5th.

FORTHCOMING ENGAGEMENTS.

TUESDAY, August 16.—Royal Horticultural Society; Committees meet at 12 o'clock; lecture at 3 o'clock on "Lesser Known Grapes," by Mr. A. C. Smith; Scientific Committee at 4 o'clock.

WEDNESDAY, August 17.—Shrewsbury Floral Fête; two days.

Eastbourne Horticultural Society.

Shirley and Millbrook Horticultural Society.

Kingstown Horticultural Society.

THURSDAY, August 18.—Usk Flower Show.

TUESDAY, August 23. — Oxford Horticultural Society; autumn show.

THURSDAY, August 25.—Aberdeen Horticultural Society; three days.

Sandy Horticultural Society.

Ellesmere Horticultural Society.

Blaenavon Flower Show.

SATURDAY, August 27.—Hawick Horticultural Society.

TUESDAY, August 30.—Royal Horticultural Society Committees meet at 12 o'clock; lecture on "The Effects of Overhead Electrical Discharges upon Plant Growth," at 3 o'clock, by Mr. J. H. Priestley, B.Sc.; Scientific Committee, 4 o'clock.

WEDNESDAY, August 31.—Glasgow Horticultural Society.

Carlisle Flower Show; two days.

South Shields Flower Show; two days.

Chester Agricultural Society, Horticultural Section.

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Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

ACCOUNTANT AND CASHIER, or CORRESPONDENT.—Advertiser, 20 years with Messrs. B. S. Williams and Son, and three years with Messrs. J. Veitch and Sons, Lim., is open to re-engagement, and will be glad to hear from any firm requiring the services of a capable man; good knowledge of Plants, Botany, and Foreign Languages. G. K. GUDE, 45, West Hill Road, Wandsworth, S.W.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

MR. TAYLOR, Head Gardener to Sir James Mackay, Chesterford Park, Essex, can highly recommend J. WREN as HEAD GARDENER, where two or more are kept; thoroughly experienced in all branches, Inside and Out; good references; age 31; married, three children; leaving when suited. J. WREN, Meesden, Buntingford, Herts.

MR. C. E. GUNTHER, of Tongswood, Hawkhurst, Kent, wishes to highly Recommend his HEAD GARDENER; life experience in all branches, gained in good establishments; excellent references; age 32; married, one child. Apply to H. BLOXHAM, The Gardens, Tongswood, Hawkhurst, Kent.

GARDENER (Head, where two or three are kept); highly recommended; would be pleased to forward particulars to any Lady or Gentleman. CLARK, 19, Tanfield Road, Birkby, Huddersfield.

GARDENER (Head); life experience in growing all kinds of fruit and plants, including orchids; also kitchen and flower garden; can be highly recommended. W. LAMBERT, The Common, Kenilworth, Warwickshire.

GARDENER (Head Working).—Mr. A. FYFE, Manager, Locksheath, near Southampton, wishes to highly recommend to any Lady or Gentleman, a thorough practical Man as above, undoubted experience, all branches, gained in first-class establishments, excellent references (5 years' head); married, age 33.

GARDENER (Head Working or good Single-handed); life experience; 11 years' reference from last situation; married, no family; disengaged. W. HARTNUP, 61, Nichol Lane, Bromley, Kent.

GARDENER (Head Working, where one or two more kept, or good Single-handed); experienced Inside and Out; good references, and recommended; age 27; married when suited. W. CROUCHER, 11, North Terrace, Hythe, Kent.

GARDENER (Head Working, where several are kept); 25 years' experience in all branches, Inside and Out; 15 years as head; well recommended; disengaged Aug 31st. A. LONGMUIR, The Elms Gardens, Blackrock, Dublin.

GARDENER (Head Working or good Single-handed); life experience in all branches; good references from present and previous employers as to ability and trustworthiness; no family. GARDENER, 28, Martell Road West, Dulwich, S.E.

GARDENER (Head Working where two or more are kept); life experience in all branches; age 42; 7 years in present place as Head. STEVENS, 27, Blackstock Road, Finsbury Park, N.

GARDENER (Head Working, where two or more are kept); good all-round; can be well recommended; married when suited; age 36. PEARCE, Ridley, near Wrotham, Kent.

GARDENER (Head Working); experienced in the Cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, etc.; also Hardy Fruit culture; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working, where several are kept); life experience, gained in first-class establishments; Vines, Peaches, Stove and Greenhouse Plants, Carnations, Flower and Kitchen Gardens; also land and stock if required; disengaged; married, one boy, age 12. "GARDENER," 8, Cross Road, Purley, Surrey.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; prize winner; leaving own request; no young children; youngest 14. W. BLOOMFIELD, Staplehurst, Kent.

GENTLEMAN recommends GARDENER (Head of two or three); life experience in all branches; understands formation of new or renovating old gardens; married, one boy 10 years; age 45. PENNELLS, Phœnix Green, Winchfield, Hants.

MR. T. H. USHER, F.R.H.S., Riverhill, Sevenoaks, wishes to recommend H. WOOD to any Lady or Gentleman requiring a GARDENER (Head of three or four); has been here over 11 years as Second.

WANTED, a SITUATION as Head, where two are kept, or a good Second preferred; age 25; life experience in all branches; can show excellent references; single, disengaged. G. JONES, Maescellyn Cottage, Crickhowell, Breconshire.

GARDENER (Single-handed); married; age 27, seeks SITUATION; experienced Inside and Out; 5½ years' excellent reference last situation. Apply W. G. CONN, 7, Coombe Road, Sydenham.

GARDENER (Single-handed or with help); age 28; experienced Inside and Out; married when suited; good references. A. RAYFIELD, 130, Lavenham Road, Southfields, Surrey.

GARDENER (Single-handed or otherwise); good all-round man in all branches, or handy man on gentleman's estate; good at either; willing to be useful; active and reliable; good character; age 45; married, one child. OSBORNE, 48, Bradshaw Road, Watford.

MRS. BUSK wishes to thoroughly recommend her GARDENER, age 32, as SINGLE-HANDED or with help; married, one child; leaving through giving up; good references. Apply, C. BOULT, Manor Cottage, Fritwell, near Banbury.

GARDENER, Second, where four or five are kept; 9 years' experience; 5 years' good reference, single. Apply, GOWER, Scaynes Hill, Haywards Heath.

GARDENER, where help is given; life experience Inside and Out; well up in the culture of Plants, Flowers, Fruit, and Vegetables; age 36; married, one child; four years in present situation; excellent references. G. DAVIES, Gardener's Cottage, Chaddleworth House, Wantage, Berks.

GARDENER (Under), or JOURNEYMAN (Inside and Out); 8 years' experience; age 23; height 6ft.; well recommended. Apply, H. KINGSTON, Burton Latimer Hall, Kettering, Northants.

JOURNEYMAN (Inside or Inside and Out); 4 years' good experience; age 19; good references if required. HARRY SMITH, Hanging Houghton Crossing, near Lamport, Northamptonshire.

JOURNEYMAN. — Wanted SITUATION inside or inside and out; nine years' experience; age 24. GEORGE PLUMRIDGE, Bisham Grange, Marlow, Bucks.

GARDENER, where two or more are kept; life experience; wife Laundry if required; no encumbrance. MORRIS, Gardener, Kelvedon Hatch, Brentwood, Essex.

GARDENER (Under, age 30, seeks SITUATION on gentleman's pleasure grounds; 12 years' experience; 4½ years last place; disengaged. S. SANDS, Sparrows Green, Wadhurst.

YOUNG MAN, 24, seeks SITUATION as UNDER GARDENER, Inside and Out experience; strong and willing; 3 years' last place; good refs.; disengaged. Apply ARTHUR GEORGE PERRY, 10, Monckton Terrace, Clay Hall Road, Gosport.

MR. W. HUMPHREYS, Buckden Towers, wishes to highly recommend a respectable Young Man as GARDENER (Under); over five years' experience, Inside and Out; age 20; Bothy preferred. G. WORLEY, Buckden, Huntingdon.

YOUNG MAN, age 26, seeks SITUATION as GARDENER (Under); help in house if required. T. HAYGREEN, Rose Cottage, Victoria Road, Hendon, N.W.

GARDENER recommends a strong, willing LAD; age 16; 15 months' experience; leaving through death. Apply, GEO. TUCKER, 13, Holly Mount, Hampstead, N.W.

IMPROVER (Inside and Out), age 19; 3 years' experience; good references; Bothy preferred. J. LANE, Verwood, Wimborne.

JUNIOR ASSISTANT (18) requires SITUATION; 4 years' experience in Seed, Bulb, Cut Flower, and Nursery Trade; good references. GEORGE RAYBOULD, care of Messrs. Jenkinson, Seedsmen, Newcastle, Staffs.

YOUNG MAN (33) seeks SITUATION in (Outside) General Nursery work; life experience; disengaged. F. NOTON, c/o Miss Litchfield, Black Rock View, The Dimple, Matlock.

Situations Vacant.

REQUIRED AT ONCE Gardeners, Agriculturists, and Domestics for Australia; good wages; situations guaranteed; passage only £2 to approved applicants; no restrictions. Write for full particulars, COLLINGS, 17, Moss Hall Villas, North Finchley.

WANTED, smart active MAN as JOURNEYMAN (Inside); must be well up; plants and fruits; wages, 15s.; Bothy; duty every third week. Apply, stating full particulars, to G. HALLETT, Easton Neston Gardens, Towcester.

WANTED, reliable SINGLE-HANDED GARDENER (with help) for Madrid; live at lodge; must be thoroughly experienced Indoors and Out; good references essential. Write, with full particulars, stating age, salary, experience, etc., to Mrs. ADCOCK, The Quinta, Birchington, Kent.

WANTED, about September 15, good SINGLE-HANDED GARDENER. Apply Mrs. HILSON, Deloraine, Camberley, Surrey.

WANTED, thoroughly experienced FOREMAN for Terrace Gardens and Pleasure Grounds; must be energetic and hardworking. Sunday duty once a month. Without young children. Wages £1 per week and cottage. Also STRONG LAD, smart and active, used to glass houses; wages 10s. week and bothy. Apply, with copies of testimonials, to J. R. TOOLEY, Toddington Manor Gardens, Winchcombe, Glos.

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For AUGUST 20, 1910.

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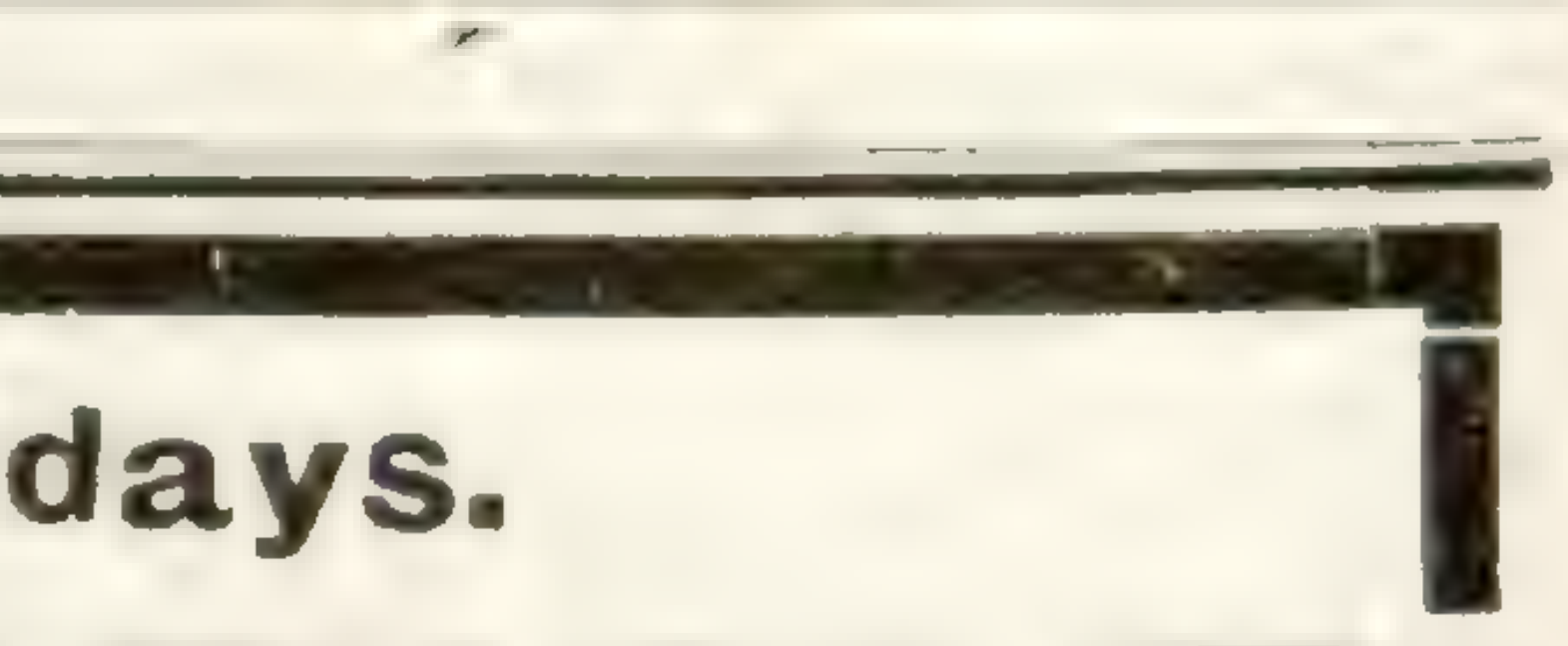

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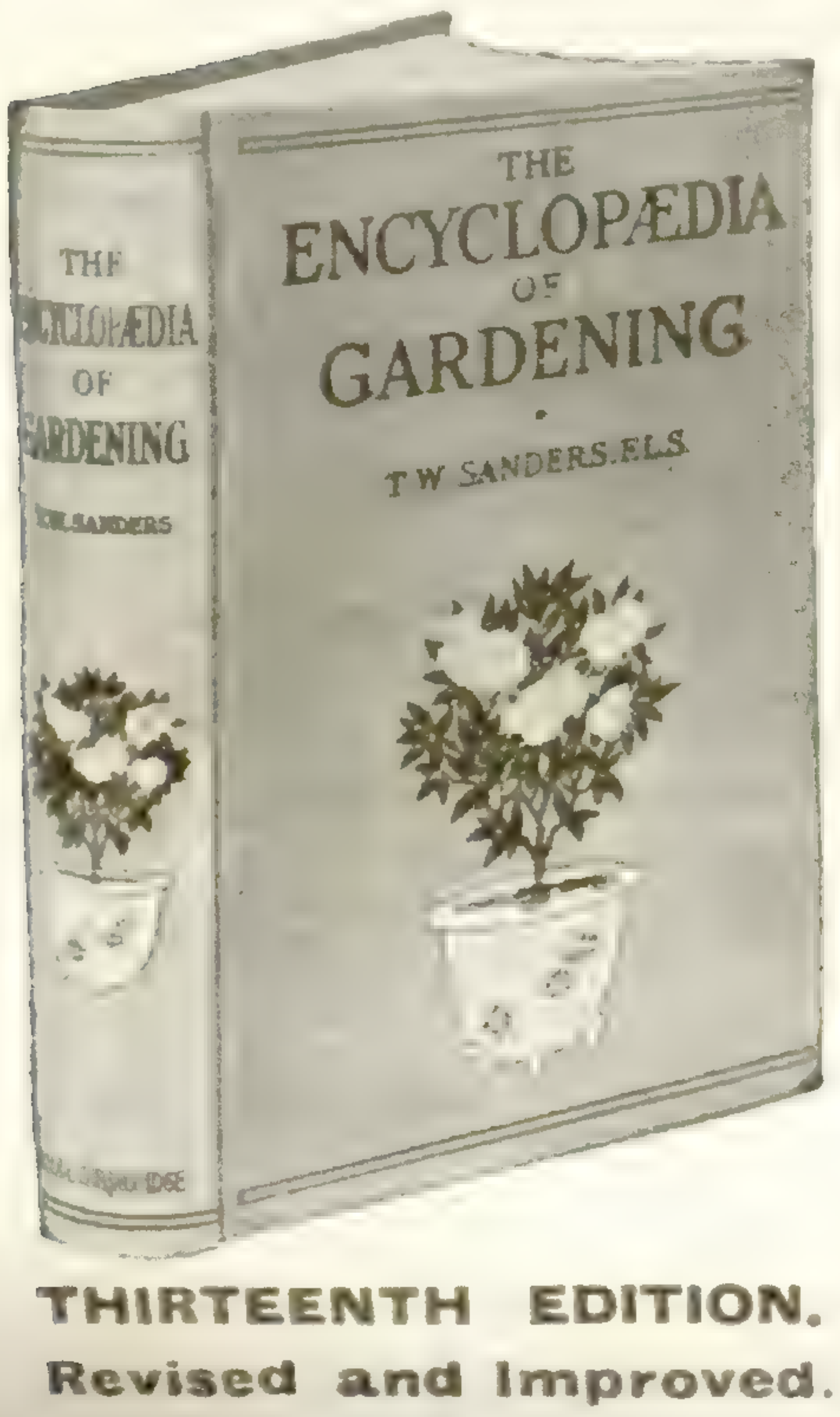

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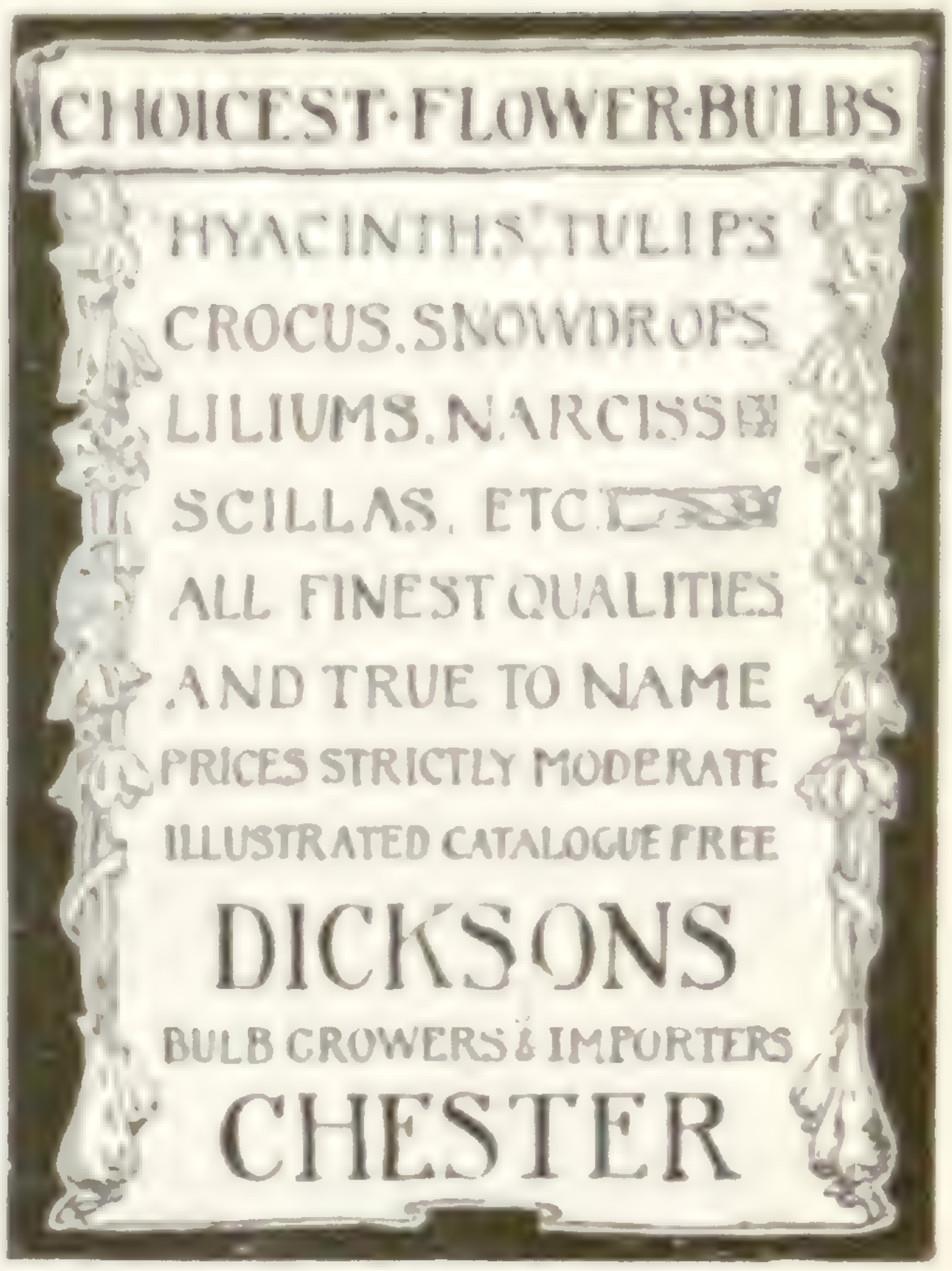

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Hyacinths, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tulips, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tulips, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tulips, double, in the finest mixture	[illegible]	[illegible]	[illegible]	[illegible]
Anemones, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Anemone, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Scilla sibirica, rich blue	1	6	14	[illegible]
Iris, Spanish, mixed	0	6	4	6
Iris, English, mixed	2	0	16	8
Narcis., single, in the finest mixture ..	1	4	12	6
Narcis., Trumpet, in the finest mixture	[illegible]	[illegible]	[illegible]	[illegible]
Narcis., double, fine mixture	3	[illegible]	[illegible]	[illegible]
Narcis.-Polyanthus, finest mixed ...	3	[illegible]	[illegible]	[illegible]
Snowdrops, Elwesi, the Giant Snowdrop	1	[illegible]	[illegible]	[illegible]
Ranunculas, French, double mixed	0	0	7	0

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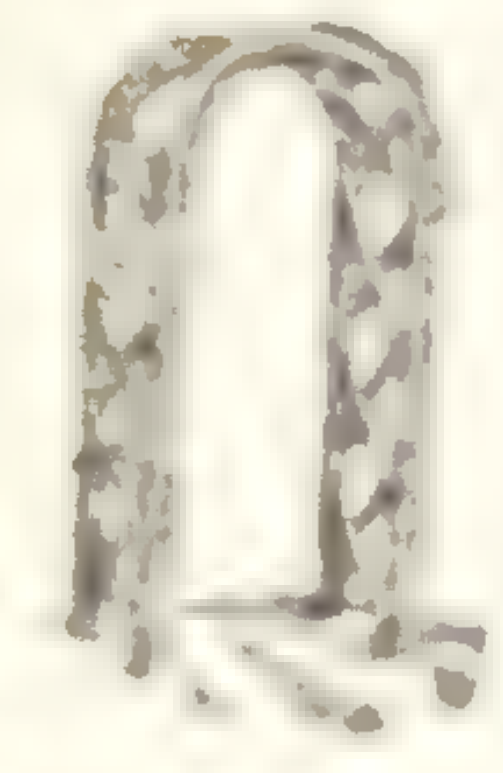

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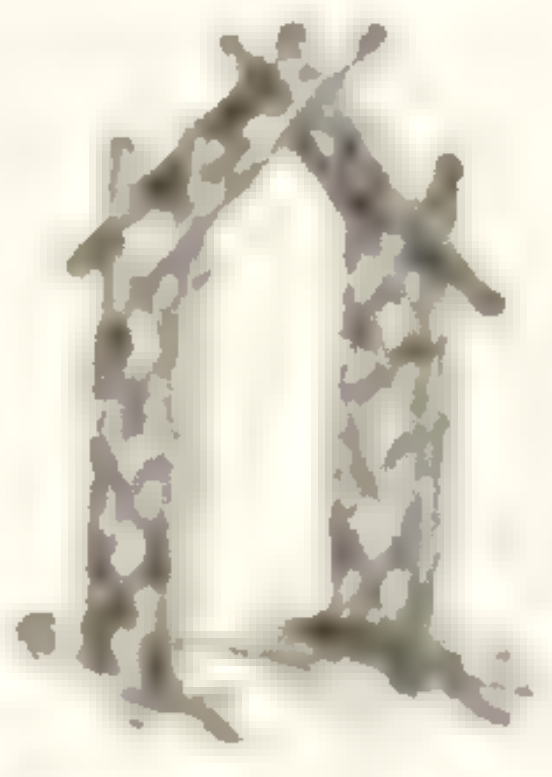

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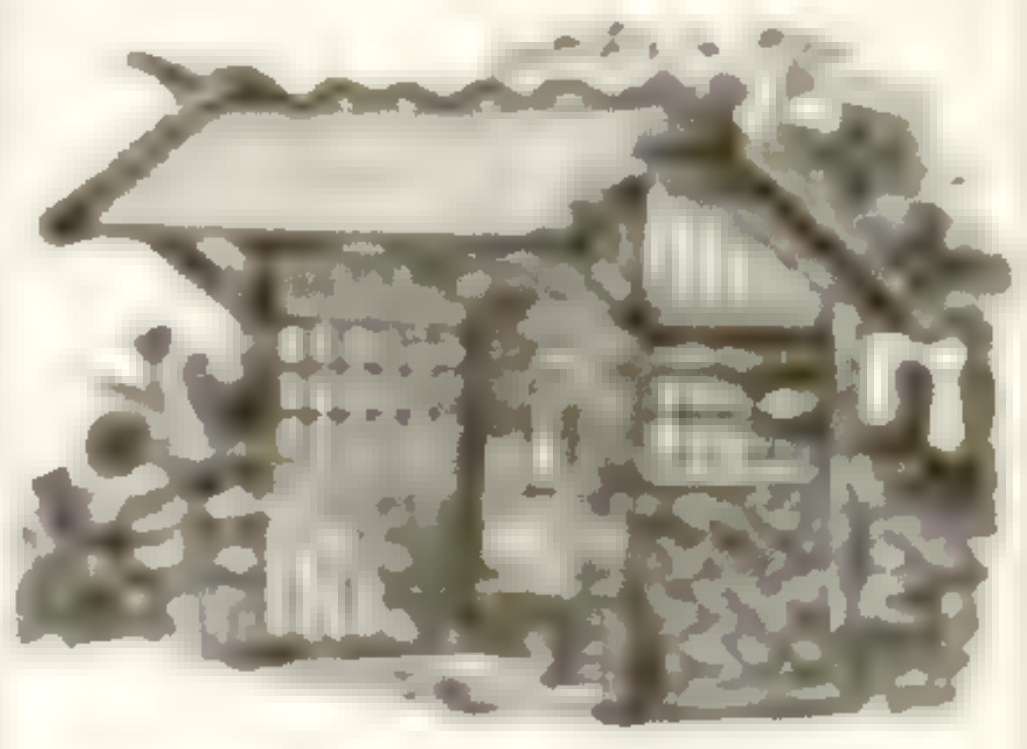

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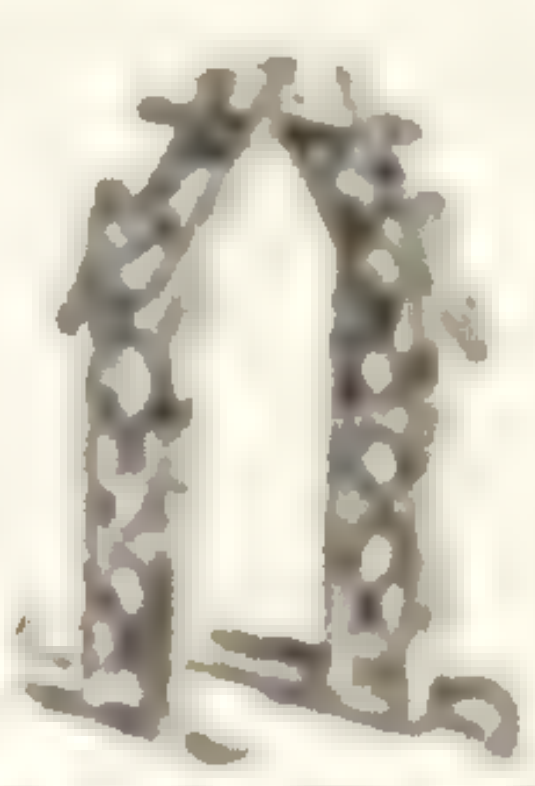

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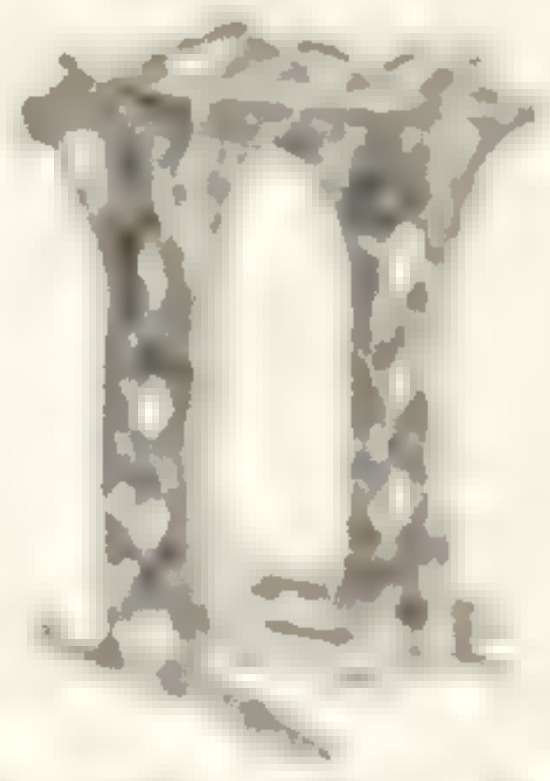

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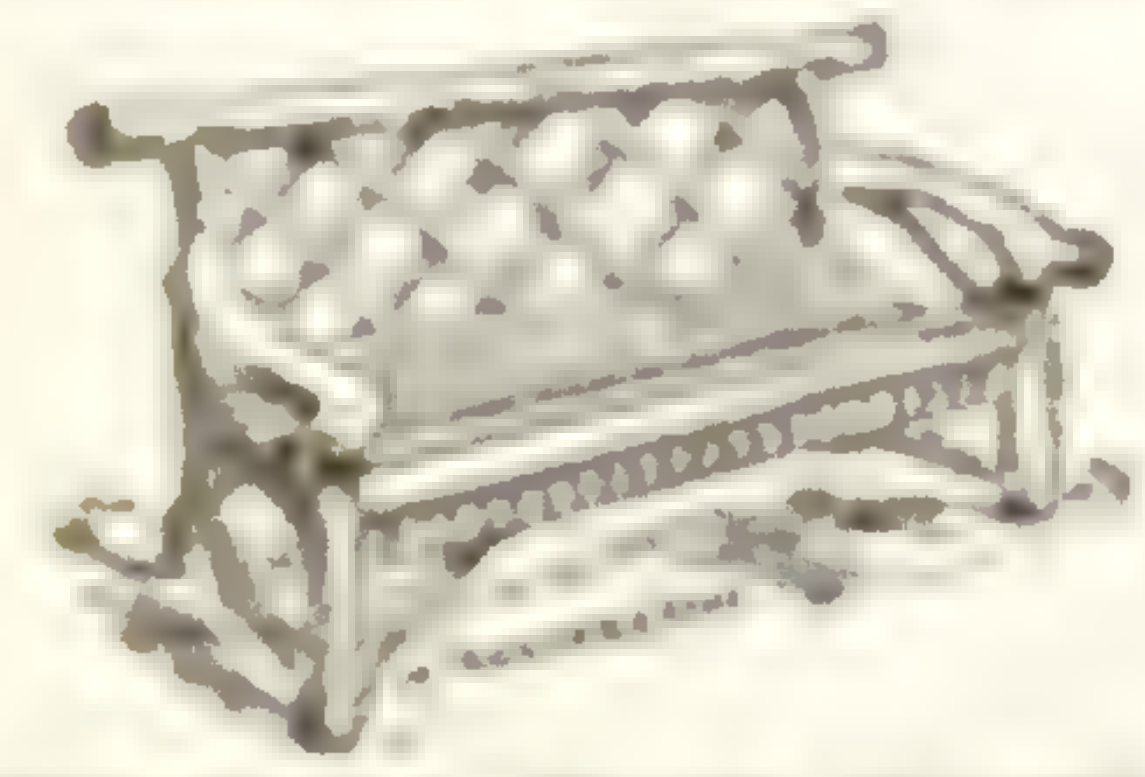

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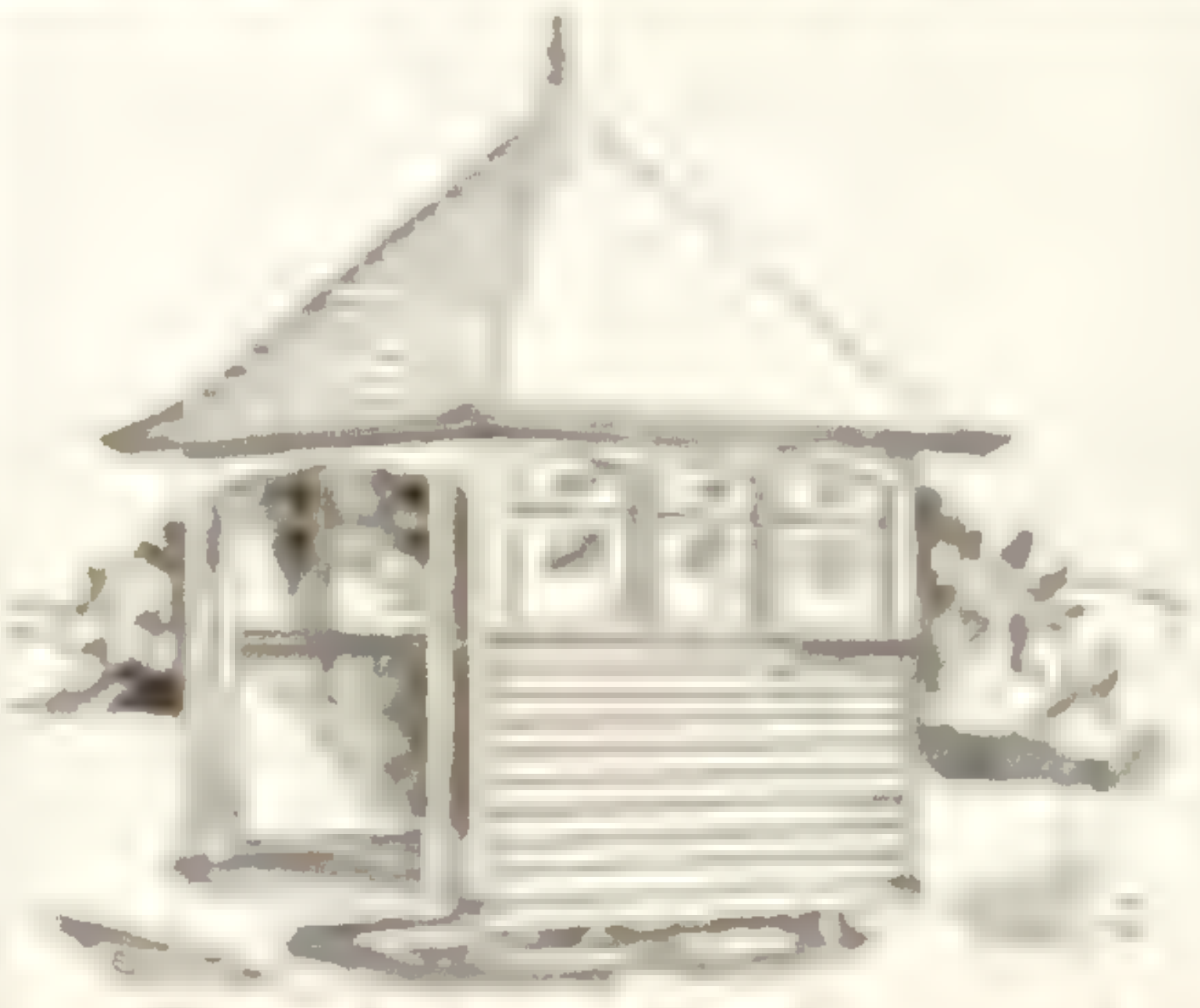

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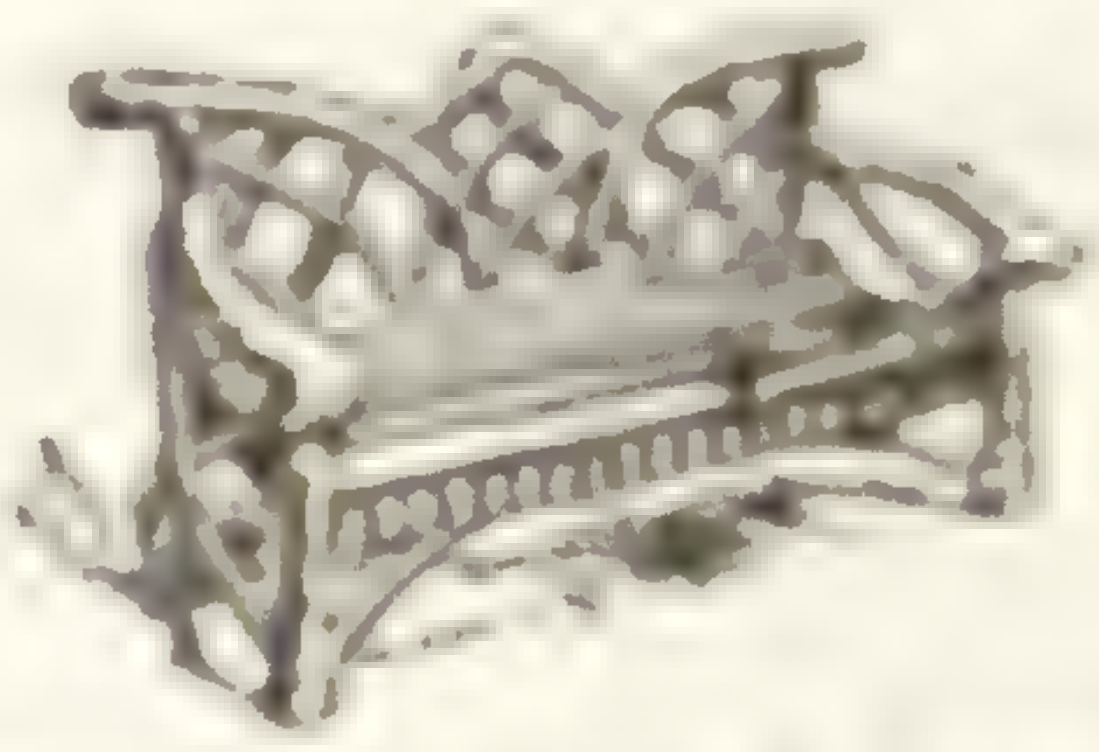

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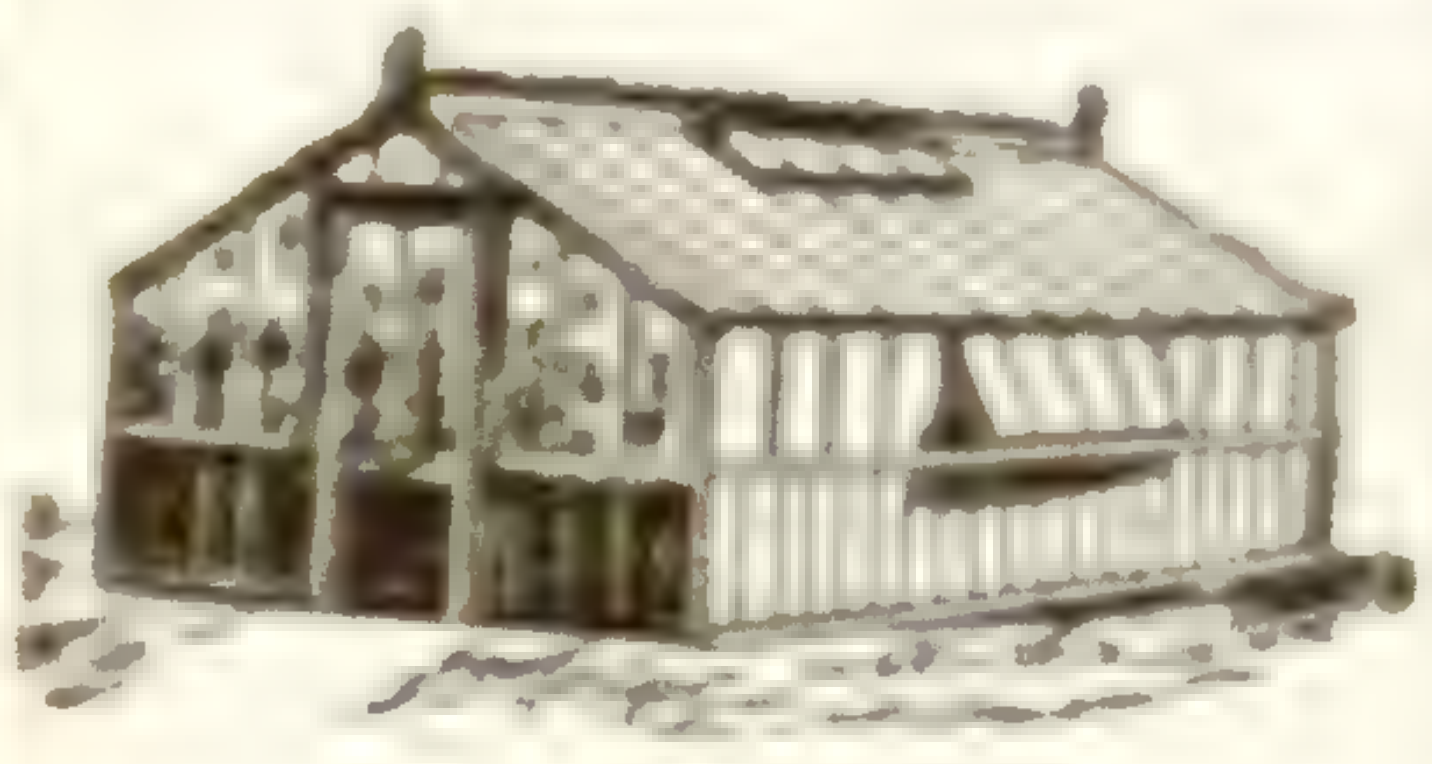

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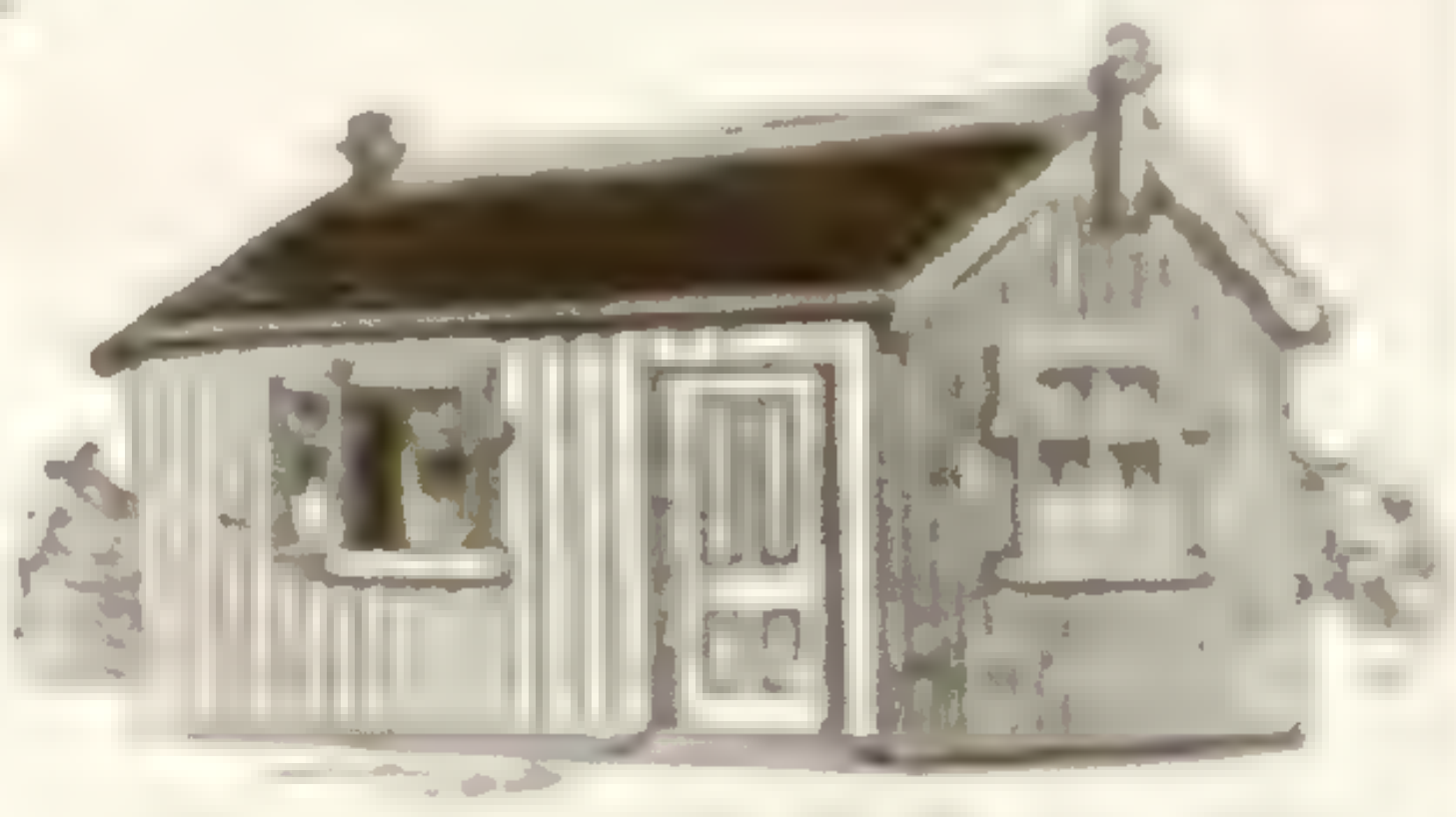

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VOL. LIII.—No. 2,964. SATURDAY, AUGUST 20, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Galls.

Amongst the most curious phenomena of inter-relation between plants and insects, the galls rank pre-eminent. Every observer of Nature will be familiar with the berry-like growths to be found upon the oak, and known popularly as oak apples and commercially as nut-galls, but these only represent one phase, since on the same tree we may find other and very dissimilar growths, some brown and shaggy like aborted fir cones, and others fleshy, flat, and disc like, while on the wild rose we may frequently find green mossy-looking bunches on the stems which are also galls, though as different as possible from the others cited. Although all these are purely vegetable growths and often closely resemble true fruits, we shall find if we cut them open that they are the homes of one or more grubs or maggots, and if we follow out the life history of these, we shall see them eventually emerge, usually as flies of different species according to the sort of gall concerned. There are, however, very curious exceptions to this, since it has been demonstrated that, with some galls, the insects pass through alternate phases, not simply those of grub and fly, but of grub of one kind in one shape of gall which yields a fly of a certain description, while this fly produces a gall of a different kind inhabited by a different grub which eventually produces a fly of the first kind, and so on. This is the case with the gall known as the oak spangle, a fleshy disc on the under side of the mature leaves and the small berrylike gall which infests the earlier buds and growths. The mysterious part of gall production consists in the fact that when the egg of the gall-fly is deposited, some subtle poison is injected which so affects the cells in the vicinity that they depart entirely from their normal function of contributing to the growth of the tree or plant of which they are part, and proceed to build up an altogether abnormal structure at the plant's expense, but destined only to form at once a habitation and a supply of food for the grub which hatches within it. We have here a parasitism of a very special kind. Parasites mostly exist by simply sucking the blood or the sap of the plant or animal attacked. The dodder and mistletoe insert their absorbent rootlets into the tissues, and are capable of killing the infected branch or plant by simply appropriating to their own service all the sap supplied for the service of their hosts, mere bloodsuckers in fact. It is, however, a very different thing when the host is induced by some potent influence to build up a special, and, to all intents and purposes, a healthy growth—for the oak apple in its young state is devoid of any signs of disease, its flesh is white and juicy as any apple proper, and the moss gall of the rose is equally sound—for the encouragement of its parasites, providing both food and lodging on a liberal scale for their exclusive benefit. It is curious, too, that in so doing actual fruit should be imitated, rosy cheeks and all, which for frugivorous birds and animals must be veritable Dead Sea fruits, if we may select the nut-gall as an example. In this the acrid principle of the oak bark, by which the tanner profits, appears to be concentrated, since the galls themselves not only owe their name to this, but are especially valuable to the leather dresser. The digestive apparatus of the parasitic grubs must be very different from ours to enable them to thrive upon such a quintessence of astringency, but as it is the dried and abandoned husk which they desert as flies which provides the tanner's material, we may perhaps assume that the internal flesh is better adapted for grub food. The species of gall producing insects are very numerous, as are those of the plants they attack. The forms of the galls produced are also extremely diverse, and it is here that the chief wonder comes in, viz., the extreme subtlety of the infiltration which determines so many different kinds of growth, in all cases quite foreign to the normal cellular growths of the plants concerned. To all intents and purposes they are vegetable tumours, and not diseases such as are induced by parasitic fungi. The growths are confined to the spot in which the eggs are inserted by the ovipositor, and sting of the fly, and it is here that the affected cells, instead of being killed, set to work and multiply themselves energetically, in order to house and nourish on liberal lines a brood of absolute aliens, who, in some inscrutable fashion, have found a way to force them into their service.

MR. E. F. HAWES.
Secretary of the National Dahlia Society.

Mr. E. F. Hawes, whose portrait we give in this issue, is well known as chief of the gardening staff at the Royal Botanic Society's gardens Regent's Park, and as an active worker in the cause of the dahlia, and it is as the secretary of the National Dahlia Society that he is obtaining at this season special attention. On the death of Mr. R. Dean, who was the founder and honorary secretary of the London Dahlia Union, Mr. Hawes was appointed his successor, and continued in that office until the amalgamation of the London Dahlia Union with the National Dahlia Society, when he became, with Mr. H. H. Thomas, joint secretary of the latter. On the retirement as co-secretary of the last-named gentleman, at the end of last year, Mr. Hawes was appointed secretary, and this might well be regarded as evidence of the high appreciation of his services by the members of the executive and the society. In other directions Mr. Hawes has shown much activity in furthering movements that have for their object the advancement of horticulture and the welfare of those engaged in gardening. He has been for some years past the vice-chairman of the National Chrysanthemum Society, and a member of the council of the British Gardeners' Association, and was for several years the chairman of the London branch of the association. Of Mr. Hawes' work at the Royal Botanic Society's gardens there is no occasion to speak further than to say that he has proved a worthy successor to Mr. William Coomber, who for so long a period had charge of the practical work of these gardens.

Baron Schroder Memorial. — From the Rev. W. Wilks, M.A., secretary of the Royal Horticultural Society, we have received the following letter: "The Council of the Royal Horticultural Society have established, in grateful memory of the late Baron Schröder, a perpetual pensionership, under the rules and regulations of the Gardeners' Royal Benevolent Institution, and have suggested to the committee that it would be very pleasing to the Council if the widow of the late Mr. Wildsmith, head gardener to Lord Eversley at Heckfield, were appointed the first Schröder pensioner. Mr. Wildsmith rendered great and willing help to the society in the difficult days of the society's leaving South Kensington. The Council have been informed that Mrs. Wildsmith has been duly appointed."

Mr. W. J. Tutcher.—We learn with a great deal of pleasure that Mr. W. J. Tutcher, who for nearly twenty years has been Assistant Superintendent of the Botanical and Forestry Department at Hong Kong, has now been appointed superintendent, in place of Mr. S. T. Dunn, who has resigned.

Royal Botanic Society.—The Council of this society was able to present at the annual meeting held on the 10th inst., one of the most satisfactory reports the Fellows have had submitted to them for some years past. Mr. Pembroke Stephens, K.C., who presided, stated, in moving the adoption of the report, that an immense improvement had taken place in the position of the society during the past year. The number of Fellows in 1909 was 1,570, while the number now was 1,834. This, he said, was a substantial increase on which the society might congratulate itself, bearing in mind all that had been said from time to time. Many debenture holders had, Mr. Pembroke Stephens stated, handed back their debentures, and the Council had given them life Fellowships for each £100 given up. The net results of that and other operations had been that whereas in June last year the debenture debt was £24,284 now it was £14,714. By the surrender of the debentures the society had also saved £1,236 18s. 9d. accrued interest, and a sum of £250 14s. 9d., which was an annual charge in respect of interest. With reference to the current account Mr. Pembroke Stephens stated that the current liabilities, which in 1909 were £3,050, are now £572. He also announced that His Majesty King George had become a patron of the society. The report was unanimously adopted, and the retiring members of Council were reelected.

Tax on Gardeners.—In our issue of the 13th inst., we referred to the fact that the Duke of Bedford had been summoned, at Bow Street, by the London County Council for employing five male servants without licences. The men are employed in Bedford Square Gardens and other ornamental open spaces, and the Council contended that they were gardeners, The defence was that they were only men working in a garden, and were therefore exempt from taxation. Mr. Marsham reserved his judgment, which he has since given. He decided that Mr. Peck, the head man, was a gardener within the meaning of the Act, and that the other four came under the denomination of men working in a garden.

Memorial Open Spaces.—The Lord Mayor's Committee of the Mansion House Fund for providing a memorial in London to King Edward VII. has been considerably enlarged within the past few days. Suggestions as to the form the memorial should take are being received, and those relating to the provision of open spaces in populous districts in the Metropolis appear to be the most numerous. Canon H. D. Rawnsley, and Mr. Nigel Bond, hon. secretaries of the National Trust, write with reference to what is being done in the Lake District as follows: "It is with great pleasure that we announce that our president—her Royal Highness the Princess Louise—has determined to purchase the superb view-point of Grange Fell in Borrowdale, and make it, through the National Trust, a gift to the public in memory of the late King. Henceforth, as we have an association with Queen Victoria on Derwentwater, so we may associate the memory of King Edward with Grange Fell in Borrowdale. There are still several acres of the Fell that can be added to the memorial if friends desire to do so—an acre costs £7 7s. We have raised £1,650; there remains £750 to be obtained before the purchase can be completed."

Proposed National Hardy Plant Society.—A meeting of those specially interested in the culture and improvement of hardy plants was held on Wednesday evening, August 17, at the George Hotel, Shrewsbury, under the presidency of Mr. A. J. Macself. A resolution to the effect that a National Hardy Plant Society be formed was carried with enthusiasm, and the meeting proceeded to elect Mr. A. J. Macself chairman of committee, Mr. J. S. Brunton treasurer, and Mr. Frank Bouskell as secretary. A provisional committee was appointed to proceed with preliminary work, and arrangements were made to hold another meeting in connection with the Edinburgh Show early in September.

Presentation to Mr. and Mrs. Charles Foster.—At the annual dinner on the first day of the National Sweet Pea Society's show, the question of making some suitable acknowledgment of Mr. Foster's invaluable services as superintendent of the society's trials was discussed in his absence. For a number of years Mr. Foster has been in full charge of the trials without fee or reward of any kind. The proposal was enthusiastically received, and it was resolved to limit individual subscriptions to 5s., as it was felt that Mr. and Mrs. Foster would appreciate a presentation subscribed for by several hundred members rather than one limited to a few who would be willing to subscribe big amounts. From members of the society who may not feel able or disposed to subscribe 5s., smaller sums will gladly be received and equally appreciated. A special committee was appointed to deal with the matter, and Mr. Cuthbertson, 5, Durham Road, Portobello, Mid-Lothian, was asked to undertake the duties of secretary and treasurer, and it is requested that subscriptions be sent to him.

Town Planning and Open Spaces.—The conference which has been organised by the Royal Institute of British Architects to consider the question of town planning, will be held in London from October 10 to October 15, both days inclusive. The King has signified his intention of continuing the Royal patronage to the conference originally bestowed upon it by King Edward, and Mr. John Burns, M.P., will, on the invitation of the Institute, be hon. president, and will deliver his inaugural address on the opening day. The papers of special interest to horticulturists include "The Town Planning Act and Open Spaces," by Sir W. B. Richmond; "Public Parks and Gardens," by Mr. T. H. Mawson; and "Open Spaces, Gardens, and Recreation Grounds," by Mr. Basil Holmes. The inaugural meeting will be held at the Guildhall, but the subsequent meetings, when the conference will be divided into sections, will be held at the headquarters of the Royal Institute, in Conduit Street. It is expected that there will be at least 1,000 delegates, who will be received by the Lord Mayor at the Mansion House, and a conversazione will be given by the Royal Institute of British Architects.

A New Park for Exmouth. A new park, with an area of nearly sixteen acres, was opened at Exmouth a few days since. The park is the gift of the family of the late Sir John Budd Phear.

Insect Pest Prevention in British Columbia.—In the spring an immense number of fruit trees were destroyed by fire in British Columbia under the direction of the provincial inspector of fruits and orchards. The trees destroyed came from Japan, Germany, Holland, Belgium, France, the United Kingdom, and from the United States, and consisted of some 30,000 trees and plants infected with San Jose scale, borers, root gall, apple-tree anthracnose, pear blight, and all the other various fruit tree diseases known. The trees included apple, pear, quince, peach, apricot, crab, nectarine, small fruit, and ornamental shrubs. The inspector stated that there was enough infection destroyed in this lot to have infected the whole of British Columbia. Not only is the imported nursery stock inspected, but all the nurseries throughout the province. No company or individual is permitted to distribute trees until they have passed inspection by competent inspectors. The same rule is followed regarding the sale of fruit, and there is not, it is said, a package of infected fruit sold in British Columbia today. All is carefully inspected, and if found to be diseased is condemned and cremated, or sent back to the country from which it was shipped.

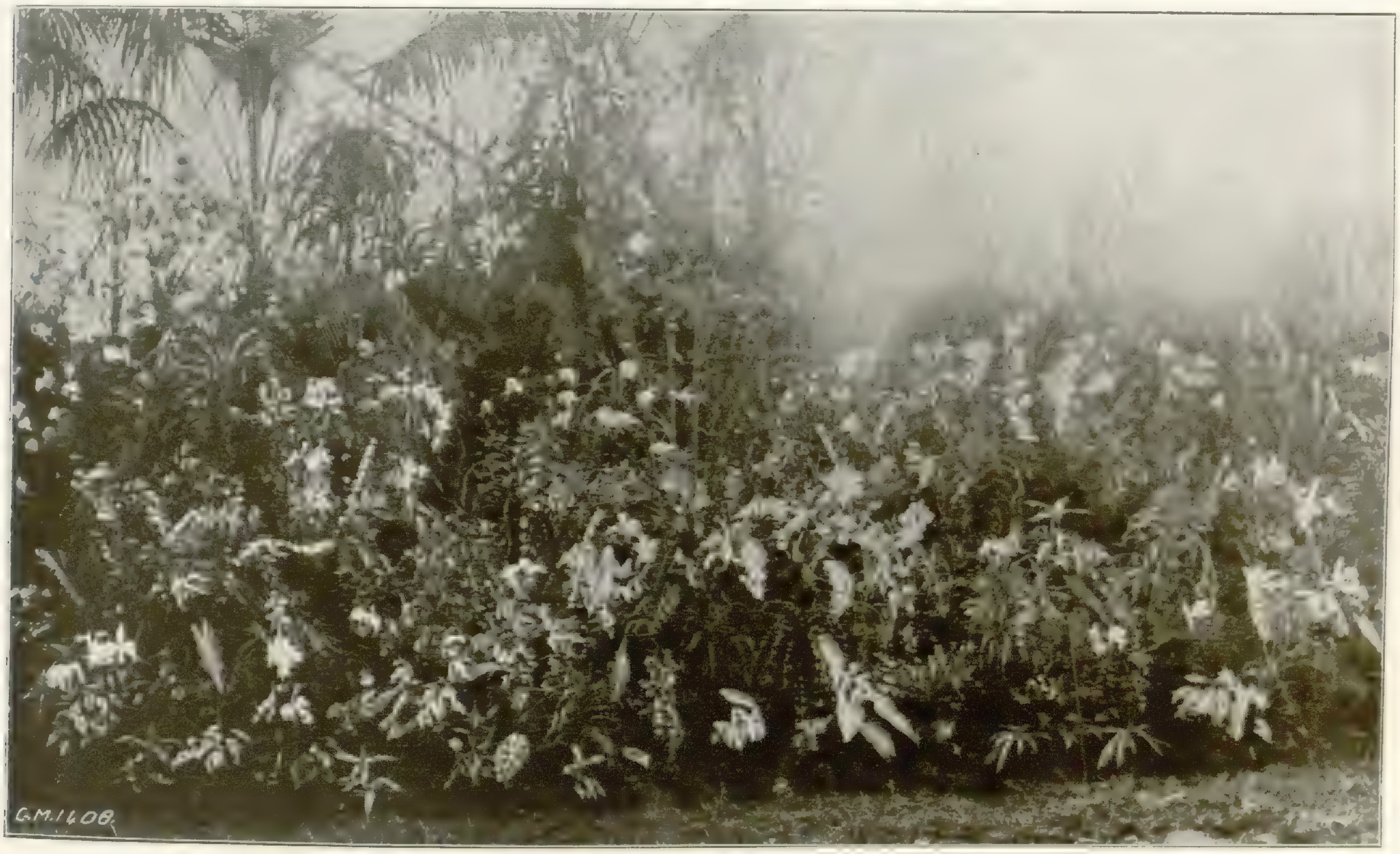
Barr Memorial Fund.—Since the publication of the list of subscribers to this fund in our issue of the 13th inst., Mr. H. B. May, the hon. treasurer, has received contributions from Baron de Soutellinho and Messrs. P. D. Williams, C. Smith and Son, Ant. Roozen and Sons, J. C. Williams, G. Vanden Horst, J. and E. Page, Brodie of Brodie, J. Fairchild, De Graaff Bros., Van Konisberg, L. Buckland, Palmer Mooy, Baylor Hartland, and R. Hooper Pearson.

New Park at Friern Barnet. A few days since the Lord Mayor entertained at luncheon Mr. Sydney Simmons, who recently presented to Friern Barnet a park of about thirty acres. It would have been opened in May last by the Lord Mayor, but, owing to the lamented death of King Edward VII., the ceremony was abandoned. Colonel and Alderman Sir William Dunn, M.P., introduced Mr. and Mrs. Simmons to the Lord Mayor and the Lady Mayoress. Mr. Simmons then presented the Lord Mayor with a gold key of the park as a souvenir. It may be of interest to mention that a few years since Mr. Simmons presented a park to Okehampton.

SHREWSBURY FLORAL FETE.

Once again it gives us the greatest possible pleasure to record a great horticultural success at Shrewsbury. It was a grand show that was held in the fine old Quarry Grounds, amid beautiful surroundings, on August 17 and 18, and this was the thirty-sixth of the series. Since its inception Messrs. Adnitt and Naunton have acted as secretaries, and they have seen a wonderful development during that time. So big has the fête become that nine or ten huge tents, one of immense dimensions, are required to hold the abundant and splendid exhibits. The great features of the show were the fruit classes, the group classes, the big plants, the vegetables, and the sweet peas. Fruit was a grand feature, and there were about four hundred bunches of grapes on view. It was a great pity that in the decorated dessert table class the pointing of the individual dishes was not recorded on the point card, as in some previous years, so that the public, as well as the competitors themselves, might then understand the value of each item. This year the whole of the grapes, peaches, or any other kind of fruit staged in this class had their points lumped together, instead of each variety and dish being separately and distinctly appraised. The judges had not completed their awards in this and the champion grape class, until long after the public were admitted, and as the public were this year admitted at 11.30 a.m., it seems very desirable, in the interests of competitors and judges (not to mention the pressmen who have to work jammed in a crowd of jostling, perspiring humanity), that the time for judging should be made still earlier than it is, or, would not a three days' show be a better arrangement, the public to be admitted at, say, two o'clock on the first day, and judging to commence at ten a.m. on the opening day? If this were possible, it would be a much better arrangement all round. If it is not possible, a much larger number of judges should be provided, and these should commence at nine o'clock. In the vegetable section, and also in the group and plant sections, the judges could not finish by the opening hour, and consequently had to finish their work under extreme difficulties, hampered by the ever-increasing crowd.

It was a grand show, however, and, after a few squalls in the early morning, the weather was delightfully summer-like, and the attendance appeared to be very large on the opening day.



THE FIRST PRIZE GROUP AT SHREWSBURY FETE.
Staged by Messrs. J. Cypher and Sons, Cheltenham, in the new Group Class.

GROUPS.

There were four entries in the big group class, where the stipulation is for a display on a space of 250 square feet, to consist of an artistic arrangement of miscellaneous flowering and fine foliage plants. The premier award was once more made in favour of Messrs. J. Cypher and Sons, Cheltenham, who had a charming exhibit. The arched background was of crotons, dracænas, palms, and liliums, and the front mounds were of elegant palms, glorious brasso-cattleyas, odontoglossums, Vanda cærulea, Caladium argyrites, Cattleya Hardyana, and other beautiful things. The groundwork was of brilliant crotons, Cattleya guttata, dracænas, and light forms of Lilium speciosum over a base of ferns and moss. Mr. J. V. Macdonald, gardener to Sir G. H. Kenrick, Edgbaston, Birmingham, was a close second, and he had a delightful display, in which brilliant and beautifully-grown crotons were the great feature. His elegant background was also brightened by the charming Fuchsia triphylla, as also were the two side arches, on which Phalænopsis Rimestadiana was very fine. Oncidium flexuosum raised its elegant golden sprays among graceful bamboos, and a few well-grown cattleyas made a fine foreground. Mr. W. Vause, Leamington, occupied third place, and he had crotons, ixoras, and oncidiums in abundance. Mr. W. R. Manning, Dudley, was awarded a third prize.

A new and special group class was provided on this occasion for a display of indoor and outdoor plants and flowers, cut and growing, to occupy a space of 250 square feet. The desire on the part of the council was to secure a novel arrangement, and the judges were instructed to take into consideration the quality of the plants and flowers and the general effect produced. Messrs. J. Cypher and Sons put up a beautiful group, and secured the premier award—£20 and a large gold medal—with an exhibit that fully complied with the schedule requirements, and showed how both flowers and plants could be pleasingly associated. There was an arched background, and two side arches furnished with ferns, palms, small caladiums, and orchids of many kinds. Beneath the back arch were groups of tritomas, Galtonia candicans, and Lilium speciosum, while in the centre were statices, Disa grandiflora, and Francoa ramosa, with a few crotons and orchids. In the foreground were mounds of odontoglossums, some small and brilliant crotons, with cypripediums and lily of the valley nestling in the mossy groundwork. Nertera depressa and moss made a pretty edging just in front of the tiny caladiums, alocasias, and Rex begonias. Mr. J. V. Macdonald was again second, and his great feature was a central arch of Phalænopsis Rimestadiana and Cattleya Warscewiczi over a very brilliant groundwork of crotons. There were side stands of cut roses and gladioli, but cut flowers were not a prominent feature. Nandina domestica, little groups of tagetes, and Fuchsia triphylla were other features. Messrs. Artindale and Son, Sheffield, had a striking exhibit, and secured third prize, but they rather overdid their display with tall arches and pillars of cut roses and carnations, and their background of liliums against a screen of green material was rather flat, but they produced a novel and striking feature. The groundwork was of bamboos, lychnis, and variegated hop, and through this ran a tiny stream, in which were water lilies. A little spar-covered pathway was carried over the stream by means of a small rustic bridge.

It was the most novel arrangement of the set. Mr. W. Vause, Leamington, gained a fourth prize.

In the county class for a group of plants Mr. Swann won first place, and Mr. R. Taylor, Abbey Forgate, was placed third; apparently no second prize was granted.

PLANTS.

Messrs. J. Cypher and Sons, Cheltenham, scored for fifteen stove and greenhouse plants, and did so with giant examples of Statice intermedia, Statice profusa, Ixora Duffi, I. Shawi, I. Pilgrimi, Allamanda nobilis, Clerodendron Balfouri, and fine crotons and kentias; Mr. W. Vause second, and Mr. W. R. Manning, Dudley, third. For six stove and greenhouse plants Messrs. J. Cypher and Sons were again to the fore, and here they led with glorious examples of Ixora Duffi, Allamanda nobilis, Statice profusa, S. intermedia, Clerodendron Balfouri, and Rondeletia speciosa major. Mr. W. Vause second with smaller examples.

Messrs. J. Cypher and Sons had the best thirty stove and greenhouse plants, and in addition to kinds already mentioned they showed Clerodendron fallax, Acalypha hispida, Alocasia intermedia, and Davallia polyantha in good style; Mr. W. Vause was second, and Mr. C. Roberts, gardener to Mrs. Swann, Halston Hall, third.

Messrs. Blackmore and Langdon, Twerton-on-Avon, appeared to be the only exhibitors in the class for a group of tuberous begonias, and they were awarded first honours for a display that would have taken a deal of beating. They presented double varieties only, and their plants and flowers were of superb quality, some of the blooms being of immense size, notably those of Lady Tweedmouth, Mrs. G. F. Fry, Mrs. Lockwood, King Alfonso, Miss Ethel Gill, Mdme. Tetrazzini, and Beatrice Rose.

In the county (Salop) classes, for six stove and greenhouse plants, Mr. T. Lambert was to the front with an allamanda, clerodendron, bougainvillea, and Gloriosa superba; Mr. A. Farrant, Cleveland Street, Shrewsbury, second. Mr. Hammonds, Castle Street, led for tuberous begonias.

Mr. T. Lambert led for six dracænas, and Mr. E. Killans, gardener to E. Vaughan, Esq., scored for caladiums. Mr. Jowett, gardener to E. Bridge, Esq., showed the best four fuchsias, and was first for double pelargoniums. Mr. Cliff, gardener to R. Taylor, Esq., led for single pelargoniums, and Messrs. Blackmore and Langdon were to the front for six tuberous begonias. Mr. J. George, gardener to T. Hanbury, Esq., Roby, scored for a dozen table plants with a bright, neat set.

PREMIER GRAPE CLASS.

In the premier grape class, for a dozen bunches, not more than four bunches of one variety, there were seven competitors, and here the chief honours, both for grapes and decorations, fell to Mr. W. Parker, gardener to J. Drakes, Esq., Market Rasen, with a grand display.

His bunches were as follows:

	Variety	Points Awarded.	Possible Points.
1	Black Hamburgh (labelled Gros Maroc)	9	10
2	Muscat of Alexandria	9	11
3	Madresfield Court	9	10
4	Muscat of Alexandria	8½	11
5	Madresfield Court	9	10
6	Canon Hall	9	10
7	Madresfield Court	9	10
8	Muscat of Alexandria	8½	11
9	Gros Maroc	8	9
10	Gros Maroc	8	9
11	Muscat of Alexandria	8½	11
12	Madresfield Court	9½	10
		105	122

Mr. Parker is a new man in this class, and has come to the top at once. His Madresfield Court grapes were very fine, and easily the best in his set. He did not gain maximum points in any instance, but had a high average of quality all through; his best bunch of Madresfield Court seemed good enough for full points, but, of course, the judges had better opportunities of close inspection than we had. The floral decorations were of pink and white carnations, gypsophila, odontoglossum and oncidium sprays, montbretias, and a few cattleya blooms. Second prize was won by Mr. W. H. Cooke, gardener to Lord Belper, Kingston Hall, who scored 101 points out of a possible 123, and it appeared to us his bunches were pointed particularly high, as compared with those in the premier set. Mr. Cooke had fairly large berries all through, but many of the bunches, notably 9 and 10, Muscat of Alexandria, and 6 and 7, Muscat Hamburgh, were not equally well filled all over. Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, third, with 99½ points out of a possible 124; he gained full points for one bunch each of Madresfield Court and Black Hamburgh; the latter was a large cluster, and the former finely coloured; Mr. G. Mullins, gardener to Lady Henry Somerset, Eastnor Castle, was placed fourth, with 95½ points out of a possible 123, and he secured third prize for decorations. Second prize for decorations fell to Mr. J. Jones, gardener to Mrs. F. Need, Malvern, who also secured an extra (seventh) prize for his grapes, with 86½ points out of a possible 117. Mr. G. F. Richardson, gardener to H. St. Maur, Esq., Newton Abbott, gained fifth prize for grapes with 95 out of a possible 124 points; and Mr. W. A. Coates, Glan Conway, gained sixth prize, with 89 out of a possible 124 points.

CHAMPION DECORATED FRUIT TABLE CLASS.

In this famous class for a table of thirty dishes of ripe fruit, the whole florally decorated, the premier award, a champion twenty-five guinea cup, a gold medal, and £20, was won by Mr. N. Barnes, gardener to the Duke of Westminster, Eaton Hall, Chester, with a grand table, beautifully decorated with liliums, oncidiums, masdevallias, oncidiums, and francoas The competition was extremely keen. The leading dishes were Madresfield Court grapes, apples, pears, peaches, and apricots: the total points were 211½, out of an unknown possible. Mr. J. H. Goodacre, Elvaston Castle, was second with 200½ points; Mr. James Gibson, gardener to the Duke of Portland, Welbeck Abbey, Worksop, third, with 193½ points; Mr. Parker, gardener to J. Drakes, Esq., Market Rasen, fourth, with 189½ points; Mr. Mullins fifth with 177 points.

COLLECTIONS OF FRUIT.

The best collection of nine dishes of fruit came from Mr. J. Mills, gardener to Captain Heywood Lonsdale, Shavington Hall, who showed well-coloured Madresfield Court and Muscat of Alexandria grapes, Nectarine peaches, Pitmaston Orange nectarines, Rival and Chas. Ross apples, and melon; Mr. W. Taylor, gardener to F. Bibby, Esq., Hardwicke Grange, second; and Mr. Roberts, gardener to Mrs. Swann, Halston Hall, third. Mr. Taylor had the best floral decorations in this class; Mr. Mills second, and Mr. Roberts third.

There were seven competitors in the class for a dozen dishes of fruit, decorated, to fill a space 6ft. by 4ft. 6in. There was a keen competition, and premier honours fell to Mr. S. Barker, Worksop, for Muscat Hamburgh and Muscat of Alexandria grapes, Royal Jubilee and Seedling melons, Washington apples, Goshawk and one other peach, Negro Largo figs, Coe's Golden Drop plums, and Humboldt nectarines; Mr. Barker was second for decorations with Mrs. H. Burnett carnations. Mr. H. Cooke, gardener to Lord Belper, Kingston Hall, second, with fine nectarines, apples, and apricots; Mr. H. Cotton, gardener to Lord Biddulph, Ledbury Park, third, and first for decorations with orchids; Mr. J. Jones, gardener to Mrs. Need, Malvern, third; Mr. W. E. Hyde, Sheffield, was third for decorations.

GRAPE CLASSES.

The best four bunches of grapes, two each of black and white varieties, were those from Mr. T. Lambert, gardener to Lord Harlech, Brogyntyn, who scored among five competitors with finely coloured clusters of Madresfield Court and Muscat of Alexandria; Mr. S. Barker, Worksop, second; and Mr. T. Cave, gardener to E. Bewley, Esq., Dublin, third. There were seven competitors in the class for two bunches of Black Hamburgh grapes, and here Mr. G. Mullins, gardener to Lady Henry Somerset, Eastnor Castle, Ledbury, led with medium sized, large-berried clusters; Mr. H. Wilson, gardener to J. Brinton, Esq., D.L., Stourport, second; and Mr. W. Dawes, gardener to Lord Trevor, Brynkinalt, third.

Mr. Mullins scored for one bunch of Black Hamburgh grapes, and was followed in order by Mr. H. Wilson, and Mr. W. Dawes. For two bunches of black Muscat varieties Mr. A. H. Hall, gardener to Colonel France Hayhurst, Middlewich, led with good clusters of Madresfield Court; Mr. E. Jones, gardener to G. E. Lomax, Esq., Huyton, Liverpool, second, with Black Hamburgh; and Mr. Wilson third with Madresfield Court. Mr. W. Parker, gardener to J. Drakes, Esq., Market Rasen, scored for two bunches of Madresfield Court grapes with very heavy clusters, but rather small berried; Mr. A. H. Hall, Middlewich, second; and Mr. S. Barker, Worksop, third.

For two bunches of Alicante grapes, Mr. A. H. Hall led from six competitors with large, finely coloured bunches; Mr. E. Jones, Huyton, second; and Mr. G. F. Richardson, gardener to H. St. Maur, Esq., Newton Abbott, third. For a pair of bunches of any other black variety, Mr. H. Parker, Market Rasen, led with good clusters of Appley Towers; Mr. D. McKelvie, gardener to J. Stone, Esq., Roby, Liverpool, second, with Alnwick Seedling; and Mr. W. Faulkner third with Gros Colmar.

Muscat of Alexandria was finely shown, and there were five competitors in the class for a pair of bunches. Here Mr. W. Parker scored with long, well-filled, and well-coloured clusters, berries a trifle on the small size; Mr. G. F. Richardson, Market Rasen, second with neat clusters of big berries, finely coloured; Mr. C. Price, gardener to Colonel Mellor, Tan-y-Bryn, third.

The best single bunch of Muscat of Alexandria was from Mr. W. Parker, who led, among seven competitors, with a very fine bunch; Mr. T. Lambert second, and Mr. N. F. Barnes, gardener to the Duke of Westminster, Eaton Hall, third. Mr. A. Child, gardener to H. E. Attenborough, Esq., Daventry, scored for two bunches of any other white grape with grand bunches of Chasselas Napoleon; Mr. E. Jones, second with Buckland Sweetwater, and Mr. A. H. Hall, third with Chasselas Napoleon; seven competitors.

OTHER FRUITS.

The best dish of eight peaches came from Mr. Mullins, who had beautifully coloured specimens of Bellegarde; Mr. S, Barker second with Belle de Doue, and Mr. A. Heber Percy, Hodnet Hall, third, with Goshawk; fifteen entries. There were twelve dishes of nectarines, and the best was a dish of Pineapple finely shown by Mr. Mullins: Mr. Hall, gardener to the executors of Lady Ashburton, Romsey, second, and Mr. A. R. Searle, gardener to the Marquis of Northampton, Castle Ashby, third with Humboldt. Out of ten entries in the class for a dish of apricots, Mr. A. Langston, Wychbold, was first; Mr. J. Mills second; and Mr. Pritchard, gardener to Major A. H. O. Lloyd, Leaton Knolls, third. Mr. Searle had the best green-fleshed melon; fourteen entries; Mr. H. Cooke was first for a scarlet-fleshed melon with The Manchester; fifteen entries; Mr. Davies, gardener to Mrs. T. Alderson, Welsh Frankton, first for a white-fleshed variety; fourteen entries.

Mr. Searle had the best dish of gage plums. Oullin's Golden Gage; seven entries. He was also first for a dozen yellow plums with Jefferson, and first for a dozen purple or red plums with Kirke's. Mr. A. Hall led for a dish of cherries.

VEGETABLES.

These were grandly shown and finely staged. In the society's class for a collection of nine kinds of vegetables, Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs. Elstree, Herts, won first place with a magnificent collection, comprising celery, leeks, Early Mammoth cauliflowers, Ailsa Craig onions, Marrowfat parsnips, Stourbridge Marrow peas, potatoes, carrots, turnips, cucumbers, and tomatoes; Mr. J. Hudson, Leicester, second; and Mr. G. F. Hallett, gardener to Sir T. Hesketh, Bart., Easton Neston, Towcester, third.

In Messrs. Sydenham's class for eight kinds the prizewinners in order of merit were Mr. W. Jones, Newtown; Mr. E. Deakin, Hale Hall; and the Rev. R. Davies, Stackpole Rectory.

In Messrs. Sutton and Sons' class, Mr. J. Gibson, Welbeck Gardens, scored a fine first with superb produce; Mr. J. Hudson came second, and Mr. J. Mills, third. In Messrs. Carter and Co.'s class Mr. W. Gaiger, gardener to H. T. Latham, Esq., Kendall Hall, was first; and Mr. E. Deakin, second. In the Messrs. Webbs' class Mr. Beckett led, with Mr. Hudson second, and Mr. Hallett third.

GOLD MEDAL ROSES AT SHREWSBURY FETE.

View of the fine group of roses exhibited by Messrs. Alex. Dickson and Sons, Newtownards: Gold Medal awarded.

In Messrs. Clibran's class the prizewinners were Mr. A. R. Searle, Castle Ashby, Mr. Gaiger, and Mr. Oakley, gardener to A. E. Humphreys, Esq., Berriew. In the county class for nine kinds of vegetables, Mr. J. Mills led the way, with Mr. W. Dawes second, and Mr. T. Birch, gardener to Colonel A. King, Sholton Hall, third. Messrs. Murrell's prizes brought out a good competition. Mr. T. H. Pugh, Newtown; Mr. H. Turner. Overley Hall Gardens, Wellington; Mr. W. Astley, Hadnall; and Mr. J. Howells, Belle Vue Gardens, Shrewsbury, won prizes in order of mention.

FLORISTS' DESIGNS.

Premier award for a bride's bouquet and two bridesmaid's bouquets was won by Mr J. Knight, Wolverhampton, with phalænopsis and odontoglossums in the former, and carnations in the latter; Mr. W. J. Garner, Altrincham, second; and the King's Acre Nurseries, Lim., Hereford, third. For a brides bouquet, Mr. W. J. Garner scored with an arrangement of white phalænopsis, odontoglossums, carnations, and cattleyas; Mr. A. Adshead, Gatley, Cheshire, second; and Messrs. Bottomley and Burton, Elland, Yorks, third.

Mr. Adshead scored for a bouquet of flowers with a gorgeous design in cattleyas, cypripediums, odontoglossums, and oncidiums; Mr. W. J. Garner second, and King's Acre Nurseries, Lim., third. Mr. Garner had the best feather-weight bouquet, and the King's Acre Nurseries, Lim., second. Mr. W. Treseder, Cardiff, showed the best bouquet of dahlias. Mr. W. J. Garner led for a basket of cut flowers, showing a great variety of orchids in fine style; Mr. Adshead second, and Mr. Garner third. Mr. Garner had also the best stand of cut flowers for a table decoration, and put up Gloriosa superba and francoa sprays prettily; Mrs. B. Vernon, Bowden, second, and Mr. Adhurst third.

CUT FLOWERS.

There were seven competitors in the class for a collection of hardy flowers, arranged on a space with a 10ft. 6in. frontage, no duplicate bunches allowed. Messrs. Gunn and Sons, Olton, won the chief honours in a very close fight for premier honours, with a grand collection, in which Lilium auratum, Campanula pyramidalis, C. lactiflora, gladioli, Chrysanthemum maximum varieties, montbretias, Allium descendens, coreopsis, poppies, veronicas, lupins, eryngiums, and sunflowers were the leading subjects. Mr. F. Eames, Floral Nurseries, Frome, Somerset, was a good second, his liliums, gaillardias, and phloxes being especially fine; Messrs. Harkness and Son, Bedale, third. This bank of hardy flowers was one of the great features of the show. Messrs. W. Artindale and Son, Sheffield, were fourth prize winners, and the other competitors were Mr. R. T. Went, Llandaff, and Messrs. Gibson and Son, Bedale.

Messrs. Keynes, Williams, and Co., Salisbury, secured the first prize for a collection of cactus and decorative dahlias, arranged on a space with 8ft. 6in. frontage. The flowers were shown in great variety, and put up very charmingly in tall stands, low vases, and on boards, and associated with fern, asparagus, and gypsophila; Messrs. M. Campbell and Son, High Blantyre, gained second prize; and Mr. John E. Knight, Wolverhampton, came a close third, each of the latter showing well.

For six bunches of sweet peas Mr. J. H. Emmett, Earlstown, was first with a beautiful set, and Mr. F. J. Harrison, Alverstone, second. Mr. Harrison was also second to Mr. R. Hallam, Radcliffe-on-Trent, for a dozen bunches, and they won in a keen competition. Mr. T. Jones, Ruabon, led for twelve bunches in Mr. Eckford's class with grand bunches of Syeira Lee, Earl Spencer, Clara Curtis, Elsie Herbert, Audrey Crier, Mrs. C. Foster, Tom Bolton, The King, Queen of Norway, George Stark, Dazzler, Helen Lewis, Menie Christie, Marjorie Linzee, and Etta Dyke; Mr. G. H. Robertson, Gresford, second; Mr. J. Fletcher, Auchenarck, Lanark, third; a grand class.

Mr. C. F. Waters, Balcombe, Sussex, led for a collection of cut perpetual carnations with a beautiful group, and Mr. J. Knight, Wolverhampton, was second. Messrs. Gunn and Sons were first, Mr. F. M. Bradley, Peterborough, second, and Mr. Stephen Treseder, Cardiff, third, for an artistically arranged collection of cut roses, and each showed well. Mr. C. H. Herbert, Acocks Green, beat Messrs. Campbell and Son, High Blantyre, for a collection of carnations and picotees, and they made striking displays of fine flowers. Mr. C. Alcock, Liverpool, scored in the amateur's class for carnations, and Mr. C. H. Herbert had the best twelve vases of carnations and picotees. For a dozen bunches of stove and greenhouse flowers Mr. McKilvie, Roby, was to the front, and for a dozen bunches of annuals, sweet peas excluded, Mr. Oakley was the chief prize winner.

Messrs. A. Dickson and Sons, Newtownards, had the finest set of twenty-four cut roses, and Mr. H. Dickson, Belfast, was second. These growers had their positions reversed in the class for eighteen roses, distinct, and they each showed fine flowers for the time of year.

NON-COMPETITIVE.

The trade and other non-competitive exhibits were a great feature of this great show.

The difficult point about describing the exhibit of Messrs. Sutton and Sons, Reading, is to convey in the space of a few lines anything like an idea of the great variety, the superb quality and attractiveness they contrived to get into their exhibit of vegetables, melons, and floral decorations. Needless to say, every dish was really good, and the tasteful arrangement of the flowers was a credit to the stagers. The principal feature of the large and elaborate exhibit from Messrs. Jones and Sons, Florists, Lim., Shrewsbury, was a bright and pleasing mass of sweet peas.

Messrs. Webb and Sons, Wordsley, Stourbridge, arranged one of the excellent displays of vegetables and flowers that have become well-known as the particular style of the firm. Tomatoes, beans, onions, beet, and one might almost say every vegetable worth growing except cabbages, were represented, and the familiar epergnes of sweet peas, carnations, and lilies were well furnished; the melons, too, were of excellent quality. A new tomato named Fonthill was shown by Messrs. Isaac House and Son, Westbury-on-Trym. It was a fair sized, symmetrical fruit, hanging in large clusters on short-jointed vines. The same firm showed good phloxes, violas, and alpines, and on another stand a really fine lot of border flowers. Mr. Edwin Murrell, Shrewsbury, occupied his usual bay in the big fruit tent, and his crescent-shaped staging was covered with a nice array of roses.

Messrs. Wm. Cutbush and Son, Highgate Nurseries, London, N., put up an excellent exhibit of perpetual flowering carnations, which included such good things as Lady C. Waring, Victory, C. W. Cowan, and all the older favourites; dwarf polyantha roses and some fine foliage plants were used to good purpose on the stand. King's Acre Nurseries, Lim., had on view a collection of fruit trees in full bearing, which was of great interest to gardeners and the general public, and reflected great credit upon the firm for their enterprise, and their grower for his skill. A fine collection of herbaceous flowers was in its way an equally meritorious exhibit from King's Acre, Romneya Coulteri, eremurus, Scabiosa caucasica, and phloxes were the principal items. Messrs. Bakers, Wolverhampton, again demonstrated the beautiful effects that can be obtained by skilful planting of water margins; Astilbe Davidi, typhas, Scirpus zebrina, and other things were grouped around an improvised lily pond. A great bank of herbaceous flowers and sweet peas also came from Messrs. Bakers.

As usual, we found Messrs. Dicksons, Lim., Chester, showing hardy flowers in a most pleasing manner. Their liliums, romneyas, and gladioli were well up to the firm's usual standard. Zonal pelargoniums were shown both as pot plants and cut flowers, by Messrs. A. Myers, Sutton Lane Nurseries, Shrewsbury.

In one of the big bays in the fruit tent Messrs. Hobbies, Lim., arranged a very pretty group of roses. Dwarf polyanthas carpeted the ground, arches of ramblers broke up the space, and weeping standards, bunches of hybrid teas, and masses of the popular bedders completed the group. The same firm brought a nice collection of cactus and pæony-flowered dahlias. Dobbie's sweet peas, scabious, and large-flowered cosmos were right up to the high quality which marks the firm associated with Rothesay, but now of Edinburgh.

A very large and attractive exhibit came from Messrs. Dickson and Robinson, Manchester; tall stands of phloxes, liliums, and perpetual carnations formed a background for the collection of early chrysanthemums, dahlias, antirrhinums, etc. Moneymaker and Manchester Rival tomatoes were also upon the stand. From Hatherley, Cheltenham, Messrs. Young and Co. brought a lovely lot of perpetual carnations.

Messrs. Robert Sydenham, Lim., Birmingham, arranged a pleasing display of sweet peas in their well-known rustic table decorations. A small, but very choice, exhibit of carnations was staged by Mr. W. Angus, The Gardens, Penicuick, N.B., who also showed some nicely-flowered plants of Disa grandiflora. Sweet peas, lovely large blossoms in great quantity, were exhibited by Mr. Henry Eckford, Wem, Shropshire. The length of stem and the clearness of the flowers did much toward making the exhibit most attractive to the visitors. Very clean and creditable for the time of year were the roses staged by Messrs. W. and J. Brown, Stamford; Lyon and Madame Melanie Soupert were strong features. Messrs. Jarman and Co., Chard, Somerset, arranged their pretty centaureas in a tasteful manner.

The whole of one side of the central stage in the sweet pea tent was occupied by Mr. Robert Bolton, Warton, Carnforth. Every vase in this extensive display was a picture of loveliness. It would be difficult to particularise varieties where all the best seemed to be represented. Messrs. Gunn and Sons, Olton, Birmingham, showed extensive collections of phloxes, and hardy border flowers. The latter included montbretias, aconites, campanulas, etc., and the phloxes embraced such sorts as Sunrise, Mons. Kind, Royal Charter, and Le Mahdi. Violas, border chrysanthemums, and carnations were the feature of Messrs. W. Seagrave and Co.'s exhibit from Sheffield.

Profuse and enthusiastic were the comments drawn from spectators by the great mass of delphiniums and spiraeas arranged in a bold group on the ground by Mr. Amos Perry, Hardy Plant Farm, Enfield. Lamartine, an intense blue single, and Mrs. Creighton, a rosy-purple semi-double, were very attractive. The exhibit of ferns brought up by Messrs. H. B. May and Sons, Edmonton, was so varied and interesting that one might have spent an hour in examining the choice things staged. Crested scolopendriums were particularly fine. The pentstemons and phloxes from Hawick were of that stamp of perfection which has made the name of Forbes so familiar.

The collection of apples, peaches, plums, and other choice fruits in pots, which came from Messrs. Thomas Rivers and Son, Sawbridgeworth, was worthy of highest praise, and, indeed, everybody was enthusiastic over it. The examples of Lady Sudeley apple, Oullin's Early apricot, and Peregrine peach were grand. Messrs. Hewitt and Co., Solihull, had their usual position at the end of the group tent, where they had a bold display of hardy border flowers, including choice phloxes, pentstemons, and some good early-flowering chrysanthemums. A table of chrysanthemums, in pots, from Messrs. Pritchard and Sons, Shrewsbury, embraced a number of good varieties.

A very choice collection of stove and greenhouse plants was arranged in a bay of the group tent by Messrs. James Veitch and Sons, Lim., Chelsea. A mound of orchids in the foreground, some splendid nepenthes, tall crotons, such as Prince of Wales, and a nice batch of bertolonias were features of this well-arranged group of good plants. A circular group of caladiums from Messrs. John Peed and Son, West Norwood, was reminiscent of the time when such were among the finest exhibits in a show.

Messrs. R. Wallace and Co., Colchester, were out in full strength with montbretias, which produced a perfect blaze of colour. King Edmund, Geo. Davidson, Hereward, and Westwick were among the best; Liliums, such as tigrinum splendens, Auratum rubro vittatum, and Batemanniæ, were largely shown by the Colchester specialists, who also had capital gladioli and herbaceous flowers. In a recess between three of the tents Messrs. Tom B. Dobbs and Co., Wolverhampton, laid out a model garden, in which rustic garden furniture, rose pillars and arches played a prominent part.

Mr. C. W. Breadmore, Winchester, had sweet peas that were of first-rate quality and substance. Such bright things as Dazzler, King Edward Spencer, and King Alfonso showed up among the delicate shades of Mrs. Hugh Dickson, Mrs. C. W. Breadmore, and others. Messrs. Webb and Brand, Saffron Walden, showed hollyhocks, as only that firm can. The spikes of immense double flowers in all colours, from white to deepest mahogany, were quite a sight to see. Mr. J. Stevenson, seedsman, Wimborne, was another sweet pea exhibitor, his arrangement and colour blending was very tasteful.

A glorious lot of roses came from Messrs. Alex. Dickson and Sons, Lim., Newtownards, Ireland. Their Lyon, Dean Hole, and Mrs. C. C. Harrison were superb. Mr. H. N. Ellison, West Bromwich, put up an excellent batch of choice ferns, among which were Polypodium glaucum crispum, and the newer nephrolepis. A unique and very interesting exhibit was that of Messrs. Storrie and Storrie, Glencarse, Perthshire. Dishes of enormous gooseberries, fruiting bushes in pots, and some perfectly-developed cockscombs were the main features.

Kelway's gladioli were shown in immense quantity, and were very fine. Some of the yellows and whites were particularly pleasing, and such good crimsons as Viper, Mrs. Wood, and Western Glory made choice variety. Messrs. Clibrans, Altrincham, surpassed themselves as experts in the exhibition of choice vegetables, their big exhibit being arranged in a new and novel way.

It is not often we see Messrs. Barr and Sons, Covent Garden, London, coming out as exhibitors of vegetables, but they came out at Shrewsbury in fine style. About 100 dishes, and practically every type of vegetable, were staged.

MEDALS.

Large Gold.—Messrs. James Veitch and Sons, Chelsea, for miscellaneous group; Messrs. T. S. Rivers and Sons, Sawbridgeworth, for fruit; and the King's Acre Nurseries, Lim., for fruit.

Small Gold.—Messrs. Clibrans, Altrincham; Messrs. R. Wallace and Co., Colchester; Messrs. Bakers, Wolverhampton; Messrs. Kelway and Son, Langport; Messrs. Hobbies, Lim., Dereham; Messrs. Sutton and Sons, Reading; Mr. Edwin Murrell, Shrewsbury; Messrs. Webb and Sons, Wordsley; Messrs. Jones and Son, Lim., Shrewsbury; Messrs. Alex. Dickson and Sons, Newtownards; Messrs. W. and J. Brown, Peterborough; and Mr. Robert Bolton, Carnforth.

Silver-gilt.—Messrs. J. Peed and Sons, Norwood; Messrs. Hewitt and Co., Solihull; Messrs. Gunn and Sons, Olton; Mr. H. N. Ellison, West Bromwich; Messrs. Simpson and Son, Birmingham; Messrs. Dicksons, Chester; Messrs. Isaac House and Son, Bristol; Messrs. W. Cutbush and Son, Highgate; Messrs. Jarman and Co., Chard; Messrs. Dickson and Robinson, Manchester; Messrs. Young and Co., Hatherley; Mr. H. Eckford, Wem; Messrs. T. B. Dobbs and Co., Wolverhampton; Messrs. Pritchard and Sons, Shrewsbury; and Messrs. Artindale and Son, Sheffield.

Silver.—Mr. Amos Perry, Enfield; Messrs. Webb and Brand, Saffron Walden; Messrs. H. B. May and Sons, Edmonton; Messrs. John Forbes, Lim., Hawick; Messrs. Seagrave and Co., Sheffield; Messrs. Barr and Sons, Covent Garden, W.C.; Messrs. Storrie and Storrie, Dundee; Mr. A. W. Thorpe, Lichfield; Messrs. Dobbie and Co., Edinburgh; Mr. Albert Myers, Shrewsbury; Messrs. R. Felton and Son, Hanover Square, London; Mr. J. Stevenson, Wimborne; and Mr. C. W. Breadmore, Winchester.

Bronze.—Mr. Wm. Angus, Penicuik, N.B.; Mr. S. R. Crampton, Macclesfield; Mr. W. L. Pattison, Shrewsbury; Messrs. Robert Sydenham, Lim., Birmingham; and Hugh Aldersey, Esq., Aldersey Hall, Chester.

AWARDS OF MERIT.

To Mr. W. Angus, Penicuik, for border carnation, Mrs. Angus; to Messrs. Storrie and Storrie, Dundee, for improved strains of cockscombs, and for improved strains of Iceland poppies; to Hugh Aldersey, Esq., Aldersey Hall, Chester, for sweet pea Tortoiseshell; to Messrs. Dobbie and Co., Edinburgh, for Cosmos White Queen, and Dobbies' strain of scabious; and to Messrs. Kelway and Son, for gladioli Delicata and Snowdon.

CORNFLOWERS.

Some will think that nothing need be said about this weed—for such it is in many gardens—but the ragged disorder in which one often sees it growing shows that some improvement in its cultivation is desirable. It is grown almost entirely for the sake of its clear blueness, so rare in flowers that the expression "cornflower blue" is used to describe it. But we often see more pinks and purples than blues, and when these have found their way into a garden it takes some time to get rid of them, for they come up year by year, and as it is only when they flower that they can be known, and then one does not care to pull them up immediately, they soon seed again.

Cornflowers become very weedy after the first two or three weeks of flowering, especially in the middle of the summer, and in a dry soil at any time, and it is only in the late spring—when flowers for cutting are getting rather scarce—that they are really worth growing, for it is then that the flowers are finest. To get them at this season they should be sown early in August, preferably where they are to flower, and the seedlings kept thinned out, so that they do not suffer from overcrowding, deferring the final thinning out to a foot or more apart till the early spring, so as to allow for casualties during the winter. Two feet apart is not too much for vigorous plants in good soil. Such plants will be coming into flower by the middle of May in a normal season. Slugs are partial to the young plants, and where these are very troublesome seed should be sown in pots, three or four in a forty-eight, only one plant, and that the strongest, being eventually left in a pot. They should be given the shelter of a frame during the winter, and planted out as soon after February as conditions permit.

Cornflowers are sometimes allowed to grow as wild plants in odd places of all sorts, but they rarely give any satisfaction in this way as a garden plant, however useful they may be to provide a supply of cut flowers, and if they are worth growing at all they are worth growing well. They are not suitable for the mixed border, not only on account of their weedy habit, but because of the big gap they make in July. The best place for them is the reserve or cut-flower garden, usually as a patch in the border of the kitchen garden.

Alger Petts.

LAPAGERIAS IN THE OPEN.

Although the lapageria is a very beautiful climber for growing in a greenhouse, it is not commonly seen in robust health in such structures, although there are notable exceptions. But I wish to refer to the lapageria as a fit subject for outdoor cultivation. I have not had sufficient experience of it in this respect to say with confidence that it would live outside in the southern counties, even in the most favoured situations, during a fairly hard winter. But I do know that plants have done remarkably well in mild winters grown in a south-west position and trained on a wall, so as to escape the cold east winds in spring time, without any protection, in the county of Hampshire. Furthermore, with the protection afforded by a mulch of dry fibrous peat, or cocoanut-fibre, over the roots, and a piece of tiffany wrapped round the gathered and bundled shoots, lapagerias have withstood rather severe winters.

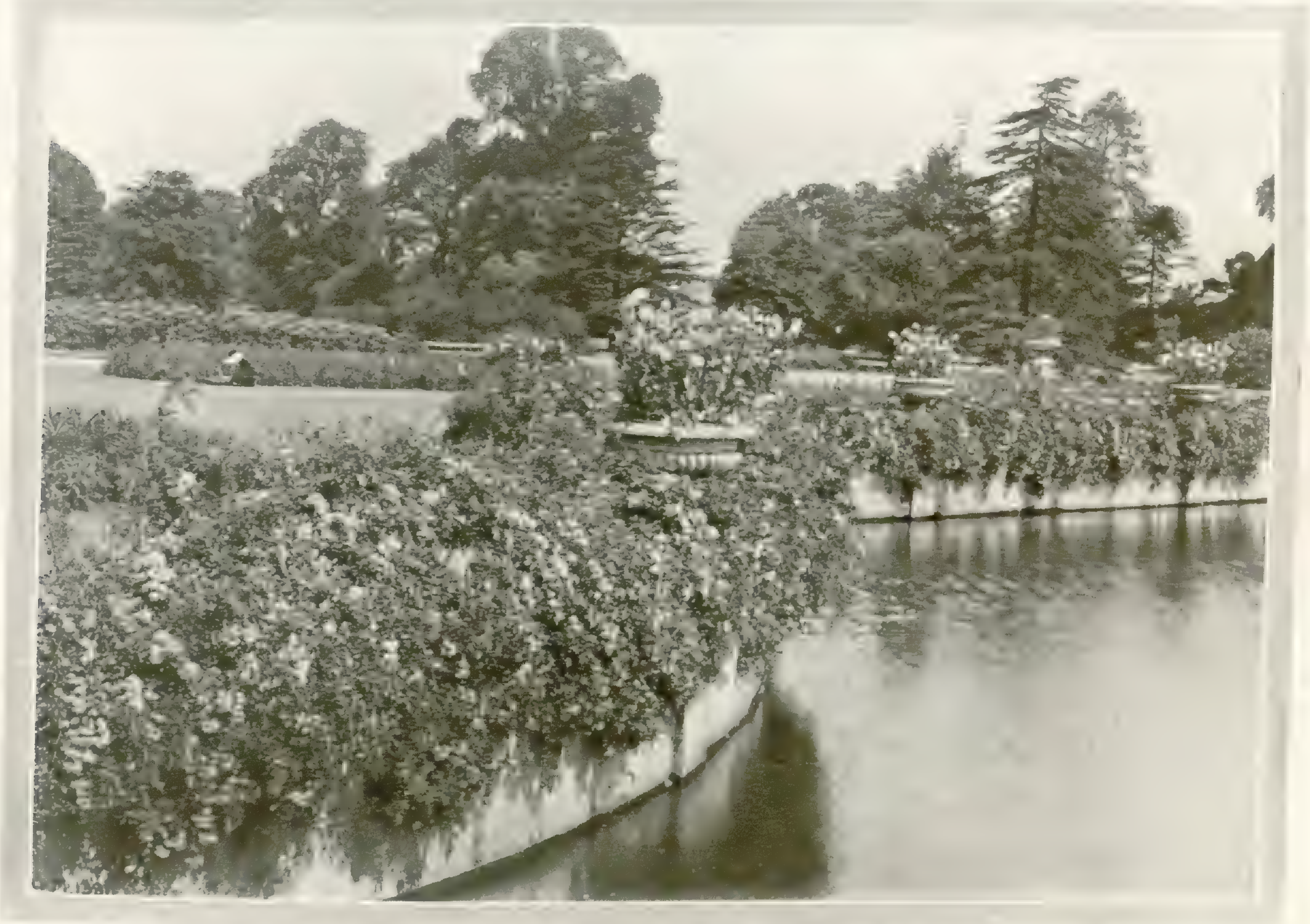
I should like to know if any readers of the Gardeners' Magazine, especially those residing in Devonshire and Cornwall, have had much experience in the growing of these climbers on outside walls.

I may say that the shoots made, when the plants become established, are very fine indeed, and massive flowers are produced.

Geo. Garner.

ROSE DOROTHY PERKINS ON MARGIN OF WATER.

Of the many beautiful effects produced by this charming Wichuraiana rose that have come under our notice during the past few years, not one has been superior to that produced on the margin of the lake in front of the principal museum in the Royal Gardens, Kew. This is the first instance that has come under our notice in which Dorothy Perkins has been used in association with masonry and water, and we feel that those responsible for the inception and making this new departure may be heartily congratulated on the results obtained. Along a part of the eastern and western ends of this lake the ground is supported by a white stone wall, surmounted by an elegant balustrade. Along the outer side of each of the two walls there is a narrow border, in which the roses are growing. A small portion of the growth has been allowed to spread over the surface of the border, while the remainder has been trained over the balustrade and allowed to droop naturally over the water, as so well shown in the accompanying illustration. The effect is indescribably beautiful; the glossy green leaves present a pleasing contrast to the white masonry, and the great masses of rich pink flowers hanging over the water produces an effect that has been startling in its beauty. The heavy storm on the 5th inst. greatly reduced the period over which the flowers retained their beauty, but it has been long enough for many thousands of visitors to have an opportunity of enjoying the display, and learning the lesson it has been so well able to teach. The roses illustrated are at the western end, where, enjoying full exposure to sunlight, they have made a stronger growth and bloomed more profusely than those at the eastern end, where the light is intercepted by tall trees.



ROSE DOROTHY PERKINS.

As growing on the western margin of the Lake in front of the principal Museum at Kew.

AMONG THE ALPINE FLOWERS.

"Mark our ways, how noiseless,
All, and sweetly voiceless.
. . . .
We thread the earth in silence,
In silence build our bowers,
And leaf by leaf in silence show, till we laugh atop
sweet flowers."

Leigh Hunt.

The glories of the alpine flowers have long passed their meridian, and day by day we see fewer of the bright blossoms which in the early season delight us. Yet there are compensations as we look upon those which remain, and upon the mounds and carpets and veils of verdure preparing to give us their wealth of flower when another year comes round again. We cannot but look forward now, just as we look backward upon the past pleasures. Many of our treasures are safe and snug beneath the surface, but many are evergreen, and seem to tell us of their renaissance, when they will gleam with brightness, and gladden us with their beauty. But it is to the present and not to the future that we must turn, gleaning from our fields of flowers the remnants of the once bright harvest of bloom.

Tunica saxifraga.

How often are the unassuming flowers, like some of our friends, of most value in days when these are scarce! And this little rock tunica is one of these gentle, modest plants, whose beauty we seem to have most favour for as the days of autumn speed on. Fortunately it reserves its brightness for the time when other flowers have grown fewer. Beside the sheets of aubrietia of the spring it would look dull and sparse. Now, when the purple rock cress is in its workaday attire, it is clad in softly-coloured lacework, and is pleasant to look upon as it hangs its little curtain over a stone, and bedecks its hard surface. Light and graceful is Tunica saxifraga, and its trailing growth is so subdued in its vigour that it will hardly ever work woe to its neighbours. "Lacework" is the best description of the inflorescence of this little plant, which loses none of its worth to us when we realise that it can be raised from seeds at the cost of a few pence, and that it flourishes in a dry soil. Nor does it grumble should it be given a little shade, and there it will probably last in bloom long, until, indeed, the frosty mists of the early winter evening and morning come to mar its beauty, and to make us mourn the departure of these sweet little pale rose flowers. In sandy soil it will thrive, and give us many years of pleasure.

The Indian Knotweed.

It is in autumn that we come to realise the true worth of the Indian Knotweed, Polygonum affine brunonis. In spring and summer it strikes us as far from an attractive plant, with its rough carpet of leaves, which, notwithstanding, deserves some study even then. If you examine these leaves you will perceive that they are as if hemmed with white thread; the hard branches give one little impression of beauty to come from them later on. But in autumn there rises from this carpet of lanceolate leaves, often coloured with crimson towards the end of the season, a number of little spikes of a fine rose colour. The whole plant varies from about six inches to a foot or so high when in bloom, and it is seldom that it reaches the greater stature given. Each little spike is clad with small flowers to a length of three inches, or a little less, and a good plant trailing over a bank in the alpine garden looks pretty indeed. In actual practice it may be said to be quite hardy, but I have known it to be lost in the north as the result of an unusually trying winter. But this native of the Himalayas is practically hardy, and those who wish an autumn-flowering plant of its type may well cultivate it in their rock gardens.

It is a plant which increases readily by division, but is one which should not be planted close to one of the more delicate and tiny gems of the alpine garden. It soon makes a mat of leafage, and increases with fair, although not riotous, rapidity. I prefer to grow it in full sun, and it seems to like some moisture at the roots in summer and autumn, although preferring a dry bed in winter and early spring. Not a gem of the first water, it is yet a precious thing for the rockery, and one not to be forgotten, although Mr. Reginald Farrer does not even mention it in a review of the knotweeds in his "Alpine and Bog Plants." It is a much easier thing to grow than P. vaccinifolium, although it is less refined, it may be. I am somewhat at a loss to know, by the way, why P. vaccinfiolium bears such a good reputation as an easy doer. It is not so with me, or with many other growers whom I know, but, subject to the reservation already mentioned, P. affine, or brunonis, is much hardier and more reliable.

Miss Willmott's Nepaul Cinquefoil.

Some there are who might deny Miss Willmott's Nepaul Cinquefoil, a fine form of Potentilla nepalense, a place in the rock garden, but those who know it best will be disposed to think that its true sphere is there, and not in the border. It is less trailing than the typical P. nepalense, but, on the other hand, it shows up its bright flowers so much more effectively when a little above the ground level—say, three or four feet above it—that it is deserving of this little bit of consideration. Then the rock garden is much benefited by the presence of its bright red flowers at a season when plants of a moderate stature, although not miniatures, are none too numerous. I have here a plant about three feet above the level of the path by the rock garden, and very bright and pleasing it is now, with its cheery red flowers, which, like those of the type, are unfailingly attractive, and which appeal to us, and not in vain, as we pass them by.

Other Flowers.

As we look round again and again we seem to feel that, after all, we have slandered the rock garden in implying that its brightness was past for the season. If we had said that it was only past its zenith we would have been more literally correct, as we see many things as we look around anew. Here are bright heaths, varieties of erica and calluna in several species; there is the scarce, although not immaculate, yellow-flowered Patrinia gibbosa. There are yet sedums, and still sempervivums, with their curious star-like flowers on great stout stems; violas gladden us as we see their blue and white, and yellow and other coloured blooms. There are yet dianthuses, campanulas, even thrifts. We see asters, a late alyssum or two, olearias, euphorbias, low spiræas, and other flowers of the time, besides those of the earlier season which yet "linger in the lap of time." If the borders have their glories, the rock garden has its beauties, which forbid us to spend all our time among the opulent charms of the former, and so we wander among our alpines seeking, and finding, joy in their loveliness and their brightness.

S. Arnott.

THE MAIDENHAIR FERN.

Adiantum cuneatum, of which I now write a few notes, is popularly called the "Maidenhair Fern." Other adiantums are called "maidenhairs," but A. cuneatum is most generally meant when Maidenhair Fern is spoken of. This species is very popular, all people are fond of it; it seems inseparable from our existence as gardeners, as it is found in all gardens, small and great; it is valued as a decorative plant, and it is invaluable in a cut state for association with cut flowers, and also in bouquets and all kinds of floral decorations. Whether in a small state or as a large specimen in a very large pot, when well grown it is always pleasant to look upon, and at almost any season of the year.

A. cuneatum is very accommodating, as it will grow in a comparatively cool greenhouse, but it will not succeed like some ferns as a window plant for the dwelling-house, as in winter the house is not quite warm enough, and the fronds turn brown and die; indeed, to grow Adiantum cuneatum well it must have generous treatment and a fairly warm house.

I was looking round an establishment once, and I noticed some very miserable specimens of A. cuneatum in the conservatory; they look starved, and produced very short fronds, about four to six inches long. I told the gardener I thought the plants would be better in a warmer house; he said his employers liked short fronds. I said that is contrary to our requirements, we like long ones.

We obtain large plants, with long, well-grown fronds, as follows: Our plan is to select small seedlings that spring up in various places about the plant and orchid houses, and, some time in March, put them into the smallest thumb pots, and place them on a shelf in a warm stove, close to the glass, keep them shaded and well watered, etc., and by June they are ready to be sorted over, and the best examples transferred to three inch or four inch pots; at this period we discard those that have not done well, also those that depart in a great degree from the type, as, of course, seedlings vary considerably. I may as well at this point make it clear why I suggest seedlings to grow into specimen plants. In my younger days the practice that obtained was to divide old plants into two, three, or four parts; the result of this was very onesided specimens, as the centre of the plant was always dead, and that dead side never produced new fronds when repotted; the case is quite different with seedlings, as they grow equally well all round, assuming, of course, that they are turned occasionally, and receive proper attention in a good position.

At the end of the first year the plants are in three-inch or four-inch pots, and the room that is made by discarding the poor ones will just afford the necessary place for the new ones for the first winter. The next March we look them over again, and shift the best examples into five-inch or six-inch pots, according to their vigour, and place on lower stages further from the glass, when they make splendid plants for decorative purposes.

The following March business proper begins. Some of the plants are transferred to eight-inch and nine-inch pots, with the result that large specimens are obtained. The following spring the best of these are shifted on to twelve-inch pots, and the next year some of them into fourteen-inch and sixteen-inch pots, when, as far as we are concerned, the climax is reached, for when they are in the large pots we let them remain two years, and then discard for younger ones. In our case we cut them up into small pieces, and plant them amongst the rockwork in the fernery. I have thus shown how to grow immense specimens in five years.

The value of specimens is demonstrated when a large quantity of cut ferns is required. During the interim from small to large plants we always keep a very watchful eye on the ferns intended for specimens; we do not cut from them or use them for decorative purposes. As I have already stated A. cuneatum requires generous treatment, as its native country is Brazil. It was introduced about 1820. A structure rather warmer than the greenhouse, i.e., an intermediate house, is just the place for it, for if too warm the fronds become drawn and attenuated, and are, moreover, very tender, and soon become flaccid when cut. Adiantum cuneatum requires a good supply of water when growing freely, and must never be allowed to become dry in winter, or the ends of the roots die, with the result that the fronds become brown. It is not very subject to insect enemies; sometimes scale is rather troublesome, and the remedy is cutting off the infested fronds. Snails are very fond of the young fronds, and the remedy is to catch them at night by the aid of a lantern light.

The last thing to note is the compost to grow this fern in. We have found two parts turfy loam, one part good leaf-mould, and one part sandy peat, all well mixed, with a liberal addition of coarse silver sand, to be the best suited for good healthy growth. If the loam is very heavy and lacks fibrous matter a little less of it, with a little more peat and leaf-mould, will be better. The pots should be well crocked with clean potsherds, and these should be covered with moss, and the soil should be made fairly firm at each potting, care being always taken that enough room is left at top to allow for a sufficient quantity of water to be given to soak the ball through, as sometimes through an error in this respect the soil becomes dust dry towards the bottom of the pot, which is very detrimental to the growth.

Cheshire. W. M.

Sollya Drummondi.—This pretty little Australian climbing plant mounts upwards by twining its slender stems around any support. For training up the rafter of a small greenhouse it is well suited, or it may be grown in pots and allowed to twine around a few sticks. The leaves are narrow and evergreen in character, while the small, drooping, bell-shaped blossoms are of a delightful shade of blue.—W. T.

Tamarix Pallasi.—This is superior to the commoner Tamarix gallica, although even the latter is one of the most beautiful flowering shrubs that can be grown. The advantages in favour of T. Pallasi are a more compact, or perhaps it would be better to say a less rampant habit, and the flowers are of a brighter shade of colour, this latter may be described as rich rosy-pink. The exceedingly light and feathery formation of the flowers softens the shade of colour, and during the months of August and September there are few things so charming as the gossamer-like plumes of T. Pallasi. Planted in the form of a hedge, with strained wire supports to which the vigorous growths can be tied, this tamarix quickly forms an effective screen, and becomes an object of superb loveliness. It is remarkable that a shrub built on such slender lines should be as hardy as a plant can well be. It seems almost as though the more wind it has to resist the better it thrives. Gardeners by the seaside should make great use of the tamarix.—A. J. M.

RHUBARB.

Now that rhubarb is practically out of season, there are many gardeners who remember only too well that their supply has been short; this experience is not uncommon in private gardens where a large number of crowns are forced each season. There is certainly no more wholesome and useful vegetable than rhubarb; and one can very well say that it is probably on account of its free and easy growth that it does not receive the amount of attention which so valuable a plant deserves. But this is ever so; plants that are difficult to grow are often killed with kindness, while those which are happy and contented with a little attention are too frequently neglected altogether.

The red-stalked varieties are those commonly cultivated, the most desirable being those which can be produced with good colour when forced. It may be said of this plant that the earlier varieties are undoubtedly the most valuable, for generally speaking, these are the smallest, the most delicately flavoured, and the most pleasing to the eye. In the early part of spring early supplies of delicately-flavoured rhubarb are invaluable for culinary purposes, especially when preserves are exhausted and gooseberries yet unfit for gathering. For preserving and other similar purposes, such as wine-making, the later crops are preferred; these are generally less delicately flavoured, but they afford much larger supplies than the earlier kinds. Among the best varieties of rhubarb are Hawke's Champagne, a superior early rhubarb, Mitchell's Royal Albert or Early Red, Myatt's Victoria, Linnæus, a prolific maincrop rhubarb, and Early Scarlet. Victoria is considered to be the finest rhubarb in cultivation. If a large number of roots are required it is advisable to procure them from a place where a good form is cultivated.

Soil Conditions.

The soil most suited for rhubarb culture is a deep, rich, and moist loam, although almost any kind of soil is capable of producing satisfactory crops, provided the plants are well supplied with moisture and nourishment. Deep cultivation and liberal manuring are very necessary where the crop is intended to be a permanent one; that is, where the leaf stalks are to be pulled as fast as they grow. In moist, retentive soils, however, it is scarcely necessary to provide manure at all; at least, quite satisfactory crops can be raised on deep, heavy loams without any further stimulant in the shape of farmyard manure or stable dung. On soils that are apt to become waterlogged, however, rhubarb will make a poor growth; neither will it succeed in exposed situations. Where liberal supplies of manure are considered necessary it is best provided in the shape of well-decayed stable manure. This should be dug in during the autumn when the ground is being tilled, so that it may become thoroughly incorporated with the soil before planting.

On soils that are deficient in lime, applications of basic slag are considered beneficial; this fertiliser may be supplied in conjunction with the stable manure, and the quantity of the latter modified proportionately. Subsequently, the crowns may be fed by working in amongst them a good dressing of well-rotted farmyard manure or dung.

Planting.

To ensure the most successful results the plants should be set out in the rows not less than three feet apart. One grower of my acquaintance raises splendid crops on a border of deep damp loam. The stools are here planted four and a-half feet apart, and even that is a trifle too close, for the growth is tremendous. Good large roots should always be planted, as these give the quickest and best returns, and each crown should be buried just below the surface of the soil. The propagation of rhubarb is effected by division of the roots, the sowing of the seed being rarely practised. To divide the crowns in this way all that is necessary is to cut down by the side of the roots with the spade, and then carefully slice off pieces of the root, each piece being provided with a crown. These cuttings should be established as quickly as possible.

Of course, a plantation may be formed with strong, well-grown crowns put direct into their permanent quarters. All planting is performed when the crowns are dormant, that is, during the autumn or latter part of winter. Subsequent treatment will consist of periodical hoeings to keep the surface soil open and prevent the growth of weeds, the removal of seed spikes, and slight protection with strawy litter during severe weather. Rhubarb plants can be very easily exhausted by extravagant pulling, hence they should not be unduly weakened by drawing out the leaf stalks too late in the season. As a rule, it is best to allow them to make a good growth after the last pulling.

Forcing Rhubarb.

An extremely large quantity of forced rhubarb is produced for market purposes, often in very queer situations, such as caves, disused mines, etc., where the crowns, grown and raised on neighbouring lands, are transferred, and made to produce useful winter crops. Darkened sheds are also utilised for this purpose, much in the same way as for mushrooms, protection from light being commonly supposed to improve the quality of the produce, though the colour is by no means heightened, but rather the reverse. Pits of fermenting material are very frequently made use of for the purpose of forcing rhubarb, such material being composed of stable manure, decayed leaves, and other fermenting vegetable matter.

Excessive heat is neither necessary or desirable, as a temperature of more than, say, 85 degrees F., often causes considerable injury. From 70 to 80 degrees of heat will usually suffice to induce a rapid growth.

Doubtless the best means of forcing rhubarb is to stimulate it into rapid growth on the ground where it grows. This can be done in a variety of ways. Some growers invert an empty barrel over each crown, covering the whole with fermenting material; others erect a framework of laths over the rows, about two and a-half or three feet in height, and as wide as the crowns. These are placed over the rows in the early part of February, and covered with a good layer of long thick litter. Such rows should be set at about two feet apart. Rhubarb, when forced in this way, is so profitable, and so easily managed, that anyone who requires a supply of delicately flavoured produce from Christmas to May will do well to give it their attention. Of course, for the earliest supplies rhubarb is usually forced indoors under the greenhouse staging, or as near to the heating pipes as possible, and in the darkness. When forced in such manner the roots are seldom fit for further use, as the heat imposes a great strain upon them; they may, however, recover themselves if planted out in good soil that has been freshly dug and manured. J. C. Newsham.

Old Basing.

NOTES ON ROSES.

Although the frequent rains have undoubtedly spoilt a large number of roses, especially those varieties having single or very double blooms, they have kept the colour in our beautiful dark shades better than is often the case during a hot and dry summer. The chief drawback in our own case was the spattering of blooms upon quite short, dwarf-growing plants. Here we again experienced the great benefit of short hedge briars, particularly in the case of pendent growers, such as Maman Cochet, Mrs. Edward Mawley, and others of like habit. I do not find the rain itself harm the flowers of these nearly so much as in the case of bolder growers, their tendency to droop being a great protection in that matter, but unless fairly well off the ground the flower is badly spattered by dirt, especially during such heavy rainfalls as we had here. With frequent use of the hoe this has been even more noticeable than if the soil had not been surface cultivated so freely.

PERGOLA OVER STONE PATH IN MR. SWINSTEAD'S GARDEN.

With the exception of the enthusiastic exhibitor few care to see heavy mulchings of manure among their plants, which detracts very much from the pleasure in stepping amongst them to more closely examine some attractive flower, and the present dripping season has been ideal for the occasional use of artificial stimulants. Another effect of the rains has been comparative cleanliness from insects after the early part of the season, and in spite of the sudden and extreme changes of temperature our plants so far are free from mildew. This is rather surprising to me, because we have had a few hours of sultry weather, followed by cold nights that were often as low as 10 degrees above freezing. Just the sort of atmospheric change that has so often been associated with the advent and spread of this disease. Nor have I met with it in neighbouring gardens. Most roses are growing very strong and promising.

We shall keep the hoe going as much as possible for two reasons: to prevent the surface caking, and to keep down the seedling weeds that evidently enjoy this season. I think we might well continue the removal of ill-placed growth from the centre of the plants just as much as with the first growths of spring. The suckers upon hedge briars have flourished amazingly during this showery season, and need constant attention, more especially upon those to be budded this summer, which naturally possess more embryo eyes than the older stems that have had theirs removed for a number of seasons. So far as our own budding has progressed it promises to be a good year, and stocks could not lift in a more pleasing way. This is very noticeable upon the shoulders of standards. We think, too, that many hedge briars we had looked upon as doubtful have been saved by the generous showers. Although there is every prospect of a lengthened budding season, I would prefer the work to be completed by the end of the present month, as this gives the bud and stock a better chance to unite.

Some few roses have been very beautiful this summer, and the many forms of climbers—particularly those called ramblers—have been delightful. Well-ripened wood of the previous year passed through the winter satisfactorily, and was, of course, the chief cause of this. But we have also had a good time for the free-opening cluster varieties, and to these must undoubtedly be added the large number of grand hybrids from the Wichuraianas that have been in commerce long enough now to exhibit their full beauty. To name those that have come out most prominently would occupy far too much space, but I feel sure no roses are more satisfactory when planted in suitable positions, and as we now have a vast range of colour, together with the extreme hardiness and certain flowering of the majority, they will, if possible, be more largely used in place of other climbers. Their handsome and clean foliage will help them much in this connection. Then the hybrid teas have been exceptionally good, if we omit a few of the full-centred varieties that did not have enough bright weather to develop, while our own plants never promised so well for a late August and September display.

A. P.

NEW BOOKS.

THE STORY OF MY OLD WORLD GARDEN.

By G. Hillyard Swinstead, R.I. (Baines and Scarsbrook, Swiss Cottage, London, N.W.) Price 10s. 6d.

In the course of the past twenty years or so we have had submitted to our notice a considerable number of books that have been more or less devoted to the description of gardens that have been designed, constructed, and planted by the authors, and as evidence of well-directed endeavour a considerable proportion of them have possessed much interest. We have a clear recollection of some of the best of them, but we are quite unable to call to mind one that could compare with "The Story of My Old World Garden" in interest or usefulness, and certainly none afforded such remarkable evidence of the possibilities in the creation of small gardens when the necessary taste and judgment is forthcoming.

It would be interesting and pleasurable to give a summary of Mr. Swinstead's description of his garden from the time when, on the completion of his studio, he decided to so alter its character as to suggest a garden that belonged to the distant past, and to afford accommodation to roses, hardy herbaceous plants, and other subjects that are at once beautiful and capable of producing picturesque effects. But such summary, while not wanting in usefulness, would fail, and necessarily so, in conveying an adequate idea of Mr. Swinstead's success in garden making, and it would require more space than can now be spared. Moreover, it would not be possible to give, with the aid of letterpress alone, a clear impression of the many distinct and beautiful features that have been formed within a comparatively small area. This can only be done with the aid of illustrations, and we shall best serve the interest of our readers by refraining from summarising the contents, and advising them to obtain the book, which is illustrated with fifty original drawings, designs, and photographs by the author. Of these a considerable proportion are veritable works of art, and the frontispiece depicting the entrance gate shortly after a heavy fall of snow is well worth the half-guinea charged for the book. The work is equally suitable for the drawing-room and the garden library, and the author has rendered owners of small gardens good service in showing them how they can render them beautiful, interesting, and varied at, evidently, a comparatively small cost.

SOILS AND MANURES IN RELATION TO PLANT GROWTH.

(Continued from page 592.)

The Action of Water.

In continuation of our subject upon the formation of soils, we have now to consider the action of water upon them. Water, as we know, dissolves various substances. If we shake up sugar with water the sugar dissolves, or "melts." If we shake nitrate of soda or sulphate of ammonia with water they dissolve. Water is a very universal solvent: it dissolves, more or less, the great majority of substances that exist on the surface of the earth. Most of them dissolve exceedingly slowly, but rain water, as it passes through the air, takes with it some of the carbonic acid existing in the air, and water so impregnated is a much more powerful solvent of rocky substances than pure water.

Consequently, rain water is a quite powerful solvent of rocks. "Soda water" is simply water impregnated with carbonic acid. If we take some soda water and shake up with it finely powdered limestone the liquid will be found to contain a very notable proportion of carbonate of lime, and upon boiling the clear liquid the carbonate of lime comes down as a precipitate, because, when the carbonic acid is expelled by boiling, water can no longer retain carbonate of lime in solution. That is the incrustation commonly seen on boilers when hard water is used. The object of softening water is to precipitate the carbonate of lime it contains, so that it will be freed from this substance, may be "soft," and not cause the incrustation of the boilers which is seen when hard water is used. The point of all this is that when rain water acts upon the limestone rocks it rapidly dissolves the carbonate of lime, of which that description of rock is chiefly composed, and all that remains behind is just a certain proportion, which is not soluble, or is much less soluble, in carbonic acid water, and these remains of the limestone rock, together with fragments of undissolved rock, are what form the mineral constituents of a large proportion of our soils.

Alternating heat and cold also cause rocks to break down and crumble into small fragments, and so by these various agencies a layer of particles is formed of sizes varying from that of stones down to particles so small that we cannot measure them under the microscope. These particles form the nucleus of primitive soil. The primitive soil may remain where it was formed, or it may be blown by wind or washed by rain to lower levels.

The Action of Vegetation.

When a small amount of primitive soil is collected certain primitive plants spring up, such as we find growing on the rocks near the sea coast where there is a thin powdery layer of soil. And then tiny primitive plants, such as lichens, and then mosses, will in time die and decay on the surface of the rocks, and in decaying they will add vegetable matter to that primitive soil. This layer of fine mineral particles, together with the vegetable matter, will form our first true soil.

The other agencies most important in the formation of soils are the higher plants themselves, which die and decay, adding matter and returning plant food to the soil, earth-worms, and certain minute organisms called "bacteria." When the primitive plants have lived and died alternately for some years we shall find higher plants commencing to take up their abode, and we shall find trees and shrubs of the most developed kinds; these latter annually drop their leaves and branches, which, when decayed, form the decaying vegetable matter called "humus," a most important constituent of all fertile soils.

In this manner a large accumulation of humus takes place in the virgin soils of primeval forests, and since this humus is of an acid nature, and is also continually giving rise to the formation of carbonic acid, the rain water that percolates through the soils of primeval forests is a most potent and rapid agent in the disintegration or crumbling down of the underlying rocks adding rapidly to the thickness of the soil.

We now know that the soil is not merely an inert mass, operated upon only by physical and chemical forces, but it is a realm of intense life, and the discovery of this fact has radically modified our conception of the soil and the means of treating it. Enriching the land is no longer the adding of mere plant food; it is also making the soil favourable to the multiplication and well-being of micro-organisms.

Harpenden. J. J. WILLIS.

(To be continued.)

WATER PLANTS IN MR. SWINSTEAD'S GARDEN.

Quisqualis indica. — This stove climber was introduced from India nearly a century ago, but it is very seldom met with in gardens. It is of a free rambling style of growth, the long flexible branches being clothed with oppositely-arranged ovate leaves. The flowers, which are individually a good deal like a long-tubed bouvardia, but with five points, are somewhat pale when first expanded, but when fully developed they are bright red. This quisqualis, known popularly as the Rangoon Creeper, is a near relative of another good old stove climber, namely Combretum purpureum.—W. T.

THE GARDEN IN AUGUST.

> And Nature holds, in wood and field,
>   Her thousand sunlit censers still;
> To spells of flower and shrub we yield
>   Against or with our will.
>
> J. G. Whittier.

One of the ways in which August differs from the other months of the year is in the diverse points of view with which it is regarded by gardeners or garden-lovers, according to the character of the gardens with which they are associated. A generation ago, when there was remarkable uniformity in bedding out—pelargoniums, calceolarias, lobelias, ageratums, verbenas, etc., with a due proportion of carpet bedding in the gardens of the well-to-do August, or at least, the first half of it, was regarded as the climax of the year, the time when all the plants had made sufficient growth to cover the ground and make their greatest display of flower and foliage. But now, "nous avons changé tout cela." Not that we have discarded pelargoniums for bedding out, or are likely to do so, as they are still second to nothing for making a brilliant splash of colour for a prolonged period; but so much of the summer bedding now takes on, to a greater or less degree, the character of the mixed border, and though bedding of this sort is infinitely more interesting, because possessing so much more individuality, yet, like their prototype, they often become an eyesore, or an anxiety, soon after July is out, unless they have been kept bare of blossom all the middle of the summer for the purpose of making a display later. It would seem as if there was a different season for the old and the modern style of gardening, the latter making its greatest show in June and July, instead of August. So great, indeed, is the difficulty of keeping up a display of the mixed, or herbaceous, beds and borders at this latter season that a writer in "The Times" two or three years ago had an article on "The Problem of the Herbaceous Border," while one of the recent illustrated works on gardening has a chapter on "The Rout of August."

August, then, is a rather sad time in the flower garden, a month when our enthusiasm is at a low ebb. Many, perhaps the majority, are content to go away at the beginning of the month and come back a month later to find the signs of decay all too manifest. Others feel that nearly all the hopes which make the springtime so full of absorbing interest and delight have either been fulfilled or have resulted in disappointment, little new remaining to look forward to—that great zest of gardening. If one must be away from the garden for a month in the growing season, perhaps we miss least of actual interest in August, though it is, or should be, second only to July as a month for enjoying its outdoor life. It is a month of reaping, in the garden as on the farm, and the garden will be what we have made it by our industry and foresight, knowledge, and skill, for many months, and even years, previously. If we know how, those herbaceous perennials which last but a short time, and are then an eyesore, will be arranged in such a way that their desolation is concealed as far as possible. We shall avoid putting plants of short duration in such positions that there are bad blanks at this season, and where ugly gaps do occur, either unexpectedly or because we cannot help it, we shall fill them up with some of the plants that we have had growing in pots or in nursery beds through the summer, and so keep up that prosperous appearance which is one of the charms of mixed beds and borders.

But in the garden as elsewhere, the busy man is the happy man, and if we are at home in August there is no reason why we should not be both, for there is much besides gathering the fruit and floral harvest which can be done at this season, and is, in fact, better done now than at any other time. The flower garden needs constant attention to keep it from becoming a wilderness, and we should endeavour to be in readiness for those disastrous storms of wind and rain which usually work such destruction in the latter half of the month, especially among those tall perennials which flower late in the summer and autumn. The rambler roses need the cutting out of their spent wood, and the tying or nailing in of the vigorous young shoots of the current year's growth. But it is the preparations for next season which begin in real earnest now, and constitute that charm of the autumn work in the garden which is not equalled at any other time of the year. There are cuttings to be taken of pelargoniums, pentstemons, violas, antirrhinums, etc., annuals to be sown for flowering early next summer. Madonna lilies, where they are beginning to deteriorate, to be taken up and replanted, bulbs to be potted up for forcing, and even planted in the open where there is space available—these and many other necessary operations will give one plenty to do in the flower garden alone.

And it is a busy time still in the fruit garden, for those who take a real interest in it apart from enjoying the produce. Now is the time to do the final pruning of gooseberries and currants of all sorts, and the sooner this is done after the fruit is picked the better. The same applies to the cutting out of the old raspberry canes, and any superfluous and feeble young ones still remaining, to let in the sun and air to those selected for next season. Stone fruit trees on the wall should be pruned and nailed up as soon as the fruit is picked, there being little danger in a normal season of fresh growth being made after pruning if this is not done before the middle of the month. The protecting of dwarf apples and pears from the birds is often an anxious business, the tits pecking holes in the nets sometimes to get at the trees. With the later varieties of fruits the first week or fortnight is the time to assist heavily-laden trees to swell up their crops by judicious applications of artificial manure, either in a liquid form or lightly hoed in round the trees in unsettled weather.

Where trees have been kept mulched through the summer it is a good plan to rake off the loose material after the middle of the month in order to let the soil about the roots have the full benefit of the usually diminished heat of the sun, always remembering that fruit which ripens in a dry soil is likely to have a better flavour than that which ripens in a wet one. From mid-August to mid-October is certainly one of the most interesting times of the year to the grower of apples and pears, for that is the time when fruit swells up faster and colours better than at any other time of the season, and many turn out to be a better sample than we have been expecting up to that time. Thus August, to the pomologist especially, is still a time of anticipation, a time when he is looking forward to the culmination of the year's hopes—the gathering of the fruit.

Alger Petts.

BULBS.—A practical treatise on the cultivation of hardy, hothouse and greenhouse bulbous and tuberous rooted plants is "Bulbs and their Cultivation," by T. W. Sanders, price 2s. 6d. net, or by post 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

LEAF-SHEDDING IN CONIFERS

Leaf-shedding in conifers, due to Botrytis cinerea, is the subject of a leaflet (No. 234) issued by the Board of Agriculture, and it is pointed out therein that the disease is well known both in this country and on the Continent. It has been recorded as attacking the following trees: Douglas Fir (Pseudotsuga Douglasi Carr.), Silver Fir (Abies pectinata DC.), Spruce (Picea excelsa Link.), Larch (Larix europæa DC.), Wellingtonia (Sequoia gigantea Lind. and Gord.). It has also been observed on junipers, and the Scots Fir (Pinus sylvestris L.) has been infected artificially with spores obtained from a diseased larch. Young nursery stock suffers most, but the youngest shoots of very old trees are also attacked.

The first indication of disease is a yellowing of the leaves, which finally turn brown and die, but are frequently prevented from falling, being held in a tuft by a delicate weft of brown cobweb-like mycelium. The affected shoots are usually variously twisted or curved downwards. When infection is due to spores conveyed by wind or insects, the uppermost shoots are most frequently attacked, whereas when infection is due to the presence of the parasite in the soil, the lower part of the stem from the ground-line for two or three inches upwards is attacked, and the younger branches remain free from injury. Leaves and shoots attacked by the disease eventually fall to the ground, where they remain until the following spring, the mycelium of the fungus present in the tissues having in the meantime given rise to numerous minute black sclerotia or compact masses of mycelium, which are more or less buried in the dead tissues. Just at the time when the young pine leaves are appearing, these sclerotia produce myriads of spores, which are distributed by various agents, and infection results.

The spores are capable of directly infecting young leaves, the germ-tube piercing the epidermis, whereas the bark of a two-year-old seedling can only be entered by some wound caused by late frost, punctures of insects, and similar agencies.

Preventive Measures.

1.—Perfect cleanliness in the seed-bed is of primary importance. Weeds should not be hoed up and left to die on the ground in the spring, as the Botrytis grows on all kinds of dying and dead plants, and the spores pass on to the leaves of the seedlings.

2.—In one instance the fungus causing the disease was found to have spread from stable manure, which had been imperfectly buried in the soil. The projecting portions of straw were thickly covered with the Botrytis.

3.—The fungus is very dependent on moisture, and only produces spores in a humid atmosphere, hence it is important that damp, low-lying situations should be avoided for nursery purposes.

4.—When the disease is present, spraying with the following solution will check its progress:

Sulphate of copper	11 lb.
Carbonate of copper	16 lb.
Permanganate of potash	1 lb.
Soft soap	3 lb.
Rain water	100 gall.

Every part of the ground within and for some distance beyond the affected patch should be thoroughly wetted. The soft soap should be dissolved in hot water. The remaining ingredients are soluble in cold water.

5.—All diseased seedlings should be collected and burned.

The Alpine Rose (Rhododendron ferrugineum). — Among the low-growing members of the rhododendron family, this is one of the most delightful, forming as it does a dense mass of neat, yet handsome, leafage of a rich green colour. The brightly-tinted blossoms are borne in great profusion. There are several allied kinds, but this is the equal of any of them. —W. T.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SOBRALIAS.—There are few more useful orchids where large conservatories have to be furnished with decorative and flowering plants at all seasons of the year, than the species and hybrids of the genus Sobralia. Their elegant bamboo-like stems, plentifully provided with foliage, render them useful for placing against back walls. They are most tractable under cultivation, and many of them thrive under the ordinary conditions that obtain in the warm conservatory. In rock ferneries they are particularly useful, and, providing a temperature of 55 degrees can be maintained in winter, they do remarkably well planted out. Large specimens are particularly useful for exhibition purposes, there is nothing more effective for the back of a group than a few finely-flowered plants of sobralias. There is no doubt that the reason why sobralias are not generally grown is the short time the flowers retain their beauty. Some of those closely allied to S. macrantha hardly remain in perfection a single day; but S. Kienestiana, S. xantholeuca, and S. Lucasiana, with the hybrids S. Veitchi and S. Amesiana, last in good condition for two or three days, and as a succession of flowers is produced from the same stem, the plants generally give a fine display of bloom for several weeks.

A PORTION OF THE COLLECTION OF ZONAL PELARGONIUMS AT TAUNTON.

Exhibited by Mr. Vincent Slade, Staplegrove Nursery, Taunton.

CULTURE OF SOBRALIAS.—We grow the whole of the sobralias at the cool end of a large intermediate house in which the phaius and the cool cypripediums have a place. When thoroughly established they are gross feeders, and as it is not desirable to annually repot them, the pots should be large enough to allow the roots to extend freely. The best time to repot is immediately the flowering season is past, or as soon as some new roots are observed at the base of the season's growth. The pots selected should be clean, and about one-third filled with clean broken crocks. The potting compost should consist of fibrous peat, turfy loam, and a little leaf-soil, with sufficient rough sand to render the whole porous. Press the soil firmly about the roots, and surface with sphagnum. After repotting shade them for a few weeks, and syringe the foliage daily in warm weather. When the plants have become established they require almost unlimited supplies of rainwater during the season of active growth. During the resting season careful attention is necessary, as excessive root moisture generally results in disfigurement of the foliage. With regard to newly imported plants, I would suggest their being grown in a rather higher temperature than is advised for the established examples for a year or so, until they have become established. The stock may be increased by division at the time of repotting. Thrips and red spider are the principal insect pests, but by careful sponging and spraying these are easily kept in check.

EPIPHRONITIS VEITCHI.—I regard this as one of the finest of bigeneric hybrids. There is no orchid I am acquainted with that grows more freely when a position is found to suit its requirements. Not only does it produce side shoots from the stems of the older growths in a remarkable manner, but its freedom of flowering leaves nothing to be desired. It is a plant that should always be grown on a stage, so that it may have the benefit of rising moisture. I have never seen it do satisfactorily hung up, although its dwarf habit would suggest such a position for it. We find it does well with the seedling cattleyas, in pans filled to one-half their depth with broken crocks, and in a compost of about equal proportions of fibrous peat and chopped sphagnum moss. The plants take very little rest, and are practically in active growth at all seasons of the year, and therefore must not be allowed to remain long without root moisture.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

HELIOTROPIUMS.—Plants in small pots should now be shifted into 5-inch pots. Pot firmly, and afterwards place in a close frame for a few days; but when they have recovered from the shift stand them in the open on a layer of ashes. They may remain in this position until September, when they should be placed in a warm house, in which they will flower.

PRIMULAS.—After this date it will not be wise to remove the lights from frames at night-time, as there is danger from heavy rains; but the lights may be tilted to admit plenty of fresh air. Except those of the latest batch, all the plants should now be in their flowering pots. Well-rooted plants may receive doses of liquid manure in which some soot has been mixed. To obtain large specimen plants the following year seeds should be sown now and the seedlings be potted off singly about the third week in January.

CYCLAMENS.—As autumn-raised cyclamens are generally the most satisfactory, seeds should be sown about this time in pans filled with sandy soil. They germinate best in an intermediate temperature, and the atmosphere of the house must contain a moderate amount of moisture.

CAMELLIAS.—These also require some assistance in building up their flower buds. Whilst the plants in pots and tubs are still out of doors they should be thoroughly cleaned, as this is a good opportunity to get round about the plants easily.

ROMAN HYACINTHS.—The first batch will now have arrived, and should be potted immediately. After potting a good soaking of water will settle the soil around the bulbs, and the batch should then be placed in a frame, or out of doors, and covered with fine ashes or leaf-mould to the depth of six or eight inches.

SOUVENIR DE LA MALMAISON CARNATIONS.—As soon as the layers become rooted sever them from the parents, and in the course of a few days pot into three or four-inch pots, using a compost of good loam, leaf-mould, sand, a little bone-meal, and a sprinkle of soot. Shade the newly-potted plants from bright sunshine until the roots become active, and afford water carefully.

CHRYSANTHEMUMS.—The earliest varieties have now set their buds, and should have their shoots tied out evenly, training the tallest to the centre. Use stout sticks, not too long, and in tying in the shoots endeavour to hide the sticks as much as possible, never using two stakes where one will do. Attend regularly to feeding; give the plants liquid manure once a week, presently increasing it to twice or three times a week. Guard against greenfly, and as soon as this is noticed dust with tobacco powder in the evening and syringe it off in the morning.—W. Staward, Belford Hall Gardens.

THE FLOWER GARDEN.

ERYNGIUMS (SEA HOLLIES) are now making a bold show in the herbaceous beds and borders, and, notwithstanding the unfavourable weather this season, their colouring does not seem to have been affected. For bold groups, or even as dot plants in beds, these are most useful, being very effective. E. Oliverianum, E. alpinum, or E. giganteum are perhaps the most useful to use where a really bold effect is desired; these remain in flower for a very considerable length of time, and are free flowering. E. amethystinum, for some reason difficult to understand, is sometimes confused with the stronger growing Oliverianum, but the former seldom exceeds a height of 18 inches, and has smaller and less brightly coloured flower heads; but as a "dot plant" it is most useful and ornamental. Most of the eryngiums thrive best when growing in a somewhat dry border, with the exception, perhaps, of E. alpinum, which will thrive in a stiff loamy soil, and in a partly shaded position. Plants raised from seeds in 1909 are now making a fine show in these gardens, both involucres and stems being singularly bright and beautiful, and they are holding their own in comparison with less hardy and choicer bedding plants.

FIRST PRIZE COLLECTION OF SWEET PEAS AT TAUNTON.
Exhibited by Mrs. Howard Young, Filton Avenue, Horfield, near Bristol.

HERBACEOUS PLANTS are well repaying the grower for all the extra attention given them this season in the way of staking, tying, etc. At the present time phloxes are in grand condition, as the cool weather has suited them. Now is the time to make note of any variety of special merit desirable for another season, for as soon as they have ceased flowering, propagation by root division may be safely performed, as the roots will then establish themselves in their new quarters before the advent of wintry weather, and with the addition of a suitable mulching, should go through the severest winter unharmed.

DECIDUOUS HEDGES should now be carefully trimmed before the growths become too hard; discretion must be used in dealing with this class of work. For some of these the pruning knife, and not hand-shears, should be used, removing only those growths that are spoiling the general appearance or symmetry of the hedge or bushes.

PROPAGATION should now be proceeded with without further delay. Owing to the excessive rainfall and little sunshine, most of the bedding pelargoniums have made very rank and rapid growth of late. Careful attention is therefore needed in the selection of suitable growths for cuttings, and their immediate treatment, or many losses from damping off will occur. Perhaps during a season like the present it is wiser to depart from the orthodox rule of striking these out of doors fully exposed, placing them instead under the shelter of frames, or in a light, airy greenhouse fully exposed to the sun. Lobelias that may have been selected for stock should be carefully trimmed back to encourage new growths before being potted up and stored for the winter. Where verbenas are grown from cuttings it may be necessary to similarly treat the selected stock plants, to obtain cuttings in time for autumn propagation; at the present time suitable growths are not obtainable. Box or pot off young seedlings of Coreopsis grandiflora, gaillardias, pentstemons, and similar subjects as soon as they are ready.—W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

GOOSEBERRIES AND CURRANTS.—All fruits will be gathered from the bushes by the time these notes appear, and immediate steps should then be taken to cleanse the trees from insect pests if any are present. The old fruiting wood of black currants should be cut clean away to allow the current season's growth to mature and thoroughly ripen; side growths of red and white currants and gooseberries, should also be shortened back to within four or five leaves. The surface soil should be frequently stirred with the Dutch hoe, and every means should be taken to keep the plantations free from weeds. It is a common mistake to neglect small bush trees after the fruit has been gathered; a little timely attention is all that is required to ensure good, strong, healthy trees, that cannot fail to bear heavy crops of fruit next season.

STRAWBERRIES.—Where the ground has been prepared by trenching and manuring, as advised in a previous calendar, no time should be lost in commencing to set out the plants for a new plantation; a distance of twenty-four to thirty inches should be allowed each way between the plants, according to the variety. Some are more robust, and make more foliage than others, so these require a further distance apart. The soil must be made moderately firm by treading, choosing a fine day for this operation. When planting, care should be taken not to break the ball of soil adhering to the roots. The crown of each plant should be raised slightly above the level of the soil. If dry weather prevails a good soaking with clear water should be given the plants after they are set out to settle the soil well around the roots. After the planting is completed, very little attention will be required other than keeping the weeds in check, but frequent Dutch hoeing will accelerate growth. Push on with the work of cleaning plantations that are required for fruiting purposes next season. It will be found that large quantities of runners have rooted into the soil and made good plants; these should be carefully lifted with a trowel and planted on a border, in nursery rows six inches apart, as they will be found most useful for planting out six weeks or two months hence. The autumnal fruiting varieties, such as St. Antoine de Padoue and St. Joseph, will soon be ripening their fruits, and nets should be placed over them without delay to protect the fruit from birds; also see that plenty of clean straw is placed under the fruits, as at this season of the year they are liable to rot very quickly if allowed to come in contact with the soil.

APPLES AND PEARS.—Many of the early varieties will require to be gathered shortly, but this work must on no account be commenced until the fruits have been thoroughly examined. A good specimen should be cut open with a sharp knife, and if the "pips" are brown in colour, and the fruits part from the branches easily, it is a sure indication that they are fit to be gathered. Plenty of patience must be exercised at all times before commencing to gather these fruits, and especially is this so when the variety has good keeping qualities. Many fruits are absolutely ruined both for culinary and dessert purposes when they are gathered before they have properly matured.—Henry R. Farmer, Cardiff Castle Gardens.

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EXHIBITIONS AND MEETINGS.

Taunton, AUGUST 11.

Maintaining its enviable reputation for being favoured with fine weather, the Taunton Horticultural Society held its annual show on Thursday, August 11, in the pretty public park. For several years past there has been a two days' show, but on this occasion the society deemed it advisable to revert to their original course of holding a one-day show. There was some division of opinion as to the wisdom of this step, but it must at all events be recorded that the show was a very fine one throughout. The amateurs' and cottagers' sections were particularly strong, the entries in the vegetable classes surpassing, in both numbers and quality, many of the best exhibitions in the country. Mr. R. A. Goodman held the secretarial reins for the first time, Mr. Winsor, who held office for a long period, having retired. He was, at the luncheon on Thursday, the recipient of an illuminated album, which was presented to him as a token of esteem and appreciation of his services to the society.

Messrs. J. Cypher and Sons, Cheltenham, were the only exhibitors in the open class for a group of stove and greenhouse plants occupying a space 13ft. by 10ft. Their exhibit was a choice little group of oval shape with an irregular outline. A central pyramid of brightly-coloured foliage plants was topped by a good palm, and other points were marked by tall, shapely crotons and mounds of smaller subjects, finished off with Cocos Weddelliana. Cattleyas, Disa grandiflora, and other orchids, with white liliums, Clerodendron fallax, etc., provided colour, and assisted in the effective arrangement of a good exhibit.

In a smaller group confined to amateurs, first prize was awarded to Mr. Chas. Cook, gardener to H. Cornelius, Esq., who used Liliums lancifolium, rubrum, and album, Campanula isophylla alba, and other flowering plants, in conjunction with an assortment of foliage plants. Second prize went to Mr. W. Cox, gardener to Mrs. Bernard, whose arrangement was bright with carnations, campanulas, statices, and other flowering plants, whilst in the third prize group, arranged by Mr. S. Kidley, gardener to Colonel Sanford, C.M.G., Campanula pyramidalis and bright caladiums were freely used.

Messrs. Cypher and Sons swept the board in the several open classes for specimen stove plants, exhibiting some grand examples of ixoras, clerodendrons, statices, bougainvilleas, etc. The same firm also carried off the chief awards for foliage plants and for orchids. Mr. T. Essex, gardener to C. E. D. Esdaile, Esq., won first for a specimen fern with a capital plant of Adiantum Farleyense, Mr. W. Cox taking second with Nephrolepis Amerpohli. For twelve stove and greenhouse plants in the amateurs' section, Mr. S. Kidley scored with fine specimens of Bougainvillea glabra Coker Court variety, Dipladenia Brearleyana, and other favourite subjects. Mr. J. Stuckey, gardener to B. C. Shepherd, Esq., was second, and Mr. W. Cox third.

Mr. Cox was first for caladiums, Mr. Stuckey taking second place. Some splendid coleus were staged, the best six being those of Mr. Patrick Fawle, gardener to the Lady Abbess, Franciscan Convent; second Mr. Stuckey. Mr. W. Cox showed six magnificent ferns, including Adiantum trapeziforme and A. Farleyense. He was awarded first prize, Mr. W. H. Bruford, gardener to the Hon. H. P. Gore-Langton, coming second, Microlepia platyphylla being one of his best examples. Mr. F. Hubbard, gardener to Alex. M. Wilson, Esq., led for six fuchsias, and Mr. W. H. Bruford for zonal pelargoniums. Mr. Herman, gardener to H. Powell, Esq., being second in each case. Mr. T. Essex showed four grand pans of achimenes, for which he received first prize; and Mr. W. Cox had the best four pots of Lilium lancifolium. Mr. Stuckey took first for a specimen of Lilium auratum, second going to Mr. Wm. Gould.

CUT BLOOMS.

These were presented in good numbers, but the intense heat in the tents was responsible for the speedy collapse of most of the blooms. Messrs. Perkins and Sons, Coventry, won premier honours for thirty-six roses, and also for eighteen, some of their best being Florence Pemberton, Lyon Rose, Queen of Spain, Frau Karl Druschki, and Mme. Cadeau Ramey. The King's Acre Nurseries were second for the thirty-six, and Messrs. Jarman and Co., Chard, third, the latter firm being second for eighteen, and running the winners very close. In the amateurs' rose classes Mr. S. G. Burgess, gardener to F. G. Hayes, Esq., secured first for eighteen, and for twelve teas, Mr. A. E. Dunster being second in both these classes, and first for twelve distinct varieties.

Messrs. J. Cray and Sons, Frome, were the principal winners for dahlias, taking the lead for cactus, show, and pompons. In a class for twenty-four trusses of zonal pelargoniums Mr. W. Hayward, gardener to Miss Neal, won well, showing Ville de Poitiers, Fraicheur, and a number of other favourites, both in doubles and singles; the second went to Mr. J. Thorne, and third to Mr. O. Burton. It is a pity the varieties of such subjects are not labelled, as it adds much to the interest and educational value of the show when all exhibits are named. A very good class was that for twelve single spikes of phloxes, some enormous examples being brought forward. Mr. J. Webber scored, showing Mme. Carniodet, a capital white; Flambeau, brilliant scarlet; and other first-rate things. Dr. Bois, Meteor, and Mrs. John Harkness were among the best on the second prize stand put up by Messrs. Rich and Co., The Nurseries, Bath. A wonderful lot of asters were staged, Mr. J. H. Harris scoring for twelve Comets and twelve French or pæony-flowered, Mr. J. H. Merrett winning for Victorias.

Mr. F. Eames, Frome, had first for twenty-four gladioli, showing a clean, bright lot of well-flowered spikes. Mr. T. Totterdell was placed second. Mr. Chas. Wall, South Down Nurseries, Bath, won for both self and fancy carnations, showing Mrs. R. Morton, Terra Cotta, Daffodil, and Mrs. M. V.. Charrington among the selfs, and some grand blooms of Lord Steyne, Mandarin,and Richness in the fancies. Mr. A. R. Brown, King's Norton, took second in each class. For six vases of perpetual carnations the first prize was easily won by Messrs. Young and Co., Hatherley, Cheltenham, Messrs. Hodge and Co. being awarded second prize.

Classes were provided for cut blooms of both double and single begonias, Mr. S. Dight, gardener to Rev. Daniel Pring, winning well in both classes. His flowers stood right away from the other exhibits, and were a really grand lot. Mr. W. H. Bruford staged twelve good bunches of stove and greenhouse flowers in his first-prize exhibit, Begonia Carolina and Pancratium excelsum being very choice. Mr. Kidley followed. The winning stand of eighteen bunches of hardy perennials came from Mr. F. Eames, The Nurseries, Frome, who had Liatris spicata, Astilbe Davidi, Veronica subsessilis, and other showy things. Messrs. Rich and Co., Bath, were second, having some capital phloxes on their stand.

SWEET PEAS.

These were shown remarkably well, and occupied quite a large amount of space. In the open class for twelve bunches, the winning exhibit was staged by Mr. J Stuckey, who had Mrs. C. Foster, Audrey Crier, W. T. Hutchins, Mrs. Routzahn Spencer, and others in good style. He was followed by Mr. H. Ellis, gardener to R. Donne Hancock, Esq., whose flowers were carried on much shorter stems, and did not show to such advantage. Mr. A. E. Richards was placed third, and Mr. E. Argall, gardener to E. Constable Curtis, Esq., fourth. There were five entries in the class. Mr. Henry Eckford, Wem, offered prizes for a collection of twelve varieties, selected from his catalogue, and Mr. A. Shakelton, gardener to Freeman Roper, Esq., scored with good flowers, the effect of which was not improved by the use of vases of varied patterns. Mr. S. C. Shattock took second place.

In the class provided by Messrs. Robert Sydenham, Lim., Birmingham, there were eight entries, and competition was very keen. Mrs. Howard Young, a lady amateur, of 17, Filton Avenue, Horfield, near Bristol, who won easily, is to be congratulated on having the finest lot of peas in the show. The blossoms were large, clean, and of good colour, carried on long, strong stalks, and were lightly arranged in tall glass vases; Mr. J. Moore, gardener to Rev. E. Felton, was a good second, his Constance Oliver and Helen Lewis being specially noticeable. Mr. E. Ellis was third, and Mr. H. Cullwick, gardener to R. A. Sanders, Esq., M.P., brought up the rear. The Messrs. Sydenham also provided a class for six bunches, the prizes going to Mr. C. J. Curtis, gardener to G. S. Lysaght, Esq.; Mr. J. Foster, gardener to Reginald Boyle, Esq.; and Mr. W. Sage, gardener to W. F. S. Hodgson, Esq., in the order named. In Messrs. Webb and Sons' class Mr. T. H. Bolton, gardener to the Earl of Devon, took the lead, his vase of Nancy Perkins being very richly coloured. Mr. Jas. Chidzly, gardener to A. W. Hosegood, Esq., followed, and Mr. A. Shakelton came third.

DESSERT TABLES AND FLORAL DECORATIONS.

In the open class for a dessert table laid for eight persons, and decorated with flowers and foliage, Mr. C. J. Ellis, florist, Weston-super-Mare, claimed premier honours. His fruit included good figs, grapes, pineapple, and melon, and the floral decoration was tastefully carried out with richly-coloured cattleyas and suitable greenery. Mr. J. T. Curtis, Bristol, gained second prize, and his table was also well arranged with pink and mauve orchids. He had some good peaches. Mr. F. J. Cole was awarded third, but the use of many colours was the weak point in his exhibit.

VEGETABLES AND FRUIT.

The vegetable section was very strong throughout. A large number of prizes were offered by seed firms, and Mr. J. Stuckey and Mr. W. Cox were among the most successful exhibitors. The collections in the special classes provided by Messrs. Sutton, Carter, Webb, Sydenham, and Veitch brought out some beautiful produce, and the manner in which the exhibits were staged was highly creditable.

Fruit was also largely shown, Mr. T. Wilkinson, gardener to G. A. Gibbs, Esq., M.P., Tyntesfield, Bristol, winning in both the six and four-dish classes with some excellent peaches, melons, grapes, and plums. The single dish classes were well filled.

NON-COMPETITIVE EXHIBITS.

These had a large tent to themselves, and were of a high order of merit throughout. A most interesting and valuable exhibit was staged by Messrs. R. Veitch and Son, Exeter, who, as usual, showed very choice flowering shrubs and rare border perennials. Ceratophyllum gamiferum, Desfontania spinosa, and Pentstemon corditolius were represented, and a vase of the rare and beautiful Mutisia decurrens was conspicuous. Carnations, roses, gladioli, and a whole host of seasonable flowers made up a grand exhibit. Messrs. Isaac House and Son, Westbury-on-Trym, had remarkably good sweet peas, phloxes, and pyrethrums in great quantities. On the stand occupied by Messrs. Barr and Sons, King Street, Covent Garden, phloxes and varieties of Chrysanthemum maximum predominated.

Mr. Lowis, The Perennial Nurseries, Leversdawn, Bridgwater, put up a number of good things in the way of herbaceous flowers. Mr. Fred. Adams, Station Road, Taunton, had an exhibit of choice fruit and effective floral designs, which attracted much attention. Mr. A. E. Richards, Taunton, staged beautiful begonias and sweet peas. The display of perpetual carnations from Messrs. Young and Co., Hatherley, Cheltenham, was staged in the style that has become characteristic of the firm's exhibits. Duchess of Westminster is proving a good crimson, and was well represented here. Messrs. Rich and Co., Bath, showed phloxes F. W. Moore, Coequelicot, Iris, and other good varieties, together with Montbretia Messidor, and a number of border subjects. Mr. W. J. Godfrey, Exmouth, showed zonals, perennials, and a batch of his effective strain of amaranthus. An unusually bright lot of annual statices and some good border carnations were exhibited by Messrs. W. Tuplin and Sons, Newton Abbott. Roses, including such varieties as Richmond, Liberty, and Mme. Ravary, came from Mr. Rowland Adams, White Wells Nursery, Bath. Cut begonias, both double and single, were shown by Messrs. B. R. Davis and Sons, Yeovil, and a group of roses was arranged by King's Acre Nurseries, Lim., Hereford.

One of the most effective exhibits in the show was the large collection of vegetables, staged by Messrs. Jas. Carter and Co., High Holborn, W.C. Sweet peas, from Mr. H. Eckford, Wem, were a choice lot, and well staged. Othello, Dodwell F. Brown, Mrs. E. Gilman, and Mrs. Henry Bell were a few distinct varieties noted among many beautiful varieties represented by finely-developed and clean flowers. Messrs. W. E. and T. Cousins, the Taunton Florists, arranged a very attractive display of floral designs.

Roses were largely shown by the West of England Rose Farm, Lim., Henlade, Taunton; moss-covered baskets of hybrid teas, bamboo stands of ramblers, and boxes of exhibition varieties helped to make a good display. Mr. H. Clarke, Greenway Nurseries, Taunton, showed border flowers, sweet peas, and violas in a very pleasing and creditable manner. From Messrs. Jarman and Co., Chard, came one of the fine exhibits with which this enterprising firm are identified. The sweet sultans were, of course, well represented. Mr. Vincent Slade, of Taunton, staged a collection of the newest and best varieties of the ever-useful zonal pelargonium; the flowers were bright and showy in the extreme, and every variety used was a good one.

The extensive collection of gladioli staged by Messrs. Kelway and Son, Langport, embraced a wonderful variety of beautiful colours and perfectly-formed spikes. Among varieties that were most conspicuous were Mrs. G. W. Willcock, Peace Envoy, Queen Mary, and George V. Messrs. Geo. Massey and Sons, Spalding, brought a very large exhibit of potatoes, peas, melons, and a few gladioli and montbretias. In a special tent the Alpha Extinguisher, Lim., Ross, Herefordshire, exhibited their spraying machines. The various patterns were shown at work, and the gardeners and fruit growers of the district evinced keen interest in the demonstration. Messrs. Saunders and Biss, Exeter, exhibited greenhouses and frames glazed in the grooved bars, which are the firm's speciality, and dispense with the necessity for heavy wood rafters and putty.

MEDAL AWARDS.

Large Gold. — Messrs. Kelway and Son, Langport, for gladioli; Messrs. J. Carter and Co., Holborn, W.C., for vegetables.

Small Gold.—Mr. H. Clarke, Taunton; Messrs. Isaac House and Son, Westbury-on-Trym, for hardy flowers; the West of England Rose Farm, for roses.

Silver-Gilt. — Messrs. Jarman and Co., Chard, for cut flowers; Messrs. W. E. and T. Cousins, Taunton; Messrs. Geo. Massey and Sons, Spalding, for vegetables; Mr. Rowland Adams, Bath; the Alpha Extinguisher, Lim., for spraying machines.

Large Silver.—Messrs. Robert Veitch and Son, Exeter, for miscellaneous plants and flowers; Mr. Henry Eckford, Wem, for sweet peas.

Small Silver.—Mr. F. Adams, Taunton; Messrs. Rich and Co., Bath, for herbaceous flowers; King's Acre Nurseries, Lim., Hereford, for roses.

Bronze.—Mr. W. J. Godfrey, Exmouth; Mr. A. E. Richards, Taunton; Messrs. Barr and Sons, Covent Garden, London.

Sparkhill Horticultural Fete.

The tenth annual show, which took place on Saturday last in Sparkhill Public Park, in ideal weather, proved to be the largest on record, the entries in the amateurs' and cottagers' sections being abnormally large, and eclipsing in this respect the recent Wolverhampton and Handsworth Shows by several hundreds, hence asserting some claim to be the "Shrewsbury of the Midlands." The arrangements were efficiently superintended by the hon. secretaries, Councillor Wm. Marriott and Mr. Wm. W. Staples. It may, however, not be out of place to remark that at least one important item was non est, viz., the addresses of the entrants upon the exhibit cards, a matter worthy the attention of the executive on future occasions.

There was a record attendance of visitors, the major portion of whom were evidently attracted by the display of athletics and sports. The exhibits were contained in two monster marquees, and the array of cut flowers and vegetables in the amateurs' and cottagers' marquee presented a magnificent feature, so uniform was the quality throughout.

OPEN SECTION.

As heretofore, the chief centre of attraction was the groups class. The four exhibits, though hardly equalling a few previous creations, were meritorious. In selecting the group for premier honours the judges were considerably exercised, but eventually decided to grant it to Mr. J. Bastin for an attractive display, but with an extremely formal and massive centrepiece, carrying a tall palm above large plants of highly-coloured coleus and other heavy subjects. At each of the four corners of the design was a mound or grouplet furnished with crotons, caladiums, etc., and topped with a tall arundinaria, towering nearly to the height of the central palm. On one side of the design was placed a tall fasciated Lilium auratum, carrying about a dozen blooms, while the opposite side of the design contained a corresponding specimen of Lilium speciosum rubrum. The second prize was won by Mr. J. Earle for a light and artistic arrangement; and the third honours fell to Mr. J. A. Kenrick, Harborne (gardener, Mr. R. Usher), who used a cork-bark arch as his centrepiece; there was a lack of sufficient flowering plants in this otherwise tasteful arrangement, or a higher position would have been secured.

Stove and greenhouse plants were not in strong force, and the successful exhibitors were Messrs. F. Reily, H. Green, and J. Boston, in the order named. Fuchsias, which always are a feature here, were very well staged by Messrs. J. Earle, E. J. Dalby, and H. Green; and coleuses by Messrs. J. Earle, H. Green, and J. Boston. Three stove and greenhouse plants were best shown by Messrs. F. Reily, H. Green, and J. Boston. Liliums were very well set up by Messrs. R. Usher, J. Earle, and H. Bartlam.

Shower bouquets were most creditably arranged by six entrants; Mrs. H. S. Pratt led with a charming composition of creamy-white roses; Miss Emily Cope second, also with roses; and Mrs J. Cope third.

In the special classes for seedsmen's prizes the competition was keen. Messrs. W. H. Simpson and Sons, Birmingham, provided a class for nine varieties of sweet peas, and Miss Jessie Hurst was to the fore with excellent blooms of Mrs. H. Sykes, Clara Curtis, Evelyn Hemus, Helen Lewis, Constance Oliver, Etta Dyke, Frank Dolby, and Countess Spencer; second, Mr. S. Smith; and third Mr. C. Brazier. Messrs. Bakers, Wolverhampton, provided prizes for six distinct varieties of sweet peas, and Miss C. S. Hopkins led with good examples of Mrs. H. Sykes, Helen Lewis, Geo. Herbert, Countess Spencer, Constance Oliver, and Frank Dolby; second, Mr. W. G. Southgate; and third, Mr. R. E. Fowler. Messrs. Webb and Sons, Wordsley, Stourbridge, provided prizes for six bunches of sweet peas, and Mr. R. Dawes, Knowle, was to the fore with fine examples of Countess Spencer, Frank Dolby, Etta Dyke, John Ingman, Black Knight, and Queen Alexandra; second, Mr. H. Mitchell; and third, Miss Page. In the society's class for the best collection of sweet peas, space not to exceed 15ft. by 3ft., Mr. W. R. Bromley, Selly Hill, Birmingham (the only exhibitor), was accorded the first prize for a splendid and well-staged lot, comprising eighteen varieties, viz., Apple Blossom Spencer, Miss Willmott, Nora Unwin, Mrs. Hardcastle Sykes, Agnes Eckford, Paradise, Black Knight Spencer, Frank Dolby, Audrey Crier, Evelyn Hemus, Mrs. Walter Wright, Primrose Spencer, Etta Dyke, King Edward VII., Helen Lewis, Mrs. Routzhan, and Geo. Herbert.

Fruit was very well represented, and Lady Hindlip, Hadzor House, Droitwich, sent a very fine collection, not for competition, Appley Towers, Madresfield Court, Muscat of Alexandria, and Buckland Sweetwater grapes; Crimson Galande and Princess of Wales peaches; Lord Napier, and very large and highly-coloured Dryden nectarines; Negro Largo figs, three melons, apricots, Peasgood's Nonsuch apples, and Leader gooseberries were included, all tastefully decorated with vases of Francoa ramosa and scarlet montbretia, with appropriate greenery. A gold medal was awarded.

In the classes for grapes there were only two entrants for three bunches of black or white varieties (the first prize given by Mr. J. Udale, Droitwich), and here Lady Hindlip scored with good examples of Madresfield Court, and Mr. A. G. Buller with fine and well-finished Black Hamburgh, was second. For a dish of six peaches Lady Hindlip, the Earl of Shrewsbury, and Mr. A. G. Buller were the winners respectively.

Table decorations, ladies, were an attractive feature, and were highly creditable to the fair contestants. There were ten entrants, and the coveted honour was annexed by Mrs. H. V. Pratt, with a dainty arrangement of salmon and coppery roses, single and double varieties, with Selaginella uncinata trails. A close second was Miss Emily Cope, with a somewhat similar arrangement, but including Francoa ramosa and dainty sprays of a bright purple acer; Miss N. Guest, and Mrs. J. Cope were respectively third and fourth.

There was a brisk competition in the special classes for vegetables. Messrs. W. H. Simpson, Birmingham, offered prizes for six distinct kinds, open to all classes of exhibitors, and Mr. H. Foster annexed the premier prize with good examples of cauliflowers, carrots, scarlet runner beans, Quite Content peas, Cigarette potatoes, and Ailsa Craig onions; Mr. E. Deakin, second, with a close lot. In Messrs. Webb and Sons' class for six distinct kinds, Mr. Hugh Mitchell was to the fore with Early Mammoth cauliflowers, celery, Ailsa Craig onions, carrots, The Gladstone pea, and New Guardian potatoes; Mr. E. Deakin was second. Messrs. Yates and Sons provided prizes for a collection of five kinds of vegetables, and good examples were trayed by Messrs. F. Whitbread, E. P. Peel, and A. Hill, in the order named.

A gold medal was awarded to Messrs. W. H. Simpson for a magnificent arrangement of sweet peas, intermixed with plants of Nandina domestica and Kochia trichophylla. A silver-gilt medal was awarded to Mr. H. N. Ellison, West Bromwich, for a collection of ferns.

United Horticultural Benefit and Provident Society.

The usual monthly meeting of this society was held at the Royal Horticultural Hall, Westminster, on Monday evening, August 8, Mr. C. H. Curtis in the chair. One new member was elected, making a total of fifty this year so far. The death certificate of Mr. Robert Anderson (a lapsed member) was produced, and the amount standing to his credit, viz., £29 13s. 6d., was granted to his nominee. Several members over sixty years of age have taken advantage of Rule 18 to withdraw their interest on their deposits to enable them to pay up their contributions. The amount of sick pay for the past month was £29 17s.

Royal Horticultural Society.

AUGUST 16.

The usual fortnightly meeting was held at Vincent Square, Westminster, and proved a very good show for the holiday season. The out-standing features were the phloxes to be seen in most collections of hardy flowers. The collection of fruit trees in pots from Messrs. James Veitch and Sons, Lim., and the fine examples of Campanula pyramidalis from **Colonel G. H. Trollope** were especially noteworthy. Hardy flowers came in abundance from Messrs. George Bunyard and Co., Lim., Maidstone, and a fine display they made. The pentstemons were quite a feature, the most conspicuous varieties being **Southgate Gem, Grandeur,** and G. Holme. Gladioli were in fine form, as were also a good collection of phloxes, in which Iris, Coquelicot, Belvedere, and Sprite were noted. The gaillardias, coreopsis, and delphiniums, too, added interest to the exhibit.

AN EXCEPTIONALLY FINE GROUP OF DISA GRANDIFLORA.

Exhibited by Mr. Taylor, gardener to Mrs. Bischoffsheim, Warren House, Stanmore, at the R.H.S. meeting on Tuesday last.

Messrs. Barr and Sons, King Street, Covent Garden, had a showy collection of hardy flowers, which included some good bunches of phloxes, such as Selma, Frau Buchner, General Von Heutry, and Lady Molly. **Delphiniums were also a feature,** while gladioli, too, were noteworthy.

Mr. F. Woolard, Lewes Road, Brighton, had an exhibit of roses that were lightly arranged, mostly in vases, the most conspicuous being Mrs. A. Ward, Trier, Mdme. A. Chatenay, and Mrs. P. Blair. From Colonel G. Haward Trollope, Fairmile Hatch, Cobham, came a small group of Campanula pyramidalis, in both white and blue. The specimens were of large size, splendidly flowered, and attracted much attention from the visitors.

Mr. C. W. Breadmore, Winchester, occupied the end of the hall with a fine exhibit of sweet peas in about forty varieties, though there must have been nearly one hundred and fifty vases, all lightly arranged, and producing a pleasing effect. The varieties were all up to date, and were excellent for such a late period.

Mr. James Box, Lindfield, staged a fine group of phloxes arranged in tall bamboo stands. The most attractive were Wolfgang, Bacille, Lindfield Beauty, which appeared to be Elizabeth Campbell with all the other exhibitors, Selma, and Iris. A ring of delphiniums and montbretias completed the group.

Hardy flowers from Messrs. Whitelegg and Page, Chislehurst, were bright and well arranged. Phloxes, pentstemons, and delphiniums were their chief features.

Messrs. Kelway and Son, Langport, had a full table of splendidly-developed gladioli spikes, consisting of the fine varieties that have been raised by the firm. Just a few of the best were Golden Treasure, Lady White, General French, and Sulphur King, though **nearly all were worthy of mention. Messrs.** Kelway and Son also exhibited delphiniums in variety, with capital late crop flowers of pyrethrums, and some splendid vases of gaillardias, in which were noted Great Western, Earl of Listowel, and James Kelway.

A glorious table of montbretias came from **Sidney Morris, Esq. (gardener, Mr. G. Henley),** Wretham Hall, Thetford. The varieties were not only well grown, but beautifully staged with asparagus, smilax, and similar foliage. Some of the best forms were **Messador, Lord Nelson, St. Botolph, George** Davidson, and Westwick.

Nymphæas came from Mr. Leopold de Rothschild (gardener, Mr. J. Hudson, Gunnersbury). The best of the new varieties were Virginale, Newton, and Splendida.

From the Earl of Warwick (gardener, Mr. H. Lister), Easton Lodge, Dunmow, came vases of the rich blue Nymphæa Pennsylvania, and Lord Brooke, a rosy-pink form of N. stellata.

Mr. A. J. Harwood, St. Peter's Nursery, Colchester, staged a well-arranged table of hardy flowers, in which were to be seen some good phloxes, Sidalcea Rosy Morn, and the double gypsophila.

A miscellaneous group of flowering plants **came from Messrs. James Veitch and Sons,** Lim., Chelsea. These comprised good decorative plants of Abutilons Golden Fleece, Red Gauntlet, and Boule de Neige. A collection of well-grown cannas, Crowea latifolia in fine form, and Exacum macranthum. The same firm also had a group of standard Salvia splendens, beautifully flowered, and ivy-leaved pelargoniums trained in the same way.

Border carnations from Messrs. W. Watson and Sons, Lim., Clontarf Nurseries, Dublin, were nicely staged in clear glass vases, with plenty of carnation "grass." The best were Scarlet Banner, Countess of Aberdeen, Lady Cory, and Lady Haddo.

Messrs. Carter Page and Co., London Wall, E.C., had the first dahlia exhibit of the season. They occupied an entire table with cactus, pæony-flowered, pompon, and single varieties, the whole being nicely arranged with palms, grasses, and other suitable foliage.

The Guildford Hardy Plant Company were represented by an exhibit of hardy flowers, which included tritomas, gladioli in good variety, and a collection of phloxes.

Messrs. T. S. Ware, Lim., Feltham, occupied an entire table with a magnificent col**lection of hardy flowers. These included** finely-grown phloxes, heleniums in variety, liliums, and statices, the whole being lightly arranged.

Ferns were the chief exhibit of Messrs. **H. B. May and Sons, Upper Edmonton, in** which were placed standard hybrid veronicas. The ferns were chiefly decorative nephrolepis in variety, and some handsome crested forms of Polypodium vulgare.

Another exhibit of hardy flowers came from Messrs. G. and A. Clark, Lim., Dover, who had as special features Anchusa italica Dropmore variety, larkspurs, gladioli, lupins, and carnations. Tuberous begonias came from Mr. L. Gwillim, Cambria Nursery, New Eltham. A few named double varieties in pots were very fine; while the doubles were arranged in colours on boards.

Messrs. F. Cant and Co., Braiswick Nurseries, Colchester, had a pretty exhibit of roses, chiefly of a decorative character. The **most prominent were Mrs. P. Blair,** Gottfried Keller, Theresa, Lyon, Mrs. A. Tate, Avoca, Papa Gontier, and Mrs. E. G. Hill. Messrs. W. Wells and Co., Lim., Merstham, staged some fine phloxes, the brightest being Le Siècle, Elizabeth Campbell, Alliance

Russe, and Queen Alexandra; also some good bunches of early-flowering chrysanthemums, such as Gertie, Polly, Roi des Blanc, and Holmes' White.

From Messrs. Rich and Co., Bath, came a collection of phloxes arranged in good bold masses. The best were Baron von Deden, William Ramsey, Elizabeth Campbell, Sinbad, and Selma.

A table of cut carnations in bamboo stands, with a similar exhibit of single early-flowering chrysanthemums, was presented by Sir D. Gooch, Bart. (gardener, Mr. P. Wilkinson), Hylands, Chelmsford. The former were nicely set up with suitable foliage. The chrysanthemums did not appreciate the humid atmosphere of the hall, though they were represented by some of the best varieties in this section. Mr. M. Prichard, Christchurch, presented a large exhibit of hardy flowers, which were staged in his well-known style. The tritomas formed a fine collection, the best being Canary Bird, Glow, Egypt, and Chrysantha. Two groups of Crinum Powelli, and its white form attracted much attention, as did also the rarer hybrids of gladioli, and a collection of well-developed phloxes. Messrs. S. Bide and Sons, Farnham, staged a large exhibit of sweet peas in a pleasing manner. The whole were good, but the most striking were Elsie Herbert, Helen Lewis, St. George, Ellen Willmott, and James Grieve.

Phloxes were the chief feature of the large and attractive group of hardy flowers from Messrs. Paul and Son, Cheshunt. They had fine masses of Danton, Etna, Daniel Lesseur, and Coquelicot, with sunflowers, montbretias, and tritomas between.

Gladioli from Mr. W. Pfitzer, Stuttgart, attracted much attention. The hybrids, taken as a whole, were not up to our standard, but the following varieties were most pleasing: Europa, a splendid white; Grafin Degenfeld, Negerfurst, and Fred Lauferer.

Mr. F. Brazier, Hardy Plant Nursery, Caterham, arranged a large group of phloxes, carnations, sweet peas, and violas. The phloxes were fine in size and colour.

ORCHID COMMITTEE.

A magnificent group of Disa grandiflora came from Mrs. Bischoffsheim, (gardener, Mr. Taylor), Stanmore. The plants were in pots, all carrying splendid spikes of flowers, the development being truly remarkable, and a clear evidence of cultural skill.

A fine plant of Cypripedium Wiertzianum came from Mrs. Temple (gardener, Mr. E. Bristow), Leyswood, Groombridge. It was carrying eleven fine flowers on three spikes.

H. S. Goodson, Esq. (gardener, Mr. G. E. Day), Fairlawn, Putney, sent a few choice specimens, which included plants of Cattleya Crawshayi var. Leopoldi, Sophro-lælio-cattleya de Vere Beauclerc, L.-c. St. Gothard, a form with a splendid purple lip of great substance, also a few fine odontoglossums.

Lieut.-Colonel Sir G. Holford (grower, Mr. H. G. Alexander), Tetbury, staged some splendid plants, the chief being Vanda cærulea. The plants were in a robust state of health, and flowering freely, many of them carrying spikes with fifteen to eighteen flowers. The Westonbirt variety in the group was remarkable for its deep colour and clear marbling.

Messrs. Charlesworth and Co., Haywards Heath, had a nice collection, in which were noted Ærides Lawrenceæ, with four fine spikes, Stanhopea oculata, Cycnoches chlorochilon, Lælia Bella with a well-striped lip, Mormodes luxatum punctatum with eight well-developed flowers, and oncidiums in variety.

Mr. E. V. Low, Haywards Heath, exhibited several choice orchids, the most noteworthy being the beautiful Oncidium Mantini Lowi.

A small collection of botanical species from Sir Trevor Lawrence, Bart., Burford, were certainly an attraction to lovers of these plants. They included the quaint forms of Theodora gomezoides, Dendrobium ciliatum, and a polystachya, the species of which was not determined.

From de Barri Crawshay, Esq. (grower, Mr. W. J. Stables), Sevenoaks, came beautiful plants of Odontoglossum Queen Alexandra, and a fine plant of O. Thwaitesiæ.

Mrs. Norman Cookson (gardener, Mr. H. Chapman), exhibited a very fine variety of Odontoglossum Pescatoreæ Cookson's var., also a fine example of Cattleya Oakwoodiensis, and some hybrid cypripediums.

Messrs. Stuart Low and Co., Bush Hill Park, had a nice display of orchids, which included good examples of Cattleya Gaskelliana, Lælia-cattleya Epicata, L.-c. Lustre magnifica, a lovely form; L.-c. Callistoglossa Ignescens, with a splendid deep purple lip, and a fine example of Cattleya Hardyana.

Messrs. Sander and Sons, St. Albans, had a very nice exhibit of orchids in variety. Some of the most noteworthy were Cattleyas Vulcan, C. Atalanta, C. Lord Rothschild, and Lælio-cattleya Bletchleyensis.

FRUIT AND VEGETABLE COMMITTEE.

The only real exhibit before this committee was a large group of fruit trees in pots from Messrs. Jas. Veitch and Sons, Lim., Chelsea. These occupied a large space on the floor of the hall. The sections represented were peaches, nectarines, plums, figs, and apples. The trees themselves were in splendid health, and all carried full crops of fruit, in fact, some were bearing a double crop. The peaches included fine examples of Marquis of Downshire, Dr. Hogg, Nectarine Peach, Thos. Rivers, Late Devonian, and Prince of Wales. The nectarines were equally well fruited, especially Elruge, Early Orange, Goldoni, and Stanwick Elruge. The figs also were carrying fine crops of ripening fruit.

AWARDS.

First-class Certificate.—To Vanda cærulea Westonbirt variety, from Lieut-Colonel Sir. G. Holford.

Award of Merit.—To Gladiolus Primulinus, from Messrs. Kelway and Son, Langport; to Gladiolus Grafin Degenfeld, from Mr. W. Pfitzer, Stuttgart; to the same exhibitor for Gladioli Europa and Karl Luz; to Oncidium Mantini Lowi, from Mr. E. V. Low, Haywards Heath; to main crop peas, grown at Wisley, Carter's Exhibition, from Messrs. James Carter and Co.; to Magnum Bonum, from Messrs. Barr and Sons; to Satisfaction, Windsor Castle, Yorkshire Hero, from Messrs. Sutton and Sons; to Melon Early Favourite, from Mr. A. E. Smith.

MEDALS.

Gold Medal.—To Messrs. Jas. Veitch and Sons, for fruit trees in pots.

Silver-gilt Flora.—To S. Norris, Esq., for montbretias; to Lieut.-Colonel Sir Geo. Holford, for orchids.

Silver-gilt Banksian.—To Mr. C. W. Breadmore, for sweet peas; to Messrs. Kelway and Son, for gladioli.

Silver Flora.—To Messrs. F. Cant and Co., for roses; to Mr. W. Pfitzer, for gladioli; to Mr. M. Prichard, for hardy flowers; to Messrs. Paul and Son, Cheshunt, for phloxes; to Messrs. Sander and Sons, for orchids; to Messrs. Stuart Low and Co., for orchids.

Silver Banksian.—To Messrs. G. Bunyard and Co., for hardy flowers; to Messrs. Carter Page and Co., for dahlias; to Messrs. Jas. Veitch and Sons, for flowering plants; to Col. G. H. Trollope, for campanulas.

Bronze Flora.—To Mr. J. Box, for phloxes; to Messrs. H. B. May and Sons, for ferns; to Messrs. T. S. Ware, Lim., for hardy plants.

Bronze Banksian.—To Mr. F. Brazier, for phloxes; to Sir D. Gooch, for carnations and chrysanthemums.

The Silver-gilt Lindley Medal.—To Mrs. Bischoffsheim, for Disa grandiflora.

Cultural Commendation.—To Mrs. Temple, for Cypripedium Weitzanum.

West Derby, AUGUST 1.

The nineteenth annual show was held in the Rectory Grounds, by kind permission of the Rev. Percy Stewart. The large marquee was crowded with exhibits, which were fully up to average merit. The weather was delightful, and, judging from the crowded tent and grounds, the committee should be fully satisfied with the results.

In the class for a group of plants, three exhibits were staged, each being highly creditable. The premier combination was well arranged, bouvardias and verbenas being used to great advantage, whilst the crotons, although good, were perhaps rather too freely utilised. The third group was a pleasing one, and if the pots on the extreme edge had been hidden would have taken a higher position. The prize-winners were Mr. George Osborne, gardener to Drs. Tisdall and Ingall; Mr. S. Spencer, gardener to G. Layton, Esq.; and Mr. H. Spencer, gardener to A. H. Jones, Esq.

For a table decoration Mrs. V. Young outclassed her competitors with a pleasing design of carnations.

In the plant classes Mr. G. Osborne secured the first award with a well-flowered ixora; he also had the two best pots of liliums, the best four stove and greenhouse plants with crotons, crinum, etc.; the best six table plants, the best two palms—Kentias Fosteriana and Belmoreana, and the best specimen foliage plant—Areca lutescens. The same exhibitor scored for herbaceous cut flowers, for twelve vases of sweet peas, six tomatoes, and nine vegetables.

Mr. R. Cleaton, gardener to H. McCubbin, Esq., had the leading twelve bunches of annuals, best two dishes of peas, Queen of Marrowfats being good. Mr. I. J. Edgar, gardener to the Rev. Percy Stewart, won for six dishes of vegetables, and had the leading dozen dahlias. Mr. H. Osborne, gardener to Miss Heap, was successful for six distinct kinds of fruit with good black and white grapes, nectarines, peaches, etc.; for six dishes of hardy fruits, for two bunches black grapes (with Black Hamburgh), for two bunches of white grapes, and for twelve roses.

Mr. Ogden had the best carnations and the best bouquet, and Mr. S. Spencer, the leading zonale pelargoniums. Mr. C. Nicoll secured the silver challenge vase for twelve varieties of sweet peas with a fine set.

Prescot, AUGUST 1.

The twentieth annual show of this society was held in the beautiful park of Knowsley, by the kind permission of the Right Hon. Earl of Derby, under the most favourable weather conditions. The entries were not quite up to the average, but the exhibits were good.

For a collection of plants, arranged for effect, Mr. W. H. Roberts, gardener to F. Dixon Nuttall, Esq., was first, and the only exhibitor staging a bright combination, his adiantums and crotons being fresh and bright. For two palms or cycads, Mr. W. H. Roberts was to the fore with a good pair of latanias; Mr. D. McKelvie second. For four stove or greenhouse plants Mr. D. McKelvie led the way with fair specimens; Mr. J. George, gardener to T. Henshaw, Esq., second. In the class for four greenhouse plants in flower Mr. D. McKelvie took the lead, followed by Messrs. W. H. Roberts and J. George. Mr. J. George scored for one stove plant in flower with a well-flowered Clerodendron Balfouri; Mr. D. McKelvie second with a small ixora. Mr. W. J. Roberts scored with a fine plant of Nephrolepis Pearsoni, and Mr. D. McKelvie was second for one specimen fern. Mr. W. H. Roberts had the best hanging basket, and Mr. C. Houghton, gardener to E. S. Eccles, Esq., was first for three caladiums, and for a single plant. Mr. A. Rose was the winner also for four begonias and for gloxinias. For three zonal pelargoniums Mr. W. H. Roberts led with well-bloomed plants. Mr. Roberts was again to the fore with fuchsias, showing well-flowered pyramids.

The best eighteen roses were from Mr. J. W. Barker, his best blooms being Lyon Rose, Mrs. J. W. Grant, and Pharisaer; Mr. C. Houghton second. For six roses Mr. J. W. Barker also led. For twelve bunches of herbaceous cut flowers Mr. J. George staged an excellent collection, and he was first for twelve carnations.

Fruit formed a good section; the grapes were moderate in size of bunch, but well

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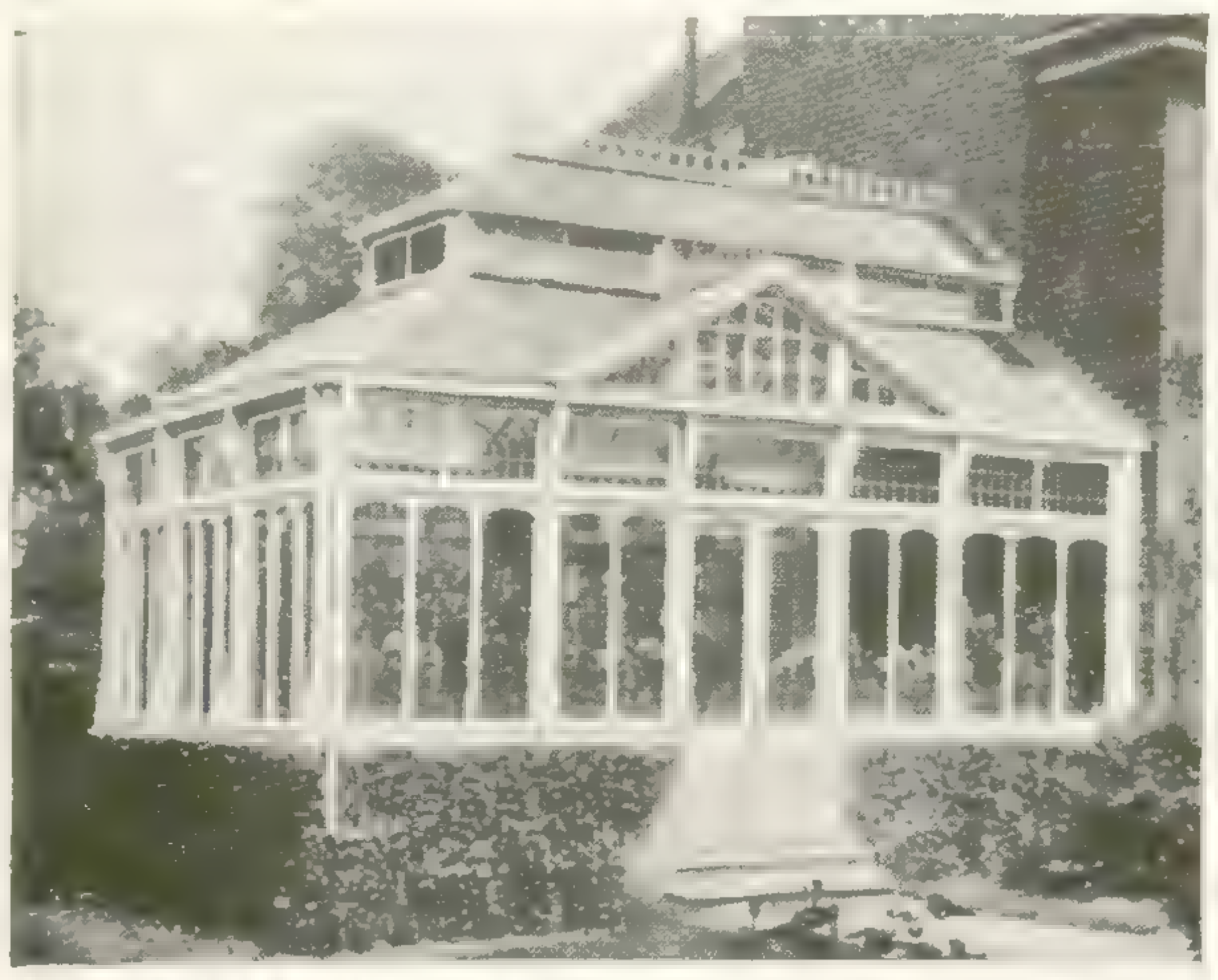

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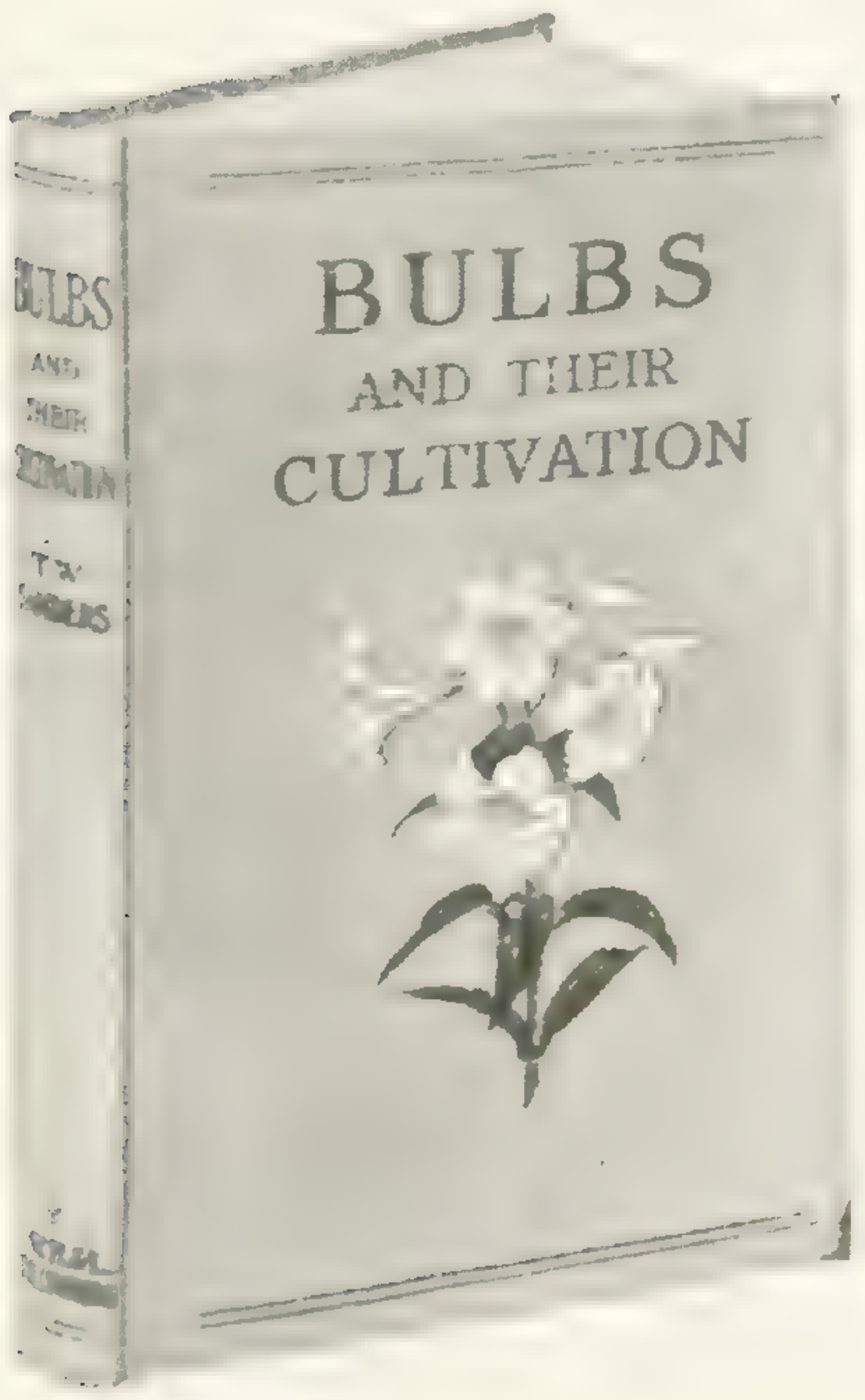

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finished throughout. For four dishes of fruit Mr. W. Oldham, gardener to J. Beecham, Esq., held the position of honour with Black Hamburgh grapes, melon, Downton nectarine, peaches, etc.; Mr. D. McKelvie second with good Pine Apple nectarines. For two bunches Black Hamburgh grapes Mr. D. McKelvie led with good berries, and for two bunches of white grapes Mr. T. M. Nelson, gardener to E. Stapleton Bretherton, Esq., won, while for two bunches of "any other black" Mr. D. McKelvie led with Madresfield Court.

Vegetables were good throughout, and the prize-takers for eight kinds were Messrs. J. George H. McFall, and W. H. Roberts, who were placed as named.

Harborne Gooseberry Show.

The ninety-fifth annual exhibition of the above society was held, as usual, at the Green Man Inn, the venue since its inauguration in 1815—verily a record. The above show was held on the 6th, 7th, and 8th inst., and there were nearly 100 dishes of berries, but as regards size and weight of berry, there was a considerable falling-off from last year's produce, this being attributed to the unfavourable season. Last year's premier berry, Collis Lane, weighed 28dwt. 1gr., whilst this year's premier, Ringer, weighed 22dwt. 5gr., and so on in proportion throughout the exhibits. It is interesting to remark that the champion prize-winner consecutively for the last seventeen years, Mr. Emanuel Withers, had to succumb to his old opponent, Mr. R. Smallwood, on this occasion, who showed Ringer, 22dwt. 5gr., as already stated. The "best beaten berry," 20dwt. 22gr., was shown by Mr. E. Withers. Following the schedule, here is the list of awards: Premier berry, Mr. R. Smallwood, with Ringer, 22dwt. 5gr.; best "beaten" berry, Mr. E. Withers, with Ringer, 20dwt. 22gr.; single red berry, Mr. E. Withers first with Bobby, 22dwt. 4gr.; Mr. William Timmins second with Lord Derby, 20dwt. 15gr.; Mr. C. Corbett third with Dan's Mistake, 18dwt. 17gr.

Single Yellow Berry.—Mr. R. Smallwood first with Ringer, 22dwt. 5gr.; Mr. E. Withers second with Leveller, 20dwt. 3gr.; Mr. G. Nicholls third with High Sheriffs, 18dwt. 9gr.

Single Green Berry.—Mr. E. Withers first with Matchless, 19dwt. 5gr.; Mr. R. Smallwood second with Hockwell, 18dwt. 6gr.; Mr. R. Shepperd third with Surprise, 17dwt. 3gr.

Six Berries, red.—Mr. E. Withers first with Bobby, 122dwt. 12gr.; Mr. G. Nicholls second with five Bobbys and one Lord Derby, 109dwt. 20gr.; Mr. R. Smallwood third with six Bobbys, 106dwt. 3gr.

Six Yellow Berries.—Mr. E. Withers first with three Ringers and three Levellers, 112dwt. 18gr.; Mr. R. Smallwood second with five Ringers and one Leveller, 110dwt.; and Mr. W. Timmins third with five Levellers and one Thatcher, 105dwt. 18gr.

Six Green Berries.—Mr. E. Withers first with four Surprise and two British Oak, 101dwt. 2gr.; Mr. W. Corbett second with Surprise, 94dwt. 2gr.; Mr. H. Giles third with Surprise, 94dwt.

Six White Berries.—Mr. E. Withers first with Transparent, Fascination, and Faithful, 110dwt. 12gr.; Mr. H. Giles second with Fascination, 97dwt. 18gr.; Mr. J. Davies third with Transparent, 93dwt. 4gr.

I will be seen that the redoubtable Mr. Withers, despite his defeat for the premier berry, maintained his long record as an all-round winner and champion.

Bournemouth Gardeners' Association.

The committee met a few evenings since to arrange the programme for the next six months. There was a full meeting, presided over by Mr. J. B. Stevenson. The first event of the next session will be a meeting of the members at Messrs. G. Watts and Sons' Talbot Woods Nurseries, then there will be lectures on "Roses," "Manuring Vegetable Gardens," "Manuring Grass Land," "The Cultivation of the Cineraria," and other useful subjects. Several exhibitions are also arranged, namely: Four classes for dahlias on September 6; Begonias of Gloire de Lorraine type, and six distinct varieties of zonal pelargoniums, three trusses of each, to be shown in vases with any kind of foliage, on December 6; on January 3, three gentlemen's buttonholes, to be shown on boards.

In the dahlia classes two are for the blooms to be shown in one vase, to show how useful this popular flower is for decorative purposes. These small exhibitions lend an added interest to the meetings of the members, and prove highly educational also.

OBITUARY.

◆

EARL SPENCER.

Earl Spencer, who died at Althorp Park, Northampton, on Saturday, August 13, had for a long period held a high position in the political world, and was twice Lord Lieutenant of Ireland. The late Earl was very fond of his estates and gardens, and under his guidance the gardens at Althorp have attained considerable eminence. Mr. Silas Cole, the Earl's gardener, it will be remembered, introduced the waved sweet pea to public notice, and the beautiful variety named Countess Spencer, the first to appear, is still one of the best, while the bright-hued Earl Spencer, a waved Henry Eckford, is another fine variety raised at Althorp.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
1910. August 7 to August 13.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Aug. 7—Sunday	4 48	58	56	71	48
,, 8—Monday	3 0	61	58	67	57
,, 9—Tuesday	0 24	59	57	65	57
,, 10—Wednesday	12 30	59	56	71	51
,, 11—Thursday	9 42	58	55	74	51
,, 12—Friday	5 36	61	60	76	55
,, 13—Saturday	0 54	60	57	69	54
Means	(total) 36 54	59	57	70	53

Date.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
1910. August 7 to August 13.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Aug. 7—Sunday	trace	59	60	59	44
,, 8—Monday	—	62	60	59	54
,, 9—Tuesday	—	62	61	59	57
,, 10—Wednesday	—	61	61	59	48
,, 11—Thursday	0.02	61	61	59	43
,, 12—Friday	—	63	61	59	51
,, 13—Saturday	—	62	61	59	51
Means	(total) 0.02	61	60	59	49

FORTHCOMING ENGAGEMENTS.

TUESDAY, August 23. — Oxford Horticultural Society; autumn show.
THURSDAY, August 25.—Aberdeen Horticultural Society; three days.
Sandy Horticultural Society.
Ellesmere Horticultural Society.
Blaenavon Flower Show.
SATURDAY, August 27.—Hawick Horticultural Society.
TUESDAY, August 30.—Royal Horticultural Society Committees meet at 12 o'clock; lecture on "The Effects of Overhead Electrical Discharges upon Plant Growth," at 3 o'clock, by Mr. J. H. Priestley, B.Sc.; Scientific Committee, 4 o'clock.
WEDNESDAY, August 31.—Glasgow Horticultural Society.
Carlisle Flower Show; two days.
South Shields Flower Show; two days.
Chester Agricultural Society, Horticultural Section.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

MUSHROOM SPAWN.—H. G., Derby: The pieces of spawn used should be 1½ to 2 inches square, and inserted two, or at most three inches, deep in the prepared bed, and nine inches apart each way.

RUST ON CHRYSANTHEMUMS. — F. D. C., Chichester.—The brown patches are evidence of the presence of the rust fungus (Puccinia Hieracii), that is frequently found on chrysanthemums and other composite flowers. Remove and burn the affected leaves and spray the plants with a weak solution of potassium sulphide at intervals of a week or ten days.

ACETYLENE GAS REFUSE.—D. C., Craven Arms: The refuse of the calcium carbide after it has been used in the manufacture of acetylene gas is not so useful for garden purposes as ordinary unslaked or newly slaked lime. If the soil lacks lime the refuse may be used at the rate of about 1½lb. per square yard. The material should be spread on the ground as crops are removed and dug in, in the case of land previously heavily manured. But where trenching and manuring are to be carried out the lime should be applied in the spring or early summer as a top dressing, and hoed in.

SEEDLING RANUNCULUSES.—E. C. C. D., Southborough: If the seedlings are left in the ground all the winter they must be protected by means of frame lights, and a light covering of bracken on the soil. This will keep them from harm during frosty and wet weather. If the tubers are in heavy, damp soil it will probably be a better plan to lift them when the foliage dies down, and plant at once in light, rich, sandy soil in a cold frame, where protection can be given from frost and cold rains or snow. Here they will start into growth early, and may be planted out in April or May. If the soil is light and the position a warm one, then do not lift the seedlings, but protect them as advised above. The seedlings should flower in the third year.

AUTUMN-SOWN ONIONS.—S. H. H., Bromwich: Make a sowing at once and another at the end of the month. Sow thinly in shallow drills on soil that has been well dug, finely broken down, and made firm, but not freshly manured. Thin the seedlings, but not severely, and hoe among them freely. Transfer the strongest plants to a bed of rich soil at the first favourable opportunity next spring and set them out about a foot apart. The utmost care must be taken in lifting and transplanting; plant firmly, water in, and mulch with friable decayed manure, and you will obtain fine bulbs for use or for exhibition at the early summer exhibitions. White Leviathan, Red Rocca, Lemon Rocca, and Ailsa Craig are all good for autumn sowing.

CONSERVATORY WALL. — Homebird, Streatham: The green-covered wall and small border will never be a real success if the bench is permitted to remain in position, because the drip from the pot plants will spoil everything underneath it. In a heated house many subjects could be grown under such a bench, notwithstanding the drip. The little border should be a couple of feet deep, with six inches of drainage (potsherds and clinkers), in the bottom, and good loam mixed with coarse sand filling the upper eighteen inches. In this plant half a dozen small-leaved ivies purchased in pots, and train the growth to the wall. These will soon cling to the wall, and in a year or so completely cover it, and there will be very little trouble in keeping it close and tidy. Hedera caenwoodeana is an elegant little ivy with divided leaves, in which the veins are light-coloured. This would do very well for the wall, but you should visit a nursery where shrubs are grown largely, and choose a small-leaved

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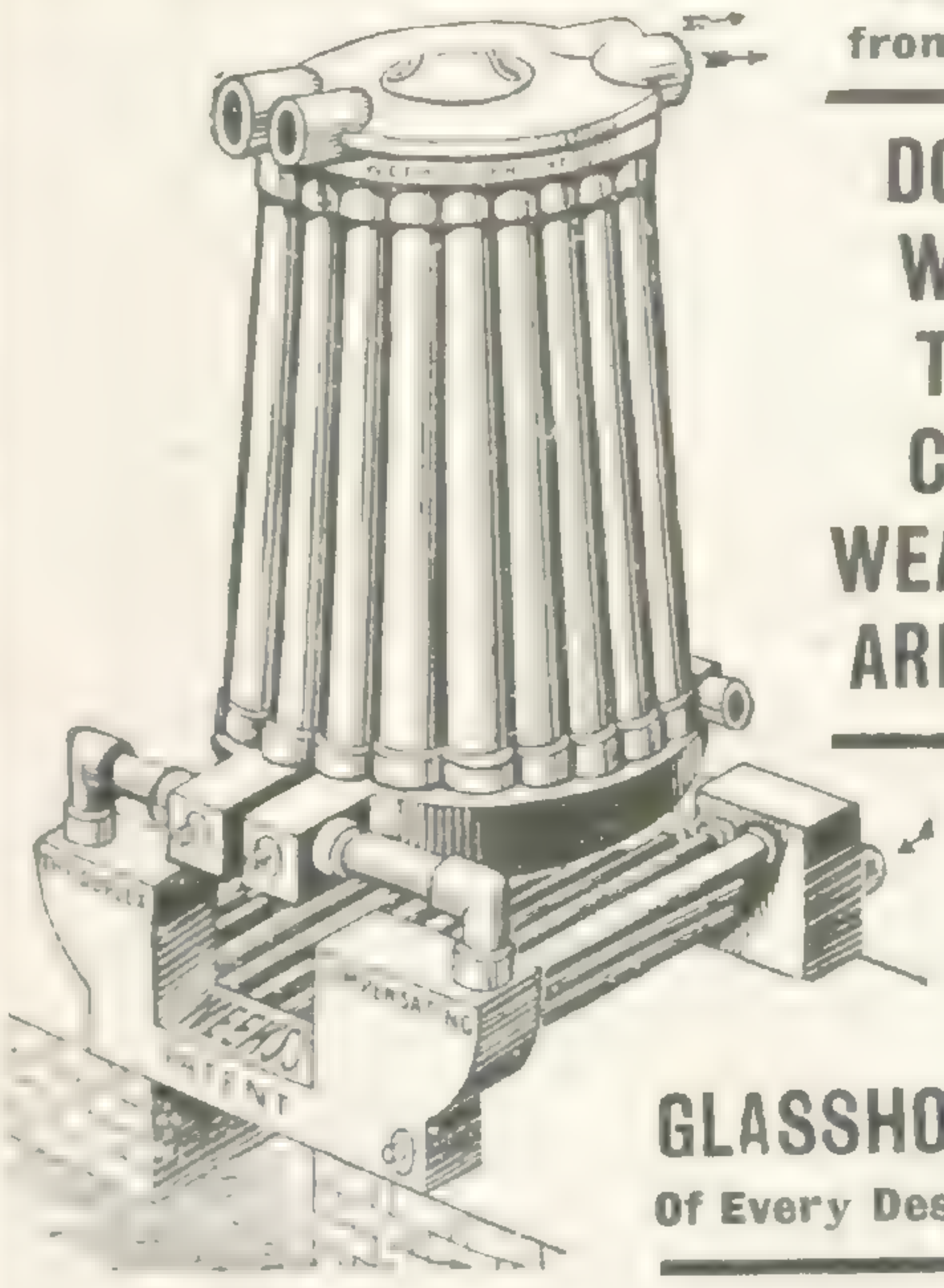

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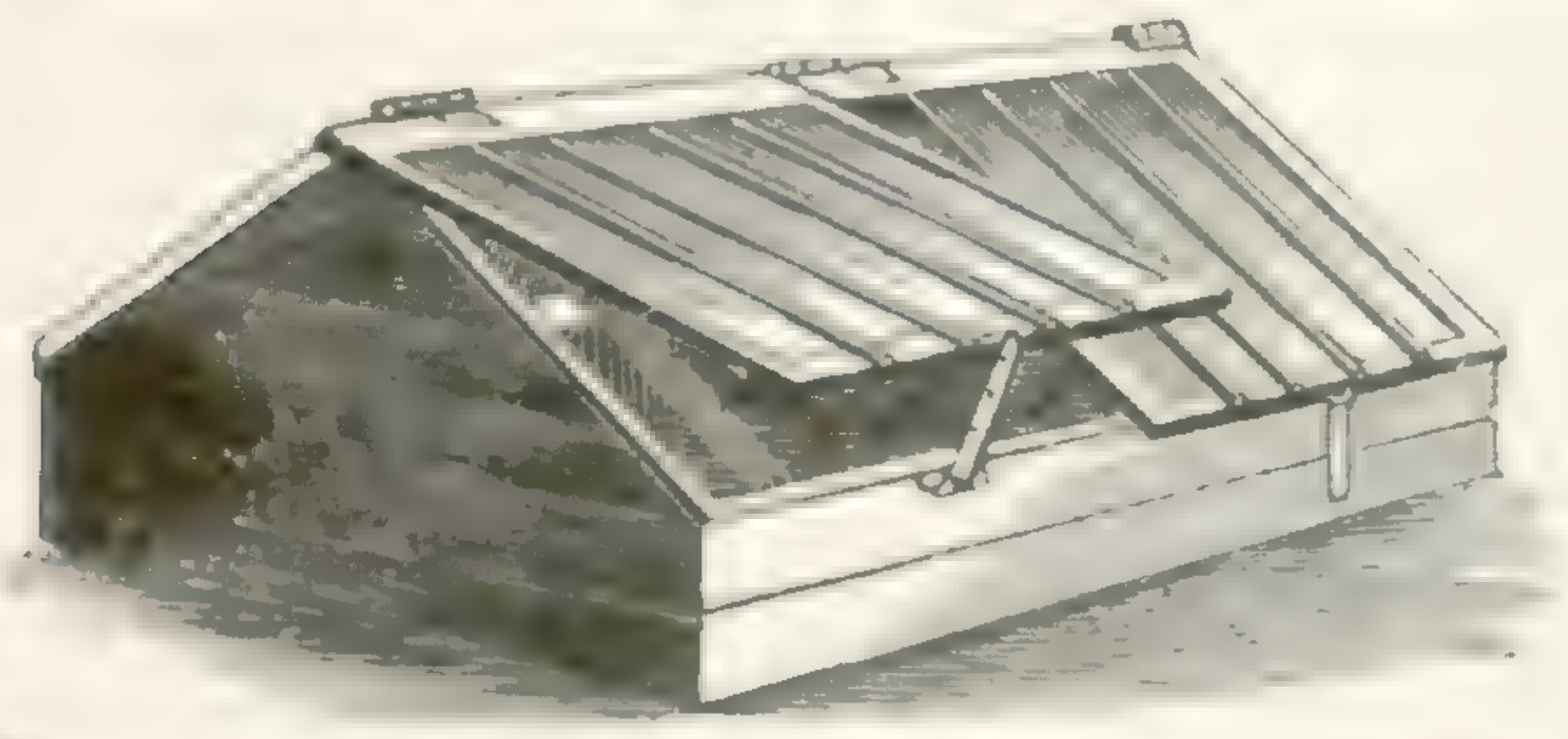

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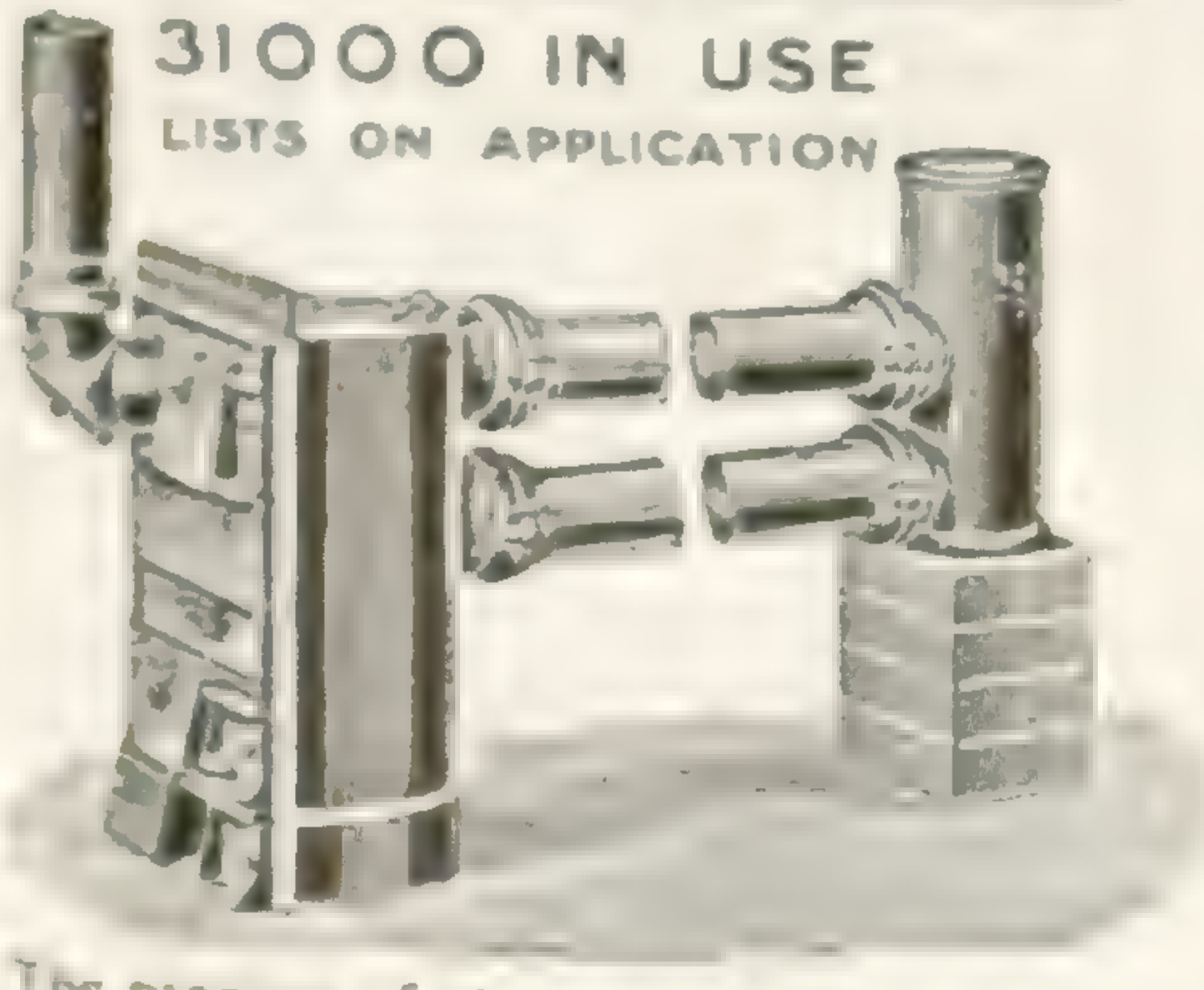

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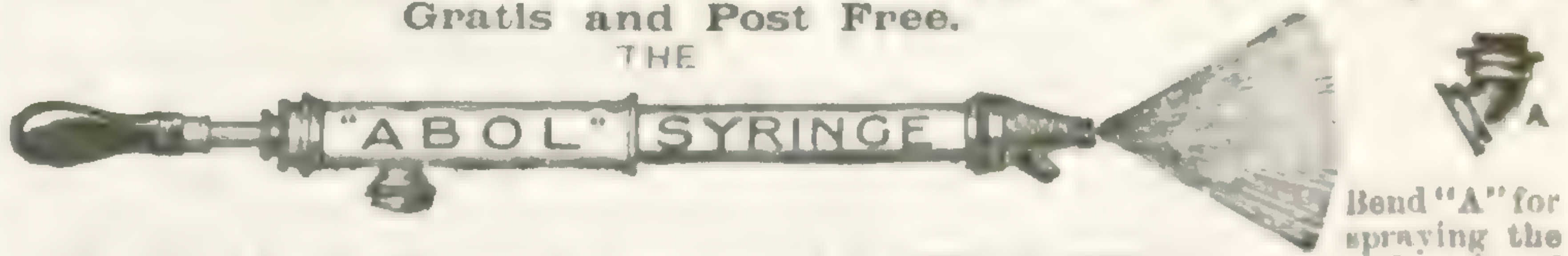

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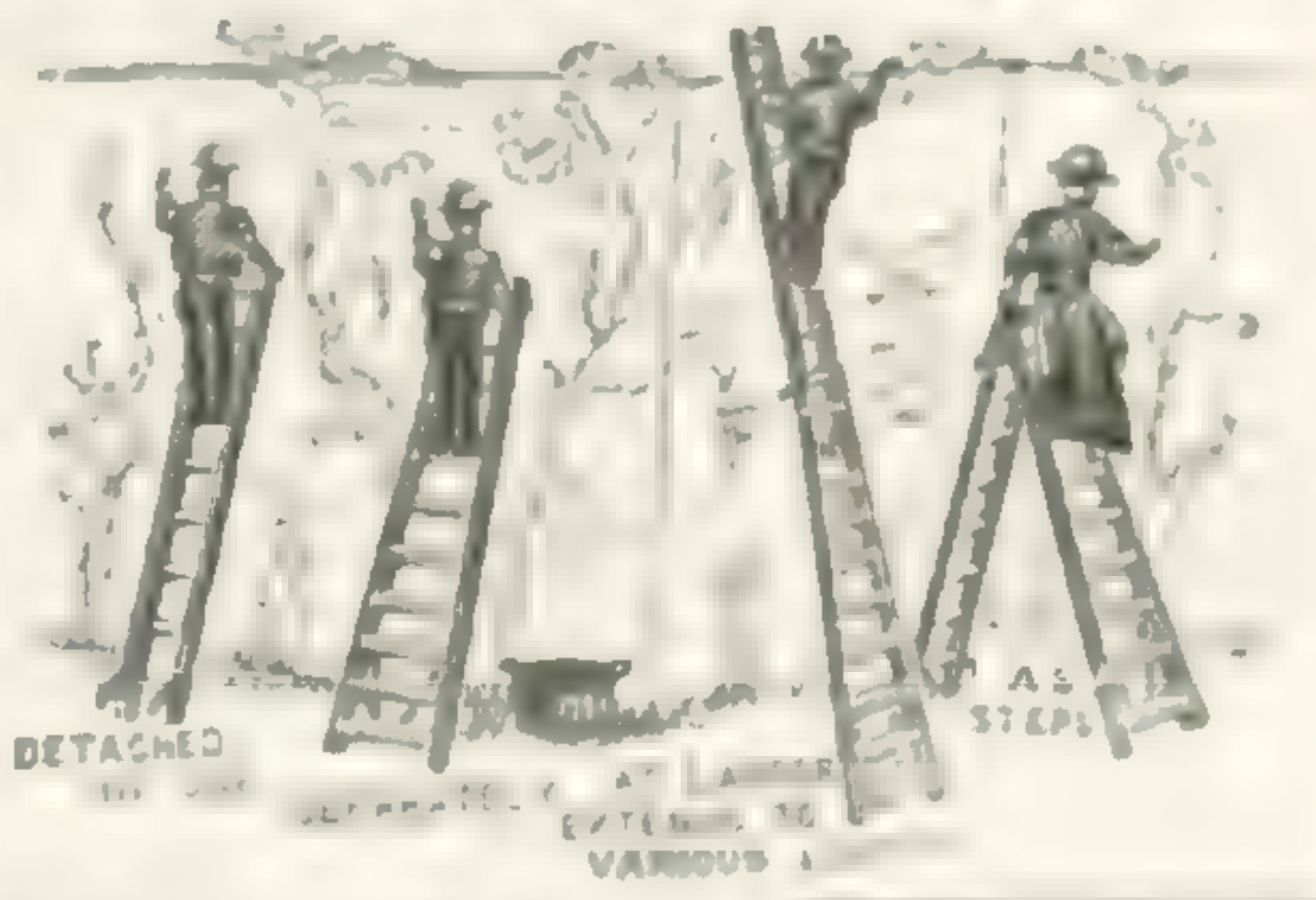

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ivy that pleases you. In front of the ivy plant a few of the better forms of hardy ferns; nearest the ivy put some of the crested Male ferns, and nearer the edge of the border plant some of the beautifully-crisped and crested Scolopendriums (Hart's Tongues). If a few hooks are placed in the wall, at reasonable intervals, it would be possible to suspend flowering or other plants from these in the spring and summer time, as they could be lifted down for watering, but nothing should be hung on the wall all the winter.

PLAGUE OF ANTS.—A. G. N., Missenden: Locate the nests and pour petroleum into them, or use a strong decoction of quassia or alum. The ants in the greenhouses and conservatory may be trapped by means of pieces of coarse sponge and castor sugar. The sponges are laid in suitable places and the sugar sprinkled in them. The ants will crowd into the sugared sponges, and the latter may then be picked up and dropped into boiling water, to be eventually squeezed dry, sugared, and used again. Ants are invariably attracted by sweet things, so that sugar and treacle may be made free use of as baits

HARDY ORCHIDS.—Cotswold, Loughton: Some of the hardy orchids need a limestone or chalky soil, while others are a success in a mixture of loam, leaf-mould, and peat. Some require quite moist conditions all through the year, while others do not need so much moisture. You may get a very good idea of the soil and conditions most suitable by studying the plants, where they grow and flourish naturally, and reproducing those conditions, as far as possible, in your own garden. You can obtain most of the hardy species from those nurserymen who specialise in hardy plants, and advertise in our columns. Many of the hardy orchids benefit from a light mulching of half-decayed leaves during the winter.

RHODODENDRON COUNTESS OF HADDINGTON.—Mr. Thomas Lees, of North Berwick, writes: "Turning back the pages of the Gardeners' Magazine the other day I noticed a reference to Rhododendron Countess of Haddington on p. 592, by "W. T.," in the issue of July 30. The writer states that he has obtained the above variety himself by crossing Rhododendron Dalhousiæ with the pollen of R. ciliatum, and asserts that Mr. W. A. Cook is wrong in stating (p. 486) that R. Countess of Haddington is a R. Nuttalli cross. "W. T." is quite right, as I well remember my father making the original cross and sowing the resulting seeds in 1858 or 1859. He obtained a First-class Certificate for R. Countess of Haddington at Edinburgh in the early sixties, and afterwards the hybrid was distributed by the late Mr. Robert Parker, of Tooting, near London." We are obliged to Mr. Lees for his letter.

NAMES OF PLANTS.

G. W., Wendover.—Oncidium sarcodes.

J. M. E., March.—1, Helenium pumilum; 2, Lobelia cardinalis; 3, Scabiosa caucasica.

R. J. B., Everton.—1, Cedrus atlantica glauca; 2, Funkia Sieboldi; 3, Berberis stenophylla; 4, Campanula isophylla.

South-Eastern Agricultural College, Wye.—The following awards, with others, have been made to students at the close of the 1909-10 session:—Diplomas and certificates. Diploma with honours: H. F. Carter, A. G. Cutler, C. S. Vetch. Diploma: F. A. Bell, L. M. Davenport, E. Deane-Freeman, T. H. Holland, J. H. Mattinson, A. W. T. Nieman, J. A. Pittock, S. Skelton, E. H. Strickland, A. L. Tate, R. Wellington, T. B. Worthington. Certificate: A. C. L. Thomas. Farm certificate: R. B. Strang, C. Sutton-Nelthorpe. Horticulture certificate: T. B. Mathieson, P. P. Scott. Diploma Prizes. Third year: Agriculture, J. H. Mattinson and S. Skelton (equal), prox. acc., R. Wellington; Agricultural Botany, J. H. Mattinson, prox. acc., E. H. Strickland; Agricultural Chemistry, J. H. Mattinson, E. H. Strickland, R. Wellington (equal).

MARKETS.

◆

COVENT GARDEN.

Flowers.

Supplies are fairly large, but the demand is poor owing to the holidays.

		s. d.		s. d.
Adiantum cuneatum	per doz. bun.	6 0	to	8 0
Asparagus	per bun.	1 0		1 6
Asters	per doz. bun.	3 0		5 0
Arums	per doz.	2 0		2 6
Carnations	per doz. blms.	1 0		3 0
,,	per doz. bun.	10 0		12 6
Cattleyas	per doz.	10 0		15 0
Coreopsis	per doz. bun.	1 6		2 0
Cornflowers	per doz. bun.	1 0		2 0
Croton leaves	per bun.	1 0		2 6
Delphiniums	per doz. bun.	4 0		6 0
Eucharis	per doz.	2 0		3 0
French fern	per doz. bun.	0 6		0 9
Gaillardias	per doz. bun.	1 6		2 0
Gardenias	per doz.	2 0		2 6
Gladiolus	per doz. bun.	3 0		4 0
Gypsophila	per doz. bun.	3 0		5 0
Iris	per doz. bun.	2 6		5 0
Lapagerias	per doz.	1 6		2 6
Lilium auratum	per bun.	2 0		3 6
,, speciosum	per bun.	1 6		2 6
,, longiflorum	per bun.	2 0		3 0
Lily of the Valley	per doz. bun.	5 0		10 0
Marguerites	per doz. bun.	1 6		2 0

Fruits.

Business is fairly brisk, and supplies are moderate and steady.

		s. d.		s. d.
Apples, English	per bush.	3 0	to	12 0
Apricots	per box	0 9		1 6
Bananas	per bun.	3 6		10 0
Cherries	per ½-sieve	5 0		12 6
,, French	per ½-sieve	4 0		10 6
Currants, Black	per ½-sieve	6 0		10 0
,, Red	per ½-sieve	5 0		7 0
Figs	per doz.	1 6		6 0
Gooseberries	per ½-sieve	2 6		5 0
Greengages	per ½ sieve	4 0		8 6
Grapes, English	per lb.	0 8		3 6
,, Guernsey	per lb.	0 6		1 0
Lemons	per case	10 0		30 0
Melons	each	0 8		2 0
Nectarines	per doz.	3 0		10 0
Oranges	per case	10 0		16 0
Peaches, English	per doz.	2 0		10 6
Pears, French	per crate	4 0		9 0
,, English	per ½-sieve	2 0		6 0

Vegetables.

There is a steady demand to meet excellent supplies. Runner beans are now arriving in quantity, and marrows are abundant.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	3 0
Beans, Broad	per bush.	2 0		2 6
,, Runner	per bush.	2 0		3 0
Beet	per bush.	2 0		2 6
Cabbages	per tally	2 0		5 6
Carrots	per doz. bun.	2 0		3 0
Cauliflowers	per doz.	1 6		3 0
Cucumbers	per flat	5 0		7 0
Endive	per doz.	1 0		2 0
Lettuce, Cos	per score	0 4		0 10
Marrows	per tally	2 6		5 6
Mint	per doz. bun.	2 0		4 0
Mushrooms	per doz. lb.	7 6		10 0
Mustard and Cress	per doz. pun.	0 6		0 8
Peas	per bush.	2 6		4 6
Radishes	per doz. bun.	0 4		0 10
Parsley	per ½-sieve	1 6		2 0
Spinach	per bush.	1 0		1 6
Tomatoes	per doz. lb.	2 0		3 6
,, Guernsey	per doz. lb.	3 0		4 0
Turnips, new	per doz. bun.	2 0		3 0
Watercress	per doz. bun.	0 3		0 6

LONDON POTATO MARKETS.

Prices are still very favourable, as the demand is moderate.

		s. d.		s. d.
Round	per cwt.	4 0	to	4 6
Kidneys	per cwt.	4 0		4 6
Lincolns	per cwt.	2 9		3 0
Epicures	per cwt.	2 6		3 9
Express	per cwt.	3 3		3 9
May Queen	per cwt.	3 9		4 3
Puritans	per cwt.	2 0		3 0

FOR IMMEDIATE SALE, Owner being hopelessly invalided, a Small Farm and Plantation of young Fruit Trees. Sale of present produce thereon would nearly realise cost. Extent, 14 acres, chiefly meadows and orchards. Comfortable dwelling, good buildings. Many would buy it on sight. Full particulars and view free until sold.

Apply THOS. L. MAYOS, Llangarron, Ross, Herefordshire.

TO HORTICULTURISTS.—For French Gardening, etc.; 8¾ acres of land TO BE LET on high ground at Chingford, Essex; or would be sold freehold. Suitable for glass. Close to rail. Apply PRICKETT and ELLIS, Surveyors, 57, Chancery Lane, W.C.

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For free price list and photos write
F. BEDFORD,
Horticultural Builder, St. Andrew's Road,
Huddersfield.

CATALOGUES RECEIVED.

SUTTON AND SONS, READING. As usual, the Reading firm issues a beautifully got up catalogue of bulbs and uses many charming illustrations. A special feature is made of hyacinths, tulips, and crocuses for bedding purposes, but choice named varieties are also listed and described.

CHRISTOPHER BOURNE SIMPSON, BLETCHLEY. Mr. Bourne, son of the late Rev. S. Eugene Bourne, has taken up daffodil culture professionally after long association with his father as an amateur grower. He issues a very neat descriptive and illustrated catalogue, in which many choice varieties are offered for the first time.

GILBERT AND SON, DYKE, BOURNE, LINCS.—An interesting and freely illustrated catalogue of anemones, bulbs, and sweet peas for autumn sowing.

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GUNN AND SONS, OLTON, WARWICKSHIRE.—An illustrated list of new and choice phloxes illustrated in half tones and in colours.

BARNARDS, LIM., NORFOLK IRON WORKS, NORWICH.—A very interesting and useful catalogue of requisites for the garden, park, farm, and stables. Garden seats are a speciality.

H. N. ELLISON, WEST BROMWICH. A select list of bulbs, ferns, and seeds for autumn sowing. Mr. Ellison sends bulbs on approval.

"**Artificial Manures.**"—We have to acknowledge the receipt of a copy of Professor John Percival's excellent book on "Artificial Manures, and How to Use Them," from Messrs. E. A. White, Lim., Beltring, Paddock Wood, Kent. Professor Percival is the Director of the Department of Agriculture and Horticulture, University College, Reading, and in the course of some twenty-eight pages has succeeded in giving much useful information on the selection and application of artificial fertilisers in the cultivation of vegetable and fruit crops.

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TOO LATE FOR CLASSIFICATION.

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GARDENER (Head Working).—Mr. A. FYFE, Lockshealth, near Southampton, wishes to highly recommend to any Lady or Gentleman, a thoroughly practical man as above, undoubted experience, all branches, gained in first-class establishments; excellent references (5 years' head); married, age 33.

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GARDENER (Under); age 26; outside; good references; disengaged; bothy preferred. A. C., 29, Cornfield Road, Reigate, Surrey.

ESTATE JOINER requires SITUATION: can undertake to keep Property in thorough repair and to collect rents if required; best references. W. E. S., 18, Carrs Hill, Gateshead-on-Tyne.

A LAD age 16 seeks a SITUATION to Clean Knives and Boots, and help in Garden and make himself generally useful; good character. Apply W. NEW, Chewton, Mendip, near Bath.

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The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

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GARDENER (Head, where two or three are kept); highly recommended; would be pleased to forward particulars to any Lady or Gentleman. CLARK, 19, Tanfield Road, Birkby, Huddersfield.

GARDENER (Head of two or three, or good Second); age 28, married; life experience in all branches, Inside and Out; Carnations speciality, highest references from good places. H. LYTH, 7, [illegible] Terrace, Barmouth, N. Wales.

GARDENER (Head); life experience in growing all kinds of fruit and plants, including orchids, also kitchen and flower garden; can be highly recommended. W. LAMBERT, The Common, Kenilworth, Warwickshire.

GARDENER (Head Working or good Single-handed); life experience; 11 years' reference from last situation; married, no family; disengaged. W. HARTNUP, 61, Nichol Lane, Bromley, Kent.

GARDENER (Head Working, where one or two more kept, or good Single-handed); experienced Inside and Out, good references, and recommended; age 27; married when suited. W. CROUCHER, 11, North Terrace, Hythe, Kent.

GARDENER (Head Working, where several are kept); 25 years' experience in all branches, Inside and Out, 15 years as head; well recommended; disengaged Aug 31st. A. LONGMUIR, The Elms Gardens, Blackrock, Dublin.

GARDENER (Head Working or good Single-handed); life experience in all branches; good references from present and previous employers as to ability and trustworthiness; no family. GARDENER, 28, Martell Road West, Dulwich, S.E.

GARDENER (Head Working, where two or more are kept); good all-round; can be well recommended; married when suited; age 36. PEARCE, Ridley, near Wrotham, Kent.

GARDENER (Head Working); experienced in the Cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, etc.; also Hardy Fruit culture, good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working); experienced Inside and Out; good references; age 36; married, two children, youngest 9; disengaged in September. G. BROAD, The Gardens, Brayden Hall, Minety, Wilts.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; prize winner, leaving own request; no young children; youngest 14. W. BLOOMFIELD, [illegible], Kent.

GARDENER (Head Working); good practical experience in all branches, Inside and Out; Early and Late Forcing; excellent references. H. TURNER, Regal Cottage, Kentford, Newmarket.

GENTLEMAN recommends GARDENER (Head of two or three); life experience in all branches; understands formation of new or renovating old gardens; married, one boy 10 years; age 45. PENNELLS, Phœnix Green, Winchfield, Hants.

MR. T. H. USHER, F.R.H.S., Riverhill, Sevenoaks, wishes to recommend H. WOOD to any Lady or Gentleman requiring a GARDENER (Head of three or four), has been here over 11 years as Second.

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GARDENER (Single-handed); married, age 27, seeks SITUATION; experienced Inside and Out; 5½ years' excellent reference last situation. Apply W. G. CONN, 7, Coombe Road, Sydenham.

GARDENER (Single-handed or with help); life experience; highly recommended; age 28; married when suited. WM. MARTIN, Higham, Nuneaton.

GARDENER (Single-handed or with help); age 28; experienced Inside and Out; married when suited; good references. A. RAYFIELD, 130, Lavenham Road, Southfields, Surrey.

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GARDENER (Single-handed or otherwise); good all-round man in all branches, or handy man on gentleman's estate; good at either; willing to be useful; active and reliable; good character; age 45; married, one child. OSBORNE, 48, Bradshaw Road, Watford.

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JOURNEYMAN (First, Inside or Inside and Out) by Young Man, 21. 2 years' excellent reference present situation, four previous. J. TURNER, Strelly Hall Gardens, Nottingham.

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MR. J. SHELTON, Wildernesse Gardens, Sevenoaks, Kent, will be pleased to recommend A. BOOKER as JOURNEYMAN (Inside); age 21, 4 years' experience. Apply as above.

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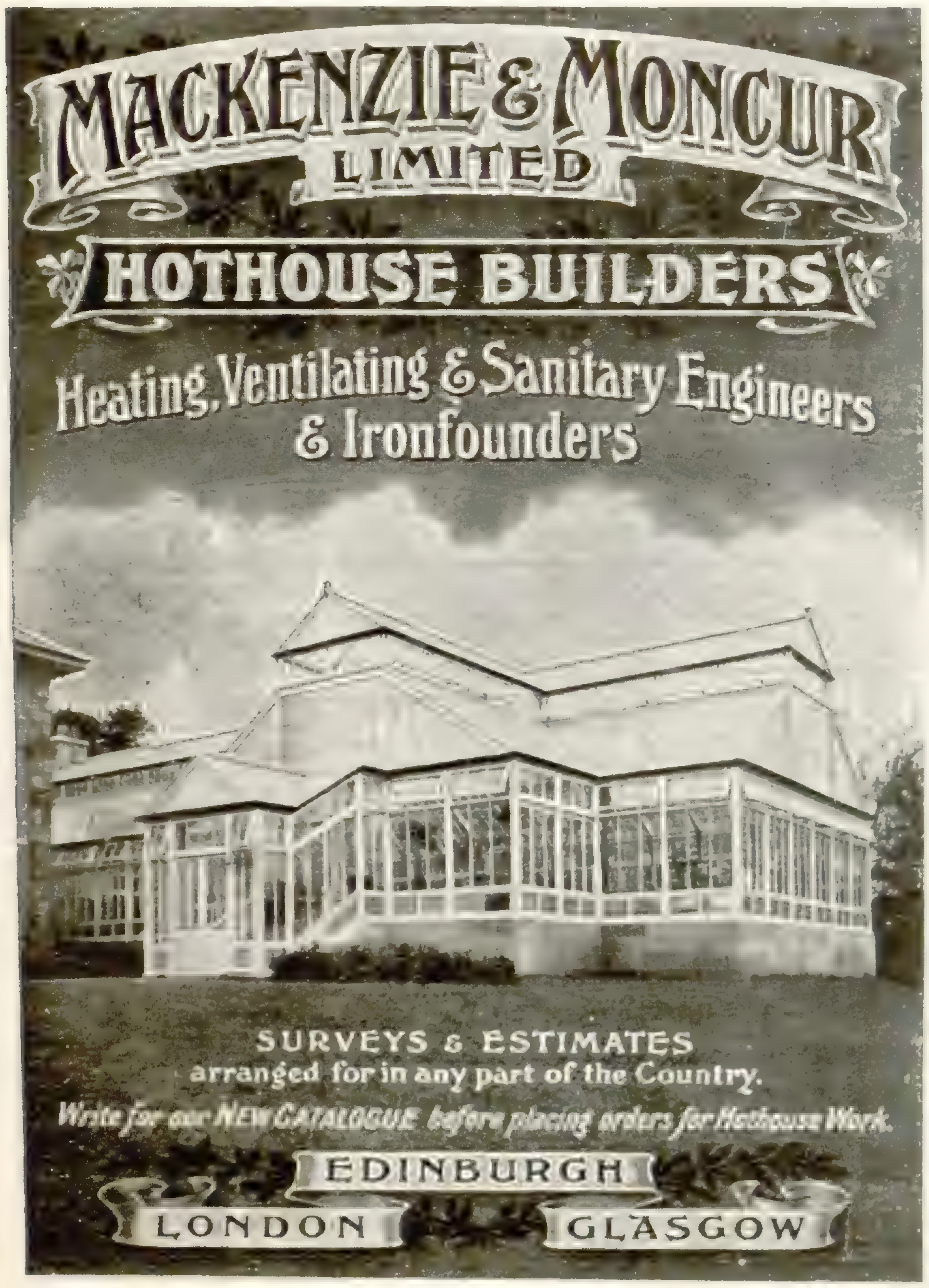

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THE GARDENERS' MAGAZINE.

No. 2,965. Vol. LIII.
Reg. at the G.P.O. as a Newspaper.

SATURDAY, AUGUST 27, 1910.

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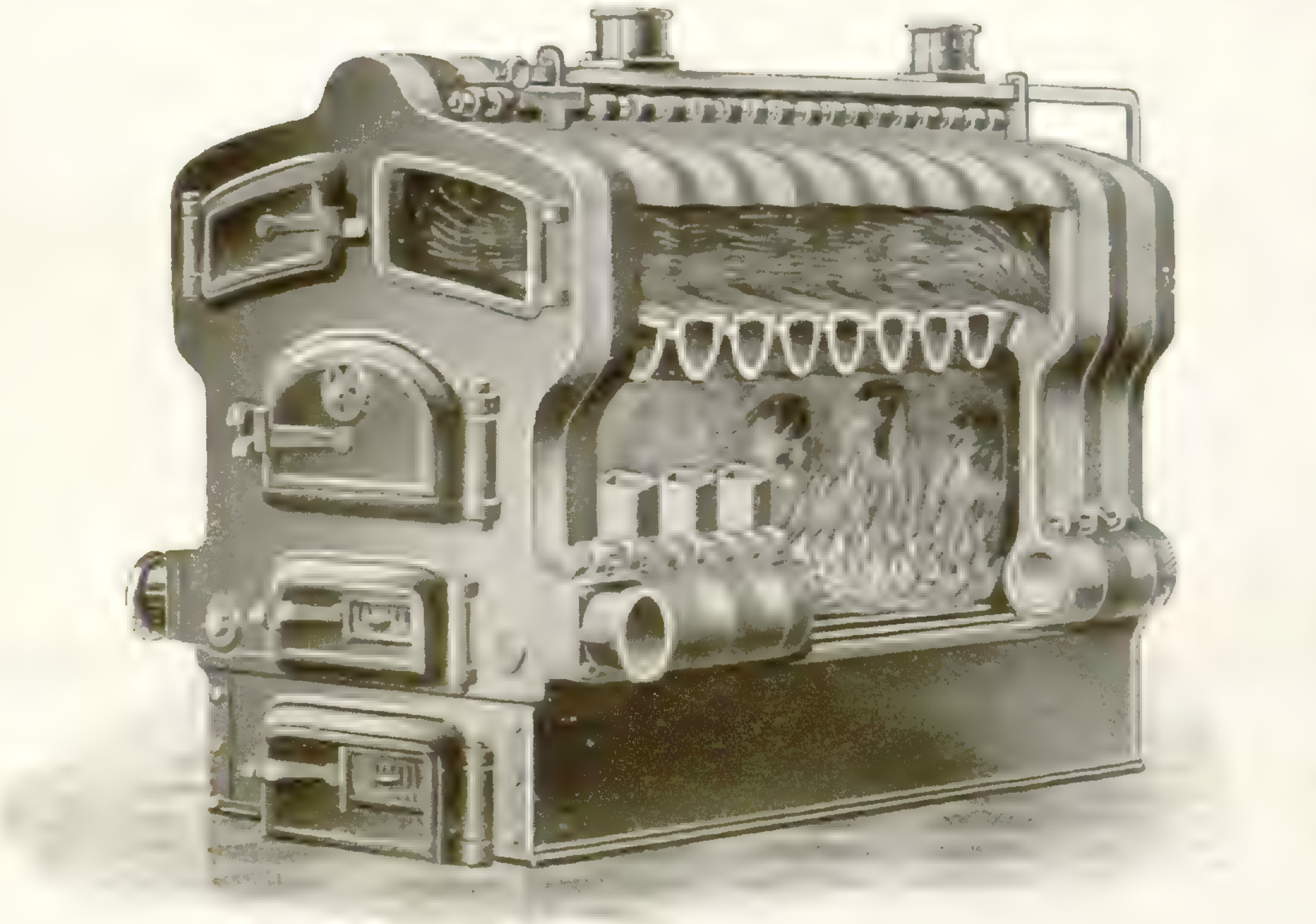

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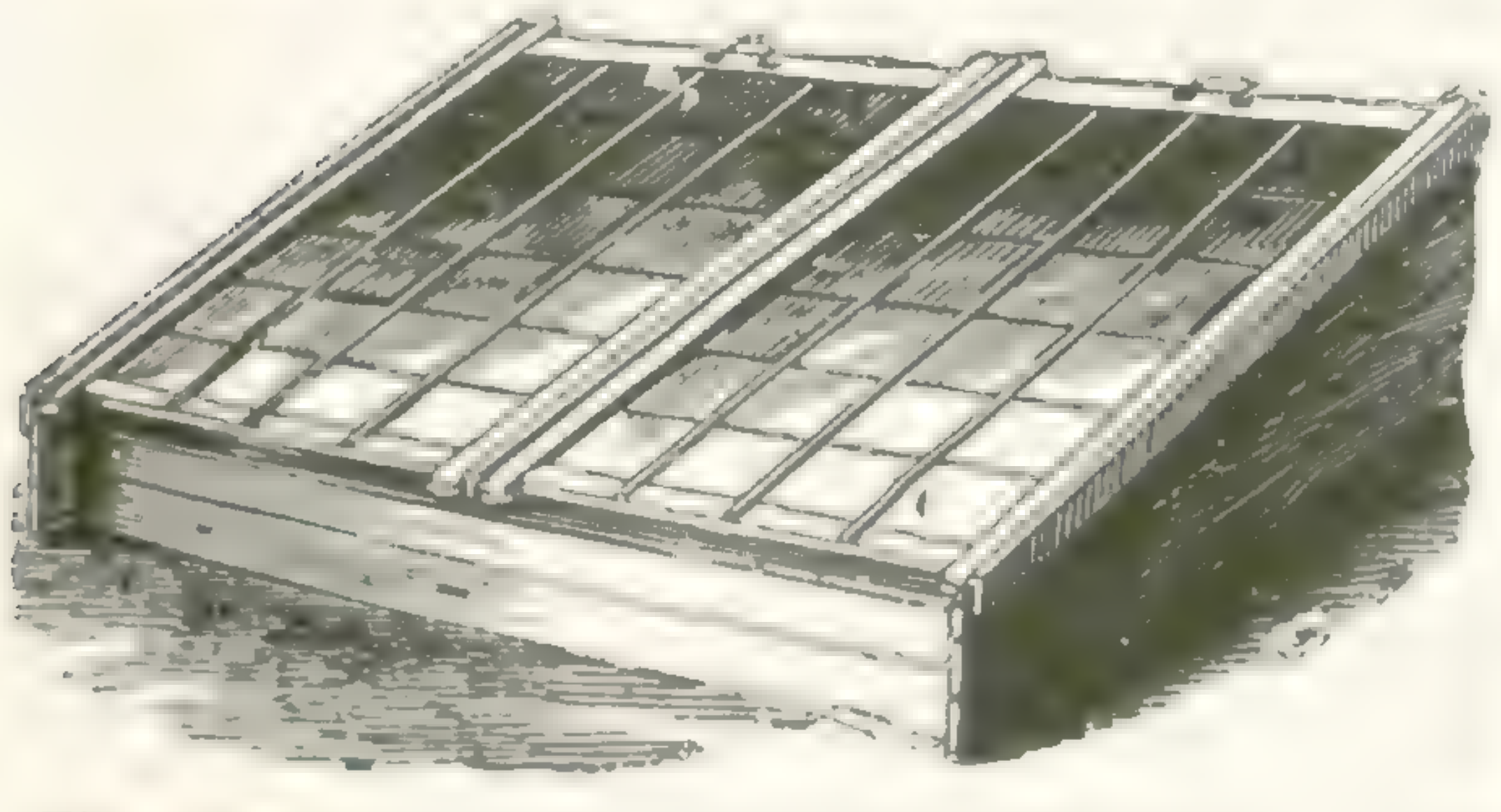

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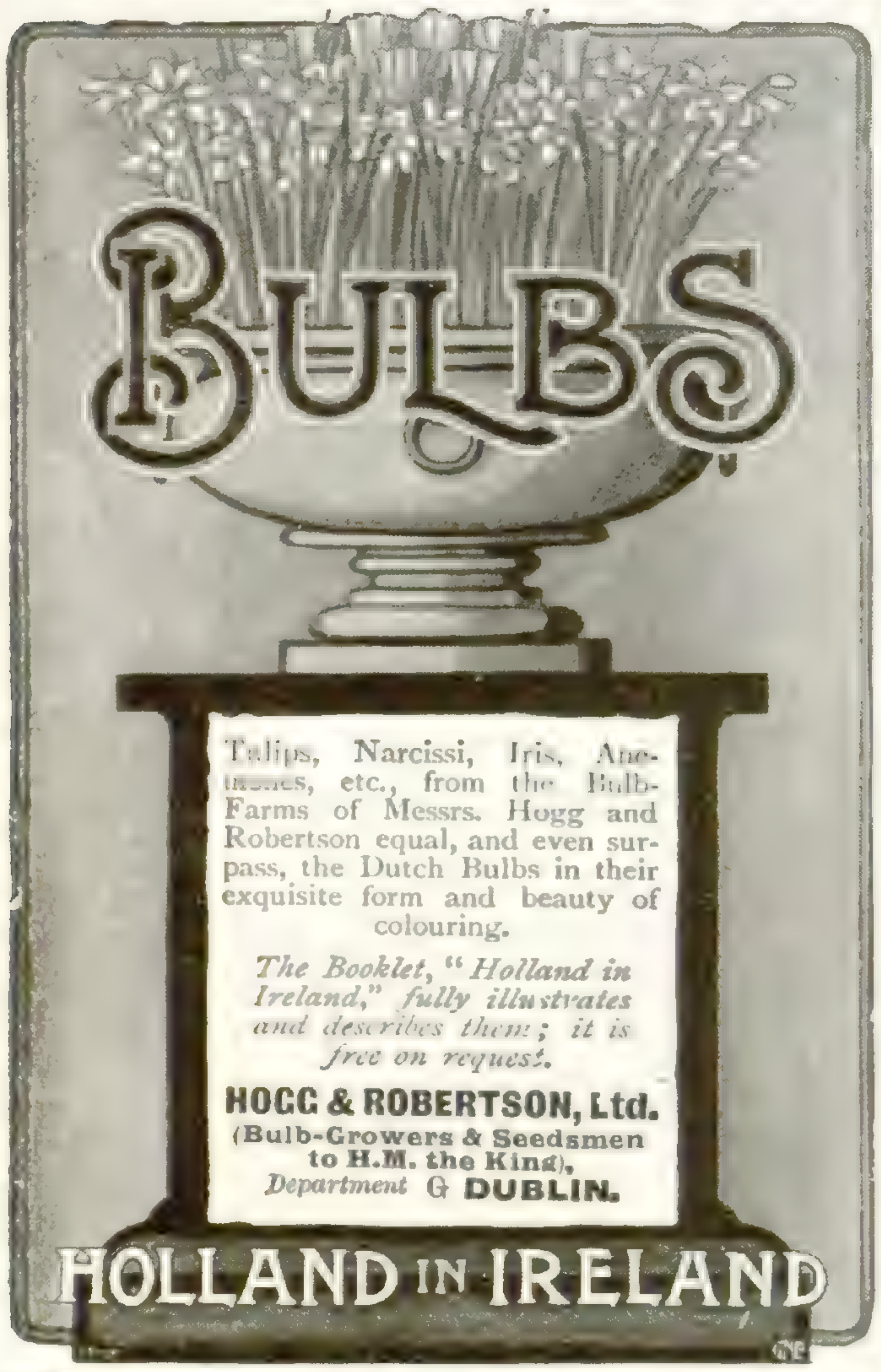

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VOL. LIII.—No. 2,965 SATURDAY, AUGUST 27, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

A National Hardy Plant Society.

As will have been gathered from the announcement we were able to make in our issue of the 20th inst., it was decided at a meeting held in Shrewsbury, on the evening of the first day of the floral fête, to form a special society in the interests of hardy plants, and that in accordance with this decision a committee was elected for making the necessary arrangements in connection therewith. We have no sympathy with those who would multiply special societies unnecessarily, for, unless a society has ample justification for its existence, it cannot possibly become sufficiently strong to do useful work, and afford encouragement to either cultivators or raisers of the class of plants with which it is associated. There are not wanting proofs of this; but for our present purpose it will suffice to say that a special society to serve a useful purpose must be organised on such lines as to appeal with considerable force to those who are specially interested in the plants, flowers, fruits, or vegetables with which its name is associated, possess abundant vitality, and be prepared to undertake work that is not done by any existing body. We may assume that those who are responsible for the promotion of the National Hardy Plant Society will make strenuous endeavour to formulate a scheme of work that will obtain for it the support of those who fully appreciate the charms of hardy flowers, and are anxious to see them properly represented at public exhibitions; that they will initiate a policy having the advantage of novelty, and carry it out with the necessary vigour. If the promoters succeed in doing these things, there will be justification for the existence of the society, and the cause of hardy plant culture will be advanced. There is, we need hardly say, much that might be accomplished in the improvement of hardy flowers, in the methods of their culture, and in the manner of presenting them to public notice at the exhibitions. Notwithstanding their ever-increasing popularity, but little has been done for them by existing societies, except to offer prizes for so many bunches or kinds, and this not always in a satisfactory manner. Not infrequently the conditions governing the competition for prizes for hardy flowers are so faulty as to occasion much perplexity to exhibitors, and to lead now and again to disqualification of the collections when judged by those who are fully conversant with the fact that carnations, pentstemons, and plants of similar habit are not "herbaceous" in growth, or, in other words, do not die down annually and produce new growths from the base. A society that will be able to impress upon the framers of schedules the necessity of clearness of statement in the drafting of conditions, and to suggest classes that will ensure an adequate representation of the more important kinds at the exhibitions, will render useful service. This alone will not be sufficient to ensure a full measure of success. The society should, and indeed must, hold exhibitions that will in some degree serve as models for general societies. For the sake of clearness we have assumed for the moment that the society will chiefly concern itself with hardy perennials that yield so freely of their floral wealth during June, July, and August, but it does not necessarily follow that it will do so. On the contrary, we shall be much surprised if the promoters do not take a much broader view of their responsibilities, and avoid setting so great a limitation on the society's opportunities for usefulness. The question, What is a hardy plant for the purposes of the society? has not, we may assume, been formally discussed, much less determined by those engaged in promoting the society. They have doubtless their views upon the point, but a decision having much practical value could not be arrived at until some progress has been made with the work of formation. The question will, of course, have to be considered at an early period, and we shall await with much interest the answer given, because upon this the success of the initiatory stages will depend. The term "hardy plants," includes so wide a range of subjects as to impress one with the impracticability of any one organisation successfully dealing with them. There are the hardy perennials, whether herbaceous or not, in almost endless variety, including the daffodils, the early and late flowering tulips, the hyacinths, the winter and spring flowering crocuses; there are British and other ferns in large numbers; there are the annuals almost innumerable, and then there are the hardy trees and shrubs remarkable for the beauty of their flowers or foliage, or for nobility of aspect or elegance of habit. A society embracing all these classes of plant life would, unless we are much mistaken, be practically impossible, because of the diversity of interests that would have to be considered and adjusted. By the exclusion of the arborescent and ligneous forms of vegetation, the ferns and the annual flowers, there would be a concentration of interest; but a National Hardy Plant Society that does not recognise the hardy annuals would fail in some degree to justify its name. When these important groups are excluded the question will have to be considered whether the daffodils and the tulips shall be left to the societies specially devoted to them, or be brought within the scope of the new society's operations. How far it will be possible to give equal encouragement to the rock plants flowering in spring, and the more robust border plants that bloom in the summer and autumn, remains to be seen. There cannot be any material differentiation in their treatment, and the holding of several exhibitions in the year will involve a heavy annual expenditure. Another point of interest is the arrangements for making awards to meritorious novelties, for these will have an important bearing upon the usefulness and welfare of the society. New species

MR. JOHN HUDSON.

and varieties as they make their appearance must be carefully examined and awards made to those deserving distinction, and the difficulties in the way of doing this by a society that does not hold meetings periodically throughout the year are great because of the long period over which the flowering of hardy perennials extends. Let us hope these matters have had due consideration, and the foundations be so laid as to make it possible for the society to render good service in the cause of hardy plant culture.

Mr. John Hudson, whose portrait is given herewith, has by means of unquestionable skill and remarkable energy obtained for himself a foremost position among the great cultivators of vegetables for exhibition in this country, and, having had opportunities for seeing the products of his skill at the exhibitions, we have no doubt as to his maintaining the high position he occupies. Mr. Hudson has a market garden or nursery about two acres in extent in the midst of about 70 acres of allotments in the borough of Leicester, in which he grows produce for the local market. He has from the first been a strong believer in growing a few things in large quantities, and in growing them well, and we may see at one time from 15,000 to 20,000 lettuces, and at another the same quantities of celery, with half an acre or so of choice varieties of potatoes, chiefly seedlings of his own raising, and some 3,000 roots of rhubarb for forcing. There are in the nursery ten glass structures, which are chiefly devoted to bedding plants, chrysanthemums, cucumbers, tomatoes, and rhubarb. Mr. Hudson commenced exhibiting vegetables in 1894, when Up-to-Date potato was a novelty, and his crop was so good that Mr. Harrison persuaded him to show two dishes at the exhibition held by his firm. He exhibited with the potatoes six heads of celery, and was awarded three first prizes. This induced him to devote some share of his attention to the cultivation of vegetables for exhibition, and during the sixteen years that have elapsed he has been awarded upwards of 1,200 prizes, the majority in the keenest of competitions. For some years past Mr. Hudson has annually won at Leicester, where vegetables are a great feature, the first prize in each of the five or six classes for collections against a large number of competitors; and a considerable number of first prizes in the single dish classes. While Mr. Hudson has been successful in winning so large a number of prizes, there are some contests that are strongly fixed in his mind, and of which he is justly proud. At the Abbey Park Show at Leicester, in 1903, he had the honour of winning the first prize in the open class in competition with Mr. E. Beckett, V.M.H. In the following year Mr. Hudson was successful in winning in nearly the whole of the potato classes at Messrs. Fidler and Son's exhibition at Reading, and had the champion dish in the show. In November of the same year he staged fifty-four dishes of potatoes at the Spalding Exhibition, and won in every class provided by the society. Eight years ago Mr. Hudson turned his attention to Shrewsbury, and exhibited there with much success; but it was not until 1909 that he achieved the distinction of obtaining premier honours in the champion class, and this he did against such formidable competitors as Mr. J. Gibson and Mr. Ben Ashton. It may be mentioned as a point of some interest that Mr. Hudson grows his vegetables for exhibition more as a hobby, and quite apart from his business.

International Horticultural Exhibition, 1912.—We are informed that it has been decided to hold this exhibition in the grounds of the Royal Chelsea Hospital, which, it may be mentioned, were laid out by Sir Joseph Paxton. The area leased to the exhibition authorities, including the Ranelagh Gardens, is about twenty acres, of which nearly sixteen acres will be available for the accommodation of the exhibits. The grounds of the Royal Hospital are easily reached from all sides of London, and entrance to them can be obtained from the Embankment on one side and Bridge Street on the other.

Working Men's Flower Show at Edinburgh.—For nearly half a century there has been annually held in Edinburgh an exhibition of cut flowers, window plants, and vegetables grown by the working classes who live within the city boundary, and the show, which was held a few days since in the Corn Exchange, was one of the best of the series. There were over 1,000 entries, and there was a good competition for the prizes offered by Mr. Mackenzie for produce grown in the poorer parts of the city. Bailie Smith Elliott distributed the prizes, and in the course of an interesting speech expressed the opinion that it was the duty of city corporations to encourage gardening among the working classes; and he mentioned that the Parks Committee of the Edinburgh Corporation had, on his suggestion, given for some years past seeds and plants to those who desired to grow flowers in their window-boxes.

Gardeners' Wages at Glasgow.—For some time past a movement has been on foot with a view to obtain an increase in the wages of the men employed in the public parks and gardens under the control of the Glasgow Corporation. We are informed by a Glasgow correspondent that at a recent meeting of the Parks Committee, Councillor H. Forsyth's motion, recommending an increase of the gardeners' wages, was adopted, and that the recommendation is now before the Finance Committee.

Groups of Plants at Chesterfield.—At the exhibition of the Chesterfield Horticultural Society the groups of plants arranged for effect formed one of the many fine features of the display. The competition in the class for groups, each occupying a space not exceeding 180 square feet, was of much interest from the fact that two of the prizes were taken by amateurs. The first prize of £20 was awarded to Mr. W. Haslem, Hardstoft, Chesterfield, who is an engineer by profession, for an extremely beautiful group, in which caladiums, crotons, humeas, lilies, orchids, and palms were freely employed. Mr. W. Holmes, Brampton Nurseries, was a good second, with admirably-grown plants that were arranged with much taste; and Mr. T. Butler, of Tibshelf, who at one time was engaged in mining, won with a beautiful group, in which rambling roses were employed with much taste. Mr. H. Rodgers, of Leicester, and Mr. G. Taylor, of Alfreton, who were fourth and fifth, also had meritorious groups. Mr. W. Haslem and Mr. W. A. Holmes were first and second also in the class for smaller groups with tasteful arrangements.

Ghent Quinquennial, 1913.—The provisional programme and schedule of the International Horticultural Exhibition, to be held at Ghent in 1913, afford evidence that the Council of the Royal Agricultural and Botanical Society of Ghent are not less mindful of the points essential to success in carrying out international gatherings than they have been in the past. There are 763 classes in the schedule, and these are divided into 27 groups. The first of the groups is devoted to new plants, and the second to orchids, which, as on the occasion of the centenary of the society two years ago, have liberal provision made for them. In this group there are 78 classes, and these range from classes for collections on which there is no limit down to those for single specimens, Stove plants, remarkable for the beauty of their flowers or foliage, have seven groups devoted to them. Greenhouse plants are not less liberally provided for; and it need hardly be said that azaleas and rhododendrons have a prominent position in the several groups set apart for plants grown in cool houses. The exhibition will be held at the end of April, 1913, on dates yet to be fixed, and schedules may be obtained of M. Ceuterick, general secretary of the society, Ghent.

Electricity and Plant Growth.—At the meeting of the Royal Horticultural Society on Tuesday next, 30th inst., Mr. J. H. Priestley, B.Sc., will deliver a lecture on "The Effect of Overhead Electrical Discharges upon Plant Growth." The lecture will, as usual, commence at 3 o'clock.

R.H.S. Medal Awards.—Mr. E. V. Low informs us that he was awarded a silver Flora medal for orchids at the last meeting of the Royal Horticultural Society.

Wart Disease of Potatoes.—The Board of Agriculture desire us to remind growers of potatoes that it is their duty, under the Destructive Insects and Pests Order of 1910, to report to the Board all outbreaks of wart disease, otherwise known as black scab of potatoes, cauliflower disease, "fungus," etc., in counties in which no officer has as yet been appointed by the local authority to receive reports. The penalty for neglecting to report disease is £10. The presence of disease should be again reported this year, notwithstanding the fact that it may have existed and been reported last year. A leaflet describing the disease may be obtained on application to the Secretary, Board of Agriculture, 4, Whitehall Place. Letters so addressed need not be stamped.

School Gardens.—In a circular issued by the Education Department, containing suggestions for the consideration of teachers and others concerned with the work of elementary education, it is pointed out that the garden makes two powerful appeals to those who wish education in our public elementary schools to be more practical; it leads to the formation of habits of thoroughness, and it is eminently useful. But it may also be dealt with on a much higher plane. The purpose of the garden should be to educate boys and girls, and not merely to show them the usual ways of cultivating the common vegetables and flowers, or to practise them in the manual operations of gardening. The scholar must be led to understand the reasons of the common processes in their relation to the soil and climate, the causes and conditions of health or disease in plants, and something of the principles on which the selection and improvement of seeds and plants depend. It is, indeed, a branch of nature study rather than a training for a profession, and it has two great advantages over many other branches: it produces visible and tangible results—thereby appealing forcibly to the utilitarian instincts of the child—and it does not, or should not, degenerate into the series of disconnected object-lessons of little educational value that sometimes passes under the name of nature study. Gardening has, it is suggested, another great advantage over other subjects in that it is essentially experimental. Set experiments cannot easily be made because the areas are far too small for inequalities of the ground to be smoothed out; indeed they may be wholly misleading. But throughout the scholar is trying and trying again, observing his results, attempting to account for his failures, and to devise better methods for the future. The teacher has to strike the happy mean between doing too much for the scholars, thus relieving them of the responsibility of thinking, and of doing too little, and leaving them overwhelmed with a sense of failure.

A Sportive Phlox.—To a recent meeting of the R.H.S. Scientific Committee, Mr. J. Douglas contributed flowers from the plants shown on August 31 last year, which until then had produced white flowers, but were then flaked with lilac. These plants had been carefully marked, and had this year produced flowers almost entirely white, but with slight touches of lilac in them. The calyx was purple.

Land Valuation.—From the Land Union, whose offices are at St. Stephen's House, Westminster, we have received a copy of the "Guide," which has been drawn up for the purpose of assisting owners of property in filling up the Government valuation forms. The "Guide" has been prepared by the committee of the Land Union with considerable care, and as this body is composed of men engaged in the practical management of all kinds of property (including land devoted to horticultural purposes), the publication should be of considerable service in clearing up doubtful points.

The Blue Rose Again.—When our American friends make a real effort at description they generally produce wonderful results. With the rambling Rose Veilchenblau as subject, the following description was given in a circular sent out by an enterprising American florist: "It is here at last, and it has remained for this first decade of the twentieth century, which has seen the discovery of the North Pole, the practical application of the flying machine, and development of many other heretofore 'impossible' things, to witness this latest triumph in the realm of growing things—The Blue Rose. The easiest way to describe it is to say it is a Blue Crimson Rambler—that is, imagine a climbing rose with all the strength and vigour of the Crimson Rambler, covering immense spaces with its wondrous heavy canes and large, splendid foliage, and bearing immense trusses of roses, all the way from twenty to one hundred in number, but, instead of the gorgeous crimson flowers we all know so well, picture it in your mind with similar clusters of exquisitely beautiful violet-blue roses. The rose world is wild about the blue roses, and we expect even our enormous stock of the plants to be speedily exhausted. This wonderful production of the heretofore elusive colour in the rose world is a seedling from the Crimson Rambler discovered by a poor German florist. What a beautiful effect can be produced by having a red, white, and blue Rambler all trailing on the same porch, fence, or trellis, forming the national colours, or even on the lawn, or in the rose garden. It is a mistaken idea that ramblers have to have a support: they can be grown very successfully in bush form."

NOTES FROM KEW.

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Greenhouse Flowers.

The greenhouse at Kew, No. 4, is just now particularly gay, in fact it is furnished with a wealth of blossoms from end to end, and that, too, despite the fact that some of the summer flowering subjects are now past their best. The different liliums just now contribute their share to the floral display, chief among them being the variable Lilium auratum, and its distinct and massive-flowered variety, platyphyllum or macranthum. Lilium speciosum is represented by different coloured forms, most of them being in masses or clumps, that is to say, three or more bulbs are apparently grown in one pot, the result being several stems, and, when needed for grouping purposes this method is, generally speaking, preferable to putting each bulb in a single pot. Lilium longiflorum, too, is in good condition, and a very pretty semi-circular group is formed of this lily, alternated with a deep red variety of Nicotiana Sanderæ.

The practice of arranging plants in groups or masses prevails more at Kew now than was at one time the case, and several pleasing effects are in this way produced. A number of tall, stately plants of both the blue and white varieties of Campanula pyramidalis, bordered by somewhat shorter specimens of the Bridal Wreath (Francoa ramosa), make a noteworthy group, and flowering examples of many kinds of agapanthus all brought together are both attractive and interesting. Beside the typical A. umbellatus is one bearing the varietal name of maximus, but though the name is decidedly appropriate, the colour of the flowers is quite pale, and very different from the maximus generally met with in nurseries, which is, except in vigour, a counterpart of A. umbellatus itself. The pure white variety is also well represented at Kew, and so is the double-flowered form, which rarely opens in a satisfactory manner. Mention, too, must be made of A. Mooreanus, with rounded heads of flowers. This is totally deciduous, and is the hardiest of the agapanthuses.

A large group of heliotropiums attracts by reason of its fragrance, a feature in which some of the newer kinds are much lacking, while a number of bushy plants of Alonsoa incisifolia have been for months thickly studded with their bright orange-red blossoms, and bid fair to maintain the display for a long time yet. Begonias, too, of course, contribute just now a considerable share to the floral display, notably the large, bold-growing kinds, such as B. coccinea, B. Luzerna, and B. President Carnot, while the bushy-growing B. Corbeille de Feu is equally desirable for greenhouse decoration or for bedding out. The tuberous-rooted varieties are freely represented, an interesting feature being furnished by flowering examples of some of the original species from whence these numerous garden forms have sprung.

The different plants commonly employed for greenhouse decoration, such as fuchsias, pelargoniums of various classes, especially the members of the ivy-leaved section, and cannas, all combine to form a wealth of colour, while of more uncommon subjects worthy of especial note are: Campanula Vidali, an almost shrubby species from the Azores, with spreading spikes of drooping urn-shaped blossoms, in colour waxy white, stained with yellow at the base; Lantana salviæfolia, a delightful plant for draping a roof in the greenhouse, though rarely employed for the purpose. It is the same as Lantana delicatissima of parks and gardens. The two large-growing calceolarias, namely, C. Burbidgei and C. integrifolia, are valuable for greenhouse decoration at this season, while a pretty little white-flowered, continuous-blooming plant is Matricaria mondeana, which appears to be a form of M. inodora.

Victoria regia.

This magnificant water lily, from the Amazon, which has formed, perhaps, the subject of more notes than any other plant grown solely for its ornamental qualities, is doing well at Kew this year. The magnificent leaves are in good condition, and the flowers, though perhaps scarcely proportionate in size to the foliage, are nevertheless very striking.

Impatiens Hawkeri ignea.

Quite recently I noted in the Gardeners' Magazine the success attending the culture of the typical Impatiens Hawkeri in the intermediate portion of the T range. There is now in the same structure another very striking balsam in flower, under the name of Impatiens Hawkeri ignea. Its general appearance would almost suggest that it may be the result of a cross between Impatiens Hawkeri and I. Holsti. At all events, the stems and leaves are paler than those of I. Hawkeri, while the flowers are of a warm orange-salmon tint, with a tiny violet-purple marking in the centre. This newcomer should prove a welcome addition to the members of the balsam family that require a warm house for their successful culture.

Ixoras.

When specimen plants lost their popularity many subjects quickly declined in favour, and among them were the different ixoras, but of late these have come more prominently forward, owing, in all probability, to the fact that they flower well in a small state, and are at their best at this season, when bright-coloured flowers in the stove are by no means numerous. A group of them in the warmest portion of the T range shows these shrubs at their best. Particularly noticeable among those in bloom are Ixora macrothyrsa (or Duffi, as it is often called), with long leaves, and huge heads of bright crimson blossoms. This is a true species, while of garden forms the best are I. Westi, pink; I. Dixiana, I. Prince of Orange, and I. Williamsi, all of some shade of orange or salmon.

Clerodendron squamatum.

This is not widely removed from the better known Clerodendron fallax, but as the two are now flowering side by side in the intermediate portion of the T range, the points of difference can be readily noticed. In C. squamatum the flower panicles are more dense than in C. fallax, though the individual blooms greatly resemble each other. The leaves, however, form the most markedly distinguishing feature, for though somewhat alike in shape and size, those of C. fallax are very hairy, whereas in S. squamatum they are a good deal thinner in texture, and much smoother.

Cæsalpinia Gilliesi.

This South American shrub, which is also known by the generic name of poinciana, is now in flower trained to the front of Museum No. 2. In general appearance it rather suggests an attenuated form of Acacia lophantha, but the flowers are very different. In this cæsalpinia they are borne in large terminal racemes, the colour being yellow, with long, prominent red stamens, thus giving a fluffy appearance to a head of bloom. The beauty of the flowers well repays close inspection, but as when trained to a wall the branches mount upward considerably this is not always possible. K.

PROBLEMS UNDER CANVAS.

I will undertake to say that every reader of these lines has at some time or other formed one of the crowd in the tent on flower show morning, and observed the hurrying and skurrying which often takes place in order to get the stuff staged in readiness for the judges. At such a moment one can think out a few of the problems which present themselves under canvas, some of which may readily be solved while others are more difficult, but in their way they involve show officials, exhibitors, judges, and even the visiting public. Problem one: How does the secretary manage to keep his temper on show morning? Some, I know, hopelessly lose it for the time being, and they are deserving of some sympathy, but others (and a good many of them) keep calm, contented, and good-humoured through it all. Well, it is all a question of human nature, first, on the part of the man himself, and, secondly, on the part of the individuals he has to deal with, but all men are not cut out to be show secretaries.

Problem two: How to enforce punctuality at local shows. Dear reader, have you never been asked as a judge to be at a show, say, at ten o'clock, and, when you have arrived, you have been informed that the exhibits were not quite ready? You have waited about for an hour or more before the tents were cleared, and then you have had to rush through your work at a pace which was unfair to the exhibitors. This is the kind of thing that ruffles judges. But how different things are at the show where everything is ready at the time appointed, and one has ample time to carefully examine everything that is presented for inspection. Here again it is a question of method, or lack of it. A good secretary, who is backed up by a working committee, is always punctual, and never seen rushing about on show day, because he makes his arrangements beforehand; but my sympathy is extended to the secretary who finds himself deserted by his committee at the time when he most wants them, i.e., on flower show day. And struggling along alone as best he can, it is no wonder the man gets behindhand, and earns for himself the unenviable reputation for being unpunctual.

Here we have a problem which an exhibitor is trying to solve. He is standing before a collection of vegetables, with a thumbed schedule in one hand and a half-inch stump of lead pencil in the other. A second prize card rests on the collection in front of him (his own, by the way), and, on the next, there is the first prize card. No, he is not a cantankerous, dissatisfied exhibitor, but just an ordinary human being, trying to find out where he is beaten with the object of doing better next year, but the competition is so close that he cannot see where the other man gained the advantage. Who can help this man to solve his problem? The judges might have done it easily enough if, when they pointed up the collections, they had put a card on each exhibit showing the marks they had given to the individual vegetables. In regard to this matter I would add that cards for the purpose should be provided at all shows, and these should be filled up by the judges and placed on the collections. If this were done the problem which puzzled our friend would no longer exist.

A few days ago four judges and a flower show secretary were partaking of a well-earned lunch after a hard morning's work when an excited individual entered the tent, apologised for intruding, and stated that he wished to lodge a protest against another exhibitor. It happened in this way. The schedule asked for a collection of annuals, twelve varieties, and in selecting his flowers the injured one had been careful to keep to one colour in cornflowers, coreopsis, etc., while the man objected to had mixed the colours, and the contention was that he had more than the specified number of varieties. I am aware that the schedule meant species, instead of varieties, and should have said so, but the problem is, supposing you show a bunch, say, of salpiglossis, or cornflowers, containing half a dozen different coloured flowers, is each one to be taken as a separate variety? If so, the judges in question were wrong in upholding their decision, and not allowing the protest, but perhaps some readers of the Gardeners' Magazine will let us have their views on this particular problem.

There is still some confusion amongst exhibitors at shows in respect of the words "kind" and "variety," and at a certain show, not long ago, a man exhibited black and red currants in a collection as distinct kinds. Another competitor pounced on it, promptly decided, to his own satisfaction, that the black and red currants were distinct varieties, but not distinct kinds, and, on these grounds, he lodged his protest. The problem was discussed in quite a hearty manner, but I am not quite sure whether the protester was convinced when it was pointed out to him that the red currant (Ribes rubrum) and the black currant (Ribes nigrum) represented different species, and, consequently, were distinct kinds, with just as much difference as there is, say, between the black currant and the gooseberry (which is Ribes grossularia). Varied opinions were expressed by the suporters on both sides, but one man, I noticed, was quite happy about it, namely, the individual who showed the red and black currants, and still retained the prize card.

Sometimes judges are faced with little problems that are out of the ordinary way of things, and in which prompt action is essential. As a case in point, two judges were making their awards at a show where there is a spirit of very keen rivalry amongst the exhibitors, and, as is usual, the tent was cleared, and they had it all to themselves. The classes for potatoes and onions were duly disposed of, and the judges were going on to the collections, when one of them noticed the toes of half a dozen pairs of boots showing under the canvas wall of the tent. The individuals who stood in the boots were, of course, listening to the remarks of the judges, oblivious of the fact their understandings were betraying their presence. One of the judges grasped the situation, motioned to his colleagues, pointed a finger at the row of shoe toes, and observed in a loud voice, "I think before we go any further we'll judge those boots under the table." The problem of eavesdropping was solved, and the way those boots vanished was positively amusing.

There is a problem, not a pleasant one, by the way, which local flower show committees have to deal with, and it is that of the dishonest exhibitor. It is hard to believe that men are unscrupulous enough for the sake of winning a few shillings in prizes to exhibit produce as their own which they have not grown, but, unfortunately, there are, and this kind of thing has wrecked more than one show. Not infrequently other exhibitors know about the dishonesty, or have suspicions, but cases are not easily proved, and men who show straight themselves hesitate about making themselves conspicuous by raising protests. Instead of doing this, they talk amongst their neighbours, cease exhibiting, and the show gets in bad odour. There is only one way of dealing with the problem of the dishonest exhibitor, and that is for the committee to take the responsibility of investigating the first suspicious case, and, if necessary, making an example of the offender. In fact, there is no other proper course, for if dishonest exhibiting is winked at, this is really admitting that it is tolerated. H.

GRAPE PRINCE OF WALES.

It would be interesting and instructive to me, and probably also to other readers of the Gardeners' Magazine, if cultivators of the Prince of Wales grape would be good enough to give their experience of it, and I, especially, should be grateful if successful growers would explain in detail their made of treatment.

We secured a young vine when it was distributed, and inarched it upon an old one of Alnwick Seedling, but have so far been unsuccessful in our attempts to obtain good results, its defects being imperfect setting of the fruit and scalding of foliage, and so bad in each case are these failings that the rod is quite a disfigurement to the house that contains it. The vine gives large clusters of inflorescences freely, but the flowers open badly, owing to the "cap," in most cases, remaining fixed in such a way as to cause difficulty in removal, even by artificial means, and when unnaturally taken away, the anthers and pistil often adhere to it, and even when this does not happen, and the "cap" is free, but little pollen is produced. The vine is excessively robust in growth, both in wood and leaves, and to this the uncommon nature of the blossoms, as alluded to, may possibly be correctly attributed; or could it be rightly laid to the effect of the stock?

Alnwick Seedling is well known, at any rate under some conditions, to require artificial treatment in order to ensure a perfect set of fruit. I recollect, if my memory serves me rightly, that the late Mr. W. Thomson, skilled grape grower as he was, failed, in the first instance, with it owing to its bad setting character, and destroyed a house of it at Clovenfords after the first season the vines blossomed: after taking this step, however, it occurred to him that if the glutinous matter that formed upon the pistil, and thus prevented fertilisation, was removed by the aid of a syringe, the difficulty would be overcome. We had at that time, like Mr. Thomson, failed to set this grape, but after adopting his suggestion we were among the first to exhibit it in good condition.

I have observed but comparatively few remarks in the gardening Press about the Prince of Wales grape. Is this because it has been generally found to be unsatisfactory? Only on one occasion have I noticed it exhibited, and then, I believe, by Mr. T. Heron, gardener to H. B. Brandt, Esq., last autumn, at one of the R.H.S. meetings held at Vincent Square, when he staged some good bunches of it among other varieties in a collection of grapes.

T. Coomber.

The Hendre Gardens.

NEW PLANTS, ETC.

VANDA CÆRULEA WESTONBIRT VARIETY.

A remarkably distinct and handsome variety of this beautiful species. The flowers are produced in bold spikes, and range from four to five inches in diameter, and the sepals and petals are of great breadth, and richly veined with deep blue on a light blue ground, the lip violet-blue. F.C.C., R.H.S., August 16; Lieut.-Colonel Sir George L. Holford (orchid grower, Mr. H. G. Alexander), Westonbirt, Tetbury.

ONCIDIUM MANTINI LOWI.

A handsome form, remarkable for the large size and fine form of the flowers, which are produced in compact spikes; the colour is deep lemon-yellow, with pale-brown markings on petals, sepals, and lip. A.M., R.H.S., August 16; Mr. E. V. Low, Vale Bridge, Haywards Heath.

BULBOPHYLLUM VIRESCENS.

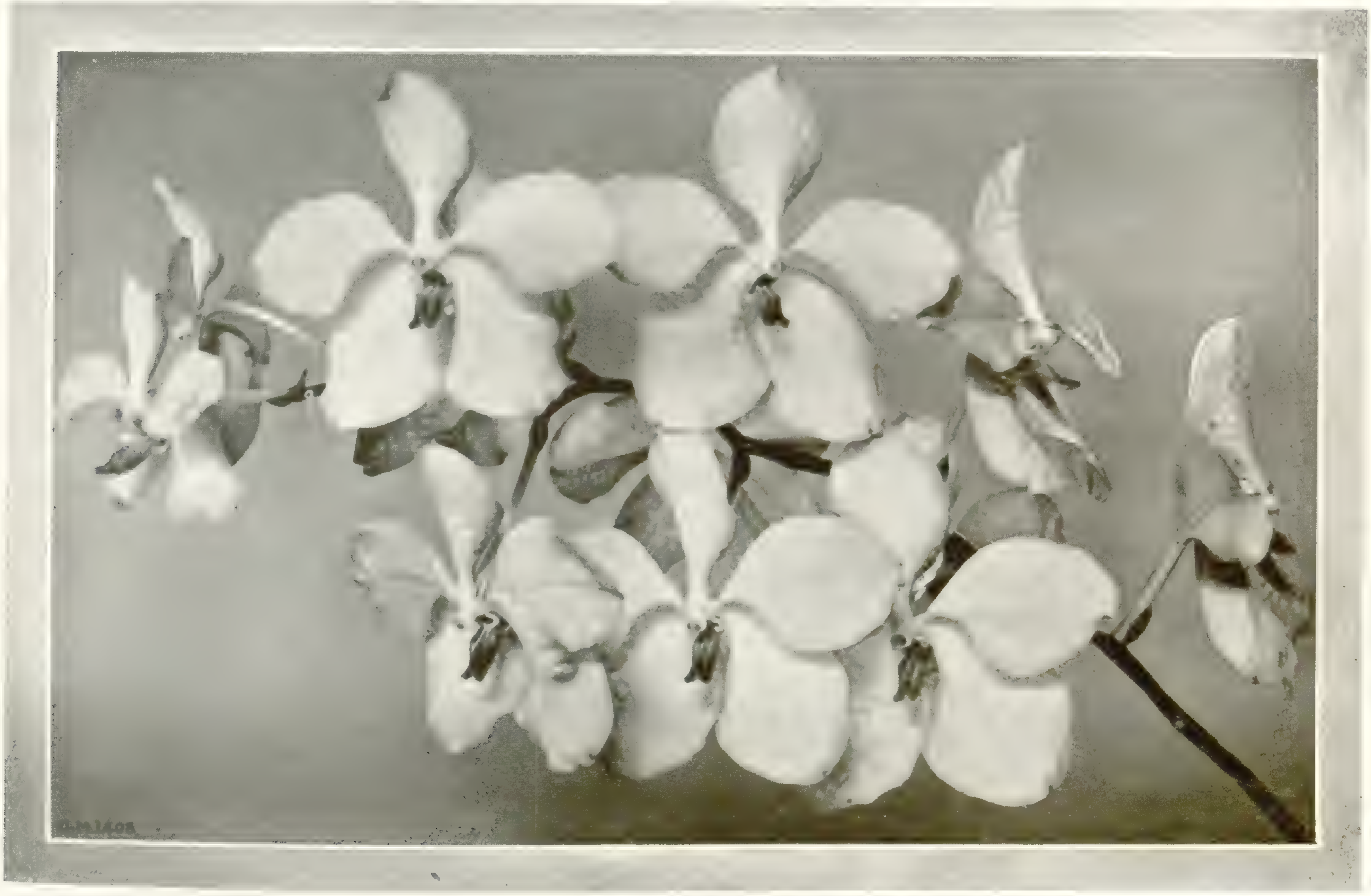
An attractive species, first described ten years since from specimens collected on Mount Tuna, in the island of Amboina. The flowers are large, pale yellow-green with brown veins. "Bot. Mag.," t. 8,327.

PATRINIA TRILOBA.

A hardy herbaceous perennial, native of Japan, and bearing with considerable freedom cymes of yellow flowers. This species has the advantage of being successfully cultivated without any special difficulty. It thrives in the rock garden at Kew, and blooms freely in July and August, the two months in which its flowers are produced in a wild state. "Bot. Mag.," t. 8,327.

PTEROSTYRAX HISPIDUM.

A hardy Japanese tree remarkable for the beauty of its flowers, which are borne in profusion in June. The flowers are pure white with bright yellow anthers, and are borne in drooping panicles. The tree has proved quite hardy at Kew, and in gardens in the south-west parts of Ireland there are trees that have attained to a height of 40 feet. "Bot. Mag.," t. 8,329.



VANDA CÆRULEA WESTONBIRT VARIETY.
A remarkably handsome form, the flowers very large and chequered deep blue on a light blue ground. F.C.C., R.H.S., August 16; Lieut.-Colonel Sir George L. Holford.

BEGONIA MARTIANA VAR. GRANDIFLORA.

A charming variety of this well-known begonia, distinguished by its strong growth and the relatively large flowers, which are rose-pink and freely-produced in July. "Bot. Mag.," t. 8.322.

IRIS CLARKEI.

A beautiful species, first met with in 1848 by Sir J. D. Hooker, who found it on Tonglo, and also on the Yakla in Sikkim at about 10,000 feet above the sea level. It was subsequently gathered by several other botanists, among them being Mr. C. B. Clarke, to whom it was dedicated by Mr. Baker. Under cultivation it grows to a height of some three feet, and bears flowers about three inches in diameter, the colour rich purple. "Bot. Mag.," t. 8.323.

PHILADELPHUS DELAVAYI.

A moderately vigorous growing species, first introduced to European gardens by the Abbé Delavay, who collected seeds in Yunnan in 1893. The flowers are white, tinted with rose in the bud state, and they are about one inch in diameter, fragrant, and produced profusely. "Bot. Mag.," t. 8.324.

GLADIOLI.

Primulinus. — A distinct and elegant species, introduced from Central Africa a few years since, and bearing rich yellow flowers. A.M., R.H.S., August 16; Messrs. Kelway and Son, Langport.

Europa.—A beautiful pure white variety with large finely-formed flowers. A.M., R.H.S., August 16; Mr. W. Pfitzer, Stuttgart, Germany.

Karl Luz.—An effective variety, bearing large deep crimson flowers. A.M., R.H.S., August 16; Mr. W. Pfitzer.

Gräfin Degenfeld.—A distinct and attractive variety; the flowers are soft yellow, marked with crimson on the lower segments. A.M., R.H.S., August 16; Mr. W. Pfitzer.

MELON EARLY FAVOURITE.

A distinct green-fleshed variety bearing rather large oval fruits of excellent flavour. A.M., R.H.S., August 16. Raised in R.H.S. Gardens, Wisley.

CAMOGYNE PULCHRA.

A distinct arad, introduced from the Malayan Peninsula, compact in growth, and producing crimson spathes. It requires a plant stove for its successful cultivation, and at Kew it thrives on the small rockery in the nepenthes house. "Bot. Mag.," t. 8,330.

PSORALEA AFFINIS.

An interesting and attractive hard-wooded plant, which, according to Aiton's Hortus Kewensis, was grown at Hampton Court in 1690. The plant is elegant in habit, and grown in a light greenhouse, blooms freely, the flowers being blue. Trained to a pillar or under the roof of the greenhouse, it will reach a height of ten feet or so; but it can be readily grown in the form of a bush, three feet or so in height. "Bot. Mag.," 8,331.

ARISTOLOCHIA MONPINENSIS.

A hardy species from Western China, with entire leaves, and bearing comparatively small flowers. The perianth tube is pale green, and the limb is yellowish with red markings on the inner side. It requires a sunny position, and rather strong soil. "Bot. Mag.," t. 8.325.

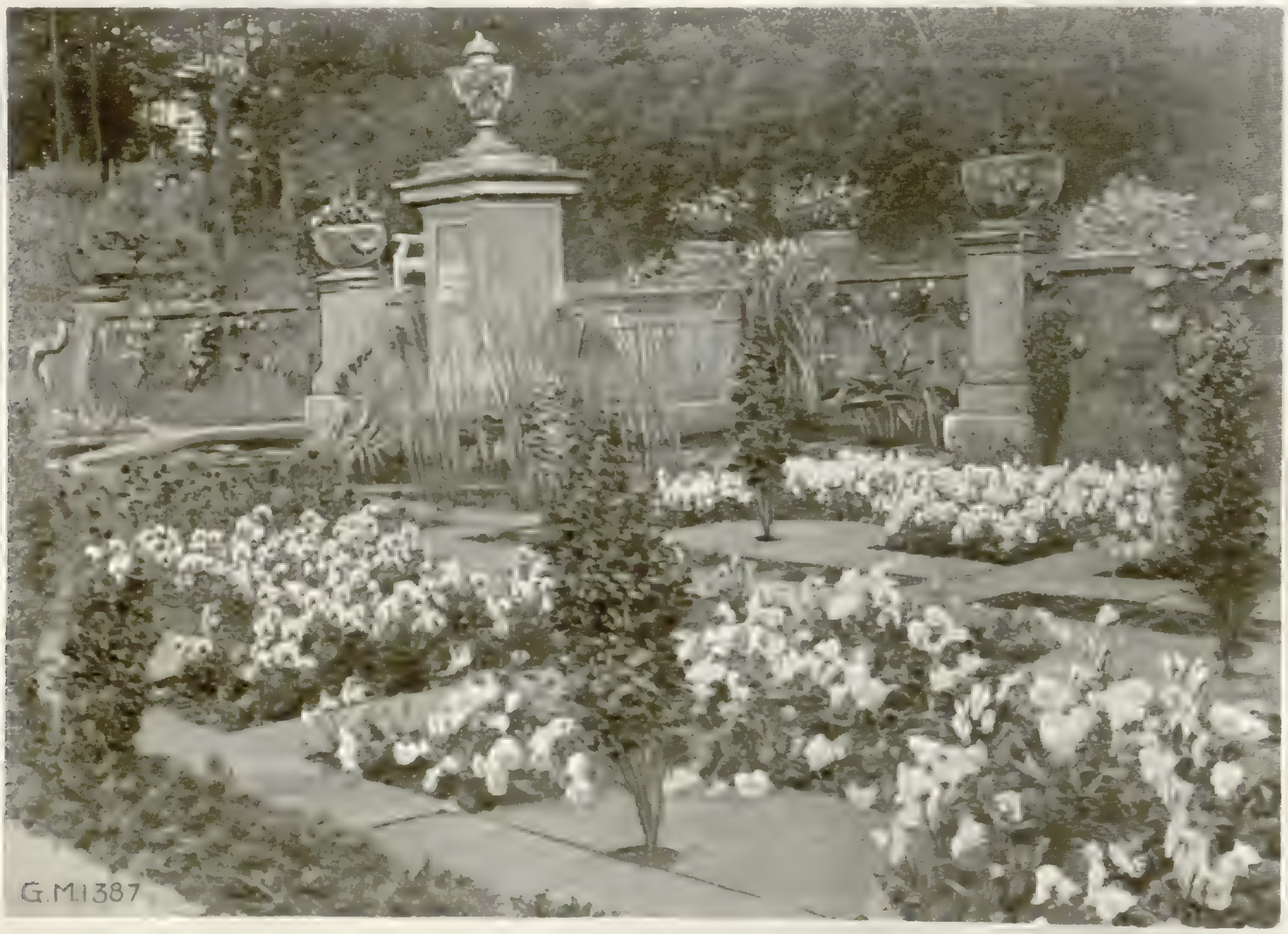
RHODODENDRON FLAVIDUM.

A charming yellow-flowered species, dwarf in growth, and flowering with great freedom. The flowers are produced in trusses, ranging from three to five in each, and are pale-yellow. This rhododendron is a native of Western China, and is hardy in this country. "Bot. Mag.," t. 8.326.

TUFTED PANSIES FOR MASSING.

The violas, or tufted pansies, have always been regarded as among our most beautiful hardy flowers, and at no period have they enjoyed greater popularity than at the present moment. Their utility is equally great, for they are amenable to a variety of conditions, while, with special culture and suitable varieties, enormous latitude in their flowering season can be secured.

Like most of our best garden flowers violas reward us most generously when their cultivation is carried out in a thorough and systematic manner. The present is the best time to insert cuttings, which should always be selected from the young growths that have not flowered. Insert these in a firm bed of sandy loam, placing the cuttings three inches apart. The bed should be enclosed by boards, so as to form a roughly improvised frame, over which hand-lights can be placed, both in order to hasten root formation now, and again during winter in periods of severe weather.



AN EFFECTIVE ARRANGEMENT OF VIOLAS OR TUFTED PANSIES
In the Gardens of Walmsgate House.

Once the cuttings are inserted, water them thoroughly, and place the lights in position, lightly shading the plants during the sunniest part of the day. This treatment ensures a stock ready for planting out early in spring, and therefore specially adapted for furnishing a display throughout summer and autumn. Plants obtained from cuttings taken in July form suitable material for planting late in autumn to yield a display in early spring, although, from plants a year older a much greater quantity of flowers is produced, if only slightly smaller. When the latter are employed it is advisable to trim off the older growth in autumn, as at this season the plants are generally exhausted by flowering, new growths speedily replace the old shoots, and these break into flower at any favourable opportunity in spring.

Where the plants are retained in situ for the spring display a rich top-dressing of soil and manure must be given in autumn, and, this being washed into the roots during winter, will maintain them in the maximum of vigour. When the plants are lifted from their summer quarters and transferred to another position, the soil should be liberally manured, and the plants made thoroughly firm at planting, in order to safeguard against upheaval by frost.

Violas call for little attention during the flowering season, the main object being to secure continuous blooming, which is rendered more certain by constantly removing all spent flowers and supplying adequate moisture, both in the form of clear water and liquid manure. Their decorative value is practically without limit, they are free enough for informal bedding, and neat enough for the most rigidly formal or geometrical lines, while as a groundwork for other plants they approach perfection.

Varieties of tufted pansies are exceeding numerous, so that it is only possible to offer a small selection here. Virginalis is one of the purest whites, the ground being relieved by soft blue pencilled lines; Duchess of York has rayed flowers of a creamy-white colour; Cream King is a rayless flower of a fine cream colour, the habit being a trifle loose; The Lark produces large white, rayed flowers, which are edged with heliotrope; James Pilling is a rayless white, with a lavender edge; Kitty Bell is a beautiful pale lavender self; and William Niel is a rosy-lilac, and extremely neat in habit; Bridal Morn is a fine shade of heliotrope; Mrs. C. F. Gordon and Mrs. H. Bellamy have a rich velvety ground colour, relieved by white, this being most in evidence in the first-named variety; among strong yellows, Bullion, Constance Leonora, and Lizzie Paul are good reliable varieties, the first and last-named being rayed.

Thomas Smith.

THE COMMON POLYPODY.

In most of the counties of Great Britain and Ireland the pretty Polypody (Polypodium vulgare) is found growing on old walls, in the forks of ancient trees, and in the dykes by the roadside. In the ferny districts in the west it is so abundant in many places that for miles at a stretch its once-divided, long, narrow fronds may be observed peeping out from the hedge tops in myriads, and the tops of stone walls will be densely draped by colonies and clumps in compact masses.

Normally, its fronds are very simple, consisting of a long stalk for about a third of the length, which then becomes a midrib to two rows of smooth-edged side divisions touching each other at their bases, and terminating in a rounded tip. Towards the end of the frond these taper to a bluntish point. I have measured fronds over two feet long, but, as a rule, eight or nine inches is nearer the average. On examination we find that these fronds do not spring from a definite centre, like the Male Fern, or other large-growing species, but from a mass of fleshy creeping root-stocks, whence they rise one after the other. These root-stocks, or rhizomes, are as thick as a stout lead pencil, greenish, and somewhat scaly. They creep about by extension of the growing tips, whence the fronds arise and attach themselves very firmly to the stonework, when growing on walls, by roots which emerge from their undersides, and which penetrate the crevices and interstices to form an anchorage and obtain nourishment. In the hedge banks these root-stocks travel more freely, and are usually found to be revelling in the loose sandy compost of decayed leaves and dust which accumulate in such positions.

We may gather from this that the fern favours well-drained positions, and where it grows in the soil, that soil must be open and friable. In point of fact, we never find the polypody growing in such wet soil, on the flats, so to speak, as suits the Lady Fern and other robust species; it is always on lumpy, rocky elevations, or among tree roots, or some accumulation of that kind that we find it at home elsewhere than on trees or walls or hedge tops. Its creeping root-stocks, in short, demand ventilation, coupled with conditions which permit of their rambling about freely, and obtaining a fair amount of light for the fronds which they send up. It is for these reasons that culture in shallow pans or in suspended baskets is better suited than culture in ordinary pots, while out of doors some sort of rockwork is better adapted than planting in flat beds.

The common polypody, like most of our native fern species, has been liberal in "sports," and no thoroughgoing cultivator of British ferns devotes much, or any, space to the common form described. In some subtle fashion Nature here and there inspires the common polypody to depart from the beaten track of its ancestors, and adopt new and often far more beautiful types of frondage. One variety, called Polypodium cambricum, or the Welsh polypody, figures in the oldest fern books, even in Gerard's "Herbal," and is one of the finest and best known of the varietal types. In this the simple smooth-edged lobes of the frond are greatly lengthened and widened, and cut into long, acutely-pointed subdivisions, utterly transforming the frond. As this form has never been observed to bear spores, it is a singular fact that it has been found at widely distant places, not only in Wales, but in several other districts. It is also reported in the United States, and in our Lake district here several quite distinct sub-varieties of it have been found, all of which are equally barren of spores, and thus individually incapable of spreading, except locally, by their travelling root-stocks.

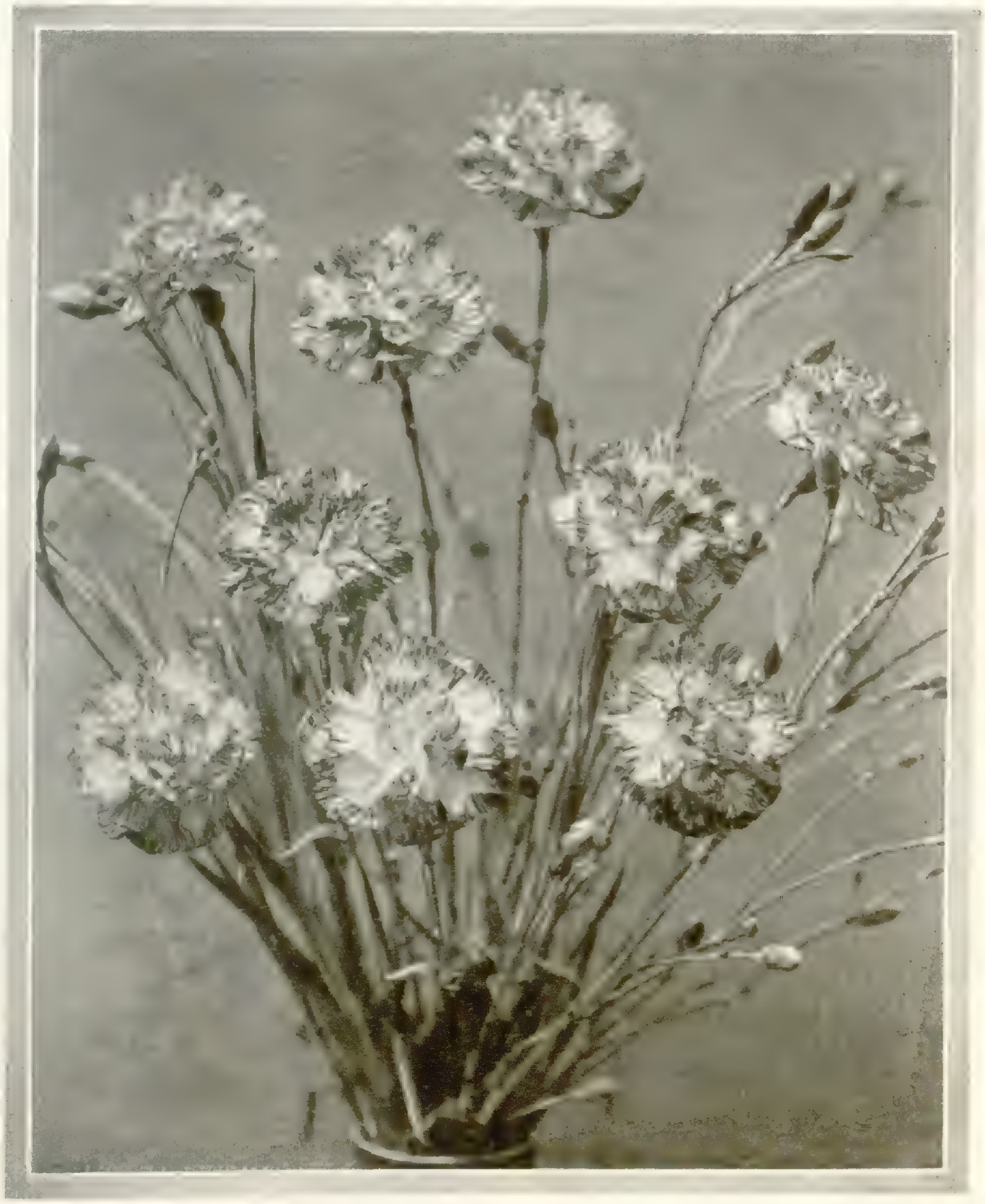
It is clear, therefore, that these numerous independent finds must be due to as many individual "inspirations," and consequent departure from the normal simple type either by means of an inspired spore or an inspired bit of rhizome, but which we shall never know. In one case, P. v. cambricum Prestoni, we may assume that a spore was so gifted, since it was discovered as a tiny plant in a cleft in a rock, which the finder had to roll home in order to coax the youngster out of its retreat without the imminent risk of destroying it by removal in situ. This plumose, or feathery type of variation exemplified in P. v. cambricum, and in the Barrowi, Prestoni, Hadwini, and serratum varieties, is, however, by no means the only one.

The common polypody has sported in many other ways; there is a crested or tasselled section, of which P. v. cristatum, grandiceps Fox, P. v. grandiceps Parker, P. v. grandiceps Forster, and P. v. bifidimultifidum are the élite, a foliose section, akin to cambricum, but fertile and coarser, with P. v. pulcherrimum and P. v. omnilacerum. Among many other variants we have the wonderful P. v. elegantissimum or cornubiense, found on a pollard tree in Cornwall, which, in its thorough type, has extremely finely dissected fronds like a delicate trichomanes, or Filmy Fern, but almost invariably produces two other types, one more coarsely cut, and the other the plain homely frond of its original ancestor. All three types may appear in one and the same frond, as a sort of patchwork. This reversion has been nearly bred out in P. v. trichomanoides, but I doubt if it is so entirely, as it seems to be ineradicable.

Chas. T. Druery, V.M.H., F.L.S.

WHITE GROUND FANCY CARNATIONS.

The illustration of Delicia that is given herewith conveys an excellent idea of the white ground fancy carnations. Visitors to the carnation societies' exhibitions may have observed on an examination of the exhibits, that all, or nearly all, the successful competitors choose yellow grounds, also buff or apricot grounds, variously marked with rich colours. The white grounds are left severely alone, judges and exhibitors alike favouring the coloured grounds. It is scarcely a matter of taste, for exhibits quite as tasteful might be made of white ground fancies, as witness the group of nine stems of Delicia, an exquisitely beautiful seedling raised by Mr. J. Douglas in his nursery at Great Bookham.



CARNATION DELICIA.

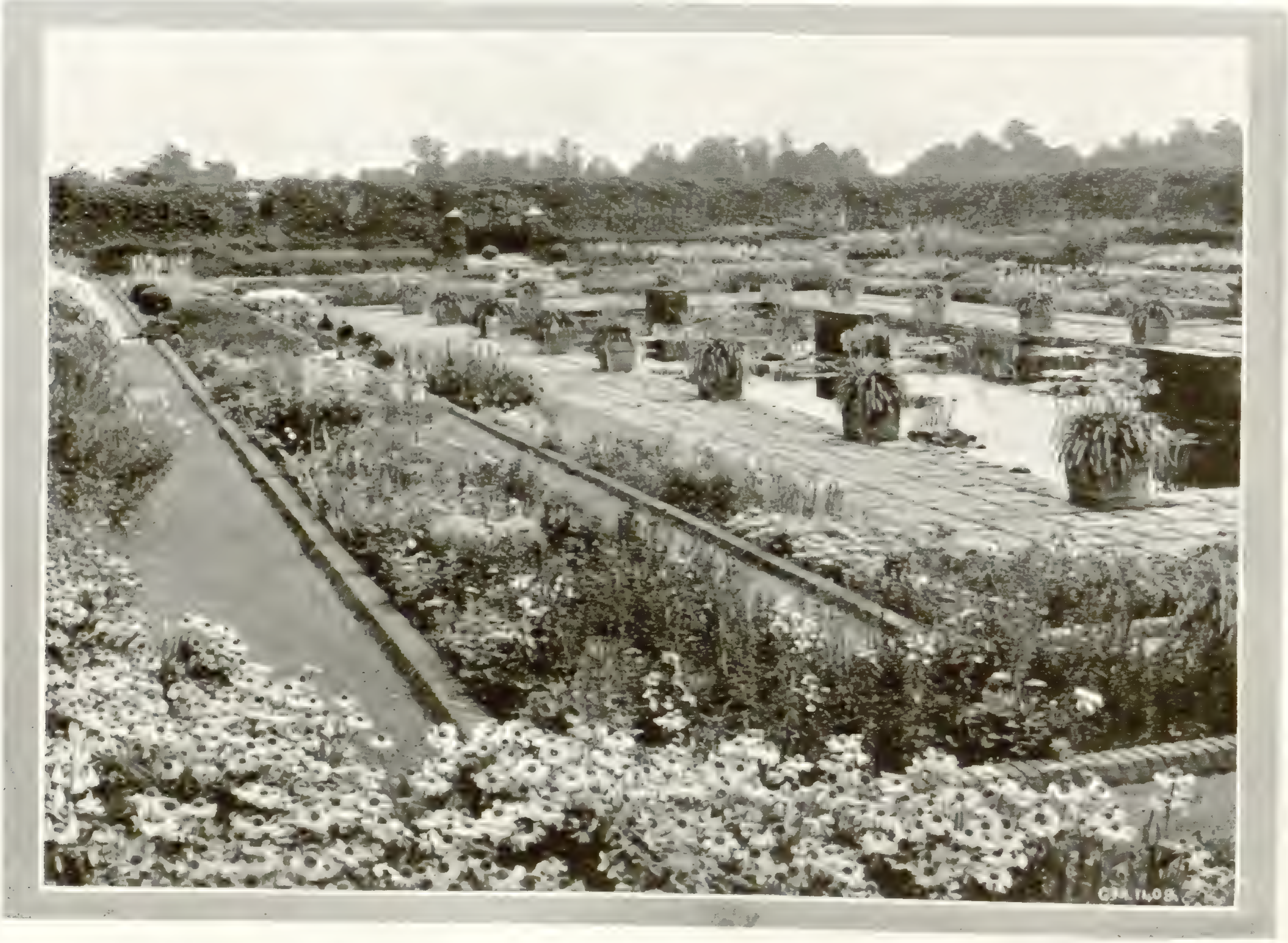
A beautiful white-ground fancy variety, raised by Mr. J. Douglas; the flowers are large and richly marked with scarlet on a pure white ground.

There are many very beautiful white ground varieties in cultivation. One named Willie has been in evidence for a number of years. Besides Delicia, which is new this year, another fine variety is The Bride, a pure white ground lightly marked with rose flakes. Sweet Briar is another very charming white ground, marked with lavender and rose. Cæsar and Pompey are two distinct varieties, but both are pretty, and if you have Cæsar one year it may be Pompey the next, or vice versa. Charm is another delicately coloured white ground of merit. Hon. Dorothy Legge is a distinct variety, white, very freely marked with bright rose. Rhoda (Taylor) is a quite distinct and charming white ground, the petals very freely marked with lavender and rose. The Nizam is also a beautiful variety, quite distinct in its pure white ground and scarlet markings. There can be no doubt that it is possible to make a stand of single flowers or a group in vases of white grounds to equal, if not to surpass, the coloured grounds, and the special societies should give such encouragement to them as would give them due prominence. The white grounds are practically ignored in classes for fancies, therefore if prizes were offered specially for white grounds the result would doubtless be a large accession to this class. There seems to be a general feeling that self-coloured carnations and fancies are quite out of place displayed on cards. These classes might be eliminated from the schedule of the National Carnation Society, and a class for vases of white ground varieties be provided, the blooms to be shown as grown, like the group of Delicia. The vases would certainly form an attractive and interesting feature.

DAHLIAS TO PERFECTION.—A thorough guide to the successful culture of these popular flowers is "Dahlias and Their Cultivation," by J. B. Wroe, price 1s. net, by post 1s. 2d., bound in cloth 1s. 6d., by post, 1s. 8d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

NEW SUNK GARDEN AT KENSINGTON PALACE.

Within a comparatively short period of the opening of Kensington Palace to the public, in 1899, in celebration of Queen Victoria having attained her eightieth year, it was suggested that the time had arrived when something should be done to improve the grounds around this historic building. The authorities were slow in acting upon the suggestion, for not until five years had elapsed was any definite action taken to remove the glasshouses that had so long occupied a prominent position under the windows of the state apartments. Originally the houses occupying this area were devoted to the production of fruit and forced vegetables for the Royal table, and to the growth of plants and flowers for the decoration of the apartments of the Royal residences; they were employed in this way until the magnificent fruit and kitchen gardens were formed at Frogmore early in the reign of Queen Victoria. Subsequently the structures were utilised in the preparation of the immense stocks of bedding plants required for beautifying Hyde Park, Kensington Gardens, and other open spaces under the same management, and for wintering the palms and other specimen plants.



GENERAL VIEW OF THE NEW SUNK GARDEN, KENSINGTON PALACE.

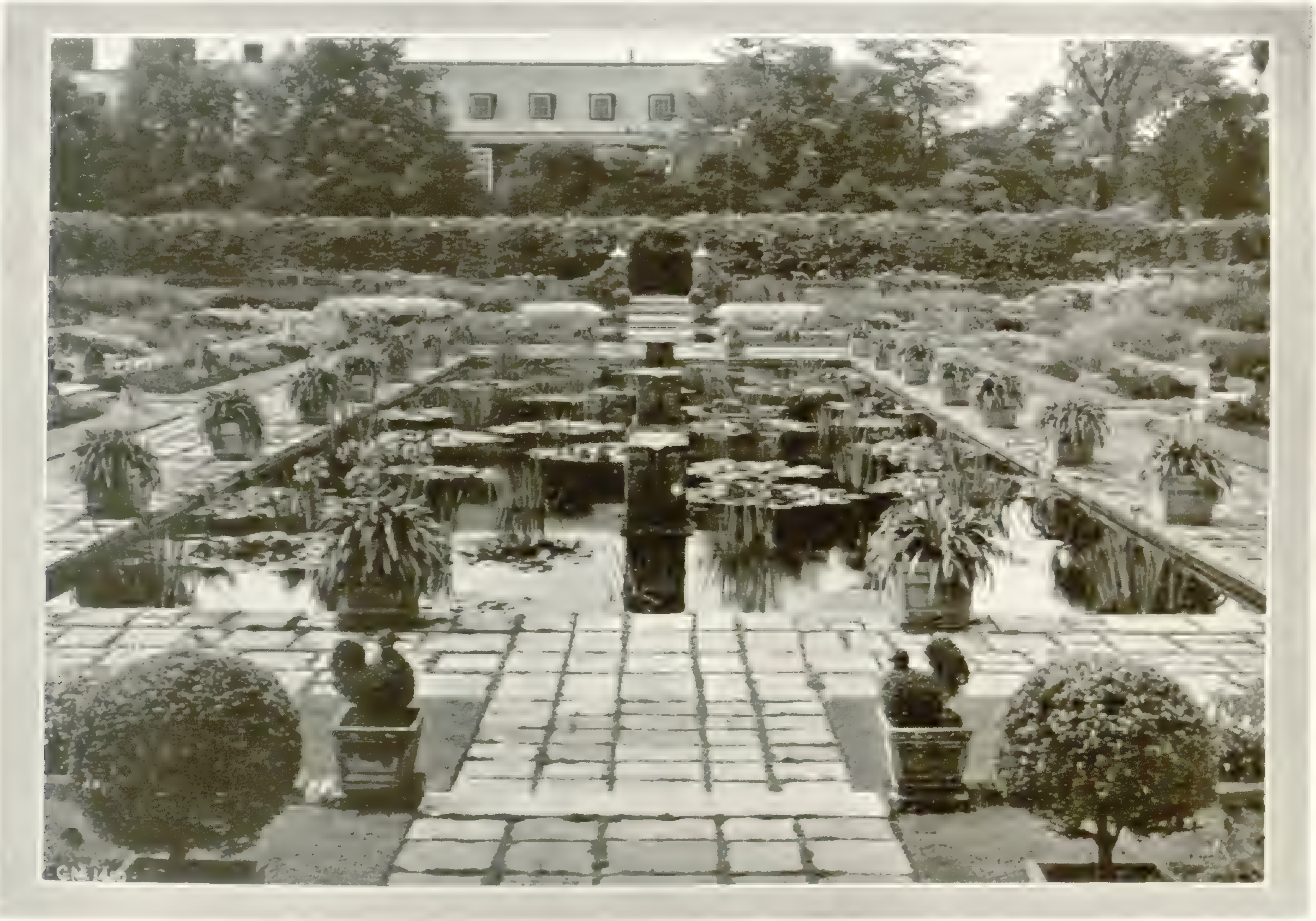
Six years since a site was found for the plant nursery in Hyde Park, and when houses of modern design had been built the removal of the "glass" from the Kensington Palace Gardens was commenced, and proceeded with as rapidly as the circumstances of the case permitted. It is of interest to remember in this connection that the late King Edward evinced the warmest interest in the scheme for improving the gardens, and readily gave his assent to the arrangements made for carrying it out. For some time previous to taking active steps to effect the much-desired improvement it was felt that an old-fashioned flower garden would be more in keeping with Kensington Palace, and would be desirable also as affording an example in the Metropolis of one of the forms of garden design that found favour with our forefathers in the distant past. It was eventually decided by the authorities that there should be a representation of the "sunk" garden which appears to have enjoyed a considerable degree of popularity throughout the sixteenth century. The design and construction of the new garden have been the joint work of the late Mr. Jordan and the present superintendent, Mr. Gardener, and the success achieved has been such as to well merit the warmest commendations.

The site of this new sunk garden is on the east side of Kensington Palace, and in front of the Orangery, which has long been an interesting feature of the grounds. It is rather farther from the latter structure than to some may appear advisable, but, of necessity, a sunk garden, with its pond, should be at a relatively low level, and the ground whereon the garden has been formed is lower than that in front of the Orangery. It has been mentioned as probable that the sunk garden has been designed in accordance with the plan of the "pond" garden constructed at Hampton Court during the reign of Henry VIII., and filled up by William III. This possibly may have been the case, but the present garden is the larger of the two, and it is profusely embellished with flowers. Whether the Hampton Court "pond" garden contained flowers is problematical; there is no record of them, but as there are records of rather large sums of money having been expended on carved animals, or "beestes," as they are called in the accounts for Hampton Court, it may be assumed that some of them were used in decorating the "pond" garden. The sunk garden at Kensington Palace is an oblong, and although this shape is not in accordance with the views of the sixteenth century writers on gardening, so far as concerns the outline of the whole garden, there can be no doubt that the oblong form was frequently adopted in the creation of secondary gardens—the Hampton Court "pond" garden, for example. In this connection it may be of interest to mention that with reference to the shape of gardens, Bacon writes, in his essay "On Gardens": "The garden is best to be square, encompassed on all four sides with a stately arched hedge." Parkinson states that this shape was preferred to "an orbicular, a triangle, or an oblong; because it doth best agree with a man's dwelling."

As in the case of the garden described in "Measure for Measure," the one under notice is "circummured with brick," but the walls are low, being probably not more than three feet high from the surface of the highest of the three flower borders. These walls are of red brick, with an opening on each side, and at either end, this being closed by a neat gate in wrought iron. From each of the four gates the lily pond, which extends the greater part of the length of the garden, is reached by flights of steps, that, as in the case of the space immediately round the pond, are formed with flagstones. From the outer wall to the paved space the ground falls in a series of terraces, consisting in about equal parts of flower border and grass turf. The borders, as will be seen in the general view of the garden given herewith, are planted with irregularly arranged groups of flowering plants, and the effect produced by the great masses of flowers in contrast with the red brick walls, the green alleys, and the grey paving stones, is indescribably beautiful. The principal flowers used in the embellishment of the garden comprise heleniums, marguerites, gladioli, galtonias, godetias, celosias, lemon and orange-coloured pot marigolds, Verbena venosa, and Sedum spectabile. As a matter of course, the lily pond, which constitutes so charming a feature, conforms in outline to that of the garden, and is furnished with nymphaeas and other aquatics. Arranged down the centre of the pond are three eighteenth century decorated lead cisterns, with jets, which add much to the interest and assist in a marked degree to give an old-time appearance to the scene. Arranged in vases round the pond are a score or so of well-flowered specimen agapanthuses, which, need it be said, add materially to the attractions of the garden.

Bacon's injunction that the garden should be "encompassed on all four sides with a stately arched hedge" has not been overlooked in the construction of this garden, if not acted upon to the letter. There are arched hedges or pleached alleys on the east, south, and west sides, but as the broad walk leading to the Orangery skirts the north side, there is only a single hedge. The hedges are formed wholly with the red budded lime, and as the trees have had two season's growth they are now beginning to fill the allotted space, and to shew that it would have been advantageous had the slope of the stems commenced a little higher up, but this is a small matter, and can soon be set right. Openings have been formed at intervals to allow visitors to have a view of the flowers as they enjoy the shade and seclusion of the "pleached alley," the garden itself not being open to the public. It is an advantage to the garden to have the gates closed, and it is certainly no disadvantage to visitors, for the finest views are those obtained from the "pleached alley."

G. G.



LILY POND IN NEW SUNK GARDEN, KENSINGTON PALACE.

ROMAN HYACINTHS.

Though these may not flower quite so early in the open as the winter aconite and the snowdrop, yet when grown in pots they are so easily first, even with the slight protection of an unheated frame, that they may really be considered as heralds of the glorious progress of spring. They may be obtained in bloom as early as November with very little heat, while with a house kept just warm enough to exclude frost they will be well in flower by Christmas. In an unheated frame in an open winter they will be in flower early in January. They are not often grown in the open ground, though it is quite easy to do so, given a favourable soil and situation, but the fragile character of their blossom looks rather out of place in the winter. It is the early white form which is usually grown, and it is the best.

The great essential in the cultivation of the Roman hyacinth is early potting, the end of August being quite late enough if they are to be brought into flower before Christmas. The compost should consist of two-thirds turfy loam and one-third leaf-mould, with a dusting of bonemeal. After being watered the pots should be set outdoors in a cool place—a north aspect by preference—and covered with cinder ashes, cocoa fibre refuse, etc., so that there is a thickness of three inches above the surface of the pots. This will secure a fair uniformity of moisture and temperature, and no water need be given them while they remain there. Someone, however, wrote in one of the gardening papers, some time ago, that in growing these bulbs he had let the pots stand on the greenhouse staging from the time they were potted till they flowered, and the result was quite satisfactory, but the quality of the flowers could not, of course, be judged by the reader. When treated as suggested the pots should remain buried for about three months, after which they may be taken out, a few at a time, as required, and put in a greenhouse, frame, or room, in which to flower. They should be kept partially shaded for a week or so until the callow spears become partially greened, after which they should be kept in as full a light as possible. For the same length of time they should not be put in a dry atmosphere or draughty place, or the growing tips of the leaves may be turned brown. The great mistake in forcing these early bulbs, as others, is giving them insufficient time to become thoroughly well rooted before forcing begins. Another mistake, too, is the use of second-size bulbs. The difference in price between first and second size bulbs will be from sixpence to a shilling per dozen, but while the former will only produce a single spike of blossom per bulb, and that perhaps of poor quality, the latter may average three

Roman hyacinths lend themselves admirably to culture in bowls of pebbles, fibre, and other materials now sold for the purpose. The principles of cultivation are similar to those for growing in pots as regards early planting, plunging in a cool place, and gradual exposure to light and warmth, but the bowls should be protected a little from excessive wet.

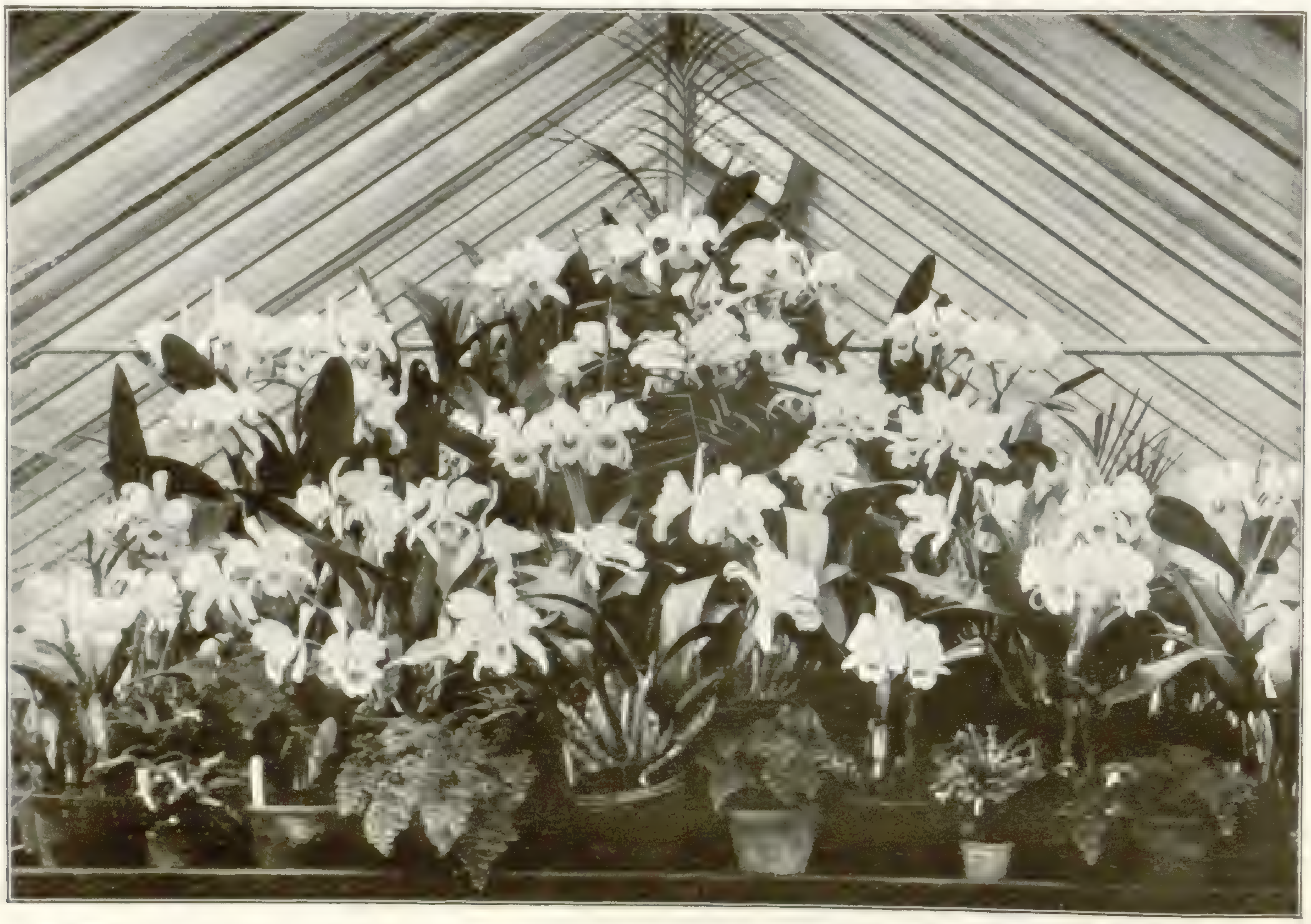
In forcing Roman hyacinths it should be borne in mind that they are not lovers of heat, and, consequently, should not be exposed to a greater temperature than 60 degrees if fine blooms are desired. Like the snowdrop and other winter and early spring flowers, the temperature for their optimum growth is a comparatively low one. After the leaves have become thoroughly green the pots may be watered with weak liquid manure once a week, and it will add to the healthy appearance of the leaves and to the size and substance of the flowers. The bulbs will be of little use for pots a second year, and may be planted out in sheltered shrubbery borders.

Alger Petts.

THE RAWDON ORCHIDS.

Rawdon, Yorkshire, although only half a dozen miles from either Leeds or Bradford, is so pleasantly situated that a visitor might well forget that on either hand are thickly populated hives of industry where great factory chimneys are unceasingly doing their utmost to pollute and poison the atmosphere. When told that it is midway between Leeds and Bradford that Messrs. Mansell and Hatcher's orchid nursery is situated, visions involuntarily arise of grimy glass and sickly growths; but these misgivings are quite unfounded, for Rawdon is a thoroughly delightful spot where the rush and tear of City life could be forgotten, where the air is clear and exhilarating, and the scenery around is grand.

The nursery nestles on the side of a steep but fertile hill, and that it is well sheltered will be evident from the remark that it is almost possible to walk around its boundaries without becoming aware of its existence. A nursery on a hill has its advantages and disadvantages, and Messrs. Mansell and Hatcher had certain difficulties to contend with in the erection of glasshouses on varying levels, but now that their compact block of some fourteen spacious houses is complete, it may be said that every house stands well. Full benefit from the sun is secured, and shelter from cold winds is afforded by the brow of the hill in the rear, a fact that greatly simplifies perfect ventilation. The whole block is heated by three of Foster and Pearson's Robin Hood boilers, of which Messrs. Mansell and Hatcher speak in eulogistic terms.



CATTLEYA HOUSE IN MESSRS. MANSELL AND HATCHER'S, LIM., NURSERIES, RAWDON.

We are scarcely prepared, after a tour of the houses, to say that Messrs. Mansell and Hatcher are exceptionally strong in any one family or section of orchids, for thereby a false impression might be conveyed that some sign of weakness is elsewhere evident. Truth to tell, the stock is particularly well balanced, showing that the aim is to cater for all who are interested in orchids. Thus it may be said that, while vandas and dendrobiums were plentiful and healthy, the cypripediums, cattleyas, and odontoglossums were deserving of equal compliments. It may nevertheless be said that the large numbers of hybrid orchids were particularly interesting, many rare and extremely beautiful things being in the firm's possession.

In the first house entered were splendid batches of vandas. Those who have seen the firm's exhibits at the Royal Horticultural Hall and elsewhere will recall the fact that Vanda cærulea, of a fine deep blue form, has played a prominent part in some of their best groups, and at the nurseries this exquisitely beautiful plant is largely grown. V. Kimballiana, V. Parishi, and, indeed, a representative collection of vandas here exists, and the vigour of the plants speaks well for the method of culture adopted. A fine lot of Renanthera Imschootiana was noteworthy. This very effective orchid was well shown at the Temple Show, and in the large exhibit staged at the recent Leeds Show, an illustration of which appeared in our issue for August 6. Cypripediums are a big and popular class, and consequently are an important feature at Rawdon. Such good things as Cypripedium insigne Sanderæ, C. Maudiæ, C. Venus, and C. Charlesworthi, are to be seen in quantities, a large batch of unflowered plants of the last-named being the centre of great hopes just now. Among phalænopsis, P. Schilleriana is the most prominent, but P. Rimestadiana and the rest of the family are also grown. The old, and very pretty Dendrobium superbiens, now somewhat scarce, was flowering well at the time of our visit.

One large house was well filled with Læliocattleya hybrids, several of which have proved to be of more than ordinary merit. Particular interest attaches to the seedling house, which was filled with pots of tiny seedlings in the first stages of growth. By the aid of a lens one discovered that what to the naked eye appeared to be a thin covering of lichen was in reality a dense mass of tiny plantlets, some of which may perchance in years to come cause a stir in orchid circles, and prove to be gems of the first water. Messrs. Mansell and Hatcher's clever hybridist and raiser, Mr. Banting, works among his charges with a rare enthusiasm, and as he has some beautiful batches of youngsters coming along from varied and interesting crosses, there is every prospect of reaping a good harvest in due time. Among the plants now developing seed-pods were a number of fine cattleyas, most of which have an infusion of C. gigas blood, and may certainly be looked upon as very valuable stock. Mr. Mansell is closely watching a remarkable batch of unflowered angræcums which presents very varied characters in foliage, and are expected to contain something out of the common.

Dendrobium Sanderæ, imported direct from the Phillipines, is of great interest. In the way of curious and uncommon species, and botanical orchids, there are plenty to be seen at Rawdon.

A peep behind the scenes was afforded when we were allowed to see the potting sheds and the store houses, where we found a vast quantity of osmunda fibre of the best possible quality. Messrs. Mansell and Hatcher have made good use of this excellent material, and have also made arrangements for direct importation of an exceptionally good grade. We were informed that not only was a good deal of their own success attributable to the use of this excellent potting material, but that over 3,000 sacks have been sent out from Rawdon to the principal trade and private growers in England and on the Continent. It is but four years since they took over the Rawdon Nursery, and the record of the progress and development of their business in this short time proves the policy of the firm to be sound, and their knowledge of orchid growing and dealing to be thorough. Both gentlemen are thoroughly in love with orchids.

Evidence of their activity and progressive methods is forthcoming in the fact that they have of late imported orchids in such quantities that a large new receiving house had to be erected. It is a spacious, airy shed, built with a double roof, the space between the outer and inner roofs being padded to minimise changes of temperature; large racks with trays of wire netting run around and across the building, and on these trays the newly imported plants are laid out. During last season a quarter of a million orchids passed through this shed, which will convey some idea of the extent of the firm's transactions.

STONE IN THE JAPANESE GARDEN.

It is somewhat difficult to consider the Japanese garden without its inevitable accompaniment of stone ornamentation. Stonework, in its varied phases, enters so largely into almost every garden scheme evolved by the Eastern mind, that to the average European it appears to be the foremost factor in Japanese gardening.

That this view is correct is proved by the care and attention that is given by the Japanese garden-maker to the selection and placing of certain stones.

In order to portray certain ideas and to arrest the eye by an appealing design, certain objects are placed in such positions that the eye rests involuntarily upon them, and realises that in these is a key to the whole scene. An old pine tree, with its gnarled, spreading branches, has a grey stone lantern resting beneath its shade, the combination giving a rare harmony in colouring. These stone lanterns, which are purely Japanese in origin, date far back in Japanese history; though for long centuries they were regarded as fit votive offerings for temple adornment, and it was not until the "great" days of Japanese landscape gardening that the clever exponents seized upon the idea of utilising these quaint ornamental lanterns to give tone and interest to their garden pictures.

There is a great diversity in these lanterns, and in design they are suited to the various situations in which they are required. They are usually of granite, and are often beautifully carved. By the waterside; on a ledge of water-lapped stone; beside the stone bridges; on a bank amid the glowing beauty of the azaleas; or in a jungled maze of bamboos, these quaint, old-world lanterns peep out and tone the surroundings with their "still greyness."

The question of stepping-stones deserves the fullest attention, for these same stepping-stones assist in the garden scheme immensely, besides furnishing a pleasantly diverse pathway for wandering through the garden. The use of stone for crossing the waterways interests me by reason of the quaint ideas embodied, and the surpassing charm of traversing a waterway by such means. Ofttimes stepping-stones will carry one through a fair-sized lake. In other places long stone slabs occur, overlapping each other, and resting upon short piles, or foot-stones, as the case may be. Or in more elaborate gardens one may have an ornamental stone bridge, with quaint stone side-rails and irregularly-paved foot-walk. It is interesting to note that these bridges, stepping-stones, etc., are not usually provided with the idea of furnishing a direct way across the pool or stream, the main object being to furnish one with the necessary means of viewing the water-scene, with its charming wealth of iris and lotus blossom. They are deftly arranged, so that one must needs linger over the scene, often taking the most devious route through or over the water, yet always enticing the visitor or onlooker with its charm and originality.

It is refreshing to enter a garden such as the Japanese garden artists created in their best days, where every stone, shrub, trellis, tree, and pool is replete with meaning. Little wonder that every stone has its own place, and gives by its form and appearance a natural effect in combination with its fellows. The selection of stone is a perfect study, and for a large garden the whole kingdom is searched for suitable specimens. Granite for steps, slabs, etc.; water-worn limestones for the large outstanding boulders, curious specimens of red jasper and green jade-like stones; the rarer blue limestone for certain positions; rocks o'er-run with lava from Fugi's slopes; and fretted and grooved sea-rocks for the water-sides—all are laid under contribution, picked and chosen by the garden-maker as if they were precious things for the formation of a diadem. From the largest rocks to the smallest, each represents the closest care of the garden-maker. Each stone of any importance has its particular use, and is dignified by a name of its own. Thus we get in the majority of gardens the Guardian Stone, the Stone of Contemplation, the Wave-receiving Stone, the Interviewing Stone, and a host of others, while the stepping-stones which wander through the pool are known as the Flying Stones or Scattered Islands.

It will certainly deepen the interest in Japanese gardens when the full import of the various ideas typified are more generally known. The Japanese are impressionists, and thus, if no water be at hand, they will picture, by the use of valley and pebbles, the idea of a dried-up water-course. Then, again, in many gardens quaint stone water-basins are to be met with. These, though usually simple in design, are modelled so as to be in harmony with the size and appearance of the garden; while rarer, but still not uncommon, are old stone well-heads, sometimes serving a useful purpose, at others giving merely the idea of something not in being, yet at the same time quite in accordance with the garden scheme.

P. S. Hayward.

COLLECTIONS OF HARDY FLOWERS AT THE SHREWSBURY SHOW.

These collections were arranged on a space with a 10ft. 6in. frontage, and, as stated in our report (August 20, page 645), formed one of the great features of the show. The successful competitors were Messrs. Gunn and Sons, first; Mr. F. Eames, second; Messrs. Harkness and Son, third; and Messrs. W. Artindale and Son, fourth. Mr. Went and Messrs. Gibson and Co. also exhibited fine collections.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

GENERAL REMARKS. — Many of the species and hybrids will now be maturing their growths. Owing to the small amount of sunlight during the months of June and July, the growths are in a more or less soft and sappy condition, and it is therefore desirable that every facility to aid the plants to properly ripen their growths should be given. It should constantly be borne in mind that it is equally as necessary to have orchid growths properly ripened as it is to procure ripened wood in fruit trees; without proper maturation we cannot obtain the best qualities in the flowers. The summer-growing cattleyas are, perhaps, the most difficult to deal with, especially where they have to be grown with other plants in the same house. Where houses are devoted to their culture, the difficulty of treatment is not so great, for we are then able to lower or raise the roof blinds at discretion without having to consider other subjects in the structure. A very considerable advantage in the ripening of growths is obtained when a light spraying of permanent shading is on the roof at this season of the year. This enables the blinds to be removed earlier in the afternoon, and a considerable amount of strong light is admitted without danger from scorching. In addition to admitting more light, the light shade greatly assists in drying up the excess of moisture in the atmosphere, and renders unnecessary a considerable amount of artificial heat at the present time.

DENDROBIUMS, of both the deciduous and the evergreen sections, will only require sufficient shade during the hottest parts of the day to prevent their foliage becoming scorched. Every encouragement must be given to assist the plants to finish their growths.

VANDAS, ÆRIDES, SACCOLABIUMS, and other occupants of the East Indian house will now have completed their growth, and the new roots will be developing. All these should have liberal treatment, until such time as the green portions of the roots have become sealed over. The small-growing angræcums should be suspended near the roof glass, as in this position they are not so liable to damp, spotting, and injury, which so frequently happens when they are placed on the stage. In all the warm divisions the night temperature must be maintained at its maximum height for summer until the middle of September; after this period the night and day temperatures should be gradually reduced until the low winter temperatures are reached. Care must be observed to place any plants that are in a backward state of growth at the present time, in positions where they will receive the most liberal encouragement. It is far better to give the necessary facilities now than to have to deal with undeveloped growth at a later season when the outside conditions are less favourable.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

PROPAGATION.—During the next week or two will be a very good time for propagating crotons, panax, and dracænas, and these will be valuable for the table late in spring and very early in summer, before the spring struck plants are sufficiently advanced for use. Moreover, they are more compact, stockier, and take on more colour than do those raised from cuttings in the New Year, more particularly the crotons. Thumb pots should be used, and quite small side growths be selected, as these usually make better shaped plants than stronger growing tops.

DRACÆNA cuttings should be the young growths from plants that have been cut down some time previously. Failing these, some of the older plants should be examined and the fleshy roots taken off and put in. After plunging the pots containing the cuttings in the frame, keep them lightly syringed, taking care not to overdo it, as at the slightest approach to stagnation the young plants will soon drop their leaves. A further batch of cuttings of panicums, tradescantias, and selaginellas may be put in, and many of the older plants that have done duty during the summer when these young ones come out of the frame may be destroyed.

STOVE CLIMBERS.—Many of these will now be going out of bloom, and any of them which are in pots should, if possible, be removed from the stove to a somewhat lower temperature, where they may mature the growth they have already made. A vinery or peach house from which the crop has been gathered would do quite well, taking care that the change should not be too great at first. Allamandas will continue blooming for some considerable time, but to allow as much light as possible to the plants growing underneath it will be wise to thin the growths a little and tie it in as much as possible. Bougainvilleas planted out that have passed the flowering stage will not need to be watered very liberally just now, unless there is some considerable space that requires covering with young growth, but even this should be done by this time. Aim at having the growth as well ripened as possible, and this is sometimes a difficult matter, as many of the other occupants of the stove require a considerable amount of heat and moisture, which keeps the climbers growing much longer than is necessary or beneficial.

CLERODENDRON FALLAX. — Early batches of plants, particularly those raised from cuttings, will now be coming into flower, and should, if possible, be removed to a slightly drier house where the blooms will last a much longer time. Later batches should be kept growing by giving liquid manure pretty freely. They should prove of great decorative value till well on into November.

CLEANING.—This being what we may term the slackest part of the year, every opportunity should be taken to give all the occupants of the stove a thorough cleaning, either by sponging or syringing, whichever may be necessary. The woodwork and glass should, in places, if not all over, be thoroughly cleaned, not forgetting to use a little whitewash on the walls wherever they may have become green or dirty. This will give the houses a smart and tidy appearance.—Thomas Stevenson, Addlestone.

FRUITS UNDER GLASS.

EARLY PERMANENT VINES. — Every available means should be taken to prepare vines of this description for their next fruiting season, and to this end, now that their young wood is sufficiently matured, it should be shortened to about two-thirds of its length, and the parts remaining on the vine be relieved of their sublateral growths, but in attending to this carefully preserve the principal leaves. In cases where thrips or red-spider is present, thoroughly wash the vines by the aid of a syringe with an efficient insecticide, such as a paraffin emulsion of suitable strength, repeating the operation if necessary. Should mildew have been troublesome, lightly syringe the vines with a solution of sulphide of potassium. Keep the house fully ventilated, and the borders properly supplied with water. If the latter are in an unsatisfactory condition, the present time is suitable for their renovation, but in cases where the roots have the run of both inside and outside borders, one only should be now attended to, and the other left for next year. In the first place, fresh compost should be used, and this may consist of good loam mixed in agreement with its texture, with more or less wood ashes, crushed mortar rubble, and finely-crushed bones. Failing this mixture, good fibrous loam alone will suffice, and should be procured and kept tolerably dry. Complete the work by lightly mulching the border with short litter, and watering it with tepid water. Subsequently until the vines show signs of recovering from the check, shade them from powerful sunshine, spray them occasionally with water, and keep the atmosphere of the house moderately close and moist.

SUCKERS OF QUEEN PINEAPPLES. — Suckers now fit to be taken from plants that ripened their fruit early in summer should be potted, using seven-inch pots. Select those which are sufficiently advanced to be brown in colour at their base, and have broad, sturdy leaves, and in preparing them for potting pull away the lower short leaves, and cleanly cut off the base. In potting use clean, well-drained pots, place the suckers deep enough in them to ensure firmness after the compost has been well rammed, and allow sufficient surface space for the convenience of watering. A compost formed of light fibrous loam, freed from fine particles, lightly mixed with soot, and used in a moderately moist state, will be in every way suitable.

WINTER-FRUITING PINEAPPLES. — Plants of Smooth Cayenne, Black Jamaica, or Charlotte Rothschild that have lately started, or are now starting into fruit, must on no account be allowed to suffer from dryness at the roots, and should also be regularly assisted with mild applications of manure. Maintain a tolerable dry atmosphere while the plants are in blossom, and a night temperature of 70 deg., with the usual day rises. Ventilate the house carefully, but early, on bright days, and once the flowering season is over increase the atmospheric moisture, and lightly spray overhead as soon as the house is closed.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

TOMATOES. — The weather has of late been more favourable to out-of-door-grown tomatoes. The plants are now carrying here a heavy crop of well-developed fruits, and, providing fine weather continues they will mature well by the autumn. Pay close attention by removing all side growths and unnecessary leaves which shade the clusters of fruit that they may have full exposure to the sun. Gather the fruits as they colour, and place them on wood-wool in boxes, when they can be placed on shelves in vineries, warm sheds, or even dwelling-rooms, as most convenient.

TOMATOES UNDER GLASS will need very little fire-heat, but in the case of those in full bearing, pay strict attention to the watering, otherwise the fruits will crack, and their keeping qualities be impaired. Give occasional stimulants and maintain a free circulation of air through the house night and day. Young plants for winter fruiting should now be shifted into the pots in which they are to fruit. Carefully guard against an excess of moisture at the roots. If wet and cold weather sets in employ a little artificial heat as a precaution against disease.

FRENCH BEANS.—Where warm pits are at command, make a sowing of these at about eighteen inches from the glass. Grow them on quite steadily, as the plants will thus be hardier and more productive. Ne Plus Ultra possesses a good constitution and is very fruitful.

ONIONS.—Those raised from seed sown in the open ground during March should now be sufficiently advanced to admit of bending down the tops. This process accelerates the ripening of the bulbs by exposing them to the sun and air, particularly if the tops are all bent on the one side. Within a fortnight the bulbs should be quite ready for lifting, and finally drying off by placing on hurdles, or in cold frames, where the lights should be removed in dry weather till the ripening process is completed. There is no better way of keeping them during the winter than by splitting hazel sticks to within four inches of the bottom, then tying the two portions together, and working the dried tops through the sticks each way, with an occasional tie. They can be hung up and stored in a very small space, and thus leave the shelves free for other purposes.

SPINACH.—The principal sowing of seed for the winter and spring supply should be made this month, followed by another sowing early in September. The sowing made in September will give a most useful supply if we have a fine late autumn. For this sowing choose the variety Long Standing

Prickly, and Perpetual or Spinach beet; the last-named may be transplanted at any time. If any seed of the summer kinds are on hand it should be sown at intervals during the next month.

TURNIPS.—Make good sowings of these on land that has previously been occupied with potatoes. Much will depend on the weather for future sowings, but it is possible in a good season to obtain here very good turnips from sowings as late as the middle of September. Therefore it is advisable to sow up to that date, as, should the bulbs fail to attain to a usable size before the winter sets in, the tops will be welcome during the spring months. For present sowing use Snowball and Golden Ball. Sow in drills eighteen inches apart, scattering burnt garden refuse along the drills, with regular dustings of soot over the tops during showery weather.

ENDIVE.—Later sowings should be speedily planted out for a continuous supply, and every available plot should be filled with them. During hard winter weather, when spinach cannot grow or be found, endive forms an excellent substitute for that vegetable, and it will only need the shelter of unheated frames.—GEORGE ELLWOOD, Swanmore Park Gardens.

OBITUARY.

MR. H. A. TRACY.

The many friends of Mr. H. A. Tracy will receive with much regret the announcement of his sudden death at his residence, Twickenham, on the evening of the 18th inst. Mr. Tracy, who as so well known, devoted his attention to the cultivation of orchids, was at the meeting held by the Royal Horticultural Society on the Tuesday previous to his death, and was then apparently in his usual state of health. It appeared he left his nursery in the Amyand Park Road at six o'clock on the 18th inst., and while in the garden of his residence, about an hour afterwards, he was stricken with paralysis, did not recover consciousness, and died in a few hours.

MR. FREDERICK WILLIAM FLIGHT.

It is with much regret that we have to record the death of this distinguished rosarian and chrysanthemum enthusiast, and estimable gentleman, which occurred at his residence, Cornstiles, Twyford, Winchester, on the 15th inst., in his seventy-sixth year. Mr. Flight, who was actively engaged in business, made a hobby of horticulture, and, as evidence of the interest that was taken by him in the promotion of horticulture in the district of which Winchester is the centre, we would mention that he was chairman of the Committee of the Winchester Horticultural Society. So admirably did he fill that position throughout this long period that there is a remarkable consensus of opinion among those who have had the pleasure of being associated with him, that a large measure of the success achieved by the society is due to his sympathy with gardening and business abilities. Mr. Flight was for many years a most successful exhibitor of chrysanthemums, more especially of the incurved varieties, for which he had a strong affection. Mr. Flight was also a large and successful grower and exhibitor of roses, and evinced much interest in novelties, annually buying a considerable proportion of the new varieties, and growing them alongside the established kinds with a view to determining their merits on scientific lines. One of the finest of the rambling roses that have been introduced within recent years was raised at Cornstiles, and will long serve to keep the memory of the raiser green in the minds of those who devote attention to garden roses. This was named Mrs. F. W. Flight, and is now in general cultivation. Mr. Flight was also a large grower of carnations, and raised several excellent varieties. He was a Fellow of the Royal Horticultural Society, a member of the National Chrysanthemum Society, and a liberal supporter of local societies.

THE NATIONAL VEGETABLE SOCIETY.

When the late Mr. W. E. Gladstone so strongly advocated the conversion of our stores of fruit into jam, because he was a great man in the nation, his advice was listened to, and acted upon, with the result that jam-making is with us now a huge industry, and as a consequence, all the year round, and in all places jam is cheap, and has thus become one of the foods of the million.

Just recently so important a personage as the Speaker of the House of Commons, Mr. J. W. Lowther, has been advocating the wider culture of vegetables as articles of human food. It is very possible that such advice may have a far-reaching effect, advice that would be all the more valuable did it beyond advocating wider culture, still further advise the wider consumption of vegetables as food.

Now, the special aim and object of the National Vegetable Society is to promote these two things. First, the wider culture of good wholesome vegetables, and second their wider consumption, not only because the best of all foods in the first instance, and the most healthful, but also because we have the best soil and climate in the world to grow them, and not least, their growth creates a greater demand for labour than does any other form of land culture.

Even beyond these considerations, there are the still greater ones in the fact that we have a vast population which must be well and amply fed, and we can produce such supplies of good vegetables at home as may in time of stress or of external shortage, render us as a people immune from scarcity or famine.

It is with these great anticipations and aspirations the National Vegetable Society has been formed, and its capacity for usefulness in such respects must depend on the support it may obtain in the community. The exhibition of vegetables the society will be holding in the Horticultural Hall, Vincent Square, on September 23 next, may be regarded as a minor object or means to an end. But universally has it been found that one of the most effective ways to propagate knowledge in relation to products is by presenting those products to the public view for inspection and criticism, as also to enable them to be popularised.

What gardening owes to exhibitions is incalculable, what it will owe to them in the future is also incalculable. With all our knowledge of horticulture, practical and scientific, we may yet be but on the threshold of such knowledge, for there remains a field for expansion and knowledge, of which so far, perhaps, few dream of. But of all the services horticulture can render to the nation at large, and they are indeed marvellous now, in few respects can such service be greater than would be the creation of a vegetable supply of the most perfect quality, such as would place us as a people in an absolutely independent and safe position in relation to a national supply of wholesome food.

The subject is not merely hygienic; it is of the highest economic importance. It is quite outside the range of party political warfare or clamour. It needs for its expansion no government aid or gratuity. All that is needed is free land for occupation, plenty of labour, and a profitable market. Given these things, and the supply will speedily follow. But to produce profit, by which in these days success is measured, there must be created a far greater demand for vegetables as food than now exists.

Whilst our family or domestic expenditure is some 30 per cent. for flesh meat and wheaten bread, and only from 5 to 10 per cent. for vegetables, the popular demand must be small. Could the latter percentage of household expenditure be changed to 20 per cent., what a vast demand for wholesome home-grown vegetables would arise, how many millions of acres of land would be thus profitably utilised.

Is not a society which has such great and noble economic objects in view well worthy national support?

ALEXANDER DEAN, V.M.H., Chairman.

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EXHIBITIONS AND MEETINGS.

Lectures on Forestry.

A vacation course of lectures for foresters under the auspices of the University of Aberdeen and the Aberdeen and North of Scotland College of Agriculture, has just been opened in the University Buildings, Aberdeen. The course, which is the first for foresters that has been instituted so far north, is being held at this season of the year as the time most convenient for the attendance of foresters. The course will be of four weeks' duration, and the lectures will be given by Mr. William Dawson, B.Sc., lecturer in Forestry at the College of Agriculture. The expenses in connection with the foresters' attendance are being met by the proprietors of the estates on which the foresters are engaged. There was a good attendance.

Dr. George Adam Smith, Principal of the University of Aberdeen, presided at the inauguration of the course, and in a few words of welcome to the foresters, said he hoped that would be the first of many such courses under the auspices of Aberdeen University. Theirs was a gathering of a somewhat unique kind. A number of the principal foresters from some of the largest estates in Scotland began that day a course of four weeks' lectures and practical instruction under the lecturer in forestry, Mr. Dawson. Besides the instruction thus received, it was hoped the foresters would have opportunity of conference among themselves—of interchange of ideas and experiences by men of the same calling, but from different parts of the country. He was sure they would find before the four weeks were out that they had come to the right place, and to the right man in Mr. Dawson. The Principal then called on Mr. Sydney J. Gammell, of Drumtochty, and Countesswells, the president of the Aberdeen, Banff, and Kincardine Shires branch of the Royal Scottish Arboricultural Society, to say a few words.

Mr. Gammell, in the course of a most interesting speech, said no doubt his hearers might feel that it was somewhat like going back to school again for them to be there. But they were never done learning, and there was a great deal to be learned during such a course as that. He (Mr. Gammell) was always ready to go back to school, and there was no man who had the interests of his calling at heart but was glad to obtain all the information he could from the best source whenever he had the opportunity. As a governor of the College of Agriculture, and on behalf of the governors, he welcomed them all, and trusted the course begun that day would be fruitful in every good for forestry, and that it would be a very profitable, very pleasant, and very satisfactory course. The speeches of the Principal and Mr. Gammell were loudly applauded.

Mr. Dawson, in his opening remarks, said he would like, before touching on the business of the class, to say something regarding the class itself, and the objects of it. There had been a great deal of talk about forestry education. Hitherto their efforts had been directed to educating those who could spend a long period attending college during the winter months. To everyone such attendance was not possible. Expert foresters, however, were always desirous of knowing more about the work in which they were engaged. The men of greatest practical experience were the men who were inclined to listen to what some people were sceptically inclined to dismiss as theory. The forester dealt with a crop that took the best of a century to mature. If the gardener or farmer had a bad year that did not materially injure his prospects, because the next year might be a good one. They had their returns.

every year. The forester, however, had his returns a century hence, and therefore he must apply the greatest care in his work, and above all things, must remember that if he made a mistake to-day, it might take half a century to rectify it. It was obvious, therefore, that the forester could not know too much. Further, the science of forestry was so extensive that no single human life was long enough to gain by experience a knowledge of all the ways of the forest.

There were many scientific facts, hidden facts, secrets, connected with the life of the forest that foresters had no means of finding out, and which must be left to the trained scientist to discover. He hoped, through that class, there would be opportunity for conference. They would be able to put their experiences against those of their neighbours, and he would like to put before them the experiences of the practical and scientific experts both of this country and the Continent. That class was in no sense meant to be an attempt to teach them their business—that they must have learned elsewhere. But the forester who turned to his own experience was generally a very expensive person on the estate, and, in fact, there was no room for the forester who depended upon his own experience alone. They must remember that what was right in theory must admit of application in practice. The application of the broad principles of forestry depended upon knowledge of local conditions, and that could be obtained by practical experience alone.

Till now, Mr. Dawson said, forests had been regarded by the great body of the public as something very nice, but as something with which the owners alone were concerned. But forestry was not in any sense a class question. It affected everybody. Forestry had suffered neglect in this respect—that the natural potential resources of the country had been allowed to disappear, with only here and there a staying hand to resist the general tendency. This clearance of the forests had gone on at an alarming rate, and the area of this country which was covered with wood was much less than that of any other country in Europe, with the exception of Portugal. There was less than 4 per cent. of the land surface of this country under trees. The position Britain occupied in this respect was extraordinary when they considered that the climatic conditions were so suitable for the growth of trees. There was, however, an excuse for it. For one thing, coal was discovered at an early date in Britain, and they did not require to protect the forests in order to produce firewood to the same extent as other countries. Then, during the last sixty years, at the time the country was developing industrially, Britain could get an unlimited supply from foreign countries at a small price. That was no longer possible, however. The situation had entirely changed. Only 25 per cent. of the land of Scotland was used for agriculture, while about 65 per cent. grew nothing at all, and was mostly under heather and bracken. It behoved us, therefore, to be up and doing. The countries from which we obtained so much timber in past years were not now in a position to supply our needs. Sweden and Norway still gave us large supplies, but could not continue doing so for an indefinite period. Prices were rising enormously, and everything pointed to a still further rise. And when this occurred Britain stood to be the biggest sufferer, on account of being the biggest consumer and the smallest producer. Mr. Dawson then referred to the possibility of increasing the rural population by a scheme of afforestation, and to the direct benefit it would be to the nation from a financial point of view. In Germany, where the State owned a considerable extent of forest, there was a clear profit to the nation of £6,000,000 per annum, which was nearly 16s. per acre of forest, and something like £9,000,000 was spent in wages. Mr. Dawson referred to the Developments Act, and pointed out that nothing could be more harmful than to rush and hurry such matters. The fact that that Act provided funds for the development of forestry was quite enough in the meantime; the rest would follow in due course. Various interests had to be considered—sporting interests, sheep rights, etc.—but whatever developments forestry underwent, agricultural land would not be affected.

The foresters were delighted with the opening meeting, and, judging by the feeling then displayed, the course is likely to be a most successful one.

National Hardy Plant Society.

As briefly announced in our last issue, a meeting of growers and persons interested in hardy plants was held at the George Hotel, Shrewsbury, on the 17th inst. Most of the largest exhibitors being present. On the motion of Mr. John Harkness, seconded by Mr. Frank Bouskell, Mr. A. J. Macselt took the chair, and opened the meeting by explaining the objects and aims of the society. Mr. John Harkness followed in an able address on the advantages from a trade point of view. Mr. Frank Bouskell followed, dealing chiefly with the amateurs' point of view, and the wide field open to a society from the scientific side. He mentioned that he had heard from Mr. Irving, of Kew, who said, "I think, however, that it is quite time such a society was formed in the interests of hardy plants, and I shall have much pleasure in supporting your objects, and joining the society when formed." Mr. S. Arnott, Dumfries, had written him to say that he would be glad to render the society what assistance he could. He had been in favour of the formation of such a society for many years, and wished the movement a successful issue. He (the speaker) had received numerous other promises of support; in fact, the replies were very nearly unanimous on the question.

After further discussion, Mr. George Gibson moved, Mr. R. Went seconded, and it was resolved unanimously: "That a National Hardy Plant Society be formed for the encouragement, the extension, and the improvement of hardy plant culture, whether for the garden for decorative purposes, or for exhibition, and for the improvement of their nomenclature; and that this meeting pledges itself to use every endeavour to promote the same." The Chairman proposed, Mr. R. Went seconded, and it was resolved unanimously, "That Mr. Frank Bouskell be secretary." Mr. Brunton proposed, Mr. Gibson seconded, and it was resolved unanimously: "That Mr. Macself be chairman of the Provisional Committee." Mr. Harkness proposed, Mr. Hosier seconded, and it was resolved unanimously, "That Mr. J. S. Brunton be treasurer." It was proposed by Mr. Artindale, seconded by Mr. Harkness, "That Mr. R. T. Went be vice-chairman."

The following Provisional Committee was appointed: Mr. W. Irving, Kew; Mr. S. Arnott, Dumfries; Mr. J. Artindale, Sheffield; Mr. G. Gibson, Bedale; Mr. W. E. Clarke, Whitchurch, Cardiff; Mr. F. Eames, Frome; Mr. R W. Hosier (Messrs. Bakers), Wolverhampton: Mr. G. G. Blackbourn, King's Acre Nurseries; Mr. G. C. Mudge (Messrs. Barr), London; Mr. E. G. Quick, Covent Garden; Mr. C. E. Osborne, Hereford; Mr. D. Roberts (Messrs. Dicksons), Chester; Mr. A. J. Wommscott (Messrs. Hewitts), Solihull; Mr. W. J. Robertson, Worcester; Mr. N. Walker, Bedale; Mr. J. Harkness, Bedale; Mr. J. C. House, Westbury-on-Trym.

It was decided to hold the next meeting at the Edinburgh Show on September 7. The meeting concluded with a vote of thanks to the chairman and secretary.

Usk Horticultural Society.

AUGUST 18.

Much credit is due to the secretary, and his committee, for the enterprise they have exercised in working up their annual show to the point of local interest to which it has attained. The 124 classes in the schedule were mostly well filled with produce of very good quality.

OPEN CLASSES.

Two groups of plants, arranged for effect, were exhibited, one by Mrs. E. Lawrence, Tybrith, Usk, and the other by the Rev. W. M. Willett, The Halmean; the former secured leading honours, with creditably arranged, bright, well-grown plants, of which Campanula pyramidalis, fuchsias, begonias, eulalias, caladiums, Lilium lancifolium, surmounted by a good Cocos Weddeliana, and edged with blue lobelia and Panicum variegatum, were the chief subjects. Though the other exhibit was in some respects equal to the leading one, it possessed the defect of many of the plant pots being visible. For twelve ornamental-leaved and flowering plants, the Marquis de la Pasture, Cefn Ila, Usk, led with well-grown and flowered specimens, amongst which Hydrangea japonica, Campanula pyramidalis, fuchsias, pelargoniums, achimenes, and Diplacus (mimulus) aurantiacus were conspicuous. Mrs. E. Lawrence, Tybrith, Usk, was second. There were four exhibits of six zonal pelargoniums, and the Marquis de la Pasture was placed first with large specimens of single-flowered varieties; H. Freeman, Esq., Plas Newydd, second. Of two exhibitors of six dinner-table plants, H. Freeman, Esq., scored with nice plants of crotons, dracænas, pandanus, etc., Mr. E. C. Francis being a close second. The Rev. W. M. Willett was placed first in a class for six stove and greenhouse ferns, and staged large, fresh plants of Adiantum Farleyense, A. gracillimum, A. cuneatum, and A. grandiceps; Mrs. E. Lawrence followed, her best plants being Nephrolepis todeaoides and Gymnogramma tartareum. Gloxinias in six varieties were well shown by three exhibitors, the principal prizewinners being Mrs. E. Lawrence and H. L. Gustard, Esq. There were three sets staged in a class for six double tuberous begonias; H. L. Gustard, Esq., was first, and Mr. E. C. Francis second; while in a similar class for single-flowered varieties H. L. Gustard, Esq., again led, and was followed by H. Freeman, Esq. For four fuchsias H. L. Gustard, Esq., who showed medium-sized well-flowered specimens, was the only exhibitor.

CUT FLOWERS.

With twelve roses, not less than six varieties, H. Freeman, Esq., was placed first, closely followed by Mr. H. E. Messenger. Twelve cactus dahlias made a splendid class, there being six capital sets staged, the leading lot coming from Mr. J. T. Evans; the Rev. W. M. Willett, second. In a similar class for asters, for which there were ten competitors, the Rev. W. M. Willett took the lead, and was closely followed by Mr. A. Bowyer, each staging splendid examples. Twelve zinnias made another excellent class, six boards being staged; the chief one came from R. Rickard, Esq., who was closely followed by H. L. Gustard, Esq. R. Rickard, Esq. led amongst four competitors, who staged six spikes of gladioli; and for twelve blooms of double begonias H. Freeman, Esq., was first, and H. L. Gustard, Esq., second.

Sweet peas were staged in fine condition, and in the class for six varieties there were eight competitors, the lead being taken by Mr. C. James, who staged splendid large-developed blooms; R. Rickard, Esq., was a close second. For the best collection of eight varieties, for which Messrs. Webb and Sons, Stourbridge, offered prizes, the Rev. W. M. Willett scored with flowers of much merit.

Reading and District Gardeners' Association.

Over 100 members of the above association paid an evening visit, by the kind permission of Mrs. Noble, to Park Place, Henley-on-Thames, on August 16. The visitors were welcomed at Shiplake Station by Mr. T. J. Powell, the head gardener, who conducted them through the Bolney Court Estate to the river, where they were ferried over. Immediately on their arrival, the party were invited to partake of tea, kindly provided by the thoughtful generosity of Mrs. Noble.

Before proceeding on their tour of inspection, the vice-president, Mr. Leonard Sutton, expressed, on behalf of the president, his regret at being unable to accompany the

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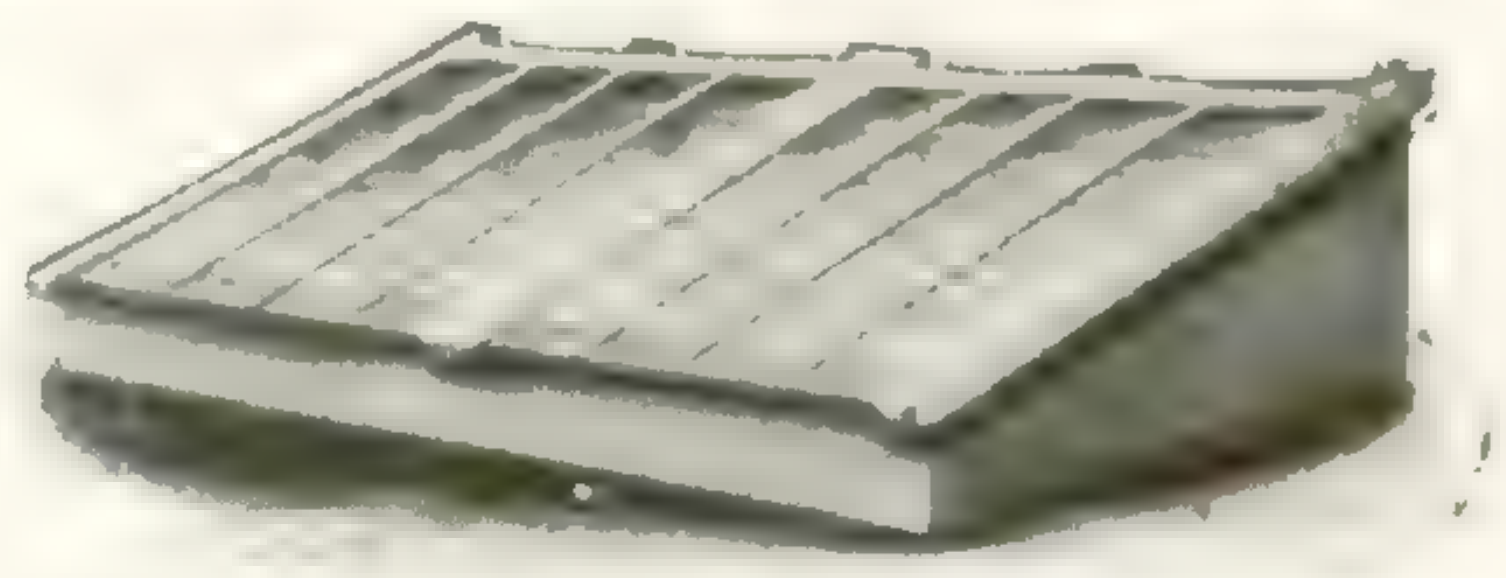

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association, and asked Mr. Powell to convey to Mrs. Noble the warmest thanks of the members for not only so kindly entertaining the party on this occasion, but for the interest ever shown in gardeners and gardening in general. Mr. Powell then conducted the visitors through the "Happy Valley" to inspect the Chalk Caves. These having been fully examined, the beautiful trees, for which the place is so noted, came in for more than marked attention, to say nothing of the glorious views which can be obtained of the surrounding country. Space does not permit to mention all the lovely things seen, suffice it to say that the beautiful collection of foreign birds, climbing roses, flower beds, and borders all came in for their share of admiration, as also did the greenhouses, in which were a choice collection of flowering plants, ferns orchids, melons, tomatoes, citrons, grapes, and some retarded potatoes ready for planting. Mention must, too, be made of the new water garden, which, although only planted in the spring, was simply one mass of plants. The kitchen garden crops were also inspected, as was the orchard, where the scarcity of fruit was noted in some parts, but not in others. The time passed all too quickly, and the party had perforce to make their way to the station, but not before cheers had been raised for Mr. Percy Noble, who had joined the party in the garden, and also Mrs. Noble, whom the party regretted they were not able to meet. The station was soon reached, and hearty cheers having been accorded to Mr. Powell, the party returned home carrying with them happy recollections of their visit to Park Place.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

DATE. 1910. AUGUST 14 TO AUGUST 20.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Aug. 14—Sunday	5 25	66	63	75	52
,, 15—Monday......	11 55	66	60	73	64
,, 16—Tuesday	8 55	64	58	73	53
,, 17—Wednesday .	1 30	61	59	68	55
,, 18—Thursday ...	6 55	63	59	70	51
,, 19—Friday........	10 25	63	60	72	60
,, 20—Saturday ...	3 0	63	59	70	53
Means ...	(total) 48 5	64	60	72	55

DATE. 1910. AUGUST 14 TO AUGUST 20.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Aug. 14—Sunday	0.01	62	61	60	42
,, 15—Monday.....	—	64	62	60	60
,, 16—Tuesday......	trace	63	62	60	48
,, 17—Wednesday .	trace	63	62	60	46
,, 18—Thursday ...	0.13	62	62	60	44
,, 19—Friday........	—	63	61	60	58
,, 20—Saturday ...	trace	62	62	60	46
Means ...	(total) 0.14	63	61	60	49

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Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

PRUNING PEACHES.—A. F. G., Hailsham: If the trees have been properly disbudded there will be two growths on each of the fruiting shoots, one at the extreme end to draw the sap along, and one as close to the base as possible. It is the latter that must be retained, and as soon as the fruits have been gathered the fruiting growths should be cut back close to the basal shoots. This is the general principal. Sometimes, to fill out wall space, more growths are left on a particular branch, and the branchlets are subsequently treated as suggested.

ASTER BLOOMS.—L. A. W., Manchester: The finest aster blooms are usually the terminal ones, i.e., the central and earliest flower on the plant. For show purposes this one is encouraged, and the lower side flowers suppressed or thinned out. For garden effect, however, the directly opposite plan proves the most successful, and the central bloom is cut out as soon as developed, or pinched out while still in the bud stage. This ensures a finer development of the many side flowers, and these come of good size and on long stems and make a brave show.

FAILURE WITH GRAPES.—E. W. M., Wellington: The failure is due to shanking, and shanking may be due to several causes. Very probably the vines are over-cropped; if the roots are in a cold, wet medium similar results will follow.

MUSCAT GRAPES SHANKING.—C. S., Stockbridge: The grapes will not ripen after they have shanked. Remove and burn all the shanked bunches and berries. See also answer to "E. W. M."

FUNGUS DISEASE IN MUSHROOMS.—F. W. A., Northampton: The primary cause of the mischief is a minute parasitic fungus, which when once introduced, spreads very quickly under the conditions of temperature and moisture essential for the rapid growth of mushrooms. Well-marked symptoms are evident from the earliest stages of disease, the mycelium of the parasite growing up with that of the mushroom. The latter, instead of gradually developing into a cap and stem, becomes an irregularly-shaped monstrous soft mass, which if allowed to grow, often exceeds in size that of a full-grown mushroom. Sometimes a small, deformed cap is present, but as a rule the entire mass of a diseased mushroom consists of a much swollen stem. After a time the parasite forms its spores on the surface of the diseased mass, appearing under the form of a snow-white, minutely velvety covering. After the spores are scattered the diseased mushroom rapidly decays, forming a putrid mass having a very disagreeable pungent smell. Numerous toadstools and other fungi suffering from the parasitism of different kinds of hypomyces are common in our woods and pastures every season, and spores are probably introduced into the mushroom bed along with the manure or road sweepings commonly used. The Board of Agriculture considers that: (1) In some instances it is certain that the spawn is infected before it is placed in the mushroom bed. In such cases, when the spawn commences to "run," the threads, instead of having a clear and sharp outline like white cord, present a fluffy appearance, due to the presence of the parasite on the surface of the strands; the branches are also much fewer in number than when the spawn is healthy and growing vigorously. Under such circumstances the entire bed should be removed before the parasite produces spores; otherwise, if the house becomes thoroughly infected, common experience has shown that the disease is exceedingly difficult to eradicate. (2) When infection occurs through the introduction of spores into the house by wind or other causes, the disease may be confined to certain portions of the bed, and the prompt removal of infected mushrooms as soon as the slightest symptoms are observed may check the disease from assuming the proportions of an epidemic. (3) After removing the soil and manure of an infected bed, great care should be taken in cleansing the tools, boots, and even clothing; otherwise there is great risk of infecting other beds. Rejected soil and manure should be at once removed from the neighbourhood of the mushroom beds. They may be applied to the land, as the contained spores, so far as is known, can only develop on some kind of fungus, and do not attack any other cultivated crop. (4) When a house or other structure in which mushrooms are grown has become infected, it should be completely emptied and thoroughly sprayed, both roof, walls, and floor, three times at intervals of ten days with a solution of sulphate of copper—one pound of sulphate to fifteen gallons of water. During this period of spraying the house should be kept warm and moist, for the purpose of favouring germination of the spores of the parasite, which are destroyed with greater certainty when growing than when in a resting condition.

BOOK ON STOVE PLANTS.—B. W., Walsall: Owing, in a large measure, to the decline in the popularity of stove plants, no book wholly devoted to the description of the finest kinds and their cultivation has been published of late years. The most recent book with which we are acquainted containing information on stove plants is "Greenhouse and Stove Plants," by the late Thomas Baines, who, as you may be aware, was for a long series of years one of the leading cultivators of these two classes of plants. The book was published in 1894 by Mr. John Murray, Albemarle Street, London. We are not quite certain about the price, probably about half-a-guinea, but you can readily obtain information upon this point from the publisher.

VIOLAS OR TUFTED PANSIES.—M. K. B., Dorset: The propagation of a stock of violas or tufted pansies for the embellishment of the flower garden during the summer of 1911 should be proceeded with at once to ensure the plants being well rooted and strong before the end of the autumn. The article which appears on another page of the current issue, from the pen of Mr. T. Smith, will afford you all the information you require, both with regard to the selection of varieties, and raising a stock of young plants.

EARLY - FLOWERING BULBOUS PLANTS.—F. M. H., Lancashire: The most useful of the bulbous plants for producing large quantities of flowers for decorative purposes in a cut state are Early White Roman hyacinths, Scarlet and White Van Thol tulips, and Early Paper White and Early Double Roman polyantha narcissi. They are all comparatively cheap, and if potted at once, or put in boxes in accordance with the practice that obtains in market gardens, and when well rooted, placed in a house or pit, where they will have the assistance of a temperature of about 60 deg. flowers will be obtained in December. As you require the flowers wholly for use in a cut state, growing the bulbs in boxes will be preferable, because of the larger number that can be grown in a given space.

ASTILBES.—W. S., Herts: The most useful of these for growing in quantities are Astilbe astilboides, A. japonica compacta multiflora, and A. Alexandra, the last-named being especially useful for decorations late in spring.

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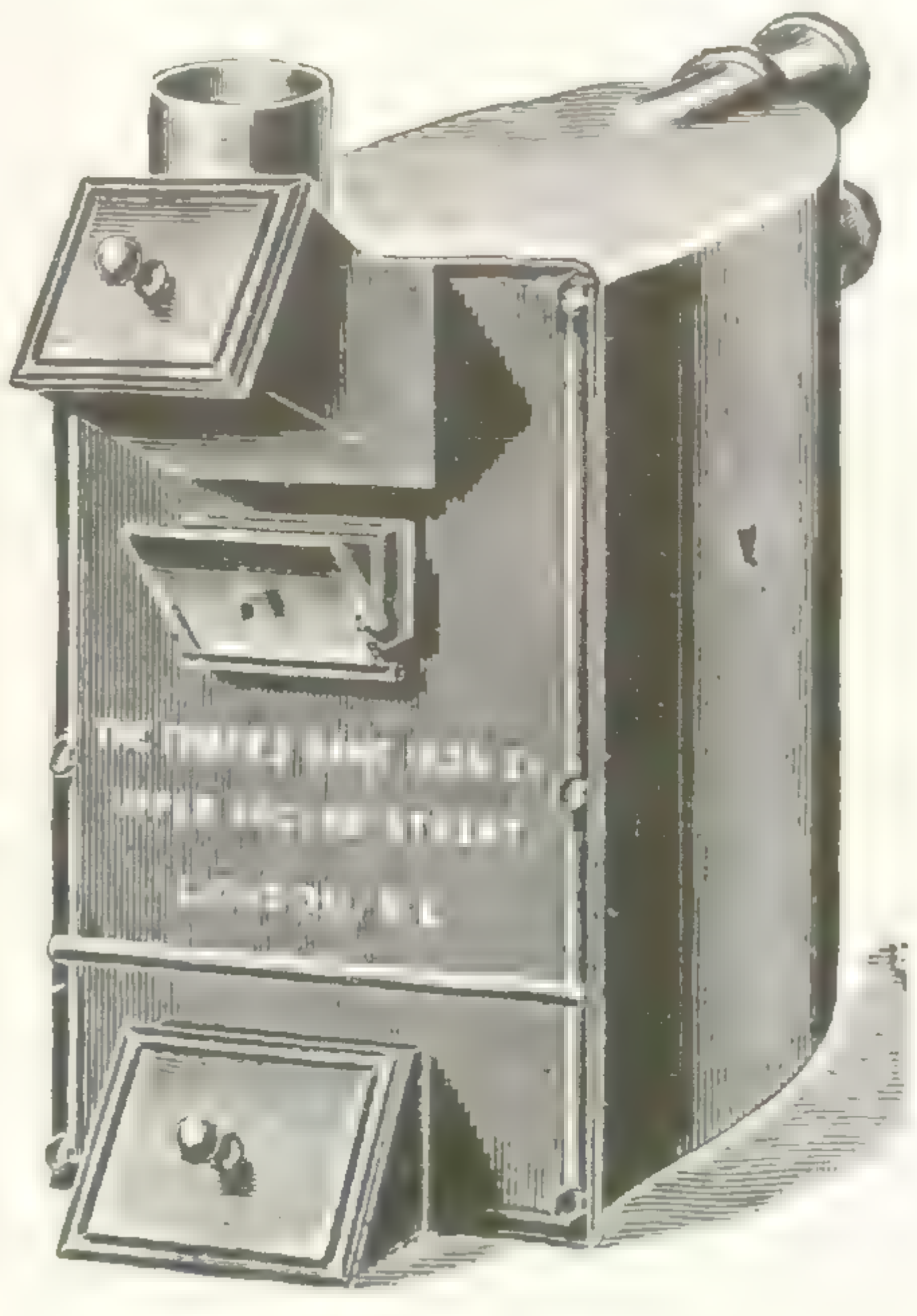

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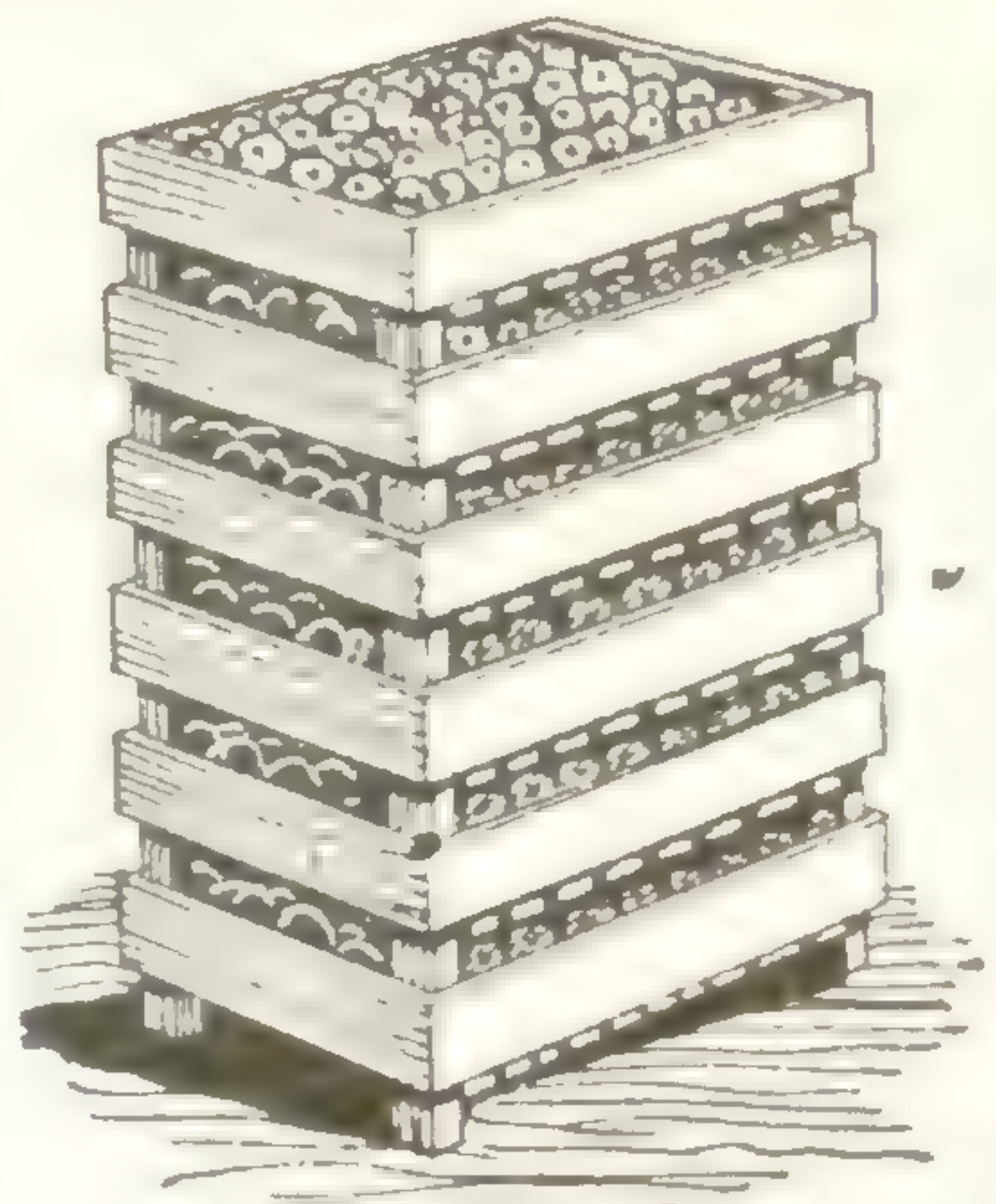

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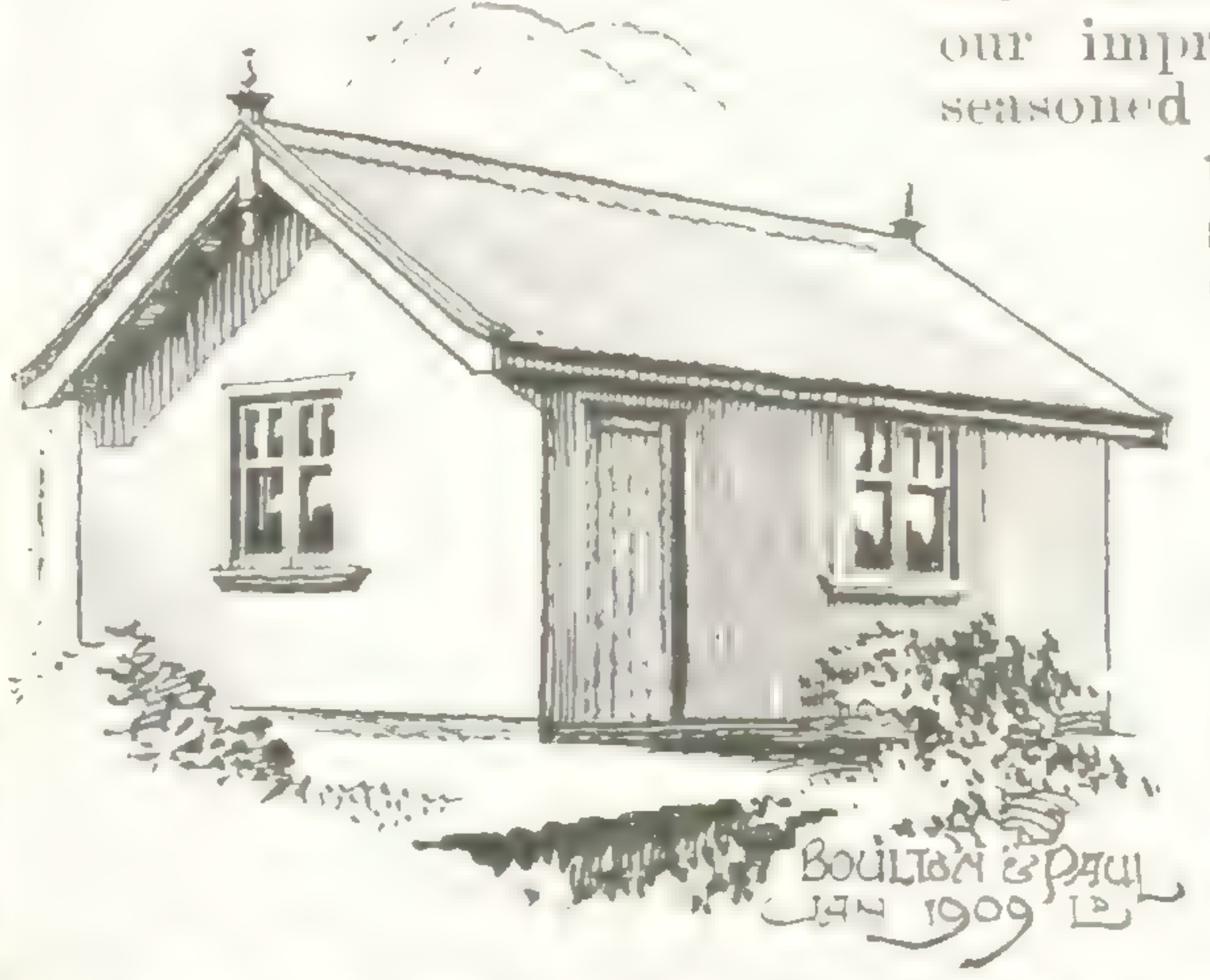

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Supplies continue plentiful, but owing to the holidays there is a poor demand.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	6	0	to	8	0
Asparagus	per bun.	1	0		1	6
Asters	per doz. bun.	3	0		5	0
Arums	per doz.	2	0		2	6
Carnations	per doz. blms.	1	0		3	0
,,	per doz. bun.	8	0		10	6
Cattleyas	per doz.	10	0		12	6
Coreopsis	per doz. bun.	1	6		2	0
Cornflowers	per doz. bun.	1	0		2	0
Croton leaves	per bun.	1	0		2	6
Dahlias	per doz. bun.	4	0		8	0
Eucharis	per doz.	2	0		3	0
French fern	per doz. bun.	0	6		0	9
Gaillardias	per doz. bun.	1	6		2	0
Gardenias	per doz.	2	0		2	6
Gladiolus	per doz. bun.	3	0		4	0
Gypsophila	per doz. bun.	3	0		5	0
Lapagerias	per doz.	1	6		2	6
Lilium auratum	per bun.	2	0		3	6
,, speciosum	per bun.	1	6		2	6
,, longiflorum	per bun.	2	0		3	0
Lily of the Valley	per doz. bun.	5	0		10	0
Marguerites	per doz. bun.	1	6		2	0
Mignonette	per doz. bun.	2	0		3	0
Odontoglossums	per doz. blms.	2	0		3	6
Pelargoniums	per doz. bun.	3	0		5	0
Poppies (Iceland)	per doz. bun.	1	0		1	6
Roses	per doz.	1	0		2	6
Smilax	per doz. trails	2	0		3	0
Spiræa	per doz. bun.	4	0		5	0
Statice	per doz. bun.	4	0		5	0
Stocks	per doz. bun.	2	0		6	0
Sweet Peas	per doz. bun.	1	6		2	6
Tuberoses	per doz. blms.	0	4		0	6

Fruits.

Business is fairly brisk, and supplies are much the same as last week.

		s.	d.		s.	d.
Apples, English	per bush.	3	0	to	10	0
Apricots	per box	0	9		1	6
Bananas	per bun.	3	6		10	0
Figs	per doz.	1	6		6	0
Gooseberries	per ½-sieve	2	6		5	0
Greengages	per ½-sieve	4	0		8	6
Grapes, English	per lb.	0	8		3	6
,, Guernsey	per lb.	0	6		1	0
Lemons	per case	10	0		30	0
Melons	each	0	8		2	0
Nectarines	per doz.	3	0		10	0
Oranges	per case	10	0		16	0
Peaches, English	per doz.	2	0		10	6
Pears, French	per crate	4	0		9	0
,, English	per ½-sieve	2	0		6	0
Pineapples	each	2	6		4	6
Plums	per ½-sieve	3	0		7	6

Vegetables.

Runner beans and vegetables continue abundant and of good quality.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	0
Beans, Broad	per bush.	2	0		2	6
,, Runner	per bush.	2	0		2	6
Beet	per bush.	2	0		2	6
Cabbages	per tally	2	0		5	6
Carrots	per doz. bun.	2	0		3	0
Cauliflowers	per doz.	1	6		3	0
Cucumbers	per flat	5	0		7	0
Endive	per doz.	1	0		2	0
Lettuce, Cos	per score	0	4		0	10
Marrows	per tally	2	0		5	0
Mint	per doz. bun.	2	0		4	0
Mushrooms	per doz. lb.	7	6		10	0
Mustard and Cress	per doz. pun.	0	6		0	8
Peas	per bush.	3	6		4	6
Radishes	per doz. bun.	0	4		0	10
Parsley	per ½-sieve	1	6		2	0
Spinach	per bush.	1	0		1	6
Tomatoes	per doz. lb.	2	0		3	6
,, Guernsey	per doz. lb.	3	0		4	0
Turnips, new	per doz. bun.	2	0		3	0
Watercress	per doz. bun.	0	3		0	6

LONDON POTATO MARKETS.

Supplies are liberal and the tubers are of excellent quality.

		s.	d.		s.	d.
Round	per cwt.	4	0	to	4	6
Kidneys	per cwt.	4	0		4	6
Lincolns	per cwt.	2	9		3	0
Epicures	per cwt.	2	6		3	0
Express	per cwt.	3	3		3	9
May Queen	per cwt.	3	9		4	3
Puritans	per cwt.	2	0		3	0

Lettuce.—Continue to transplant the plants raised from the late July sowing in sheltered quarters. Also put a certain number in frames, where the lights can eventually be placed over them in unfavourable weather. They will heart nicely during the winter months. Others can be lifted with balls, and placed rather thickly in frames during October.—G. ELLWOOD.

FORTHCOMING ENGAGEMENTS.

SATURDAY, August 27.—Hawick Horticultural Society.

TUESDAY, August 30.—Royal Horticultural Society Committees meet at 12 o'clock; lecture on "The Effects of Overhead Electrical Discharges upon Plant Growth," at 3 o'clock, by Mr. J. H. Priestley, B.Sc.; Scientific Committee, 4 o'clock.

WEDNESDAY, August 31.—Glasgow Horticultural Society.

Carlisle Flower Show; two days.

South Shields Flower Show; two days.

Chester Agricultural Society, Horticultural Section.

SATURDAY, September 3.—French Horticultural Society of London.

TUESDAY, September 6.—Scottish Horticultural Association.

WEDNESDAY, September 7.—Royal Caledonian Horticultural Society's Autumn Show; two days.

National Hardy Plant Society meet at Edinburgh, 8 p.m.

MONDAY, September 12.—United Horticultural Benefit and Provident Society, Committee meeting.

TUESDAY, September 13.—Royal Horticultural Society; Committees meet at 12 o'clock; lecture at 3 p.m. on "Roses," by Mr. George Paul, jun.; Scientific Committee at 4 o'clock.

British Gardeners' Association, Council Meeting.

THURSDAY, September 15.—National Rose Society's Autumn Exhibition at the Royal Horticultural Hall.

CATALOGUES RECEIVED.

R. HALLIDAY AND CO., MIDDLETON, MANCHESTER.—An abridged list of conservatory and other designs executed in recent years by this firm, together with frames and other horticultural buildings.

W. CLARK, 90, LONDON STREET, READING.—Illustrations and particulars of conservatories, corridors, plant and forcing houses, fruit houses, etc., furnished with Clark's patent rustless metal system of glazing. Drip and many other troubles are avoided by the adoption of this method of glazing.

JAMES DOUGLAS, EDENSIDE, GREAT BOOKHAM, SURREY.—An illustrated and descriptive list of show, border and tree carnations, picotees, auriculas, and choice daffodils.

E. H. KRELAGE AND SON, HAARLEM, HOLLAND.—A comprehensive general catalogue of bulbs, in which hyacinths and tulips are given great prominence. New hyacinths, tulips, daffodils, and iris, are listed and described.

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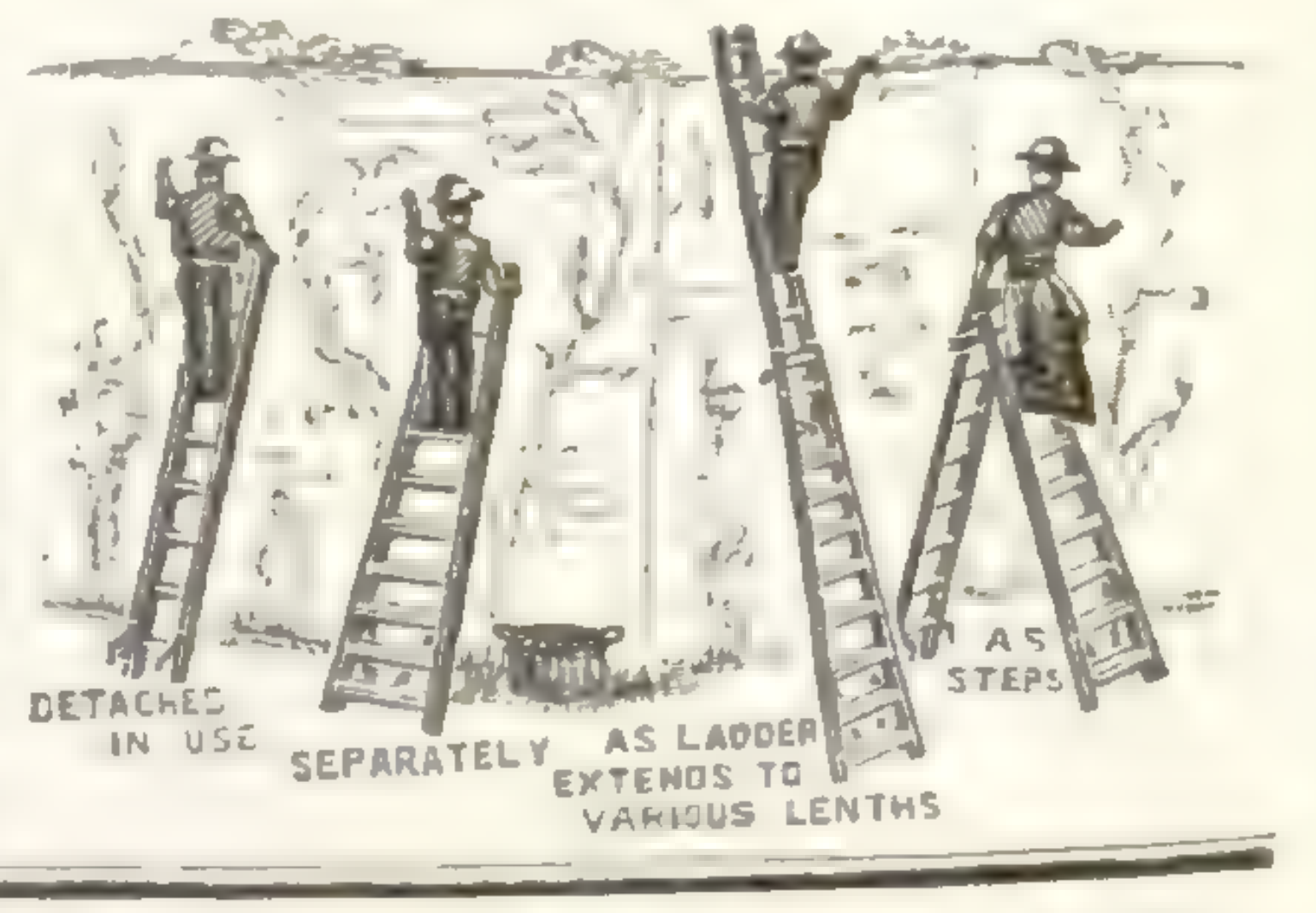

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Situations Wanted.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

MR. J. DOWNIE, Head Gardener, Castleford, Chepstow, will be pleased to recommend J. MILLS as GARDENER (Kitchen, or Inside and Out); good references. Apply above.

H. WHATELEY, Esq., The Spring, Kenilworth, Warwickshire, recommends a GARDENER (Head); well experienced all kinds of Fruit, Plants under Glass, including Orchids, and Kitchen and Flower Gardens. For particulars apply above.

GARDENER (Head); life experience all branches, Inside and Out; Grapes, Peaches, Melons, Stove and Greenhouse Plants, Orchids, Malmaison and Tree Carnations, Landscape and Rock Garden; Vegetables and Hardy Fruit; nearly 8 years as head; age 35; excellent references. F. SMITH, 4, Mellish's Terrace, Morden, Surrey.

GARDENER (Head, where two or three are kept); highly recommended; would be pleased to forward particulars to any Lady or Gentleman. CLARK, 19, Tanfield Road, Birkby, Huddersfield.

GARDENER (Head of two or three, or good Second); age 28, married; life experience in all branches, Inside and Out; Carnations speciality; highest references from good places. H. LYTH, 7, Bronaber Terrace, Barmouth, N. Wales.

GARDENER (Head); life experience in growing all kinds of fruit and plants, including orchids; also kitchen and flower garden; can be highly recommended. W. LAMBERT, The Common, Kenilworth, Warwickshire.

GARDENER (Head Working or good Single-handed); life experience; 11 years' reference from last situation; married, no family; disengaged. W. HARTNUP, 61, Nichol Lane, Bromley, Kent.

GARDENER (Head Working, where one or two more kept, or good Single-handed); experienced Inside and Out; good references, and recommended; age 27; married when suited. W. CROUCHER, 11, North Terrace, Hythe, Kent.

GARDENER (Head Working, where two or more are kept); thoroughly experienced; 7 and 12 years' good references as Head; age 45; active; 2 in family, youngest, lad, 15; disengaged. HUNT, [illegible] Bridewell Street, Devizes.

GARDENER (Head Working).—Well up in all branches; excellent characters; 5 years' present situation; married; age 40. E. BEARDSLEY, The Finches, Ifield, Crawley, Sussex.

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GARDENER (Head Working, where two or more are kept); good all-round; can be well recommended; married when suited; age 36. PEARCE, Ridley, near Wrotham, Kent.

GARDENER (Head Working); experienced in the Cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, etc.; also Hardy Fruit culture; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

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GARDENER (Head Working).—Mr. WATSON can highly recommend C. WALLIS, where two or three are kept; been here 5½ years as Second of five; age 30; married, one child. The Gardens, Bushey Down, Tooting Common.

GARDENER (Head Working or good Single-handed); life experience in all branches; good references from present and previous employers as to ability and trustworthiness; no family. GARDENER, 28, Martell Road West, Dulwich, S.E.

GARDENER (Head Working); experienced Inside and Out; good references; age 36; married, two children, youngest 9; disengaged in September. G. BROAD, The Gardens, Braydon Hall, Minety, Wilts.

GARDENER (Head Working); good practical experience in all branches, Inside and Out; Early and Late Forcing; excellent references. H. TURNER, Regal Cottage, Kentford, Newmarket.

GENTLEMAN recommends GARDENER (Head of two or three); life experience in all branches; understands formation of new or renovating old gardens; married, one boy 10 years; age 45. PENNELLS, Phœnix Green, Winchfield, Hants.

MESSRS. ROWLAND, Wavertree Nurseries, Liverpool, can highly recommend first-class GARDENER (Head); many years' experience in growing Fruit and Plants under Glass, including Carnations, Kitchen and Flower Garden. For particulars apply above.

GARDENER (Single-handed or with help); life experience; highly recommended; age 28; married when suited. WM. MARTIN, Higham, Nuneaton.

GARDENER (Working or Good Single-handed), Re-engagement wanted by middle-age, married Man, no family, with practical experience with Fruit, Flowers, and Vegetables, Inside and Out; 5½ years' good character from last place. J. B., 8, Mead Cottages, Mead Row, Farncombe, Surrey.

GARDENER (Single-handed or otherwise); experienced, Inside and Out; good references; age 27; married, one child; abstainer; gentleman's recommendations; disengaged. W. HOLNESS, Ripple Court, near Dover, Kent.

GARDENER (Single-handed); married; age 27, seeks SITUATION; experienced Inside and Out; 5½ years' excellent reference last situation. Apply W. G. CONN, 7, Coombe Road, Sydenham.

GARDENER (Single-handed or with help); age 28; experienced Inside and Out; married when suited; good references. A. RAYFIELD, 130, Lavenham Road, Southfields, Surrey.

GARDENER (Single-handed) seeks SITUATION; 12 years' good experience; good reference. Address, A. DODD, 64, Northfield End, Henley-on-Thames.

GARDENER (Single-handed or otherwise); good all-round man in all branches, or handy man on gentleman's estate; good at either; willing to be useful; active and reliable; good character; age 45; married, one child. OSBORNE, 48, Bradshaw Road, Watford.

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JOURNEYMAN (First, Inside or Inside and Out) by Young Man, 21; 2 years' excellent reference present situation, four previous. F. TURNER, Strelly Hall Gardens, Nottingham.

MR. J. SHELTON, Wildernesse Gardens, Sevenoaks, Kent, will be pleased to recommend A. BOOKER as JOURNEYMAN (Inside); age 21; 4 years' experience. Apply as above.

GARDENER (Under, where three or four are kept); 6 years' experience; 6 years last situation; Bothy preferred; total abstainer. H. SHIPWORTH, Utterby, Louth.

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REQUIRED experienced active Single-Handed GARDENER (help given), mid-September, well up in greenhouse and outside work, flowers (roses, etc.), fruit and vegetables, to take charge of a garden of about 1 acre; age not less than 27, married; references must be good. Apply by letter only to Mr. F. A. WELLS, Dovedale, Chelmsford, Essex.

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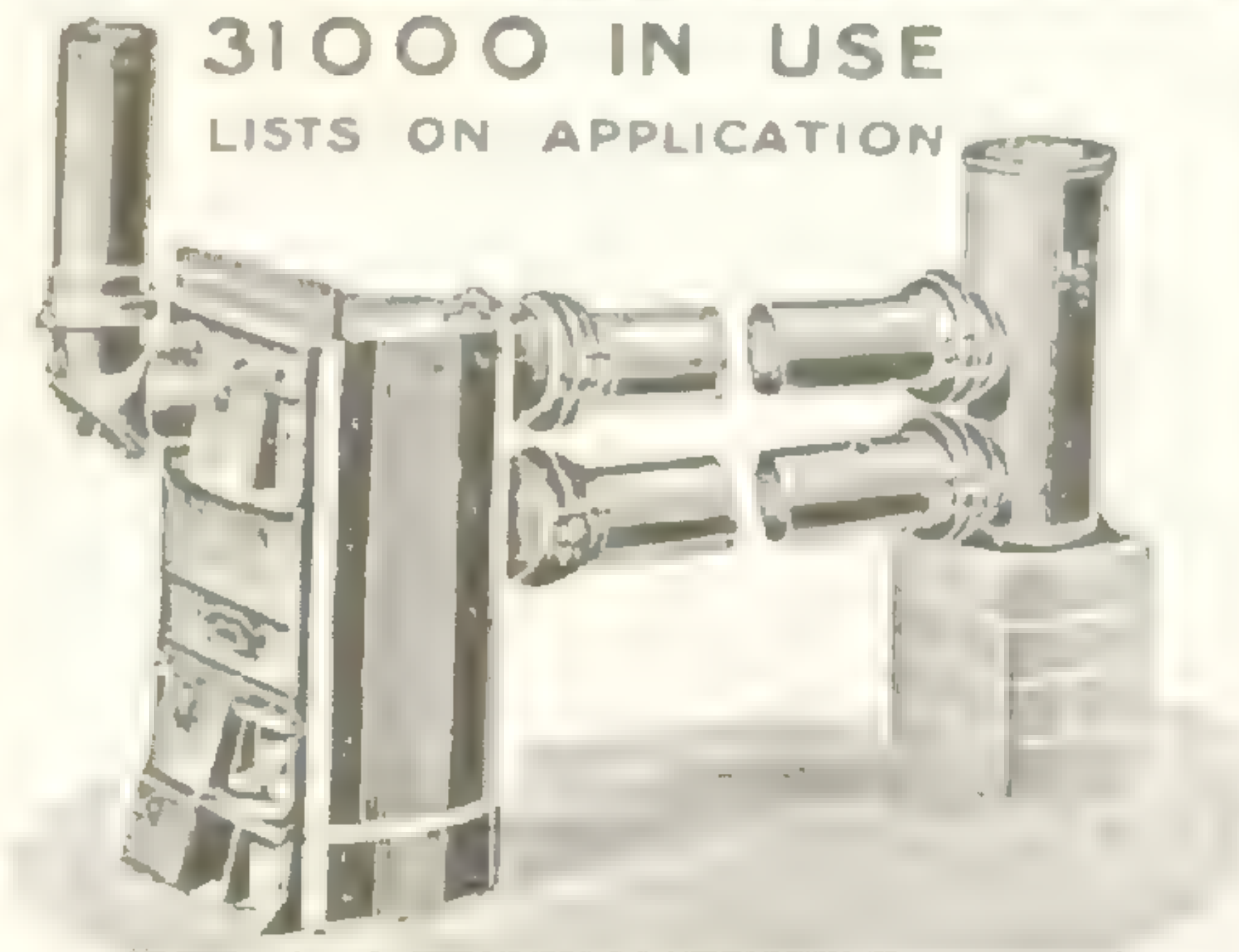

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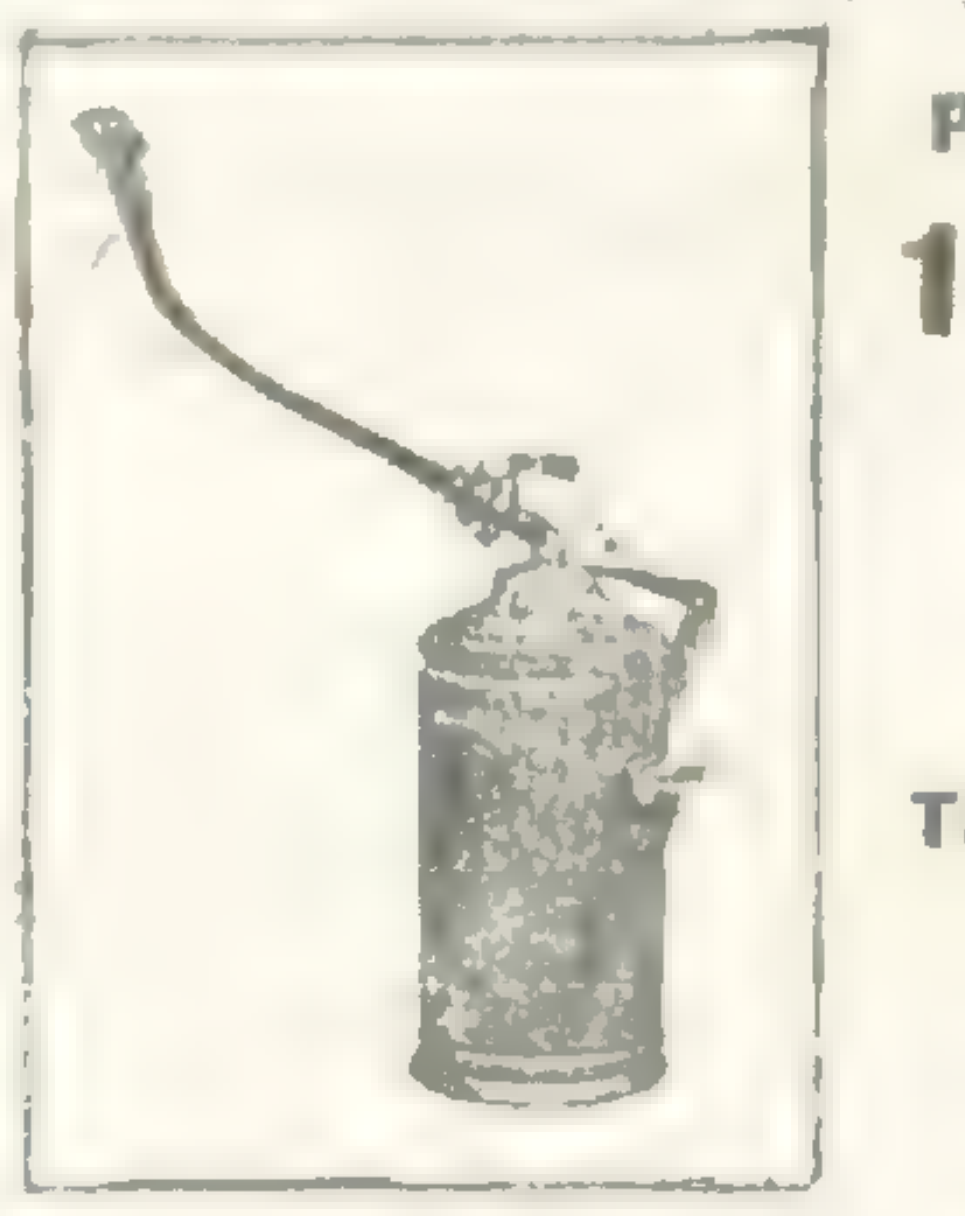

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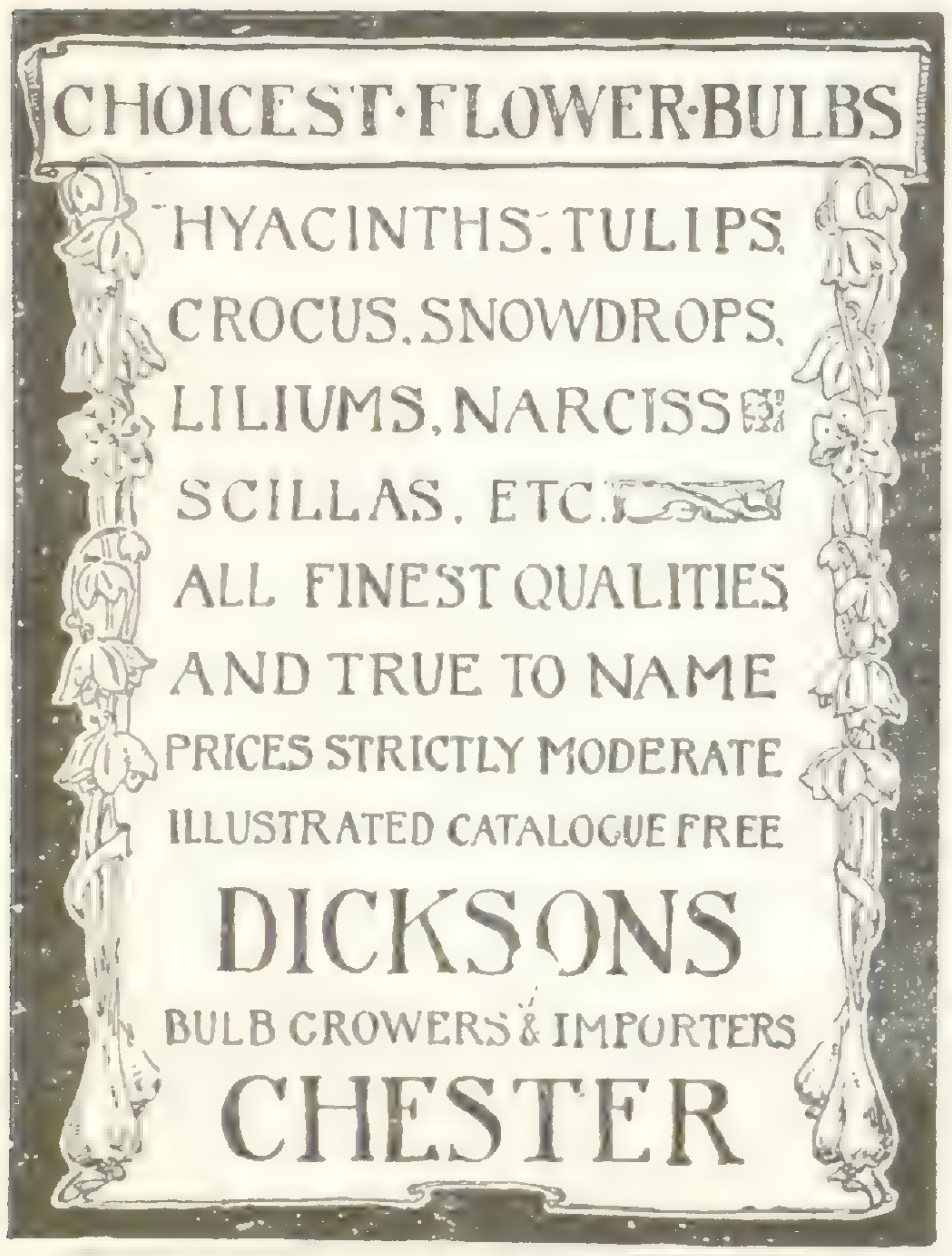

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VOL. LIII.—No. 2,966. SATURDAY, SEPTEMBER 3, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Flower and Fruit.

When we consider the marvellous abundance of flowers, large and small, brilliant or modest, and the equal diversity of the fruits of which they are the preliminaries, and also reflect upon the material and even vital part which these latter play in the maintenance of the animal creation in the way of food, it is difficult to picture to ourselves a vast world of vegetation devoid both of flowers and fruits, and yet, undoubtedly, accompanied by an animal world of extremely diverse character. If, however, we are at the seaside we may even now obtain a glimpse of such a world, for it is on the land alone that the vast diversity of beautiful bloom and nutritious fruit exists. In the ocean, undoubtedly the birthplace of both the animal and the vegetable, the old order of things has survived; its vegetation bears no flowers, but is reproduced by spores and germs in innumerable ways, and its inhabitants live either directly or indirectly upon the vegetation therein, not as land animals do, on the fruit it produces, but solely upon its foliage. Strictly speaking perhaps, regarding the spore as a fruit—since all fruits are reproductive bodies and spores are so also—we must include many of the minute hosts of the spore-devouring animalculæ as fruit eaters, but as we are treating the matter on popular lines and according to popular ideas, we leave this point to the hair-splitters. In any case in the ocean we see a world which in this respect presents a remarkable contrast to the land. This is owing to the fact that the environment is practically alike everywhere, save such minor modifications as occur between tide marks on the coasts in temperature according to the equatorial or arctic climatal conditions, or the many grades between them, and in modifications in the water itself where rivers discharge their streams of fresh water laden with material for the rocks of the future. The land on the other hand is infinitely diversified. Its occupants it is true are universally bathed in the same ocean of air as the denizens of the sea in the ocean of water, but its surface is broken up into mountain and hill, valley and ravine, alluvial plain and sandy desert, and its composition is also varied according to the nature of the rocks and other matters which form its superficial soils. Its vegetation is not, as in the ocean, merely anchored to the rocks, but has been evolved to penetrate the soil by means of its roots and to extract therefrom a material portion of its nourishment. In the struggle for existence it has become modified in all ways, in size from the gigantic trees like the sequoias, eucalyptus, and banyans, down to the minutest mosses, or the still more minute fungi, and since the inequality of the surface means varied aspects and exposure, and all grades of humidity, from water-logged bogs to the driest of sands, this diversity has led to the evolution of incalculable varieties of plants adapted to fit them all. Now it is in the direction of adaptation to these varied aerial conditions that the evolution of flowers and fruits was brought about.

MR. LEWIS SMITH.

In the ocean, the seaweeds, which form its subaqueous forests, are all dependent upon actual immersion for their spores to reproduce their kind, and thus as land vegetation took on new forms it became essential for its reproduction and dissemination that the "seed" should, as it were, be invented. To this end the swimming antherozoid, or fertilising body, became modified so as to be conveyed by the transportable pollen grain to its destination in the ovary or seed vessel, in its turn a modification of the fixed germ of the seaweed. These two then became associated in a primary simple flower; but this was not enough, since this meant constant inbreeding, and the great and providential law of cross-fertilisation decreed that this should be brought about mainly by the insect world. Hence the inconspicuous flowers were doubtless first provided with nectaries or pleasant flavours or perfumes; and as any accidental or fortuitous increase in conspicuousness, greater size or brighter colour, attracted more insects, and consequently by the greater transfer of pollen from one flower to another not only increased the seed yield but invigorated the plants, the survival of the fittest always meant progress, and this has continued from æon to æon until we possess the marvellous floral wealth of to-day, man coming in at last to enormously expedite the march. During this evolution not only were the flowers increased in attractiveness, but their seeds became modified and provided with attractive lures, soft and luscious pulps associated with indigestible seeds ensuring wide dissemination by devouring birds or animals, while man took up the unattractive grasses, and finding the originally small seeds nutritious, improved them by cultivation until some of them have become the very "staff of life" itself, and provides the bread of hundreds of millions. He it is, too, who has been mainly instrumental in transforming the hips and haws of the rose tribe into our wealth of delicious apples, pears, plums, etc., and coaxing the acrid husk of the almond into the luscious pulp of the peach, nectarine, and apricot, to say nothing of a myriad other triumphs of the same kind, one and all the outcome of possibilities implanted in the primary germs of the primeval ocean.

Mr. Lewis Smith, who has charge of one of the many fine gardens within a short distance of Norwich, has, by reason of his ability and geniality of temperament, obtained for himself a prominent position among the highly skilled gardeners who are so numerous in Norfolk. A Devonshire man by birth, Mr. Smith commenced his gardening career at Medland House, and after spending a few years in some of the best gardens in the country, he went to Clarence House, Weston-super-Mare, as foreman, where stove and greenhouse plants and carpet bedding were great features. After occupying this position three years he was appointed head gardener to H. J. Gurdon Rebow, Esq., with whom he stayed until the lease expired and his employer went abroad. Mr. Smith's next appointment was as head gardener at Shotesham Park, Norwich, the fine seat of R. Fellowes, Esq. That was nine years ago, and during the period which has elapsed he has endeavoured, with the assistance and encouragement of Mr. Fellowes and the Misses Fellowes, to maintain the interest, attractions, and usefulness of the gardens at a high level. Special features are made of hardy perennials, sweet peas, orchids, and roses, and for some years past the exhibits from the Shotesham Gardens have been staged at the spring, summer, and autumn exhibitions of the Norwich Horticultural Society, and have enabled Mr. Smith to win a full share of the prizes. It is not necessary to recount the number of prizes, but the premier awards for hardy spring and summer flowers, iris, anemones, flowers of exotic plants, and orchids, have been more than sufficient to show how fully entitled Mr. Smith is to a foremost position among the cultivators in the district. The competition in the class for collections of hardy perennials at the Norwich summer shows is a good test of cultural skill, for forty-eight bunches of distinct varieties have to be staged. In this class Mr. Smith has been first on several occasions, and in July last he not only secured the first prize, but in addition was awarded the Royal Horticultural Society's silver-gilt Banksian medal for the best exhibit in the show. Mr. Smith not only grows sweet peas largely and well, but he has devoted considerable attention to cross-fertilisation, and has secured several promising new varieties that are under trial. The fine collection of orchids has also been enriched by numerous seedlings. To avoid any misapprehension we would add that the Shotesham Park gardens are not less remarkable for the success achieved within them in the production of fruits under glass, and in the open, than for the various kinds of plants mentioned. Mr. Smith has for some years been a member of the East Anglian Horticultural Society, one of the most flourishing organisations in Great Britain, and at the last annual meeting he was elected vice-president for the year, and next year he will, it may be assumed, be given a still higher position by his fellow members.

Presentation of Norfolk Park to Sheffield.—On Saturday, the 27th ult., Norfolk Park, one of the most noteworthy of the open spaces in Sheffield, was formally presented to the city, and has now become the property of the Corporation. The park, which has an area of about sixty acres, was the property of the Duke of Norfolk, who has for many years permitted the public to use it with no more restriction than has been necessary for the maintenance of proper order. Mr. H. Coverdale, who presented the deed of gift on behalf of the Duke of Norfolk, stated that the Duke thought that, in the event of the estate ever coming into the hands of trustees, they might be advised to cut up the beautiful park for building purposes, and it was in order to avert that risk and to secure the park to the public for ever he decided to offer it to the Corporation. This gift increases to upwards of one hundred and fifty acres the land which the Duke of Norfolk has given to Sheffield, and the Lord Mayor, Lord Fitzwilliam, in accepting the deed of gift on behalf of the citizens, expressed his hearty thanks to the donor for his generosity.

The Lindley Library Trust.—The Charity Commissioners have made an order establishing a scheme for the regulation of the Lindley Library Trust. The powers and duties of trustee are now transferred, on the application of the trustees, to the Royal Horticultural Society, acting through its council, and the endowment of the charity, consisting of £1,516 3 per cent. preference railway stock, is to be invested in the name of the Official Trustee of Charitable Funds. All the books and portraits belonging to the charity are to be housed at the offices of the society, and the society's own collection of books on horticultural, botanical, and allied subjects is henceforth to form part of the charity. The income arising from the endowment is to be applied towards the cost of management, the preservation and improvement of the library, and its extension by purchase of books and otherwise. The Lindley Library is the outcome of the International Horticultural Exhibition, held at South Kensington in 1865. At this time the botanical library of Dr. John Lindley was for sale, and the committee of the exhibition wisely resolved to devote a part of the profits to its purchase. This resolution had practical effect given to it, and the library was placed in charge of trustees, and housed in the offices of the Royal Horticultural Society. The library was called the Lindley Library, in memory of Dr. Lindley, who was the first Professor of Botany in the London University, the author of numerous botanical works, and for some years Secretary of the Royal Horticultural Society, and Editor of its "Journal."

An Attractive Chippenham Garden.—Mr. G. A. H. White, who achieved much distinction at the recent flower show at Chippenham, sends us a set of photographs which admirably indicate the varied attractions of his garden. Mr. White was successful in taking the premier awards for collections of annuals, hardy perennials, and sweet peas, the success being all the more noteworthy from the fact that the competition was very keen, and that Mr. White's garden suffers much from the smoke from the chimneys of factories and other buildings.

Gardening Under Difficulties.—A few days since an exhibition was held at the Christ Church Schools, Cubitt Town, that was of much interest as evidence of the possibilities of gardening under conditions that are by no means favourable. The exhibition was that of the Millwall and Cubitt Town Horticultural Society, which was formed for the purpose of providing men with recreation at once useful and pleasant. It appears that in different parts of the district embraced by the operations of the society land which for some time had been lying vacant was leased and broken up into fifty allotments of about twenty rods each. The rent of 6d. per plot a week was charged, and the tenants set to work to clear the ground. They had a difficult task, for the soil was covered with scrap iron, bricks, and refuse generally, but they were successful. During the winter months the allotment holders attended lectures on horticulture. After the day's work the men cultivate their plots, and on Sundays their wives and children accompany them to gather flowers for the adornment of the home. The flowers and vegetables exhibited were remarkably good, considering the unfavourable conditions under which they had been grown.

National Dahlia Society's Exhibition at the Crystal Palace on Thursday and Friday next has the promise of proving considerably above the average of the past few years, and as the schedule contains several new classes, the exhibition should be of exceptional interest.

Preservation of Borrowdale.—We are much gratified to learn that the National Trust for Places of Historic Interest or Natural Beauty are making good progress with its appeal to the public for the preservation of Borrowdale. As stated in these pages a few weeks since, the intention is to preserve this beauty spot as a memorial to King Edward. When we directed attention to what was being done, with a view to the acquisition of the property, the balance necessary to complete the purchase was £750. During the interval the sum of £550 has been received, leaving the further amount of £200 to be raised, and this should be quickly forthcoming.

Basic Slag for Continental Vineyards.—Grape growers in this country can hardy fail to be interested in the fact that basic slag has within recent years attained to a high degree of popularity on the Continent as a manurial agent for grape vines. Large quantities are being shipped from Ellesmere Port to France, Italy, Spain, and other countries in which the cultivation of the vine is carried out on a large scale. This slag is a bye-product in the manufacture of steel in accordance with the Bessemer process, and has for some years been regarded with much favour as a fertiliser for grass lands and certain crops which do not require a very quick-acting manure.

Gladioli from Langport.—We have received from Messrs. Kelway and Son, of Langport, a box of remarkably fine gladioli, which for length of spike, size of individual blooms, and charm of colouring are so meritorious as to testify to the splendid work the firm is doing in the development of these fine border flowers. Specially noteworthy among the fine varieties before us are Orby, rich scarlet, flaked with crimson; Lady Madds, delicate flesh-colour; and Prince of Orange, rich yellow. Countess of Kenmare and Jewel may also be mentioned for their high quality and attractive colouring.

Hindhead Common.—In return for permission to make a road across a narrow strip of Weydown Common, Lord Pirrie, of Witley Park, Haslemere, has dedicated several footpaths contiguous to Hindhead Common to public use, and has conveyed to the National Trust the larch wood on the knoll adjoining the fir woods and that part of Hindhead Common known as High Inval. The larch wood commands views of great beauty, and its conveyance to the National Trust increases by several acres the area open to the public.

ROYAL HORTICULTURAL SOCIETY.

The usual fortnightly meeting was held in the Hall, Vincent Square, on Tuesday last, when a fine display was made, chiefly of dahlias, which were seen in large quantity, while the exhibit of hardy Chinese shrubs from the Hon. Vicary Gibbs was a splendid feature, and no doubt of great value to all lovers of hardy shrubs and trees.

Messrs. Bakers, Wolverhampton, had an entire table of asters, arranged in tall bamboo stands, with a collection of dwarf varieties arranged on the table as lifted plants. The season must have blessed the firm to the detriment of other parts of the country, for the flowers were simply splendid. The Ostrich Plume section, in all colours, were very fine, as were also the Comet varieties; while the dwarf bedding varieties, arranged in masses of colour, were really charming.

was generally admired. The shades of colour were beautifully blended, while the individual plants gave every evidence of cultural skill. The same firm also staged a collection of hardy fuchsias with the variegated variety Sunray, grown as standards, also a full table of hardy ericas, which attracted much attention. A few of the most prominent forms were E. vulgaris alba, E. vagans alba, E. fl.-pl., and E. rigida, the whole forming a most interesting bank.

Mr. F. Brazier, Hardy Plant Nurseries, Caterham, occupied a corner of the hall with a fine exhibit of phloxes, pentstemons, and other flowers. In the former were noted Dutrie, Clara Bluz, Crepuscule, Dr. Charcot, and Grappenkonigin. The pentstemons were excellent, though seedlings, while a few vases of early-flowering chrysanthemums reminded one of the autumn period. From Mr. Amos Perry, Hardy Plant Farm, Enfield, came a fine group of delphiniums, presumably secondary spikes. The flowers were arranged in three large bays, while masses of Artemisia lactiflora made a fine foil. A few of the most striking of the delphiniums were Sir Geo. Newnes, Lizzie Van Veen, Mrs. Creighton, Amos Perry, Lamartin, and Carmen.

From Messrs. Barr and Sons, Covent Garden, came a bright collection of phloxes, Lobelia Queen Victoria, and L. Sam Barlow, both exceedingly bright and attractive; asters in variety, with some fine delphiniums and gladioli.

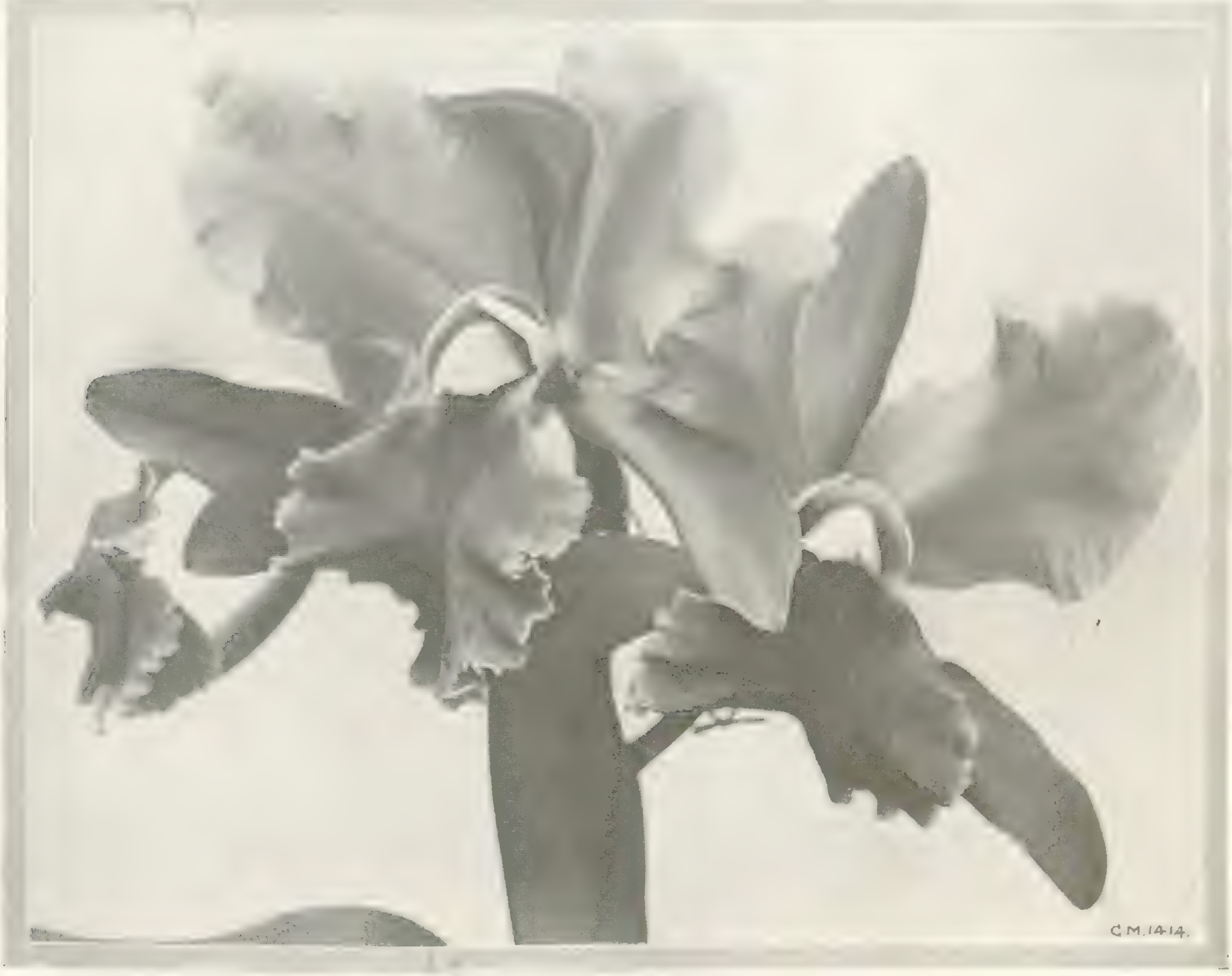
Messrs. Chas. Dowson, Middlesborough-on-Tees, exhibited a border carnation in a group, named The Dowson, a yellow-ground flaked with crimson. They were arranged in vases with appropriate foliage.

From Messrs. Carter Page and Co., London Wall, E.C., came a huge exhibit of dahlias in all sections that occupied the end of the hall. The chief features were the masses of cactus varieties, pæonies, pompons, and singles. The whole collection was most artistically displayed in mounds, baskets, and vases, all arranged with appropriate setting.

Hardy flowers from Mr. G. Reuthe, Hardy Plant Nursery, Keston, were most attractive. Montbretias in variety, liliums, astilbes, gaillardias, and Clematis Davidiana forming the best features.

The Guildford Hardy Plant Company had an attractive exhibit of hardy flowers, which were lightly arranged in vases. The lobelias included L. syphilitica Princess, L. s. niveus, L. s. Pink Bedder, and L. Salamander; also the quaint Salvia turkestanicus, phloxes, gladioli, and Rudbeckia subtomentosa.

Messrs. Whitelegg and Page, Chislehurst, staged a table of liliums, which were chiefly marked by some fine examples of L. Wallichianum sulphureum, and L. auratum, with fine vases of Pentstemon Southgate Gem, a few delphiniums, and Gladioli Brenchleyensis.



CATTLEYA ADULA VALE BRIDGE VARIETY.

A fine form of C. Adula, which was raised from a cross between C. bicolor and C. Hardyana. The flowers are large, and the petals and sepals are brown tinted purple, and the lip royal purple. A.M., R.H.S., August 30. Mr. E. V. Low, Haywards Heath.

The same firm also staged a large collection of pæony-flowered dahlias, arranged in masses of colour. A few of the most prominent were Mrs. A. McKellar, Colonel J. St. G. Wolseley, Lady Saville, The Warrior, W. H. Morter, and Mrs. W. Keer.

From the Hon. Vicary Gibbs, Aldenham House, Elstree (gardener, Mr. E. Beckett), came a magnificent display of Chinese shrubs, which were perfectly grown, and doubtless one of the most interesting exhibits of these plants ever staged in this country. The background was formed with huge specimens of rubus in variety, loniceras, clematises, acers, with names still to follow, cotoneasters in variety, with many other hardy shrubs. The whole collection of trees were raised from seed sown during the last thirty-two months, which was collected by Mr E. H. Wilson, in China. Mr. L. R. Russell, Richmond, arranged a group of celosias on the floor of the hall, which

From Messrs. W. and J. Brown, Stamford, came an attractive display of decorative roses, which were arranged in large masses of colour. A few of the most conspicuous were Corallina, Lyon, Earl of Warwick, Harry Kirk, and Queen Mab. Mr. H. Dixon, Spencer Park Nursery, Wandsworth, had a small exhibit of gladioli, which included several vases of the violet Baron Hulot and America.

Messrs. W. Wells and Co., Lim., Merstham, staged a large exhibit of phloxes, pentstemons, with other hardy flowers, also a fine display of early-flowering chrysanthemums. The latter included fine examples of Nina Blick, Touraine, Grosvenor, La Garronne, Roi des Blancs, and Leslie. The phloxes were very fine, as were also the pentstemons, with other hardy flowers.

Messrs. Jas. Veitch and Sons, Lim., Chelsea, occupied an entire table with a varied collection of plants in pots. The hybrid

Java jasminiflorum rhododendrons were most striking; while some boxes of streptocarpus were simply splendid, the flowers being large in size and varied in colour. A collection of cannas were most attractive, the plants being dwarf with magnificent heads of flower. Bouvardias in variety were also well done, as were the plants of Crowea latifolia.

Messrs. T. S. Ware, Lim., Feltham, were represented by a display of dahlias, backed with hardy flowers; in the former were noted Brigadier, Conquest, Glory of Wilts, Echo, and Mary Purrier. The pæony-flowered varieties were also well represented, among them being Mrs. George Gordon, a white variety of much merit.

Pæony-flowered dahlias, from Mr. C. Turner, Slough, were a feature. The flowers were arranged in vases with some suitable foliage and berries. The most attractive were Geisha, Attraction, Duke Henry, and a large number of promising seedlings.

Messrs. Paul and Son, Cheshunt, contributed a fine display of phloxes and helianthus in variety. These included vases of Helianthus mollis, H. strumosus, H. majus plenus, H. multiflorus major, and Miss Mellish; also tritomas and liliums in variety.

Messrs. Stuart Low and Co., Bush Hill Park, had a small miscellaneous display of greenhouse plants, which included plants of Rochea falcata in splendid form, Grevillea Preisi, and some well-grown ferns with a variety of decorative plants.

Messrs. H. B. May and Sons, Upper Edmonton, had a nice exhibit of ferns, chiefly of a decorative size, in which were noted fine examples of Dicksonia squarrosa, Polypodium neriifolium cristata, Davallia tenuifolia Veitchi, Polypodium Knightæ, and a good selection of nephrolepis.

A large exhibit of dahlias came from Messrs. H. Cannell and Sons, Swanley, which comprised most sections. The most striking cactus varieties were Bessie Palliser, Australian, Gondola, Flora, Harold Peerman, and Ruby Grinstead. The giant single variety Cannell's Favourite was most distinct, while the best of the pæony-flowered varieties were South Pole, The Geisha, and Leveller. The giant decorative varieties were also well represented.

From Messrs. G. Bolton and Son, Buntingford, Herts, came a pretty table of phloxes in variety, with some well-grown examples of pentstemons and statices, also decorative roses and tritomas.

A group of roses from Messrs. F. Cant and Co., Colchester, were much admired, especially the varieties Madame Melanie Soupert, Edu Meyer, Dean Hole, Mrs. H. Brocklebank, Mrs. A. Tate, and Countess of Gosford. Messrs. J. Cheal and Sons, Crawley, had a splendid exhibit of dahlias. The singles were particularly beautiful, especially Amy, Elaine, Leander, Mikado, and Kitty. The collection of cactus varieties, too, were good, as were also the collections of pompons and pæony-flowered varieties.

Mr. S. Mortimer, Rowledge, Farnham, staged new seedling pompon and show dahlias. In the latter Model and Prince Edward appeared the most promising.

A box of new cactus dahlias was staged by Messrs. Jas. Stredwick and Son which attracted much attention. The most distinct were Mrs. Douglas Fleming, Crystal, Beauty of Sussex, and New York; while Mr. H. Shoesmith, Woking, sent a fine box of Prima Donna, and a number of promising seedlings.

Phloxes from Messrs. Gunn and Sons, Oulton, were very fine and beautifully arranged. The most conspicuous varieties were Marguerite, Hercule, Countess of Shrewsbury, Grace Darling, Lady Peel, and Le Madhi. The baskets employed in the foreground were most appropriate, while a white trelliswork behind added to the decorative effect.

Mr. Jas. Box, Lindfield, also had a large display of phloxes, which were well-developed and nicely arranged; also hardy plants, in which the gladioli and delphiniums were the chief features.

FRUIT COMMITTEE.

Messrs. S. Spooner and Sons, Hounslow, contributed a fine table of apples, arranged in baskets. The fruits were very good for the early period, though somewhat lacking in colour. The finest were Cellini, Lord Grosvenor, Lady Sudeley, William's Favourite, Early Victoria, and Pott's Seedling. A nice basket of Monarch plums was also noted.

Mr. G. W. Miller, Clarkson Nurseries, Wisbech, had an exhibit of apple Red Victoria, which was very fine, the fruit being a wonderful colour for such a deadly dull season.

A collection of capsicums from Messrs. Jas. Veitch and Sons, Lim., Chelsea, was most interesting. They were grown chiefly in five-inch pots, and included Long Red, Chinese, Early dwarf red Squash, Early Bell, Mammoth Yellow, and its red companion, all being well fruited.

A fine collection of melons came from Lord Northcliffe, Guildford (gardener, Mr. J. Goatley). The fruits were of good colour, and some of extra large size. The varieties were: Universal, large enough to suit anybody, The Peer, and Hero of Lockinge, the last-named being in splendid condition.

From J. A. Nix, Esq. (gardener, Mr. G. Neal), Tilgate, Crawley, came a dozen bunches of Black Hambro grapes, all handsome clusters of good colour, though rather small berries, while the finish left little to be desired.

ORCHID COMMITTEE.

Messrs. S. Low and Co. made a nice bank of orchids, which included splendid examples of Oncidium Marshallianum, O. Lanceanum, Miltonia vexillaria Leopoldi, Cattleya Hardyana, a splendid form, the quaint Masdevallia Infracta, and odontoglossums in variety.

Messrs. Charlesworth and Co., Haywards Heath, arranged a nice exhibit, in which the chief features were some very fine plants of Vanda cærulea, Odontoglossum Phœbe, with a fine spike; Burlingtonia fragrans was good with five spikes, as were also Miltonia Cogniauxiæ, Cattleya adula, and a few choice odontoglossums. This firm also exhibited a new bigeneric hybrid under the name of Oncidioda. This was raised from a cross between Oncidium incurvum and Cochlioda Noetzliana, and produces tall spikes of rose-red flowers.

Mons. Maurice Mertens, Mont St. Amand, Ghent, staged some fine plants of miltonia, hybrid odontoglossums, and a cypripedium.

A pretty group came from H. S. Goodson, Esq., Putney (gardener, Mr. G. E. Day). The chief features were the cattleyas, miltonias, and cypripediums. Perhaps the most noticeable were C. Gaskelliana alba, C. Rhoda Fairlawn var., and Cypripedium Schillianum with nine good flowers.

Mr. de Barri Crawshay, Rosefield, Sevenoaks (gardener, Mr. W. J. Stables), had plants of O. crispum Mrs. de Barri Crawshay, a variety of fine proportions, just marked on the lip with a brown spot; also well-flowered plants of Odontioda Bradshawiæ and O. Theodora.

From Sir Jeremiah Coleman, Bart., Gatton Park (gardener, Mr. J. Collier), came a small but interesting group, which included Masdevallia Chimæra with its quaintly spotted flowers, Lælia monophylla, and Cryptophyaranthus Dayanus.

Mr. Edward V. Low, Haywards Heath, sent a small, but attractive, exhibit of Cattleyas, which included C. adula, C. Dowiana granulosa, and C. Atalanta; also some fine examples of cypripediums, and C. Hardyana Holford's var., a splendid variety, the lip being broad, fimbriated, rich rosy purple with a golden-veined throat of rare substance.

From F. A. Wellesley, Esq. (gardener, Mr. W. Hopkins), Westfield, Woking, came examples of Cattleya Mrs. Phillip Henriques, a splendid form with a rich rosy-purple lip and deep mauve sepals and petals; also L.-c. Mrs. Phayre, and C. Lady Chaney.

The trustees of the late E. Rogerson, Esq., Oakdene, Didsbury, Manchester, staged beautiful plants of Miltonia Rogersi, M. hybrid, and M. Bluiana, all in splendid condition and well-flowered.

Lieut.-Colonel Sir Geo. Holford, K.C.V.O. (grower, Mr. Alexander), Tetbury, sent Lælio-cattleya magnifica, a splendid form with a fine crimped lip; also L.-c. Charlesworthi, a hybrid carrying a splendid spike of six flowers.

Messrs. Sander and Sons, St. Albans, staged a few choice plants, which included some good plants of Dendrobium Sanderæ, all carrying good clean flowers, Odontioda Devossiana, Lælio-cattleya Henry Greenwood, L.-c. Gaston Dion, also Vanda amœna, a natural hybrid.

MEDALS.

Gold Medal.—The Hon. Vicary Gibbs, for Chinese shrubs.

Silver-Gilt Flora.—To Messrs. Bakers, for asters and dahlias; to Messrs. Carter Page and Co., for dahlias; to Mr. L. R. Russell, for hardy ericas

Silver-Gilt Banksian.—To Messrs. Gunn, for phloxes; to Messrs. H. B. May and Sons, for ferns; to Messrs. S. Spooner and Sons, for apples.

Silver Flora.—To Mr. Jas. Box, for hardy plants; to Mr. F. Brazier, for phloxes and pentstemons; to Messrs. H. Cannell and Sons, for dahlias; to Messrs. F. Cant and Co., for roses; to Messrs. J. Cheal and Sons, for dahlias; to Messrs. Jas. Veitch and Sons, for greenhouse plants; to Mr. A. Perry, for delphiniums; to Mr. H. S. Goodson, for orchids; to Messrs. Stuart Low and Co., for orchids; to Messrs. Charlesworth and Co., for orchids.

Silver Knightian. — To Mr. Nix, for grapes; to Lord Northcliffe, for melons.

Silver Banksian.—To Mr. E. V. Low, for orchids; to Messrs. Barr and Sons, for hardy plants; to Messrs. Jas. Veitch and Sons, for capsicums.

Bronze Flora. — To Messrs. W. and J. Brown, for roses; to Messrs. Paul and Son, Cheshunt, for herbaceous plants; to Mr. G. Reuthe, for herbaceous plants; to Mr. Chas. Turner, for dahlias; to Messrs. T. S. Ware, Lim., for herbaceous plants and dahlias; to Messrs. W. Wells and Co., Lim., for chrysanthemums and phloxes.

AWARDS.

First-Class Certificate.—To Cattleya Rhoda, Fairlawn var., from Mr. H. S. Goodson, Fairlawn, Putney.

Award of Merit.—To Cattleya adula, Vale Bridge variety, from Mr. E. V. Low, Hayward's Heath; to Cattleya Hardyana Holford's var., from Sir Geo. Holford; to Lælio-cattleya Golden Oriole, var. tigrina, from Sir Geo. Holford; to Gladiolus Safrano, from Messrs. Vilmorin, Paris; to Gladiolus La Luna, from Messrs. Barr and Sons; to Single Dahlia Leander, from Messrs. J. Cheal and Sons; to Lobelia Sam Barlow, from Messrs. Barr and Sons; to Phlox Elizabeth Campbell, from Messrs. W. Wells and Co.; to Rose Daphne, from the Rev. J. H. Pemberton; to Pompon dahlia Guinevere, from Mr. Chas. Turner; to Cactus Dahlia Theresa, from the same exhibitor; to Cactus Dahlia Mrs. Douglas Fleming, from Messrs. Jas. Stredwick and Son; to Cactus Dahlia Crystal, from Messrs. Jas. Stredwick and Son; to Buddleia variabilis gigantea, from the Hon. Vicary Gibbs; to Garden Cactus Dahlia Garden Yellow, from Mr. H. Shoesmith.

Award of Merit.—To Mr. Balch, Girvan, for Tomatoes Ailsa Craig, Carrick, and Ayrshire.

Syringa japonica.—Some of the lilacs bear a certain amount of resemblance to the privets, and this is one of them. It flowers after all the ordinary lilacs are past, and on this account is particularly noteworthy. In habit it is tree-like, though it blooms freely when from 8ft. to 10ft. in height. The creamy-white blossoms are individually small, but borne in large branching panicles.—W. T.

Itea virginica. — This little-known North American shrub is almost as attractive to butterflies, especially those of the Vanessa section, as Sedum spectabile. The itea is a compact, freely-branched deciduous shrub, seldom more than 4ft. to 5ft. in height. It is not unlike a privet, while the small whitish flowers are borne in dense spikes, rather suggestive of a veronica. It needs a fairly cool moist spot for its successful culture.—W. T.

WOODSIDE GARDENS.

Villages remarkable for the beauty of their surroundings, the picturesque grouping of the cottages, and the sense of comfort that is evident on all sides are plentiful in the English counties, and there would be no difficulty in mentioning a goodly number that are veritable beauty spots. Yet, large as is the number that have left a deep impression on the mind, not one can be called to remembrance that can be referred to as quite equal to Chenies, the delightful Buckinghamshire village that has for so long a period been closely associated with the great House of Russell. Within the God's Acre, in which stands the interesting village church, is the last resting-place of past generations of the members of the house, among them being a considerable number who, in affairs of state, rendered such splendid services as to have contributed in no small degree to the high position which England occupies at the present day. Others there are who, if they did not devote any considerable share of their attention to political matters, and attain foremost positions as statesmen, showed a full appreciation of their responsibilities, and made strenuous endeavours to bring their widely-extended estates to a high state of development, and to amply provide for the comfort of the many workers engaged on them. We have abundant evidence in the village of Chenies of what has been accomplished in the provision of cottages—on which so much of the comfort of the working classes depends—that are pleasing in design, substantially built, and roomy. There are no long rows of cottages painful in their bareness and lacking in accommodation, but they are mostly arranged in groups of three. All have gardens around them, and they show a considerable diversity in design.

The object, however, of these brief notes is not to give a sketch of the work of those members of the Russell family who in their day laboured so assiduously in the cause of their country, or to dwell upon the charms of the Chenies village. On the contrary, the object is to give a short account of the highly interesting and beautiful gardens of Woodside, the residence of Adeline Duchess of Bedford, whose interest in gardening is great, and whose taste in matters floricultural, as well as in other things, is widely known. The mansion is situated about two miles distant from Chorley Wood Station on the main line of the Great Central Railway, and to reach it one has to pass through the village and take the road which turns to the right, and proceeds on the northern side of the lofty hill that forms so conspicuous a feature of the landscape. The slope of the hill is at this point rather sharp, and as the mansion occupies a position on the lower side, its proportions suffer somewhat viewed from the highway. But entering by the gate, which is seen to the left in the first of the several illustrations, and walking through the gardens, a much better idea is formed of the architectural features of the mansion, which is of red brick, and presents a charming appearance in its setting of splendidly developed trees of various kinds.

The approach to the mansion is distinct in character, and highly attractive. Entering by the gateway mentioned the visitor has on his right a breadth of lawn enclosed by a wall of some height, and a portion of this is devoted to weeping standard roses, chiefly Dorothy Perkins, in a high state of development. These have stems about eight feet high, and large, well-furnished heads, and they annually produce a very fine display of flowers. There are also specimen bays in tubs which, arranged near the entrance, contribute, as will be seen from a glance at the illustration, materially to the attractions of the scene. On the other, or west, side is a fine specimen of the Cedar of Lebanon, which, if it has not occupied its present position a sufficient length of time to assume a picturesque appearance, it has been long enough there to attain to a great height, and to show how beautiful is this fine tree when it has reached its full development. Beyond the cedar is a spacious lawn, surrounded by tall handsome trees on three sides, with a dovecote at the far end, and in the centre a paved area which affords facilities for the enjoyment of outdoor life at times when, owing to rains or heavy dews, it would not be prudent to remain for any length of time on the grass. This area is furnished with chairs and tables adapted to outdoor life, and is liberally embellished with specimen plants suited to the season. At one time Mr. Dickson, the head gardener, has large specimens of the Madonna lily, which is very attractive grown in tubs, and at another time may be seen examples of Azalea mollis, which, bearing a profusion of finely developed trusses of richly coloured flowers, are not less effective.

Proceeding down the grounds by way of the broad walk, leading from the lawn, with its paved area, one has not to go far to recognise the fact that the gardens are not exactly like those previously visited elsewhere, and that they are immensely interesting and extremely beautiful. They certainly do not belong to the class of which a view of the whole area can be obtained from the front door, or from one of the principal windows.

There is no want of breadth, but the features, and they are many, are so arranged as to form, if not exactly a succession of surprises, a series of extremely beautiful scenes, in which Nature and art have been happily combined. The broad walk referred to is flanked on either side by a border of bold-growing hardy perennials, and at the termination of these is a square space on which stands a sun-dial of a quite distinct character, bearing in Greek the motto of the family, which, freely translated, is, "What I say must be done." Around the dial are four vases, which, in the spring, were filled with forget-me-nots, and as these had grown so well as to produce large masses of flowers, the effect was remarkably good. Lower down the walk Mr. Dickson uses well-flowered hydrangeas with good effect during the summer months. Still lower down is a garden of a quite distinct design, enclosed with finely-clipped hedges of yew, containing a lily pool and flower beds. Around the pool are elegant crossed arches, over which rambling roses fling their slender growths, and in the bays of the enclosing hedges are raised stone seats. The beds are filled during the spring months with early tulips in variety, and the summer occupants were this year the best of the zonal pelargoniums for the flower garden. The enclosing hedges of

WOODSIDE—ENTRANCE TO MANSION AND GARDENS.

this section of the gardens are well deserving of special mention, for they produce a distinct effect from all parts of the grounds from which they can be seen, and concentrate the bright colours with which the enclosure is usually embellished. and prevents their detracting from the charm of quietly coloured alpines growing near at hand.

The rock and water garden, which closely adjoins the last-named feature, is especially interesting, for the rockery has been designed on simple lines with a view to the successful cultivation of plants from the Alps, rather than to display skill in piling up huge masses of rock. As may be anticipated, it answers its purposes so admirably that a large collection of alpines are flourishing upon it. A corner of one portion of the rockery is herewith illustrated, and a better idea of its characteristic feature, and the admirable manner with which it is furnished, will be obtained from the picture than from a lengthy description. At the time when the photograph was taken the rockery was immensely attractive with aubrietias, primulas, hardy cypripediums, and many species of saxifrages, and there are also several good groups of the handsome Meconopsis cambrica. The island, which is conspicuous in the part of this garden devoted to moisture-loving subjects, contains a fine specimen of the graceful Arundinaria Metake, and on the margin of the water are masses of funkias, spiraeas, mossy saxifrages, and other subjects that flourish in the neighbourhood of water. The skill with which the bare ground for some distance round the trunk of a venerable Cedar of Lebanon has been treated is deserving of special mention, as it exemplifies the possibility of clothing bare spaces found under cedar trees of great age that have lost their lower branches with flowering plants possessing much beauty. Around the trunk of the tree was formed a bed of soil, about two feet deep at the back, and sloping towards the circumference, with sufficient stones arranged to keep the soil in place, and suggest a rocky bank. Numerous rock plants were planted; they have all done well, and the effect is remarkably good.

The lower part of the grounds is intersected by a trout stream, which, by judicious planting, has been made to contribute liberally to the many attractions of the gardens. Leaving the rock garden, and proceeding in a southerly direction down the stream, we soon reach a semi-wild part of the grounds known as the spring garden. Here every spring is produced a surprisingly beautiful display of polyanthuses, in the cultivation of which Mr. Dickson has achieved a high degree of success. Near at hand is the rivulet which is annually made beautiful with Primula obconica, and was illustrated in these pages a short time since. As was then stated, Mr. Dickson has for some years past been endeavouring to improve this well-known and beautiful primula, and his endeavours have been attended with much success. He has improved the habit and increased the flower production, but his greatest achievement has, perhaps, been the development of new colours. We find in the collection the purest of whites, the richest of purples, and shades of pink and rose innumerable, and the most brilliant of crimsons. The crimson hues are, indeed, so surprising in their brightness that there is no occasion to place them by the side of the usual crimson varieties for the purpose of determining how great has been the progress made in the development of high colours. These primulas make a fine display under glass during the duller months of the year, and in April the plants that have not reached the high standard set up are planted on the banks of the rivulet, where they bloom throughout the summer and in the autumn, until such time as the frost is of sufficient severity to kill them. Still further southward, and reaching down to the banks of the trout stream, is the wild garden, which may be described as a large tract of open woodland containing many thousands of bulbs of daffodils in variety and other subjects that can be successfully grown in the grass. In the shrubberies that skirt the path alongside the trout stream are many specimen berberis, lilacs, philadelphus, and other shrubs remarkable for the beauty of their flowers.

On the other side of the stream is a broad grass walk flanked by a belt of Penzance briars, and beyond are a rose garden, beds and borders of hardy flowers, and open lawns. The Penzance briars, it should be stated, include all the finest varieties, and the practice adopted in their culture differs somewhat from that which usually obtains. The shoots are not pegged down, but a wire trellis is fixed two feet from the ground, and the growths are trained to it. The object in providing the trellis is to keep the surface of the ground free, and thus enable a rake to be readily passed under the briars for the purpose of removing from the area dead leaves and rubbish generally. On the margin of the water are day lilies, Kæmpfer's iris, the variegated iris, and several other plants that bloom during the summer months. The banks are also planted with forget-me-nots, aubrietias, and arabis, the first-named predominating, and the effect when the spring flowers are at their best is such as to form a veritable surprise, the charm being greatly enhanced by the reflection of the pale blue flowers of the forget-me-nots in the stream.

Hardy border plants constitute a strong feature. There are two large borders devoted to them not far distant from the rock garden, and a portion of one of them is herewith illustrated. There are fine masses in the borders surrounding the lawns on the same side of the stream as the Penzance briars and there is a border on each side of the principal walk that runs through the kitchen garden, the attractions of the last-named being materially increased by the arches clothed with rambling roses that span the pathway. Violas are largely used in association with the dwarf and standard roses in the beds on the lawn contiguous to the trout stream, and the results are, we need hardly say, eminently satisfactory.

Under glass the plants of special interest are the stock of Primula obconica, to which reference has already been made, and of the beautiful Gesnera Orange King, which was illustrated in these pages some time ago. This fine gesnera has rich dark velvety leaves, and brilliant orange-coloured flowers, and it has the great merit that it can be successfully cultivated during the greater part of the season of growth in an unheated frame.

G. G.

Azaleas.—These are forming their flower buds, and should receive some manurial assistance; but care in selecting the stimulant is very necessary, and if liquid manure is used it should be weak and clear, and made from sheep droppings. Should the liquid become thick, the addition of a piece of unslaked lime will clarify it. Liquid manure may well be alternated with a light surface dressing of some approved chemical manure. The plants should be heavily syringed twice daily in fine weather as a check against insect pests—W. Staward.

SOILS AND MANURES IN RELATION TO PLANT GROWTH.

(Continued from page 651.)

Soils consist of a collection of fragments of rocks of different sizes. When a soil has become the seat of vegetation the chemical agents of decomposition gain in power; the carbonic acid in the soil is much increased and is assisted in its work by the humic acids and by the nitric acid which appear on the scene; the solvent action of plant roots must also be taken into account.

Potential Plant Food.

As a result of the careful study of soils it has been ascertained that plant food exists in three forms; one is a form incapable of being dissolved by rainwater or other solvent, and the possibility of its being of any use to the growing plant is so remote, that it is spoken of as "non-available." Next we have plant food which is called "potential" plant-food, that is, plant food existing in the soil which will not be immediately available to the plant, but which the operations of tillage and cultivation may in the future render assimilable to it; it is not at the present moment capable of being dissolved by rainwater or by the acid exudation of the roots of the growing plants, but is capable by tillage operations of being converted into a form which can in the future be dissolved.

Available Plant Food.

The third kind of plant food is what is called "available" plant food, that is to say, the amount of the various materials in the soil essential as plant food, which the plant either by means of rainwater impregnated with carbonic acid, or by the acid exudation of the rootlets of the growing plant itself is able to pass into solution and use at once as plant food.

Exhaustion of Plant Food.

It is well known that no soil can be entirely exhausted. At Rothamsted there is one plot of land, half-an-acre in extent, which has grown a wheat crop without an ounce of manure of any kind for sixty-seven years in succession, it has given an average of 13 bushels of corn per acre and 10½ cwt. of straw. The present year's (1910) crop will be about eight bushels per acre. After a drop in production during the first few years the yield has been practically constant for the last forty years, fluctuating only with the season, and showing no immediate prospect of declining.

The proportion of plant food present in soils is very small even when the soil is extremely fertile, the bulk of the soil serving chiefly as a support and as a sponge to hold water.

A good arable soil may contain 0.15 per cent. of nitrogen, 0.15 per cent. of phosphoric acid, 0.20 per cent. of potash and 0.50 per cent. of lime; much larger quantities may, of course, occasionally be present, as in very old kitchen garden soils.

Quantity of Plant Food per Acre.

Inasmuch as the results of soil analysis are generally recorded in percentages it is rather puzzling to gardeners to calculate what they mean. In order to get over the difficulty we need simply to consider this thorough tillage very rarely goes below a depth of nine inches, and, therefore, for the purpose of finding out to what depth a plant is likely to feed, we need merely confine ourselves to the depth to which tillage operations and oxidation from the air and nitrification of the soil takes place, namely nine inches. Now we find that nine inches depth of arable loamy clay will weigh when perfectly dry about 3,000,000 pounds per acre.

A pasture soil or a kitchen-garden soil containing much root-fibre, and therefore humus matter, will be lighter, the first nine inches weighing when dried about 2,250,000 pounds per acre. Supposing, therefore, a dry soil to contain 0.10 per cent. of nitrogen, potash, or phosphoric acid, the quantity in nine inches of soil will be from 2,250 to 3,000 pounds per acre.

Locked up Plant Food.

A large part of the ingredients of plant food contained in soils is, as we have already pointed out, in such a condition that plants are unable to make use of it. An acre of soil may contain many thousand pounds of nitrogen, phosphoric acid, or potash, and yet be in a poor condition. When we say these ingredients are lacking, we do not mean that the soil does not contain them, but that it does not supply the growing plants with as much as they need. It is not so much because horticultural soils have been worn out of plant food, but rather because the food is locked up in such combinations that the roots cannot get at and use it that an artificial supply of soluble food in manure becomes necessary.

When a soil is tilled or cultivated it is loosened, the particles are separated from one another, and the capillary interstices is destroyed until the soil is again more or less consolidated. Sandy soils being so much more permeable to both water and air do not require the same amount of tillage as clay soils, and after tillage may actually require consolidation by rolling.

Harpenden. J. J. Willis.

(To be continued.)

HOUSING PERPETUAL CARNATIONS.

Time has changed our ideas about housing perpetual carnations as much as it has our ideas in other cultural details, and few, if any of us, leave our plants out, as of yore, until late in September, to be bathed in the heavy dews of autumn. Of course, there are still points in favour of late housing, and a carnation house with insufficient ventilation is about the strongest, otherwise August had better see all plants housed away in their winter quarters.

The heavy growth made by plants left out of doors with the increased dews of autumn is too often looked upon as an assistance to them for winter flowering, but experience has proved that this is not so, but that it is simply an autumn growth, created by nature to enable the plant to withstand the winter in a dormant state, and not to enable it to continue work, or rather grow and pay rent. If your plants are put in an airy house in August, the summer growth is continued, and the gradual acclimatising process begun, so that there is no undue exciting of the growth compared to the late September housing, when the plants receive a greater change, and do not produce nearly so high a grade of flowers until spring.

Some will think that I have lost count of the hot days early in September, but with a circulation of air and good light no ill-effect will take place if the thermometer does run up high during the day. It is unnecessary for me to point out the great necessity of having the house perfectly sweet and clean before housing the plants. It is also a mistaken idea that perpetual carnations require shading in the autumn, the few early blooms had much better be allowed to spoil than the plants weakened. The plants should be sprayed twice on bright days and the houses damped down, but no moisture should be allowed to hang upon the foliage, or, indeed, in the house at night. Supporting the growths with stakes and raffia before housing them is quite a heavy task with some, others use the patent plant supports and make light of it.

Autumn feeding is, as a rule, best left alone. Personally, I have not done it to any great extent without regretting it in mid-winter, and many of the market growers will support this view. If, as at times, it is almost essential to feed them, then only do so in a mild form and with organic manures for preference.

The positions of the varieties in your house should be studied, and all non-fading colours, such as white, crimson, red, etc., should be placed where they will be freely exposed to the sun, whilst the delicate pinks, etc., are best placed in the more shaded positions. Such varieties as Lawson, Winsor, Beacon, White Perfection, Lady Bountiful, etc., and all British-raised varieties, should be placed in the hottest part of the house, whilst in the cooler situations place Enchantress and its sports, Chas. Knopf, etc. Montagu C. Allwood.

Bush Hill Park.

SUN-DIAL GARDEN, WOODSIDE.

Spiræa Anthony Waterer.—This is one of the most delightful of all our low-growing shrubs, a great point in its favour being the fact that it continues to flower throughout the entire summer. In the rich crimson colour of its blossoms it also stands out practically alone. This spiræa is, as with many others, greatly benefited if the old flower heads are cut off directly they are past their best, as fresh blooms then quickly develop. Botanically this spiræa is a form of S. Bumalda which, in its turn, is regarded as a variety of S. japonica, more commonly known as S. callosa. Spiræa Anthony Waterer was given a First-Class Certificate by the Royal Horticultural Society seventeen years ago.—W. T.

BULBS.—A practical treatise on the cultivation of hardy, hothouse and greenhouse bulbous and tuberous rooted plants is "Bulbs and their Cultivation," by T. W. Sanders, price 2s. 6d. net, or by post 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

GOOSEBERRIES.

Gooseberries are not suitable for every garden in the South of England, as the climate is often too dry for their successful cultivation. During the past two years, however, owing, no doubt, to the unusual humidity of the climate, the crop has flourished very successfully in the southern districts, as evidenced by the robust and healthy appearance of young plantations. Even older trees appear more than usually robust and prolific, extraordinarily heavy crops of excellent fruit having been gathered. In soils naturally suited for their growth gooseberries require very little attention other than that of pruning, and where it is desired to increase the stock of plants this can be very easily accomplished by taking cuttings or layering the growths of older bushes. In gardens where there is a small extent of wall surface one often finds gooseberries trained to great advantage on low walls as single or double cordons. As in the case of many other fruits, gooseberries bear on young and old wood alike, but, nevertheless, it will be noticed that the best fruit is always borne on young healthy spurs, and for this reason the bush should be kept in a healthy state by systematic pruning, so that no really old wood of more than five or six years' growth is left other than that composing the main stems of the bush. There is no better plan than to regulate the bush so that it contains a given number of leading branches, the laterals of which are kept spurred back to the main stem.

A CORNER OF THE ROCK GARDEN AT WOODSIDE.

Varieties.

To make a selection of suitable varieties of gooseberries is no easy task, either for the amateur grower or the professional gardener. There are so many, some for general culture, some specially adapted for early picking, and some for exhibition, that one is often puzzled to know which to grow. When gooseberries are grown for home consumption it is essential to have the best. When making a plantation of gooseberries the grower may be well advised to inspect the trees personally in the nursery garden while they are fruiting; this often saves a deal of worry and expense, and renders the selection of suitable varieties a much easier matter. Plants that have been hard cut back for a number of years should never be purchased; this is a practice adopted by some nurserymen in order to check growth and prevent the bushes getting too large for sale. Although these bushes appear to be strong and healthy at first sight, they never make a free growth when planted in their permanent quarters. Generally speaking, not a thought is given to the choice of varieties until the time arrives for planting, when one has little opportunity for making a careful selection.

The best varieties suitable for early picking include Whinham's Industry; this is one of the best gooseberries in cultivation, producing a prolific crop of dark red medium-sized fruits. Keepsake is the earliest cropping variety, and is often grown for early supplies in conjunction with Berry's Early Kent. The last-mentioned variety and Lancashire Lad are two gooseberries of somewhat similar habit of growth. Lancashire Lad is a tree fruiting gooseberry, and an old favourite red. The varieties May Duke and Crown Bob are also good early croppers. For ordinary cultivation Whinham's Industry, Keepsake, and Golden Drop are difficult to beat; Whitesmith, Crown Bob, Massington, Lord Derby, and Pitmaston Gage, are also good general varieties. Exhibition gooseberries comprise Dan's Mistake and Speedwell, red; Antagonist, white; Leveller and Coiner, yellow; Soutar Johnny and Thumper, green.

Pruning and Training.

The most common method of growing gooseberries is in the form of bushes, and for general culture this method is by far the best. For exhibition culture triple cordons are usually grown, this being the form of tree on which fruits of the largest size and best quality are obtained. The "oblique" cordon is also grown in some cases, the plants consisting of two stems only. An intelligent appreciation of the habit of growth of gooseberries and their individual constitutions is necessary in order to prune them correctly. The object in the first place should be to produce the greatest possible amount of fruiting wood, all other being useless and unnecessary, except where it consists of the main stem and laterals attached thereto, and, of course, every method of pruning should be designed to encourage the production of the young growths, as it is upon these growths that the best fruit is borne. The next great essential is to keep the head of the bush open to air and sunshine.

The majority of gooseberry bushes that one observes in the gardens of amateurs are simply masses of tangled interlacing growths, which not only prevent the wood from ripening properly, but also make it very difficult to gather the fruit. Undoubtedly the best way of growing gooseberries is to regulate the bushes so that they contain a given number of branches, the laterals of which are kept spurred back to the main stems; the young wood is produced on these young branches in the form of side shoots. This method of training may be likened to the fan training of wall fruits, but it is less easy of application, as the natural habit of gooseberries is opposed to such a form of training. Pruning should be commenced early in late summer, and soon after the fruit has been gathered. If left until a later period the results will rarely be so satisfactory as in the case of early autumn pruning, as the growths will, in the latter case, have an opportunity of becoming thoroughly ripened by the extra amount of sunshine and air which is admitted to them. This ensures an abundant supply of properly ripened fruit in the ensuing season.

Individual Habit.

Of course, the individual habit of different varieties will have to be studied very carefully to gain the most satisfactory results. Some kinds, for instance, bear fruit on the young growths to a greater extent than anywhere else, hence it will be necessary to encourage these growths constantly. In other cases fruit is borne principally on the spurs, which will admit of the younger growths being kept spurred back to the laterals from which they extend. Varieties of prolific growth, such as Red Warrington, need to be treated very judiciously, as the more they are cut the more wood they produce, and the thinning out of the shoots has a like effect. These should be pruned as lightly as possible. It will also be observed that some kinds, such as Langley Beauty, grow more erectly than others, some drooping over like a wild blackberry bush. In such cases it is necessary always to cut the former upright-growing trees to an outside bud, so as to prevent too close a habit, and to cut the latter always to an upward bud, so as to check this undesirable pendulous habit of growth.

Gooseberry Mildew.

This is a disease which plays havoc with gooseberry bushes; in appearance it may be easily recognised in the form of patches of delicate white powdery substance covering both the fruit and the leaves. The berries, the leaves, and the young shoots are all affected in turn, and subsequently the whitish powder thickens and changes colour from white to brown. There is no cure for the disease, and gooseberry bushes affected with this mildew must be grubbed up and burnt immediately. Prevention consists of spraying with potassium sulphide (liver of sulphur); five ounces of this substance dissolved in ten gallons of water should be sprayed on to the bushes with a garden syringe or sprayer in early summer. Care must be exercised in handling the potassium sulphide, as it rapidly decomposes on exposure to the air.

Gooseberry Sawfly.

During the past season the larvæ of the gooseberry sawfly have been very troublesome in some districts, having attacked the leaves to a truly alarming extent. Some years ago I treated this pest very successfully by forking a light dressing of gas lime into the surface soil in spring, followed by dustings of flowers of sulphur when the foliage was damp. Where no attempt has been made to arrest the attack before autumn, the surface soil should be raked away and burnt on a rubbish heap as this soil usually contains a great number of cocoons.

J. C. Newsham.

Old Basing.

A PRETTY WATER SCENE WITH PENZANCE BRIARS AT WOODSIDE.

CRINUM CAPENSE.

This handsome crinum is decidedly worth cultivating outside, if a position on a south border can be given it. When established it grows vigorously, and fine spikes of flowers are produced, the umbels of blooms vary in number, and the flowers may be used singly for small glasses, or the entire spike may be cut when several blooms are open; they are useful in this way for medium-size trumpet glasses. The colour is pleasing, being a delicate pink.

In planting give the bulbs a well-drained position, and plant fairly deep as a protection from frost. In very severe weather the surface of the border should be covered with long litter or cocoanut fibre refuse, to prevent frost penetrating very deeply in the soil.

T. H. Slade.

LATE SUMMER IN THE ROCK GARDEN.

The end of summer is usually regarded as a dull time for the rock garden, and many who have rock gardens bewail the fact of an insufficiency of blossom at this season. It is usual, I know, for planters to choose heavily among the spring and early summer-flowering subjects when planting up a rock garden, and then to give scant attention to later-flowering subjects, so that the rock garden in August is not in the same category as the rock garden in April. We need more enthusiasm for some of the late-flowering subjects, in our endeavour to add to the season of beauty.

A more general appreciation of hardy pentstemons is desirable, especially as it is possible to get so many haunting shades of blue amongst them. P. heterophyllus is hardy enough for the majority of English rock gardens, and furnishes a wondrous picture of metallic blues which, in some plants, almost reaches a rosy-purple colour. It is a delightful plant for gemming the rock ledges. P. glaber and its varieties, with their dwarf, sturdy growth and well-filled spikes, are also of service, but I would further recommend the dainty light-growing P. azureus, the delightfully free P. pubescens, the dainty P. glaucus, together with P. cæruleus, P. Menziesi, P. humilis, and P. Halli, the majority of which (though perhaps less known) are even more pleasing than the forms of P. glaber.

Onosmas are valuable by reason of their continuity of blossom, and a glowing mass of the Golden Drop (O. echioides or O. taurica) suggests a freer use of the varied forms. O. nanum, O. pyramidale, O. arenarium, and several others could be introduced. I have noticed, too, how well the violas are throwing up a succession of blossom, especially such sterling gems as V. papilio, V. gracilis, V. reniforme, etc. The little Italian Snapdragon, Antirrhinum asarina, is still producing its large sulphur and white blossoms, while the Spanish A. glutinosum is equally useful where it thrives. The white cups of Nierembergia rivularis are profuse and charming in the cool ground on the lower levels, and near by one notes the lavender-blue Nepeta Mussini, roving through a drift with a myriad blossoms, a valuable subject, though such a free and well-known one.

The tiny potentillas, such as P. alba, the exquisite P. nitida, and the rich-hued P. Tonguei, still carry a multitude of flowers, while in the half-shady corners some of the phloxes of the stellaria and subulata type are promising a second crop of blossom. Campanulas are gay, those of the C. muralis and C. garganica sections being still in flower, while C. erinus, C. pusilla, C. pusilla alba, the many forms of C. turbinata, and C. carpatica, as well as C. Profusion, C. amabilis, and others are exceedingly delightful. One can hardly overplant campanulas in the rock garden, for they embrace telling shades (especially among the blues), and are so pleasing in growth that one does not easily tire of them.

The sedums, again, are of great value for creating sheets of blossom. In flower at the present moment are Sedum sexangulare, a study in gold; the varied forms of S. stoloniferum; the rich red S. ibericum; S. album, with its masses of white blossoms; S. Ewersi, a glaucous foliaged pale pink form; the taller growing S. purpurascens, and S. Maximowiczi, while the bold masses of S. spectabile are just beginning to take on their showy colourings. These large sedums are splendid in a bold rock garden, and make quite an important feature in late summer. Statices, or sea lavenders, should also be given a place in the rock garden. A few large masses of S. latifolia and its varieties produce a telling effect, while S. incana, S. incana rosea, S. limonium, and S. tartarica, to say nothing of the tinier forms, such as S. gongetiana, S. minuta, and S. bellidifolia, are all serviceable for prolonging the floral display.

A mention of veronicas will bring thoughts of the tall, well-flowered, dark blue spikes of V. subsessilis, of the dainty form and paler hue of V. exaltata, the useful varieties of V. spicata, the silvery forms of V. incana, and V. cæspitosa, as well as many dwarfer species in flower at this season. The "shrubby" veronicas will also furnish a wealth of material, and many of them are more beautiful in foliage than in blossom.

I might go on to tell of the beauty of several of the linarias, including the rock-clinging L. cymbalaria, which is now studded with a myriad tiny opal blossoms, and the ever-pleasing forms of L. alpina and L. pallida. Plenty of blossoms still jewel the Linum narbonense, L. perenne, L. perenne album, and L. arboreum. Hosts of golden cups betoken the presence of the dwarfer œnotheras, among which Œ. missouriensis, Œ. Fraseri, Œ. Youngi, Œ. pumila, and Œ. fruticosa, show very brightly. Then, again, this is the season of the ericas, and a heath-clad slope in the larger rock garden is ever a place of interest. The bulk of the heaths flower at this season, and among them I may mention the forms of the Cornish Heath, E. vagans, in white, flesh, and rose-red; the pretty cross-leaved Mountain Bell, E. tetralix; the wide variety of E. vulgaris, including the pretty colour forms aurea, cuprea, and argentea; and the sterling E. Hammondi, E. Searlei, E. Foxi, E. alba plena, and several others. Erica ciliaris and the forms of E. cinerea should also be included in planting schemes, for the heaths are wonderfully good for furnishing slopes, and should be planted in variety.

A further glance reveals a few blossoms upon the helianthemums, a promise of abundant beauty among the late-flowered gentians, here and there a few geums, geraniums, and erigerons. The pretty yellow Dianthus Knappi is now in full beauty, and several other dianthuses are still in blossom, and some of the achilleas are offering up belated flower heads, while the little pink-flowered Erythea Massoni is just at the climax of its beauty. Many more plants might be added to the foregoing, but my purpose will be served if the reader will take up the idea that the rock garden in August need not be flowerless. In the making of rock gardens many plants must of necessity be left out of planting schemes. Where there are so many to choose from it must ever be so, though in many cases a closer study of the requirements of one's garden will reveal many openings for improvement in the way of new plants and varied groupings as time goes on. P. S. Hayward.

COSMOS BIPINNATUS.

The Mexican aster is an annual which is grown comparatively little, and yet it is useful for certain purposes, and has more to recommend it than some which are better known. It is a plant of very graceful growth, attaining a height of from three to six feet, according to variety, soil, and season, very freely branched so as to form large bushes, while the foliage is large, and so finely divided as to be almost feathered. The flowers are somewhat like single dahlias, and come at the same time, the colours being various shades of crimson, rose, and white, with yellow centres. Though the lateness of its period of flowering is an objection to it, yet, on the other hand, the foliage and the character of the growth is so ornamental that it contributes to the attraction of the flower garden from early June till it is cut off by frost.

It is of great importance to obtain seed of early-flowering varieties, as some of the large-growing American varieties will hardly come into bloom in this country before the frost comes, unless it is a very hot and prolonged summer. Even the early-flowering varieties are quite late enough, and it is essential to raise them early in heat, or in a cold frame, and grow them on in small pots, so as to have nice-sized plants to put out at the end of May. They make grand subjects for sub-tropical bedding, while as screen plants on a mixed border, to hide the gaps caused by masses of delphiniums, and the like, they are invaluable. As regards soil, cosmos will grow in anything if it is not too dry, though it does best in a deep- well-cultivated soil, but it is important that it should be in as sunny a position as possible, as it is a plant of the Southern States.

Alger Petts.

Pea Masterpiece.—Those who are in want of a really desirable pea for a full supply of well-filled pods of capital flavour should grow Webb's Masterpiece. In height it reaches 5ft., is most productive, and the pods are four inches long, and each contains eight or nine quite large peas, deep green in colour, and of fine flavour. This variety is quite free from mildew in a bad season, when many others are quite checked in their growth owing to the prevalence of this fungoid disease.—E. Molyneux.

NATIONAL VEGETABLE SOCIETY'S TRIALS.

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Trial of Autumn-sown Onions at Twickenham and Sutton Green, 1909-1910.

Seventy-two stocks were kindly sent to the society for trial as autumn-sown onions by nineteen distinct seedsmen, all of whose names were mentioned in the Cabbage Trial Report. The respective stocks of seeds were equally divided, and sent to the care of Mr. W. Poupart, Marsh Farm, Twickenham, and Mr. C. Foster, "The Times" Experimental Station, Sutton Green, Surrey, under number only. The instructions given in each case were for the seeds to be sown in drills twelve inches apart on August 20, 1909, but in each case an adjoining drill was to be left, to lift plants from each stock and to plant into it, to test the effect of such transplanting. These instructions in each case were rigidly adhered to. One contingency, however, could not well be foreseen: this was the mild-growing nature of the late autumn weather, which had the effect of stimulating unduly rapid growth, which again in the spring led to much undue bolting off to flower on the part of the onions. This feature was more marked, however, on the warm sand at Sutton Green, especially on the transplanted plants, than at Twickenham, where the cooler soil and very exposed position, while keeping the plants robust, were less conducive to this premature bolting. It is well to remark here that the primary estimate of the merits of the various stocks was made from the Twickenham trial.

The final inspection of the onions was made by a large committee on July 19, when the following awards were made:

Awards of Three Marks.

Messrs. James Carter and Co., Record; Messrs. Daniels Brothers, Golden Rocca; Messrs. Dickson, Brown, and Tait, Excelsior, Giant Rocca, and Red Italian; Messrs. Dickson and Robinson, Premier and Giant Tripoli; Messrs. Pearson and Sons, Trebons and Red Italian Tripoli; Messrs. Sutton and Sons, A1; Messrs. James Veitch and Sons, Cranston's Excelsior; Messrs. Webb and Sons, Giant White Tripoli; Messrs. Hurst and Sons, Ailsa Craig, Red Italian Tripoli, and Giant Rocca; Messrs. Vilmorin-Andrieux and Co., Vanguard (very early white); and Messrs. Watkins and Simpson, Wroxton Globe.

Awards of Two Marks.

Messrs. Daniels, Allan's Reliance; Messrs. Dickson and Robinson, Flat Mammoth; Messrs. Dickson (Belfast), Wroxton Globe; Messrs. Pearson, Ailsa Craig and Giant Rocca; Messrs. Sutton and Sons, Perfection; Messrs. James Veitch and Sons, Giant Zittau; Messrs. Vilmorin, Short Pale Red; Messrs. Watkins and Simpson, Cranston's Excelsior; and Messrs. W. W. Johnson and Co., Giant London Rocca.

The following, while not so well bulbed, were regarded as excellent or true stocks: Messrs. Austin and McAslan, Trebons and Excelsior; Messrs. James Carter, Tennis Ball and Early Wonder; Messrs. Daniels, Improved White Spanish; Messrs. Yates (Evesham), Giant White Tripoli; Messrs. Watkins and Simpson, Ailsa Craig; Messrs. Vilmorin, Blood Red; Messrs. Hurst, White Italian Tripoli; Messrs. Webb, Giant Rocca; Messrs. James Veitch, Main Crop; Messrs. Sutton, Globe and Improved Reading; Messrs. W. W. Johnson, Globe; Messrs. Dickson (Belfast), Lord Keeper; Messrs. Dobbie, Golden Globe, Giant Rocca, Trebons, and White Tripoli; and Messrs. Dickson and Robinson, Paragon.

It is thus seen that the best of the more globular and keeping onions for autumn sowing seem to be Ailsa Craig, Cranston's Excelsior, Wroxton Globe, Record, and Trebons; and of the Italian or Tripoli section, Giant Rocca, Lemon or Golden Rocca, and Red and White Italian Tripoli are the best.

The committee's warmest thanks are due to Mr. Poupart and to Mr. C. Foster for great kindness in providing ground and conducting the trials so admirably.

Trial of Early Potatoes.

This was conducted at Sutton Green, Surrey, under Mr. C. Foster, "The Times" Experimental Station, 1910.

The tubers for planting were kindly furnished by numerous seedsmen and merchants, and were grown solely at this centre. Planting was done on April 20 in rows thirty inches apart, the sets being eighteen inches apart in the rows. The soil is of deep sand, and for this trial was very moderately manured, the culture being that of the open field. The inspection by members of the committee took place on July 29, several roots at each end of the respective rows being lifted for examination. Generally the crops were excellent and clean, but in few cases were the tubers large. The trial was an admirable one, and was conducted with all that care and impartiality which characterises whatever is undertaken by Mr. Foster.

PORTION OF BORDER OF HARDY PERENNIALS AT WOODSIDE.

Awards of Three Marks.

Messrs. R. Veitch and Sons, Exeter, Lady Llewelyn; Messrs. Pennell, Lincoln, Sharpe's Victor; Messrs. C. Fidler and Sons, Reading, Sharpe's Victor; Mr. J. W. Cross, Wisbech, Sharpe's Victor; Messrs. C. Sharpe and Co., Sleaford, Sharpe's Express; Mr. J. F. Williamson, Mallow, Sharpe's Express; Messrs. E. Sydenham, Birmingham, Sharpe's Express; Messrs. Dobbie and Co., Edinburgh, Alpha; Mr. A. Dickson, Belfast, Mile-Cross Early; Mr. G. Sharpe, Perthshire, Craigie Early; Messrs. James Veitch and Sons, Chelsea, New English Beauty; Messrs. Webb and Sons, Wordsley, First Crop; Messrs. Sutton and Sons, Reading, May Queen; Mr. A. Dickson, Belfast, May Queen; Messrs. James Carter and Co., Holborn, Advance; Messrs. Dobbie and Co., Edinburgh, Midlothian Early; Messrs. Scarlett and Co., Edinburgh, Midlothian Early; Mr. J. F. Williamson, Mallow, Midlothian Early; Mr. Harris, Blackpill, Seedling White Kidney; and Messrs. Hogg and Robertson, Dublin, New Coloured Kidney (Hebron type).

Awards of Two Marks.

Messrs. Scarlett and Co., Edinburgh, Eclipse; Messrs. Hogg and Robertson, Dublin, Seedling No. 2 and Seedling No. 3, Yellow-fleshed Kidney.

Epicure (Messrs. Sutton and Sons, Reading), both from Scotch-grown and own-saved seed planted in the trial, gave in each case a superb crop of fine ware tubers.

New English Beauty, of the Ashleaf type, gave a remarkable crop of tubers, though not large.

First Crop and Lady Llewelyn very closely resembled each other from seed.

The committee desire to tender to Mr. Foster their sincere thanks for his admirable conduct of the trial and finding ground and requisite labour.

ALEXANDER DEAN,
(Chairman of the Committee).

Lobelia tenuior.—This lobelia, with which we have been made familiar of late years, forms a delightful summer feature in the greenhouse, either grown in pots or in suspended baskets. The comparatively large size of the blossoms, and their charming cobalt blue colour, gains the admiration of everyone. Flowers of other tints are to be met with among this lobelia, but I much prefer that just named.—W. T.

Phlox Frau Von Lassberg.—Of all white-flowering phloxes of the decussata type, none are superior to this. I have grown most of the leading white varieties, as, for example, Mrs. Jenkyns, Amazone, Tapis Blanc, Fiancée, and Diadem, but I do not consider any of them to equal it. The plant grows to a height of 2ft., produces huge panicles of pure white blossoms, which are sufficiently wide apart for the individual blooms to stand clear of each other, although they measure 1¾ inches in diameter. The white is of the purest, and in every respect this phlox is highly meritorious. —E. MOLYNEUX.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

COOL HOUSE ORCHIDS.—With the moist, cool conditions prevailing outside recently the plants of odontoglossums have made good progress, and where repotting is necessary the plants will now require attention. There is always a possibility of the plants becoming unduly shrivelled when they are potted at a time when warm, dry conditions prevail outside. It is, therefore, somewhat risky to recommend the general potting of the cool house orchids until such time as more favourable outside conditions are to be anticipated. By this I do not mean to suggest that danger is to be feared from potting plants at unfavourable seasons of the year; when we consider that we have plants flowering in all periods, it must necessarily follow that they cannot all be in the most suitable condition for repotting purposes at one particular time. As I have pointed out in this column for many years past, the best time to repot the cool house orchids is at the season when they commence to produce new roots from the base of the developing growth or recently developed pseudo-bulbs, irrespective of what the season of the year may be; and I am sure that if this rule be followed there will be little difficulty in the plants becoming re-established without having been unduly distressed. The reason why the autumn months are recommended for a general repotting of the odontoglossums is because at that season the bulk of the plants have reached the stage of growth when they produce their new roots. When the potting is completed an excellent opportunity is provided for a general clean down of the roofs (inside and out), stagings, pots, etc.

TOP-DRESSING.—I do not make it a practice to so-call top-dress our odontoglossums. If a plant wants attention at all I prefer to repot, and as the labour required for repotting orchids cannot be compared with the repotting of other plants, I think we cannot begrudge attention to odontoglossums once a year. It is more satisfactory to those in charge to have a good idea of the condition of the potting material. If top-dressing is practised it is not always an easy matter to determine the state of the old material when there is a thin layer of chopped sphagnum or other material on the surface. The watering of odontoglossums is undoubtedly one of the chief points in successful culture, even under the most favourable conditions, and should be sufficient in itself to emphasise the fact that nothing should be permitted to remain about the roots of the plants that may have a tendency to become misleading.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

ZONAL PELARGONIUMS.—The pots containing plants for autumn flowering should be well filled with roots, and if this be the case frequent waterings with liquid manure are necessary. By the end of September the plants should be placed in a warm airy greenhouse with a southern aspect, in order that they may receive all the sunlight available during the dull days in winter.

BEGONIAS.—The earliest batch of these will now be passing out of bloom, and water should be gradually withheld from their roots. They should be placed on a light airy shelf, so as to ensure the ripening of the tubers. When the shoots have died down they should be removed, and the pots placed on their sides in a structure in which the temperature will not fall below 45 deg. Any dry place is suitable for them, and the tubers must be kept perfectly dry all through the winter.

FUCHSIAS TRAINED TO RAFTERS.—These plants are not seen to better advantage than when growing trained to the rafters of a greenhouse or a conservatory. Cuttings for raising plants for this purpose should be rooted forthwith, and be kept growing all through the winter. They must not have their leading shoots removed, but all side growths should be taken away as they appear. This suppression of the side growths must be continued until the plants have reached the lower part of the rafters, and after this stage is reached side growth should be encouraged.

HUMEA ELEGANS. — Sow seeds of this elegant subject in gentle heat, and as soon as the seedlings make their appearance above the surface remove to an unheated frame, and place the pots close to the glass, and shade from bright sunshine. The soil should be moistened by a light watering before the seeds are sown, and these latter be covered lightly with finely-sifted soil. Immediately the seedlings are large enough to handle, pot them off singly, using three-inch pots. An excellent compost is one consisting of good loam, leaf-mould, and sand, adding a little manure from a spent mushroom bed.

CALCEOLARIAS.—Prick off seedlings as soon as they can be handled, in pots filled with equal quantities of sifted loam and leaf-soil, adding plenty of silver sand to keep the compost open. Press the soil firmly, and take care not to bruise the tiny plants. Afterwards place them in a frame or pit, where they may have plenty of light and free ventilation.

CALLAS OR RICHARDIAS. — These will now be commencing to grow freely, those planted outside will be ready for lifting and potting, using good loam, leaf-soil, and sand with some soot and ground bones added. When doing this it is advisable to pot rather firmly. To increase the stock, this is the best time, as large plants can be pulled to pieces and every crown potted. These plants should, after they have been potted up—six-inch pots being the most useful—be placed in a shady position out of doors till new roots are pushing freely into the new soil. A spraying overhead twice daily will be beneficial.

LILIUMS. — Directly bulbs are received from the nurseryman they should be potted, as there is a risk of them deteriorating if they are kept out of the soil for any great length of time. To obtain flowers of Lilium Harrisi at Christmas potting early in autumn is imperative. The bulbs should be placed low down in the pots to provide ample space for future top-dressings. Plunge the pots out of doors in cocoanut-fibre or ashes, where the later varieties may remain till spring.—W. Staward, Belford Hall Gardens.

THE FLOWER GARDEN.

HERBACEOUS BORDERS are yet gay with Japanese anemones, phloxes, achilleas, gladiolus, asters, and other late summer-flowering plants, but the gayest part of the season is now a thing of the past, many of the earlier flowering subjects now have a decidedly seedy appearance, and, although a cared-for appearance in the borders at this season of the year is desirable, yet too much trimming up must not be indulged in for a while. The hasty removal of half-ripened stems or foliage have a decidedly weakening effect upon the maturation of the crowns. It is far better to endure a little untidiness for a while than, by a reckless use of the pruning knife or shears, to destroy the prospects of another year. The careful tying up or bringing within bounds any straggling growths, will aid in keeping things presentable until a general clean up takes place.

NEW BORDERS.—In the making of new borders, the general condition of the natural soil and sub-soil will largely determine the amount of preparation needed, and, although it may seem somewhat early in the season to speak of this kind of work being done, it is wiser to have matters well in hand before the season is far advanced. On heavy clay soils the addition of road grit, coarse sand, charred vegetable refuse, or anything of a kindred nature, will greatly aid in the general improvement of the soil. Unfortunately, on many soils trenching cannot be done, but where this is possible it should certainly be carried out, forking in plenty of the above-mentioned ingredients, with the addition of well-decayed manure. Heavy applications of the latter, however, need not be made, unless the soil is in a worn-out condition. Planting may be carried out either in the spring or autumn, preferably the latter, unless the locality is exceptionally cold or wet during the winter months, or protection can be given, in any case, by planting the hardiest kinds early in the autumn months, these have an opportunity of becoming semi-established before severe weather sets in.

GARDEN PINKS. — Although considered out of date by some persons, garden pinks are, by others, valued on account of their fragrance, and rightly so. Clumps, or edgings, formed of these, ought now to be examined. Plants that have been left undisturbed for three or four seasons will need trimming or dividing; in most instances a careful division of the old plants and the transplanting of the best pieces, with roots attached, will suffice, especially on sandy soils, but the best way is to propagate by cuttings early in the season; these make strong, serviceable plants by the autumn.

DAHLIAS and other tall-growing plants must be kept securely tied to stakes, or be given other means of support, and plants of all descriptions that are seeding freely should have the pods or vessels removed, or the flowering period of the plant will soon terminate. Sweet peas showing signs of exhaustion should receive help in the way of frequent waterings of liquid manure, or the washing into the soil of an approved artificial fertiliser. The flowering season of the plants from the earlier sowings are over in most gardens, but the flowering period of the later, or mid-season batches, might be considerably extended by carefully following out the above treatment.—W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

THE FRUIT ROOM. — In a few weeks hence large quantities of many varieties of apples and pears will require to be carefully gathered, and stored in the fruit room. If not already done, preparations should at once be made to thoroughly cleanse the walls and shelves. All the wood work should be well washed over with hot soapy water, and the ceiling and walls should receive a good coat of lime-wash. Afterwards admit air freely by opening wide the door and windows, to dry and sweeten the place prior to any fruit being placed upon the shelves. On no account should hay or straw be placed on the shelves under the fruit; this is a common practice in many places, and one that should be heartily condemned. The best method to adopt is to place the apples and pears on the bare wood, which must necessarily be thoroughly clean, and, where space permits, the fruits should be placed in a single or double layer on the shelves. Where possible, the fruit room should be constructed on the ground floor, with adequate means for plenty of ventilation when required, and also necessary precautions must be taken not to allow frost to actually penetrate inside the walls. The maximum temperature for a fruit room should not exceed 50 to 55 deg. Fahr., and the minimum 40deg. Fahr.

WALL TREES.—Carefully turn aside the leaves that shade the peaches and nectarines, so that they may be exposed to the direct rays of the sun. Continue to tie in, and train the current season's growths, and carefully examine all the ties, removing those which have been tied too tightly. Special attention must be paid to the main branches, as at this season of the year they swell away very freely, and serious damage may be caused if the ligatures are allowed to grow into the bark. Apple and pear trees on walls will still require the removal of secondary growths, and the fruit allowed to obtain as much sun as possible. Examine the soil in borders under walls, and maintain a proper degree of moisture to the roots by the application of clean water or liquid manure. Strict attention must be paid to the gathering of all fruit when ripe. Keep a sharp look-out for ants and woodlice, or many fruits will be completely spoiled. Owing to the showery weather we have experienced here, snails have been troublesome to the fruits of nectarines growing on walls, which has necessitated the careful examination of the trees late at night with a lantern, when these depredators have been caught and destroyed.

RASPBERRIES AND LOGANBERRIES.—The old fruiting canes should be cut away, and the young growths thinned out by pulling them up. The side growths of loganberries will require to be severely thinned by cutting them back to within four or five leaves. The current season's growth will be greatly benefited by the frequent application of liquid farmyard manure to the roots. Keep the surface soil free from weeds, using the Dutch hoe freely in and around the plants.—Henry R. Farmer, Cardiff Castle Gardens.

Begonia Corbeille de Feu. — This begonia, sent out some years ago by M. Lemoine, of Nancy, is a decidedly valuable variety, both for bedding purposes and for the decoration of the greenhouse or conservatory throughout the greater part of the year. It is a hybrid between B. fuchsioides and B. semperflorens, and forms a freely-branched bushy specimen clothed with shining green leaves. The flowers, borne in loose clusters, are of a bright coral-red colour.—W. T.

Mitraria coccinea.—Gesneraceous plants of a decidedly woody texture are very limited in number. Among them, however, must be included this mitraria, which is both interesting and highly ornamental. It is a native of the Island of Chiloe, off the mainland of Chili. Like most plants from that region, it succeeds best with a liberal amount of atmospheric moisture. Owing to this, it does particularly well in the South-West of England and in Ireland. It is of a semi-scandent character, and is well worth growing as a pillar plant in the greenhouse. The leaves are small, ovate, and deep green in colour, while the bright scarlet flowers are of an inflated tubular shape, and a little over an inch long.—W. T.

THE FOUR NORTHERN COUNTIES, FRUIT CONGRESS and SHOW, HEXHAM, 20-22 October, 1910. Particulars of space for Trade Exhibits from the General Secretary, Rev. J. BERNARD HALL, Hon. F.R.H.S., Dalston, Cumberland.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

◆

Glasgow and West of Scotland.

TABLE OF FLORAL ARRANGEMENTS AT THE GLASGOW FLOWER SHOW.
Exhibited by Messrs. Smith and Simons, 36 and 38, West George Street, Glasgow.

This society held its annual flower show in the St. Andrew's Halls on August 31 and September 1. Our Northern friends are to be warmly congratulated on gathering together a really fine display of flowers, in spite of the extremely bad weather experienced throughout Scotland of late, and the whole show may be voted a distinct success. Florists' flowers were shown in great numbers; vegetables were a strong section, the table decorations and other examples of artistic floral work, added charm to the show, and there were also a number of fine trade exhibits. Mr. Hugh M. Mackie, C.A., proved himself the personification of courtesy, energy, and organising ability, and he was ably assisted by a band of genial and enthusiastic workers.

PLANTS.

Prizes were offered for a table of plants 8ft. by 4ft., Mr. Andrew Kelly, gardener to Wm. Beattie, Esq., Dineiddrig, Milngavie, securing leading honours. His table included blue hydrangeas, caladiums, coleus, and a few small crotons, with grasses, etc., to give lightness. Mr. Thos. Muir, gardener to T. Macdonald, Esq., Beechwood, Bearsdon, followed with crotons, alocasias, pandanus, etc., surmounted by a good palm. Lack of flowering plants was the weak point in this table, which was well arranged. For three palms the first prize was awarded Mr. J. Templeton, gardener to Mrs. Alex. Rose, Richmond House, Glasgow, and for one specimen palm the same exhibitor scored with a splendid Kentia; Mr. A. D. Hughes, gardener to J. R. Cochrane, Esq., Calder Glen, Blantyre, taking second. Mr. David Allen, gardener to John Tennent, Esq., Bredenhill, Bothwell, had the best three house plants, showing Acalypha Sanderiana, Yucca variegata, and Clerodendron fallax; Mr. A. D. Hughes, Calder Glen, Blantyre, came second with Pancratium excelsum, Oncidium flexuosum, and a croton; Mr. J. Templeton, third.

CUT FLOWERS.

Hardy perennials made a brave display, the competition being keen. For a bank of flowers, cut from the open, and occupying 8ft. by 4ft., Mr. Jas. Muir, gardener to Mrs. T. H. Walker, Crosbie Tower, Troon, was accounted winner among five competitors. He had bright montbretias, fine lilies, and gladioli, and some good early chrysanthemums; roses, and carnations were also included. Mr. Robert McLelland, gardener to Alex. Murray, Esq., Duncryne-by-Alexandria, was a good second, but there was a mixing of subjects in the vases that is quite different from what is generally seen at Southern shows. In one vase we counted as many as ten distinct species. Mr. James Miller, gardener to W. C. S. Stuart, Esq., Castlewalk, Rutherglen, took third place. Mr. John Smellie, Pansy Gardens, Busby, won for twenty-four show and fancy dahlias, staging large even flowers of good old favourites. Messrs. M. Campbell and Sons, High Blantyre, took second, and Mr. Wm. McLaughlin, Kirn, third. In the class for twelve blooms, Mr. Wm. Jenkins, Lightburn, Cambuslang, scored with a very nice stand, his follower being Mr. P. Cannon, gardener to Jas. Ferguson, Esq., Ardfillayne, Dunoon. Cactus dahlias were shown in vases of six blooms each, the best nine vases being put up by Mr. Smellie, of Busby, whose flowers were of good size and beautifully built. Mr. J. Paul, Drumbeg, Killearn, took second, and Messrs. Campbell and Son third.

Messrs. Geo. Mair and Son, Prestwick, staged twenty-four spikes of gladioli that would be very hard to beat. Some of the spikes carried a dozen huge blossoms, and the varieties were of the choicest. Unfortunately, the stand on which they were shown did not admit of each spike being brought into full view. Nobody competed against Messrs. Mair, but the first prize was worthily awarded. Mr. Alexander Ollar, Kilkerraw Floral Gardens, Campbeltown, scored for twelve sprays of violas, the flowers being about as good as we have seen this season. Every variety was a gem, and size and substance was remarkable. Mr. A. Brown, Baronhill, Blantyre, second. Six vases of montbretias were staged by Mr. J. Muir, Crosbie Tower, Troon, which won first prize.

ROSES

were well shown for the time of year, the winning thirty-six blooms being staged by Messrs. J. Cocker and Sons, Aberdeen; Lyon, Horace Vernet, Mme. M. Soupert, Marchioness of Londonderry, and C. J. Grahame were among the best blooms. Mr. W. Ferguson, Brucefield, Dunfermline, were placed second, and Mr. Hugh Dickson, Belfast, third. Mr. H. Dickson scored in the class for twenty-four, Marquise de Sinety, Pharisaer, and Countess of Caledon being well shown. In the amateurs' and gardeners' class, Mr. Peter Kenyon, gardener to J. O. M. Clark, Esq., Southbar, Troon, had the best dozen blooms, the second going to Mr. J. Kerr, Westmount, Stewarton.

Great enthusiasm prevailed among the gathering of florists, whose attention was riveted on the pansies, violas, and carnations, which are always a great feature at Scottish shows. Mr. Alexander Ollar was first in the classes for twenty-four and twelve blooms for show and fancy pansies and violas. Mr. Jas. Nicol, Darnley, Mitchell, had some capital flowers in his twelve vases of carnations and picotees, with which he secured first honours; Messrs. Campbell and Son were the second prize winners. Mr. John Smellie won easily for twelve vases of early chrysanthemums, his blooms being finely grown, and the varieties good

Pompon dahlias were shown in large numbers, the exhibits filling a great length of tabling. Mr. Jas. Paul, Drumbeg, Killearn, was, after careful scrutiny, adjudged winner in the nine vase class, Mr. Smellie and Messrs. Campbell and Son following. Mr. Wm. Jenkins, Lightburn, Cambuslang, led for six vases, showing some very neat little flowers; Mr. P. Cannon, Ardfillayne, Dunoon, received second; and Mr. P. McCowan, gardener to A. Colville, Esq., Arngomery, Kippen, third. Sweet peas were a trifle weather-beaten, but there was evidence that, under more favourable conditions, we should have seen some grand flowers. Mr. Smellie led the way for twelve vases, the blooms being large, and borne on substantial stems; Mr. Paul, Killearn, was second; and in the six vase class Mr. Donald McMillan, gardener to John Wilson, Esq., Carbeth, Guthrie, Blanefield, was the leader.

EFFECTIVELY-ARRANGED GROUP OF PLANTS AT THE GLASGOW FLOWER SHOW.
Exhibited by Messrs. Austin and McAslan, 189, Mitchell Street, Glasgow.

FRUIT.

Grapes of more than ordinary quality were shown, although we have seen larger bunches at Scottish shows. For four bunches Mr. Jas. Dixon, gardener to A. Cameron Corbett, Esq., M.P., Rowallan, Kilmaurs, was awarded first prize, his Madresfield Court, Muscat Hamburgh, Muscat Alexandria, and Black Hamburgh being shapely bunches, well finished. Mr. D. Halliday, gardener to Miss J. H. Campbell, Rothesay, was a capital second. Mr. Jas. Muir, gardener to Mrs. T. H. Walker, Crosbie Tower, Troon, was placed third. Mr. John Finnie had two beautifully coloured bunches of White Muscats, for which first prize was awarded, and for two bunches Black Hamburgh. Mr. Hugh McSkimming, gardener to P. Maclellan, Esq., Auckenault, Helensburgh, took the lead in a class of fourteen capital entries. The second going to Mr. Donald McKerrache, gardener to J. B Montgomery Fleming, Esq., Kelvinside, Glasgow; and third to Mr. J. Pinnie, gardener to A. R. Brown, Esq., Summershill, Shandon.

Three collections of twelve dishes of fruit were staged, the successful exhibitor being Mr. Jas. Brown, gardener to A. A. Speirs, Esq., Houston. Peaches and nectarines were fine, and good grapes backed up the dishes. Mr. Robt. Greenlaw, gardener to H. D. Younger, Esq., Beumores, Kilnum, was second, and Mr. Finlay Macrae, gardener to J. A. Clyde, Esq., Limbank, Fossoway, Kinross, third. Mr. John Finnie led for six dishes with splendid grapes, melon, nectarines, and peaches. The single dish classes were filled well, and the quality of the fruit almost substantiated a remark we heard that weather and season had no hand in the productions of Scottish gardeners.

VEGETABLES.

To do justice to the vegetables which occupied a large hall to themselves would require treble the space we are able to give, for from the principal collections down to the pots of parsley, everything was of very high quality. Mr. Jas. Brown, of Houston, won for a collection of thirteen varieties, there being six entries in the class. The leeks and celery were remarkable, onions, cauliflowers, peas, beans, and, indeed, all thirteen dishes were good. Mr. Wm. B. Bell was a worthy second, his parsnips and onions being especially good.

NON-COMPETITIVE EXHIBITS.

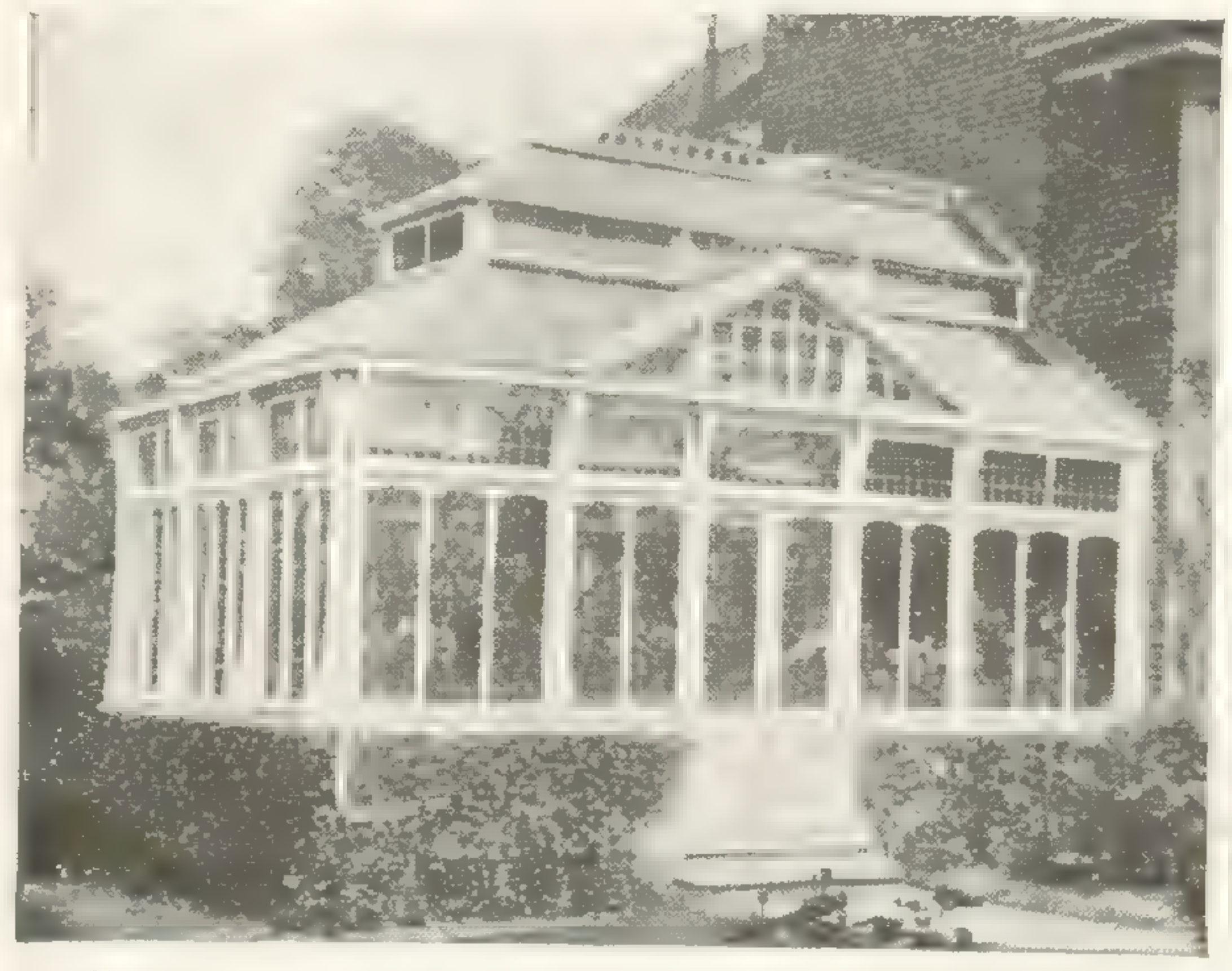
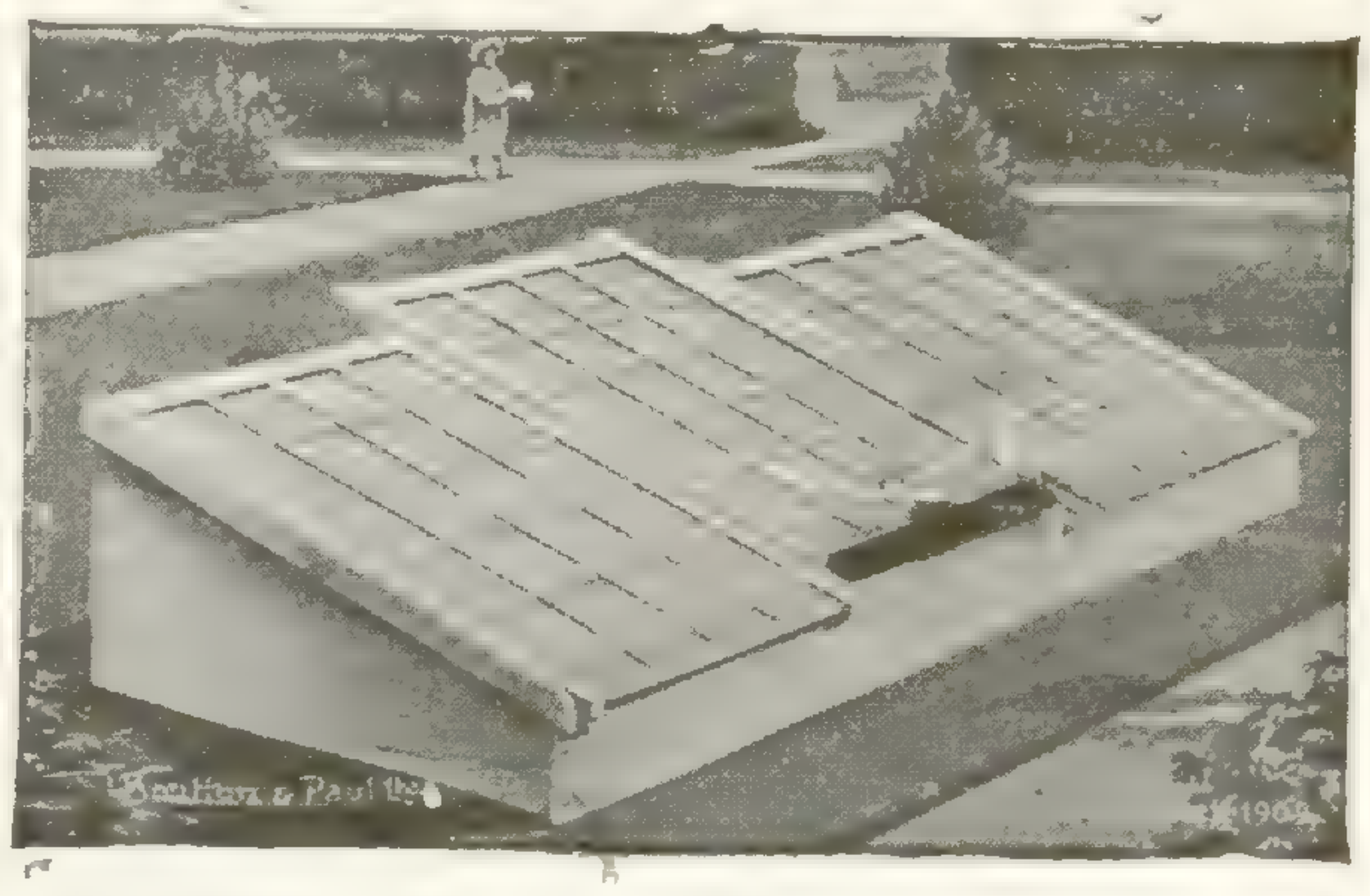
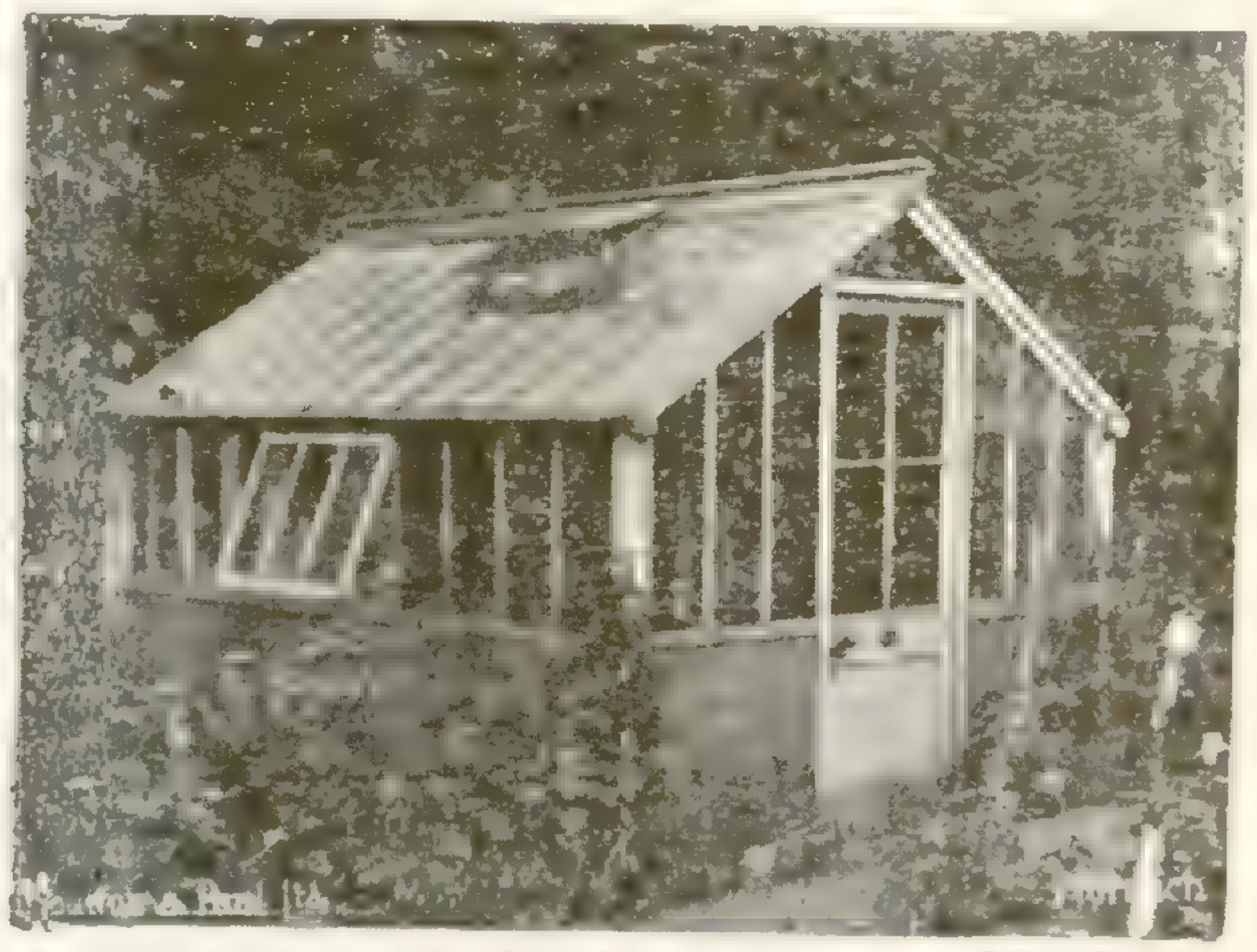
Messrs. Sutton and Sons, Reading, made a bright and attractive display of choice vegetables, melons, and cut flowers, including choice single and double asters, pentstemons, Agapanthus umbellatus, and groups of begonias, gloxinias, gesneras, and celosias in pots. The produce was of high quality, and the tasteful arrangement of the exhibit was most pleasing. The whole front of the orchestra in the larger hall was occupied by Messrs. Austin and McAslan, Mitchell Street, Glasgow, who arranged an effective group of flowering and foliage plants.

A table of skilfully devised floral designs was exhibited by Messrs. Smith and Simons, West George Street, Glasgow. A vase constructed of scarlet pelargoniums and filled with white chrysanthemums, a butterfly in antirrhinums, were supplemented by ladies' muffs, hats, and some choice bouquets. Messrs. Blackmore and Langdon, Twerton Hill Nurseries, Bath, showed a lovely lot of cut blooms of double and single begonias,

Messrs. E. Webb and Sons, Wordsley, Stourbridge, staged an extensive and meritorious exhibit of vegetables, the stand being beautifully decorated with cut flowers, among which lilies, carnations, and sweet peas were prominent; a quantity of large, well-grown melons were another feature of this exhibit. Messrs. Dobbie and Co., Edinburgh, put up a nice lot of early-flowering chrysanthemums. A grand exhibit of roses came from Messrs. J. Cocker and Sons, Aberdeen, Lyon making a bold central column. The Alpha Extinguisher, Lim., brought their excellent spraying machines, and evidently the northern gardeners were much interested in the various patterns and attachments shown.

GOLD MEDAL.

Messrs. Austin and McAslan, Glasgow, for group of flowering and foliage plants; Messrs. Smith and Simons, Glasgow, for floral designs; Messrs. Sutton and Sons, for display of melons, vegetables, and floral decorations; Messrs. E. Webb and Sons, for melons, vegetables, and flowers; Messrs. Malcolm Campbell, Lim., for miscellaneous collection of plants and flowers.

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Dundee Horticultural Society.

AUGUST 25, 26, and 27.

Never did Magdalen Green, on which this society's annual exhibition was held, show a prettier sight than on the above dates. The display was quite up to the average, and in the competition for prizes for groups of plants for the Dundee Corporation Cup, and in the classes for fruit and vegetables, a distinct advance must be recorded.

PLANTS.

There was a spirited contest for the Dundee Corporation handsome challenge cup for groups of plants. The groups from Mr. James Beats, gardener, Binrock, and Mr. James Bethel, gardener, Grange, Monifieth, were very close in point of merit, and after considerable deliberation, the judges awarded the cup to Mr. Beats, his collection being very effectively arranged, lightness and airiness, and a beautiful blending of colours, being prominent features. The collection shown from the Grange gardens included some exquisitely-grown specimens. Overcrowding, however, and a little weakness in arrangement were Mr. Bethel's undoing. Nevertheless, both groups were magnificent, and both exhibitors may be highly complimented on their handiwork. For six stove or greenhouse plants, distinct, three foliage and three in flower, Mr. James Kinnear, gardener, Fernbrae, was a capital first with very fine and well-grown specimens. Mr. George Reid, Invertay, won finely in the class for the best table of stove and greenhouse plants, arranged for effect. His entry included some finely-coloured crotons, set off with ornamental asparagus. Ferns were very attractive, and Mr. Reid, Invertay, had a very fine collection. Mr. Beats had also some fine maidenhair ferns, which worthily won first place. Begonias, liliums, crotons, and dracænas were all finely shown, the leaders in the respective classes being Mr. George Scott, Seathwood; Mr. Beats, Mr. James Kinnear, and Mr. R. B. Saunders, Lismore, Broughty Ferry. Pelargoniums made a good display, and here Mr. George Scott had matters pretty much his own way with excellent specimens. For Lilium auratum and three coleus, Mr. Beats again scored. The other leading winners, of whom mention should be made, included Mr. Thomas C. Brown, Balcairn; Mr. William Grieve, Hazelwood; Mr. Robert Birse, Carmichael Street, Dundee; Mr. James Bethel, The Grange; and Mr. Birse.

CUT FLOWERS.

The display of cut flowers was a specially fine one. Mr. James Beats led in the class for a collection of cut flowers in vases. His arrangement—a very prominent feature in this gardener's qualifications — was very artistic, including as it did some splendid carnations, dahlias, and liliums. Mr. Scott, Seathwood, was not very far behind in this contest. As elsewhere in Scotland, the display of sweet peas was a fine one. Here Mr. Reid, Invertay, scored handsomely with a very fine entry. Mr. R. W. Saunders was first for twelve bunches of flowers of stove and greenhouse plants. They were really fine, and worthily deserved their place. Chrysanthemums were well shown, the premier honours being taken by Mr. Scott, Seathwood. Roses were also well staged, Mr. William Grieve, Hazelwood, West Ferry, leading in two classes, while Mr. David Keillor, Seabourne Gardens, Broughty Ferry, was first for tea or noisettes. Dahlias proved very attractive, Mr. Charles Shaw, Boquhan, Kippen, leading for cactus dahlias (decorative varieties excluded) and six varieties cactus dahlias in bunches; while Mr. John S. Summers, Ashcliff, Dundee, won for pompone dahlias. Carnations proved a very fine entry, chief honours going to Mr. David Halley, Roycroft, Broughty Ferry, and Mr. James Beisant, Castle Huntly. Begonias were well shown, Mr. H. Rutherford, Brechin, taking first place. Asters were good, as were also annuals and herbaceous flowers, the leaders being Mr. W. Cook, Duncraig; Mr. Scott, Seathwood; and Mr. George Reid, Invertay.

FRUIT AND VEGETABLES.

Visitors invariably find the tent devoted to these sections very attractive, but it was especially so this year, the entries being numerous and of excellent quality. Than the display of grapes, nothing finer has ever been seen at a Dundee Show. And it was made by a new-comer, Mr. James Dixon, gardener to Mr. A. Cameron Corbett, M.P., Rowallan, Ayrshire. Mr. Dixon took in all five first prizes in this section. In the section for six bunches of not less than four varieties, he gained 48 points out of 55, and again for four bunches he was awarded chief honours. Others who showed grapes well included Mr. Scott, Seathwood; Mr. Beats, Binrock; Mr. James Beisant, Castle Huntly; and Mr. James Kinnear, Fernbrae. Apples were an exceedingly large display, there being some twelve or fourteen different sections. Mention must be made of the fine fruit staged by Mr. Scott, Seathwood; Mr. R. Kirkwood, Pinegrove; Mr. W. Goodall, Errol; Mr. James Kinnear, Fernbrae; Mr. W. Black, The Croft, Errol; Mr. W. Harper, Tulliebelton, Perthshire; Mr. Harry Tait, Errol; Mr. W. Benvie, Errol; and Mr. Thomas Butchart, Braeknowe Lodge, Dundee, all of whom carried off premier honours. Melons were of high quality. Mr. Kinnear and Mr. John G. Clark, Elmslea Gardens, were among the prize-winners. For peaches, nectarines, and apricots, Mr. McGlyn, Helenslea; Mr. Beisant, and Mr. D. A. Miln, Linlathen, led the way. For collections of hardy fruits, the entries for which were very good, Mr. James Birrell, Braco Castle Gardens, was a capital first, and Mr. Scott, Seathwood, obtained premier honours for orchard house fruit. Plums were best shown by Mr. W. Nicoll, West Park Gardens, Dundee, and Mr. Wm. Benvie, Errol. Pears made a brave show, Mr. Simpson, Panmure Gardens; Mr. Benvie; and Mr. George Reid, Invertay, being the most successful exhibitors.

Vegetables were a really meritorious display, and reflected no little credit on the growers. Mr. Charles Shaw, a new competitor, and gardener to Mr. Stephen Mitchell, Boquhan, Kippen, proved a surprise in this section, his exhibit of twelve kinds of vegetables being of exceptional merit, and worthily gaining him leading place. Mr. Kinnear, Fernbrae, was a close second. For leeks, cauliflowers, and kidney beans, Mr. William Harper, Tulliebelton, scored.

Aberdeen Flower Show.

AUGUST 25, 26, and 27.

Amidst the most charming surroundings, the annual show of this society was held in the Duthie Public Park, Aberdeen. As a whole the display was one of the finest yet seen in Aberdeen, and was therefore remarkable for its excellence.

PLANTS.

These, although not quite so numerous as have been seen at Aberdeen, were a very meritorious display, all being well-grown. For the best specimen plant in flower, Mr. Alex. Brebner, gardener, Dalhebity, scored worthily with an exquisitely grown Disa grandiflora. Mr. J. Leggat, gardener, Balgownie House, was a good second, with a fine Statice profusa. Specimen foliage plants, if not numerous, were good. Mr. John Elder, gardener, Norwood, had a capital first and second here. Palms were a small entry, Mr. Elder and Mr. Douglas, gardener, Kepplestone House, sharing the honours. For best four ferns there was good competition. Mr. Alex. Brebner, Dalhebity had Adiantum cuneatum, A. Victoriæ, and A. gracillimum in splendid order. Zonal pelargoniums were not so good as last year, but those staged were very healthy and well-flowered. Mr. J. W. Brechin, gardener, Ardoe, Belhelvie, did capitally here. Show pelargoniums were somewhat poorly flowered, but the season is past for these flowers. All the same, Mr. Brechin's fine entry well earned him premier place. Begonias and petunias could only be characterised as fair, compared with what has been seen at this show in former years. Mr. J. D. Smith, Union Grove, and Mr. Brechin, Ardoe, shared the honours here. For the best six plants for dinner table decoration, Mr. John Petrie, gardener, Crathes Castle, had a really good set. For the second time, Mr. George Maitland, Woodside, gained the society's challenge silver cup for the best table of greenhouse plants.

CUT FLOWERS.

In this division lay unquestionably the finest features of the show. For twenty-four roses, H.P. and H.T., or either, named, distinct varieties, for which the chairman of the society gave a substantial prize, Mr. Douglas, Kepplestone House, had a splendid win. For twelve blooms—same conditions—Mr. Alex. Brebner, Dalhebity, gained the society's silver medal. Mr. John Elder, Norwood, gained a similar award for an exceptionally fine stand of tea or noisette roses. The season has not been particularly favourable for dahlias, being rather cold, but these who saw the fine specimens sent in by Mr. Brechin, Ardoe, would not have thought so. They were a very meritorious lot. Throughout this division Mr. Brechin exhibited well, taking leading honours for gladioli and asters. The latter were very good, and there was a numerous entry. Marigolds were large, but we have seen them much more distinctly marked. Mr. John Grieve, Woodside, who was first, well deserved the honours he obtained. The entries for best collection of twenty varieties cut flowers and fine foliage bedding plants, including annuals, on a space three feet by three feet, proved a delightful feature. Mr. Douglas, Kepplestone House, and Mr. William Scorgie, gardener, Springhill, divided the honours. The twelve cut trusses of zonal geraniums were a good feature. For these Mr. Brebner, Dalhebity, had things pretty much his own way. For the best six bunches of flowers of stove or greenhouse plants, Mr. Alex. Duncan, gardener, Rubislaw Den House, was a capital first. Orchids made a charming display, and included fine specimens of Miltonia spectabilis, Cattleya labiata, Cypripedium Lawrenceanum, and C. Veitchi. Pansies, both show and fancy, owing to the cool season which so admirably suits these flowers, made a fine display, and proved a source of much attraction. Mr. J. M. Dunn, Nellfield, and Mr. G. C. Minty, Hilton, worthily shared the honours here. The violas sent by Mr. James McLennan, gardener, Elden House, Banffshire, were also very fine. Sweet peas were undoubtedly the predominating feature in the cut marquee. Mr. John A. Grigor, gardener, Seapark, Forres, had really a magnificent entry, and well deserved his place. Bouquets, sprays, baskets of flowers, and button-holes formed a fine display, Mr. J. D. Smith, Union Grove; Mr. Alex. Cumming, Granite Hill; and Mr. Strachan, Aberdeen Botanic Gardens, sharing the principal honours.

FRUIT.

The display made here well sustained the reputation of the Aberdeen Society. Hardy fruits were highly meritorious, an outstanding feature being the fine collection of gooseberries. Langley Green, considered in the north one of the best dessert fruit, was prominent. For the best collection of hardy fruit, six dishes, not more than two dishes of any kind, Mr. John A. Grigor, Seapark, led the way. Strawberries were very good, Mr. John Selbie, Morken, taking first place. Cherries and raspberries were good, Mr. Petrie, Crathes Castle, leading the way. Gooseberries, as stated, were highly meritorious, Mr. George Taylor, Cults; Mr. Petrie, and Mr. H. B. Smith, Burdshaugh, Forres, taking the lead. Grapes were a specially fine entry, Mr. W. Campbell, gardener, Brahan Castle, Ross-shire, having capital wins in both white and black classes. Black Morocco, Alicante, and Muscat of Alexandria were chiefly shown. Melons, peaches, nectarines, apples, pears, plums, and tomatoes were finely shown, the leading exhibitors being Mr. Scorgie, Springhill; Mr. Campbell, Brahan Castle; Mr. Leggat, Balgownie House; Mr. H. B. Smith, Burdshaugh.

MARKET GARDENERS.

The displays made by the market gardeners of fruit and vegetables were exceedingly good. For the best collection of hardy fruits, Mr. John Kinnaird, Burnieboozle, took first place with a very meritorious entry. Mr. William Ellis, Raeden Gardens, Aberdeen, carried off the premier honours for best collection of vegetables, comprising nine varieties.

NURSERYMEN AND FLORISTS.

Leading the way in this section were the Messrs. Cocker, Aberdeen. They were first for thirty-six, which included Frau Karl Druschki, Lyon Rose, and Madame Ravary, Hugh Dickson, Caroline Testout, and Madame Abel Chatenay. Messrs. Adam and Craigmile, Rubislaw Nurseries, were first for twenty-four tea or noisettes with a greatly admired entry. There was some exquisite floral work shown in this section, chief honours going to Mr. Alex. Burns, jun., New Market, Aberdeen, and his daughter, Miss Alice Burns.

NON-COMPETITIVE CONTRIBUTIONS.

These were numerous and of much merit, and contributed materially to the interest and attractions of the exhibition. Roses, carnations, dahlias, begonias, hardy flowers, and floral decorations were particularly noteworthy, and did much credit to the skill of the exhibitors.

Oxford.

AUGUST 23.

Unfavourable weather attended the holding of the eighty-first late summer show of the Royal Oxfordshire Horticultural Society, convened, as on many previous occasions, in the spacious leafy shades of Worcester College Gardens, which possess lawns of the richest green and softest velvet grass shadowed by ancient trees — a sweet, quiet, sacred, stately seclusion.

The College occupies a site upon which, since the early part of the twelfth century till 1714, was the home of an order of Benedictine monks. The gardens lie west of the buildings, and at the west end a semicircular lake adds a charm to the place. Among the trees are giant chestnuts, walnuts, and ailanthus, a fine copper beech and other ornamental trees fill up intervals; and some time since an ancient mulberry was blown down which was known to have been standing 250 years.

The flower show was one of the largest the society has had in August, there being fully 130 exhibits of plants and blooms, and nearly 500 separate exhibits of fruit and vegetables; of the latter section Oxford County can hold its own. To aid the display, Mr. J. S. Chidlow, gardener to Mrs. H. Morrell, Headington Hill Hall, arranged a very fine group of flowering and foliage plants, covering fully an area of 350 square feet. The design had a central pyramidal mound crowned by a wide-spreading palm (Kentia Belmoreana), some eight lesser mounds with two dozen hillocks filling up the design. Seven varieties of crotons were used as dot plants, and richly-coloured acalyphas, liliums, etc., were utilised; the groundwork being ferns in variety, a very fine batch of cockscombs, and streptocarpus, with numerous examples of the Belvedere cypress (Kochia) and Acalypha Sanderiana. A gold medal was awarded. A large artistically arranged display of flowers and vegetables, covering nearly 100 square feet space, was exhibited by Messrs. E. Webb and Sons, Stourbridge. In the arrangement there were eleven varieties of melons, and about eighty vases of sweet peas, seedling carnations, Bermuda lilies, gladioli, and other flowers, relieved by cucumbers, tomatoes, and melons sent out by the firm. A back line of yellow and crimson celosias and Hydrangea paniculata grandiflora proved a foil to the three-tier stage. A gold medal was deservedly awarded. A silver medal was awarded to Mr. John Mattock, New Headington, for a most effective display of roses on fifty feet space; and a bronze medal fell to Messrs. R. Tucker and Sons, George Street, Oxford, and Brookside Nursery, Headington Hill.

In the competition the British ferns of Mr. H. Mount, superintendent of the University Parks, and Mr. W. F. Cross, Chilswell, Iffley Road, Oxford, were equal to anything exhibited in the provinces. Mr. Cross had a premier for a very finely grown specimen of Fuchsia Ladd's Double, coral red with white corolla; he also was premier in the class for a foliage plant with a tall specimen of Yucca aloifolia. Specimen plants were few, but the fuchsias, statice, etc., were fairly good. There were no zonal pelargoniums in the first division, the best four in the amateur section were double forms. Exotic ferns were fair; and the groups of begonias made a bright display of colour, Messrs. West and Sons, Oxford Market and Headington, leading.

Cut flowers were plentiful; Mr. John Johnson, Garsington Nursery, secured the champion award for a fine collection of herbaceous perennials, staging about six dozen varieties; Mr. John Walker, Thame, led in the classes for asters, gladioli, zinnias, splendid forms, and the three classes for dahlias. His cactus varieties were in triplets, and among others were Aviator, Prima Donna, Indomitable, Jupiter, Red Admiral, Iolanthe, Mrs. A. Dyer, Mrs. F. Grinstead, Ruby Grinstead, Snowstown, and Mrs. B. Brousson; the show and fancy collection included perfect, well-balanced forms of Mrs. C. Noyes, light fawn; Hero (self), lilac; Dr. Keynes, buff; H. Keith, rosy purple; W. Girdlestone, yellow; Blush Gem, rose; Mabel, lilac; The Reverend, buff; John Walker, white; J. T. West, yellow; J. Hickling, yellow; Duchess of Albany, orange; R. Dean, purple; Mrs. Saunders, golden yellow; J. Bennett, yellow; Golden Gem, deep yellow; Rev. Gooday, maroon; Lord Salisbury, fawn; S. Mortimer, pink flaked; R. T. Rawlings, yellow; Hero, striped purple; Mr. Glascock, purple; and Tom Jones, cream edged purple. Pompons were a very fine show set up in triplets. Roses were good full-sized blooms for late in the season. Mr. J. Mattock led for eighteen, his stand having four or five newish introductions; Mr. W. T. Mattock was placed second for a charming lot of blooms, he also put up three dozen as an extra, which secured an award of merit.

Fruit was an average display, although the classes for grapes did not attract much competition. Mr. S. Brown, Aynho Park Gardens, led for white and black (Hamburgh excluded), peaches, and nectarines. All the prizes went to white-flesh melons. The premier peaches were Dymond; the nectarines, Pineapple; dessert plums, were Kirke's and Victoria; the heaviest culinary being Pond's Seedling. Lady Sudeley and Beauty of Bath apples found favour as dessert kinds, the heaviest cooking apples being Peasgood's Nonsuch.

Vegetables proved a very extensive section and of excellent quality; the onions, tomatoes, celery, beet, carrots, and peas leaving nothing to be desired. The Gladstone pea secured the prizes all through, and the runner beans were fully up to the Oxford standard—thirteen inches long, and ten beans in a pod. Ailsa Craig was the heaviest of the onions, but there was some large bulbs of Walker's Exhibition. The collections of twelve kinds were fair tests of skill. Messrs. R. Wadham, gardener to Mrs. Bradshaw, Steeple Aston, and J. Holton, gardener to Rev. the Provost of Worcester, ran very close for first place; Mr. Holton, however, proved the champion for four dishes of potatoes. One special feature on this occasion was the addition of thirteen classes of vegetables, "open to any member of a horticultural or an allotment association," resulting in nearly 140 exhibits of really fine produce.

Horticultural Trades' Association.

ANNUAL MEETING.

The gathering which took place in London on August 22 and three following days was one of the most successful, and the most numerously attended of the series. Nearly a hundred nurserymen and seedsmen from all parts of Great Britain were present, several journeying from Scotland in order to take place in the proceedings. The excursion on the 23rd was to Woking and Wisley. Woking is well known as a centre of the nursery industry, the soil and climate being especially suited to the culture of conifers and other shrubs and trees. Messrs. Jackman and Sons, and Mr. Charles Slocock, who kindly entertained the party at lunch and tea, have between them some 500 acres under nursery, and the time was all too short to allow of thorough inspection of the immense stocks of all kinds of shrubs, trees, roses, etc., contained. The visit to Wisley was also much enjoyed, and great interest taken in the trials being carried on. The second day was purely a pleasure one, some 90 members joining in a trip up the Thames, landing at Cliveden for lunch (permission having been kindly given by Mr. Astor), and spending the afternoon amid the glorious scenery there. Some of the more energetic of the members crossed over to Dropmore and inspected the famous collection of conifers, and felt abundantly rewarded for their walk.

The evenings were taken up by the election of officers for the ensuing year, and the discussion of matters of trade interest, such as land taxation and valuation, gooseberry mildew, etc., etc. Mr. Peter Veitch (the head of the Exeter firm) was elected president for the coming year.

NATIONAL HARDY PLANT SOCIETY.

There are one or two points raised in your extremely interesting leading article on this new venture upon which I beg leave to make a few remarks. I entirely agree with your opinion that no new society should be formed unless a real and urgent need exists, but I am firmly of opinion—and the enthusiasm with which the proposal was received at Shrewsbury testifies that I am not alone in this—that there is a need (as real and urgent as has been felt prior to the formation of any existing and flourishing society) for a powerful organisation that shall look to the wide and important interests of hardy plants. The promoters of the scheme fully realise that difficulties will have to be met, but nothing can be achieved without effort, and although the society is not as yet fully established, I can assure you the chief points you raise have been under consideration. We who have had the matter in mind for several years are setting ourselves to the task with great hopes of making this new society justify its existence. To say definitely at this stage what shall be the range or limits of the society's operations would be premature. We have no desire to encroach upon the domains of other societies, but we do intend that the National Hardy Plant Society shall be worthy of its title.

The organisation of independent exhibitions, the maintenance of extensive trial grounds, may be developments of the future, but in the meantime we hope to effect improvements in the conditions under which hardy flowers are exhibited, to arrange new and interesting classes at existing flower shows, to deal with the nomenclature of garden varieties of plants that do not come within the sphere of Kew, and to disseminate information on practical and scientific matters relating to hardy plant culture. The measure of support obtained must govern the volume and value of the work accomplished, and it is hoped that all who are interested in hardy plant culture will give their support to the movement.

A. J. Macself.
Chairman of the Provisional Committee.

OBITUARY.

◆

MR. WILLIAM BOXALL, V.M.H.

We much regret to record the death of Mr. William Boxall, V.M.H., which occurred at his residence at Clapton on the 29th ult., in his sixty-sixth year. Mr. Boxall for a considerable period occupied a prominent position among plant collectors, and we owe to his enterprise many of the most beautiful of the occupants of our plant houses, among them being Cymbidium Lowianum and Dendrobium Wardianum. Mr. Boxall was throughout his career associated with Messrs. Hugh Low and Co., and was held in high respect.

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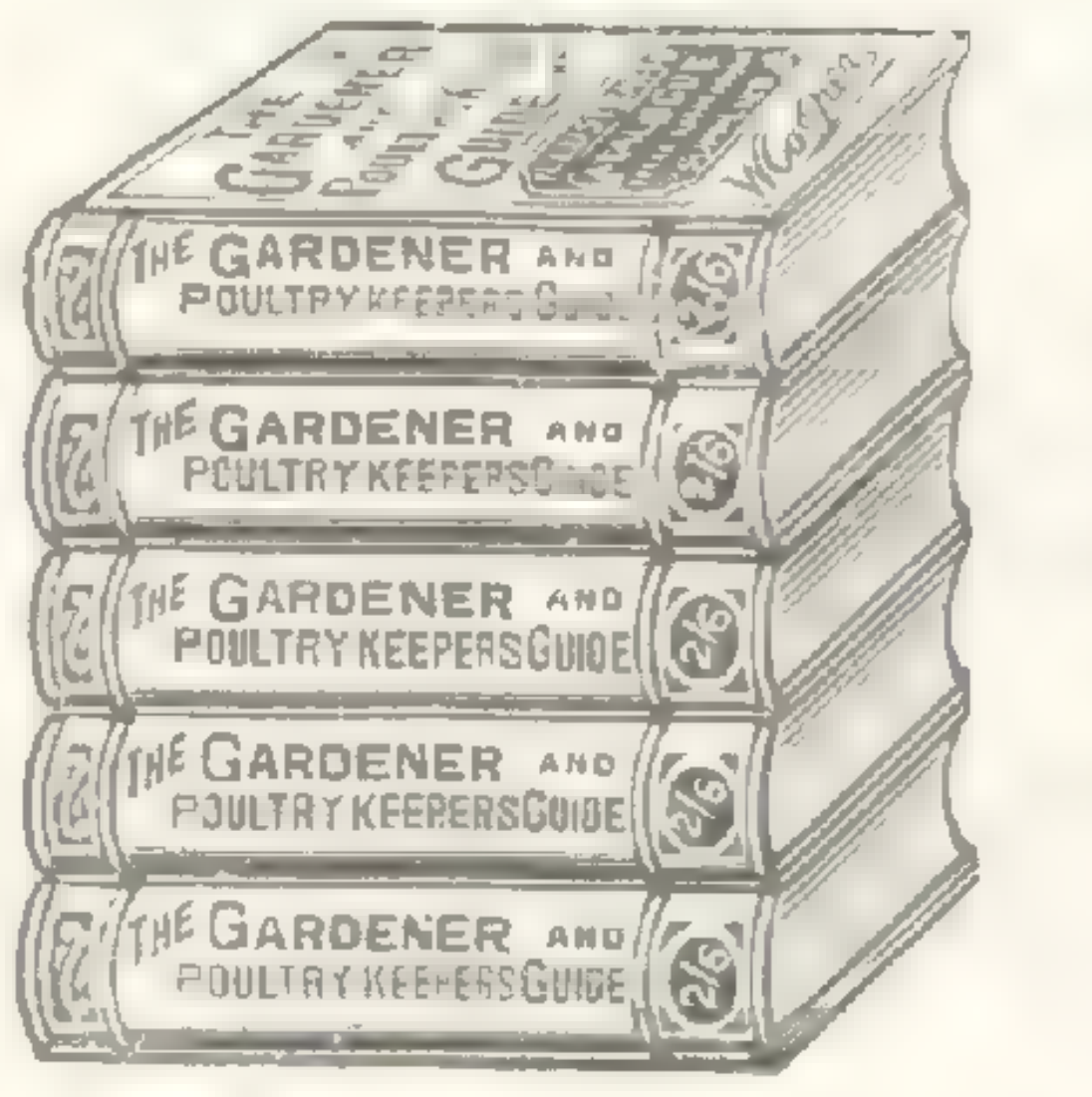
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ANSWERS TO CORRESPONDENTS.

GARDEN STUDENTS. — Young Gardener: The Royal Gardens, Kew, and the Royal Horticultural Society's Gardens, Wisley, are both excellent establishments, and we suggest that you write to the Director of the Royal Gardens, Kew, and the Secretary of the R.H.S., Vincent Square, Westminster, S.W., for particulars as to the admission, etc., of students to the respective gardens.

POT ROSES. — T. T., Faversham: The varieties you mention are naturally of dwarf growth, and therefore cannot be grown into large specimens, as you suggest. If you really require varieties that will make good-sized bushes we suggest that you plant Baby Dorothy, and the other variety belonging to the same class, in the beds in the garden, and make a selection from the hybrid teas. If you decide to continue to grow the dwarf polyanthas in pots, your best course, as they are not in a very flourishing condition, will be to turn them out of the pots, remove the drainage, and as much of the soil as can be taken away without injury to the roots. Slightly shorten the long roots, and then repot, using clean pots of the same size as those in which they are now growing. The compost should consist of good turfy loam and well-rotted manure in the proportion of four to one. It is not advisable to use a large proportion of manure in the compost, and it is really not necessary, as the plants can be readily assisted during the season of growth with liquid manure or top-dressings of one of the many good artificial fertilisers now available. The pots must be efficiently drained, and the soil made firm with the aid of a potting stick. As they are potted place them on a bed of ashes outside, and syringe them overhead in the evening, when the weather is dry, for a fortnight or so after the repotting. Prune them rather hard back towards the end of November or early in December. Do not start them into growth until February is well advanced, for they have not the strength essential to success in early forcing.

PENTSTEMONS.—M. B., Lancashire: On your low-lying and comparatively cold soils, the best course will be to winter the seedlings you have raised in an unheated frame. We advise you make up a bed of light sandy soil in a one or two-light frame, according to the number of plants for which space is required, to a depth of ten or twelve inches. In a few weeks hence dibble the seedlings over the bed at a distance of about two and a-half inches apart each way. Well water them, and subsequently keep the soil moderately moist. The frame should be freely ventilated at all times, excepting in severe or wet weather, as it is essential the plants should not be coddled. Plant in beds and borders in April next.

BROWN SCALE ON PEACH TREES.—R. B.: It is evident that your peach trees are badly infested with the Brown Scale (Lecanium persicæ), and it is important you should make strenuous efforts to free the trees from the pest. Not only is this scale insect very injurious to the trees when present in large numbers, as in your case, but it impairs the appearance of the fruit. As the leaves as well as the shoots are infested, your first step will be to gather them up as they fall, and burn them, and thus destroy the insects located on them. When the trees are at rest, say, early in January, paint the whole of the branches and shoots with the Woburn Wash, which is the outcome of the investigation made by Mr. Spencer Pickering, F.R.S. This wash is prepared as follows: Soft soap, 2oz.; paraffin, 1¼ pints; caustic soda, ½lb.; and water, 9 quarts. The soft soap is first dissolved in the water, which may be either hot or cold; then pour in the paraffin, which must be well churned up with the syringe, and this having been done, shake in the caustic soda. Both the soap and the paraffin have a tendency to rise, and therefore the mixture must be kept well stirred when it is being used. Care must be taken to avoid injury to the buds, but the painting must be so thoroughly done that but few, if any, of the insects escape. It will be better to lose a considerable number of buds than to allow a sufficient number of the insects to escape and infest the trees during the following summer.

PLANTING BORDER CARNATIONS.—Amateur: For some long period there was a considerable difference of opinion as to whether carnations should be planted in beds and borders in September or in March, but now there is a general agreement among growers that, excepting where the soil is naturally heavy, the best results are obtained from autumn planting. On your soil it would unquestionably be advantageous to plant before the end of the present month. Rooted layers of both new and old varieties are available in the nurseries about the middle of the month, and we strongly advise you to buy the varieties you require as soon as layers are ready, and plant them with as little delay as possible.

MILDEW ON ONIONS.—S. W. F.: Your crop of onions has been damaged by an attack of mildew, which, happily, has not been severe. It is now, of course, too late to adopt repressive measures, but you can do something now to mitigate, if not prevent, attacks next year. As far as you can possibly do so, collect and burn all the onions that are seen to be diseased. If the diseased onions are allowed to remain in the bed and decay, there will, in all probability, be a recurrence of the disease next year. It is also important not to throw the infected bulbs on the manure heap, as when this is done, the spores of the fungus remain unchanged until the following season, and may be conveyed with the manure to other parts of the garden, and infect onions growing in the quarters to which the manure has been applied.

DECAYING MUSCAT GRAPES.—T. S., Yorkshire: It would appear from the number of specimens that have reached us of late that the decay of white grapes, as in the case of your Muscat of Alexandria, is quite common this season. The trouble has not arisen from what is known as shanking, as in that the stalks of the berries decay. We have closely examined the bunch, and cannot find one of the stalks injured. The decay at the base of the berries is due to the temperature being too low, and the ventilation insufficient. This form of decay is common in cool, dull seasons, but is practically unknown in summers in which the amount of bright sunshine and the temperature are equal to the average.

NAMES OF PLANTS.

Orchidist.—1, Miltonia spectabilis Moreliana; 2, Oncidium ampliatum majus.

W. H.—1, Nepenthes Wrigleyana; 2, Hookeriana elongata; 3, Pistia stratiotes.

Amateur Horticulturists. — The begonias are: 1, Weltoniensis; 2, Dregei; and 3, Corbeille de Feu.

F. H. S.—1, Rhus glabra lacinata; 2, Olearia Haasti; 3, Ligustrum japonicum macrophyllum; 4, specimen not sufficient for identification.

R. B. — We cannot undertake to name florists' flowers. The blooms sent are out of character, and many of them shed their petals in coming through the post.

FORTHCOMING ENGAGEMENTS.

TUESDAY, September 6.—Scottish Horticultural Association.

WEDNESDAY, September 7.—Royal Caledonian Horticultural Society's Autumn Show; two days.

National Hardy Plant Society meets at Edinburgh, 8 p.m.

THURSDAY, September 8.—National Dahlia Society's Exhibition at the Crystal Palace; two days.

MONDAY, September 12.—United Horticultural Benefit and Provident Society, Committee meeting.

TUESDAY, September 13.—Royal Horticultural Society; Committees meet at 12 o'clock; lecture at 3 p.m. on "Roses," by Mr. George Paul, jun.; Scientific Committee at 4 o'clock.

British Gardeners' Association, Council Meeting.

THURSDAY, September 15.—National Rose Society's Autumn Exhibition at the Royal Horticultural Hall.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
1910. August 21 to August 27.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Aug. 21—Sunday	8 40	65	58	71	59
,, 22—Monday......	2 35	58	56	66	50
,, 23—Tuesday	3 0	60	53	64	47
,, 24—Wednesday .	8 55	63	60	71	57
,, 25—Thursday ...	0 50	61	57	68	52
,, 2 – Friday..	5 20	64	62	68	60
,, 27—Saturday ...	5 25	59	53	65	53
Means ...	(total) 4 58	61	57	68	54

Date.	Rain.	Temperature of the Soil At 9 a.m.			Lowest Temperature on Grass.
1910. August 21 to August 27.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Aug. 21—Sunday	—	62	61	60	54
,, 22—Monday...	0.05	61	61	60	44
,, 23—Tuesday......	0.14	61	61	60	40
,, 24—Wednesday.	—	62	61	60	55
,, 25—Thursday ...	0.11	61	61	60	45
,, 26—Friday........	0.04	62	61	60	57
,, 27—Saturday ...	—	60	61	60	49
Means ...	(total) 0.34	61	61	60	49

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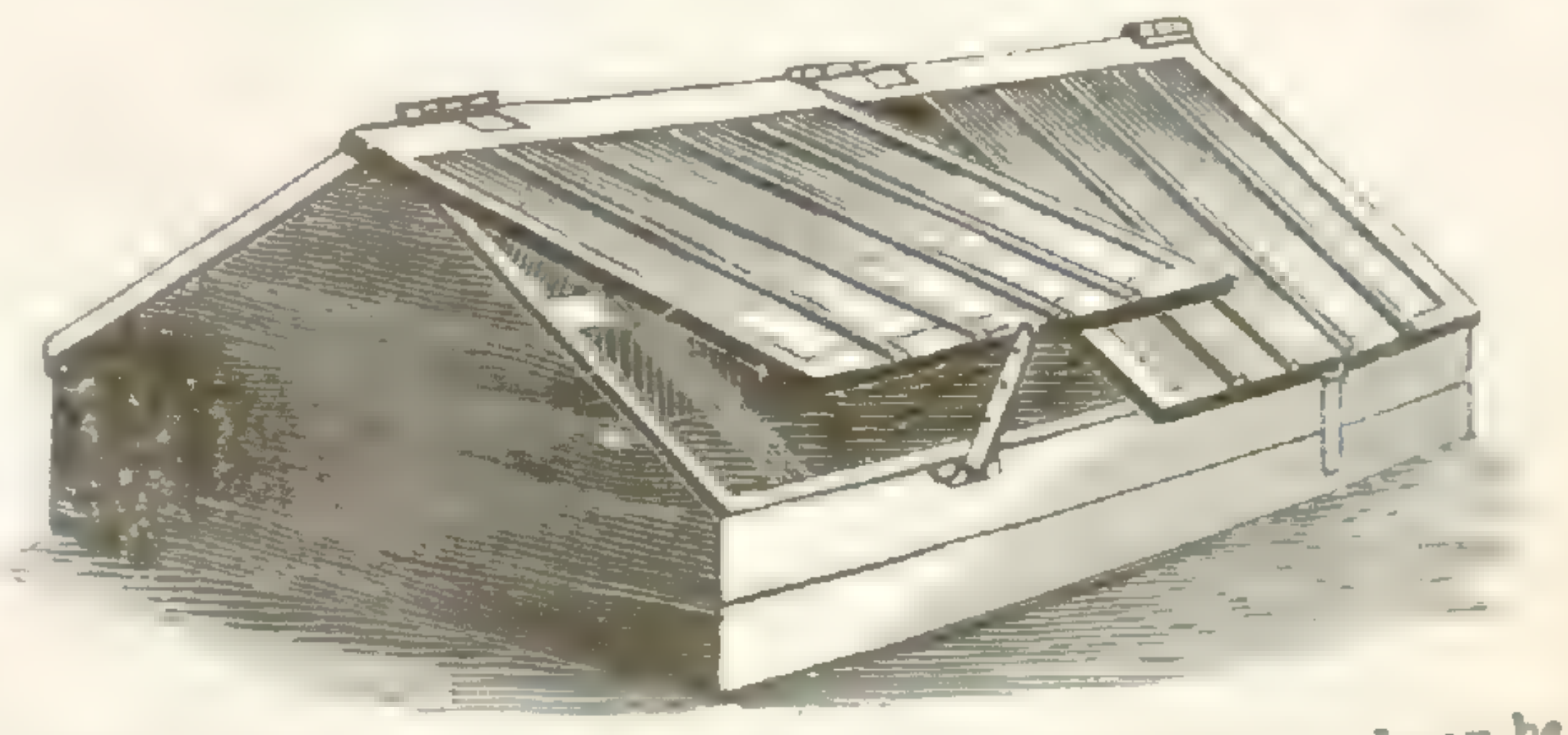

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12ft. ,, 5ft. ,,	4	15	0
12ft. ,, 6ft. ,,	5	12	6

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Situations Wanted.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

H. WHATELEY, Esq., The Spring, Kenilworth, Warwickshire, recommends a GARDENER (Head); well experienced all kinds of Fruit, Plants under Glass, including Orchids, and Kitchen and Flower Gardens. For particulars apply above.

GARDENER (Head); life experience all branches, Inside and Out; Grapes, Peaches, Melons, Stove and Greenhouse Plants, Orchids, Malmaison and Tree Carnations, Landscape and Rock Garden; Vegetables and Hardy Fruit; nearly 8 years as head; age 35; excellent references. F. SMITH, 4, Mellish's Terrace, Morden, Surrey.

GARDENER (Head, where two or three are kept); highly recommended; would be pleased to forward particulars to any Lady or Gentleman. CLARK, 19, Tanfield Road, Birkby, Huddersfield.

GARDENER (Head); life experience in growing all kinds of fruit and plants, including orchids; also kitchen and flower garden; can be highly recommended. W. LAMBERT, The Common, Kenilworth, Warwickshire.

GARDENER (Head Working, where one or two more kept, or good Single-handed); experienced Inside and Out; good references, and recommended; age 27; married when suited. W. CROUCHER, 11, North Terrace, Hythe, Kent.

GARDENER (Head Working, where two or more are kept); thoroughly experienced; 7 and 12 years' good references as Head; age 45; active; 2 in family, youngest, lad, 15; disengaged. HUNT, 9a, Bridewell Street, Devizes.

GARDENER (Head Working).—Well up in all branches; excellent characters; 5 years' present situation; married; age 40. E. BEARDSLEY, The Finches, Ifield, Crawley, Sussex.

GARDENER (Head Working).—Mr. A. FYFE, Locksheath, near Southampton, wishes to highly recommend to any Lady or Gentleman a thorough practical Man as above, [illegible] experience all branches gained in first-class establishments; excellent references; five years Head; married; age 33.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; prize winner; leaving own request; no young children; youngest 14. W. BLOOMFIELD, Staplehurst, Kent.

GARDENER (Head Working).—Mr. WATSON can highly recommend C. WALLIS, where two or three are kept; been here 5½ years as Second of five; age 30; married, one child. The Gardens, Bushey Down, Tooting Common.

GARDENER (Head Working); experienced in the Cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, etc.; also Hardy Fruit culture; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working) seeks RE-ENGAGEMENT; can be highly recommended by Lord ABERDARE, whom the applicant has served for the last 16 years; life experience; age [illegible]; married, no family. MUSCOTT, Grosvenor Villa, Resolven, S. Wales.

GARDENER (Head Working where two or more are kept); life experience in all branches; age 42; 7 years in present place as head. STEVENS, 197, Blackstock Road, Finsbury Park, N.

GARDENER (Head Working or good Single-handed); life experience in all branches; good references from present and previous employers as to ability and trustworthiness; no family. GARDENER, 28, Martell Road West, Dulwich, S.E.

GARDENER (Head Working, where two or more are kept); good all-round; can be well recommended; married when suited; age [illegible]. PEARCE, Ridley, near Wrotham, Kent.

GARDENER (Head Working); good practical experience in all branches, Inside and Out; Early and Late Forcing; excellent references. H. TURNER, Regal Cottage, Kentford, Newmarket.

GENTLEMAN recommends GARDENER (Head of two or three); life experience in all branches, and [illegible] formation of new or renovating old gardens; married, one boy 10 years; age 45. PENNELLS, Phœnix Green, Winchfield, Hants.

W. H. PROPHET seeks SITUATION as HEAD WORKING GARDENER, where two or more are kept; Gold and Silver Medallist, National Sweet Pea Society, London, 1909 and 1910; over 20 years' experience; married; age 35; highest of references from present employer. Par, Cornwall.

MESSRS. ROWLAND, Wavertree Nurseries, Liverpool, can highly recommend first-class GARDENER (Head); many years' experience in growing Fruit and Plants under Glass, including Carnations, Kitchen and Flower Garden. For particulars apply above.

GARDENER (Working or Good Single-handed), Re-engagement wanted by middle-age, married Man, no family, with practical experience with Fruit, Flowers, and Vegetables, Inside and Out; 5½ years' good character from last place. J. B., 8, Mead Cottages, Mead Row, Farncombe, Surrey.

GARDENER (Single-handed or otherwise); experienced, Inside and Out; good references; age 27; married, one child; abstainer; gentleman's recommendations; disengaged. W. HOLNESS, Ripple Court, near Dover, Kent.

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GARDENER (Single-handed) seeks SITUATION; 12 years' good experience; good reference. Address A. DODD, 64, Northfield End, Henley-on-Thames.

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GARDENER (Single-handed or with help); age 28; experienced Inside and Out; married when suited; good references. A. RAYFIELD, 130, Lavenham Road, Southfields, Surrey.

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JOURNEYMAN.—Inside or Inside and Out; experience in Stove and Greenhouse Plants; age 23; good references; well recommended; disengaged Sept. 10. Address T. J. MILLER, Higher [illegible].

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For SEPTEMBER 10, 1910.

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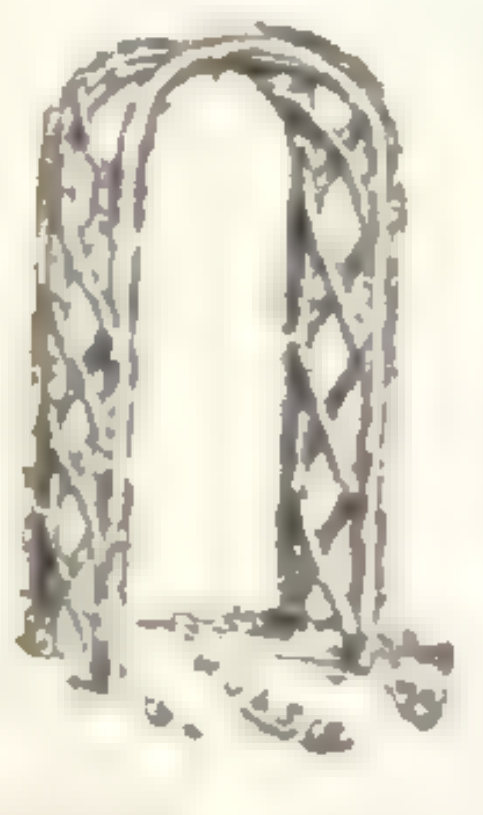

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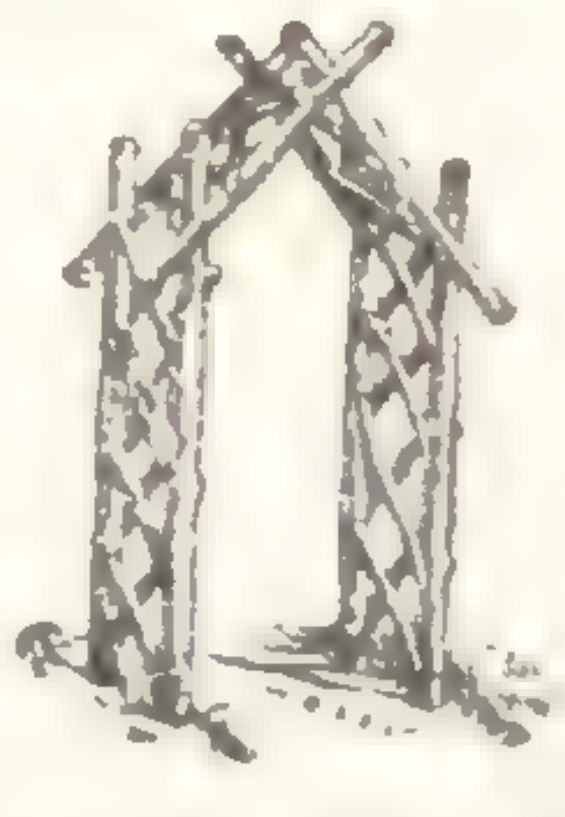

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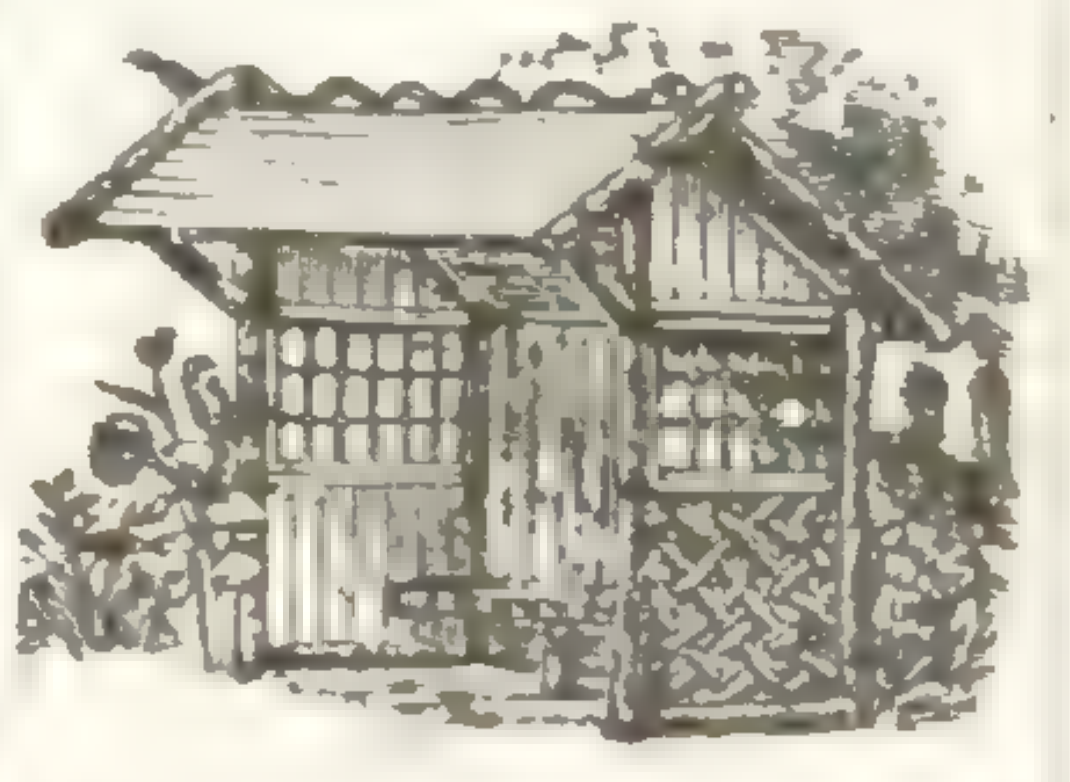

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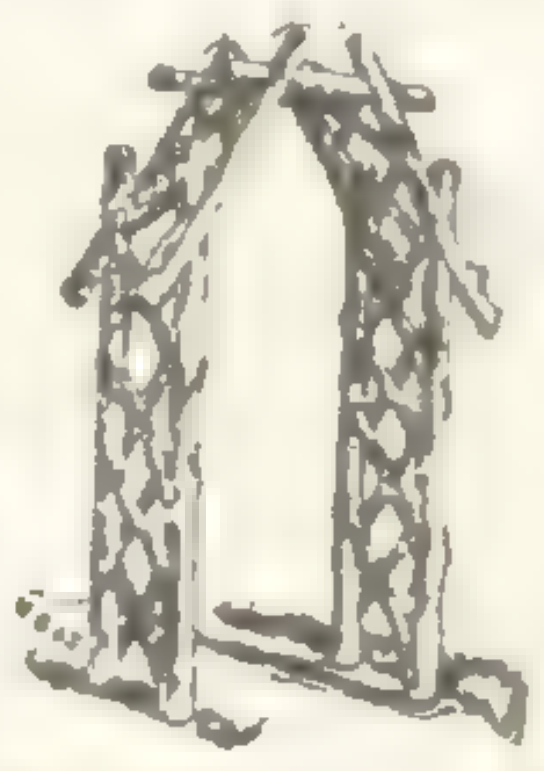

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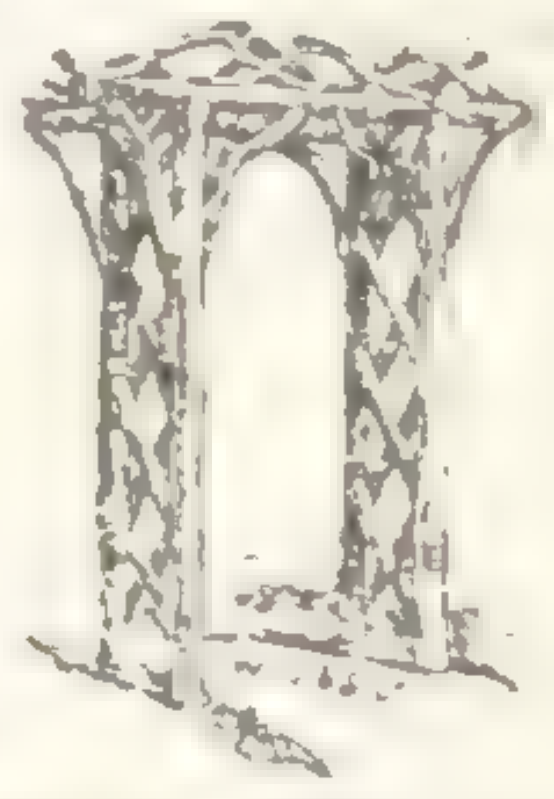

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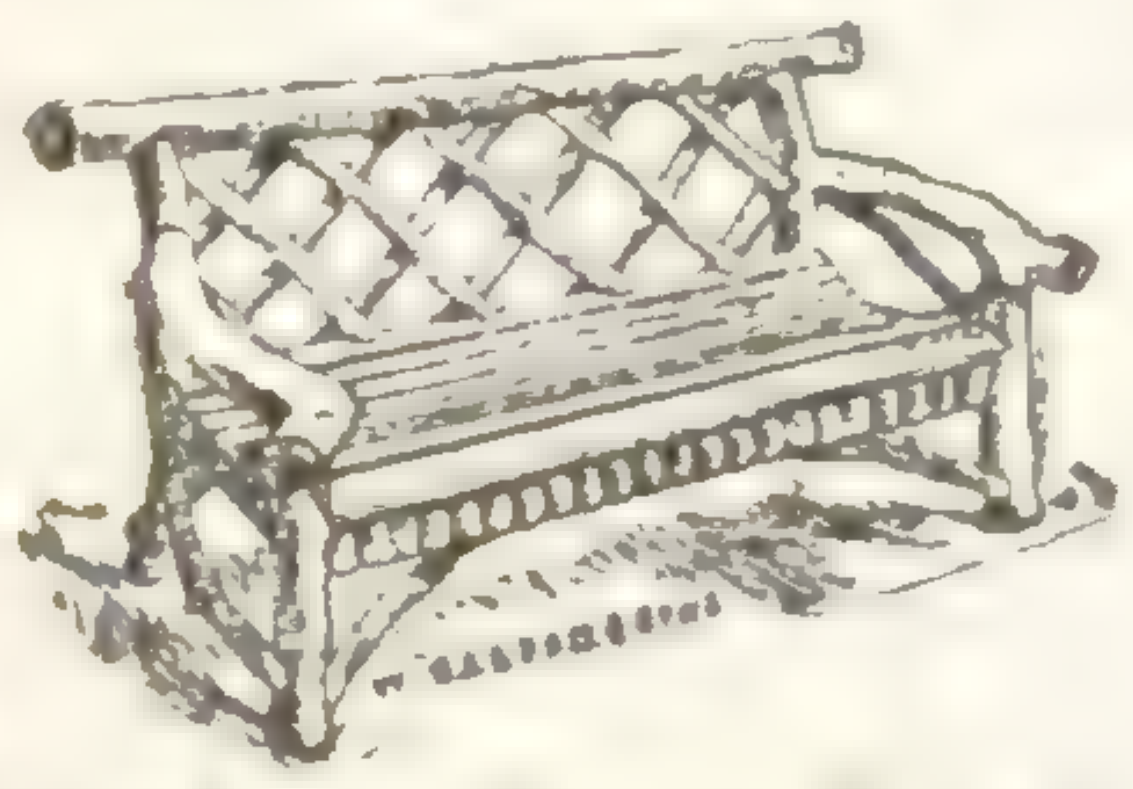

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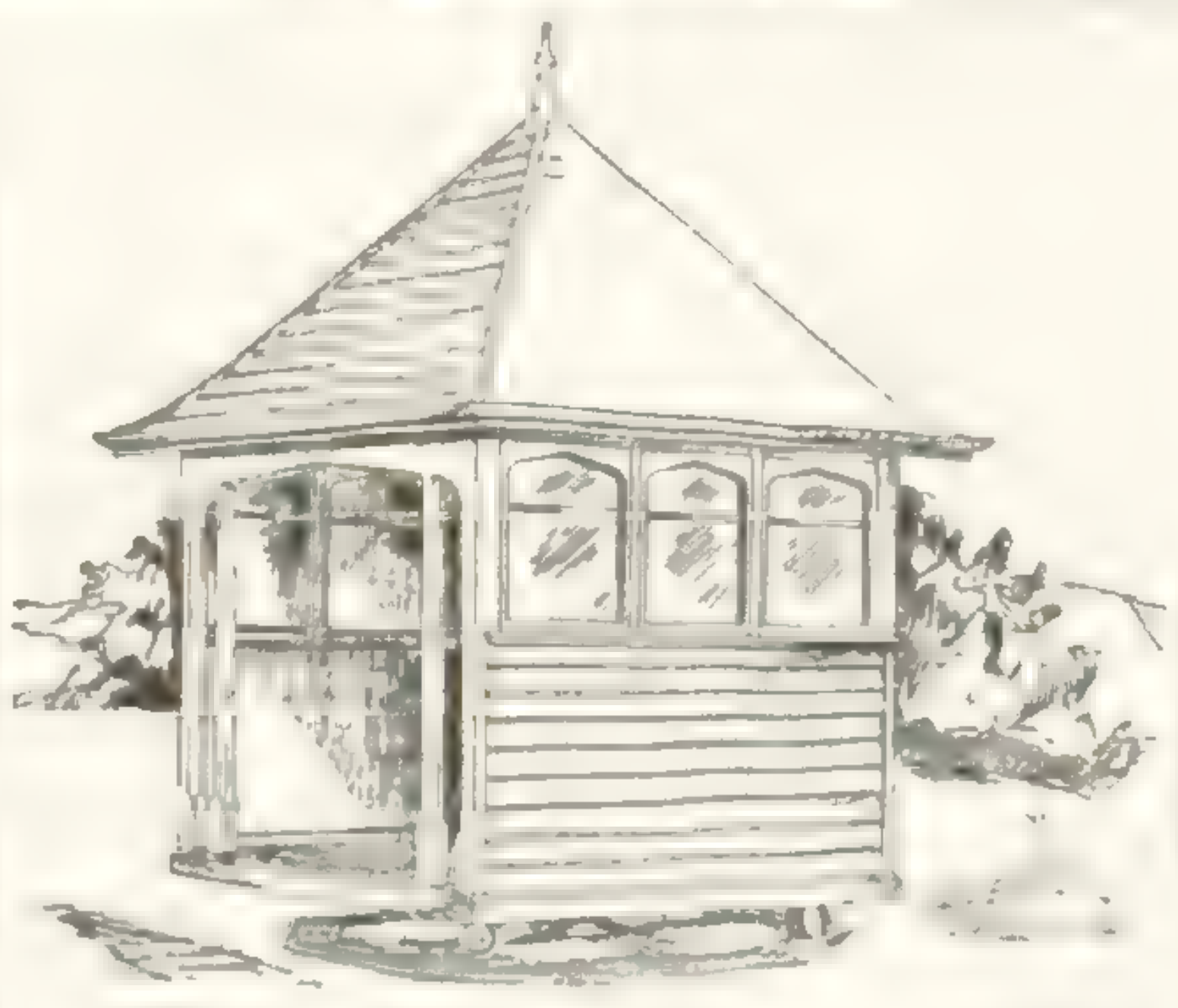

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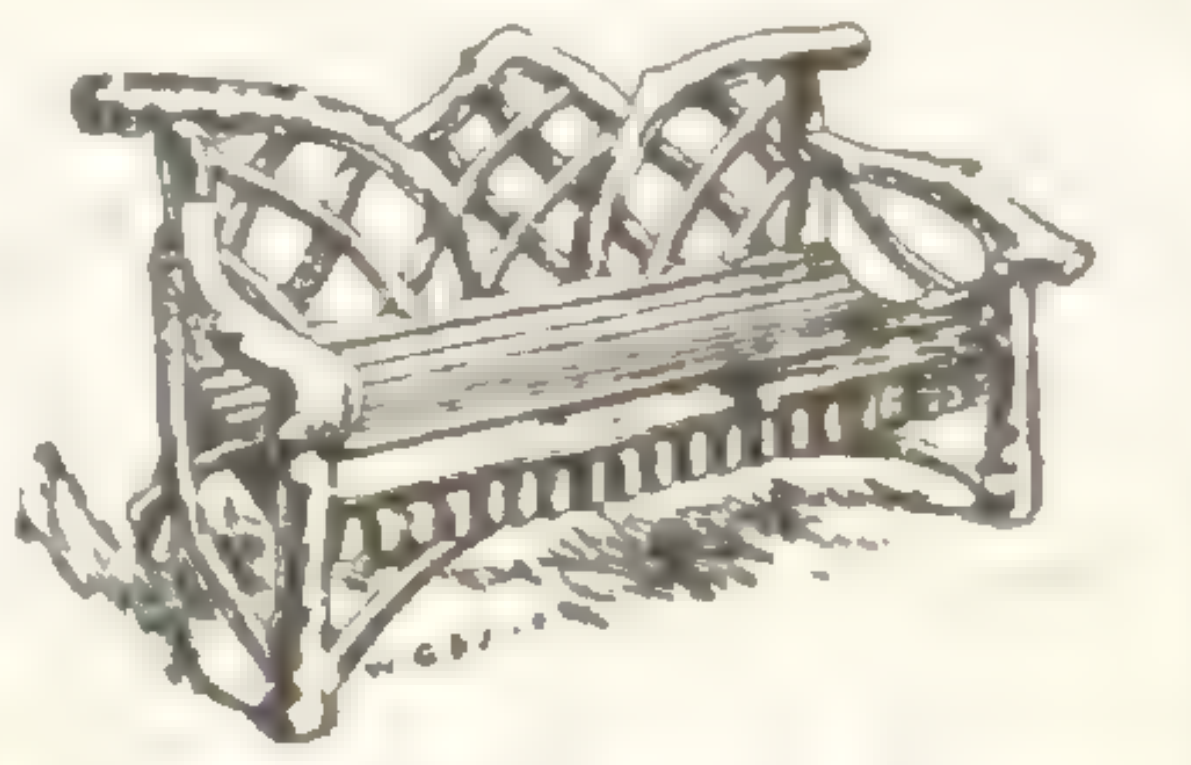

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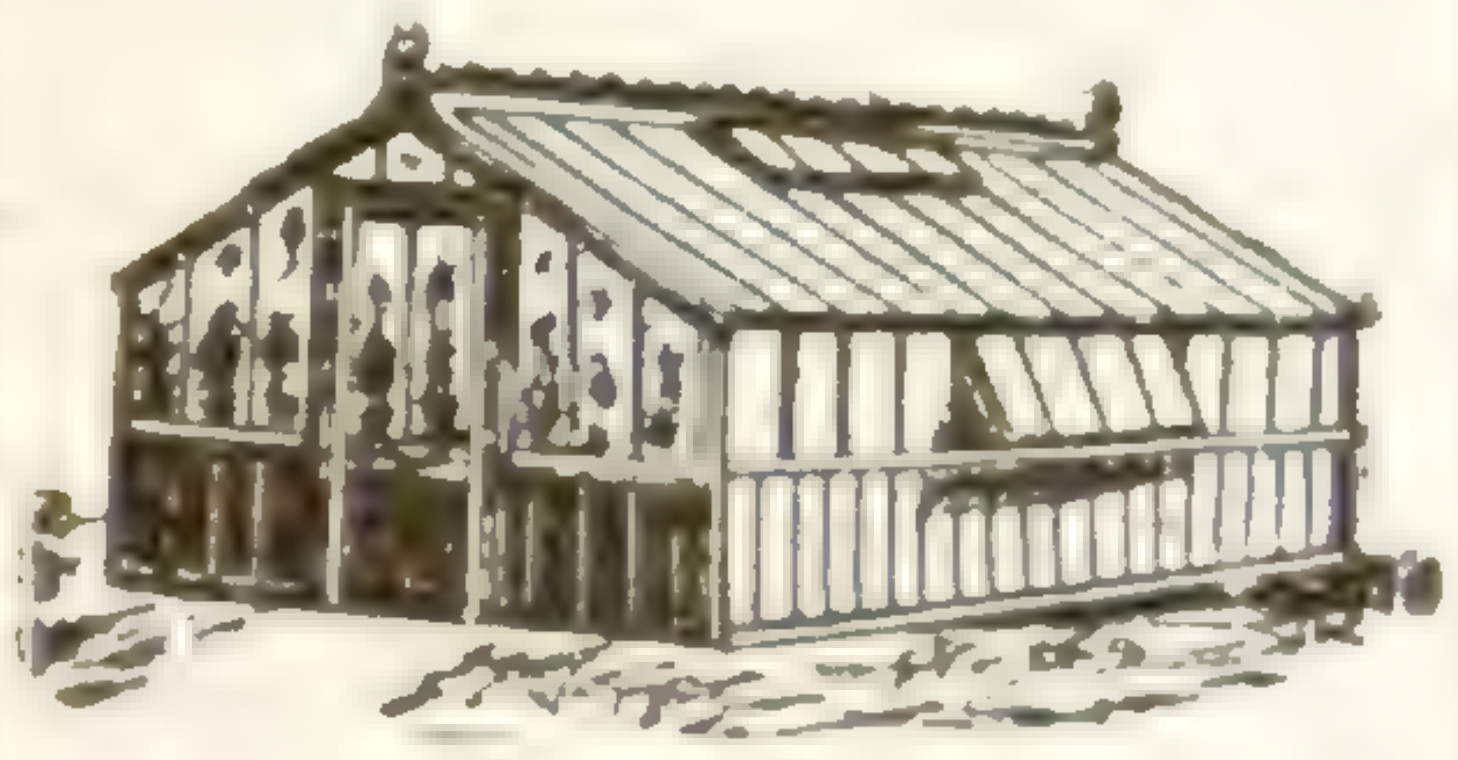

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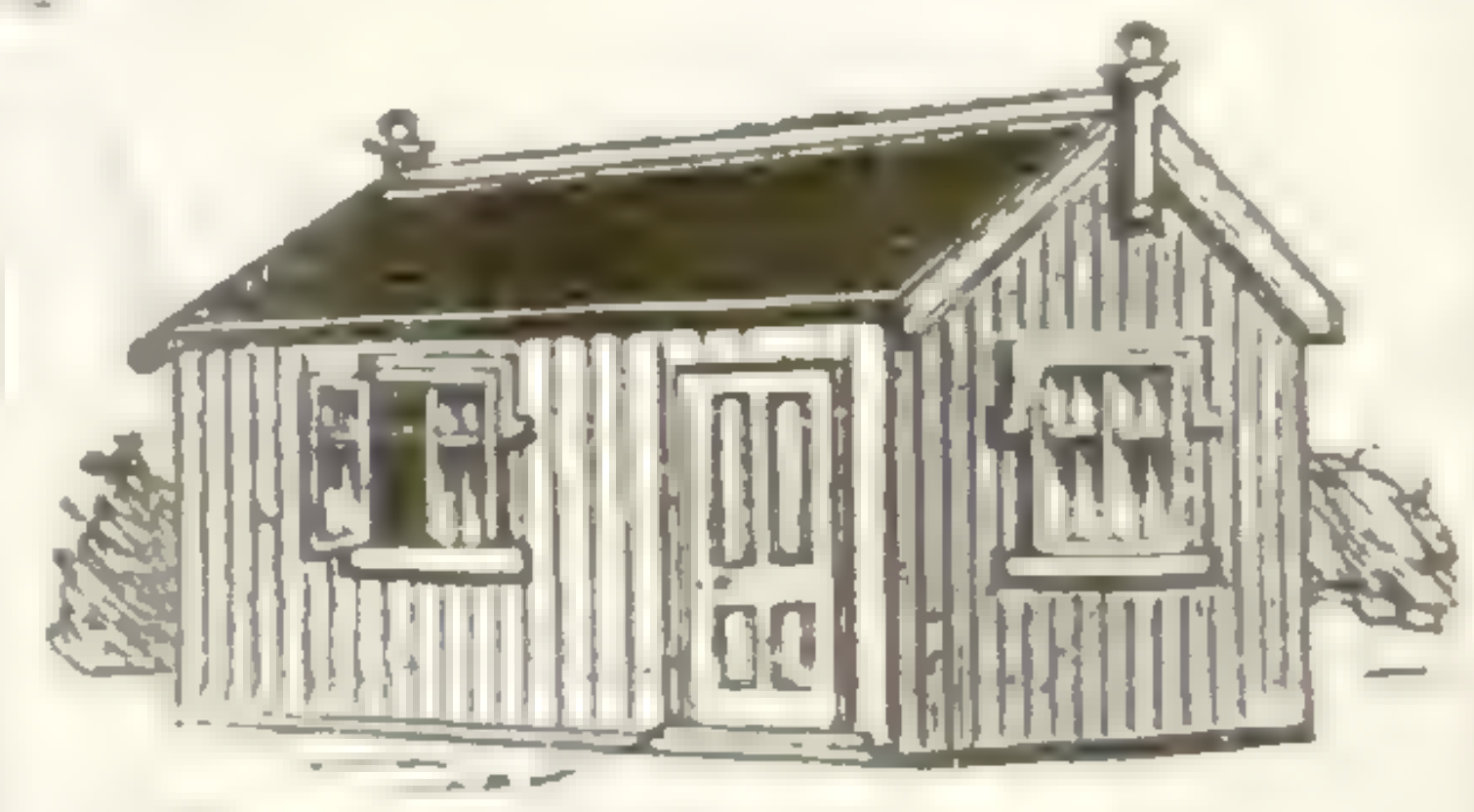

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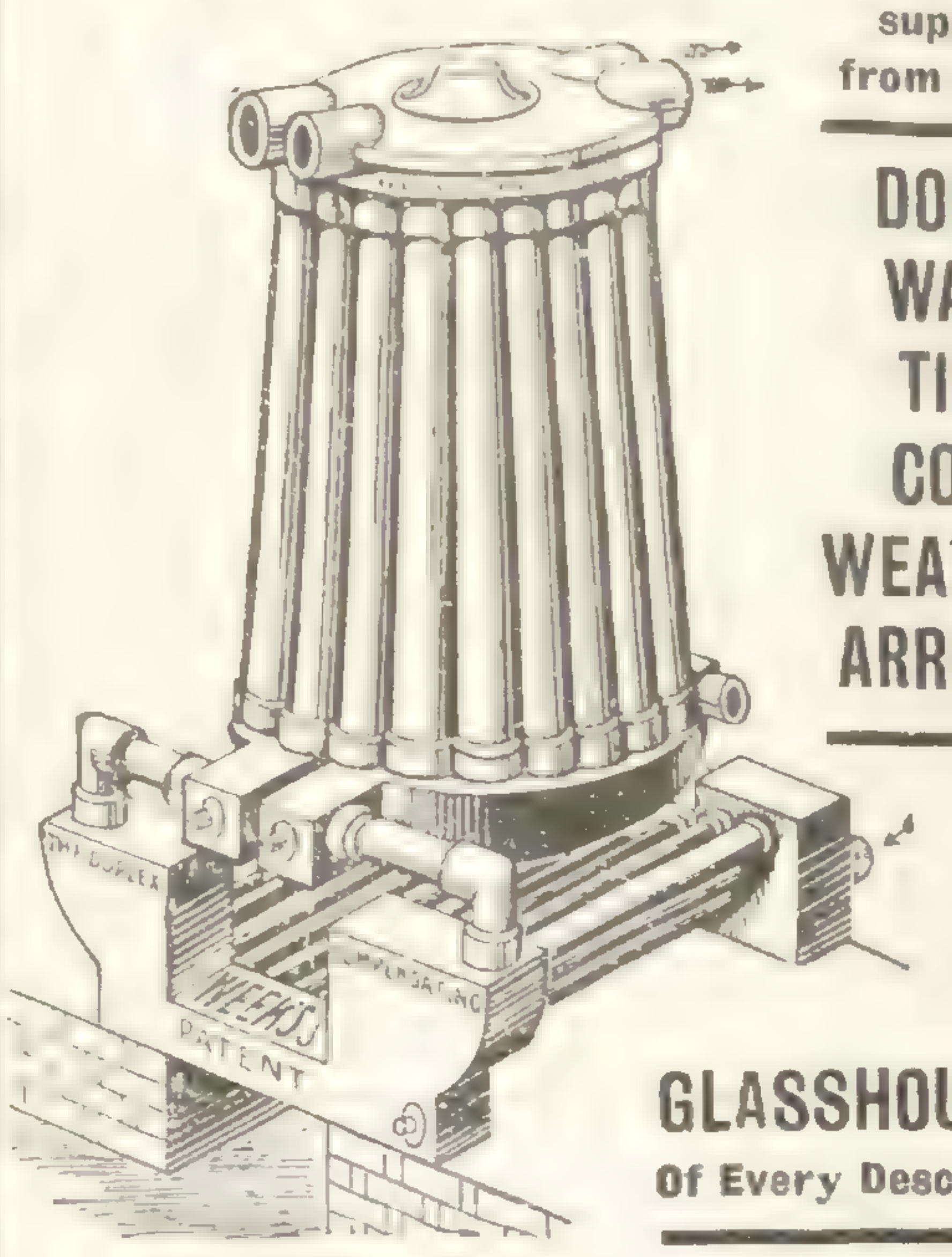

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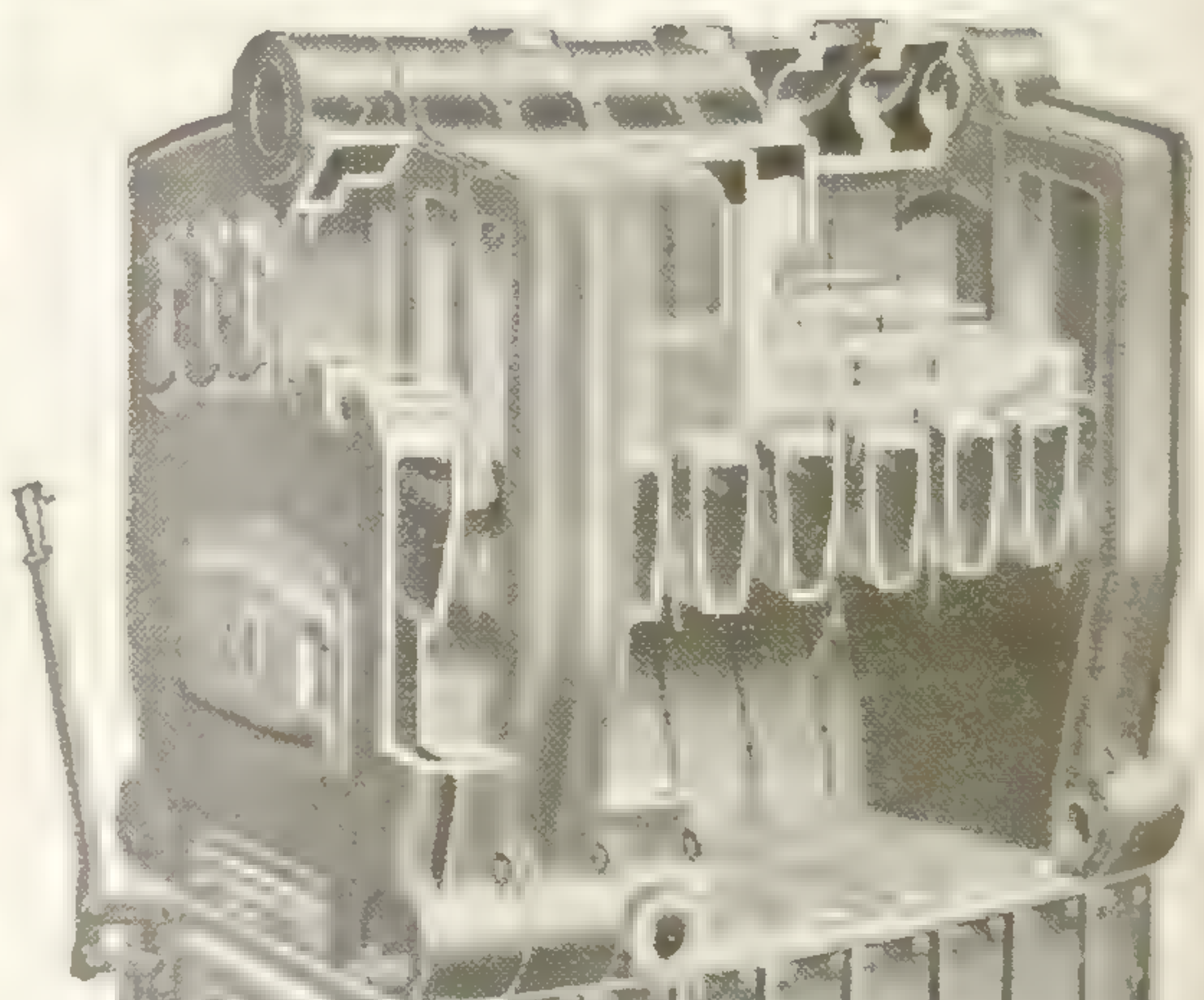

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THE GARDENERS' MAGAZINE.

No. 2,967. Vol. LIII.
Reg. at the G.P.O. as a Newspaper.
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Forms of Tender, containing full particulars, may be obtained at this Office.

The Commissioners do not bind themselves to accept the lowest or any Tender.

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Anemone, The Bride, pure white ...	1	2	10	0
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Crocus, 2nd size, in the finest mixture	0	8	5	10
Scilla sibirica, rich blue	1	6	14	[illegible]
Iris, Spanish, mixed	0	6	4	6
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Narcis., single, in the finest mixture...	1	4	12	6
Narcis., Trumpet, in the finest mixture	2	6	20	0
Narcis., double, fine mixture	3	0	25	0
Narcis.-Polyanthus, finest mixed	[illegible]	6	[illegible]	0
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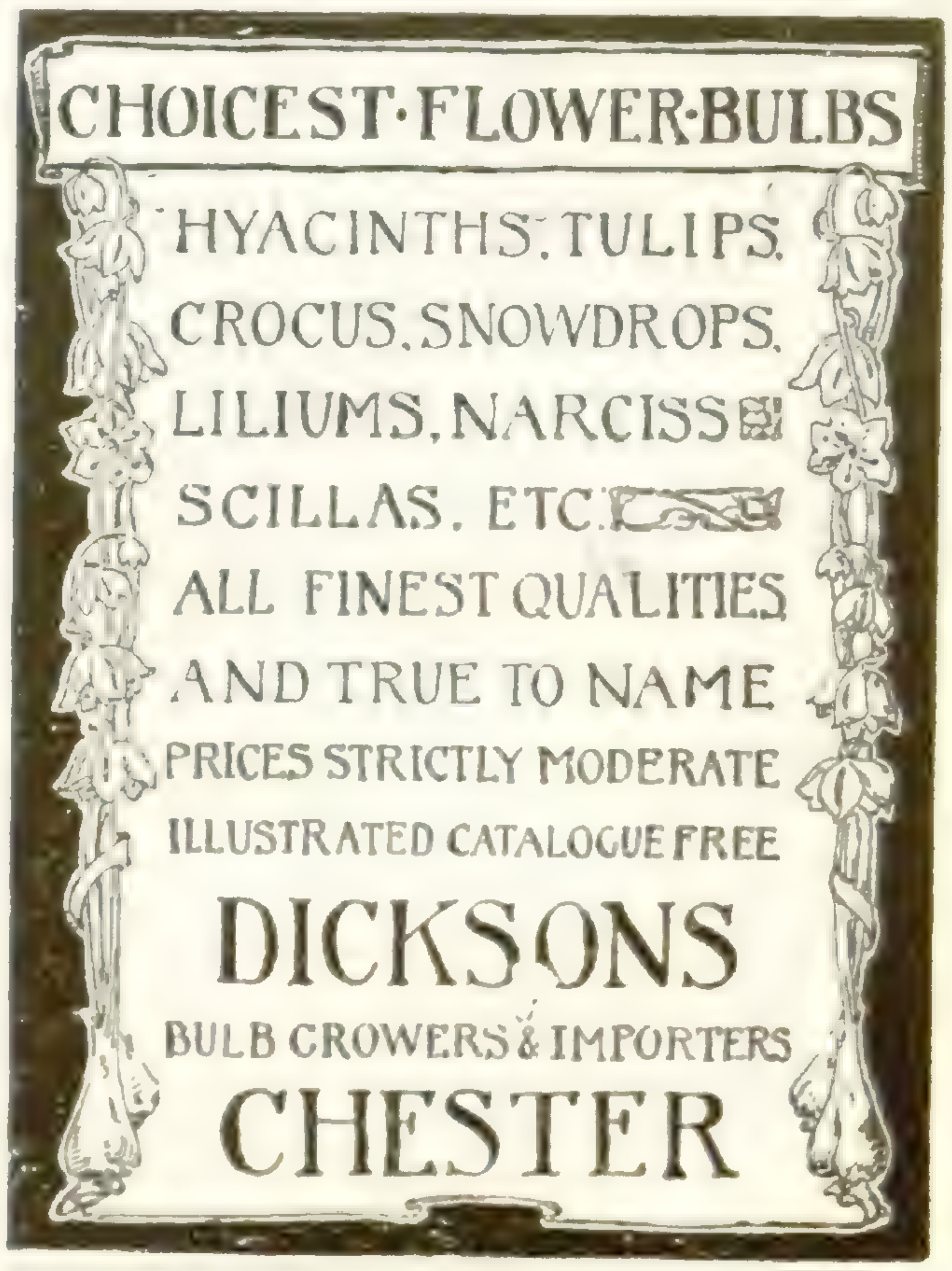

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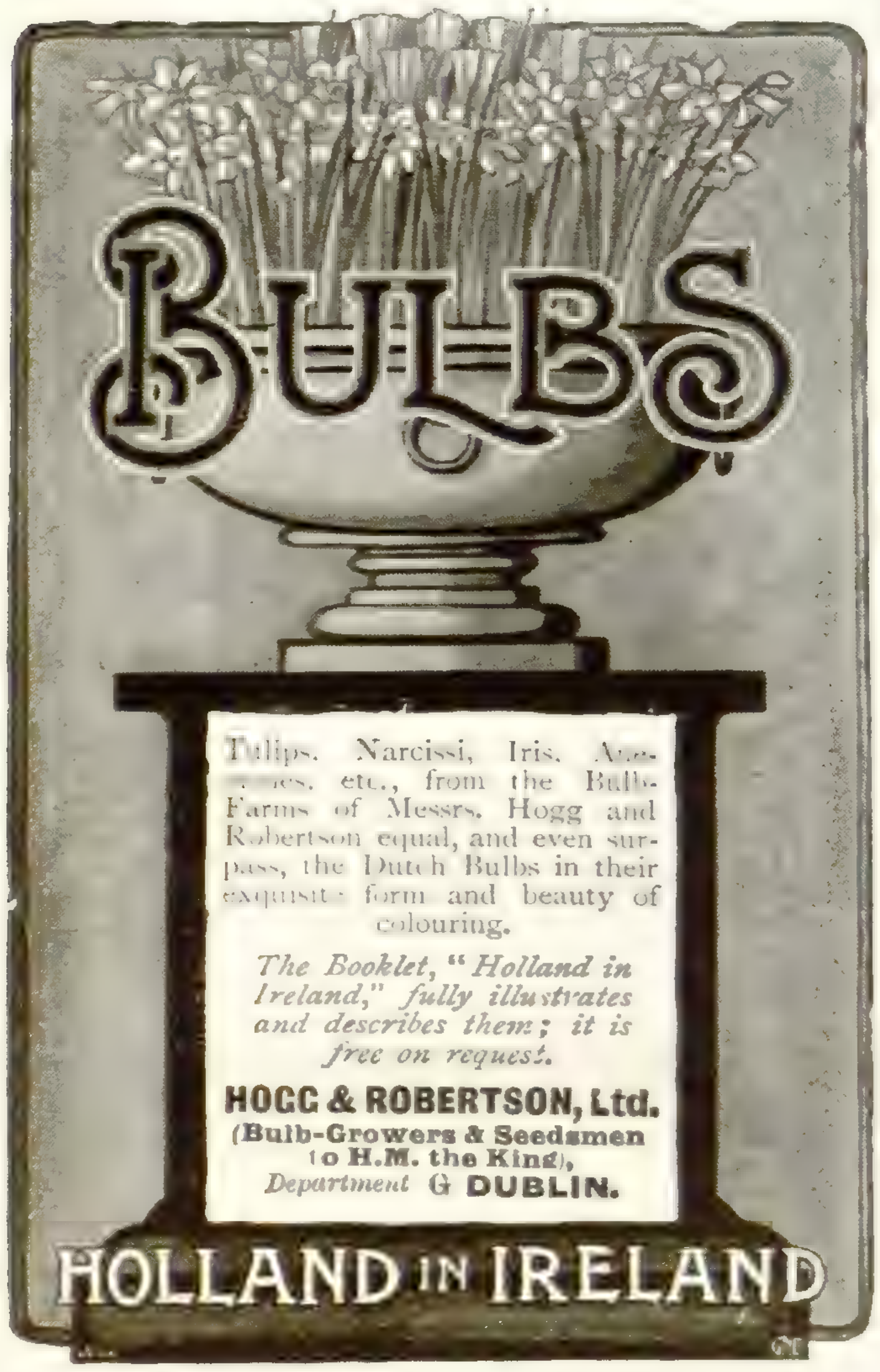

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VOL. LIII.—No. 2,967. SATURDAY, SEPTEMBER 10, 1910.

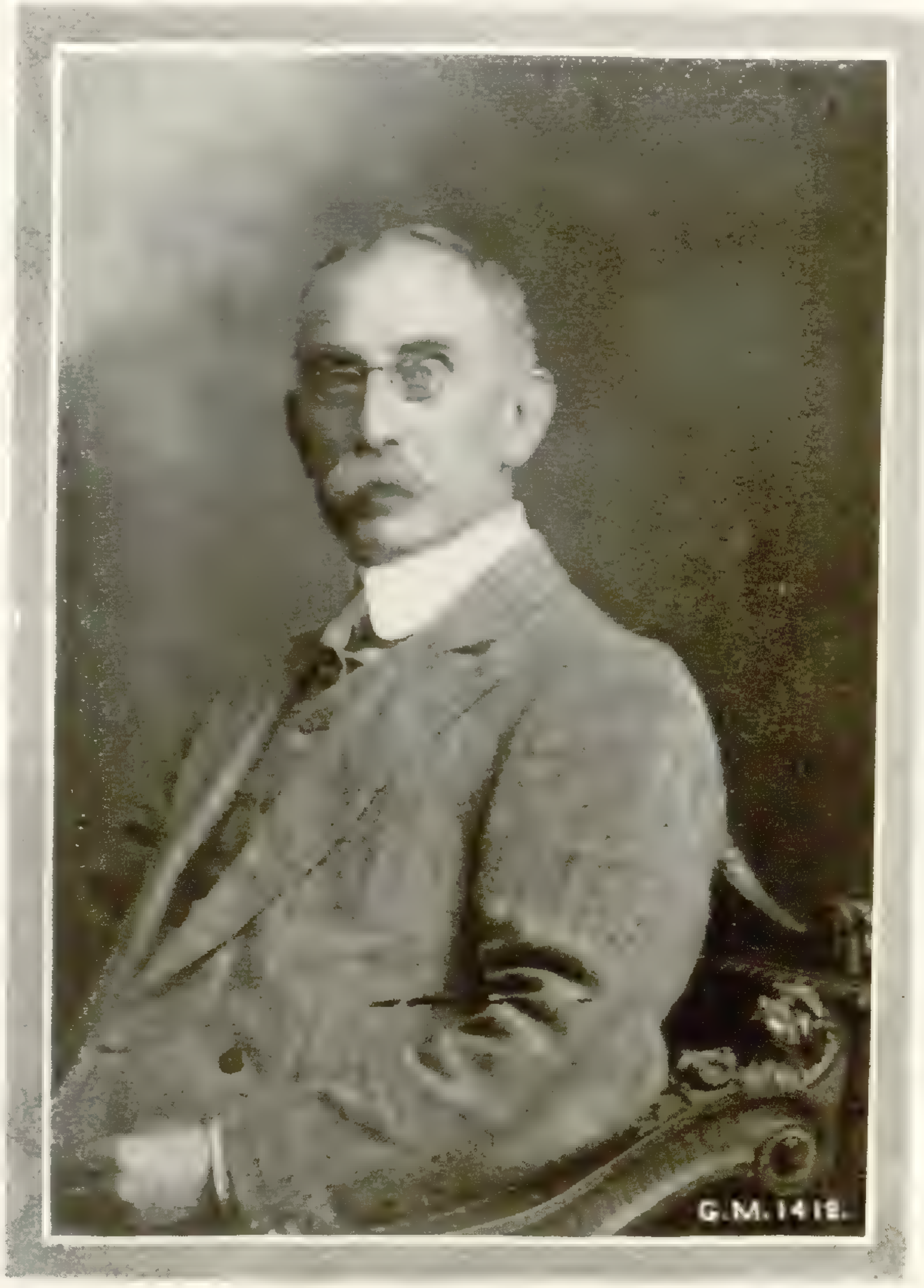
THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

◆

Sun and Shade.

Although in these enlightened days it is recognised that the beneficent light of the sun is the direct or indirect cause and inspiration of all vital phenomena, and, indeed, all other phenomena on this wonderful little world of ours. It must also be recognised that shade, or partial protection from its fervent beams, is essential to the preservation of many forms of life, particularly in the vegetable world. In the process of evolution and the clothing of so much of the earth's surface with vegetation, and also in the process of shaping that surface itself, an infinite number of conditions have been brought about and infinite adaptations have been evolved to fit them. the result being that plants exist of two very different capacities. Thus, disregarding the intermediate links between the extremes, we have innumerable plants so constituted as to be able to bear the undiluted blaze of the sun, and by virtue of this to thrive in situations where heat and drought combined would appear at first glance to render vegetable life, with its invariable need of water, an impossibility. In such environment we find the weirdest specimens of plant life, the cacti bristling with formidable spines, with no apparent foliage at all, like heaps of cannon balls, utterly eclipsing the hedgehog itself with their protective spiky armour; or of the snaky persuasion, equally protected on finer and more insidious lines; or resembling gigantic branched and ridged cucumbers of tree-like dimensions, to cite but a few of the types which these sun defiers adopt, and by virtue of which they thrive and multiply as freely as the denizens of shady moist groves, the homes of the sun shunners. Plants of one and the same order or even genus may belong to both categories, their progenitors of æons ago having diverged to fit varied environments, so that even among the cacti we may have fairly leafy forms, and while, as against the equally weird and spiky forms of the euphorbias, we see many of the same tribe with leafy capacities fully developed, and even the weirdest have not yet lost the faculty of producing short-lived leaves among their spines as a proof of their relationship, a habit the cacti have grown out of. Turning now to the shade lovers, which undoubtedly embrace the most beautiful forms, we find in these in many cases an amplitude of foliage, often dissected on most elaborate lines. In the struggle for existence, the shadows thrown by the over-topping trees and rampant creepers of primeval forests have so diluted the essential sunlight, direct or diffused, that the plants beneath have had to develop extra leafiness in order to catch enough of this to keep them going, and hence we see such plants as the caladiums, the ferns, and innumerable other soft foliaged plants flourishing under shady conditions, while if transferred to dry and sunny ones they would perish at once. One reason for this, of course, lies in another factor of plant existence which governs foliar area, and that is that the greater such area the greater is the need for an ample supply of water to the roots. The work of plant development is effected largely by transpiration through the pores or stomata, which exists in incalculable numbers on the leaves and undoubtedly exercises a sort of pumping influence throughout the plant, which enables fresh supplies of sap to be drawn up by the roots and transmitted from them throughout the plant system, on the same principle, but in a different way, as the blood circulation of animals. Consequently, the greater the foliar area the greater the transpiration and the need of water from below to keep up the supply. It is this law which determines the lack of conspicuous leaves on the cacti, euphorbias, etc.; they could not, in the dry habitats they have been shaped to fit, maintain them if they had them, and hence the vital work has been concentrated in the thick green stems, contracted to the utmost, both as regards their superficial area, and as a consequence, the number of stomata or pores and the transpiration they permit of. Between such extremes however as we have treated of, there are innumerable links. Given an ample water supply at the roots, we may see an enormously developed foliage, capable of existing in the very eye of the sun. The Victoria water lily for instance, with its immense leaves floating on the water itself, is a notable example, and the familiar huge-leaved gunneras of our gardens, with their roots practically in the water, are another, and many similar cases might be cited. In every case, however, foliar development is found to depend upon a fine adaptation of means to the end, with little moisture available in the soil and plenty of sunshine it is contracted to fit, while with a liberal supply of water at the roots the area will be amplified, and as a general rule will be more extended and developed under shady conditions than under exposed ones.



MR. MAURICE BAILEY,
Secretary of the Cardiff Horticultural Society.

Mr. A. Maurice Bailey, the secretary of the Cardiff and County Horticultural Society, has a genius for secretarial work that eminently fits him for the position he holds in the horticultural world and for the duties that make up his business life. He has a great love for flowers and for flower shows, and for several years he was on the Executive Committee of the Winchcombe (Glos.) Horticultural Society. Mr. Bailey lives at Penarth, just outside Cardiff, and has been largely instrumental in founding the young and vigorous Penarth Horticultural Society. He is not afraid of a bit of rough work, for in the small hours of the morning, on the occasion of the Penarth Show on July 6 last, when heavy rain and wind brought down one of the large tents, he was one of a little band of workers that pulled the tent into position again, and set matters right for the exhibitors. In 1893 he was elected to a seat on the General Committee of the Cardiff Society; five years later he was placed on the executive committee, and in 1908 was made secretary. He has given a large amount of time, thought, and labour to the society, and the three exhibitions he has had charge of have shown in a marked manner the result of his activities. The success of the society's twenty-first show, in 1909, when the Royal Horticultural Society sent a deputation down to the celebration, will be long remembered, while the high level of quality and competition seen at the exhibition in July last, augurs well for the future of the Cardiff Society. We first made Mr. Bailey's acquaintance in a railway carriage, when travelling from Shrewsbury Show to South Wales. Mr. Bailey had been to Shrewsbury for the purpose of obtaining new ideas for the benefit of his own society. Mr. Bailey's modesty is on a par with his ability; he will talk about his society, committee, officers, schedule, and show, but it is the hardest thing possible to get him to say anything about the secretary.

The Gardeners' Royal Benevolent Institution.—The King has been graciously pleased to become patron of The Gardeners' Royal Benevolent Institution, of which his Majesty, as Prince of Wales, was president. Queen Mary has also been graciously pleased to continue the patronage, which, as Duchess of York, and Princess of Wales, her Majesty accorded to the same institution.

National Hardy Plant Society.—Mr. A. J. Macself has received the following letter from Messrs. J. Kelway and Son, dated September 6: We heartily congratulate you on the result of the efforts made to form a National Hardy Plant Society. We shall be pleased to give any support to the society which may be possible, and shall be glad to hear from you on this point. The aims are admirable.

August in the North.—The nature of the weather experienced in August, writes our Aberdeen correspondent, sometimes produces remarkable results. History reminds us that it was the weather experienced during August, 1845, that blighted the potato crop in Ireland, and caused the dreadful famine which drove the Government to repeal the Corn Laws. In the year following, 1846, the blight, which had not been felt seriously the previous year in the North of Scotland, all but universally destroyed the potato crop. This, too, happened in the month of August. And now in this year of grace 1910, we have experienced an August that must long be memorable to the husbandman. Fortunately, the North escaped the heavy torrents which did so much damage in other parts of Scotland. Even then, however, our rainfall has been above the average of the last 40 years, amounting to about three and a-half inches. But what of other districts—especially the Midlands of Scotland—where the torrential rains have beaten the crops into a condition which it is heartrending to see. In the North the month was exceedingly favourable for the turnip crop, which is looking exceedingly well. On the last day of the month barley was generally ripe, but oats were still green, or just turning in colour. From some districts I hear reports of potato disease, but, taken all over, the crop is still fine and healthy in the foliage, and should turn out well. Our winds during the month were mostly south-easterly, next in order coming north-westerly breezes. In force the wind was invariably gentle or quiet.

Fixation of Nitrogen by Plants.—Two papers on this interesting subject were contributed to the Agriculture Sub-section of the British Association. One was by Professor W. B. Bottomley, who gave the results of some experiments he had carried out in the use of mixed cultures of bacteria. He stated that his experiments showed that species of the azotobacter and pseudomonas fixed more nitrogen per unit of carbohydrate when in association than when grown separately. The other paper was by Mr. John Golding, who dealt with the "Nature of Nitrogen Fixation in the Root Nodules of Leguminous Plants." He stated that while it was well known that leguminous plants were able to assimilate free nitrogen of the atmosphere, but little was known of what takes place in the root nodule. From numerous researches he had arrived at the following conclusions: (1) That the plant is able to obtain all its nitrogen from the air of the soil, and that the quantity fixed is very large; (2) that the nodule is the seat of the process; (3) that fixation is accompanied with a change in the form of the organism, which invades the root hair as an infection thread, passed through a rod-shaped stage, and finally assumed the bacteroid form; (4) that practically each plant has its own nodule organism, and though the differences seldom amounted to a difference of species, it takes considerable time for the nodule organism of one plant to become adapted to another plant, and when so adapted it is not capable of infecting the plant from which it was first taken; (5) that this adaptation to a particular kind of plant is retained by the organism in the soil for a considerable period. It was also suggested that the reaction of the medium plays an important rôle in nitrogen-fixation.

Grand Prize at the Japan-British Exhibition.—Messrs. J. Kelway and Son inform us that they have received a communication from the secretary of the Superior Jury of the Japan-British Exhibition, informing them that the Superior Jury, in consultation with the head gardeners of the exhibition, have unanimously decided to award Messrs. J. Kelway and Son the Grand Prize. This award has been given for hardy plants planted by the Langport firm in the grounds of the Exhibition at Shepherd's Bush.

Florence Internaticnal Horticultural Exhibition, 1911.—During the first fortnight of May next an International Horticultural Exhibition will be held in the city of Florence, in celebration of the fiftieth anniversary of the proclamation of the kingdom of Italy. The exhibition is being organised by the city of Florence and the Horticultural Society of Tuscany, and the Italian Government is, we are informed, giving moral and financial support. The schedule is of a comprehensive character, and it includes over 450 classes. The literature and history of horticulture, and the educational aspects of gardening have a prominent place in the schedule. Particulars may be obtained of the Executive Committee of the International Horticultural Exhibition, Florence; Italy.

Honours to Botanists.—On Tuesday last the University of Sheffield held a congregation at which Mr. W. H. Bateson and Mr. Francis Darwin had the degree of Doctor of Science conferred upon them.

British Association Meetings.—The meetings of the British Association during the next three years will be held as follows: 1911, Portsmouth, August 30 to September 6, when Sir William Ramsey will occupy the presidential chair; 1912, Dundee; and 1913, in the capital cities of Australia. It is suggested that the association shall, during its visit to Australia, spend a few days each in Adelaide, Melbourne, and Brisbane. In view of the heavy cost of travelling the Federal Government has voted £10,000 for the sea journey, and the contributions of the several Colonies will include free railway travelling.

Children in Public Parks.—While it is important children should have sufficient liberty when visiting public parks and gardens to enable them to fully enjoy their varied attractions, it is desirable they should not be allowed to convert the parks and gardens open to them into bear gardens. It appears to be overlooked in some cases that both adults and children resort to open spaces in and near towns, and that while there should be no interference with the enjoyment of children, the feelings of adults, especially the aged and invalids should be respected. A reminder should therefore be of service, and we welcome the timely leader on the subject which has recently appeared in "The Times." The following extract is well deserving of the most careful consideration from those responsible for the control of open spaces. "Any one who sits by one of the chief park entrances on any but the wettest day in August or September may watch a steady stream of children arriving for a day's outing, often from a long distance. Since the leader and protector of these parties is often not more than seven or eight years old, it is obviously fair to their interests to set apart special enclosures and playgrounds for children only, where they cannot be molested by the incursion of cricket and football parties of older boys, or by deliberate interference or bullying. But justice between small children and their elders does not lie all on one side, and age is not necessarily crabbed because it dislikes screaming and romping at too close quarters. The larger parks give a fair amount of room for both interests; but there is a good deal of truth in the complaints which have been made against the way in which the smaller open spaces in the more central parts of London are turned into juvenile bear-gardens. In many once prosperous but shabby London neighbourhoods the churchyards have been transformed into small public gardens which make a welcome refuge among the dull though populous streets. But the rest which they would otherwise provide for the old and sickly is too often destroyed by the noise and disturbance of the young. Even a few square yards set apart in a sheltered corner would be a great blessing to invalids and old people; and, if such enclosures, for grown-up persons only, were once instituted, children could soon be made to feel that they had no business inside them."

Kew Bulletin.—The interest of this publication is well maintained in No. 7 for the current year. The principal contents are: an illustrated article by Dr. Stapf, on Epacris heteronema, which appears to have greatly perplexed botanists from the time of its discovery by Labillardière in Recherche Bay, Tasmania, at the commencement of last century until the present day; a description, by Mr. J. S. Gamble, on new Lauraceæ, from the Malayan region; Notes on Forestry in the Highlands of Scotland, by Mr. W. Dallimore; and a description, by Mr. G. Masse, of twelve new exotic fungi that have been received at Kew.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

Waverley Market was once more the venue of the Royal Caledonian Society's autumn exhibition—Scotland's premier flower show—and on Wednesday and Thursday, September 7 and 8, such a display of choice products of the garden was made as well maintained the fame and honour of this Northern fixture. Scotsmen support their show right heartily, and, it may be added, Englishmen are evidently alive to the fact that the show at Edinburgh is worth attending, for they were much in evidence, Southern firms bringing of their best, and doing their utmost to render a good account of themselves and their specialities. It was the general opinion that this year's show was, in some respects at any rate, far superior to the last, and all through the quality of the exhibits was very good. The vegetables and fruit from Welbeck, the grapes from Wisley, and the fine displays of roses from Scottish growers were centres of great attraction.

SCOTTISH CHALLENGE GRAPE CLASS AT EDINBURGH.
To the left is Mr. Jas. Dixon's first prize set; Mr. T. Ireland's third prize set occupies the middle position; and Mr. J. H. Goodacre's second prize set is on the extreme right.

PLANTS.

Some very good stove and greenhouse plants were shown, although it cannot be said that this is a strong section at Edinburgh. Four stove plants brought two entries, the best being from Mr. Duncan Mackay, gardener to Charles Dickson, Esq., Viewbank, Lasswade, who had Clerodendron fallax, Rondeletia speciosa, Acalypha Sanderi, and a well-flowered statice. Mr. McKinna, gardener to Sir R. Usher, Bart., Ratho, was second. The same exhibitor won for one greenhouse plant with a good statice. Mr. Duncan Mackay had the best four orchids, and also the best single specimen. Mr. Knight, gardener to Sir Wilfred Lawson, Brayton Hall, Carlisle, secured first for six foliage plants, and again for two crotons.

Mr. Duncan Mackay put up two very good fuchsias, which received first prize, and the three winning zonals were those of Mr. Geo. McKinna, Norton, Ratho. Some very fine liliums were shown, Mr. Mackay winning for three. Mr. John Fraser, gardener to Gordon Caldwell, Esq., Old Manse, Inverkeithing, for two; and Mr. T. Galloway, gardener to Mrs. Dewar, Drylaw House, Edinburgh, for one, a magnificent L. auratum, with a large number of well-developed blooms. Begonias were shown in good numbers, the winning half-dozen singles being staged by Mr. Robert Brown, Union Villa, Dalkeith, whose blooms were of great size and good colours. Mr. Brown also led for three doubles and for one specimen.

Hardy ferns are always an interesting class at Edinburgh, and on this occasion some choice varieties and forms were shown. Mr. John McKenzie, Newbridge, Ratho, scored for nine dwarf hardy ferns, showing some finely crested athyriums, aspleniums, and crested Royal ferns. Mr. Jarvie, Burn Brae House, Falkirk, was a good second, with crested scolopendriums, Asplenium trichomanes incisum, Asplenium fontanum, and other choice things. Mr. J. C. Brown, 25, Waterloo Place, Edinburgh, was third. Six scolopendriums were another interesting class, in which Mr. John McKenzie again scored. S. vulgare ramo marginatum was one of the most distinct amongst a choice set. Mr. Brown was second in this class also, some of his plants being wonderfully tasselled and divided.

GRAPES.

Keen interest was taken in the Scottish Challenge Trophy class for eight bunches of grapes. Three capital entries were forthcoming, and it may well be said that every bunch in the class was very good. The winner was Mr. Jas. Dixon, gardener to A. Cameron Corbett, Esq., M.P., Kilmaurs, Ayr. Madresfield Court and Black Hamburgh were shown as finely as they have been seen for many years, and Muscat of Alexandria could not be brought to a better quality and colour. Madresfield Court was given 8½ out of a possible 9 points, Muscat Alexandria 8¼ out of 10, and Muscat Hamburgh 7½ out of 9. The total points for the eight bunches was 64. Mr. J. H. Goodacre came second, scoring 52 points out of a possible 73, his highest being reached by Black Hamburgh of great size. Mr. T. Ireland, gardener to Miss Webb, Newstead Abbey, Notts, reached 44½ points out of a possible 72, and was awarded third prize.

Mr. D. Kidd, gardener to Lord Elphinstone, Carberry Tower, scored for four bunches of grapes, with Canon Hall Muscat, Alicante, Gros Maroc, and Muscat of Alexandria. Mr. John Highgate, gardener to the Marquis of Tweeddale, K.T., Yester, was second. Six growers competed in the class for two bunches of Muscat of Alexandria, the winner being Mr. Wm. J. Buchanan, gardener to the Right Hon. Earl of Mar and Kellie, Alloa Park, Alloa; Mr. T. Lunt, Keir, Dunblane, was second. Two bunches of Black Hamburgh brought eight entries, the judges' selection being Mr. Buchanan, first; Mr. D. G. McKerracher, gardener to Mrs. Montgomery Fleming, Kelvinside, Glasgow, second; and Mr. Jas. Menzies, gardener to J. A. Harvey Brown, Esq., Dumpace House, Larbert, third. Mr. T. Lunt had the best single bunch of Muscat, and Mr. Jas. Dixon, the best Black Hamburgh. Mr. Wm. Smith, gardener to N. E. D. Menzies, Esq., Dumfries, had an enormous bunch of Alicante, which took first in its class, and for one bunch Lady Downes, Mr. Thos. McPhail, Archerfield, scored. Mr. Jas. Dixon again came out top with Madresfield Court, the general opinion being that no finer grapes could be wished for. Cooper's Black was the winning variety in the any other black class, staged by Mr. T. Lunt, and in the whites Mr. Jas. Gibson scored with Buckland Sweet Water.

FRUIT.

A class that is always full of interest, and was on this occasion the centre of keen competition, was that for a table of dessert fruit decorated with plants or flowers. Four entries were forthcoming, in none of which pot plants were used, but choice cut flowers were utilised to great advantage. The premier award was made in favour of Mr. James Gibson, gardener to the Duke of Portland, K.G., Welbeck. It was a capital table, the bunches of Madresfield Court, Prince of Wales, Muscat of Alexandria, and Muscat Hamburgh grapes being well supported by splendid pears, peaches, melons, figs, and apples. The decorations were carried out with lilies, and trails of selaginella; 101 points were given to the fruit, and 21½ for decoration. The second prize went to Mr. J. H. Goodacre, gardener to the Earl of Haddington, Elvaston Castle, who received 97½ points for his fruit and 23 for decoration. Thus the special prize for decoration went to this exhibit. Montbretias were the material used most effectively, three tall vases down the centre of the table being supplemented by eight small specimen glasses at the sides. The Muscat of Alexandria grapes were good, but Black Hamburgh was not up to high water mark. Some huge apples and peaches were put up, as well as good plums. Mr. George Mackinlay, gardener to the American Ambassador, Wrest Park, Beds, took third place.

In the class for a collection of twelve dishes of fruit Mr. Jas. Gibson, Welbeck, was again successful. His Gascoyne's Scarlet apples were splendid, and the Barrington peaches and Souvenir de Congres pears were also grand. Mr. J. H. Goodacre was second, his Peasgood's apples being of immense size. The black grapes were weaker than Mr. Gibson's, but the collection was very choice. Third prize went to Mr. Wm. Galloway, gardener to the Earl of Wemyss, Gosford.

Mr. Gibson repeated his success in the collection of twelve dishes, excluding grapes, with some most beautiful apples, nectarines, plums, and figs. Mr. Goodacre was once more close upon the winner, his second prize lot including cherries, plums, and figs. Mr. Geo. Mackinlay brought up the rear with some good fruit, which, however, was scarcely so ripe as his competitors'.

Wonderful quality was seen in all the single dish classes, but it is impossible to give details of so extensive a classification as was provided. Mr. Gibson easily led for a collection of twelve varieties of pears. Four competitors came forward for six varieties of pears, grown in Scotland, the victor being Mr. Chas. Traill, gardener to Colonel Fergusson, Buchanan, Auchintorlie. The varieties were Durondeau, Pitmaston Duchess, Conseiller de la Cour, Conference, and Marguerite Marrilat; Mr. R. Greenlaw, gardener to H. J. Younger, Esq., Kilmun, was second; Mr. William Galloway, third. Four dishes, orchard house grown, made a nice class, Mr. P. K. Hills, gardener to Sir G. Bullough, Kinlah, Castle-by-Oban, winning with well-ripened Louise Bonne of Jersey, Marguerite Marillat, Marie Louise, and Pitmaston Duchess. Mr. E. Caddick, Caradoc, Ross, was wonderfully successful with apples, winning quite a large number of firsts, both for collections and single dishes, his fruit in all cases being of splendid quality.

CUT FLOWERS.

Edinburgh has for many years been famous for its fine displays of hardy perennials, and on this occasion the classes provided were well filled with choice flowers. A class for a collection of hardy perennials was arranged in a novel manner, the exhibits each being accommodated on a round table, the flowers being built up in pyramidal form. The three entries were all exceedingly good, the winning stand being put up by Mr. A. Brydon, Tweedbank, Innerleithen. Among a very choice collection Mr. Brydon had Eucomis punctata, Statice eximea, Astilbe Davidi, Lobelia Queen Victoria, and some beautiful gladioli, liliums, and phloxes. Mr. A. Dickson, gardener to M. G. Thorburn, Esq., Glenmoriston, was second with a lightly arranged group, in which liliums and gladioli figured strongly, together with montbretias. The third stand was from Mr. Wm. Young, gardener to Mrs. Fleming Hamilton, Kirkcowan.

Gladioli came up in fine form, Mr. A. Brydon winning well for twelve spikes. Carmelite, Marie Therese, and Andre del Sarto were among the best. Second prize went to Mr. J. C. Fordy, Warkworth, Northumberland; and third to Mr. A. Bennett, Tile House, Tweedmouth. Mr. Bennett led for six spikes with beautiful flowers, the other prizes going to Mr. Fordy and Mr. Brydon.

Phloxes were shown in single trusses, the winning six coming from Mr. J. Richardson, School House Manor, whose trusses were deep, well-developed, and good all round; Mr. E. Pickwell, Drumearn Gardens, Comrie, was second; and Mr. A. Brydon, third. Early chrysanthemums were another effective class, Mr. Robert Sutherland, Auld Aisle, Kirkintilloch, being winner for twelve and six vases. In the open class for a collection of gladioli, Messrs. G. Mair and Sons, Prestwick, put up a marvellous lot, which won easily. Nothing finer could be wished for than the grand spikes of beautifully-coloured blooms on this stand. Mr. J. C. Fordy, Warkworth, was second.

Twenty-four bunches of Cactus dahlias brought two capital entries, the first prize lot being shown by Mr. J. Paul, Drumbeg, Killearn; Rev. A. Bridge, Clincher, Etruria, Snowdon, and other of the best varieties were in fine form; Mr. John Smellie, Busby, was second. Messrs. M. Campbell and Sons, High Blantyre, were awarded first for a collection of dahlias, artistically arranged, and embracing all sections. Mr. Alex. Ollar, Campbelltown, once more beat all-comers with violas, showing in grand style. There were also some very fair sweet peas, although the weather of the past week had left its mark upon the flowers.

ROSES.

These were shown in great quantity, and of superb quality. Messrs. J. Cocker and Sons, Aberdeen, were victors in the big collection arranged for effect. Tall pillars of such varieties as Hugh Dickson, Lyon, and Joseph Low were used at the back, with boxes of grand specimens in front. Mr. Wm. Ferguson, Brucefield, Dunfermline, was second with beautiful flowers of Frau Karl Druschki, Wm. Shean, Mrs. W. J. Grant, and many other good varieties, all nicely arranged. Messrs. Cocker and Sons won for twelve crimson flowers with Hugh Dickson, Mr. Ferguson winning in the white class with Frau Karl Druschki, and Messrs. Croll, Dundee, in the pink class with Mrs. W. J. Grant. Messrs. Cocker again led for twelve vases, showing handsomely. The firm also maintained their success in the class for thirty-six blooms with a capital stand: Mr. Hugh Dickson was second in this class, his flowers also being good.

Mr. Dickson led for eighteen blooms, second going to Messrs. J. Fairlie and Co., Cairneyhill, Fife, and third to Messrs. D. and W. Croll. In the amateur's class a cup, value fifteen guineas, was offered by Mr. Hugh Dickson for twenty-four blooms. The successful competitor was Mr. Wm. Parlane, gardener to Mrs. Dennistown, Rossla Row, who also won for twelve blooms, showing well in both classes. Mr. J. Russell, Rose Garth, Newton Mearns, took second for the twenty-four, and Mr. J. Simpson, Carnoustie, for the twelve blooms. Messrs. Campbell and Sons, High Blantyre, were winne-

Continued on page 713.

EXIT
CARNATIONS

CARNATIONS AND FOLIAGE PLANTS AT EDINBURGH.

Portion of the fine display made by Messrs. W. Cutbush and Son, Highgate.

ROCK CRESSES.

The aubrietia, named after M. Aubriet, a famous French botanical draughtsman, has produced a large number of varieties that have become distinctly popular owing to their usefulness in a variety of ways for the embellishment of the garden in spring. They are also highly esteemed for the ease with which they can be cultivated, as well as for the diversity of colour their flowers afford. Like all other popular plants, the varieties of rock cress have increased rapidly during the last ten years, and with desirable results, not merely in a question of multiplicity of names, but really in desirable colours, freedom of growth, and abundant production of flowers.

There are several ways in which aubrietias can be employed in the garden. First on the rockery, where extended variety in colour adds greater interest to that part of the garden. Secondly, for spring bedding, where masses of distinct colours are appreciated; and, thirdly, as edgings to garden paths, where they can be employed with good effect to creep over and among edging stones, which are at times desirable at the foot of a wide herbaceous border, or elsewhere.

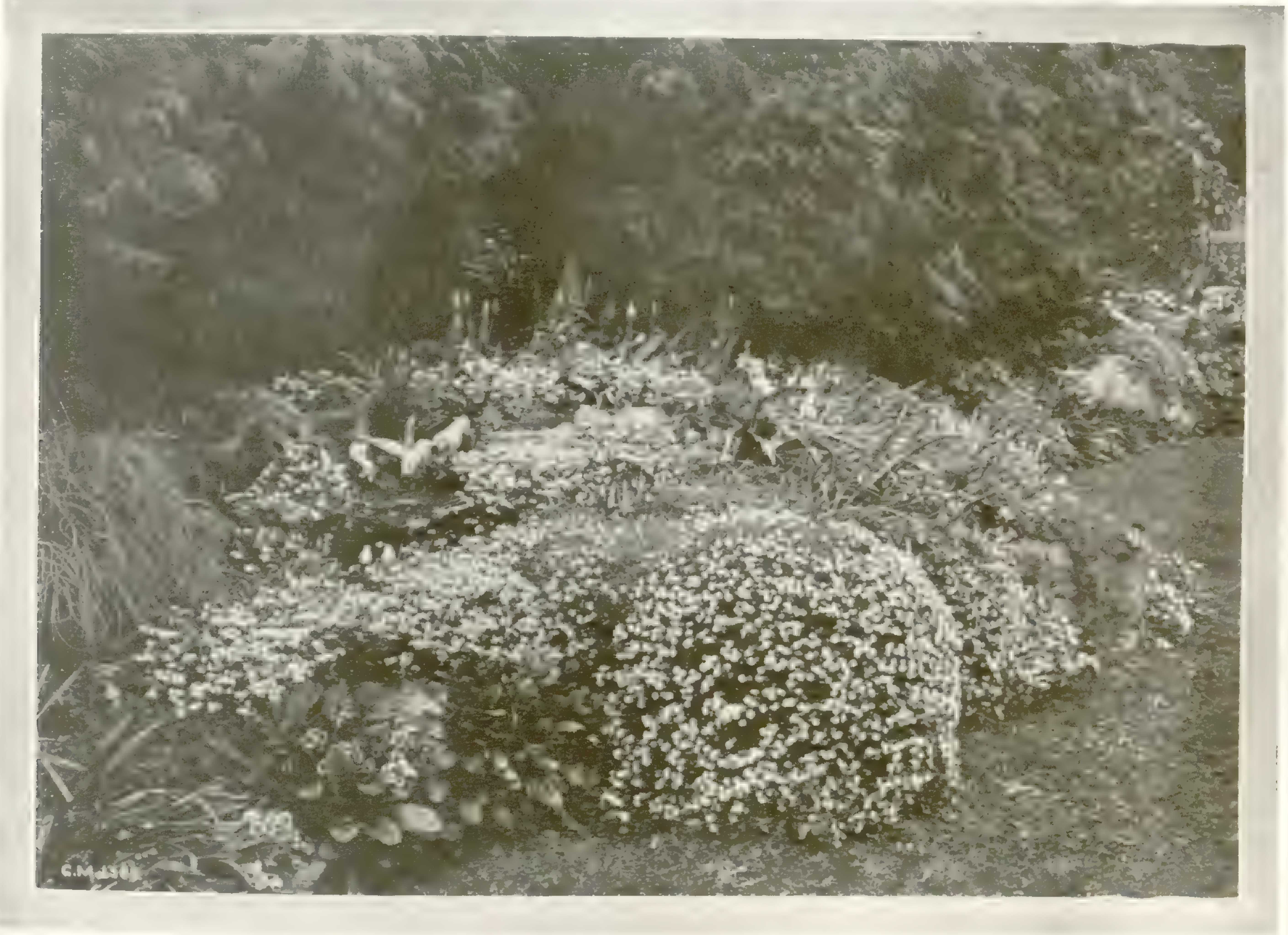
The illustration herewith shows a fine mass of the variety A. Campbelli growing on the rockery at Swanmore Park, which proves to demonstration its value as a spring-flowering subject. The culture of aubrietias is a quite simple matter. They will grow in almost any kind of soil, that which is of a sandy character being the best suited to their requirements, and if to this is added a small portion of well-decomposed manure or old potting soil, to promote greater luxuriance of growth, it is surprising how long a time the plants will in the same site grow vigorously, and annually give a full display of flowers. Especially will there be occasion for surprise if the surface soil is replaced, or has added to it some rich compost, and the plants encouraged to make new growth by the removal of the old, after the season of flowering is past.

The treatment of the plants for spring bedding entails more labour, naturally, because they need replanting twice yearly, namely, at the close of the spring and early in the autumn. When the flowering season is over lift the plants, remove the bulk of the growth, and divide the tufts, and plant in rows on a north or west border, if possible, as shade is beneficial during the summer months. Otherwise, artificial shade will be necessary to ensure a quick start into growth, remembering that the more free this is during the summer the better will be the display of flowers in the following spring. Planting early in October is a distinct gain, as, should the autumn be wet and cold, the growth is interfered with, and the result cannot be so good.

Propagation is simple; in the ordinary way dividing the roots is sufficient, but where plants of special varieties are scarce each piece two inches long taken off, and dibbled in sandy soil in an unheated frame will quickly make root. These, if potted when rooted, soon make stout plants, and from pots are more easily transferred to where they are required than from the open ground.

The following are the most desirable: A. deltoidea is the species from which the greater number of the newer varieties have originated. This species was introduced in 1710. The flowers are purple, and freely produced, and they give a mass of colour. A. Campbelli (syn. Hendersoni) is more vigorous in constitution than the type. In colour it is violet-blue. A. Dr. Mules, rich deep violet-purple, quite the richest and deepest colour of all aubrietias. A. Prichard's A1 has perhaps the largest flowers of all, and it has a strong habit of growth; the colour is dark purple. A. Mrs. E. M. Crosfield is a quite new variety, with large purple-blue flowers, distinct, and desirable. A. Lavender, as its name implies, has lavender-coloured flowers, is new, and quite desirable, giving a distinct shade of colour, which for massing in spring bedding will be an advantage. A. Leichtlini, bright rose, very showy, and distinct. A. Fire King has flowers of a glowing crimson hue. A. Moerheimi is a showy variety, with flowers of a deep rose colour. A. Bridesmaid, soft blush, very distinct and beautiful. A. Souvenir de Wm. Ingram has rose-pink flowers, which pass to pale lilac, somewhat detracting from its value. A. Crimson King, a fine dark red variety, quite one of the best of its colour.

E. MOLYNEUX.



AN EFFECTIVE ARRANGEMENT OF ROCK CRESSES
In the gardens of Swanmore Park, the seat of W. H. Myers, Esq.

H.T. Rose Queen of Spain.—I have not had this rose in better form in the open than it is the present season. Queen of Spain was introduced by Messrs. S. Bide and Sons, of Farnham. It gained a Card of Commendation from the National Rose Society in 1906, and the Gold Medal when exhibited the following year. Hitherto I had looked upon this variety as only suited for pot culture, or as an exhibitor's flower; but my present blooms in the open prove it a fairly good bedder. The weight of the blossoms causes them to droop rather, but they are very lasting; pale flesh with deeper centre, the flowers full, and carried on stout stems. It is related to Bessie Brown, but is not quite so strong a grower with me. Never free and vigorous, but of stout and robust habit, I have found it much subject to mildew; in fact, it has been attacked more than Bessie Brown; but I do not find Queen of Spain comes so constricted under the calyx as Bessie Brown. Both are good under glass.—A. P.

EARLY COOKING APPLES FOR SCOTLAND.

The value of a culinary apple that possesses the attributes of high quality and size, that enables it to be used early in August can hardly be overestimated. At this time the supply of small fruits—strawberries, currants, raspberries—is on the wane, or quite past; and, moreover, the appreciation of them is in the same ratio, and one anticipates the advent of the apple crop with considerable favour.

Lord Suffield.

Where this grand variety grows freely and remains for a few years, at least, free from canker, it may be justly termed the champion of the apples for earliness and general usefulness. Unfortunately, in the north country a really healthy tree, free from this fell disease, and of ten years or more of age, is very seldom met with.

On the other hand, scraggy specimens, from which a considerable amount of dead and withering shoots are yearly pruned away, are the rule rather than the exception. Even in this decrepit state such is the natural fruitfulness of the variety that fruits are produced quite freely upon every branch that has a fair amount of foliage. Whether this apple is worth cultivating at present in districts where the canker trouble is known to be much in evidence is worthy of the consideration of intending planters, especially so as there are now several others that very closely resemble it in all its most desirable points, and are less addicted to its weak ones. The varieties named hereafter are all of the clear-skinned type, and in form, size, and quality partake largely of Lord Suffield, while, so far as can be judged from the comparatively short time they have been under cultivation, they are not seriously affected by canker.

James Welsh.

This is a hardy, free-bearing variety, sent out some years ago by Messrs. Dickson and Co., Edinburgh, and it is now pretty well distributed throughout Scotland. The fruits, according to my experience, do not attain to the size of Lord Suffield, but they are sufficiently large for ordinary purposes, and if well thinned in their early stages might possibly equal the last-named in this respect. The tree is a medium grower, and remains quite healthy for a long time if care be taken that it does not become exhausted by overcropping, as it is a free and regular bearer, and the fruits are ready for use from July onwards. This must not be confounded with the dessert variety James Grieve, distributed by the same firm, which is a totally different apple. In Scotland and the North of England James Welsh should be given a place wherever early apples are much appreciated.

Early Victoria.

This apple, introduced but recently by Messrs. Bunyard and Co., Maidstone, promises to be, when better known, one of the most popular early fruits. It is large in size, very shapely, with a clear skin, becoming almost yellow in colour as the fruit matures. In this way it will, in due course, be much prized as an exhibition fruit. For kitchen use it is unsurpassed, especially for baking whole; the thickness of the skin seems to prevent bursting, as with ordinary care in the process a number submitted to the necessary heat will, on removal from the oven when cooking is completed, present the same regular outlines they possessed at the outset. Quite small trees of this bear freely, but it is impossible, owing to the short time it has been under cultivation, to give from personal knowledge any correct idea of the healthiness or disease-resisting powers of the tree.

Early Rivers.

Another of the same type, which differs from the foregoing but slightly. In shape it is rather more conical than the last-named, and is very much drawn in about the eye, which, indeed, is the principal distinction between them. This is also a very well-formed fruit, sufficiently large for any purpose, and of excellent quality when cooked. It is perhaps needless to remark that the two last-named are quite new apples which are destined to be much sought after in future, but, as already stated, it would be unsafe at present to enlarge upon their merits further than the proof of this afforded by quite young trees, but, to all appearance, as to healthiness and free cropping, as well as the quality of the fruit when served at table, they leave little, if anything, to be desired.

James Day.

Galloway House, Wigtownshire.

SPRING DELLS.

Gardeners who are planning out new grounds, or proposing extensive alterations in old ones, would do well to remember that a dell of spring-blooming plants, to be succeeded by others, of course, may be made one of the most exquisite of all features. There are numerous reasons for hollowing out a site. Directly the earth is penetrated to a depth of nine to twelve feet or more thorough acquaintance is made with the nature of the soil, as far as that portion of the land is concerned, and the knowledge gained often proves of utmost service in dealing with the requirements of special plants. Then, by growing plants far below the surface level heat is concentrated, and, given adequate drainage, cold is avoided, while devastating gales are quite escaped.

There will besides be several different aspects obtained by this artificial method: the inner sides of a round dell must face different points of the compass, and the climate, so to speak, will be several degrees warmer on the south, south-west, and south-east slopes than if these aspects had been obtained by throwing up banks on the level. As, needless to prove, the more climates we possess in one garden the greater are our opportunities to cultivate various plants, and also to have them at several seasons, or in extra long succession, the gardener finds himself greatly assisted in achieving floral triumphs.

One utilitarian reason for making a large dell on a gravel soil, especially in a new garden, is that all the material needed for the paths will be obtained upon the spot, saving much expense and labour.

The dimensions of a dell must be determined by the size of the garden, but where two or more acres are to be laid out the width of forty feet would be none too great: the sides should shelve gradually, not with steep incline, and the base should be a gravel, turf, tiled, or concreted space, with a seat at the end, or perhaps two seats with different aspects. In the exact centre might be any kind of ornament that was fancied, a fine stone vase, small fountain, a sunk basin forming a pool, a rockery hillock, rustic urn, or a pillar climbed by Pyrus japonica and Clematis montana together, which would be certain to result in early bloom.

The method of entering a dell should be carefully thought out. Probably the best appearance results from a grassy slope leading to a grass base, the green turf showing off the gay tints of the flowers that are sure to be present in great masses. When the level plot is of gravel or pavement, however, the slope should be cut into broad steps, and paved with large flagstones, or else gravelled and held up by sunk wood slabs and posts driven in between. By the sides and in the crevices of the steps a great variety of ferns, sedums, saxifrages, and tiny plants can be cultivated with picturesque results. In the case of an immense dell, in which the base is literally a sunk garden in itself, there will be space to make winding, sloping narrow walks, with unexpected turns, and steps here and there throughout the sides, leading the visitor gradually, instead of directly, to the bottom plateau. A charming effect can be thus gained, but the plan would be ridiculous on a small scale.

The top of the dell must always be safely fenced or hedged round, but it is a matter for taste whether rustic woodwork shall be used, wire-netting and stout stakes merely as a foundation for a hedge or climbers, or a rock wall. The last is admirable, and if it is six feet high, artistically yet firmly constructed, with quite irregular summit line, and heaps of old stones here and there against it, offering plenty of gaps and pockets in which rock plants will luxuriate, then the feature, after two or three years have passed, will indeed be a thing of beauty. Rocks should appear also up the dell sides, being necessary to hold up the soil, though this can be materially assisted by sunk, hidden lengths of stout wood. The lavish employment of small stones has a mean look in such a case; large boulders are best, rising boldly up, or laid flat, some jutting out corner-wise, with only a scattering of smaller pieces between.

Spring flowers will be amazingly early in this dell. I have known polyanthuses and Anemone fulgens glorious in January; Anemone sylvestris plena, the double white Woodland Wind flower, and Anemone pulsatilla, the Purple Pasque flower, come in March; hepaticas begin to open soon after New Year's Day, and if tubers of Anemone coronaria are planted in extra rich spots of soil in September and October, their many-tinted buds will not fail to show during December. Christmas roses, yellow aconite, snowdrops, the various lovely winter irises, Van Thol and other early tulips, chionodoxa, scillas of many kinds, autumn, winter, and spring crocuses, Polyanthus narcissi and others, hyacinths, stately Crown Imperials, ixias, sparaxis, leucojums, and alliums are but a few of the fair flowers that should be enjoyed in vast quantity.

Snapdragons can be a feature to blossom early and late, aubrietias and liliums, pæonies, columbines, violets, primroses, myosotis, lupins, arabises, doronicums, megaseas, pulmonarias, rock pinks, maiden pinks, with wallflowers of all known colours. Evergreen foliage plants are of especial value in this garden. Preparation of the soil should be thorough; the difficulties are greatest when the ground is heavy, and wet land will need adequate draining; the addition of suitable manures must be carried out on a generous scale, while vegetable ashes and lime are required for such a depth of ground that has never before been cultivated.

Summer must have its full mead of blossom; autumn also; but it is essentially as a sheltered nook, bringing flowers in seasons when elevated land is bare of colour, that the spring dell is most precious.

M. H.

'Phone: Hop. 763.

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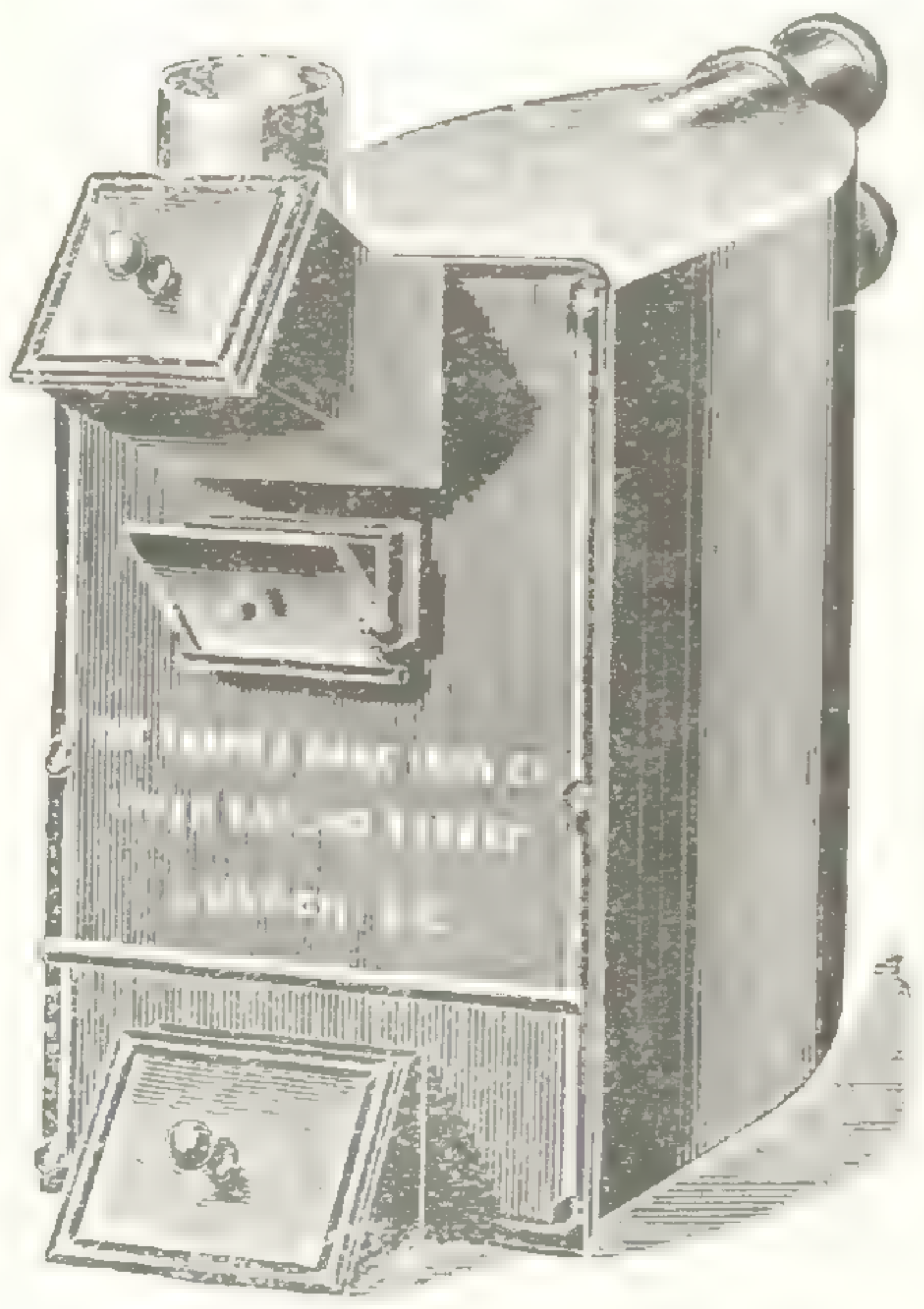

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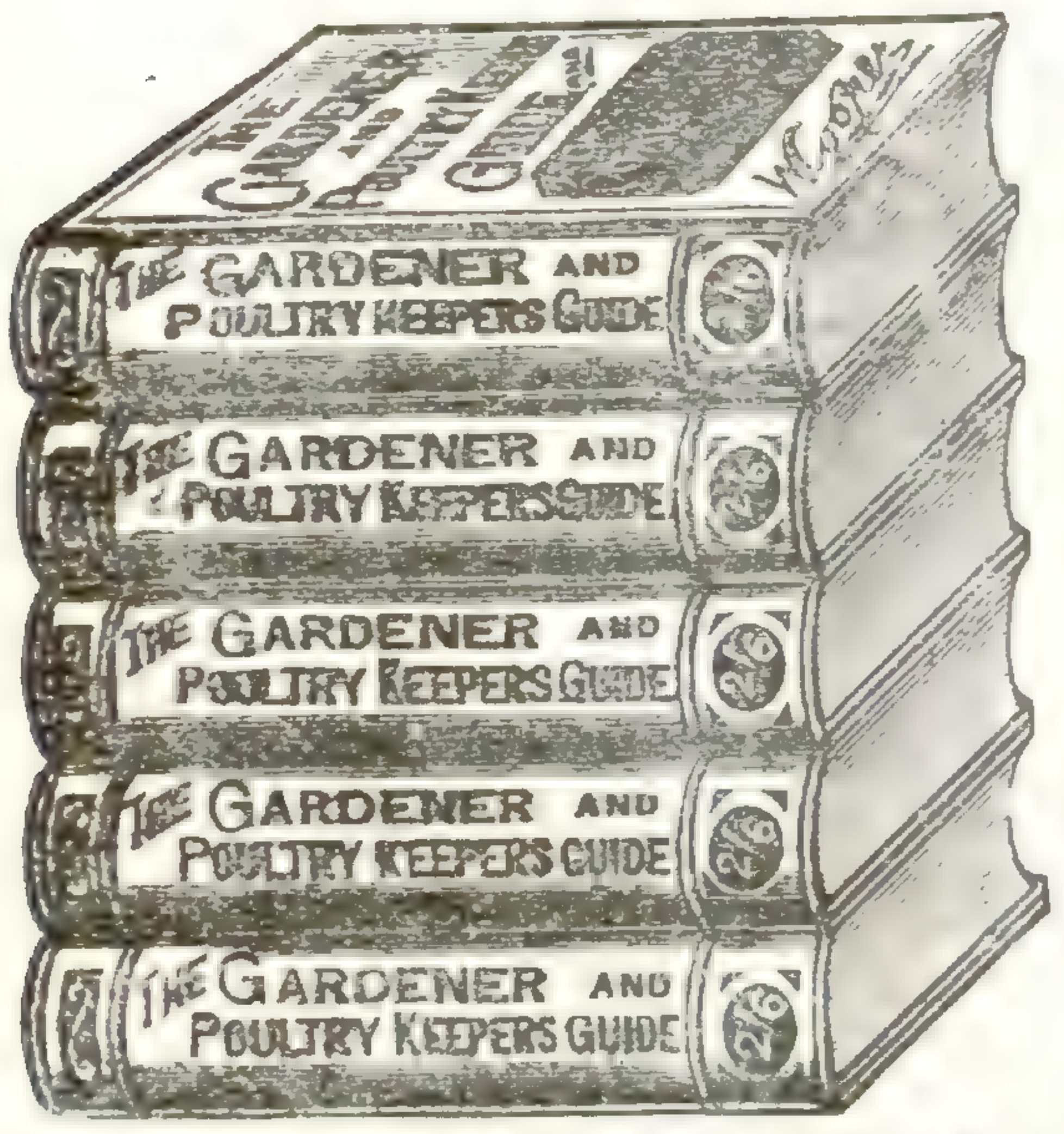
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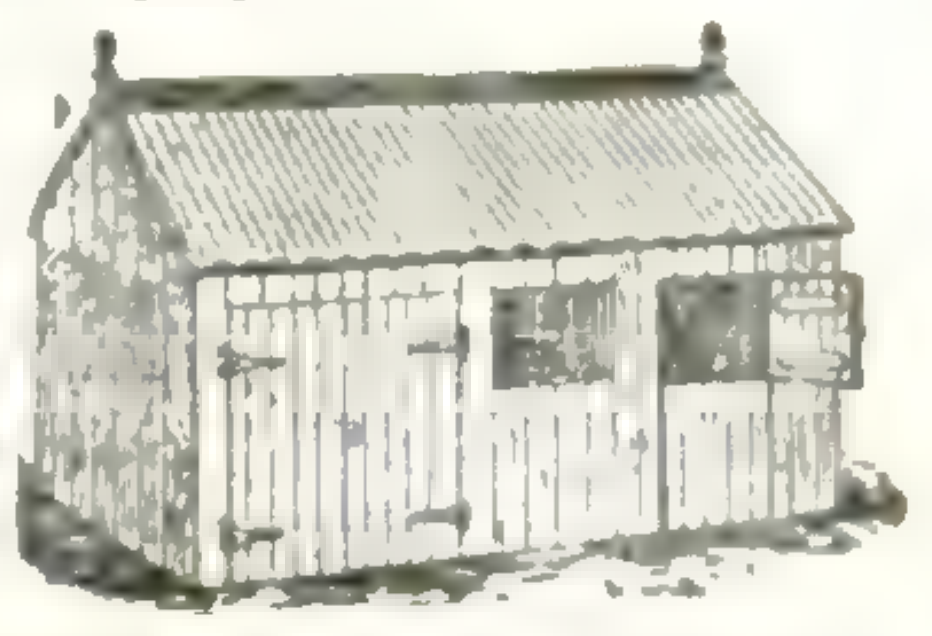

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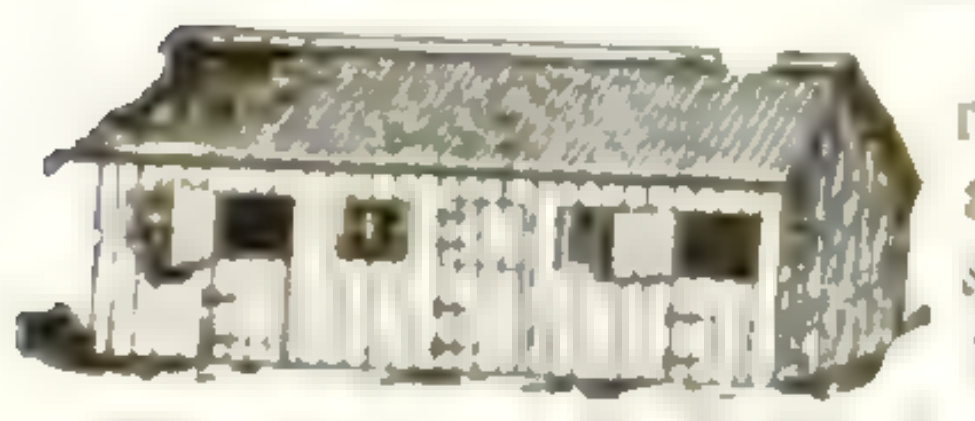

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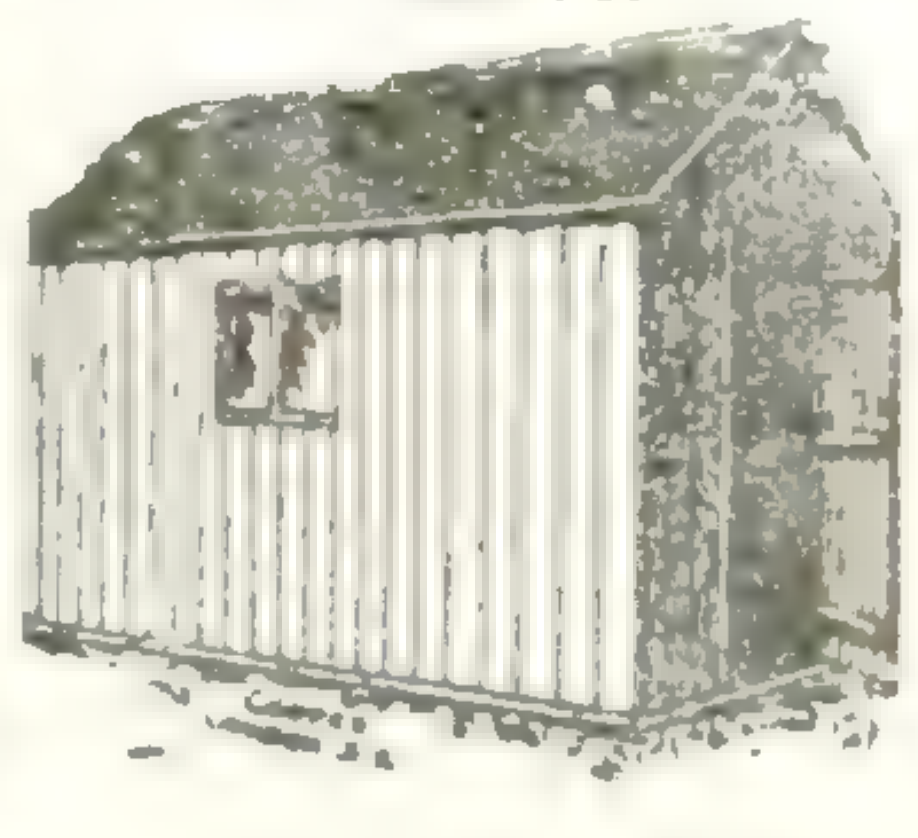

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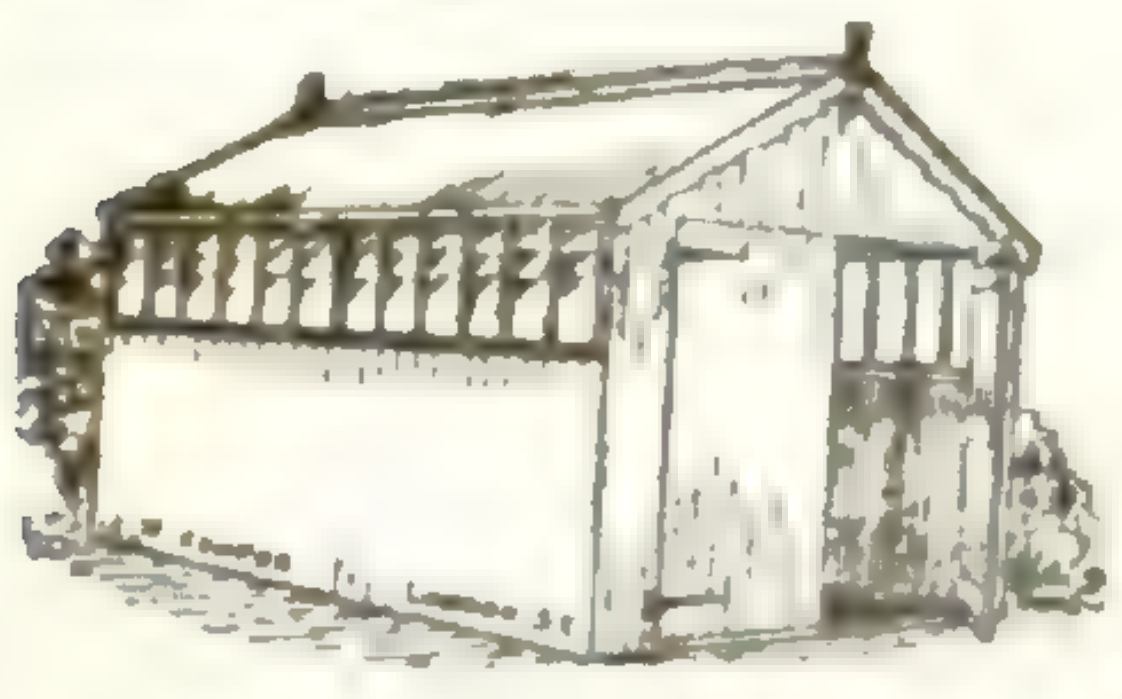

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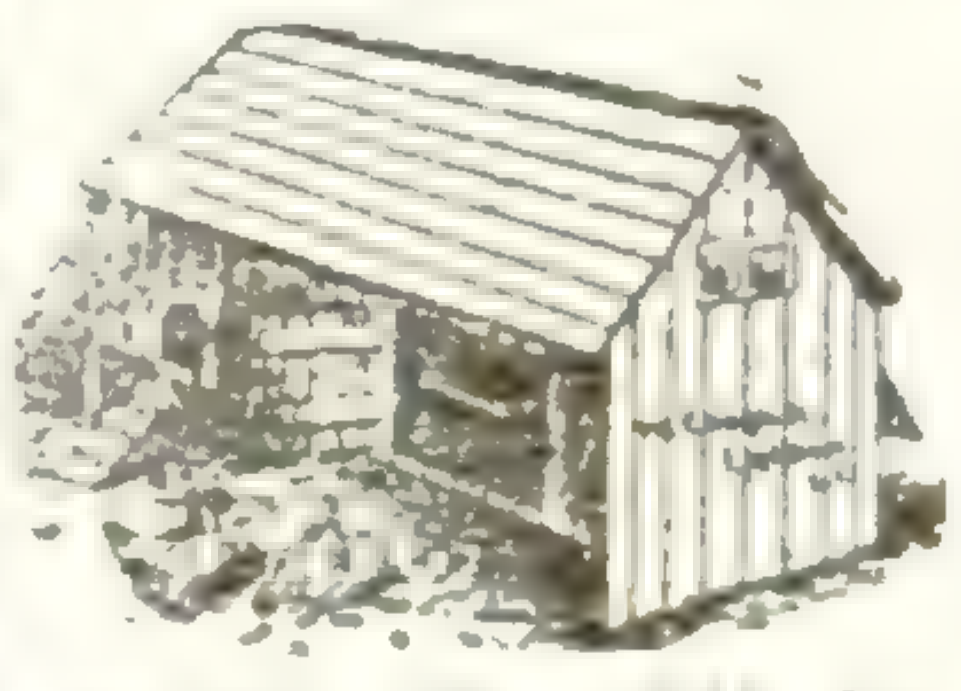

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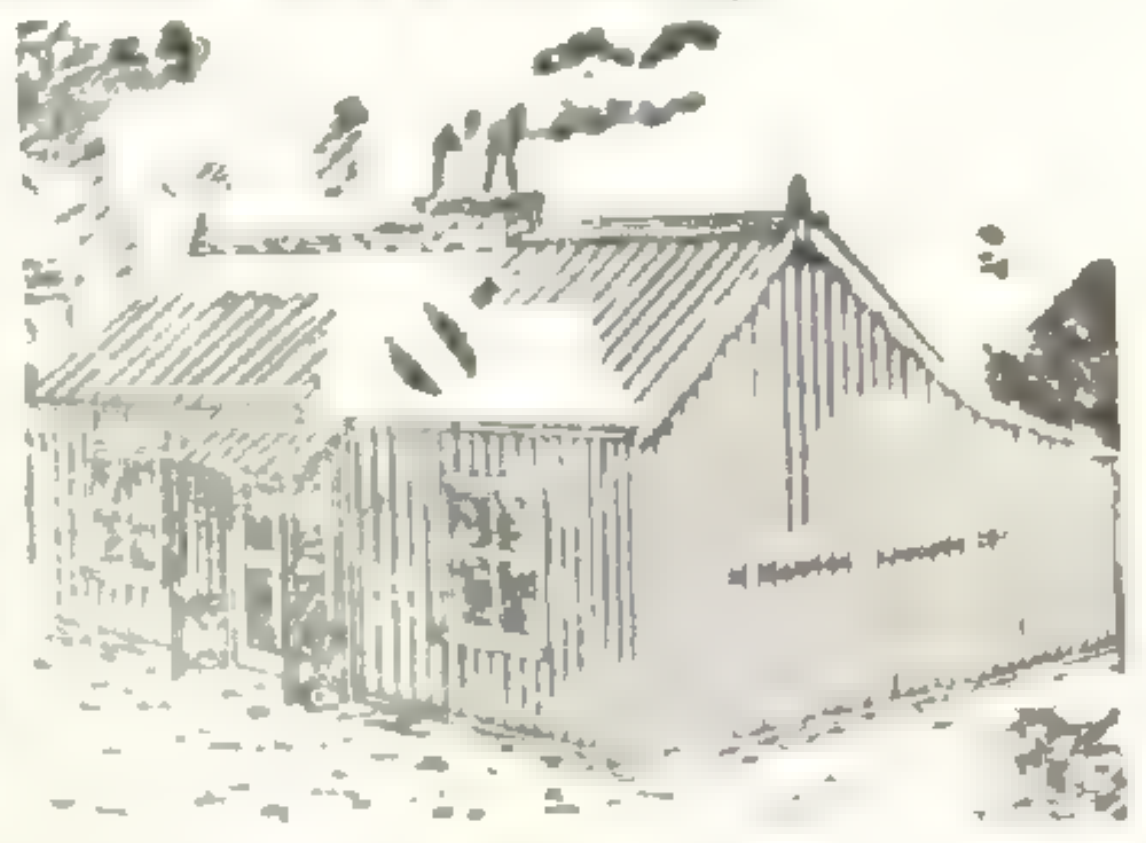

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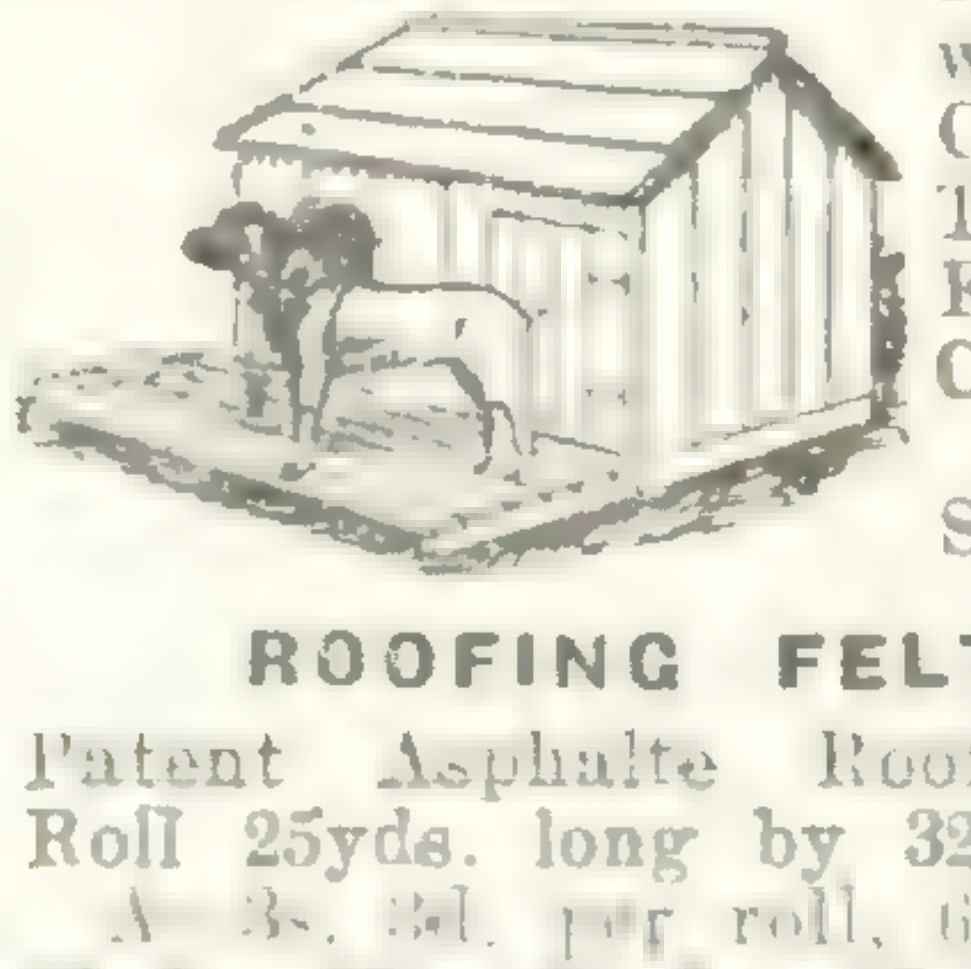

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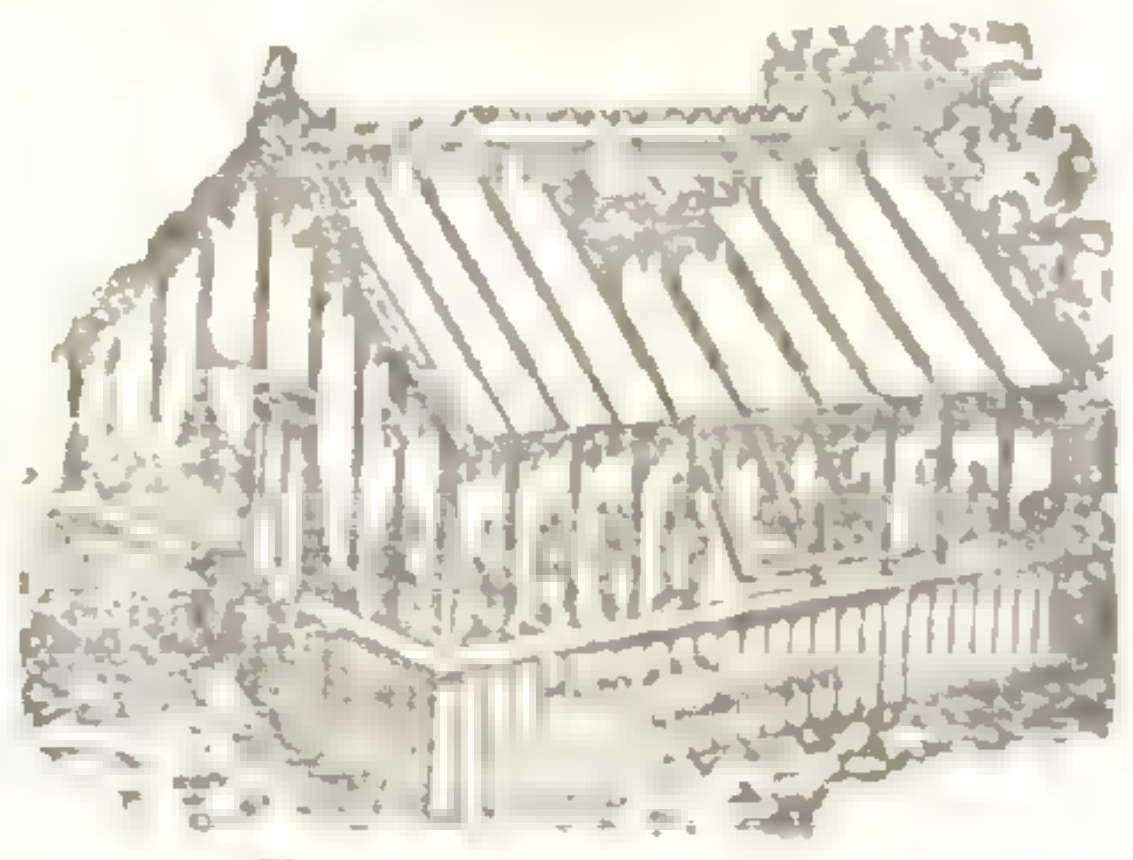

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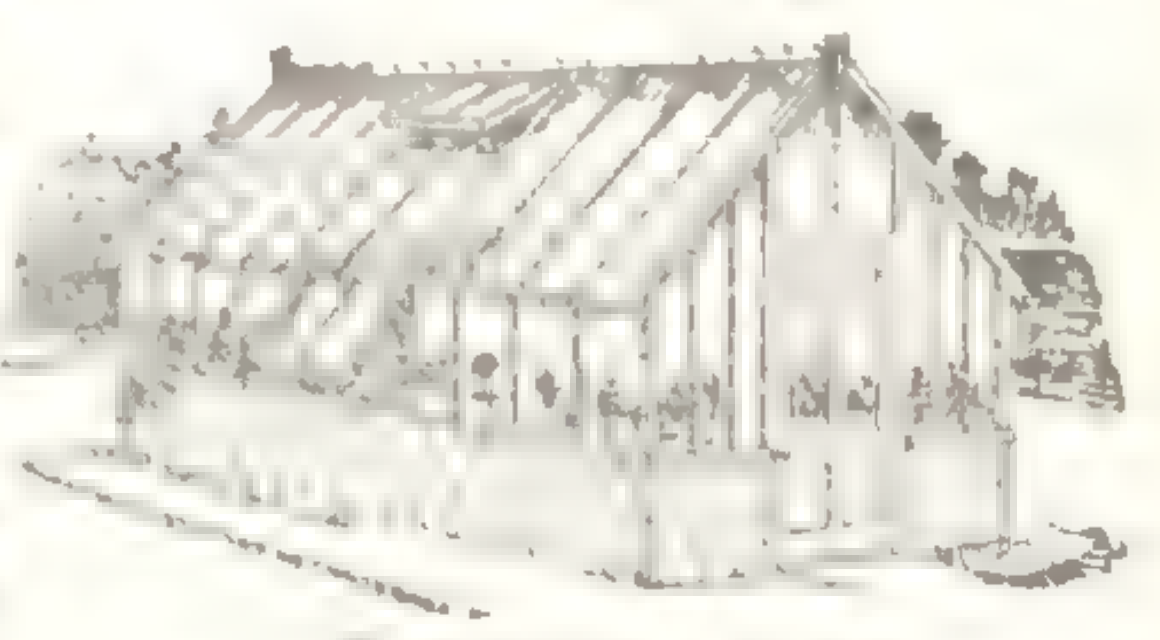

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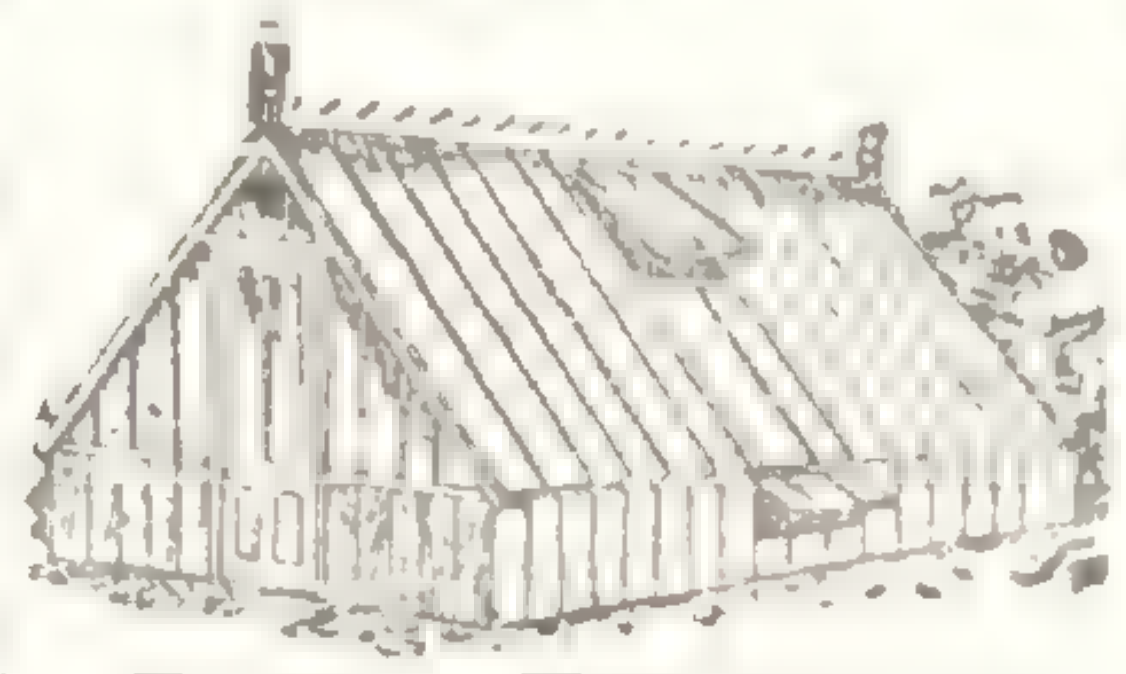

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12	8	8 0	5 0	5 0 0	5 15 0	9 0 0
15	9	8 6	5 0	7 0 0	7 10 0	11 0 0
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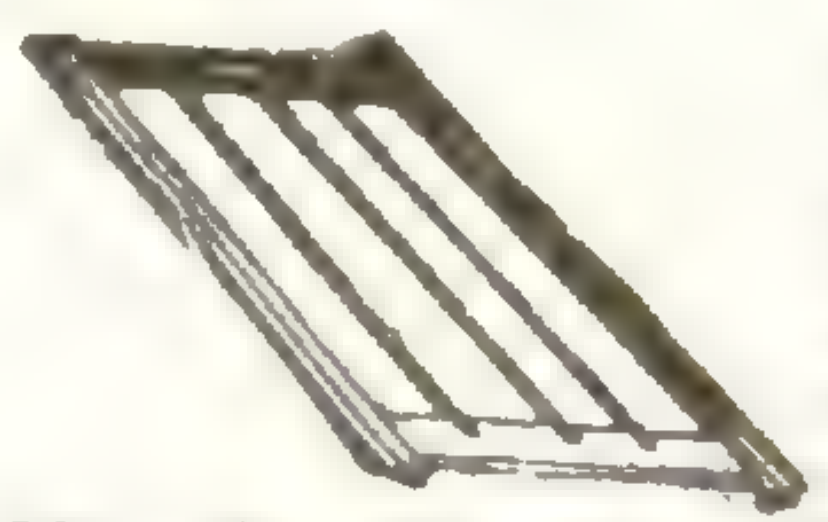

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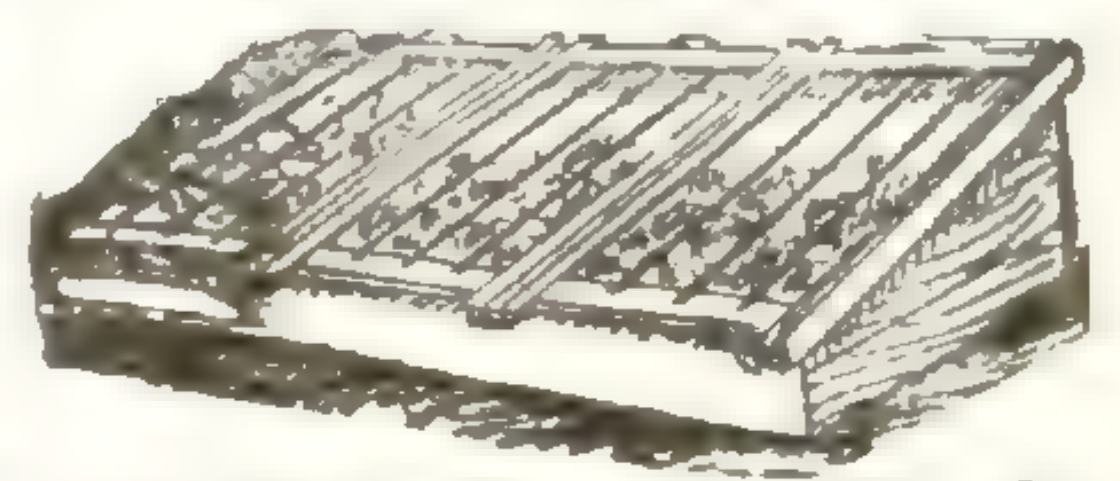

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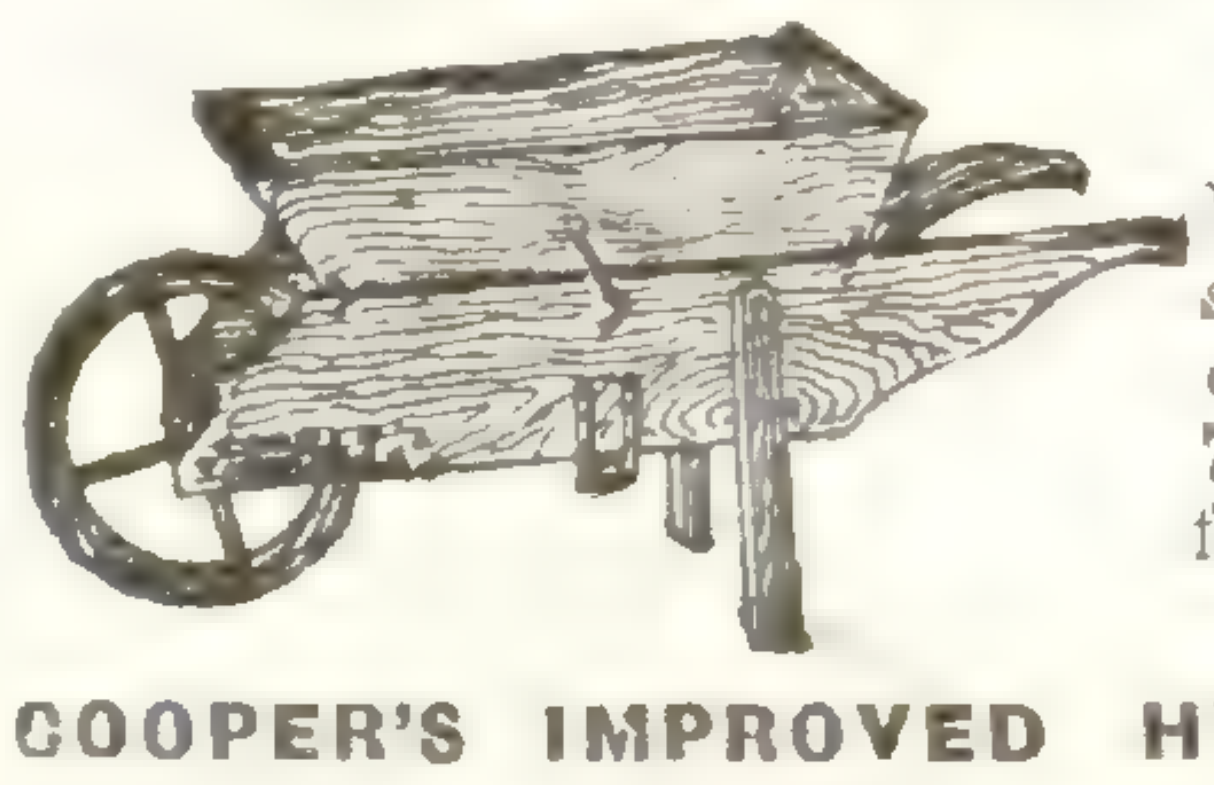

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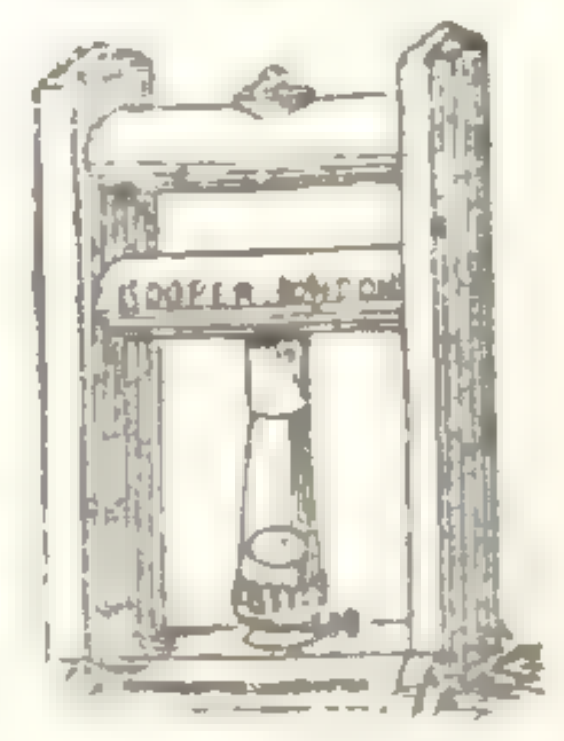

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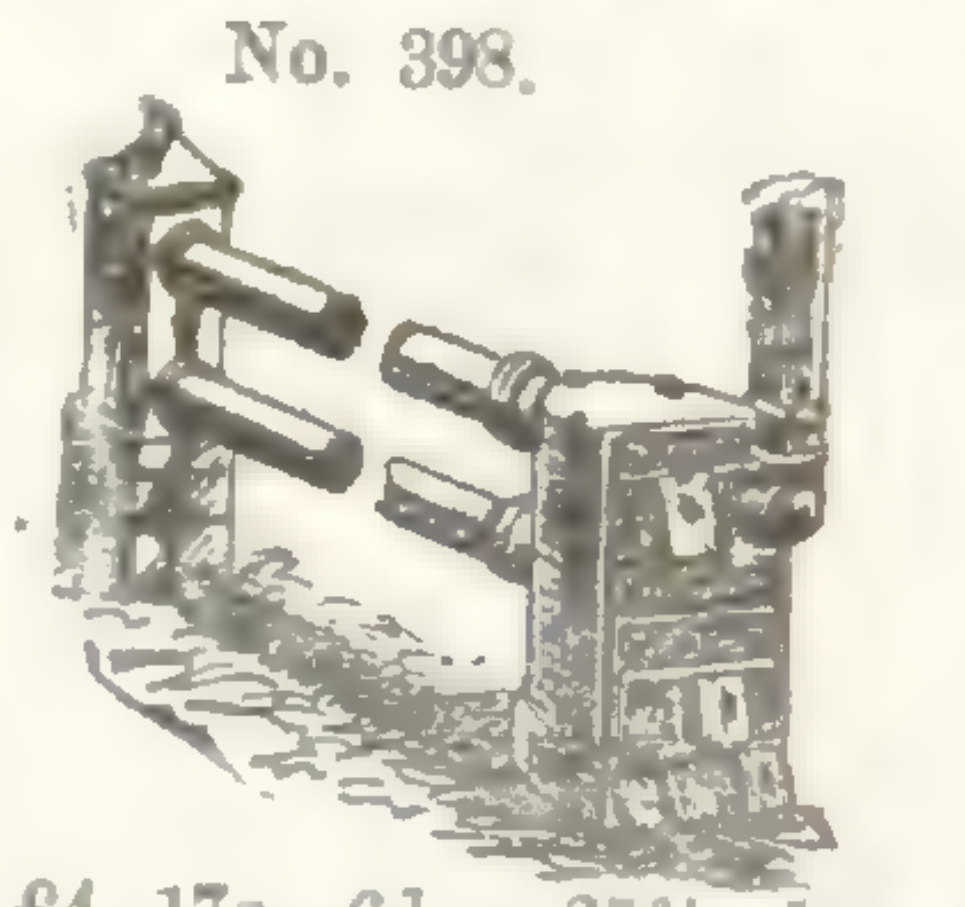

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A brilliantly-coloured hybrid; the sepals and petals orange-red; the lip deep crimson with golden lines at the base. Remarkable for the number of flowers produced on one spike, and its effectiveness. A.M., R.H.S., August 30; Sir George L. Holford (orchid grower, Mr. H. G. Alexander), Westonbirt, Tetbury.

CATTLEYA HARDYANA HOLFORD'S VARIETY.

A distinct and attractive form. The flowers are large, the sepals and petals rose-lilac, the lip bright crimson. A.M., R.H.S., August 30; Sir George L. Holford.

CATTLEYA ADULA VALE BRIDGE VARIETY.

A beautiful variety; the flowers large with broad petals and sepals, which are brownish, suffused bright rose-purple, the lip royal purple. A.M., R.H.S., August 30; Mr. E. V. Low, Vale Bridge Nursery, Haywards Heath. (See illustration, page 683, of last week's issue).

LOBELIA SAM BARLOW.

A beautiful variety, belonging to the L. cardinalis section. The plant is vigorous, and produces finely-developed spikes of flowers, which are of a bright carmine hue. A valuable addition to the section. A.M., R.H.S., August 30; Messrs. Barr and Sons, King Street, Covent Garden, W.C.

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A dwarf-growing and late-flowering variety of the most attractive character. The flowers are large and of fine form; the colour soft salmon-pink. A.M., R.H.S., August 30; Messrs. W. Wells and Co., Lim., Merstham.

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Leander.—A richly-coloured single variety, the flowers perfect in form, the florets deep maroon, with broad, well-defined margin of bright crimson. A.M., R.H.S., August 30; Messrs. J. Cheal and Sons, Crawley.

Garden Yellow.—A yellow cactus variety that is evidently of much value, both for the garden and the exhibition stage. The flowers are of full size and fine form, and have long stiff stalks. A.M., R.H.S., August 30; Mr. H. Shoesmith, Woking.

Theresa.—An elegant cactus variety, the blooms of full size, and delicately tinted rose on a cream-white ground; the blooms have long, stiff stalks. A.M., R.H.S., August 30; Mr. Charles Turner, Slough.

Guinevere.—An exquisitely-formed pompon remarkable for its distinct colouring, which may best be described as a combination of rose and salmon. A.M., R.H.S., August 30; Mr. C. Turner.

GLADIOLI.

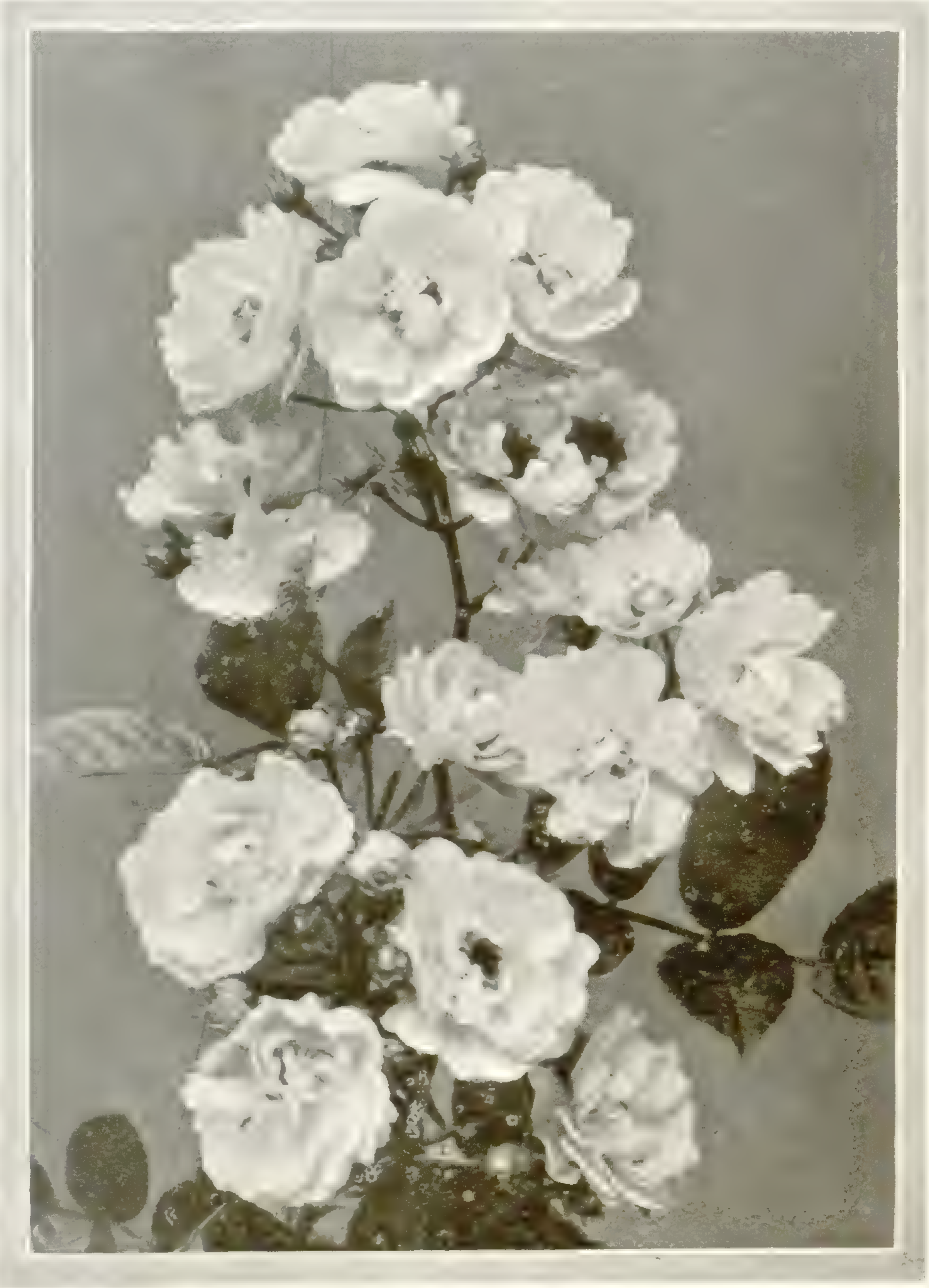
Le Luna.—An attractively-coloured variety belonging to the Nancieanus section. The flowers are of large size, and borne in good spikes, and are marked with crimson and rose on a rich cream-coloured ground. A.M., R.H.S., August 30; Messrs. Barr and Sons.

Safrano.—A handsome variety; the flowers large, with segments frilled at the margin; the colour yellow, tinted buff, and marked with crimson. A.M., R.H.S., August 30; Messrs. Vilmorin and Co., Paris.

PASSIFLORA CÆRULEA.

This climber will succeed well in a partially sheltered position on an open wall in nearly all the southern counties. Not only does it bear flowers in profusion, but fruits also in the early part of the autumn.

For many years I have observed one particularly fine specimen growing in the open in a south-west aspect, and each autumn a large number of handsome fruits of varying shades of yellow and orange depend gracefully from its branches. The specimen is growing in a light sandy soil, and in dry summers the latter becomes very hot, and quickly dries, but at the end of such a season the fruits are more plentiful than after an ordinary summer, or one that has been rather wet. This passion flower is not naturally a good climber; indeed, the shoots rarely creep upwards even where wires are provided, they fall, but cling to each other, forming a dense mass. So it is advisable to tie up the young shoots as they grow, then the flowers will be more evenly disposed all over the plant, and, of course, the resultant fruits also. I would strongly advise inexperienced cultivators to take every care of old specimens, as they generally fruit much more freely than young ones. B.



NEW POLYANTHA ROSE DAPHNE.
Flowers blush-pink and reduced to about half natural size. A.M., R.H.S., August 30.
Rev. J. H. Pemberton.

Freesias.—Now that the time has come around for the potting of these pretty bulbous plants, attention may with advantage be directed to the fact that very frequently the bulbs supplied by some dealers as F. refracta alba produce flowers of a poor, undecided yellowish tinge. Such being the case, purchasers should always insist upon the true F. refracta alba being supplied, that is, where this form is needed.—W. T.

Fuchsia Sylvia.—Fuchsias so seldom now receive any recognition from the Floral Committee of the Royal Horticultural Society that it is interesting to note this variety was recently given an Award of Merit. As shown, it appears to be exceedingly floriferous in a small state, and one that is no doubt destined to become more popular. The tube and sepals are of a bright-red colour, while the double corolla is of unusual length, and in colour white.—W. T.

BEST PLANTS FOR GREENHOUSE.—Nearly 300 pages are devoted to the description, propagation, and culture of the best flowers and plants for the greenhouse in The Amateur's Greenhouse, by T. W. Sanders, price 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

ROSE NOTES.

In spite of the oft-repeated advice to thoroughly prepare the ground or border for climbing roses, do we not frequently come across a grand plant or two to which such attentions had never been paid? One such case came before me to-day. In this instance a plant of Gloire de Dijon had been set in by a cottager some eight or nine years back. A narrow brick path runs by the side of the house, connecting itself with the house wall, except where three bricks were removed to allow of the rose roots being placed in the quite unprepared soil, and in a most perfunctory manner. It was a small and weakly plant, and yet it has flourished from the first in such a manner as might well surprise one had the tree been paid every attention. That this is by no means a solitary instance any observant person will bear out, for do we not often find upon cottages, where it is obvious the plant had had scarcely any attention, a grand specimen? Not of roses only, but other climbers.

LOBELIA SAM BARLOW.

Flowers bright carmine. A.M., R.H.S., August 30. Messrs. Barr and Sons.

It is not my aim to depreciate the better culture advised, but the mistake of laying down hard and fast rules upon any form of culture has been borne upon me frequently of late, and this example heightened it. But how can we account for it? Where does the need for high cultivation come in? When we think a little it seems wonderful where the plants procured their sustenance for such rampant growth as one frequently sees with Banksians and others in similar positions. Warmth from the wall may aid the roots to an extent, but my opinion is the plants just happened to succeed, and to push some of their roots away into suitable soil. One often finds roots of such a long way from the base of the plant, and deeper in the ground than would be disturbed by ordinary culture beyond the narrow footway. But I have in mind a cobble-paved stable yard where some roses are also doing remarkably well, and this seems to confirm my remark about no hard and fast rules being necessary. Nor can roses in such positions be fed with liquid manure; while I know for a fact, in many cases, they have no attention after planting. Nor is it invariably the extra-strong growers which thrive in this way, for I have seen Narcisse and Madame Falcot in similar condition.

There is considerable work to be done among pot roses now, if we are to secure early winter flowers. Drain and repot where necessary, while almost all will benefit from a slight mulch of quite fresh compost. The earliest will need pruning, but might well stay in the open for a time longer. I would avoid, as far as possible, any waterlogging or excessive saturation of the soil from autumnal rains, and have sometimes laid the pots on their sides for a time to prevent this. Under glass, too, the wood wants thinning, and all light and air possible admitted to complete the ripening. Much may be done in this way by the removal of superfluous wood and fully matured or falling leaves.

The present is also a good time to root cuttings of ripened wood of the strongest growers in the open. We prefer any position rather than a dry and scorching south border; while it is better to insert the cuttings deeper than most practice. One, or at most two, eyes above the ground are ample. A clean sandy loam alone is preferable to any mixture, and manures should be avoided entirely.

Recently I mentioned how free our roses were from mildew. They are so still; but I am sorry to note signs of this disease, especially upon Queen of Spain and Her Majesty. At the time of writing the show of blossom upon the teas and their hybrids, also polyanthas (dwarfs), and Chinas, are as full as at any time, and promise to continue. Indeed, I feel I could write much in praise of the dwarf polyanthas and such grand Chinas as Eugene Resal and Comtesse de Cayla. They please more and more each season one grows them, and I do not call to mind once when they failed.

A. Piler.

LILIUM CANDIDUM.

In some gardens these lovely flowers are very satisfactory, but in others they are almost a failure. Even in the same garden bulbs may do well in one border and not in another. When I took charge of one garden the liliums in question were in a very unsatisfactory condition. Each year, for some time past, the strength of the stems and size of the blooms had been diminishing. I do not know how they had been treated, but they certainly did not improve when I gave them rich top dressings of rotted manure and fibrous loam, so I decided to lift and replant the bulbs in another part of the garden. Directly the stems would part readily from the bulbs the latter were lifted, but, in the meantime, a new border was prepared, the soil being trenched about thirty inches deep. Some new loam was freely mixed with the original soil, and rotted manure also. The bulbs were lifted, and replanted without the least delay, the largest specimens in one quarter and the smaller ones in another. The bulbs certainly suffer if exposed to the air for a long time after being dug up.

For several years afterwards the lilies did remarkably well, producing strong stems and bearing a good complement of flowers of large size, and the leaves faded naturally. Then they began to deteriorate again, and so I lifted them, separated the large from the small bulbs, and replanted in other borders in prepared soil. I tried growing the bulbs in several different parts of the garden—a vegetable and fruit garden six acres in extent, which afforded ample opportunity for change—but always with the same poor result. Some bulbs, when lifted, were washed, others were not.

Geo. Garner.

Hypericum calycinum.—To the selection of hypericums given on page 574 no exception can be taken, except that this, one of the finest members of the genus, is omitted. True, it is the commonest of all, but is at the same time a delightful low-growing shrub. The flowers are among the largest of all the hypericums; they are borne over a considerable period, and are of a beautiful rich yellow colour. This hypericum has been before now referred to as the Rose of Sharon, a name also sometimes given to Hibiscus syriacus.—W. T.

CHILDREN'S WILD FLOWER COMPETITIONS.

Since Nature study has become so prominent a subject in the elementary school curriculum there is an awakening interest associated with the summer horticultural shows. At some of these prizes are specially set apart for school children, and at several shows that we have visited there have been hundreds of entries. Such enterprise cannot be other than conducive to the children's good, because in holiday periods there is pleasant occupation in seeking out the more beautiful and rare species.

The naming of the individual specimens should be insisted upon, because it not only instructs the children themselves, but adds to the interest of the exhibition to the general body of visitors. Bunches of mixed wild flowers are very well in themselves, but the finding of the rarer species raises a real and intelligent tone of intellect unaffected by the gathering and bunching of common wayside kinds. School teachers, we find, in spare time take their classes of boys and girls into the lanes, and along field hedges, and, where possible, on open plains, in search of choice kinds, and such trips cannot be otherwise than helpful to children and teachers alike. At the Trowbridge Horticultural Society's show—one continued for the long uninterrupted span of sixty-one years—there has been for two or three seasons a separate tent allotted to the children's wild flower exhibits which embrace several classes and characteristics. The main object in encouraging these exhibits is to make the competition instructive and entertaining to the children and the community at large. Prizes in kind, mostly in well-chosen books, are those provided by the donors, varying, of course, in value according to the subject for which the awards are made. Public presentations of prizes add still more to the pleasures of the scheme, the more popular winners giving occasion for an exciting cheer as they present themselves at the bidding of the superintendent.

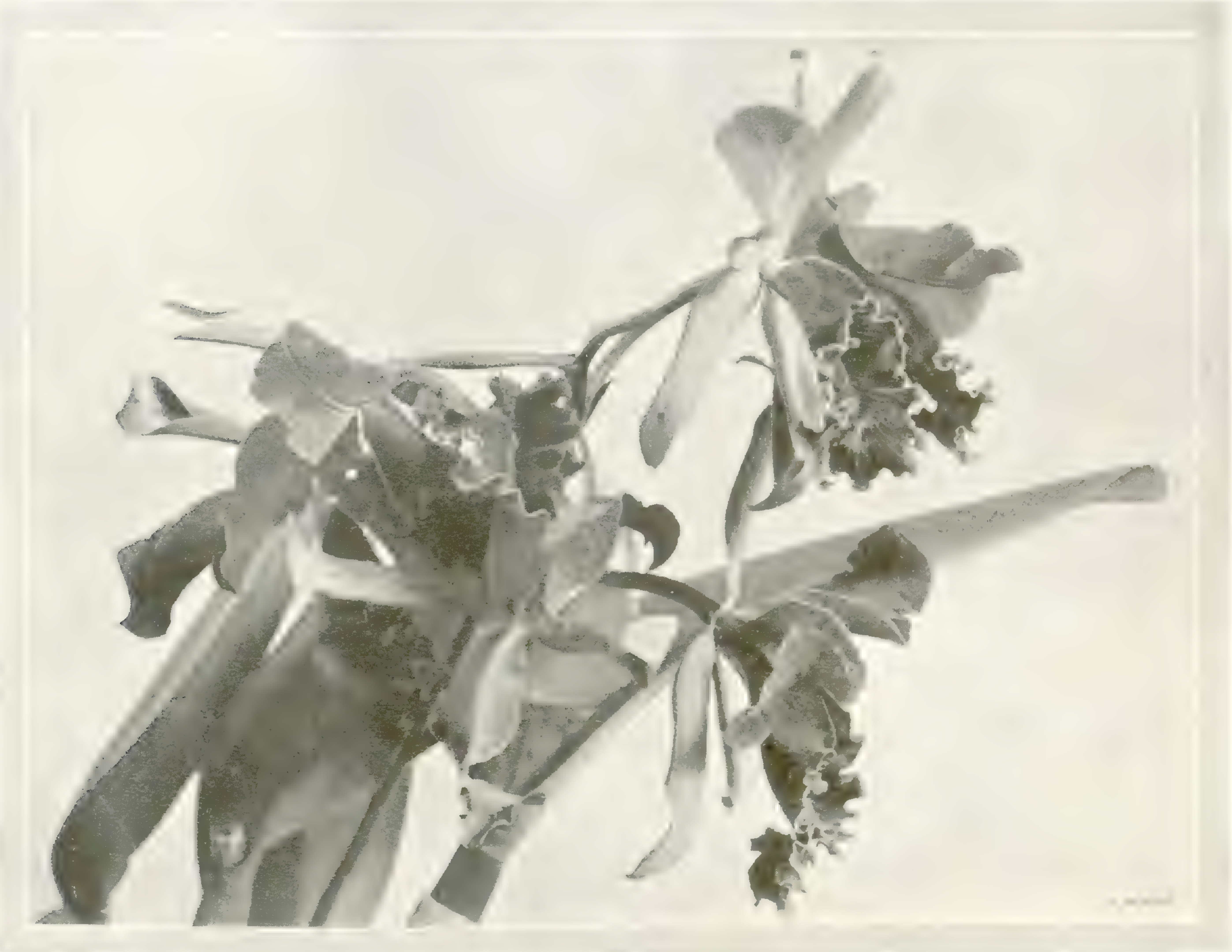
At this show, and also at another more youthful aspirant, running under the title of the Floricultural and Sweet Pea Society, children have hyacinth and daffodil, sweet peas, as well as wild flower contests, in all of which the Rev. Harry Sanders, a local gentleman, is the principal moving spirit, and has been from its inception. Mr. Sanders personally undertakes exploring expeditions in the adjacent countryside during the spring and summer, as do the teachers of the several town schools. Many of these gentlemen, being more or less expert in botanical knowledge, add to their store by these often extended excursions among field crops, the hedges, lanes, and commons. It is, of course, common knowledge that the rarer species are found only in certain localities, and long journeys must be undertaken in order to secure even solitary specimens. It is found that among teachers and scholars there is a grasp and keen intellect markedly evident, as applied to the individual, and there is no doubt a considerable value in botanical tuition, as affecting the youthful community. With even a limited knowledge, a person during a quiet stroll in the country can make almost every step taken a personal pleasure, whereas those not so endowed or enlightened find boredom in taking a walk. It matters not where the location of the individual may be, there is botanical research to be found if the mind is bent thereon. It has been said that among the residue of demolished buildings in the famous "Kingsway," in the heart of London, wild flowers of certain species, common they may be, have taken possession, and the commonest have an interest to the cultured mind.

It cannot be denied that included in the British flora there are many, very many, really beautiful flowers, as, for instance, the fragrant honeysuckle and wild rose, the rarer bee orchis, and the nodding harebell. In the neighbourhood of Mells, a village in rural Somerset, there are both numerous and rare species abounding. This village, rich in iron and limestone formations, woodland, field, and lane, offer attractive hunting ground to the botanist, and at the late summer show the interest centred in botanical studies was plainly reflected in the children's wild flower classes—in bunches, and individual specimens separately grouped. It is not necessary to recount the names; indeed, it would be no easy task to do so, for quite experienced botanists required their handbooks to ascertain them, so unfamiliar were some of the specimens on view.

To us, it seems a phase of floriculture deserving even more encouraging enterprise than is actually given, but as Nature study now becomes a prominent subject in schools, no doubt in the near future field and hedgerow flowers will be as well known as the asters and stocks of the garden. We do not know what is the attitude of school authorities in other counties, but in Wilts and Somerset there is an extending interest in the local flora, examples that might well be emulated by every British county. County Educational Committees would seem to be awakening to the inspiring influence of the simple wild flower as applied to child life in town and country.

W. Strugnell.

Rood Ashton Gardens.



LÆLIO-CATTLEYA GOLDEN ORIEL TIGRINA.

Rich orange red with crimson lip. A.M., R.H.S., August 30; Sir George L. Holford.

FERTILITY OF THE SOIL.

The President of the Agricultural Sub-Section of the British Association, which has this year held its meeting at Sheffield, was Mr. A. D. Hall, director of the Rothamsted Experimental Station, who devoted his presidential address to an account of the causes of the fertility of the soil.

In the course of his address, which was immensely interesting, and remarkable for lucidity of statement, Mr. Hall directed attention to the fact that Professor Daubeny, who for a considerable period occupied the Chair of Botany and Rural Economy at Oxford, was the first to point out the enormous difference between the amount of plant food in the soil and that taken out by the crop. Daubeny obtained by his experiments the results with which we are now familiar, that any normal soil contained the material for from 50 to 100 field crops. If, then, the growth of the plant depended upon the amount of this material it could get from the soil, why was that growth so limited, and why should it be increased by the supply of manure, which only added a trifle to the vast stores of plant food already in the soil? For example, a turnip crop would only take away about 30lb. per acre of phosphoric acid from a soil which might contain about 3,000lb. an acre; yet unless to the soil about 50lb. of phosphoric acid in the shape of manure was added, hardly any turnips at all would be grown. Daubeny then arrived at the idea of a distinction between the active and dormant plant food in the soil. The chief stock of these materials, he concluded, was combined in the soil in some form that kept it from the plant, and only a small proportion from time to time became soluble and available for food. He took a further step and attempted to determine the proportion of the plant food which could be regarded as active. He argued that since plants only took in materials in a dissolved form, and as the great natural solvent was water percolating through the soil more or less charged with carbon dioxide, therefore in water charged with carbon dioxide he would find a solvent which would extract out of a soil just that material which could be regarded as active and available for the plant.

Bacteria and Nitrates.

When the systematic study of plant-nutrition began, it was demonstrated that plants could only obtain their supply of the indispensable element nitrogen when it was presented in the form of a nitrate, but it was not until within the last thirty years that they obtained an idea as to how the nitre came to be found. The oxidation of ammonia and other organic compounds of nitrogen to the state of nitrate was one of the first actions in the soil which was proved to be brought about by bacteria, and by the work of Schloesing and Müntz, Warington and Winogradsky they learnt that in all cultivated soils two groups of bacteria existed which successively oxidized ammonia to nitrites and nitrates, in which latter state the nitrogen was available for the plant. These same investigators showed that the rate at which nitrification took place was largely dependent upon operations under the control of the cultivator: the more thorough the cultivation the better the drainage and aeration, and the higher the temperature of the soil the more rapidly would the nitrates be produced. As it was then considered that the plant could only assimilate nitrogen in the form of nitrates, and as nitrogen was the prime element necessary to nutrition, it was then an easy step to regard the fertility of the soil as determined by the rate at which it would give rise to nitrates. Thus the bacteria of nitrification became regarded as a factor, and a very large factor, in fertility. This new view of the importance of the living organisms contained in the soil further explained the value of the surface soil, and demolished the fallacy which led people instinctively to regard the good soil as lying deep and requiring to be brought to the surface by the labour of the cultivator.

The discovery of nitrification was only the first step in the elucidation of many actions in the soil depending upon bacteria—for example, the fixation of nitrogen itself. As the world must have started with all its nitrogen in the form of gas, it was difficult to see how the initial stock of combined nitrogen could have arisen: for that reason many of the earlier investigators laboured to demonstrate that plants themselves were capable of fixing and bringing into combination the free gas in the atmosphere. In this demonstration they failed, though they brought to light a number of facts which were impossible to explain and only became cleared up when, in 1886, Hellreigel and Wilfarth showed that certain bacteria, which existed upon the roots of leguminous plants, like clover and beans, were capable of drawing nitrogen from the atmosphere. Thus they not only fed the plant on which they lived, but they actually enriched the soil for future crops by the nitrogen they left behind in the roots and stubble of the leguminous crop. Long before this discovery experience had taught farmers the very special value of these leguminous crops; the Roman farmer was well aware of their enriching action, which was enshrined in the well-known words in the Georgics beginning, "Aut ibi flava seres," where Virgil said that the wheat grows best where before the bean, the slender vetch, or the bitter lupin had been most luxuriant. Since the discovery of the nitrogen-fixing organisms associated with leguminous plants other species had been found resident in the soil which were capable of gathering combined nitrogen without the assistance of any host plant, provided only they were supplied with carbonaceous material as a source of energy whereby to effect the combination of the nitrogen.

Heating Soils.

Though numerous attempts had been made to correlate the fertility of the soil with the numbers of this or that bacterium existing therein, no general success had been attained, because probably they measured a factor which was only on occasion the determining factor in the production of the crop. Ever since the existence of bacteria had been recognised attempts had been made to obtain soils in a sterile condition, and observations had been from time to time recorded to the effect that soil which had been heated to the temperature of boiling water, in order to destroy any bacteria it might contain, had thereby gained greatly in fertility, as though some large addition of fertiliser had been made to it. Though these observations had been repeated in various times and places they were generally ignored, because of the difficulty of forming any explanation; a fact was not a fact until it fitted into a theory. But within the last five years the subject had received some considerable attention until the facts became established beyond question. Approximately the crop became doubled if the soil had first been heated to a temperature of 70deg. to 100deg. for two hours, while treatment for 48 hours with the vapour of toluene, chloroform, etc., followed by a complete volatilisation of the antiseptic, brought about an increase of 30 per cent. or so. Moreover, when the material so grown was analysed, the plants were found to have taken very much larger quantities of nitrogen and other plant foods from the treated soil; hence the increase of growth must be due to larger nutriment and not to mere stimulus.

Rothamsted Experiments.

The explanation, however, remained in doubt until it had been recently cleared up by Drs. Russell and Hutchinson, working in the Rothamsted laboratory. In the first place, they found that the soil which had been put through the treatment was chemically characterised by an exceptional accumulation of ammonia, to an extent that would account for the increased fertility. At the same time, it was found that the treatment did not effect complete sterilisation of the soil, though it caused at the outset a great reduction in the numbers of bacteria present. This reduction was only temporary, for as soon as the soil was watered and left to itself the bacteria increased to a degree that was never attained under normal conditions. For example, one of the Rothamsted soils employed contained normally about seven million bacteria per gram—a number which remained comparatively constant under ordinary conditions. Heating reduced the numbers to 400 per gram, but four days later they had risen to six million, after which they increased to over 40 million per gram. The accumulation of ammonia in the treated soils was accounted for by this increase in the number of bacteria, because the two processes went on at about the same rate. The question now remaining was, What had given this tremendous stimulus to the multiplication of the ammonia-making bacteria? and by various steps the two investigators reached the conclusion that the cause was not to be sought in any stimulus supplied by the heating process, but that the normal soil contained some negative factor which limited the multiplication of the bacteria therein.

Interacting Forces.

Examination along these lines then showed that all soils contained unsuspected groups of large organisms of the protozoa class, which fed upon living bacteria. These were killed off by heating or treatment by antiseptics, and on their removal the bacteria, which partially escaped the treatment, and were now relieved from attack, increased to the enormous degree that he had specified. According to this theory the fertility of a soil containing a given store of nitrogen compounds was limited by the rate at which these nitrogen compounds could be converted into ammonia, which, in its turn, depended upon the number of bacteria present effecting the change, and these numbers were kept down by the larger organisms preying upon the bacteria. The larger organisms could be removed by suitable treatment, whereupon a new level of ammonia-production, and therefore of fertility, was rapidly attained. Curiously enough one of the most striking of the larger organisms was an amœba akin to the white corpuscles of the blood—the phagocytes, which, according to Metchnikoff's theory, preserved us from fever and inflammation by devouring such intrusive bacteria as find entrance in the blood. The two cases were, however, reversed; in the blood the bacteria were deadly, and the amœba therefore beneficial, whereas in the soil the bacteria were indispensable and the amœba became noxious beasts of prey.

Since the publication of these views of the functions of protozoa in the soil confirmatory evidence had been derived from various sources. For example, men who grew cucumbers, tomatoes, and other plants under glass were accustomed to make up extremely rich soils for the intensive culture they practised, but, despite the enormous amount of manure they employed, they found it impossible to use the same soil for more than two years. Then they were compelled to introduce soil newly taken from a field and enriched with fresh manure. Several of these growers here had observed that a good baking of this used soil restored its value again: in fact, it became too rich and began to supply the plant with an excessive amount of nitrogen.

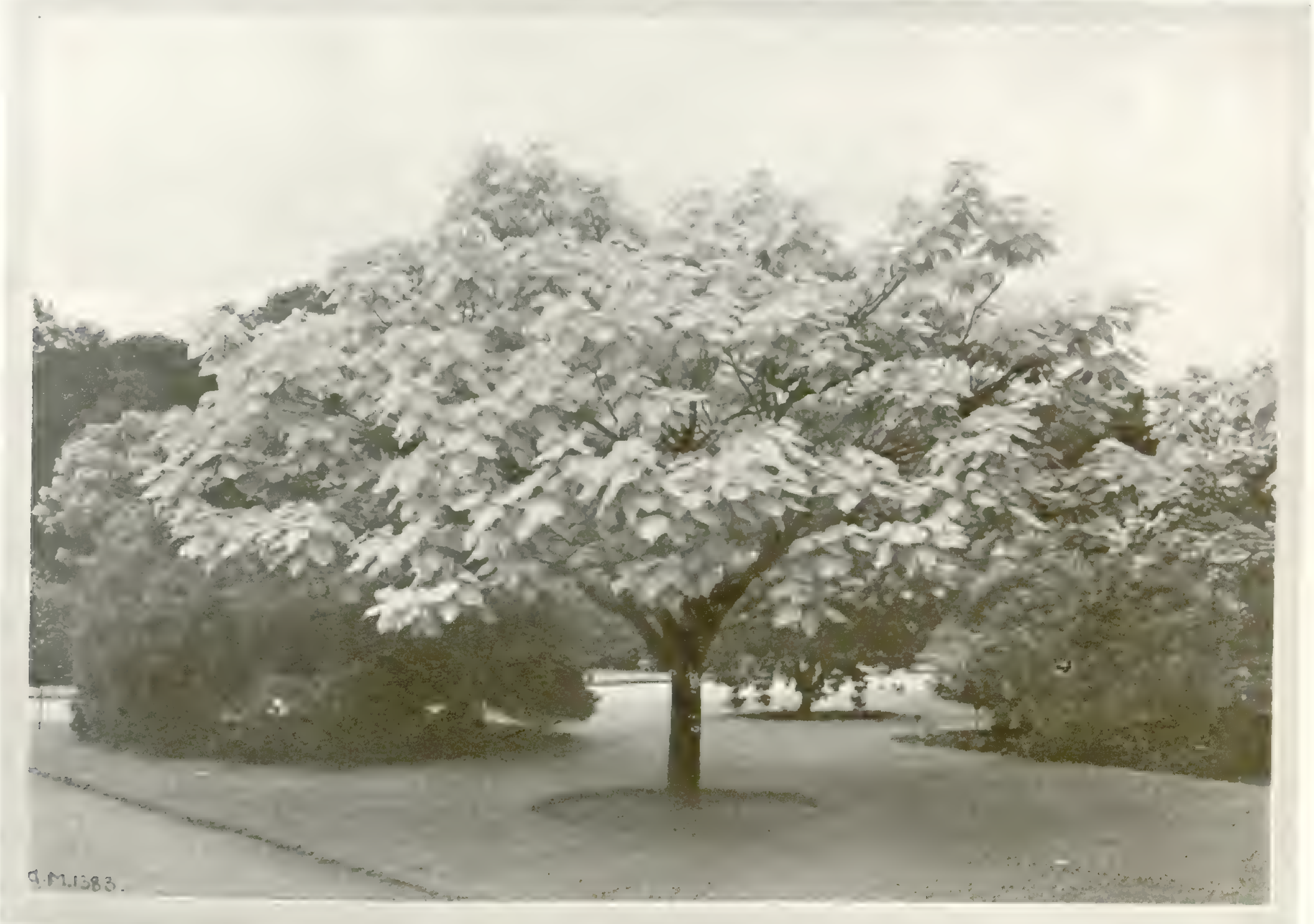
Evidently there was no simple solution to the question—What was the cause of the fertility of the soil? There was no single factor to which they could point as the cause; instead they had indicated a number of factors any one of which might at a given time become a limiting factor and determine the growth of the plant. All that science could do as yet was to ascertain the existence of these factors one by one and bring them successively under control; but, though they had been able to increase production in various directions, they were still far from being able to disentangle all the interacting forces whose resultant was represented by the crop.

DAHLIAS TO PERFECTION.—A thorough guide to the successful culture of these popular flowers is "Dahlias and Their Cultivation," by J. B. Wroe, price 1s. net, by post 1s. 2d., bound in cloth 1s. 6d., by post, 1s. 8d., from W. H. and L. Collingridge, 148, Aldersgate Street, London

THE GOLDEN-LEAVED CATALPA.

This is one of the few golden-leaved trees which may be depended on to maintain a good colour throughout summer, whereas the majority of the golden-foliaged trees and shrubs are very bright for a few weeks when the leaves first appear, but lose much of their freshness after the middle of June. The golden catalpa is a variety of the well-known Indian Bean Tree, Catalpa bignonioides, and is known under the distinctive name of aurea. It presents much of the appearance of the type, having the short trunk and widespreading head of that tree, with similar-sized heart-shaped leaves. The spikes and flowers show no distinctive characters, whilst the fruits are of the usual cylindrical, bean-like appearance. Several well-developed specimens may be seen at Kew, the one represented by the accompanying illustration being near the north end of the Temperate House. The tree is peculiarly adapted for planting amongst other coloured foliaged shrubs as a standard or dot plant, its large handsome foliage being very effective. An example put to such a use may be seen in the bed of coloured foliaged trees and shrubs which is to be found in the vicinity of the Sun Temple at Kew. The tree may be expected to grow in any ordinary garden soil, and may be increased either by means of cuttings in summer or by grafting pieces of dormant wood on to pieces of root in spring. In both cases propagation should be carried on under glass. Several other varieties of catalpa are known which are distinguished by variegated or purplish leaves, but no other is of anything like the value of C. bignonioides aurea for garden decoration, whilst for general effect they are inferior to the typical green-leaved tree, a fact which applies to many variegated leaved trees.

W. D.



A FINE SPECIMEN OF THE GOLDEN-LEAVED CATALPA (C. BIGNONIOIDES AUREA) AT KEW.

ROSE DOROTHY PERKINS.

I have never before seen the flowers of the above-named rose as rich in colour as they have been this year. For several years I have noticed the same plants, some growing near walls with south aspects, others on pillars, pergolas, and arches, and those plants trained on the warm walls bore very pale-coloured blossoms. This year, however, all seem to be excellent, not in one county only, but in many. I attribute the satisfactory condition of the flowers to the fact that the weather generally has been much cooler and not very bright. For a number of years that grand variety Crimson Rambler, was a failure on hot walls, but always a success on arches and pillars in the same garden.

Of course, we like to grow the various sorts of roses in certain positions, but I am quite sure that, generally, climbing varieties are not as satisfactory when trained on hot walls as in more open quarters. I daresay many readers of the GARDENERS' MAGAZINE have noted this fact also, and it would be well if inexperienced persons who intend to plant roses during the coming autumn made a note of it, too.

G. B.

Bowkeria Gerardiana (triphylla).—This uncommon South African shrub, which your correspondent, Mr. Wyndham Fitzherbert, says is not in commerce, was first distributed by the late Mr. William Bull, of Chelsea, and was, to my knowledge, kept in stock for some years after that. I have frequently seen it flowering there in the shape of small bushy plants. There being really such a limited demand for subjects of this class, its culture there has now, I believe, been discontinued. The species strikes very readily from cuttings of the young growing shoots put in a close case, and given the same treatment as a fuchsia.—W. T.

CORYLOPSIS PAUCIFLORA.

The genus Corylopsis is closely allied to Hamamelis, which is fairly well known in gardens by the several early-flowering species called witch hazels. A few species only of corylopsis are in cultivation, the best known being C. spicata. That particular shrub has been in cultivation for many years, but C. pauciflora is of comparatively modern introduction. The name of pauciflora is inaptly applied, for it blossoms very freely when growing under suitable conditions. Unfortunately, it is rather tender, and, except in the mildest parts of the country, it requires protection during winter and spring if the best results are to be obtained. The damage to the shrub cannot, however, be attributed so much to cold during the dormant period as to late spring frosts during the time that the flowers are open and growth buds starting into life.

It is a Japanese shrub, growing 3 to 4 feet or more high, with numerous slender, more or less pendant branchlets, which during early spring, the end of March and beginning of April, are clothed with dainty catkins of primrose-yellow flowers which have a decided fragrance. A further period of beauty is apparent when the foliage commences to expand, for the leaves are delicately marked with green and bronze. In Cornwall, Devonshire, and other kind climates, it may be expected to thrive as a border shrub, but in less favoured localities it should either be planted in a frame or cold greenhouse, where it can remain the whole year; or it should be grown in pots and stood out of doors for the summer. As a forced shrub it has much to commend it, and it can be had in flower early in January without very severe forcing. It thrives well in light loamy soil to which a little peat has been added.

W. DALLIMORE.

AUSTRALIAN GRAPES.

The Acting Agent-General for Western Australia (Mr. R. C. Hare) has received from Mr. R. L. Gilbert, Officer-in-Charge of the Western Australian Government Agency in Melbourne, Victoria, particulars of an interesting and important experiment in connection with the cool storage of table grapes for export to London and other British markets. Several shipments of Western Australian grapes arrived in London a few months ago, and so brisk was the demand that they sold in some cases up to 1s. 4d. per lb. wholesale.

Mr. Gilbert informs the Agent-General that early this year he received a consignment of Western Australian grapes through the Department of Agriculture for exhibition at the Melbourne Government Agency. The grapes were packed in bunches in granulated cork dust in wooden cases containing about 23lb. of fruit in each, precisely similar to the shipments which had been sent from Western Australia to the London Market. The Melbourne consignment had been ten days in the steamer's hold before it reached Mr. Gilbert's hands, and it was placed by him in exactly the same condition in which it was received in the chambers of the Government cool stores, Melbourne.

There the grapes remained untouched for three months, at the end of which period (on July 11 last) the cases were brought out and opened in the presence of a distinguished company, including the Right Hon. Sir John Forrest, G.C.M.G., ex-treasurer of the Commonwealth, the Victorian Minister for Agriculture, the Government Viticultural Expert, and a number of members of the Commonwealth Parliament. The representatives of the three Melbourne daily papers (the "Argus," the "Age," and the "Herald") were also present, and they concur in reporting that the grapes were found, after their ten days' sea journey, and three months' cold storage, in "perfect condition."

The varieties experimented upon were Almeria (known in Spain as Ohanez), Flame Tokay, and Purple Cornichon, and they were grown by Mr. Barrett-Lennard, of Guildford, Western Australia, who was also the grower of a shipment which realised 33s. per case of 23lb. in London a few months ago. Mr. Gilbert writes: "The Ohanez (Almeria) opened up absolutely perfect, and the same can be said of the Flame Tokay. With regard to the Purple Cornichon, although the berries were quite sound, some of them fell away from the stalks when the bunch was lifted. The remarkable freshness and quality of the fruit excited great enthusiasm among those present, and it was unanimously agreed that the experiment had been a great success."

Subsequently several cases were sent to the Federal Parliament which was in Session in Melbourne. "It was generally agreed among the members who inspected and tested the fruit," says Mr. Gilbert, "that it was in a perfect state of preservation, and of excellent quality; the bloom of the fruit had been retained in a wonderful manner, and the berries were as firm and fresh as if the bunches had been cut on that very day."

The grapes which came to England from Western Australia in April and May last were stored only a few weeks between the time they were gathered at the vineyards and the time they were marketed in London, but the Melbourne experiment indicates that even three or four months' storage does not induce deterioration in freshness, firmness, flavour, or appearance. That this was also the view taken by the trade in this country would seem to be indicated by the prices paid for the four shipments of grapes from Australia, totalling over 4,000 cases. One shipment averaged 14s. per case of 23lb.; another, 19s.; a third, 25s.; and the best of all was 33s. for 82 cases, which was also the top market price of the day in London. The cost per case, including all charges, was 1s. 5½d., so that the net return to the growers is considered highly satisfactory.

The Victorian Government Viticultural Expert was so impressed by the success of the storage of grapes at the Melbourne Cool Stores that he is obtaining several thousand cuttings of Flame Tokay from Western Australia for propagating at the Viticultural College in the State of Victoria, and an immense impetus has been given to the grape-growing industry in Western Australia by the results of last season's London shipments. It is calculated by Viticulturists that there are 20,000,000 (twenty million) acres in Western Australia suitable for grape-growing, and it is felt that if only a small proportion of that vast area is laid down in vines the amount of production within a few years should be sufficient to ensure a cheap and ample supply of high quality table grapes in British and European markets at a time of the year when the European supply is out of season.

FLOWERS IN REGENT'S PARK.

Regent's Park has long been famous for its summer bedding, particularly for the extensive use made of large, bold specimens, the condition of which serves to show that there must be ample and effective glass accommodation for them during the winter. The long borders of herbaceous plants that, as it were, serve to form a background to the flower beds, combine to form a glorious floral picture, which it must be remembered is within a couple of miles of Charing Cross.

Fuchsias.

Of the different subjects the innumerable fuchsias, ranging as they do from small plants to large specimens 6ft. to 8ft. high, are in many cases as near perfection as possible. A group of the light-coloured variety Mrs. Marshall, is made up of a number of grand specimens, 6ft. high, or thereabouts, almost perfect in shape, and absolutely laden with blossoms. An extensive bed is planted with such old and well-tried varieties as Abd-el-Kader, single, red; Display, single, mauve lavender corolla; Empress Eugenie, double, white corolla; Mrs. Marshall, white tube and sepals, red corolla; Mrs. Rundle, a single salmon-tinted flower; Beauty of Exeter, semi-double, carmine corolla; and Madame Cornellison, single, white corolla, and for outdoor purposes still one of the very best. On the margin of this bed are numerous plants of the variety Alice Hoffmann, about a couple of feet high. This has coral-tinted sepals, and a pure white corolla. It is at present not much known, but may be kept quite dwarf, and for edging purposes it is very desirable. A large bed is devoted to the bright-red variety, Scarcity, and in this large specimens are interspersed with comparatively small plants, the effect being remarkably good.

Fuchsias are, as a rule, grown for the sake of their flowers, but one bed of them depends for its attractive features upon foliage alone. It is dotted over with the well-known variegated-leaved variety, Sunray, and the yellow-tinted Golden Treasure. Beneath these is an undergrowth of the slender habited Fuchsia gracilis variegata, and edged with the variety Meta, pegged down. The young leaves of this are of a bright bronzy-crimson, but become greener afterwards. One variety especially deserving mention is The Doctor, which bears a considerable resemblance to Mrs. Rundle. It is, however, a good deal superior to that well-known variety, as may be seen by comparison, for there is a bed of each planted side by side. The Doctor differs from the older form in being more floriferous, while the blooms are stouter and more highly coloured. For summer bedding, at least, if not for other purposes, it should supersede Mrs. Rundle.

Cuphea and Lantana.

Cuphea platycentra, which, by the way, is in the "Dictionary of Gardening," and the Kew Hand List, referred to Cuphea ignea, has been long grown for bedding. It is, however, particularly fine at Regent's Park, where a number of specimens, about four feet in height, and springing from a groundwork of the ageratum, form a delightful feature. The plants, fairly upright in growth, are quite smothered with their pretty scarlet and black tubular-shaped flowers. This cuphea, which was introduced from Mexico in 1845, has been used as a bedding plant as long as I can remember, but it is only within recent years that it has been grown as large specimens. Beside this, it is very pretty in the greenhouse, where its continuous flowering qualities stand it in good stead.

Lantana delicatissima of parks and gardens, but which is at Kew grown as Lantana salviæfolia, is at Regent's Park, as almost everywhere else this season, particularly fine. One bed has a number of pyramidal-shaped plants of this lantana springing from a groundwork of verbenas. The effect of the lantanas is heightened by the plants being alternated with good specimens of the pretty silvery-leaved Leucopyhytum Browni.

Pelargoniums.

Of pelargoniums, the variety Paul Crampel holds its own as the most desirable of the scarlet forms, while a good salmon-coloured kind that I have not met with elsewhere is Maurice Bernardin. Though the trusses are not large, they hold themselves erect, while what is more, this variety is exceedingly floriferous, and for bedding purposes can be recommended. A good pink-flowered kind is Sybil. The ivy-leaved varieties are principally used for vases, which are strongly represented at Regent's Park.

Succulents.

Succulent plants form a striking feature in a large undulating bed, the highest peaks being each crowned with a large, well-furnished specimen of the American Aloe. The sides of the mounds are in some cases at least carpeted with the Canary Island Lotus peliorhynchus, whose long shoots, freely clothed with much divided hoary leaves, form a dense mass of a peculiar greyish tint. Though the flowers are very showy, this is well worth growing for its foliage alone.

Heliotropiums and Hydrangeas.

Heliotropium President Garfield still holds its own as one of the best of all for large specimens. It is particularly well represented in this way, one bed being filled with a number of tall examples, all in full bloom, and bordered with the dwarfer dark-coloured variety, Lord Roberts. An edging of white centaurea completes an attractive bed, the perfume from which is most grateful.

The grand specimens of the common hydrangea are now past their best, but, as a set-off H. paniculata grandiflora makes a goodly show. The massive heads of creamy-white flowers are very conspicuous. In some cases they have assumed the ruddy tinge, which comes after a time.

Mixed Beds.

When large palms, quite 15ft. high, are employed for furnishing flower beds, it is quite evident their associates must be on a corresponding scale. Large specimens of such things as Solanum jasminoides, Streptosolen Jamesoni, Lantana delicatissima, Calceolaria Burbidgei, heliotropes, Plumbago capensis, crotons, and others are used with pleasing effect in these large beds. Leucophytum Browni is freely represented, and as specimens from two to three feet in height.

Vases.

These play an important part in the summer bedding scheme. Some of them are very large; indeed, they greatly excel in size the vases to be generally met with in gardens. A couple of the largest, for they are in many cases disposed in pairs, are filled in the following manner. Centre, Eucalyptus globulus, around this variegated abutilons, next fuchsias, lower down scarlet pelargoniums with an edging of ivy-leaved pelargonium Galilée and Tropæolum Lobbianum. With minor changes, this arrangement is pretty closely followed in the larger vases, while in the smaller ones, of course, a less variety of plants is to be found. Two in particular, filled simply with that popular ivy-leaved pelargonium Galilée, are exceedingly effective, forming as they do dense masses of bloom. This variety, which is one of the best of all for vases, as, indeed, it is for pot culture, was distributed in the Jubilee Year, 1887. W. T.

ABERDEEN BOTANIC GARDENS.

Considerable pleasure is being evinced in local circles in consequence of these most useful gardens being placed on a permanent basis as regards occupancy. Meantime, a considerable stretch of the gardens is held upon lease by the Cruickshank Trustees—the representatives of the family which bequeathed the gardens to Aberdeen—and as the proprietor of the leased part is not inclined to sell outright, the trustees have been fortunate in acquiring an adjacent property, which belonged to the late Mr. Charles J. Burnett. In his lifetime, Mr. Burnett preferred to retain his grounds and beautiful old-world house, which he had occupied for so many years, and hence was unwilling to enter upon the sale of them to the Cruickshank Trustees. Mr. Burnett's demise, however, has completely altered the situation, and his executors have now agreed to the sale of the ground and house to the Cruickshank Trustees.

The newly-acquired ground lies contiguous to that actually owned by the Cruickshank Trustees, and is separated from it by a brick wall, upon which many climbing plants have been trained. This wall is to be retained, but two roomy gaps are to be made in it for the purpose of giving access to the ground now obtained. The new ground is of a rising character, with a fine southern exposure, and when laid out—probably in terraces—it should prove very suitable for most of the plants transferred to it. Meantime, the land is under green crop for the purpose of cleaning it.

Another interesting matter connected with the new acquisition is the suggestion—which in all probability will be acted upon—to have plots laid out for the benefit of teachers undergoing a course of nature study, now so much appreciated in our schools' curriculum. Given such facilities, it is felt that not only would the teachers benefit, but the children who might be gathered from all quarters to inspect the plots would also find the new departure advantageous.

The writer paid a visit to the gardens the other day, and was exceedingly pleased to find, under the careful and intelligent supervision of Mr. James Strachan, the head gardener, how well everything was looking. Of course, these gardens are not arranged for ornamental purposes, but for practical, educative work; but even with these retarding and restrictive influences, it was astonishing to find so much beauty and wealth of colour. The large rockery, near the Chanonry entrance, is not exactly looking so well as it did in the months of May and June, when a number of the Alpine plants were in bloom. This beautiful rockery, it is hoped, will be retained, although, occasionally, it suffers from north-westerly winds. Entering further into the gardens, the visitor is struck with the fine beds of carnations, antirrhinums, calceolarias, and other autumn-flowering plants—all in capital condition. Of course, there is no arrangement for spectacular effect, as is the case in our public parks, but to the botanical student these are interesting in the extreme. W. K.

Everyone interested in a garden should obtain a copy of the Alphabet of Gardening, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price, bound in cloth, 1s. 6d. net, post 1s. 9d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

SEEDLING CALANTHES.—It is desirable for the storing of young calanthes that they should be removed from their seed beds and transplanted into well-drained small pots, using a compost of equal portions of finely broken turfy loam, peat, finely chopped sphagnum, and broken leaves, with sufficient sand added to render the compost porous. The seedlings will be found in an active rooting state at this season, and they quickly become re-established in the fresh compost. I find by this method the young plants are less liable to injury by being kept so damp as it is usually necessary to retain the old plants for so late in the year, owing to their late flowering. The young plants should be given a position within a short distance of the roof-glass, which will not only prevent their becoming drawn and weakly, but will also assist them to mature. Keep the young plants in a moderately moist state as long as they are active, but as soon as the foliage shows signs of decay gradually reduce the moisture, and if the plants are wintered on a shelf in a house where the atmospheric conditions are in a more or less humid state, the moisture thus procurable should suffice to retain the miniature pseudo-bulbs in a plump state. It is surprising how early in the year seedling calanthes commence growing, and considerable advantage is derived from potting them at this season. The same remarks apply to seedling phaius and phaiocalanthes, with the exception that the phaius being evergreen and practically in a more or less active state of growth throughout the whole year, they will require root moisture, and to be kept growing until they reach the flowering state.

SEEDLING DENDROBIUMS.—The seeds of the deciduous dendrobiums are frequently

GOLD MEDAL COLLECTION OF HERBACEOUS PHLOXES
Exhibited by Messrs. E. F. Fairbairn and Sons, Edentown Nurseries, Carlisle, at the Carlisle Flower Show.

sown on the material about plants of their own species. This is done frequently late in the season, say in the latter part of June and July. The germination is perhaps more rapid at that time of the year than any other, and the seedlings make good headway by the middle of September; but the difficulty is that the majority are at this season reaching maturity, and the reduced amount of moisture and the more airy conditions afforded are soon evident in the young seedlings. It is desirable therefore the young plants should be removed and placed under conditions that are likely to be more favourable to them. If they are transferred to store pots (several may be pricked out together) they are more easily treated than can possibly be the case when they winter on the plant on which the seed has been sown. We find finely chopped sphagnum moss, a little peat, and plenty of silver sand a suitable compost in which to fill the store pots. This compost is easily removed and may be transferred about the roots of the young plants when they require separate potting early in the spring.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

BOUVARDIAS. — These, although not fully recognised as stove plants, will do well with a fair amount of heat during the winter months, especially if they are required for supplying flowers for cutting over a fairly long period, and it is as well to give them a little artificial heat before the wood becomes too hard. Plants established in pots may be brought in from the frames or pits at once, and if well rooted a little help should be given them in the way of weak liquid manure or a dressing of artificial fertiliser. During dry periods of weather syringing may be given them once a day, but this will need to be gradually decreased and finally left off as the autumn advances and the plants begin to show flower. Many cultivators make a practice of planting bouvardias out in frames or in a sheltered position in the garden, and I am inclined to think, if treated properly after lifting, this is the best method of growing them. At all events much larger trusses of flowers are obtained, and the wood being somewhat softer, soon breaks into growth again. A good batch of plants should give a succession of bloom well into the spring season. If not already lifted from the frames or ground they should be taken in hand at once. Cut around the roots with a sharp spade or asparagus knife a day or so before lifting, giving them a good soaking of water immediately afterwards. This should prevent flagging. Lift the plants carefully, and transfer bodily into suitable sized pots without damaging the ball, and if placed in a house and kept fairly close and syringed for a few days, they will soon recover from the check received. Care must, of course, be taken to prevent their suffering from dryness at the roots. As soon as they are nicely rooted a little less overhead moisture will suffice, also during the day a little air may be given; but as the nights become cooler aim at giving a night temperature ranging from 55 to 60 degrees, which will start them nicely into fresh growth.

GLOXINIAS.—All of these will by now be out of bloom, and many of the earlier batches will be quite dried off by now. These should be stored away in a shed or house that is not likely to become too cold during the winter months, the late plants being placed in a frame where they may be gradually dried off. Caladiums also are gradually losing their foliage, and if extra room is required for other plants they may be put quite close together in one portion of the stove, or may be transferred to a slightly cooler house or pit, but I find they start better in the spring if dried off and kept during the winter in quite a warm structure.

POINSETTIAS.—As the nights are now becoming cooler, the batches of these that may have been growing in frames or pits should if possible be removed to a warmer structure, a good light house being the best for them after this date; apart from the cold nights, they are apt to become drawn very quickly in pits as the days get shorter. After transferring to the houses it will be found they will dry up much quicker, so keep a sharp eye on them for a few days, and give them a light spray over with the syringe both morning and afternoon if the weather keeps bright. No shading should be necessary from now if air is judiciously applied.—T. Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

ORCHARD HOUSE TREES.—In a recent calendar reference was made to the potting of early forced peach and fig trees, and at an early date it will, in many cases, be necessary to attend in a like manner to pot trees of other kinds of fruits, such as apples, pears, apricots, and plums. The latter particularly are very free-rooting subjects, requiring usually to be annually repotted, and the compost recently recommended for peaches answers also well for them as well as for apricots, but apples and pears do not require so much lime rubble. In repotting fully-established trees, after turning them out of the pots and removing the crocks, sufficiently reduce the ball of soil by the help of a pointed stick to admit of their being returned to pots of the same size and have a liberal quantity of new soil, which should be made quite firm by a rammer. In the case of young trees that need larger pots, use those which are one size larger than those they have occupied, and in all cases see that the pots are clean and well drained, and use moderately dry compost. Subsequently treat the trees as was advised for peaches. Trees that are not repotted should have their surface soil removed, and when doing this work down a few inches by the sides of the pots, and replace the soil removed by fresh compost.

LATE PEACH HOUSE.—With a view to afford next year's bearing wood all the possible benefit from the sun and air, relieve the trees as soon as their fruit is gathered of all useless wood, which will chiefly consist of that which has carried this year's crop of fruit. Provided the young wood is becoming satisfactorily matured, leave the ventilators of the house fully opened, both by night and day, otherwise keep the atmosphere of the house warm and tolerably dry for the necessary length of time. Give both inside and outside borders, if they require it, enough water to moisten them through, and should the trees indicate, by the weak state of their wood and leaves, that they have not been adequately nourished, there is yet time in which to render them some assistance by making careful use of diluted liquid manures. Keep the leaves clean, and free from red-spider by daily syringing them with water.

LIFTING OF PEACH AND NECTARINE TREES.—Trees in an unsatisfactory condition owing to making gross growths should, as soon as their leaves commence to fall, have their roots attended to. This should be done by taking out a trench in the border at the furthest point from the stems, and carefully uncovering the roots by removing the soil up to near their starting point. This done, carefully coil the roots back, and protect them with damp mats, rectify defects in the drainage, and firmly fill in the open space with fresh compost. As the filling proceeds, shorten any roots that require it, remove damaged portions and suckers by a clean cut, and relay the roots in layers through the upper part of the border, keeping some of the smallest of them quite near the surface. Complete the operation by mulching the border with partially decayed stable litter, and by giving it enough water to moisten it through. A suitable compost consists of good loam, mixed in agreement with its texture with more or less broken mortar rubble, wood ashes, and soot. Bonemeal, or some suitable artificial manure might be added, but we prefer to use stimulants of this nature as top-dressings, or in a liquid form at intervals during the year. Trees treated as advised will be benefited by being protected from bright sunshine and draughts, and by being daily sprayed overhead for a few weeks. — T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

CAULIFLOWERS.—To obtain a good crop both in quantity and quality during the latter part of the spring and early in summer of next year, a sowing must be made now, and a second one about the 20th of the present month. The first sowing can be made on any open ground that has been well worked for the previous crop. Commence by well dressing the ground with burnt garden refuse, then, if it is fairly dry on the surface, well work it with a fork, and tread it, making it quite firm. Rake over and sow the seed broadcast. The following varieties are all suitable: Early London, Magnum Bonum, and Walcheren. The later sowing should be made in a frame, and the seed bed should be three inches in depth and rest on a hard ash bottom. Sow the seeds evenly and thinly, and only place the lights on the frame when rains are heavy, or frosts occur. Always aim at a slow, strong growth. The plants from the early sowing should be pricked out into cold frames. Freely expose the plants except in wet and frosty weather to ensure a hard, stocky growth. With an occasional dusting of soot, and decayed leaves picked off, nothing further will be required of them till January, when a few strongest of the earlier kinds should be brought forward both in pots and in warm frames planted out for a quick return.

CABBAGE.—The plants of this useful vegetable intended for the main spring supply, should be planted forthwith. The best results are obtained here on ground which has borne the onion crop. Providing the soil is friable, all that is necessary is to well hoe the plot and apply a good dressing of wood ashes or burnt garden refuse, with some soot. The distances at which the plants should be apart will vary from fifteen inches to two feet each, according to the variety. If slugs are troublesome place a ring of fine cinder ashes around each plant. This will save much needless work and worry if attended to at an early period. If dry overhead well water the plants at the time of planting. For the earliest supply nothing appears to supersede a good strain of Ellam's Early and Sutton's April, of which a portion of each should be planted twelve inches apart on a warm south border.

MUSHROOMS.—Beds should now be made regularly in the mushroom house, according to the supply of fermenting material, which must be collected over as short a period as possible to gain the best results. After the fermentation of the material is complete and just on the decline, make up the beds firmly and evenly, not less than fifteen inches deep. Insert the spawn in pieces of two inches square and nine or ten inches apart. When the temperature of the bed is about 78 degrees, and there is no further risk of the bed rising in temperature, cover with soil.

POTATOES.—The main crop varieties are yielding heavy supplies of tubers, but the wet weather has resulted in a serious attack of the fungus causing disease, particularly on heavy retentive soils. No better course can be taken than to cut off the haulm and burn up every affected part, whether top or tuber. Lift the crops as early as possible in favourable weather, exposing them for a few hours to well dry off before storing. Potatoes that are in the least diseased should be destroyed. If enormous quantities have to be stored, clamps will be found the most satisfactory. Shed room that is available may be utilised for storage. In either case plenty of air must be provided, excepting in frosty weather. A sprinkling of slaked lime thrown amongst the potatoes as the storing proceeds will help to ward off disease. Seed potatoes should be separated from the ware, and have sufficient exposure to green up and ripen before storing them. They should be stored where they will not be subjected to a very dry atmosphere.—George Ellwood, Swanmore Park Gardens.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

(Continued from page 702.)

for twelve vases of carnations; Mr. T. M. Whitehead, Selkirk, being second.

VEGETABLES.

There was a big display of vegetables, and the collections of eighteen varieties contained some exceptionally fine produce, the first prize collection, staged by Mr. J. Gibson, Welbeck, being really wonderful. The Ailsa Craig onions, the New Red Intermediate carrot, Sutton's Autumn Mammoth cauliflower, and the leeks, celery, parsnips, peas, potatoes, tomatoes, cucumbers, and beet were all models of perfection. Second prize was secured by Mr. J. E. Davis, gardener to Col. E. R. Stewart Richardson, Ballathie, Stanley. Another collection of twelve dishes was provided for Scottish-grown produce only, and here Mr. William Galloway, gardener to the Earl of Wemyss, Gosford, proved that Scottish soil, in the hands of a good cultivator, can produce vegetables of really first-rate quality. Every dish was fine, and the staging was well done. Mr. F. M. Urquhart, gardener to H. Mungall, Esq., Melrose, was a good second, his cauliflowers being just a trifle coarse, third prize going to Mr. W. P. Bell, gardener to the Earl of Home, K.T., Bothwell Castle.

PENTSTEMONS AND PHLOXES AT EDINBURGH.
Part of the fine exhibit staged by Messrs. John Forbes, Lim., Hawick.

TRADE DISPLAYS.

Trade exhibits occupied more space than ever. They were of varied character, and constituted a great feature of the show. A large and very fine exhibit of hardy flowers, carnations, and aquatics was well arranged by Messrs. W. Cutbush and Son, Highgate Nurseries, N. Among the perennials were several fine kniphofias, phloxes, and pentstemons, while the nymphæas, spiræas, and other bog plants were shown in a very natural manner. The carnations made a grand exhibit in themselves. A beautiful group of orchids came from Messrs. Stuart Low and Co., Bush Hill Park, Middlesex, who also staged the new Nephrolepis Smithi, and some choice carnations.

Messrs. Sutton and Sons, Reading, had a most attractive stand of vegetables and flowers, which was built up in quite an original manner. On a circular stand, with a base 20 feet in diameter, the potatoes, onions, and other vegetables were arranged between groups of choice asters, and a tall silver epergne filled with melons made a good centrepiece. The whole stand was surrounded with arches effectively decorated with asters of high quality. Messrs. Dobbie and Co., Edinburgh, were large exhibitors, one big stand being occupied by fuchsias, sweet peas, violas, and other cut flowers, and another was occupied by pompon cactus dahlias in pots, early chrysanthemums, and a set of the new miniature single dahlias.

Messrs. Cunningham, Fraser, and Co., Comely Bank Nurseries, Edinburgh, had an extensive and interesting exhibit of choice herbaceous flowers, which included many somewhat rare things, such as Artemesia lactiflora, Senecio tanguticus, Aconitum napellus albus, etc. Phloxes were also well shown by this firm. Mr. John Proctor, Portobello, arranged a group of early chrysanthemums and foliage plants, and Mr. C. Engelmann, Saffron Walden, had a fine lot of perpetual carnations, representative of the newest and most useful varieties. Messrs. J. Cocker and Sons, Aberdeen, were exhibitors of herbaceous flowers, including several liliums, spiræas, and verbascums. Messrs. Tillie, Whyte, and Co., Edinburgh, put up a big exhibit of vegetables.

A grand collection of phloxes and pentstemons came from Messrs. John Forbes, Lim., Hawick. The varieties included the best in cultivation, and the quality of the flowers was all that could be wished. Carnations and violas were also shown. Messrs. Young and Co., Hatherley, Cheltenham, brought perpetual carnations, which they put up in artistic style. A bold exhibit of dahlias came from Messrs. G. Fairbairn and Sons, Carlisle, capital blooms being shown both on boards and in tall stands. Messrs. R. B. Laird and Sons, South Frederick Street, Edinburgh, built up some tall displays of Hydrangea paniculata, liliums, and foliage plants, with Humea elegans worked in with taste. Messrs. John Downie, Edinburgh, put up a well-arranged group of greenhouse plants, mainly of ornamental foliage, but also including choice begonias and liliums. A big group, arranged by Messrs. Thomas Methven and Sons, Edinburgh, was chiefly composed of liliums and choice foliage plants. Mr. A. Thomson, Dean Gardens, Edinburgh, showed single chrysanthemums in considerable variety.

A charming exhibit of phloxes and pentstemons were staged by Mr. D. McOmish, Crieff. An exhibit of cut begonias, both double and single, was brought up from Kent by Mr. A. Ll. Gwillim, Cambria Nursery, New Eltham. Mr. L. R. Russell, Richmond, showed a remarkable collection of choice ivies, and some good clematis. Three big tables of fruit trees in pots were the main feature of Messrs. Storrie and Storrie's exhibit, who also had their cockscombs, Excelsior Iceland poppies, and other flowers. Messrs. W. Wells and Co., Lim., Merstham, Surrey, showed some excellent chrysanthemums and capital phloxes, the arrangement of the stand being very tasteful.

One of the nicest exhibits of sweet peas we have seen this season was artistically staged by Mr. Robert Bolton, Carnforth. The quality of the flowers was first-rate, and the varieties were of the best. Messrs. Webb and Brand, Saffron Walden, were exhibitors of choice hollyhocks, Salmon Queen, Exultum, and Walden Primrose being among the best. Messrs. A. Young and Co., Elgin, had sweet peas arranged in stacks of tubes and glass vases, some good varieties being included in the collection. The phloxes shown by Messers. Gunn and Sons, Olton, Warwickshire, were a capital lot of handsome trusses, put up in a very pleasing manner. Lady Peel, Le Mahdi, Fairy, and Ellen Willmott were conspicuous among a host of the best sorts in commerce.

King's Acre Nurseries, Lim., Hereford, showed a magnificent collection of fruit trees in pots, the apples being of great size and good colour, while the plums carried very heavy crops. Another fine exhibit of fruit came from Messrs. G. Bunyard and Co., Lim., Maidstone; apples and pears of superb quality were staged to the number of sixty dishes, and a fine sample of Monarch plum was on view. The table was backed with pot vines, peaches, plums, etc., one splendid vine of Appley Towers carrying seven big bunches. Particularly choice varieties of ferns were nicely arranged by Mr. H. N. Ellison, West Bromwich, davallias, gymnogrammas, and nephrolepis being well represented. Much interest centred round the begonias extensively shown by Messrs. T. S. Ware, Lim., Feltham, Middlesex. Enormous doubles and some exceedingly good singles were shown in pots among a bed of maidenhair ferns, the very chaste variety Lady Cromer being prominently staged in the centre of the group.

Messrs. E. Webb and Sons, Wordsley, Stourbridge, made a big display of melons and vegetables of their usual high quality. The stand was lavishly decorated with sweet peas and other flowers, the effect being very striking. Probably as fine a lot of the newer montbretias as has yet been staged anywhere was put up by Messrs. R. Wallace and Co., Colchester. Prometheus, King Edmund, Hereward, and all the varieties of note were shown in big masses. Choice gladioli and liliums also came from this firm. An exhibit of much interest came from Messrs. W. Thomson and Sons, Lim., Clovenfords, Galashiels. Some very fine bunches of grapes of the variety Duke of Buccleuch were shown in baskets, the berries and colour being very fine. This is by no means a commonly-grown grape, although of excellent appearance and flavour. The vines from which the bunches shown were cut are close on forty years of age. Cooper's Black was another remarkably good sample, and the handsome appearance of this large-berried grape should appeal strongly to growers.

The Royal Horticultural Society sent up from Wisley an extensive collection of grapes, which had all been grown in one house. About thirty varieties were shown, including many rarely seen, such as Ascot Citronelle, Diamant Traube, Black Monukka, and White Tokay. Messrs. M. Campbell and Son, High Blantyre, were exhibitors of dahlias and carnations. The cactus dahlias were put up on tall stands, and some big doubles were shown on boards. The carnations included some of the best of the borders, both selfs and fancies. Dr. McWatt, Morelands, Duns, the enthusiastic amateur, brought a beautiful exhibit of extra choice primulas, including large-flowered P. obconica, and such things as P. Forbesi, P. Kewensis, and P. malacoides. Delphiniums and other border flowers of the choicest quality were also staged by the Doctor. Mr. Michael Cuthbertson, Rothesay, put up some lovely montbretias, which he arranged in pyramidal form on a round table. All the best and newest varieties appeared to be included in this collection. A nicely arranged group of roses was put up by Mr. R. Ferguson, Brucefield, Dunfermline.

Tritonia Prince of Orange.—This is a new variety of Tritonia crocata, and a delightful little bulb for the greenhouse. It grows to a height of a foot or more, and bears branching racemes of comparatively large flowers of a rich glowing orange-scarlet colour. The beauty of this tritonia reminds one that we do not sufficiently recognise the merit of this and some of its allies, such as the babianas, ixias, and sparaxis.

Clematis flammula rosea purpurea.—This is a very distinct and uncommon variety of the old and well-known Clematis flammula, from which it differs in the petals being deeply edged with rosy purple. In freedom of flowering, and in other particulars, it is the equal of the type, while its distinct colour at once arrests attention. It is also sometimes met with under the varietal name of rubro-marginata.—W. T.

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EXHIBITIONS AND MEETINGS.

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Carlisle.

In what is undoubtedly one of the finest market halls in the kingdom, and an ideal place for a flower show at this season of the year, the Carlisle Horticultural Society held their third annual exhibition on August 31 and September 1. Once more we heard many complaints about the weather that has played havoc with garden products, and caused the absence of a good many entries, but, notwithstanding, the show was a good one in every sense of the word.

CUT FLOWERS.

There was but one entry in the class for thirty-six roses, this coming from Mr. Hugh Dickson, Royal Nurseries, Belfast. This was a good stand, some of the best blooms being Mdme. Joseph Combet, Hugh Dickson, Mdme. Journaville, and Mrs. Stewart Clark. In a class for twelve blooms, for which Messrs. E. A. White, Lim., Paddock Wood, provided a special prize, there were nine entries, some really good blooms being staged. The place of honour was given to Mr. Thos. Pride, School House, Canonbie, who put up Chas. J. Grahame, Mons. Jos. Hill, Farbenkonigin, Frau Karl Druschki, Horace Vernet, Pharisaer, Victor Hugo, Mrs. John Laing, Countess Annesley, Lady Ashtown, and Countess of Scoby, a nice even lot of first-rate varieties. Mr. G. Brown, 2, Pategill Villas, Penrith, came in second, the third prize going to Mr. J. W. Carruthers, The Gardens, Stanwix House, Stanwix.

Some grand border carnations were shown, and in the first prize exhibit of a dozen vases put up by Messrs. M. Campbell and Son, High Blantyre, Leading Lady, Liberté, Dr. Crawford, and Sovereign were particularly pleasing. Mr. W. Sanders, Garbridge, Appleby, came a good second, his vase of Cecilia being about as good as could be wished. Mr. Geo. Bowness, Riverside Nursery, Busby, N.B., was first for a dozen vases of early chrysanthemums, showing some fine flowers. The same exhibitor secured the first prize for twenty-four cactus dahlias, beating Messrs. Campbell and Sons; a silver cup went with this award. In the amateur's class for twelve cactus dahlias six good stands were staged, the first prize winner being Mr. Alex. Welsh, Hollandbushby, Bankwell; Mr. Peter Skellon, 19, Monty Street, Eagleshan; and Mr. T. W. James, Morville, Carlisle, were awarded the second and third prizes. In another twelve-bloom class, for which prizes were offered by Messrs. Muncaster Bros., Carlisle, eight stands competed, Mr. Peter Skellon leading, followed by Mr. Edwd. Keith, Wallington, Cambo, Morpeth, and Mr. T. Clark, Stanwix. Six vases pompons made a nice class, the highest award going once more to Mr. Peter Skellon; Mr. Wm. Orr took second; Mr. T. Clark third.

Sweet peas were shown in considerable numbers, and it was surprising to see the creditable manner in which they were staged after the unkind weather experienced in the district. Mr. Robert Bolton offered prizes for twelve vases, and the winner was Mr. John Fletcher, Auchenheath, Lanarkshire, who had Mrs. Chas. Foster, Purity, Queen of Norway, and Tom Bolton among other favourites. Mr. Edwd. Keith, Morpeth, received second, showing Nancy Perkins, John Ingman, Elsie Herbert, etc.; third went to Mr. A. Appleton, Farlan Hall, Brampton Junction. Messrs. Robert Sydenham, Lim., Birmingham, provided a challenge vase and cash prizes for twelve distinct varieties, the entries filling a great length of tabling. Mr. Jos. Graham, Rosemont, Morville, Carlisle, scored with a beautiful exhibit, Clara Curtis, America Spencer, Helen Pierce, and Mrs. C. Foster being among the dozen. Mr. Edward Keith came close behind, using pretty well the same assortment; third place was allotted Mr. Jas. Hay, The Gardens, Houghton Hall, Carlisle; and fourth went to Mr. J. Robertson, Knells, Carlisle. A good show was made of nine vases, in which the winners were Mr. J. Fletcher, Mr. Edwd. Keith, and Mr. J. Robertson, in this order. Single vases of sweet peas had eight or nine classes devoted to them, and entries were numerous, the exhibitors already named in the larger classes obtained most of the prizes. Again, in the amateur classes for six varieties we were pleased to see a fine lot of flowers, the allotment holders also putting up very creditable exhibits.

The contributors to the class for twelve kinds of hardy perennials made an effective display, some good flowers being staged. Mr. Jas. Hay, Carlisle, came out top with a nice stand, including montbretia, helenium, eryngium, etc. Mr. J. Robertson, Knells, Carlisle, was a good second; and Mr. T. Fixter, Brackenburgh Tower, Colthwaite, third. Mr. Jos. Turner, New Rent, Hutton-in-the Forest, was awarded first for six phloxes, and in the allotment holders' section Mr. A. Urwin, Corbridge-on-Tyne, scored for twelve phloxes among five good entries. Gladioli, dahlias, enormous African marigolds, pentstemons, etc., were shown by the allotment holders in a most creditable manner.

TABLE DECORATIONS.

Nine beautiful table decorations gave the judges some amount of work in selecting the winners, the premier award going to Mr. Adam Knight, Brayton, who used francoas, Spiræa Peach Blossom, and Burnett carnations, with suitable foliage. Messrs. M. Campbell and Sons, High Blantyre, were given second for an arrangement in which yellow-ground picotees predominated; Mr. A. Hodgson, Reservoir Gardens, Carlisle, was third, sweet peas and Asparagus plumosus being his material.

FRUIT.

Some excellent fruit was exhibited, the black grapes being worthy of special mention. Mr. Wm. Scott, Edenhall, Penrith, won for two bunches black with Madresfield Court; Mr. Edwd. Keith took second with weighty bunches of Alicante; Mr. Jas. Hay following with the same variety. Mr. H. Smith, Castlerigg Manor, Keswick, had the best bunch of Black Hamburgh, Mr. A. Appleton, Farlam Hall, Brampton Junction, being the second, and Mr. J. Robertson, Knells, Carlisle, third. Mr. T. Fixter scored for whites, his followers being Mr. Jas. Hay and Mr. A. Appleton. The winner for six dishes of fruit was Mr. Edwd. Keith; and for six dishes of cooking apples Mr. J. Millican, Scotby Lane, Carlisle, scored with some fine fruit. Single dishes were shown in large numbers, and the quality spoke well for the skill of the Cumberland growers.

VEGETABLES.

These made a big display in themselves, many of the exhibits in both open and local classes coming well up to the average of our best shows. A silver cup and cash prizes were offered for a collection of twelve kinds, the champion exhibitor, Mr. E. Beckett, Aldenham House Gardens, Elstree, leading here with an exhibit of high quality. Needless to say, the onions, celery, peas, and other vegetables in this collection were staged in a most attractive manner. Mr. Thos. Anderson, 9, Hairlings Place, Darvel, Ayrshire, took second, and Mr. Chas. Rowland, Mickleton, Gloucestershire, third. In Messrs. Sutton and Sons' special class, Mr. E. Beckett again surpassed all comers, showing Satisfaction tomato, Windsor Castle potato, A1 celery, etc., in a splendid style. Mr. Jonathan Smith, Herbert Street, Carlisle, took the lead in Messrs. Little and Ballantyne's class, and Mr. J. Lacy, Upperby, secured the cup offered by Messrs. Geo. Fairbairn and Sons, Carlisle, for six varieties. Mr. E. Beckett's twelve onions, which took first prize, were big shapely bulbs of Sutton's selected Ailsa Craig. The single dishes of carrots, parsnips, peas, and other vegetables filled several long tables, and the local allotment holders gathered round in numbers, closely examining and comparing exhibits with keen interest.

NON-COMPETITIVE.

The trade have once more demonstrated that they are pleased to support a well-organised flower show, wherever it may be held, and here were numerous non-competitive exhibits which would have made a good exhibition in themselves. Mr. Hugh Dickson brought over from Belfast a fine lot of decorative and exhibition roses, which included a large number of the best varieties in commerce.

Messrs. Sutton and Sons, Reading, had a specially good exhibit, staged in the form of an oblong group, but with circular ends, and towering up to a good height in the centre. On the straight side stages were arranged capital vegetables, and the circular ends were built up with beautiful gloxinias, stocks, asters, and begonias; liliums and palms, finished off the centre.

Messrs. George Fairbairn and Sons, English Street, Carlisle, were very large exhibitors, having several stands devoted to separate subjects. On a beautifully arranged table of perpetual carnations we noticed a new variety named Unique, which Messrs. Fairbairn are introducing. It is a well-built flower of similar shade to Mikado, but with a splash of red. It has a fimbriated edge, but the petals stand out well. Some massive and cleverly constructed floral designs occupied another stand. Sweet peas filled a third table, the flowers being good, and arrangement excellent. Still another table was monopolised by the firm for a display of begonias, and an equally interesting show of dahlias completed a series of highly commendable exhibits.

Messrs. E. F. Fairbairn and Sons, Edenside Nurseries, Carlisle, put up a big bank of phloxes, such varieties as Coquelicot, Iris, General Von Heutz, and other of the newer sorts, being represented. Sir Benjaman Scott, Carlisle, sent an interesting exhibit of orchids, Vanda cærulea, odontoglossums, and choice cypripediums being features. A miscellaneous table of flowering and foliage plants came from Messrs. Clark Bros. and Co., Carlisle, palms, crotons, and other ornamental foliage plants predominating. Messrs. John Forbes, Lim., Hawick, N.B., brought a bold display of phloxes, and a nice collection of pentstemons. In the front of the stage were good carnations and beautifully coloured antirrhinums.

Messrs. J. Stormonth and Son, Kirkbride, Carlisle, arranged a small bog garden with spiræas, senecios, bamboos, etc., in the background, and a number of choice alpine and kindred plants in front. A bed of phloxes and an improvised rockery on the staging were other exhibits from the Kirkbride Nursery. A big exhibit of vegetables, some fruit trees in pots, and roses.

Sweet peas, etc., were staged by Messrs. Little and Ballantyne, Carlisle, but their most valuable contribution was an exceedingly attractive group of ornamental shrubs and climbing plants arranged in an open space near the centre of the hall. Beautifully coloured vitis of various species, choice ivies, euonymus, and small conifers were grouped in the form of small beds, with ample space between to admit of close inspection.

On a stand of miscellaneous subjects, exhibited by Messrs. Herd Bros., Penrith, a few of the more noteworthy subjects were zonal pelargoniums, double begonias, early chrysanthemums, and a nice group of Nephrolepis Amerpohli. At the back of the stand were fuchsias, Campanula pyramidalis, some cut perennials, and a few choice foliage plants, the whole making an attractive display.

A very instructive exhibit was brought by Mr. W. B. Little, Horticultural Instructor to Armstrong College, from the Cumberland County Council's experimental fruit farms. Apples were shown, and the varieties specially recommended for northern districts were marked. These included such well-known sorts as Worcester Pearmain, Bramley's Seedling, Bismarck, Newton Wonder, and others. Examples of fruit bottling were included in the exhibit, and there were samples of basic slag, kainit, and other chemicals, as well as illustrations of insect and fungoid pests. Such an exhibit was of great educational value, and we should like to see the like at many another show.

The following awards for non-competitive exhibits were made: Large gold medal—Messrs. Sutton and Sons, Reading, and Messrs. George Fairbairn and Sons, English Street, for their exhibit as a whole. Gold medal—Mr. John Forbes, Lim., Hawick, for pentstemons; Mr. John Millican, Scotby, for apples; and Messrs. E. F. Fairbairn and Sons, Edentown, for phloxes. Silver-gilt medal—Messrs. Little and Ballantyne, Carlisle, for exhibits of shrubs, vegetables, and cut flowers as a whole. Silver medal—Messrs. Herd Bros., Penrith, for miscellaneous plants; Messrs. John Stormonth and Son, Kirkbride, for bog garden; Messrs. Clark Bros. and Co., Carlisle, for flowering and fine-foliage plants; Sir Benjamin Scott, and Mr. Alex. McLauchlan, Stranraer, for greenhouse suitable for amateurs. Highly commended—the Chadwick Memorial School.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, AUGUST 16.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Messrs. J. Fraser, G. Gordon, J. Douglas, A. Rolfe, and F. J. Chittenden (hon. secretary).

DIMOROUS IRIS. — Mr. W. Fawcett, B.A., F.L.S., sent a flower of Iris xiphium having all its parts in twos instead of threes. This type of variation from the normal in iris is fairly common, but is often confined to one or two whorls instead of all four. The stem also bore a bud, but in that the parts were in threes as usual.

SPORTING IN CARNATIONS.—Mr. J. Douglas, V.M.H., called attention to the variation in colour met with in carnation Rhoda, which, when it was first sent out, was marked with lavender and red on a white ground. It had this year sported in two or three places to a lavender-ground flower. He remarked upon the frequency with which sudden colour sports appeared in more than one locality in the same plant at the same time. Several other instances were remarked upon by other members of the committee.

SALICES. — Mr. J. Fraser showed specimens of Salix alba (the Bat Willow), and called attention to the form of the serrations of the leaves; though the latter vary in size, the serrations are always of similar form. He showed also S. fragilis britannica, which has irregular serrations to the leaves, and the hybrid S. viridis, in which the foliage is intermediate between the other two. In the hybrid the leaves are dark-green above, and whiter than those of fragilis beneath, the serrations are intermediate in form, and more regular than in fragilis.

SPOTTING IN CALANTHE FOLIAGE.—Plants of calanthe vars. were shown badly attacked by this disease. So far as has yet been definitely ascertained, the spotting is not caused by a fungus or other organism, and appears not to be infectious. It appears rather to be due to some cultural defect, especially probably to spraying with cold water, possibly with a falling temperature.

AUGUST 30.

Present. Mr. E. A. Bowles (in the chair), with Messrs. A. W. Hill, J. Fraser, J. W. Odell, Wm. Hales, G. Gordon, W. Fawcett, A. Worsley, and A. W. Sutton.

GARDEN WARBLERS ATTACKING PLUMS.—Mr. Worsley said that garden warblers were this year attacking the ripening plums on the trees, contrary to their usual habit. Mr. Gordon suggested that this may be due to lack of insects—their usual food—this season, and instanced an experiment with hawks whose tastes he had trained to prefer fruit as a food.

ABERRANT BRANCHING IN MENTHA.—Mr. Fraser showed a plant of Mentha gentilis variegata bearing one pair of leaves united by their petioles and half the edges of the lamina. The axillary branches were also lateral, following the leaves. The main axis was at right angles to its base, flattened above and convex beneath like a petiole. Then it bore one leaf with an axillary shoot, and then the axis resumed its upright position with opposite, decussate leaves. Three nodes below also had a single or twin-leaf on one side, and one lateral branch behaved in the same way.

PETALOID CALYX IN ROSE.—A specimen of Rose Eugenie Lamesch was also submitted by Mr. Fraser, to show phylloid sepals and median proliferation of the flower. The axis in the centre of the flower was prolonged, bearing another flower-bud.

ONCIDIODA × CHARLESWORTHI.—The first cross of an oncidium with cochlioda (O. incurvum × C. Noezliana) was shown by Messrs. Charlesworth, of Haywards Heath. The specimen submitted was one of several of the same raising, all of which showed the same characteristics and colouring. A Certificate of Appreciation to Messrs. Charlesworth was recommended.

RHODODENDRON PONTICUM. — Mr. Bowles showed a terminal bud of Rhododendron ponticum, the leaves having petaloid colouration.

ADVENTITIOUS ROOT TO PLANE TREE.—Mr. Wilks sent an adventitious root of a plane tree which he had found penetrating a straw stake-band six feet from the ground. It was thought that the moisture which had been held by the band had induced the formation of the root.

GRAPES.—A sample of Muscat grapes was submitted from Colonel Turnor, of Pinkney Park, which showed cracking and decay at the point of union of berry and stalk, and the leaves were badly spotted. It was agreed that the defects were due to too low a temperature in the house, with insufficient ventilation.

DECAYED MONTBRETIA FOLIAGE.—Some montbretias, irises, and gladioli having decaying foliage were sent by Mr. Edward Hall, of Leamington Spa. The bulbs and corms were apparently in good health, without traces of disease. Many similar specimens had been lately received, but up to the present no explanation of the trouble was forthcoming.

Chester, AUGUST 31.

The floral section of the Cheshire Agricultural Society fully maintained its position as regards quality, and was freely patronised, the tents being crowded throughout the afternoon.

Groups were well staged, and the four set up were of more than average merit, Mr. W. H. Shaw, gardener to A. Ashworth, Esq., Gresford, securing the leading award with highly-coloured crotons, caladiums, good palms, and small ixoras, etc.; Mr. E. Stubbs, gardener to Major MacGillycuddy, Bache Hall, and Mr. John R. Samuel, Shotwick, were placed as named. For six stove or greenhouse plants, not less than three in bloom, Mr. A. Ellams, gardener to Alfred Tyrer, Esq., Plas Newton, led with medium-sized fresh plants, and the remaining prizes went to Mr. J. R. Samuel and Mr. W. Reeves, gardener to E. P. Jones, Esq., Chester. For four ferns the prizemen were Mr. J. R. Samuel, Mr. E. Palin, gardener to Mrs. Butt; and Mr. J. Williams, gardener to A. E. Hall, Esq., Chester. For four geraniums the prizes went to Messrs. A. Ellams, E. Palin, and W. Reeves; while for a single specimen plant Mr. C. H. Creasey won with a small dipladenia, Messrs. J. A. Samuel and A. Ellams being second and third.

Cut flowers were bright and fresh throughout. For twelve cactus dahlias, Mr. H. Coatcup led with beautiful blooms of William Marshall, Killarney, etc.; Mr. E. Jones, gardener to G. F. H. Robertson, Esq., Gresford, had the best six, and Mr. J. Brien won for asters. Mr. G. Aitkens, gardener to P. S. Yorke, Esq., Erddig Park, had the best annuals. For twelve bunches of herbaceous cut flowers Mr. F. England, gardener to Countess

Grosvenor, led with a fine lot. Mr. E. Jones had the best twelve vases of sweet peas, but these were not named. Mr. G. Faulkner, Rowton, had a fine six bunches, including Sunproof Crimson, Asta Ohn, St. George, and Evelyn Hemus. For twelve roses, Mr. G. Rolt, Christleton, won with a bright box, in which Frau Karl Druschki, Killarney, and Hugh Dickson were noteworthy. Mr. E. Jones had the leading gladiolus.

Fruit was of fair quality throughout. For nine dishes, Mr. H. Bateman, gardener to Egerton Leigh, Esq., Holmes' Chapel, was the only competitor, staging Black Hamburgh and Muscat of Alexandria grapes, Sea Eagle, and Bellegarde peaches, Pineapple nectarine, Royal Sovereign melon, etc. For two bunches of black grapes, Mr. W. Pilgrim, gardener to Sir George Meyrick, Bart., Bodagan, won with highly-coloured Madresfield Court. For two bunches of white grapes Mr. J. Clack, gardener to J. G. Frost, Esq., Chester, led with well-coloured Muscat of Alexandria. The best six peaches came from Mr. A. Crisp, gardener to Mrs. M. Clover, and six nectarines. Mr. E. Jones scored for nectarines with well-coloured fruits of Pineapple.

In the class for a collection of hardy fruits Mr. G. Aitkens staged good figs, apples, pears, etc.

Vegetables, as usual, were good, and the entries numerous. There were four classes for collections of six kinds, and the first prizes went to Mr. E. Stubbs, Mr. J. Edwards, Mr. J. Tomlinson, and Mr. R. Walker.

The following staged cut flowers, not for competition: Messrs. Dicksons, Caldwell and Sons; Dickson and Robinson, and Clibrans, fruits and vegetables.

National Chrysanthemum Society.

There was a largely attended meeting of the Floral Committee of this society at Essex Hall on Monday, September 5, and Mr. D. B. Crane was elected chairman of the committee for the tenth successive year. Sir Albert Rollit, who was present, urged that the society should take advantage of the opening of the newly-erected British section of the Brussels Exhibition (re-constituted since the great fire) on September 15, to make an imposing display of chrysanthemums. The difficulties of doing justice to the occasion at such short notice, and at such an early date were discussed, but ways and means were duly considered, and Sir Albert promised that the Royal Commission appointed from the Board of Trade would meet expenses up to £120. Sir Albert Rollit, together with Mr. T. Bevan, Mr. D. B. Crane, and Mr. D. Ingamells, were appointed a sub-committee to deal with the matter, secure the necessary plants and flowers, and their transportation to Brussels; and Messrs. Bevan and Ingamells agreed to go to the exhibition and arrange the plants and flowers—chrysanthemums of British growth — in the newly-arranged British section, ready for the reopening. It was agreed that the N.C.S. should not, as a society, be called upon to pay any of the expenses.

Messrs. Crane, Curtis, Hawes, and Ingamells were appointed to judge the non-competitive displays at the forthcoming exhibitions. Arrangements were made for the inspection of the trials of chrysanthemums at Merstham on Saturday, September 10, and Mr. Wells promised to entertain those who visited his establishment for that purpose.

Messrs. W. Wells and Co., Merstham, showed a dozen and a-half bunches of handsome flowers of early chrysanthemums, the pick of the varieties being Touraine, Orion, Francis, Miss Balfour Melville, Normandie, Mignon, and the vivid yellow Leslie. Mr. J. H. Witty, Swain's Lane, Highgate, N., showed about thirty vases of early varieties, representing several sections. Some of the best varieties shown were Horace Martin, Mdme. Lefort, Flora, Mons. G. Grunerwald, Roi des Belges, Nina Blick, Ralph Curtis, and Polly.

AWARDS TO NEW CHRYSANTHEMUMS.

Francis. — A useful early variety with shapely and elegant flowers borne on stiff stems of moderate length. The colour is soft bronze with short golden tips to the florets and golden reverse. A good decorative variety. Commendation, N.C.S., September 5; Messrs. W. Wells and Co., Merstham.

Orion.—A bright and attractive early decorative variety, and fine for the border. It has shapely flowers of a very brilliant golden hue with a light suffusion of chestnut at the bases of the central florets. Commendation, N.C.S., September 5; Messrs. W. Wells and Co., Merstham.

Touraine. — This is a large-flowered rich blush pink variety that makes an excellent bush plant for early flowering in the garden. The blooms are substantial, the broad florets curving in very slightly at the tips. Commendation, N.C.S., September 5; Messrs. W. Wells and Co., Merstham.

Miss Balfour Melville. — A showy, early flowered variety of large size, and with a very full centre. The colour is bright rosy bronze, and the blooms are carried in goodly sprays. F.C.C., N.C.S., September 5; Messrs. W. Wells and Co., Merstham.

Bristol Gardeners' Association.

A well-attended meeting of this association was held at St. John's Parish Rooms, presided over by Mr. Hayball. A paper upon "Melons," which was full of useful hints, was read by Mr. Wilkinson, gardener to Colonel G. A. Gibbs, M.P. The lecturer said, to be successful in growing melons, the cultivator must have command of plenty of heat, and a night temperature of from 65 deg. to 70 deg. must be maintained. A good stiff loam was the best soil for melons, and it should be made up in a ridge the length of the house or pit, and this ridge should be 10in. in depth and 14in. in width. The plants should be set out 20in. apart, and grown as cordons; in other words, with a single stem. Two fruits should be allowed to each plant, and if the right treatment was given, the fruit would weigh up to 9¼lb. each. The lecturer advised opening the ventilators early in the morning, thus freeing the house from stagnant moisture, which was detrimental to the young fruit. To be appreciated, the fruit must be eaten as soon as ripe. Mr. Wilkinson was accorded a hearty vote of thanks for his paper. Mr. Morse (gardener to Mr. S. Humphries) was awarded first prize for two pots of begonias.

Dundee Horticultural Association.

The members of this association had a pleasant outing on the afternoon of August 20, when, through the kindness of the Right Hon. the Earl of Camperdown, the party had access to the grounds and gardens at Camperdown House, Lochee. Mr. Murry, his Lordship's resident factor, met the party at the South East Lodge, and, after conducting them through his own gardens, accompanied them to the Lodge Gardens, where Mr. David Low, the veteran head gardener, took charge, and showed them round the kitchen garden, where huge quantities of healthy and well-grown produce was commented upon as an excellent source of supply for the demands of a large establishment. In the glass department, plentiful supplies of well-grown grapes, peaches, figs, etc., were found. The conservatory and a small back range were the only places where pot plants were found. Begonias were the leading feature in the former, and plants suitable for table decoration in the latter. Going round by Mr. Low's cottage, some one spoke about its charm, beauty, comfort, and seclusion, and the party was not surprised to hear from Mr. Low that during forty years he had only been three nights absent from it.

Emerging from the grounds under the charge of Mr. Low, he relinquished his post to Mr. Smith, the head forester, who is an active member of the association, and a competent authority on the various branches of forestry, so that, under his leadership, a good time was spent in surveying the grounds and policies in the immediate vicinity of the mansion.

After this, the party was escorted to the front entrance and the dining-room, where a sumptuous tea was in readiness, thoughtfully provided by Lady Abercrombie, who personally welcomed the guests. After tea a downpour of rain prevented further exploration of the beautiful demesne, but this in no way prevented the company's enjoyment, for Lady Abercrombie conducted them over the public rooms, showing the historical art treasures, furniture, and valuable family effects. Those having connection with the famous Admiral Duncan, and the Battle of Camperdown, her Ladyship explained in detail to the thorough enjoyment of every member of the party.

Before taking leave, Mr. Wm. Christeson voiced the thanks of the members present to her Ladyship for the many kindnesses she had shown, and to this her Ladyship appropriately and gracefully replied. At an earlier stage in the proceedings the Earl of Camperdown was accorded a vote of thanks, and Messrs. Low and Smith for their attention, interest, and information during the afternoon. On emerging from the house, the company felt overwhelmed by the further kindness of Lady Abercrombie, who had provided her own carriages to drive the party to the car terminus at Lochee, where, thanks to this act of kindness and forethought, the party arrived dry, when they might otherwise have been drenched.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea level, 150 feet.

Date. 1910. August 28 to September 3.	Sunshine.	Temperature of the Air.			
		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Aug. 28—Sunday	0 36	60	56	65	52
„ 29—Monday	5 12	60	56	62	49
„ 30—Tuesday	2 24	58	56	65	54
„ 31—Wednesday..	4 6	58	55	65	50
Sept. 1—Thursday	10 48	60	54	67	54
„ 2—Friday	1 24	61	59	70	50
„ 3—Saturday.....	11 18	56	52	65	52
Means	(total) 35 48	59	55	65	51

Date. 1910. August 28 to September 3.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Aug. 28—Sunday	0.26	59	59	59	44
„ 29—Monday	0.30	58	59	59	43
„ 30 - Tuesday	0.14	58	59	59	50
„ 31—Wednesday..	0.01	58	59	59	45
Sept. 1—Thursday	—	60	59	59	51
„ 2—Friday	—	60	59	59	47
„ 3—Saturday	—	61	60	59	48
Means ...	(total) 0.71	59	59	59	47

FORTHCOMING ENGAGEMENTS.

MONDAY, September 12.—United Horticultural Benefit and Provident Society, Committee meeting.

TUESDAY, September 13.—Royal Horticultural Society; Committees meet at 12 o'clock; lecture at 3 p.m. on "Roses," by Mr. George Paul, jun.; Scientific Committee at 4 o'clock.

British Gardeners' Association, Council Meeting.

THURSDAY, September 15.—National Rose Society's Autumn Exhibition at the Royal Horticultural Hall.

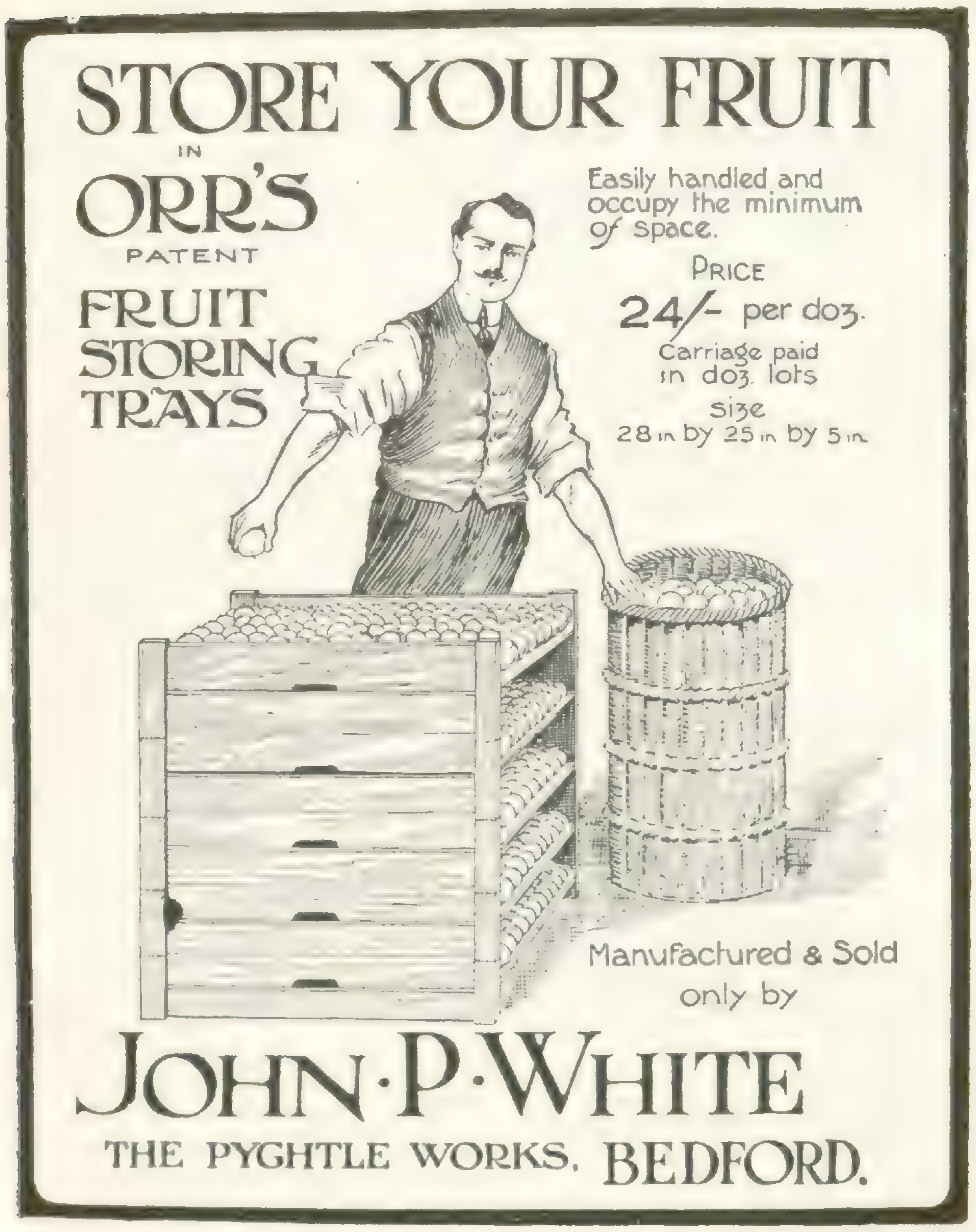
FRIDAY, September 16.—Sheffield Chrysanthemum Society; two days.

SATURDAY, September 17.—Elstree Horticultural Society.

SATURDAY, September 24.—Brussels Market Garden Exhibition; four days.

TUESDAY, September 27.—Royal Horticultural Society; Committees meet at 12 o'clock; lecture at 3 p.m. on "South America in its Relation to Horticulture," by Mr. Arthur W. Hill; Scientific Committee at 4 o'clock.

WEDNESDAY, September 28.—National Veg Society's Exhibition at Royal Horticultura Ha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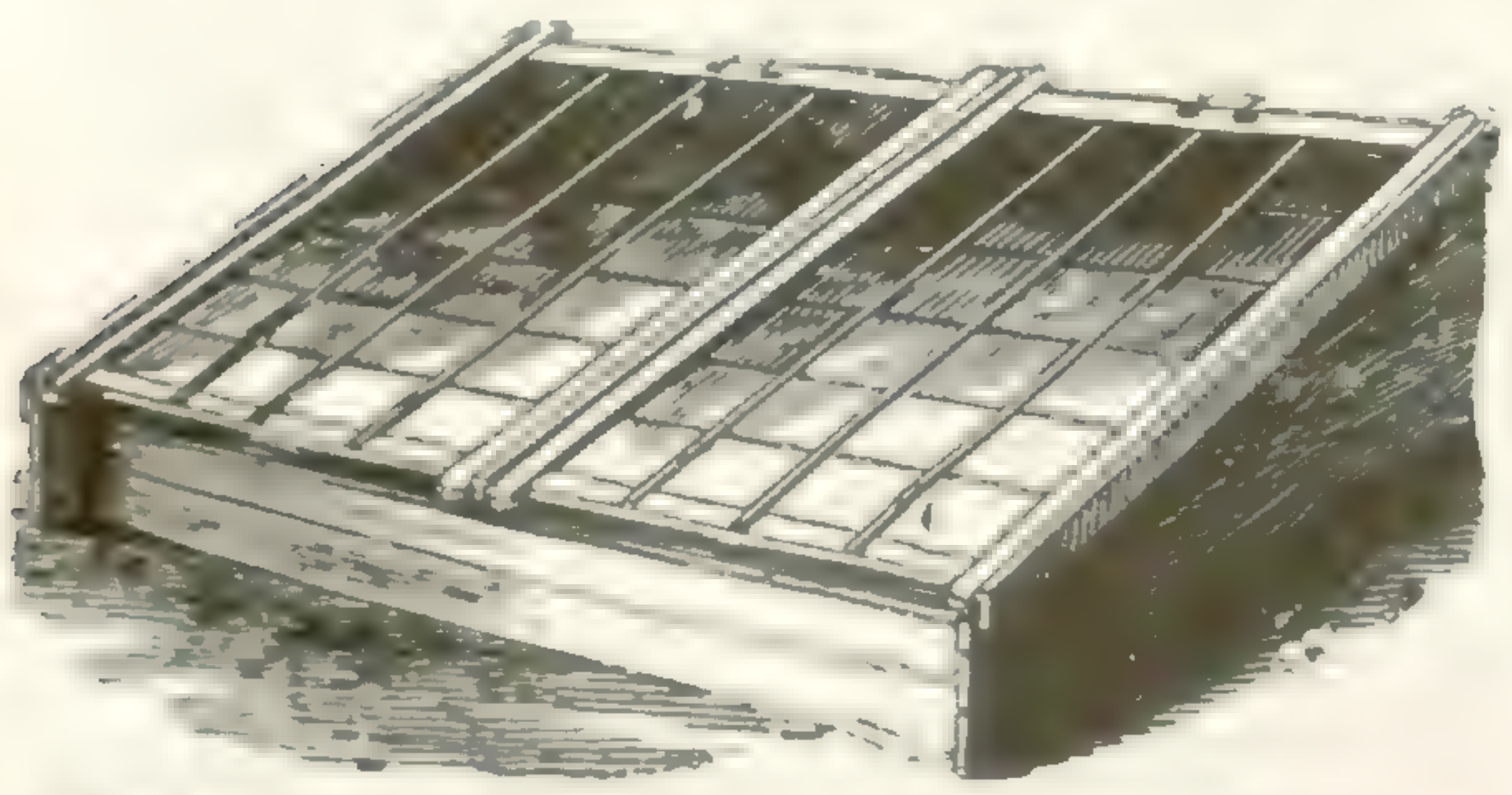

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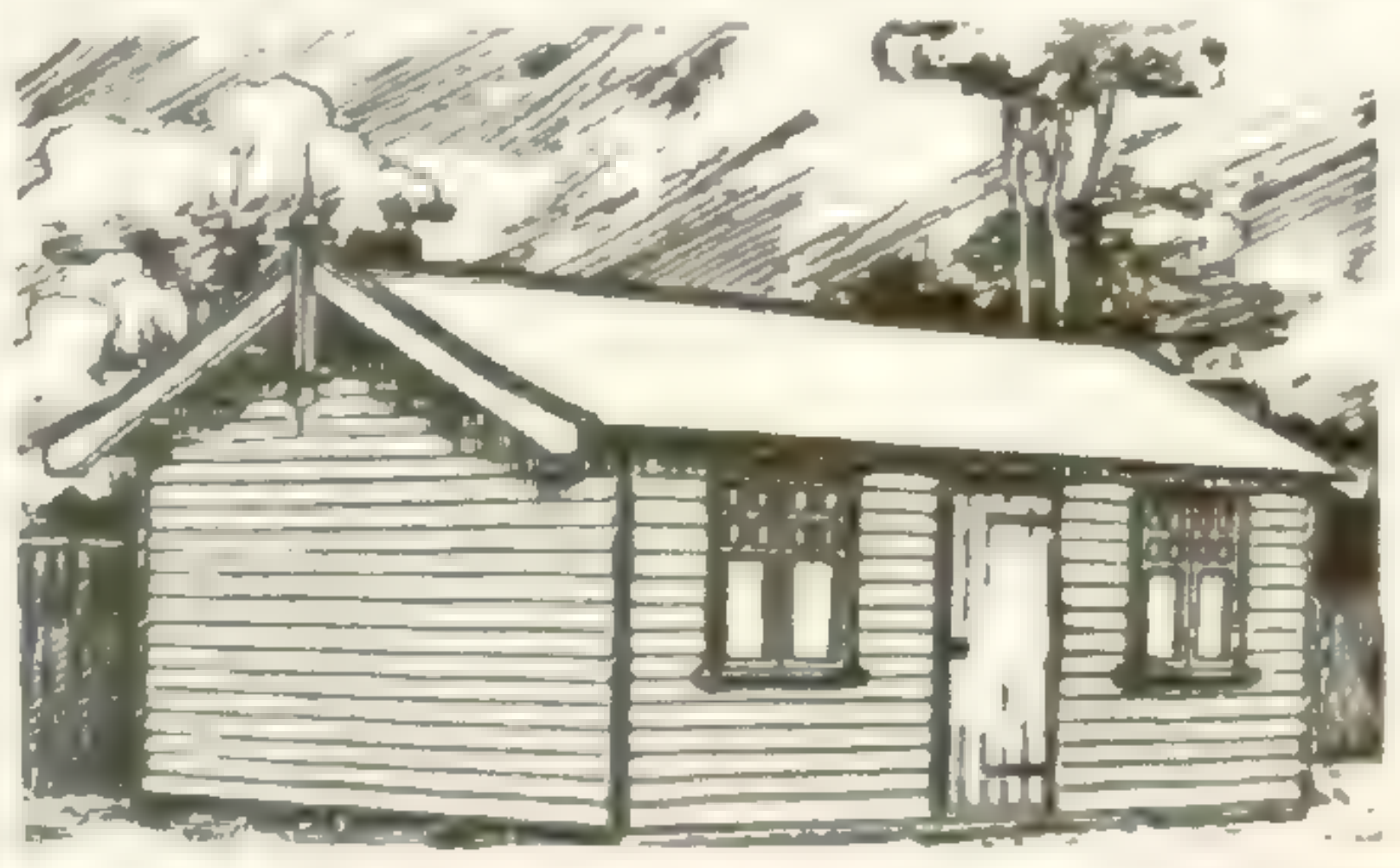

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

BRITISH GARDENERS' ASSOCIATION. —The secretary of the B.G.A. is Mr. J. Weathers, and his address is Talbot Villa, Isleworth, W.

MANURES FOR CHRYSANTHEMUMS. —W. J. K., Kimberley: As we are not conversant with the conditions under which you work, it is difficult for us to advise you, especially as you have practical experience to guide you, and a knowledge of the local and general conditions. We would point out that chrysanthemums, more than any other flower that is highly cultivated, need a variety of food material, hence any combination of fertilisers would not prove successful if used over the whole period during which the plants are fed. We need hardly point out to you the importance of having the roots of chrysanthemums moderately moist before the fertilisers are applied. Further, feeding should not be begun until the plants have taken possession of the soil used for the final potting. At this time feeding should be with a view to build up the plant and secure stout flower buds. Liquid manure made from the droppings of animals, particularly cows and bullocks, prove serviceable at this period, and should be applied in weak form at first, and once or twice a week. Clear soot water should be given occasionally, and if the weather is hot and dry, and growth consequently slow, one or two applications of guano, in weak liquid form, will be beneficial, or even nitrate of soda, though the latter must be used sparingly, as it has a tendency to produce rank growth. At a later period, when the flower buds have well developed, sulphate of ammonia will somewhat hasten development, and also add brilliance and clearness to the colours. Clear soot water is also of great value at this period for the same purpose. We do not advise you to use the mixture suggested for syringing; clear water will suffice, though quite clear and weak soot water is useful, as it acts as a preventive against insect attacks. We are much obliged to you for your kind letter, and shall be glad at all times to receive items of horticultural news or notes on any horticultural matter of interest. It occurs to us that, as you have to grow your chrysanthemums in tins, the latter should be plunged to the rim, or a board should be stood, edgeways, against the rows of tins, so as to guard against damage to the roots from the action of strong sunshine through the tin.

CHRYSANTHEMUMS FOR THE GARDEN.—W. M. S., Leicester: A suitable book for your purpose is "Chrysanthemums for Garden and Greenhouse," by Mr. D. B. Crane, to be obtained from the GARDENERS' MAGAZINE Office, 148, 149, Aldersgate Street, E.C., post free for 2s. 10d.

PLANTING DAFFODILS.—W. B., Sussex: The best time for planting bulbs of daffodils is the second half of August, and those who grow the more expensive varieties for exhibition, or, indeed, for any other purpose, are careful to complete the planting of them before the end of that month. Happily, daffodil bulbs deteriorate less rapidly than do the bulbs of many other plants, when kept out of the ground after the proper time, and they can be planted as late as November with the full assurance of their blooming satisfactorily, and making a strong growth subsequently. We have planted daffodils for experimental purposes as late as the middle of December, and have found them to flower satisfactorily, but the bulbs produced the following summer have not been equal to those from earlier plantings. We advise you to endeavour to complete the planting of the bulbs by the end of October at the latest. If there are insurmountable difficulties in the way plant the Barri and Poeticus varieties first, as they deteriorate more rapidly than do those of the Emperor and Empress and similar varieties, and bloom indifferently if planted late.

BLOTCHED SYCAMORE LEAVES. —J. B., Derby: The black blotches on the sycamore leaves are evidence of the presence of a fungus named Rhytisma punctatum. Unless steps are taken to prevent a recurrence of the attack the tree will become so enfeebled in a few years that it will fall a prey to other diseases and die. The fallen leaves are a source of infection if allowed to remain beneath the trees all the winter and spring, as spores are freely produced in the latter period from the fungus in the decaying leaves, and as these are light as air they float about in the atmosphere and settle on the newly opening leaves, and so a new attack is produced. Every fallen leaf should be gathered up and burned, and the tree should receive a good manurial dressing during the winter or spring.

NAMES OF FRUITS.

When sending fruits for naming, will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, GARDENERS' MAGAZINE, as advised in the notice at the head of "Answers to Correspondents."

S. E. C., Farnham.—1, Louise Bonne of Jersey; 2, Victoria; 3, Worcester Pearmain.

A. C. R., Newark.—1, Early Julyan; 2, not recognised, not in character; 3, Washington; 4, McLaughlin Gage.

W. H. L., Saxmundham.—1, Lord Suffield; 2, Ecklinville Seedling; 3, Windsor; 4, Pond's Seedling; 5, Warner's King.

T. H., Kingston.—1, Prince of Wales; 2, Coe's Golden Drop; 3, not recognised; 4, McLaughlin Gage; 5, Victoria; 6, Jefferson.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

G. B., Dublin.—Carex pseudo-cyperus.

J. L. W., Faversham.—Colutea arborea.

H. B., Southminster.—Ceanothus rigidus.

Mrs. H.—1, Phænocoma prolifera Barnesi; 2, Pentapterygium serpens.

H. W. P., North Wales.—1, Tamarix gallica; 2, Ceanothus azureus; 3, Leycesteria formosa; 4, Spiræa Douglasi; 5, Spiræa Bumalda; 6, Escallonia macrantha.

H. E. T., Stone.—1, Spiræa aruncus; 2, Lychnis chalcedonica; 3 and 4, poor specimens, not recognised; 5, Centaurea sp.; 6, Monarda didyma; 7, Galega officinalis.

J. M., Southampton.—1, a form of Cupressus Lawsonianus; 2, Ligustrum japonicum variegatum; 3, Eleagnus pungens aureopicta; 4, a Cratægus, species not recognised.

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MARKETS.

◆

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Flowers.

The supplies of flowers are liberal, but the demand is by no means brisk.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	6	0	to	8	0
Asparagus	per bun.	1	0		1	6
Asters	per doz. bun.	2	0		3	0
Alstromerias	per doz. bun.	2	0		2	6
Carnations	per doz. blms.	1	0		2	0
,,	per doz. bun.	7	6		8	6
Cattleyas	per doz.	12	0		14	0
Chrysanthemums	per doz. bun.	3	0		4	0
Coreopsis	per doz. bun.	1	6		2	0
Cornflowers	per doz. bun.	1	0		2	0
Croton leaves	per bun.	1	0		2	6
Dahlias	per doz. bun.	2	6		5	0
French fern	per doz. bun.	0	6		0	9
Gaillardias	per doz. bun.	1	0		2	0
Gardenias	per doz.	1	6		2	0
Gladiolus	per doz. bun.	3	0		4	0
Lapagerias	per doz.	1	6		2	0
Lilium auratum	per bun.	2	0		2	6
,, speciosum	per bun.	1	0		1	6
,, longiflorum	per bun.	1	0		2	0
Lily of the Valley	per doz. bun.	5	0		9	0
Marguerites	per doz. bun.	1	6		2	0
Mignonette	per doz. bun.	1	0		2	0
Odontoglossums	per doz. blms.	2	0		3	0
Pelargoniums	per doz. bun.	3	0		5	0

Fruits.

There are moderate supplies of most kinds with a brisk trade.

		s.	d.		s.	d.
Apples, English	per bush.	3	0	to	10	0
Apricots	per box	0	9		1	6
Bananas	per bun.	3	0		10	0
Figs	per doz.	1	0		2	6
Greengages	per ½-sieve	3	6		6	6
Grapes, English	per lb.	0	8		3	6
,, Guernsey	per lb.	0	6		1	0
,, Belgian	per lb.	0	6		0	10
Lemons	per case	10	0		30	0
Melons	each	0	8		2	0
Nectarines	per doz.	2	0		7	6
Oranges	per case	10	0		16	0
Peaches, English	per doz.	2	0		7	6
Pears, French	per crate	4	0		7	6
,, English	per ½-sieve	2	6		4	6

Vegetables.

Supplies are plentiful and of high quality with a fairly good demand.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	0
Beans, Runner	per bush.	2	0		2	6
Beet	per bush.	2	0		2	6
Cabbages	per tally	2	0		4	6
Carrots	per doz. bun.	2	0		3	0
Cauliflowers	per doz.	1	6		3	0
Cucumbers	per flat	4	0		6	0
Endive	per doz.	1	0		2	0
Lettuce, Cos	per score	0	6		1	0
Marrows	per tally	2	0		5	0
Mint	per doz. bun.	2	0		4	0
Mushrooms	per doz. lb.	7	6		12	0
Mustard and Cress	per doz. pun.	0	6		0	8
Peas	per bush.	3	6		4	6
Radishes	per doz. bun.	0	4		0	10
Parsley	per ½-sieve	1	6		2	0
Spinach	per bush.	1	3		2	0
Tomatoes	per doz. lb.	3	0		3	6
,, Guernsey	per doz. lb.	2	6		3	0

Situations Wanted—*continued.*

GARDENER (Single-handed or otherwise); experienced, Inside and Out; good references; age 27; married, one child; abstainer; gentleman's recommendations; disengaged. W. HOLNESS, Ripple Court, near Dover, Kent.

GARDENER (Second).—YOUNG MAN, age 27, seeks SITUATION; 13 years' experience Inside and Out; left through death; excellent references. G. DALMON, Codmore Hill, Pulborough, Sussex.

J. HOATH, The Gardens, Crooksbury, Farnham, is most anxious to recommend a YOUNG MAN; age 18; has been with him 2½ years; wages 12s. and Bothy.

MARRIED MAN seeks SITUATION; life experience in general gardening. G. ARNOLD, Hockley, Essex.

YOUTH requires SITUATION as IMPROVER (Inside or Inside and Out); age 18; three years' experience; well recommended; near Camberley preferred. TOWNSEND, Wylye, S.O., Wilts.

YOUNG MAN, age 19, seeks SITUATION, Inside and Out; no previous experience; smart, active, and good appearance; good character; height, 5 feet 6 inches; Bothy preferred. Apply A. J. FULLER, Barcote Gardens, Faringdon, Berks.

YOUNG MAN, age 20, wants to better himself as Gardener, or where two or three are kept. Apply, A. CLARKE, High Street, King's Langley, Herts.

YOUNG MAN requires SITUATION in Kitchen Garden or Pleasure Ground; six years' experience; age 20; well recommended. H. PYE, 57, High Street, Burbage, Marlborough, Wilts.

Employment THE GARDENERS' MAGAZINE Register

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

Situations Wanted.

H. WHATELEY, Esq., The Spring, Kenilworth, Warwickshire, recommends a GARDENER (Head); well experienced all kinds of Fruit. Plants under Glass, including Orchids, and Kitchen and Flower Gardens. For particulars apply above.

W. H. PROPHET seeks SITUATION as HEAD WORKING GARDENER where two [illegible] are kept; Gold and Silver Medallist National Sweet Pea Society, London, 1909 and 1910; over 20 years' experience, married; age 35; highest of references from present employer. Par, Cornwall.

DICKSON and ROBINSON (Seedsmen to the late King Edward VII.), Manchester, recommend a GARDENER (Head). Well experienced in all kinds of fruit and plants under glass including orchids and kitchen and flower garden. Particulars readily given.

GARDENER (Head of about four); 14 years' first-class experience Inside and Out; excellent references; total abstainer; age 27; South preferred. Apply, GARDENER, care of Lambert, Stationer, East Grinstead, Sussex.

GARDENER (Head); life experience all branches, Inside and Out; Grapes, Peaches, Melons, Stove and Greenhouse Plants, Orchids, Malmaison and Tree Carnations, Landscape and Rock Garden; Vegetables and Hardy Fruit; nearly 8 years as head; age 35; excellent references. F. SMITH, 4, Mellish's Terrace, Morden, Surrey.

GARDENER (Head Working, where several are kept); age 45; married, no family; thorough practical experience of gardening in all branches; excellent testimonials. WM. SMITH, The Gardens, [illegible] Hall, Oswestry, Shropshire.

GARDENER (Head, where two or three are kept; highly recommended; would be pleased to forward particulars to any Lady or Gentleman. CLARK, 19, Tanfield Road, Birkby, Huddersfield.

GARDENER (Head); life experience in growing all kinds of fruit and plants, including orchids; also kitchen and flower garden; can be highly recommended. W. LAMBERT, The Common, Kenilworth, Warwickshire.

GARDENER (Head Working, where one or two more kept, or good Single-handed); experienced Inside and Out; good references, and recommended; age 27; married when suited. W. CROUCHER, 11, North Terrace, Hythe, Kent.

GARDENER (Head Working); age 33; married; 19 years' thorough practical experience Inside and Out, with fruits, flowers, vegetables, [illegible] rock gardens, etc.; excellent personal [illegible] from present employer. Write A. D., 8,388, Office of this Paper.

GARDENER (Head Working, where two or more are kept); thoroughly experienced; 7 and [illegible] years' good references as Head; age 45; active; [illegible] youngest [illegible] 15; disengaged. HUNT, [illegible] Street, Devizes.

GARDENER (Head Working).—Well up in all branches, excellent characters; 5 years' present situation; married; age 40. E. BEARDSLEY, The Finches, Ifield, Crawley, Sussex.

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GARDENER (Head Working); experienced Inside and Out; good references; age 36; married, two children, youngest 9; disengaged September. G. BROAD, The Gardens, Braydon Hall, Minety, Wilts.

GARDENER (Head Working).—Mr. WATSON can highly recommend C. WALLIS, where two or three are kept; been here 5½ years as Second of five; age 30; married one child. The Gardens, Bushey Down, Tooting Common.

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GARDENER (Head Working); well up in all branches, Inside and Out; excellent references; 4 years in last place; age 41; married, 2 boys; abstainer. F. EARL, c/o Mrs. W. Trring, 2, Kent Villa, Ashford, Middlesex.

GARDENER (Head Working or good Single-handed); life experience in all branches; good references from present and previous employers as to ability and trustworthiness; no family. GARDENER, 28, Martell Road West, Dulwich, S.E.

GARDENER (Head Working); good practical experience in all branches, Inside and Out; Early and Late Forcing; excellent references. H. TURNER, Regal Cottage, Kentford, Newmarket.

GENTLEMAN recommends GARDENER (Head of two or three; life experience in all branches; understands formation of new or renovating old gardens, married, one boy 10 years; age 4[illegible]. PENNELLS, Phœnix Green, Winchfield, Hants.

MESSRS. ROWLAND, Wavertree Nurseries, Liverpool, can highly recommend first-class GARDENER (Head); many years' experience in growing Fruit and Plants under Glass, including Carnations, Kitchen and Flower Garden. For particulars apply above.

GARDENER (Single-handed or otherwise); good all-round man in all branches, or handy man on gentleman's estate; good at either; willing to be useful; active and reliable; good character; age 45; married, one child. OSBORNE, 48, Bradshaw Road, Watford.

GARDENER (Single-handed); married; age 27, seeks SITUATION; experienced Inside and Out, 5½ years' excellent reference last situation. Apply W. G. CONN, 7, Coombe Road, Sydenham.

GARDENER (Single-handed or otherwise); age 39; single; experienced general routine; willing to be useful; good character from last employer. GRIFFITHS, 37, [illegible] Street, Cardiff.

GARDENER.—Wanted, SITUATION as good SINGLE HANDED or where help is given; 16 years experience in all branches of gardening; 11 years present place, with best of references; age 33; married when suited. CHARLES SMITH, Broomcroft, Wateringbury, Kent.

GARDENER (Single-handed or with help); age 28; experienced Inside and Out; married when suited; good references. A. RAYFIELD, 130, Lavenham Road, Southfields, Surrey.

GARDENER (Single-handed or otherwise); life experience, Inside and Out; age 47; good references; 16 years in last place. T. ISON, 1, Upper Park Street, Cheltenham.

GARDENER (good Single-handed, or where help is given); life experience in the garden; can be well recommended; young married man. C. FAGGETTER, The Gardens, Osterley Park, Isleworth.

GARDENER seeks SITUATION; age 27; life experience; good singlehanded, or where two or three are kept. Apply L. LOWNDS, Mayfield, Ashbourne, Derbyshire.

GARDENER (Second); experienced Inside and Out; 7 years' present situation, 5 previous; private and market gardens; age 28; married, one child. Address, J. GIRLING, Starston, Harleston, Norfolk.

GARDENER (Second), Inside or Inside and Out; age 27. Can be recommended by G. F. Munnings, gardener to H. D. Harben, Newland Park, Three and a half years in present situation; leaving through death. Apply, W. SIMS, Little Newland, Chalfont St. Peters, Bucks.

JOURNEYMAN (Second, Inside or Inside and Out); eight years' experience; two years present situation; age 23; well recommended. R. HANNANT, Farm Cottage, Roehampton House, Roehampton.

JOURNEYMAN (Inside or Inside and Out); 4 years' good experience; age 19; good references if required. HARRY SMITH, Hanging Houghton Crossing, near Lamport, Northamptonshire.

MR. H. F. WARREN, Highfield Gardens, Gainsborough, Lincs., highly recommends A. GREATOREX, age 19, as JOURNEYMAN (Inside and Out); four years here.

MR. J. HILSON, Flixton Hall Gardens, Bungay, Suffolk highly recommends F. W. Mason as JOURNEYMAN (Inside); age 21; 7 years' experience; good references; 3½ years in present place. Apply as above.

IMPROVER (Outside and Inside); age 23; life abstainer, excellent references, seeks situation in private or public gardens, or in large nursery. Please address E. F., 38, Lechmere Road, Cricklewood, London, N.W.

YOUNG MAN seeks SITUATION as IMPROVER; good references; age 20. H. EARLE, Southernhay, Innox Road, Trowbridge, Wilts.

YOUTH seeks SITUATION as IMPROVER, Inside or Inside and Out; age 18; 3½ years' experience; Bothy preferred. Apply ALFRED POND, Hemingford Abbots, St. Ives, Hunts.

YOUNG MAN, aged 21, as IMPROVER in Nursery; Inside or Out; near or in Portsmouth preferred. C. H. LOADER, 162, Chichester Road, Portsmouth.

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No. 2,968. Vol. LIII.
Reg. at the G.P.O. as a Newspaper.

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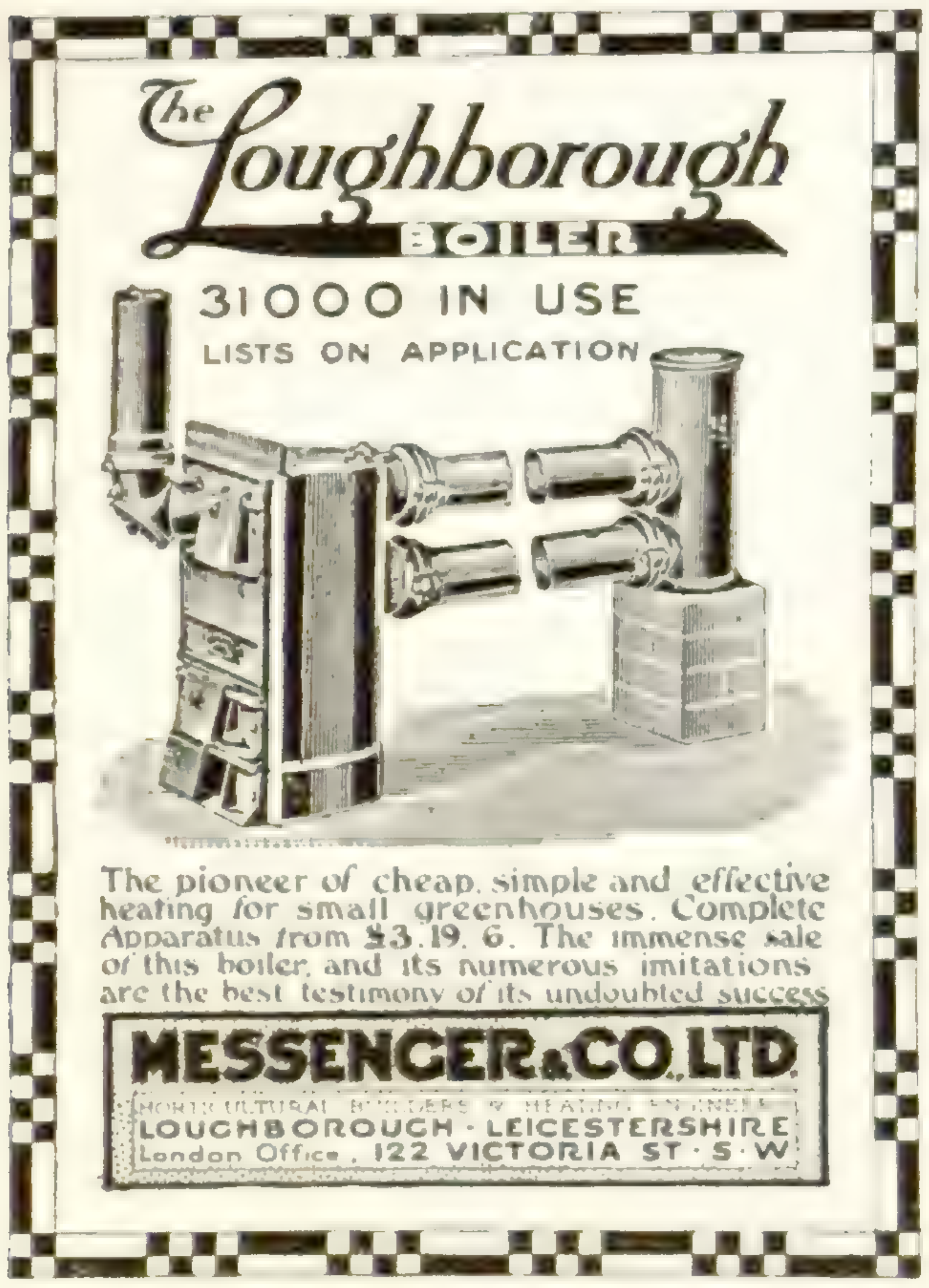
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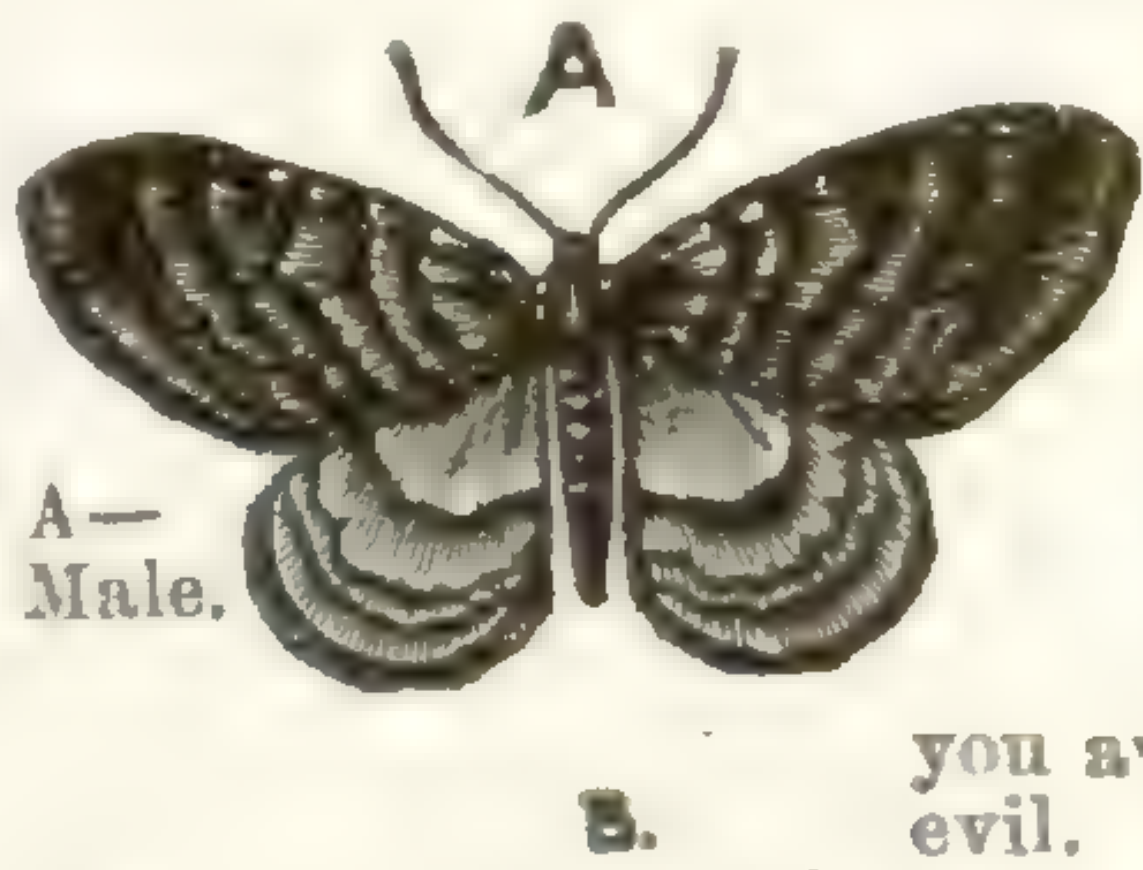
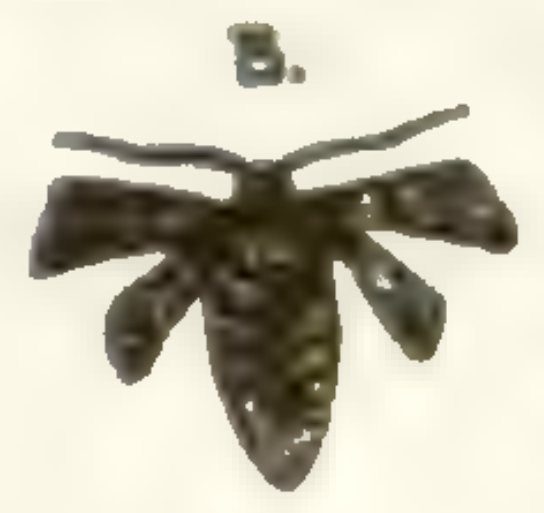

A—
Male.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Tulips, double, in the finest mixture...	2	2	20	0
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VOL. LIII.—No. 2,968. SATURDAY, SEPTEMBER 17, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

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Exhibition and Garden Dahlias.

Although a frost experienced quite early in the month did sufficient damage to the dahlias in some gardens to prevent their owners contributing the products of their skill to the exhibition held by the National Dahlia Society, the present season has in its relation to these attractive flowers been highly satisfactory. There has for some time past been an abundance of blooms of much excellence in those gardens in which care has been taken to differentiate between garden and exhibition culture, and the displays of colour have been, and, indeed, still are of the most attractive character. The exhibitions have been on the whole remarkably good. The National Dahlia Society has held larger exhibitions than that which filled the central transept of the Crystal Palace on the 8th and 9th inst., but we are unable to call to mind any exhibition held by the society during the last decade that has been so remarkable for high quality. There have also been magnificent displays of dahlias at the fortnightly meetings at the Horticultural Hall, and at the exhibition of the Royal Caledonian Horticultural Society these flowers were so largely shown in the competitive and miscellaneous classes as to form one of the most important of the floral features of this great gathering. In other directions there have been conclusive proofs of the high degree of popularity the dahlia enjoys at the present time among all classes of the flower-loving public. At the exhibitions held by the National Dahlia Society and other bodies the cactus varieties of the type that finds favour with the florists have greatly predominated, and arranged, as they have been, in a tasteful manner have proved immensely attractive to the visitors. From the spectacular point of view these elegantly formed and attractively coloured flowers have fully justified the favour with which they are regarded by exhibitors and also by those who take advantage of the opportunities the exhibitions afford for seeing dahlias in their highest state of development. Were we to regard cactus dahlias wholly from the exhibition standpoint it would be necessary to refer to them in highly eulogistic terms; but we have to take into consideration their position in the garden. This is not so satisfactory as one could wish, for hitherto raisers have devoted a much larger share of their attention to the development of the points of perfection in the individual blooms than to the improvement in the habit of the plant. There is no occasion for surprise that they should have proceeded on the lines that have been followed. In the past it has been the practice of societies that make awards to new dahlias to take into consideration the size, form, and colour of the individual blooms only in estimating the merits of varieties submitted to them, and as the awards made add considerably to their commercial value, the raisers have endeavoured to create varieties bearing blooms of high quality, and their accomplishments in this direction are beyond praise. Happily a change has been made this season in the method of making awards, both by the Royal Horticultural Society and the National Dahlia Society, and from this we anticipate results of far-reaching importance. Two classes of cactus dahlias are now recognised by both societies, one to comprise those having blooms of exhibition form and the other varieties that are suitable for the production of colour effects in the garden. With regard to the second of the two classes it is regarded as essential that the varieties to which awards are made shall have stiff stems of sufficient length to carry the blooms well above the growth. When some three years ago we directed special attention to this matter many growers were doubtful as to the possibility of raising cactus dahlias possessing this important quality, but the results have shown that there was no occasion for doubt. A considerable number have been exhibited this season, and half a dozen or more have received awards from the committees of the two last-named societies. Two decorative varieties that have received awards this season would probably have failed to obtain recognition had it not been for the stiff stems that carried their blooms well above the foliage. We trust this important change in the making of awards to dahlias will induce raisers to give attention to the improvement of the habit of the pæony-flowered varieties. A considerable proportion of those in cultivation are remarkable for their freedom of flowering and for their distinct and attractive shades of colour; but they are for the most part too robust in growth for gardens other than those of large size, and in the case of a considerable proportion the stems are not sufficiently rigid to hold their flowers up. It is, therefore, most desirable an endeavour should be made to reduce their vigour and increase the

MR. A. R. SEARLE.

rigidity of the flower stems. Not less desirable is a reduction in the number of varieties by the elimination of those possessing but little merit—a matter difficult of accomplishment without submitting all the known varieties to a carefully conducted trial. One could wish that the single varieties were regarded with more favour both for garden decoration and exhibition. All the finest varieties are of moderate growth, elegant in habit, and profuse in flowering, and from quite early in the season until the growth is cut down by the frost there is a continuous succession of flowers. The colours are varied and include a considerable number of exquisitely beautiful shades that readily lend themselves to artistic treatment in a cut state. The varieties with large, rough flowers have long since disappeared, and the improvement of habit and bloom have been effected simultaneously, with the result that with few exceptions the finest varieties for exhibition are the best for garden decoration. The show varieties that represent many years' unremitting labour on the part of past generations of dahlia fanciers, continue to be regarded with but little favour, although most attractive in the garden when grown in soil that has not been very liberally enriched with manure. They have also much value for bold decorations, and some day, when classes are provided at the exhibitions for blooms staged in vases without the aid of supports, we shall have ample proof of this. At present they are regarded as quite unsuitable for any form of decoration, exactly in the same way as the incurved chrysanthemums were considered quite unfit for any other purpose than to be dumped down on a sloping board until the National Chrysanthemum Society gave their members an opportunity of demonstrating their usefulness for decorative effect.

Mr. A. R. Searle, who has during the past eight years occupied the position of head gardener at Castle Ashby, the seat of the Marquess of Northampton, has in various ways given ample proof of his great cultural skill and administrative ability, but the strongest testimony to his possession of these important qualities is the high condition in which the historic gardens under his charge are at the present time. Mr. Searle is a native of Devonshire, and had the advantage of commencing his gardening career under his father at Tristforde, near Totnes, where he remained four years. On leaving home he served in various gardens remarkable for high management, including those of Hutton Hall, Guisboro', which were then under the charge of the late Mr. McIndoe, so well known as one of the most successful cultivators and exhibitors of fruit. It will be of interest to mention that during the period in which Mr. Searle was engaged in the acquisition of the knowledge essential to his taking a high position in his profession, he made a point of staying two years only in a garden, and he is fully convinced that the course taken was a good one, inasmuch as it gave him a more varied experience than would otherwise have been possible for him to obtain. On attaining the position of foreman at Goodwood, it was not considered necessary to further adhere to the rule, and he remained in these well-known gardens four years. Subsequently he was appointed to the position he now holds. By those best acquainted with his work Mr. Searle is considered an all-round gardener, for, with the encouragement of his noble employer, he has succeeded in maintaining every department of the great gardens under his charge in the best possible condition. During the past seven years he has given some attention to exhibiting, and has achieved much success in the competitions at such important gatherings as those at York, Wolverhampton, Cardiff, and Shrewsbury. The principal products that are exhibited from the Castle Ashby Gardens, are cut flowers of hardy perennials, fruits, and vegetables, and with reference to the success achieved this season it may be mentioned that at Shrewsbury in August last Mr. Searle was awarded a first for a collection of vegetables, and four firsts for fruits. Two years ago he was successful in winning at Leamington the prize of £100 offered for the best onion, with a bulb it need hardly be said, of exceptional excellence, and his success in this competition is unique.

Our Bulb and Rose Number.—In view of the great interest that is now being taken in spring-flowering bulbs and roses, we shall devote our next issue (September 24) chiefly to these two important classes of flowers. The contents will be varied, and the articles have been written with special reference to matters requiring attention at the present season, and will be found distinctly helpful to cultivators of all classes. The greater proportion of the articles will be illustrated, and we shall give an illustrated report of the autumn show of the National Rose Society, and also of the second of the two exhibitions of the National Dahlia Society.

Presentation to Mr. Robert Fife.—Mr. Robert Fife, one of the partners of Messrs. Dobbie and Co., was recently the recipient of a handsome testimonial from the people of Rothesay. Mr. Fife is an ex-Bailie of Rothesay, has been treasurer of the Burgh, and convener of the Burgh Lands and Parks Committee, and has acquitted himself to the satisfaction of all concerned in connection with these public offices. He has in many other ways endeared himself to the people of Rothesay during the time he managed the Messrs. Dobbies' Nurseries there, and it was not surprising therefore that his many friends should combine to do him honour on the occasion of his departure to the firm's new headquarters at Edinburgh. At an influential gathering in the Council Chamber at Rothesay, Mr. Fife was presented with an appropriately engraved silver salver, together with a gold brooch and pendant for Mrs. Fife.

New Rose Daphne.—The Rev J. H. Pemberton writes, "Whilst thanking you for your kind notice and illustration of this new seedling, which appeared in your pages of last week (p. 705, Sept. 10), I feel it obligatory to make one correction in your description. This rose does not make growths seven to eight feet high; that is, one hopes, a thing to come. The habit, though strong, is dwarf and compact. It forms a bush about four feet high. The great point of this rose lies neither in its colour nor in its perfume, but in its perpetual flowering habit; it is always in bloom from June to late autumn. As evidence of its activity a spray was exhibited, when it obtained an award of merit of the R.H.S., showing a bunch of fruit, some just colouring; a truss in full bloom; a young shoot just forming its flower buds, all on one stem. It was raised four years ago, and, so far, has never had the slightest spot of mildew."

Botany at the British Association.—Grants of money appropriated for scientific purposes at the meeting of the British Association at Sheffield, included the following in the Botanical Section: Dr. D. H. Scott—Structure of Fossil Plants, £10; Dr. F. Darwin—Experimental Study of Heridity, £45; Prof. T. Johnson—Survey of Clare Island, £20; and Prof. F. W. Oliver—Registration of Botanical Photographs, £10.

Trial of Single Dahlias.—Two years since the National Dahlia Society decided to arrange from time to time trials of dahlias with a view to determine the relative merits of varieties for garden decoration. Last year a trial of pompons was conducted, and this proved so great a success that it was determined to have a trial of single varieties. Messrs. J. Cheal and Sons, of Crawley, kindly undertook to carry out the trial on behalf of the society, and this has proved not less successful than that of the pompons. The trial included the new varieties introduced by Messrs. Dobbie and Co., Mr. Seale, Messrs. J. Cheal and Sons, and other raisers, and all the older varieties in general cultivation. The trials were inspected on Monday last by the executive committee, and the officers, Mr. E. Mawley, V.M.H., president; Mr. Stephens, treasurer; Mr. G. Gordon, V.M.H., chairman of committee; and Mr. E. F. Hawes, the hon. secretary. The whole of the collection was in the best possible condition, and as the result of the careful examination made by the committee upwards of twenty varieties were awarded three marks (xxx) for their value for garden decoration. The names and characteristics of the varieties receiving marks will be published in the official report, but with reference to them we would mention that at least two-thirds were included in the first-prize collection shown by Messrs. J. Cheal and Sons, at the Crystal Palace, and illustrated in this issue. After the inspection the committee had a hurried run through the nurseries, and the members were much impressed by the various collections, especially the trees and shrubs that came under notice. Before leaving a hearty vote of thanks was, on the initiative of the President, accorded the firm for their hospitality, and the excellent manner in which the trial had been conducted.

A Giant Cabbage.—It is wonderful how the gigantic appeals to people. The big gooseberry and the big sunflower are ever a source of great interest, though neither may have any other merit than size. A correspondent reports a gigantic cabbage grown by Mr. J. Harmer, a printer's warehouseman at Newcastle. The cabbage had a circumference of 16ft. and measured more than five feet over.

Presentation to Mr. William Dawson, M.A., B.Sc.—Mr. Dawson, lecturer in Forestry at the University of Aberdeen, who has just concluded a most successful course of lectures to practical foresters from the leading estates in Scotland, was met the other day by his class in the Imperial Hotel, Aberdeen, and made the recipient of a very handsome dressing case. Mr. Joss, forester, Ardoe, made the presentation, and in the course of his speech testified to the large amount of information derived from the course of lectures. He came to the class in a critical mood, not having an open mind regarding class work, but was agreeably surprised to find in the lecturer, Mr. Dawson, one well acquainted with practical details in every conceivable circumstance, and ready to show where theory and practice could be reconciled. In particular Mr. Dawson's familiarity with all the different tools and appliances in use in this country and on the Continent, and his expertness in handling them, won his admiration, and when the forest demon, called "the devil," was explained he had to confess himself converted. Mr. Dawson, in reply, expressed the great pleasure he felt in having gained their confidence, and thanked most heartily his forester friends for the beautiful dressing-case they had just presented to him. In the course of his speech Mr. Dawson deprecated the want of forestry statistics in this country. In Germany the most elaborate statistics were available, some of which went back 100 years. Some of these, however, were not applicable to our insular conditions.

Accident to a Gardener at Gordon Castle.—An unfortunate accident befell Mr. William Cunnison, foreman at Gordon Castle, the Scottish seat of the Duke of Richmond and Gordon, the other day. Among his other duties he had charge of the sunshine recorder, and, as was his wont, he proceeded to change the cards in the recorder, which is placed on a high wall on the south side of the kitchen gardens. With the aid of a dim lantern light he proceeded to carry out his mission, when he lost his footing and fell over the wall from a height of twelve feet. Fortunately Mr. Cunnison was accompanied by a son of the head gardener, Mr. Webster, who at once ran for help. Mr. Cunnison was picked up in an unconscious condition, and carried to his apartments. Dr. Mann was soon in attendance, and found Mr. Cunnison's thigh dislocated and his head slightly injured. His condition was so serious that it was deemed advisable to have him removed to the Elgin Hospital. Reports concerning Mr. Cunnison's condition are as satisfactory as could be expected under the circumstances.

Dahlia Show at Regent's Park.—The second exhibition of the National Dahlia Society will be held at the Royal Botanic Gardens, Regent's Park, on Tuesday and Wednesday, September 20 and 21. If open weather continues the exhibition is sure to be a large one and the competition keen throughout. In addition to the dahlias there will be a display of fruits preserved in pure water only.

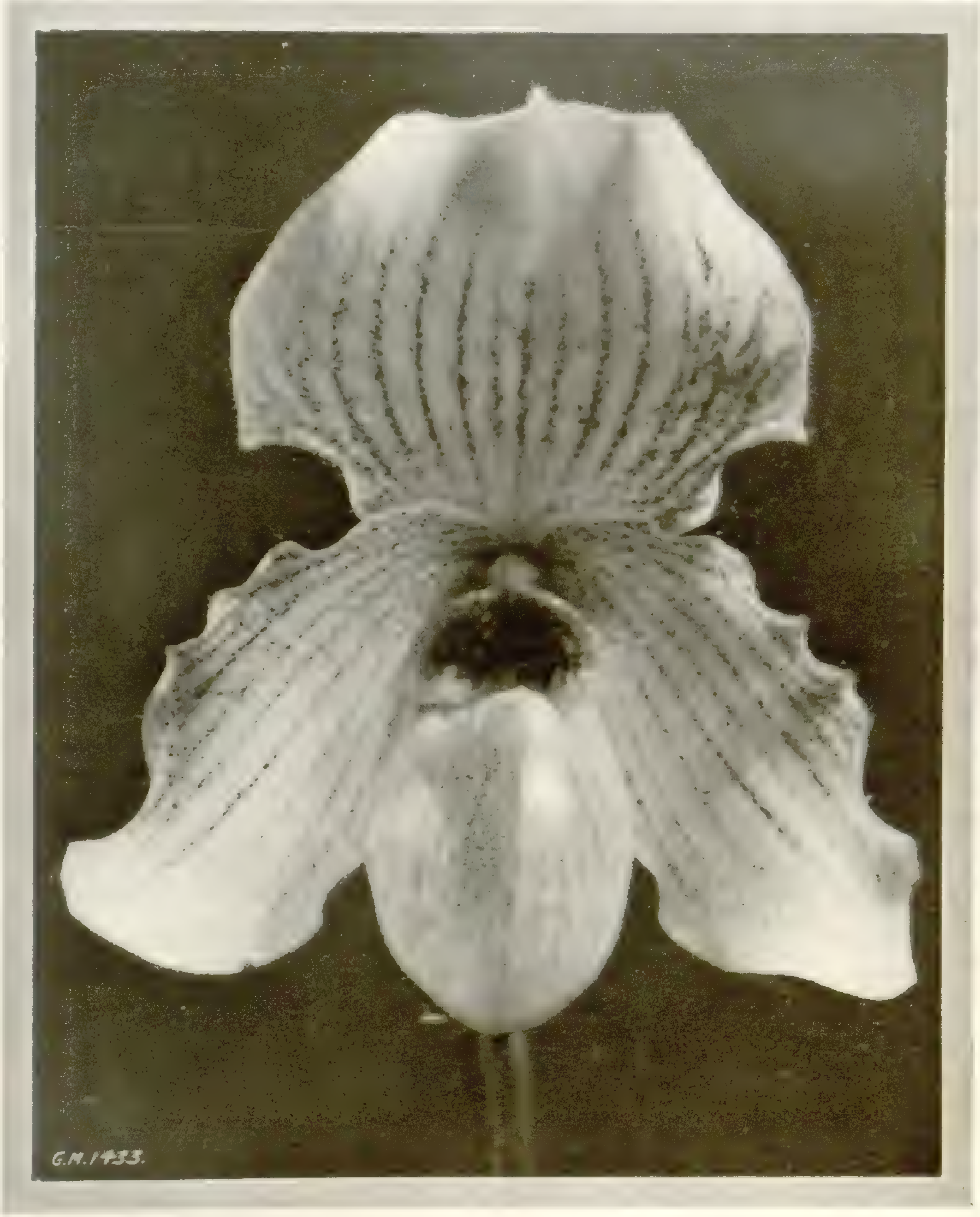
Perpetual Carnations at Edinburgh.—At the meeting of the Scottish Horticultural Association, held in the Goold Hall, Edinburgh, on September 6, Mr. W. H. Massie presided over an excellent attendance. The subject chosen for discussion was "Perpetual-flowering Carnations: their Past, Present, and Future." The address was given by Mr. J. S. Brunton, chairman of the Perpetual-flowering Carnation Society, and proved of great interest and value. Mr. Brunton and Mr. M. Todd together exhibited about fifty American and British varieties of the popular flower, and other members sent dahlias, vegetables, scabious, violas, etc.

Bulbous Plants in Moss Fibre.—We are informed that the Council of the Royal Horticultural Society have accepted prizes for bulbous plants grown in moss fibre from Mr. Robert Sydenham, for award by them at the exhibition of spring flowering bulbs to be held March 14 and 15. The prizes are for six single hyacinths, to be grown in separate vases not exceeding six inches in diameter; six vases of tulips, the vases not to exceed six inches in diameter, but no restriction as to the number of bulbs in each; and six vases of narcissi, the conditions the same as in the case of the tulips. The hyacinths, tulips, and narcissi shown in competition for these prizes have to be selected from lists of specified varieties, which can be obtained from the R.H.S. The varieties enumerated are in general cultivation, and can be obtained at the usual rates and are specially adapted for cultivation in moss fibre without drainage.

THE HEATH GARDEN.

Perhaps there is no other phase of garden art that is of greater interest than the heath garden. With its aid we are brought into touch with the charms of the breezy uplands, the purpling moors, and the delights of the native wilds. We can renew the old love of the open moorland, with its stretches of purple and mauve flowers, catch something of the glories of the latter days of summer-tide, and let the peaceful associations which they bring sink deep into mind and soul.

To my mind there are few phases of natural landscape beauty to vie with the heath-clad stretches during August days, and it is with the idea of furthering and popularising the heaths in the garden that I desire to press forward my advocacy concerning it. The whole idea is associated with a simplicity of design. Exponents of the "formal in garden design" will have none of these heath-clad slopes; but let me point out that it is the "informal in gardening" which is carrying the whole art of garden adornment to the high level and the popularity which it is achieving at the present day.



CYPRIPEDIUM ANGELA.

Flowers silvery-white, with veins and tiny dots of rose and rose-purple; a dainty flower derived from C. niveum and C. Fairrieanum. A.M., R.H.S., September 13. Mrs. Norman Cookson (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne.

The rock garden, the water garden, the wild garden, and several other phases, give ready confirmation to my statements concerning garden progress. We have tried these features, they have succeeded in the greatest measure, and I am cértain the heath garden will not show to less advantage than the foregoing. The idea is not new, if the application is. Bacon, in his quaint and readable essay "On Gardens," suggests that there should be in the garden "mounds set about with heaths and thymes, and other low-growing plants, with here and there thicket growths of sweet briar, and honeysuckles."

Now, before proceeding, let me have a word about planting. The soil can usually be arranged satisfactorily, for with the usual run of loamy soils, one can add leaf-mould, peat, and, if necessary, sand, to bring it to the required condition for successful heath culture. The question of planting time is more serious, and I am not greatly in favour of autumn planting. The greatest success follows planting done after "the turn of days," and I have recorded first-rate results from February and April plantings, and would strongly advise intending planters to choose either February, March, or April for their task, not earlier than the first month, unless one wishes to have recourse to the watering pot, which is certainly not desirable.

The surface of the ground should be

broken into slopes, ridges, and depressions to further the idea of a natural landscape, and to show the various kinds to the greatest advantage. Rocks may be used, though sparingly, just letting them show in ridgy lines and infrequent outcrops. Recollect that the area to be devoted to heaths is not a rock garden, but that the few rocks are added to give reason for the broken ridges, and sloping banks, as well as for the natural effect which a few weather-worn, moss-grown stones can give.

The little scene must embody as much as possible of the spirit of the moorland, and the pathways must represent, as much as possible, the "beaten track." Therefore, an informal track of rough-hewn stepping stones are more in keeping than formal paths. The whole must look as natural as possible, and the heath groupings must run into each other so as to do away with any definite lines of division.

The majority of the heaths, or ericas, are of comparatively easy culture. E. vagans, the Cornish heath, with its pinkish-purple blossoms, is a robust form of bushy growth, and its varieties, including alba, are equally good for massing. The Scotch Heath, E. cinerea, with its greyish leafage and reddish-purple flowers, is a low, spreading plant, and a good contrast. There are many varietal forms, including alba, pallida, rosea, and purpurea. E. ciliaris, the Dorset heath, pale red in colour, is hardy in most English districts, and covers a goodly period of blossom.

Of the common Ling, E. vulgaris, one need hardly speak, though many of its charming varieties are indeed worthy subjects. Hammondi, an erect-growing dark green form with white blossoms, is very good, while Alporti, bright crimson; Serlei, white; aurea and cuprea, the gold and bronzy varieties; pumila and pygmaea, the useful dwarfs, are among the better forms. I would advise planting the purple Corsican heath, E. stricta, with its well-defined wiry growth. E. mediterranea is charming in spring, and its varieties are very delightful.

E. Maweana, much resembling a vigorous ciliaris, should be noted, together with the rosy-purple E. australis, and the strong-growing E. lusitanica.

One must also note in passing the moisture-loving E. tetralix (the Mountain Bell), the exquisite, but none too hardy, E. arborea, the Irish St. Dabeoc's heath, usually known as E. Menziesia polifolia, and its varieties, and also the ever-charming alpine gem, E. carnea. This, and its pretty white variety, alba, are two of the earliest and are most charming, flowering in January and February with the utmost freedom. P. H.

Clematis Ville de Lyon.—This variety is, from its bright carmine-red colour, one of the most notable among the many forms in cultivation. The flowers are not so large as some of the other garden forms, but the colour is most telling, while the period of blooming extends over a considerable time. Its late flowering qualities are shown by the fact that it was given an award of merit by the Royal Horticultural Society at the end of August, 1901.—W. T.

Catalpa speciosa pulverulenta.—This distinct form of Catalpa speciosa is a counterpart of the type, except that the leaves are densely spotted and freckled with white, a style of variegation which is decidedly uncommon. Like the variegated Acer negundo, it should prove to be most useful for decorative purposes when brought on under glass, while if it can be cut down annually as the paulownia is sometimes treated, it should be useful as a permanent fine foliaged subject.—W. T.

SOILS AND MANURES IN RELATION TO PLANT GROWTH.

(Continued from page 686.)

◆

Nitrification of Soil and Manure.

The presence of bacteria in the soil is of immense importance because they are the agents which elaborate nitrate of lime, a form of food in which plants take up and assimilate nitrogen. The element nitrogen is the most expensive of plant foods; it is also essential to the existence of life. Protoplasm is the material that constitutes the living part of all plant tissues, and nitrogen is an indispensable constituent of protoplasm. If we kill protoplasm and analyse it in the form of albuminoids it will be found to contain about 16 per cent. of nitrogen.

Now the great store of soil nitrogen exists in the form of humus; and the question is, how is the nitrogen in the humus which is insoluble in water and not available for the use of plants converted into nitrate of lime? The answer is supplied by the following facts: In the soil live certain organisms, mere microscopic specks of protoplasm or living matter, they are called bacteria, and they are endowed with remarkable powers. Just as amongst civilised communities it has been found advantageous to train some men as carpenters, others as masons, others as plumbers, and so forth, so nature has found it of advantage that different sets of the bacterial workmen should be trained so that one can perform one kind of work and another another kind.

In the soil one kind of bacteria lives on humus and by the aid of oxygen—a constituent of the atmosphere—converts the nitrogen of the humus into ammonia gas, and the carbon into carbonic acid. The ammonia is then handed over to another set of bacteria, and these by the aid of oxygen and carbonate of lime (chalk), converts it into nitrite of lime; this nitrite of lime is then taken in hand by a third set of bacteria that, with the aid of oxygen, convert it into nitrate of lime, which is soluble in water, and is a form in which the plant is able to utilise nitrogenous food.

Conditions Necessary.

The foregoing facts show that oxygen and carbonate of lime must be present in the soil if the bacteria are to perform their work. A favourable temperature or degree of heat, about 98 degs. F., is the most advantageous for the development of bacteria, and the presence of moisture is also necessary. The oxygen is provided by the air admitted by the operation of tillage and drainage into the interstices of the soil; moisture is derived directly from the rainfall, or from the water reservoir in the soil; carbonate of lime is a constituent of all fertile soils and exists either as chalk or limestone rock.

It should be the object of all gardeners to produce such a condition of soil during the months of active plant growth as will secure a maximum of nitrification throughout this period when nitrogenous food is most required. It is during the months of active growth that we find it of advantage to supplement what is supplied by the soil itself by the addition of nitrogen as a top-dressing, either in the form of the readily soluble and immediately-available nitrate of soda, or in that of readily soluble and rapidly, but not immediately available sulphate of ammonia or guano. In very early spring, when nitrification is somewhat less active in the soil, it will frequently be found of advantage to supply a little stimulating manure, three to four ounces per square yard, of nitrate of soda to the young crops, especially such things as cabbage, spinach, lettuce, peas, and asparagus.

We observe that in the oxidation or decomposition of the humus matter of soils as the result of the activity of these bacteria, carbonic acid is abundantly produced, and is used up by the moisture adhering to the particles of soil; this moisture, thus impregnated with carbonic acid, acts powerfully as we have already seen, as a disintegrating agent of soil or rock particles, converting potential plant food into soluble and available plant food. Thus the activity of these nitrifying bacteria is constantly leading to the production of both nitrogenous and mineral plant food from the materials stored up in the soil.

We cannot help being struck by the fact that nature has been most economical in the arrangements for the preservation and supply of nitrogenous plant food, as is remarkably shown by the permanently unmanured plot of land in the Rothamsted experimental wheat field, to which we have already called attention. If the nitrogen of soils existed entirely as nitrate the rain would rapidly wash it all away; did it exist as ammonia, nitrification would speedily convert it into nitrate with a similar result; but existing as it does stored up in humus, an insoluble form, a form that is only converted into nitrate under conditions of warmth and moisture, which are at their best when plant growth is most active, we have the production of available nitrogen at the very time when the plants most need it.

Harpenden. J. J. Willis.

(To be continued.)

A FINE CROP OF TOMATOES.

Mr. Jones, head gardener to G. H. Rolls, Esq., J.P., Arcadia, Bournemouth, is to be congratulated on his very successful cultivation of tomatoes. Altogether there are four houses devoted to this crop, and the plants are fruiting remarkably well, but in one house—the earliest—the crop is a grand one. The structure measures about 25ft. in length and 12ft. in width, and is span-roofed. There are thirty-eight plants, which are yielding a crop of about five hundred pounds weight—more than twelve pounds per plant. The fruits are very firm, of good colour, and handsome appearance, and even in size—a little above medium. Selecting one of the largest trusses I counted thirty fruits on it. The variety is a selection of Mr. Jones's. The seeds were sown last February, and the seedlings given ordinary treatment until all danger from frost was past, then they were subjected to very cool treatment, the ventilators, both at the top and bottom of the house, being left wide open day and night, but finely perforated sheets of zinc are nailed over the openings in the front walls.

The plants are grown in shallow beds of soil—about six inches deep, on the side stages; the soil appeared to be mostly tough turves from land covered with heather and bracken fern. Of course, feeding has been resorted to, but there has not been any attempt to coddle, or unduly nurse the plants.

Geo. Garner.

THE JOBBING GARDENER.

Despite the fact that it used to be considered a very great slight on the "knights of the blue apron" to be called "Ponicas," there never was a time when the services of these very useful members of our profession were more called for than they are now. Many of the older readers of the GARDENERS' MAGAZINE will well remember why they were called "Ponicas." It arose through a party of men passing through one of the public parks, and one of the party asked a gardener what the name of a certain shrub was. The gardener in good faith told the truth, the subject being a specimen of Aucuba japonica. Naturally the visitors only partly understood japonica, and the consequence has been we have more or less been branded as "Ponicas" ever since. The term has followed gardeners to America and all over the civilised world, but it is now gradually dying out and becoming forgotten.

The jobbing gardener is a man of many parts, as his work at the various places at which he is employed is so diverse that he does not develop any stereotyped ways, as a man is likely to do when employed exclusively at one sort of work. There is another very great advantage with the jobbing gardener, as he works at so much an hour the employer is not bound to find him work in wet or unsuitable weather. All head gardeners in large establishments know from experience how difficult it is to find a large staff of outside men work under cover in bad weather, peg making, potato and onion sorting, whitewashing sheds, washing pots, etc., etc. All this is obviated with the jobbing gardener, as he is only paid for the time he can actually work. Many men, when once they have started jobbing gardening, would not again return to the monotonous routine of a "regular place." They prefer to be at what is called in this part of the country, "a loose end," i.e., not bound to any particular place at a particular time. Sometimes I think this is not to be wondered at, because in all or nearly all private gardens it is considered such an important thing for the men to keep exact and punctual time.

Of course, the jobbing gardener is most at home at purely outside work, as in places with a number of glass houses regular men in them are an indispensable condition. Indeed, the real jobbing gardener does not care for greenhouse work, as he cannot make enough seen, as watering, ventilating, damping down, syringing, etc., does not make much show; but to see him in his element watch him mowing, edging, digging, making trenches for peas, celery, etc.; he will then show you how it is done. During the last few years two of our men have left us to take up jobbing gardening and they have both done well. One especially has a penchant for laying out villa gardens, and building rockeries, a talent he possessed unknown to me, as it was dormant and not required in ordinary work in greenhouses.

The jobbing gardener naturally becomes a very intelligent man, because at most of the places he works at a different class of plants are grown, and he acquires experience which a person cannot attain who is always in one place. The winter season is the worst time of year for him, but as a set off against that he can work much longer in summer, and as he is paid by the hour he can make up for the natural shortage in winter.

From a pecuniary point of view the jobbing gardener has a great advantage over the ordinary garden labourer, whose wages vary from, we will say, 15s. to £1 per week. Whereas the jobbing gardener at 5d. or 6d. an hour, as the case may be, is far the better off.

Jobbing gardening is not a sinecure occupation, but if a man is possessed of a strong body in good health, and is active and withal intelligent, and possessing a desire to please his employers in a fairly good residential district, he is almost assured of a good living by following the honourable occupation of a jobbing gardener.

W. M.

Cheshire.

CABBAGE.

During the end of August and beginning of September preparations are made for the main plantations of cabbage. When we take into consideration their value and the length of time they can be obtained in good condition for use, which is at least from April until the end of the year, it is a question whether the cabbage has an equal amongst the Brassica family, or, in fact, amongst kitchen garden crops, for the amount of material it will produce in return for the labour expended upon it. It will amply repay thorough and liberal culture.

DOBBIE'S IMPROVED WINNINGSTADT CABBAGE.

To secure firm, tender, and crisp hearts rich, warm, and sweet soil is absolutely necessary. Ground that has been carrying crops of potatoes, peas, or onions is, as a rule, desirable, because such sites have been generally deeply dug and enriched with good manure. On light land it is best to give another good manuring before planting cabbage. Heavier soil being more retentive it will not need a heavy dressing of manure after the crops named, so long as it is known to be in good condition.

Fortunately, cabbages are not so subject to club as cauliflowers. The principal drawback to the spring cabbages in many parts of the country is the one of prematurely running to seed. It is generally found that too early sowing, and the consequent attainment of some size by the plants before winter, has much to do with this. Some varieties are more subject to "bolting" than others. Good and suitable plants for standing wind and frost can be had in most parts of the country by sowing the seed during the last week in July and the first week in August; some prefer the second week in August.

Ellam's Early, to my mind, is yet unsurpassed for its useful size and general good quality. Winningstadt is considered by many to be well worth growing for spring use, but it seems more useful for cutting during the summer months; without doubt it is a handsome cabbage, and it is often seen at exhibitions during August. The firm and weighty hearts, especially in the case of some of the better selections, have recently come under my notice. Where there is a heavy demand this cabbage is valuable in giving a large bulk of good heads, though not of the very first quality. It is an excellent plan to make a spring sowing of this variety, and to set the plants out at about two feet apart, and then heads will be produced from July till the end of the year.

C. FLACK.

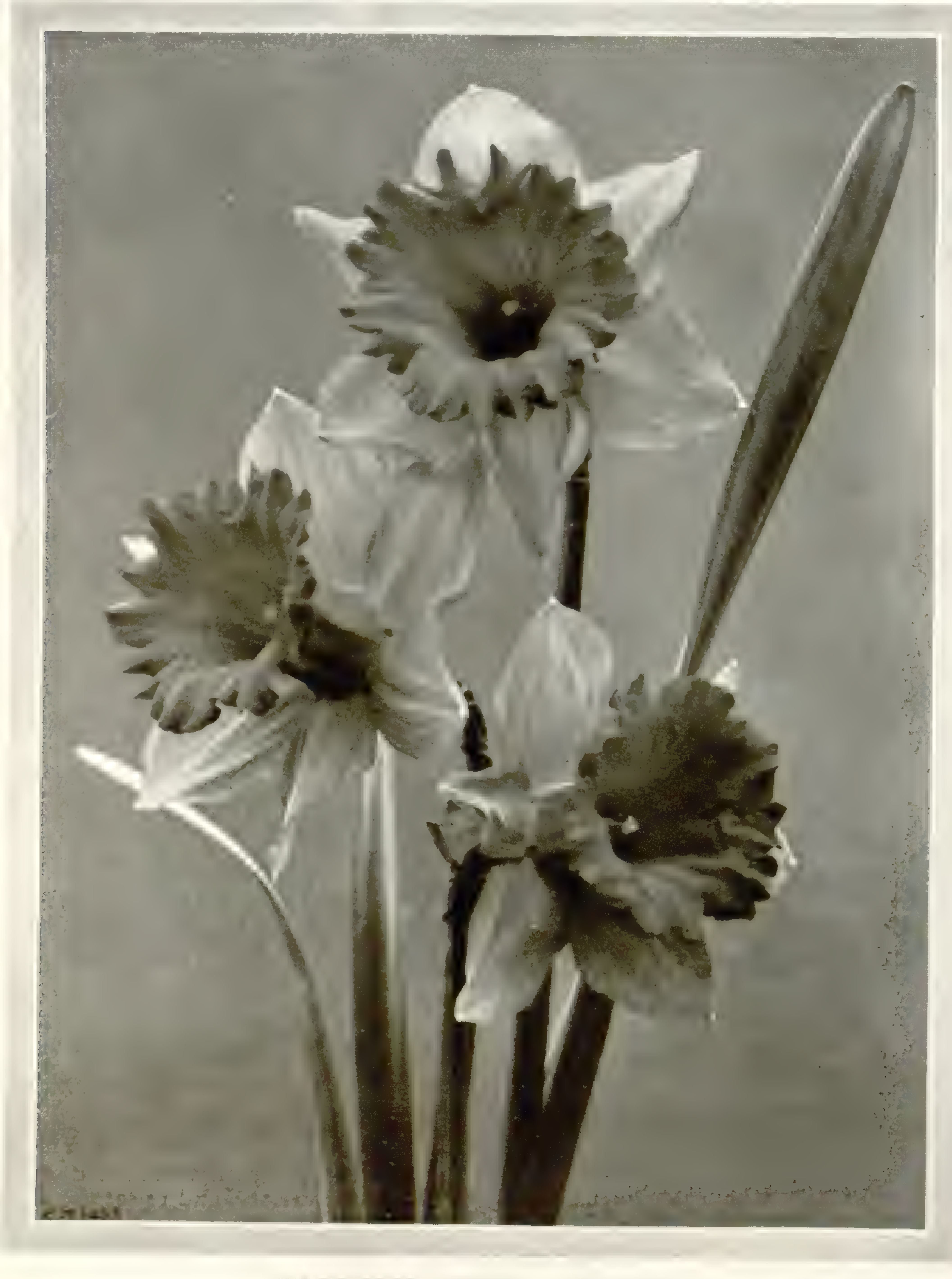
Cholmondeley Castle Gardens.

The Venetian Sumach.—There is no other hardy shrub which can for one moment be confounded with Rhus cotinus, at least during the present season of the year, when the inflorescence borne in the shape of dense wig-like masses, is at its best. In this state the upper part of the bush appears to be enveloped in a ruddy cloud, hence the popular names of Fire Bush and Smoke Bush, which have been applied to it. The comparatively small ovate leaves of this rhus stamp it as quite distinct from those species with large pinnate foliage. There is a variety (pendula) of drooping habit, and another (atropurpurea) in which the leaves are darker tinted, and the inflorescences of a deeper colour than those of the type.—W. T.

NOTES FROM KEW.

Late-flowering Clematises.

At this season of the year Clematis Jackmani, and others of the same group, assert themselves in a marked manner, not only in many large gardens, but in those attached to the humblest of cottages. It is, however, not necessary to depend upon this section, for a great number of widely diverse forms are in flower at Kew, where the practice prevails of allowing them to run over a few rough branches, under which conditions they are seen to great advantage.



NARCISSUS GENERAL GORDON.
Flowers golden-yellow, with soft yellow perianth; a fine variety for early forcing.

Clematis viticella.

Prominent among those now in flower are Clematis viticella and its numerous varieties. This species is a native of Europe, and though said to have been introduced into this country so long ago as 1569, it is questionable if its merits are even now sufficiently recognised. It is not so vigorous a climber as some of the others, but reaches a height of eight to twelve feet, and flowers continuously during the latter part of the summer and early in autumn. Of the several varieties those worthy of especial mention are alba, with whitish blossoms; flore plena, a double form of the type, which is said to have been in cultivation as long ago as Gerard's time; cærulea plena, with double blue flowers; rubro grandiflora, of a rich ruby-red; and a very distinct double-flowered form known as Lamartine. The last-named was raised and distributed some years ago, and has double flowers quite two inches across, and of a distinct lavender-mauve shade. Apart from any other consideration, the flowers are much larger than those of any other double form.

Clematis Hendersoni.

A fine mass, some four to five feet in height, of this old garden form of clematis showed it at its very best, and suggests whether in the race for novelties we are not apt to overlook the merits of old and well-tried friends. It is now well over forty years since I first became acquainted with this clematis, at which time the number of garden varieties were but few, compared with those of the present day. The origin of Clematis Hendersoni is, I believe, somewhat obscure, but it is commonly regarded as a hybrid between C. integrifolia (a herbaceous species) and C. viticella. It is said to have been raised about 1835, in the nursery of Messrs. Henderson, at St. John's Wood. Clematis Hendersoni is a non-climber, but it will reach a height of six feet to eight feet, or even more. The flowers are over a couple of inches across, and are of deep bluish-purple.

Clematis Durandi.

This is a delightful clematis, grown as it is at Kew, where it is supported by some rough branches. It possesses in a marked degree the prominent characteristics of C. integrifolia, one of its parents, the other being C. lanuginosa. By some it is classed as a variety of C. integrifolia. The flowers are somewhat of the colour of C. Jackmani, and about four inches across.

Clematis orientalis tangutica.

This is flowering close by the typical C. orientalis, and shows well that the claims which have been put forward on its behalf as the finest yellow-flowered clematis in cultivation are not exaggerated. It is a free-growing climber, and the flowers are of a decided yellow tint. They are drooping, do not open widely, and are remarkable by reason of their curiously pointed sepals. With regard to the showy nature of its blossoms this clematis cannot be compared with many others, but the uncommon tint at once arrests attention. Added to this, the heads of fruits are very attractive by reason of the long silky tail attached to each seed. As the flowering season extends over a considerable period these silvery plume-like heads may be seen interspersed with freshly-expanded blossoms.

Clematis flammula.

Everyone knows this clematis, which, though a native of Central and Southern Europe, has been in cultivation here for over 300 years. The variety, rubro-marginata, is, however, a comparatively recent form, in which the segments of the flowers are bordered with red. K.

NEW DAFFODILS.

A particularly fine new daffodil that Messrs. Barr and Sons, Covent Garden, W.C., are now offering to the public is the incomparabilis variety named Gadfly. It was shown remarkably well in their exhibits last spring, and promises in due course to be a favourite. At present its price is beyond the purse of all but the keenest of specialists, because not many are prepared to pay a dozen guineas for a bulb. Gadfly is a striking flower with a finely formed and slightly reflexed perianth of glistening whiteness shading to delicate sulphur towards the centre of the flower. The broad, flat crown or eye is dark and vivid scarlet, shading to rich old gold right in the centre. Gadfly grows about fourteen inches high and is one of the best of the flat-crowned incomparabilis varieties.

Whether the variety General Gordon is quite new or not we are not prepared to say, but it is a golden trumpet daffodil with a great future before it as a forcing variety. We first made its acquaintance last spring, when Mr. W. H. Page, Tangley Nurseries, Hampton, exhibited forced flowers. Mr. Thomas Stevenson, to whom we are indebted for the accompanying illustration of this variety, writes: "I believe General Gordon will become a very popular variety for early forcing, as under equal conditions of culture it comes into flower a week earlier than Golden Spur. It is larger than the latter variety, the trumpet being very fine and quite as deep a yellow as found in Golden Spur, but the perianth segments are a little paler, about the same shade as seen in Emperor. It seems to be a desirable variety in every way."

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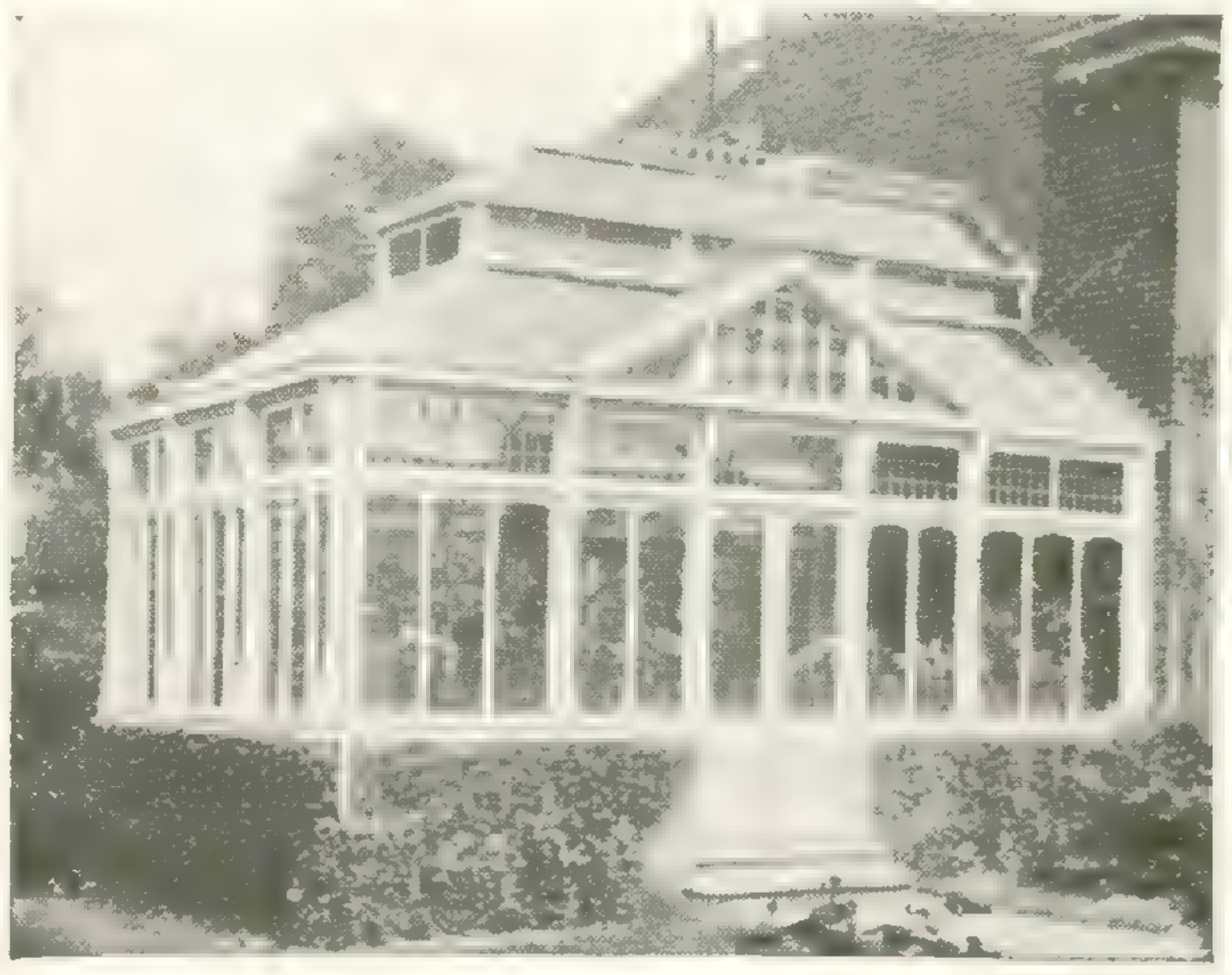

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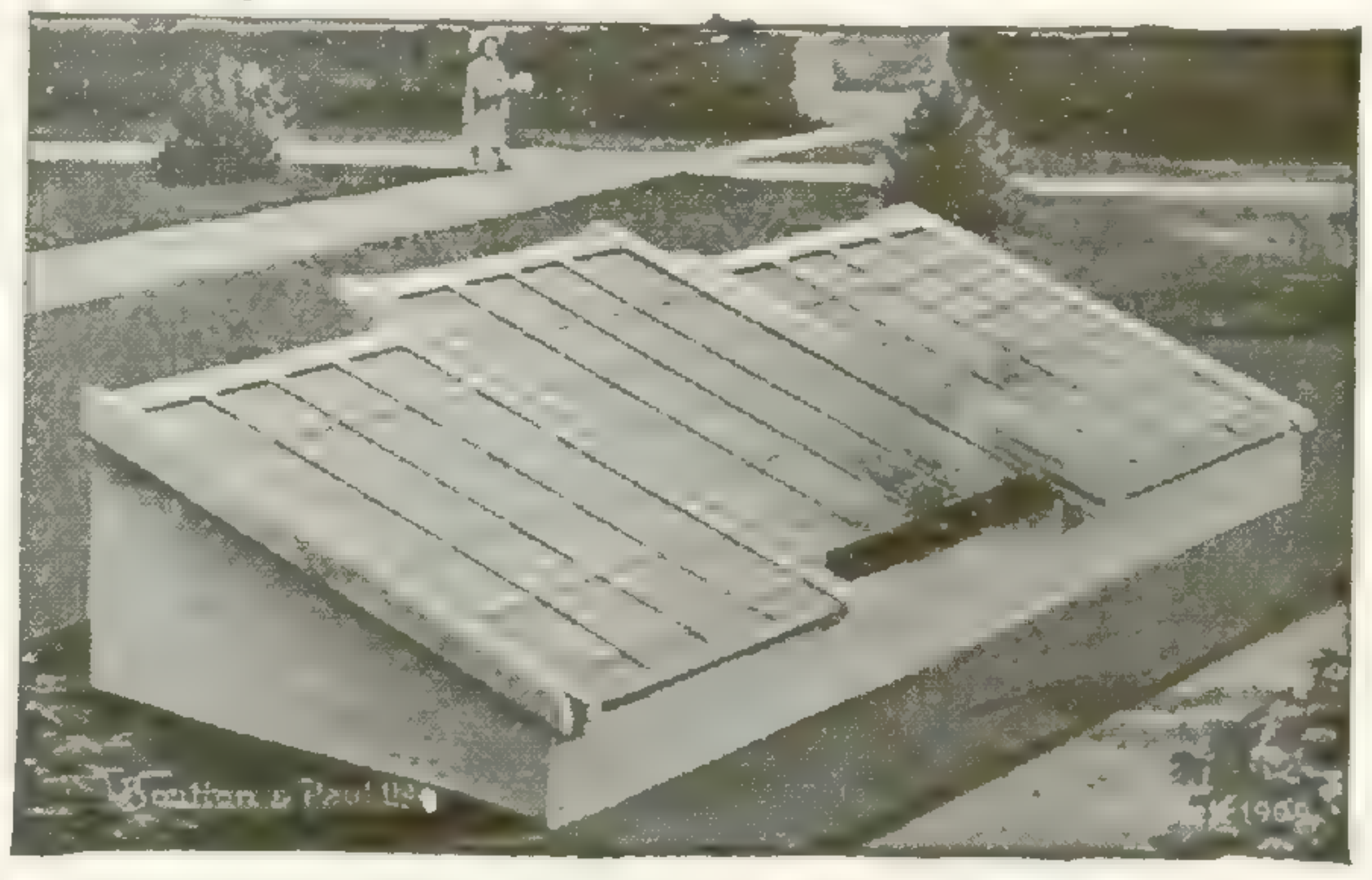

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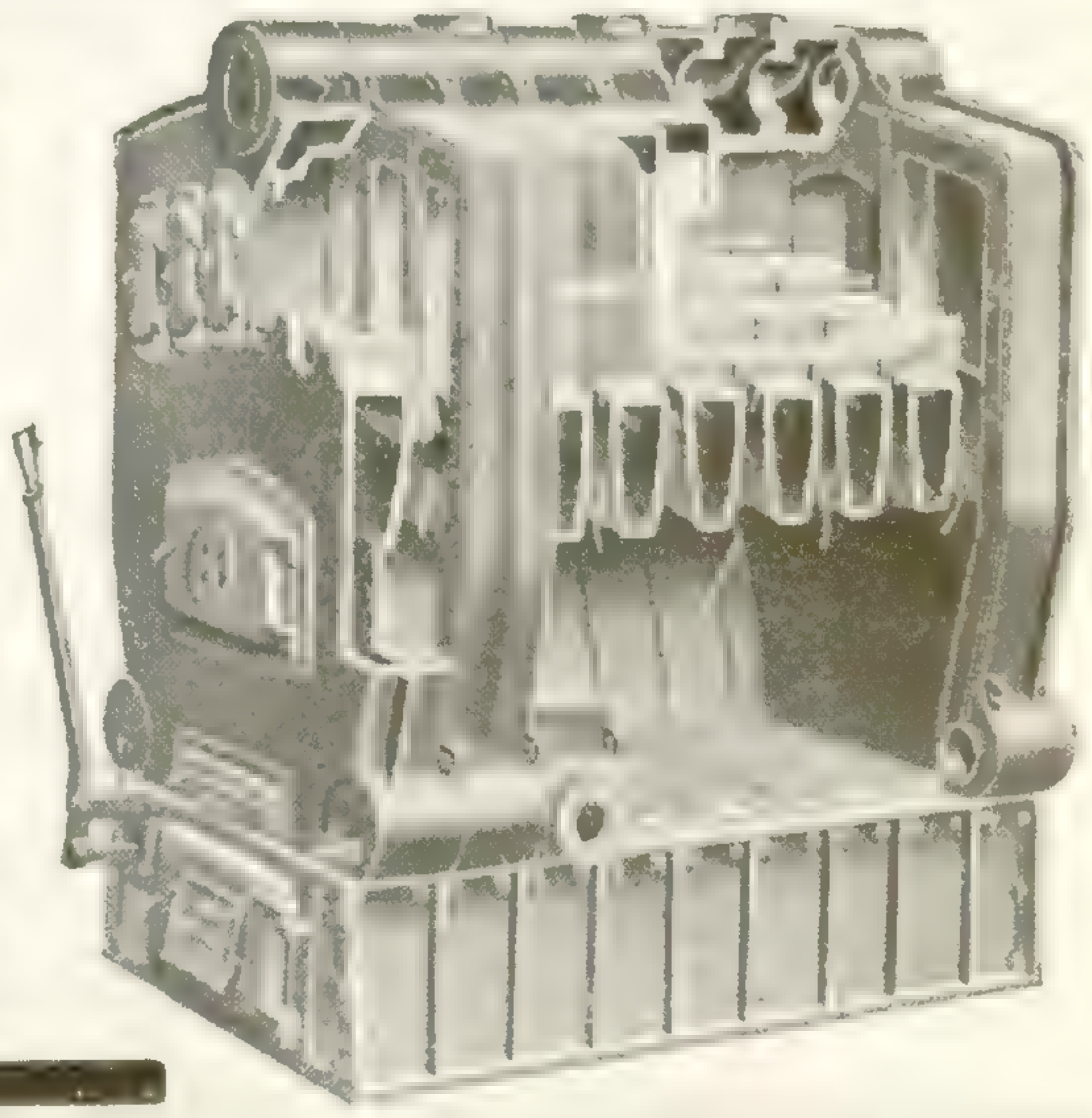

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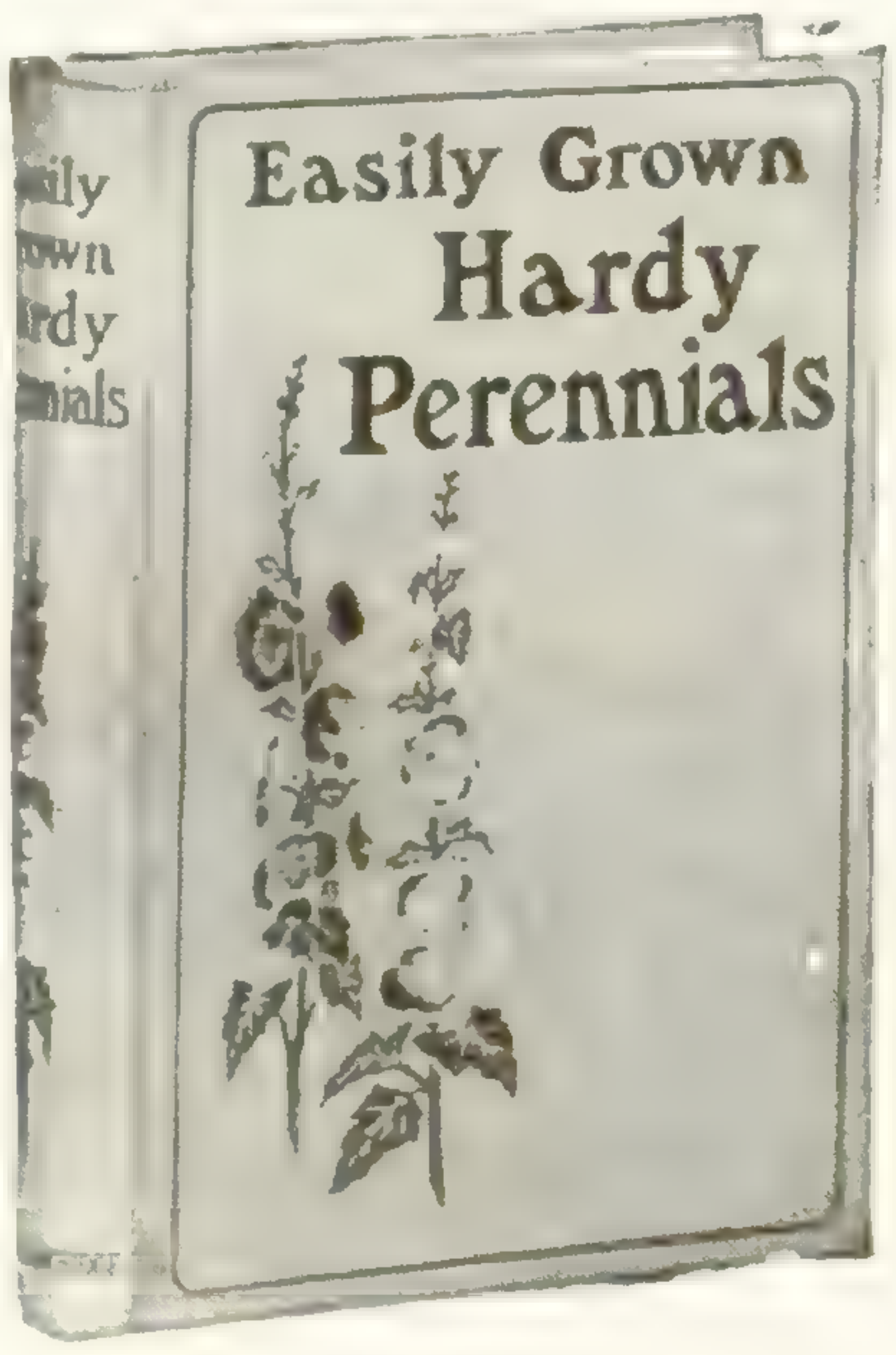
Illustrations.—Two hundred and fifty-five of the most popular species and varieties portrayed, mostly as growing in the garden.



Botanical Name.—Gives the botanical or generic name of each genus of plant described in the book.

Common or Popular Names.—Supplies the common or popular English names of all the plants described.

Natural Order.—The botanical family to which kind belongs.

Habit and Uses.—States whether the plant is fibrous, tuberous, or bulbous rooted, and to what use it can be most effectively put in garden decoration.

Species and Varieties.—Describes the most showy varieties worthy of culture, the colour of their flowers, season of blooming, height and native country.

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ORDER FORM.

HEMEROCALLIS FLAVA.

The member of this family we most commonly see growing in gardens is the copper-coloured Day Lily (H. fulva), doubtless because it is such a hardy and vigorous grower, and it must be admitted that where there is plenty of space, or in some wild garden, it may produce a good effect with its tall heads of blossom arising out of a mass of bright green foliage. H. flava is much less vigorous, though similar in character, and the flower stalks seldom exceed two feet in height. The great recommendation of the flower is its delicious scent, which has earned it the name of the Yellow Tuberose. It is hardy enough, but thrives best in light soils, succeeding even in hot dry places. Small plants are sometimes difficult to establish owing to the depredations of slugs, which attack them before they rise above the surface of the ground in the early spring. It is easily propagated by division, the early autumn being the best time, with a view to next year's flowering. All that it is necessary to do is to take up a clump and pull the fleshy roots asunder, either with the hands or by means of a couple of four-tined forks. It is best left undisturbed for several years. H. Thunbergi is very similar to the above, and is sometimes regarded as a form of H. fulva. There is also a double-flowered form. The main objection against the day lily is the fugitive character of the flowers, but they are so freely produced that we scarcely notice this defect.

Alger Petts.

STOCKS FOR ROSES.

Few points in the culture of roses have led to more discussion among rosarians than the question of suitable stocks. Unfortunately, a few growers are very dogmatic upon the subject, and almost refuse to mention some stocks, except in terms of abuse.

My own experience is that all the rose stocks are useful in some way, although I am quite willing to admit that during the last two decades the manetti has gone out of favour. Now, had it not been for this stock, its vigour, and the facility of increasing it, we should not have had roses propagated so freely and so cheaply some years back. Personally, I would not dispense with it entirely, because my own experience is it still suits some varieties best.

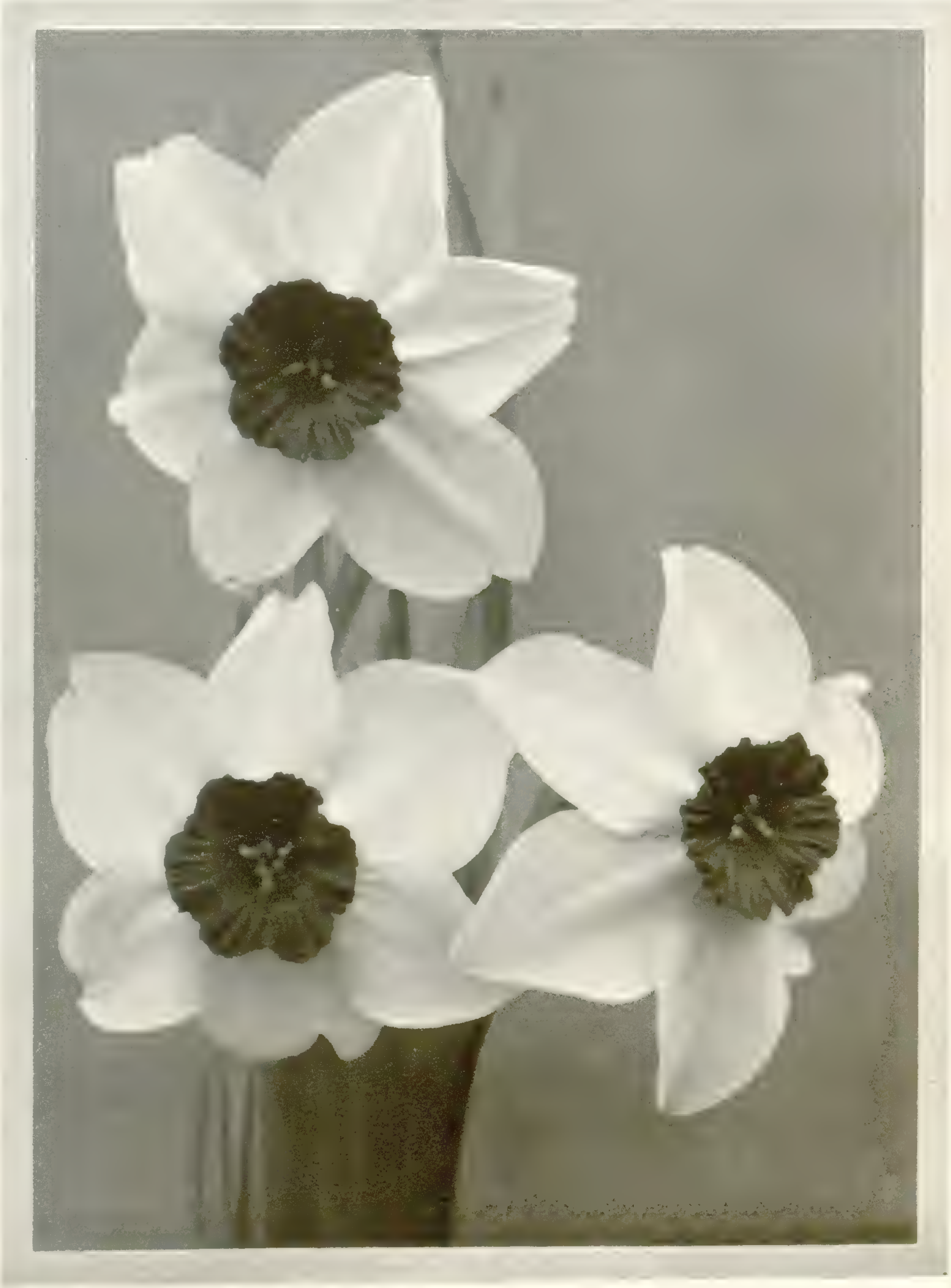
Then we have three distinct forms of the briar used as a stock, viz., seedlings, cuttings, and standards. The strong-growing polyantha stock is much used upon the Continent still, and this also suits some roses better than other stocks. The De la Grefferaie completes the list of those in general use, and the previous remarks apply to this as well.

But it is not so much upon the merits of various stocks that I intend to dwell, having had quite enough of that subject many years back. What we will try to look at will be the better preparation of stocks than was the case until quite recently. Here I do not think we shall be upon such dangerous ground. The subject is seasonable. To take the hedge or standard briars first. It is advisable to procure these before frosts, otherwise they become injured by laying out as procured from the hedges. I have known them lie out for more than a week, being collected as the grubber returned. I do not think any point in the rooting of these is more important than avoidance of frost and drying winds. To plant such stocks in the condition they are received is folly. By all means trim off coarse roots, and cut away any small suckers, as there will never be a better opportunity for this than the present. Do not leave any coarse knobby branches, but cut down until you have a clean stem, whatever the length may be. To commence clean in stem and root is a great feature here. Plant as soon as possible; I have begun in September, and would certainly like them finished by the end of October. Put them six inches deep, and tread firmly. When prepared and planted early most of them begin to callus, and root at once, and this is a great help to them during the trying days of winter and in early spring winds. To the amateur it might well appear hopeless to expect a properly trimmed hedge briar to root, such a mere stick does it seem.

Continuing with the briar stock, we next consider the cuttings. The cutting briar is a most useful stock, and suits any rose that needs or can be helped by foster roots. Choose growths a little more than half-ripened, and cut them into lengths of about nine inches. The most important part of preparation follows, and, I may say at once, it applies equally to the manetti and De la Grefferaie, so I can dismiss these two now. Cut out the bottom eye or eyes, only leaving two, or three if closely set, at the top of the cutting. Unless this is done there is great trouble with the stock later on. Nor do I find the cutting root usefully without it, because if the bottom eyes are left on the cutting they throw a sucker at once, the barrel of the cutting often dies, and we have an almost useless stock. When planting stocks made from cuttings, the roots which will probably have sprung from the stem must be removed. The stocks are fit to plant out the winter after the cuttings were set in, but that is a subject for another note in due season. The cuttings may be set in sandy loam, sufficiently deep so that only an inch or so remains above the newly-moved soil, which will sink a little as it settles under rain and atmospheric pressure. Two and a-half inches is far enough apart for the cuttings in the row, and fifteen inches from row to row. This allows the hoe to be brought into frequent use during the early part of the year.

Seedling briars are best purchased the same autumn one proposes to plant them, and may be the size of a wheat straw at their base. Much larger stocks are apt to swell too much as they grow during the budding season. They will soon be as large as an ordinary cedar wood pencil, and be quite ready by the time buds can be procured.

Rosarian.



NEW NARCISSUS GADFLY.

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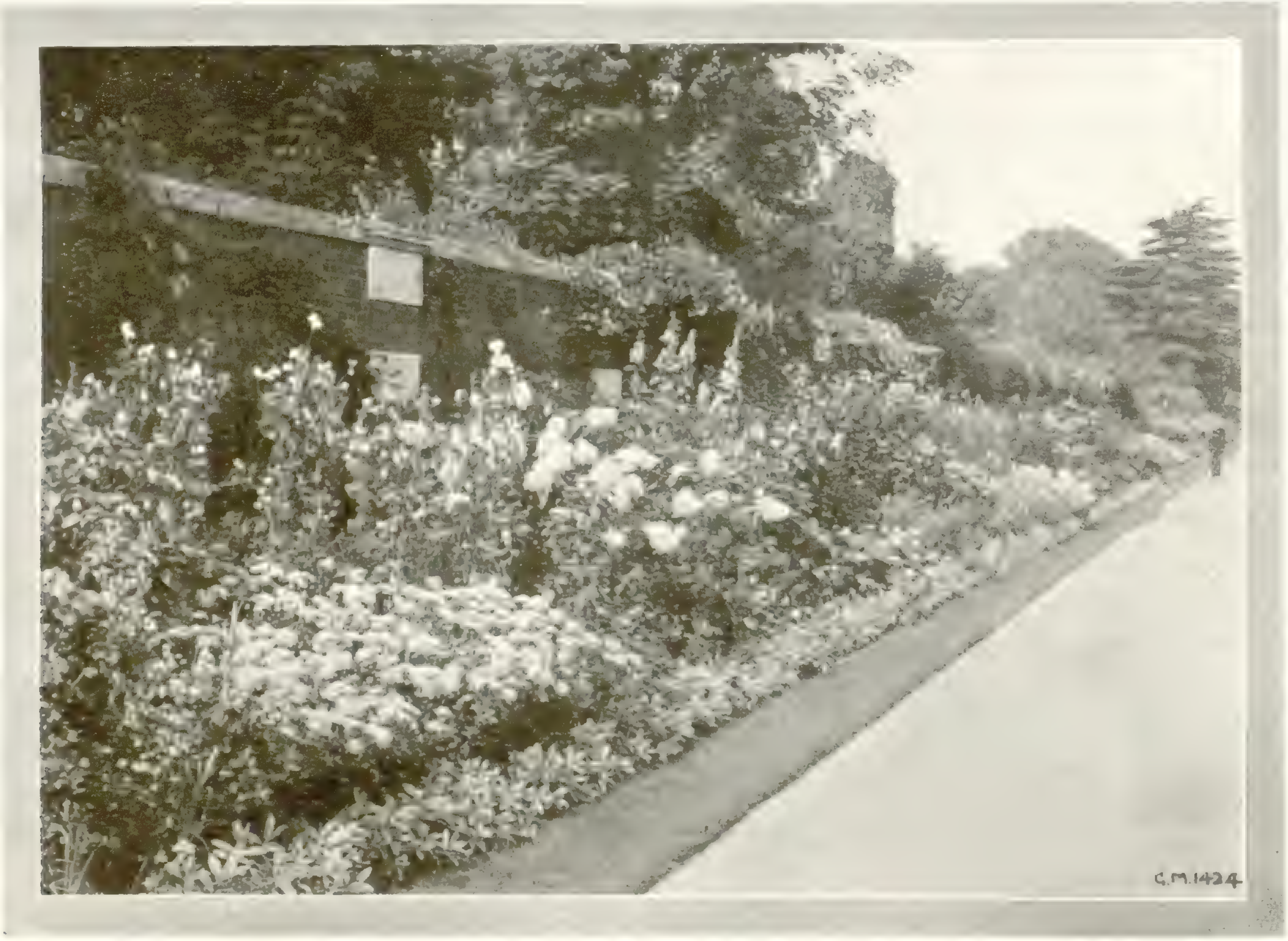
FLOWERS AT HAMPTON COURT.

The fame which the gardens that form so admirable a setting to Hampton Court have for a long period enjoyed for the great excellence of their annual displays of summer flowers have been fully maintained this season, and visitors have had good cause to be well satisfied with the floral feast provided for their entertainment. Much was heard during the past summer about the unfavourable character of the weather experienced, and the complaints of the additional difficulties it placed in the way of cultivators have had ample justification. These added difficulties have had to be contended with in the flower garden, as in other departments, and, considering the great deficiency in bright sunlight, and the relative low temperature that has been experienced, it is surprising that the more tender kinds should have made so satisfactory a contribution to the beauty of the flower garden as they, generally speaking, have done.



AN EFFECTIVELY ARRANGED BORDER OF MIXED FLOWERS AT HAMPTON COURT.

At Hampton Court the visitor has had less evidence of unfavourable climatic conditions than in the majority of gardens, public or otherwise. The whole of the plants appear to have grown freely from the first, and these remarkable for the beauty of their flowers have produced them in abundance, and are still bearing them freely. The Thames Valley, in which Wolsey's stately edifice is situated, has not enjoyed a higher temperature or a greater amount of sunlight than have other districts in the home counties, but the gardens of Hampton Court have the advantage of the shelter of the magnificent avenue of limes that forms so fine a feature on the east side, and they are sheltered also from the north and north-west by trees in the Wilderness and elsewhere. In addition to the advantage of shelter, the soil is naturally light and warm. The shelter from cold winds, and the warmth of the soil have undoubtedly proved factors of importance in a cold sunless summer, such as that through which we have just passed. They, however, are not the only factors that should be mentioned in a reference to the splendid development of the various subjects that have been used. Strong, well-hardened plants, and good cultivation subsequent to the beds being filled, count for much, and the importance of these two essentials evidently obtain full recognition at Hampton Court.

Beds and borders are equally well furnished, and immensely attractive, and the result of an attempt to determine their relative merits would not have any great practical value, because in a matter of this kind so much depends upon the personal element. The borders contain a great diversity of plants, so arranged as to produce rich and harmonious colour effects, while the majority of the beds are furnished with two or three classes of subjects. The borders of mixed plants alongside the magnificent promenade that extends from the river to the Kingston Road is divided by the Palace into two portions, each being many hundred yards in length. The south-east section is devoted almost exclusively to hardy plants, and Mr. Marlow, whose management of the gardens is so successful as to merit the highest praise, has planted the border with a view to the display of flowers being at its best during July, August, and the greater part of September, when the gardens are the most largely visited. What Mr. Marlow has accomplished would serve as an excellent model for gardens of country seats at which the owners are not in residence until after the close of the London season. The whole of the subjects are arranged in masses of some size, and with due regard to colour harmony, and the result is an effect at once rich and tasteful. Herbaceous phloxes are used with remarkable success, and the rich masses of colour produced by their splendidly developed spikes of flowers prove to demonstration the great value of these beautiful plants for contributing to the attraction of borders of hardy perennials late in summer. They indicate also that their cultural requirements are fully understood, for on light soil such as that in the Hampton Court district it is not possible to have herbaceous phloxes in a high state of development without making ample provision for their food requirements, and replanting at rather frequent intervals. Conspicuous also in the border are such subjects as Aster acris and A. corymboides, Helianthus Miss Mellish, and other of the perennial sunflowers, Artemisia lactiflora, one of the most elegant of the hardy plants flowering at the end of the summer, the flowers being creamy-white and produced in large feathery spikes; Rudbeckia speciosa in variety, Helenium grandicephalum, Eupatorium ageratoides, Veronica subsessilis, and Chrysanthemum King Edward, one of the boldest of the forms of C. maximum.

The border to the north-west of the Palace, and herewith illustrated, contains both hardy and tender plants, which, as in the other border, are arranged in bold groups. Here we find Lilium speciosum, Chrysanthemum Polly, one of the most effective of the early-flowering varieties, with rich golden flowers, varieties of Chrysanthemum maximum, hollyhocks in variety, Calceolaria Burbidgei, Hydrangea paniculata grandiflora, Salvia splendens Glory of Zurich, a fine variety for bedding, the flowers being of the same colour as those of the species but produced far more profusely, the plant being dwarf and compact; sweet peas, Heliotropium President Garfield, herbaceous phloxes, Gnaphalium microphyllum, a slender-growing species with silvery leaves, and many attractive subjects.

The beds on the fine breadths of turf to the right and left of the fountain have been wondrously beautiful, and are still very attractive. They evince a remarkable diversity in their arrangement, and it is evident that Mr. Marlow endeavoured to have them as varied as possible, but without any deviation from the canons of good taste. To give a detailed description of any considerable number would require far more space than is available at the present time, and a brief reference to a few of the more noteworthy will serve our present purpose. Specimen Calceolaria Burbidgei, ivy-leaved pelargoniums, heliotropiums, lantanas, Streptosolen Jamesoni, and a few other subjects are used freely, and with surprisingly good effect. In some cases they are used in groups of one kind, and in others two or three are in association. The specimens range from four to five feet high, and the bed of Ivy-leaf Pelargonium Galilée, herewith illustrated, will afford an excellent idea of the charming effect produced. This is perhaps the best of the pink varieties in its section, for while strong enough in growth to form good specimens within a comparatively short period, it is not unduly luxuriant, and it has the merit of blooming with great freedom. The heliotropium chiefly used in specimen form is President Garfield, a variety in which vigour of growth and freedom of flowering are happily combined. In one bed it is associated with the white-flowered swainsonia, and in another with Streptosolen Jamesoni; in both cases the combination is satisfactory, but the deep blue flowers of the heliotropium form the most pleasing contrast to those of the swainsonia. Foliage plants four or five feet in height are also rather freely employed, and a bed furnished with the rich crimson Iresine Lindeni and the silvery variegated form of Veronica Andersoni was made note of as being very attractive.

A highly effective bed on the main walk to the south-east of the Palace is that planted with Glory of Zurich salvia, and having bushy examples of the silvery Leucophytum Browni as dot plants, the contrast of white and scarlet being particularly pleasing. The last-named has also been used as dot plants in two circular beds filled with a pink-flowered tuberous begonia, with much success. The begonia is Major Hope, a dwarf-growing variety, with medium-sized flowers that are borne on stiff, erect stems. These beds are near the entrance to the Wilderness. There are numerous beds of roses, in which violas are used as a carpet, and there are several long beds of sweet peas that have been particularly good and now afford a fine display of flowers.

Visitors to Hampton Court, when they have exhausted the charms of the many flower beds on the wide-spreading lawns, should not fail to have a peep at the sunk garden at the southern end of the Palace, and on the south side of the walk leading to the structure containing the famous old grape vine. It is not possible to walk round this old garden under the shade of a pleached alley, as in the case of the new sunk garden at Kensington Palace, but a good view of its occupants is obtained from the north end, whence also a good idea may be formed of the characteristic features of a style of garden design that belongs to the Tudor period.

A CHARMING LAWN GROUP OF IVY-LEAVED PELARGONIUM GALILEE AT HAMPTON COURT.

FERN DANGER SIGNALS.

To speak of a danger signal in connection with ferns, or to imagine their power to hoist one in case of need, strikes one as absurd, but, as we shall see, it is practically done, though doubtless generally ignored. In innumerable cases we have noticed that the fronds of ferns attacked by weevils or even caterpillars change their colour to a very pale green, sometimes almost white, and the curious part of it is that it is not merely such fronds as may have been bitten, but the whole plant which displays this change, and even merely associated ones in the same pans of seedlings where such are concerned may be affected. So marked, indeed, is this change of colour that we accept it as an infallible indication of the enemy's presence, and invariably succeed by plunging the pot under water in forcing the pest out of its hiding place and despatching it

That the change of colour is due to some subtle influence on the chlorophyll is proved by the fact that a few hours after the removal of the vermin the fronds resume their normal green colour entirely. Unfortunately our collection under glass suffers so much from weevils and caterpillars, despite the most persistent hunting, that practical proofs of our statement are continually being afforded, the foe invariably being found to be present when the danger signal is shown. When, however, we mention the facts to friends, they invariably impute the idea that ferns can turn pale when danger threatens them to the imagination of a "crank," and we should, therefore, be greatly obliged if any fern lovers would make a note of these remarks and report pro or con, as the case may be, in connection with their own experiences.

In pans of seedlings which have reached the stage where pricking out is essential, a more or less dense bush resulting, both weevils and caterpillars, too, often find congenial harbourage, almost defying detection by simple search, and it is among such that, in addition to gnawed fronds, the discolouration or bleaching is invariably displayed. Our plan is to fill a small bath with sufficient water to nearly submerge the fronds. In a minute or two, rarely exceeding five, all the weevils and caterpillars present will make their way up the fronds until they reach the air, when, of course, they are easily seen. A ten-minute submersion may be safely relied upon to bring all to view, the pan being then lifted out and allowed to drain; by the next day, at latest, the normal green colour will reassert itself and healthy growth be resumed. Where trouble of this kind is frequent it is well to recognise the traces of the various kinds of pests at as early a stage as possible. Caterpillars may be traced by their droppings, even in their very young and most insidious stage, and before they have begun to travel far, and when these are noted it is the searcher's own fault if the depredators be not secured. The deposits of the weevil are found on the fronds as small brownish wet blobs, and the culprit is then never far away, since as a rule it stays near its larder. By noticing these indications it is often possible to prevent considerable damage, since a very small damage to a young, rising frond means a big gap in the full grown one.

Chas. T. Druery, V.M.H.

Rhododendron Maddeni magnificum.—The typical Rhododendron Maddeni has been long known as one of the latest of the tender Himalayan rhododendrons, as its long-tubed white flowers are often borne well on into July. The variety magnificum has flowers which are larger than the ordinary kind, and are also tinged with rose.—W. T.

AMONG THE ALPINE FLOWERS.

> "Wisdom and sadness are as near, blithe youth,
> As sun and shade. Would it were otherwise!
> Experience, feeding upon all life's sweets,
> Itself turns sour."
> —ALFRED AUSTIN ("Savonarola").

We have not been feeding upon "life's sweets" in the alpine garden for some time. The weather has frowned for long, and only on a chance day now and again has the sun smiled upon us. Nature has been frowning and weeping upon us, and now we can only find a comparatively few things to cheer us when September dawns. Yet the rock garden is not barren, though driving rains, cheerless skies, and low temperatures have checked the appearance of the autumn flowers, and have driven too quickly away the blossoms of the earlier plants. We have had to feed too much upon the sours of life, and we welcome a brighter day when it comes, thinking, happily, it may be the precursor of blither times for the gardener and the husbandman. As this is being written fields are saturated and many flooded. The floods are out and sheaves stand in water; lakes appear where no lakes should be, all dotted with little islets of trees, or lined with hedgerows deep in water And the garden is less bright than usual, so that our gleanings will be few and duller than is their wont. But we shall see what we can glean from among the scattered flowers, remembering all the time that this is not the season for the alpine, which, as a rule delights in the wakening spring or the long summer day, and bids us farewell when autumn yields her golden freight to the reaper.

Androsace lanuginosa.

Wonderfully bright for some time has been the Silky Rock Jasmine, one of the beauties of the alpine flowers of the time. It has a long season, coming in summer and ofttimes lingering until its white, soft, silky leaves are made still more silvery by the touch of the hoar frost; even then its flowers may yet be in bloom, the neat heads of blossom being bright with their soft rose, yellow-eyed colouring. A handsome plant of this is really charming as we see it trailing over the rockeries, nigh as beautiful in leaf as in flower. But it is not everywhere that one meets with it in large plants. I once had a photograph of a very fine plant of this androsace sent me from Totley Hall, and very beautiful it was in the representation. But only those of us who know this rock jasmine could imagine the beauty of the original, and realise how great a delight such a fine plant would be to its owner. It is not easy to grow this androsace to such dimensions, and it requires care and consideration, not only in the planting but in the after-cultivation. Not that the androsace is unusually exacting in its requirements. It is apparently quite oblivious to extreme cold—at least any cold we have in these islands. But it cannot stand much winter rain, and, in consequence, it craves for shelter from the rainfall, the sleet, and the frosts of winter, when accompanied with much moisture. A sheet of glass, raised overhead and fixed by means of one of Wood's plant protectors or a like contrivance, will preserve it, and even a slate or a box lid, raised in like manner about six inches above it, so as to ward off the rain, will be a shelter appreciated by this androsace, and will enable it to stand for many years and to increase in size and in beauty. A soil of loam, grit, and a little sand and leaf-soil will grow it well. It is best trailing over a stone and in a sunny position, although it does not object to half-shade. So now we enjoy the pretty leaves and flowers of Androsace lanuginosa, with all their charms heightened by the absence of its rivals of the earlier time.

A Graceful Heath.

Delightful things in the garden are the autumn heaths, though we cannot hope to rival in our rock gardens the effect of the many acres of the wild heath which empurples long miles of our mountains and hills. But the rock garden is the place for the choice varieties of these heaths, and also for those species which are not to be found within easy reach of our homes. Because Calluna vulgaris, one of our commonest heaths, is plentiful, and many acres of this lovely flower are to be found near by, we need not despise its allies in our gardens. Then one soon learns that everybody who visits one's garden admires these heaths, and that a sprig of any one of them is welcomed for the gown or the buttonhole. More appreciated, however, than the coloured heaths are the white varieties, the "Lucky White Heathers" of the market and the nursery. Not many, even among those fond of flowers, are acquainted with any number of these white heathers, and among those which are little known is a pretty variety of Calluna vulgaris, the true ling, called by the long name of Calluna, or Erica vulgaris alba gracilis. The varietal name of gracilis is aptly bestowed, because of the graceful habit of this variety. In this it is a real alpine, lacking the stiff, erect habit of so many of our heaths, and yielding in graceful sprays of foliage and white flowers. I find it a little later here than some of the other white varieties, but this may be partly due to its position. It is a good plant to grow, and as it is naturally inclined to root as it droops to the ground, it is easy to increase by layering. It was sent out, if I remember aright, a few years ago from a North of England nursery. It will grow in loam, as many of the heaths will, so that peat is not needed for this lovely "lucky white heather."

The Silky Cinquefoil.

Looking through the rock garden one comes upon the lovely Potentilla lanuginosa, a little-known shrub, in flower. Very beautiful is this plant, although the flowers are being hindered by the absence of sun and the dull skies which are saturated with moisture. It has been a satisfactory little shrub with me for a goodly number of years, and it never fails to give its yellow flowers every year in late summer and autumn. Bright and pretty are these, on bushes now some two feet high, although it has taken them long to attain this height. Potentilla lanuginosa, for such is its name, was only some six inches high at first. Its attractions do not consist solely in the yellow flowers about an inch across, beautiful as these are. They lie as much in the dainty, silvery, silky leaves all prettily notched, which make a grey mass on a tangle of thin wiry branches. As a plant for the rock garden this alpine, silky cinquefoil is a gem, and few there are who see it who do not wish to adorn their gardens with Potentilla lanuginosa. It is superior in every way to P. Fredreichseni, or any variety of P. fruticosa. Like many good garden flowers of its class, it is a native of the Caucasus, and it appears to have as much a liking for our northern clime as the majority of flowers which we owe to that cradle of the Caucasian race.

Other Flowers.

But these do not exhaust our delights, dull as is the time. There are other heaths than that spoken of. White and purple, and crimson, and almost lilac are their little bells. Then we have violas, tunicas, silenes, campanulas, meadow saffrons, dwarf starworts, betonicas, linarias, alliums, geraniums, geums, and many little flowers, which, as we look upon them seem to say: "Why write so dolefully? The garden has much to cheer you. The skies may frown but we don't. Come among us and have your heart lightened by our brightness and our beauty."

S. ARNOTT.

TRAINING FRUIT TREES.

Those who, like myself, have had the opportunity of seeing the gardens at Frogmore, now so thoroughly altered during recent years, cannot but admire the skill and care exercised in the training of the fruit trees, on the walls especially.

In many good gardens where culture is a point evident in the matter of production in fruit, flowers, and vegetables, do we find ill-trained fruit trees. Gardeners there seem to think that no matter how the branches are secured to the wall, crooked or crossing each other, the result will be the same. Well, this is not so, as apart from the appearance of the trees, which, to a person who has had a practical training in hardy fruit culture, is most unsatisfactory, the manner in which some are trained influences their productiveness.

When a plum tree, for example, has its main branches radiating away from a centre at a reasonable distance apart, increasing in width the further they get away from the base of the tree, there is surely more space for leaf maturity and branch development, and thus the tree is in a much more satisfactory condition for the production of a fruit crop. Some seem to think if the branches are made fast to the wall that is all that is required, not giving a thought to the appearance of the tree. Surely such training is bad for their juniors. What is worse than an ill-shapen peach tree? The peach, of all trees, is the easiest to manage, and one of the earliest to exhibit the ill-effects of bad management.

At Frogmore the wall trees are models of what trained trees should be, and they are not a few. A recently established plum wall, mainly of the gage type, affords an example of how trees should be handled. It matters not upon what aspect the trees are growing, or what they are, plums, cherries, pears, or peaches, the result is satisfactory. I have been much interested in the huge peach wall from which one thousand dozen fruit have been gathered in one season.

There is too much excuse made nowadays by those who fail to grow satisfactory peaches on walls, and they say the English climate has so changed that peaches cannot now be grown! Those who see examples like the one quoted smile at such an excuse. This systematic training of fruit trees at Frogmore is not alone confined to wall trees, but extends to the bush apple trees growing in the open. Where could a finer set of trees of Cox's Orange apple be found than are growing in front of this same peach wall? The trees are uniform in height—eight to ten feet—with branches thinly disposed, not one crossing its neighbour, as is too frequently the case.

E. M.

USEFUL GUIDE TO GARDEN WORK.—A handy all-round guide to work in the garden month by month is the GARDENING YEAR BOOK, by George Gordon, V.M.H., price 1s. net from booksellers, or by post 1s. 3d., from W. H. and L. Collingridge, 148 Aldersgate Street, London. The book is freely illustrated and the cultural details thoroughly practical and up to date.

TREES AND SHRUBS FOR COLOUR EFFECT.

Ornamental trees and shrubs are probably seen at their best at the present season of year, and it is a good time to note some of the more beautiful kinds for planting at the proper season. When tastefully grouped and arranged few things are more effective, and, with the numerous kinds to choose from, there need be no lack of variety in the garden. When planting all evidence of formality must be avoided or the pleasing and natural effect which is so marked in these gardens would be lost. Undulating ground lends itself to the most effective arrangement, but in all districts much can be done to improve the general effect by forming mounds here and there, and thus creating an undulating surface, which gives a more pleasing effect.

The magnolias are very showy, and of these Magnolia stellata, with its scented star-like flowers, is well adapted for small groups in the shrubbery or rock garden. M. Soulangeana, with purple tinted flowers; M. grandiflora, an evergreen species, with sweet white blooms produced in September; and M. conspicua, are highly meritorious. The Guelder Rose (Viburnum opulus sterile) and V. plicatum are both attractive, while V. macrocephalum has very large heads of white flowers. Ceanothus azureus is a charming shrub, which displays a mass of pale blue flowers during the summer, and C. Veitchianus is a lovely variety of a much darker shade, flowering in June. The common Mock Orange (Philadelphus coronarius) is a lovely object when in bloom; while P. microphyllus is a charming species from Colorado, which flowers rather later. Many of the berberis are exceedingly showy during the spring, and of these a more graceful object than Berberis stenophylla, with its numerous bright yellow flowers, could hardly be imagined. B. Darwini, B. vulgaris, B. diaphana, B. buxifolia, B. japonica, and B. aquifolium are all worthy of attention. In the autumn the crimson foliage of Cotoneaster Thunbergi is very showy.

When given a sheltered situation Choisya ternata flowers very freely, and presents a charming appearance in the rock garden. Pyrus japonica, P. floribunda, and P. Maulei are delightful shrubs when in blossom during the spring. The Flowering Currants, Ribes sanguineum and R. speciosum, from California, are very beautiful, but unfortunately the last-named is not so hardy. Some of the lilacs are very showy, and of these Charles X. and Madame Lemoine, a double white variety, are two of the best. Prunus triloba is lovely during March and April, with its double rosy-pink blossoms. The Japanese maples are probably the most handsome trees in the arboretum, and of these Acer palmatum sanguineum, A. palmatum dissectum, and A. purpureum are especially good. Acer negundo variegatum is also very attractive. Some of the hollies make ornamental specimens for the lawn. Ilex argentea marginata, I. ferox argentea, I. aureo marginata, and I. aureo regina are all handsome. There are several varieties of oaks which make handsome trees, notably Quercus coccinea, with its large scarlet leaves, and Q. concordia, with soft yellow-tinted foliage, are exceedingly fine. Prunus Pissardi, Fagus sylvatica purpurea, and F. cuprea are very attractive, and are very effective in a large clump associated with Populus canadensis nova aurea and Ligustrum ovalifolium aureum.

Cornus sanguinea and Salix canadensis are very effective when planted in masses, especially in close proximity to ornamental water; their coloured stems form beautiful objects during autumn and winter. Rosa rubrifolia, Sambucus aurea laciniata, Rubus fruticosus, and R. odoratus are effective for massing in beds. Vitis vinifera purpurea and V. Coignetiæ are quick-growing climbers, with richly coloured leafage. The latter is especially ornamental when seen scrambling over the tops of large trees. Liquidamber styraciflua, the sweet gum of the United States, is very effective in autumn on account of its bright scarlet foliage. It succeeds best in a moist loamy soil and sheltered situation. Forsythia suspensa is a lovely shrub that should not be omitted. Its bright yellow blossoms are produced in profusion during March and April on the wood of the previous season's growth. Amongst the conifers, Abies pungens glauca, Cedrus atlantica glauca, Cedrus deodora alba spica, Retinospora filifera, R. squarrosa, Juniperus chinensis, Cupressus Lawsoniana, and C. erecta viridis are all handsome, and effective additions to the grounds.

J. Gardner.

Batsford Park Gardens, Glos.

FIRST PRIZE BASKET OF DAHLIAS.
Exhibited by Mr. Seale at the National Dahlia Society's Show.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

DENDROBIUM PHALÆNOPSIS.—There is no orchid more deserving of attention in private gardens that D. phalænopsis. In most establishments there is a demand for cut flowers during the months of October and November to break the monotony of the ever-abundant chrysanthemum, and where the plants are grown in quantity there is an extensive variety of colours among them, and this, combining with the long-stemmed graceful racemes of flowers, renders them suitable subjects for superior floral decorations. It does not seem many years ago since the only plant in cultivation was in the writer's charge, but thanks to the energies of David Burke, and collectors of more recent date, this dendrobium has been placed within the reach of the most humble of amateur gardeners, as the extensive annual importations have resulted in their being sold for fewer pence than they brought pounds a few years ago. This dendrobium is by no means difficult to cultivate. I find that the plants do better grown in shallow pans or baskets, and suspended in the plant stove, than they do when grown with the other dendrobiums. I recently saw a large fig house, with the second crop of fruits ripening, and here, suspended from the wires to which the branches of the fig tree were secured were some 250 plants of D. phalænopsis that had been in cultivation for some years, and the plants appeared to have lost none of their native vitality, the quantity of flower spikes displayed indicating a generous display in a few weeks. There is one item that appears to me to be essential in the successful culture of D. phalænopsis, and that is it should not be permitted to suffer from want of root moisture at any season of the year. If grown in the stove, where the atmosphere is more or less charged with moisture at all seasons, very little moisture at the roots is necessary to keep the plants healthy.

D. FORMOSUM GIGANTEUM is another useful dendrobium blooming in September and October, and its white flowers are acceptable at this season in most country gardens. This species is often written about as quickly losing its native vigour, and gradually diminishing both in stature and constitution under cultivation; this, I am certain, is the result of unsuitable conditions. The prolonged dry, cool rest which is so frequently given this species is perhaps more detrimental than anything else to the well-being of the plants. They should be placed in the stove, with ample moisture when growing, and when dormant sufficient root moisture should be afforded to keep the pseudo-bulbs and leaves fresh and plump.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

BOUVARDIAS. — Where these have been planted out during the summer, the plants should be prepared for potting up by cutting round the roots with a sharp spade a few days previous to lifting. After such treatment the plants will not suffer so severe a check. When they have been potted keep them in a shaded frame in a temperature of 50 to 55 deg., and syringe them freely until they have become re-established in the new soil.

HERBACEOUS CALCEOLARIAS.—Seedlings in small pots should be potted directly the roots touch the sides of the pots, so that they may not experience any check; it is important that calceolarias should continue to grow steadily at all times, as insect pests are always ready to attack those that fall into a poor condition.

CHRYSANTHEMUMS. — Plants being grown for the production of large or decorative blooms, should be given top-dressings for the purpose of increasing root action, and stimulants should be applied afterwards. For top-dressing purposes two parts loam to one part of animal manure is a safe mixture. If clear soot water be applied twice a week, it will improve the colour of the foliage, while an occasional syringing with soot water will keep down red-spider.

MALMAISON CARNATIONS. — Shoots that were layered some time ago will now be fairly well rooted, and should be severed from the parent plant with a sharp knife. Pot them into three-inch pots, using a compost of good fibrous loam mixed with leaf-soil, lime rubble, wood ashes, and sand. Use clean pots, and provide plenty of drainage. Pot fairly firm, especially round the "collar," and so that an excess of water may not be given, fill the pots almost up to the rim. Place the newly-potted plants in a cool frame, which should be kept close for a few days, and if the weather is bright syringe them once each day. When they have recovered from the check caused by potting, ventilate the frame freely, and allow the plants a maximum amount of light; they are best raised close to the glass, facing south, and stood on ashes. They may remain in this structure and position until frost makes its appearance, when they must be transferred to warmer quarters. Plants that have not been layered should be potted immediately.

BULBS.—To obtain a succession of bulbous flowers after Roman hyacinths and polyanthus narcissus, various tulips, such as Duc Van Thol, Belle Alliance, Cottage Maid, La Reine, and Vermilion Brilliant, with crocus in different shades, should be potted without delay. The compost should consist of equal parts of loam and leaf-soil, with plenty of sand added. As in the case of bulbs already potted, they should be placed on ashes in the open, and covered with the same material. Until about an inch of growth has been made, batches should be potted every week for a succession of bloom.

SALVIAS, intended for blooming early under glass, and which have been growing out of doors, should be taken inside. Care should be taken that they never become dry, otherwise all the bottom leaves will drop; stimulants twice weekly will help to develop the flower spikes.—W. Staward, Belford Hall Gardens.

THE FLOWER GARDEN.

PROPAGATION OF BEDDING PLANTS by cuttings should now be completed, or where this is not so, the work should be hurried forward with all possible speed. One of the greatest drawbacks connected with the usual style of bedding out is, that no sooner are the beds fully furnished, and giving a display of colour, than cutting them about begins for the next season's supply of plants. Small wonder is it that bedding-out with hardy and half-hardy plants is fast superseding the old style, and in some instances bedding pelargoniums are being discarded altogether. Where these, however, are considered to be indispensable, mutilation of the beds at this season of the year might be avoided altogether by lifting and potting up a number of plants from the beds, and propagating from these as early as possible the following spring.

AURICULAS, PRIMROSES, AND POLYANTHUSES, growing in beds or borders, are now generally strong and healthy. These, however, must be kept free from weeds, and the soil around constantly stirred to enable the crowns to thoroughly mature, and so assist in mitigating the injurious effects of the past wet summer, or a meagre display of flowers will result next spring.

BULBS that may be required for the flower, alpine, or wild garden should be ordered—if not already done—forthwith, nothing is gained, except confusion, by delaying their purchase. Consequently, as soon as the arrangements for next spring's display are completed, the bulb order should be put in hand.

WINTER ACONITES should be planted as soon as possible. These, unlike some others, will grow and thrive where grass refuses to grow, especially under large chestnuts and similar trees, where ordinary undergrowth is an impossibility; groups of daffodils dotted about these make an effective and pleasing display long after the aconites have ceased flowering. Both these subjects are unsurpassed for early spring effect in the wild garden or shrubbery borders.

PLANTING EVERGREENS.—Seldom has the ground been in better condition for the removal of, or the early autumn planting of, evergreen shrubs. Where this kind of work has been decided upon, all needed preliminary arrangements should be put in hand forthwith, so that by the end of the present month the work may begin in earnest. During a season like the present, early autumn lifting is decidedly beneficial, rather than otherwise. The effect of the root disturbance will result in arresting and hardening the growth, even during an ordinary season. Early lifting might be recommended, providing it is possible to well soak the soil around the roots of the trees before spade-work commences. Few shrubs suffer if treated in this way, but, on the contrary, are greatly benefited, and become semi-established in their new quarters before the advent of wintry weather.

THE GENERAL WORK of the flower garden must on no account be neglected because of the advance of the season, or the expectation of early frosts in exposed positions; on the contrary, protection should be forthcoming should the nights prove frosty, for frosts seldom come upon us for any length of time before the end of October. All edgings should now have their final clipping, and the walks kept clear of weeds; these should entail no further trouble in this respect until next spring. Keep all beds and borders in as neat a condition as possible by the persistent removal of all seed pods, or partly-decayed flowers. The ripened growths of all herbaceous plants might be removed, and those requiring additional ties by way of support should be duly attended to; in a word, neatness should be the order of the day until the general break up by frost begins. — W. Hedley Warren, Aston Clinton Gardens, Tring.

HARDY FRUITS.

PREPARATIONS FOR PLANTING.—Where the planting of new fruit trees has to be conducted a short time hence, the work of preparing the ground for this operation should, if possible, be taken in hand at once. The ground should be trenched at least two feet deep, and if the soil is of a poor character, a good dressing of decayed farmyard manure should be added as the work of trenching proceeds. Where stone fruits are to be planted plenty of road scrapings and old mortar rubbish should be worked into the soil, in addition to the manure. If, on the other hand, the soil is in good condition, and plenty of humus is present, the farmyard manure should be dispensed with, or otherwise the soil will be too rich in nitrogenous matter, and, consequently, this will induce the young trees to grow strongly, and little or no fruit will be the result. The planter should push forward the work of preparing the ground, otherwise confusion and poor results will follow, the trees often being planted in soil that is entirely uncongenial to their roots and future welfare.

VARIETIES.—At the present time careful note should be made of the varieties which one intends to plant, and the orders should be placed with some reliable nurseryman, so that the trees may be lifted, and delivered at the proper time, directly their leaves have fallen, towards the end of October and the beginning of November. This may seem a comparatively small item to some planters, but it certainly has the advantage of securing good, well-grown trees, and the requisite number of varieties are obtainable, as no disappointment is experienced, because certain sorts are "sold out." If there are any undesirable varieties that are being grown at the present time—and it is not intended to head them back and regraft them in the spring months—the trees should, when the fruit has been gathered, be grubbed out, and the soil be well trenched and manured, when it will be quite possible to plant suitable varieties upon the same site.

GATHERING APPLES AND PEARS.—This will entail a good deal of pleasant work and careful observation for some weeks. Varieties will have to be carefully watched and gathered, when it has been ascertained beyond doubt that they are fully matured. The fruits should be carefully gathered and put into shallow boxes, with a little hay or soft packing material placed in the bottom; careful handling of the fruit should be exercised at all times, so as not to bruise any of the specimens. We find it a great advantage here to use shallow boxes, which can be placed upon the hand barrow, and safely transferred to the fruit-room. Here they are again carefully examined, and all damaged fruits are placed in baskets for immediate use; the remainder are graded into two sizes, the large and medium being kept separate, and these are immediately placed carefully away upon the shelves in the fruit-room, in a single or double layer as space permits.—Henry R. Farmer, Cardiff Castle Gardens.

CHRYSANTHEMUMS.—For full instructions on the Culture of Early-flowering Chrysanthemums in pots or borders for garden or greenhouse decoration, read the Second Edition of CHRYSANTHEMUMS FOR GARDEN AND GREENHOUSE, by D. B. Crane, price 2s. 6d. net, or by post, 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

GRAPE PRINCE OF WALES.

It is a pleasure to have Mr. Coomber's experience of this grape. I had it inarched on Gros Colmar in a muscat house; it grew freely, and showed good bunches, which did not set as well as I would have liked, even with artificial aid; the berries that did swell were large, inclined to be red, and the flesh too solid and flavourless. I had another vine of the Black Hamburgh, which did no better. I fruited both vines two years, and then rooted them out, and consigned them to the rubbish heap. Our old tried sorts are difficult to beat, never failing to do well when treated in a proper manner.

When writing about grapes, I would just like to mention some of the newer varieties tried here during the last few years. Diamond Jubilee is a handsome grape to look at, easily grown, with large berries, and fine finish, but the principle quality, flavour, is very poor indeed.

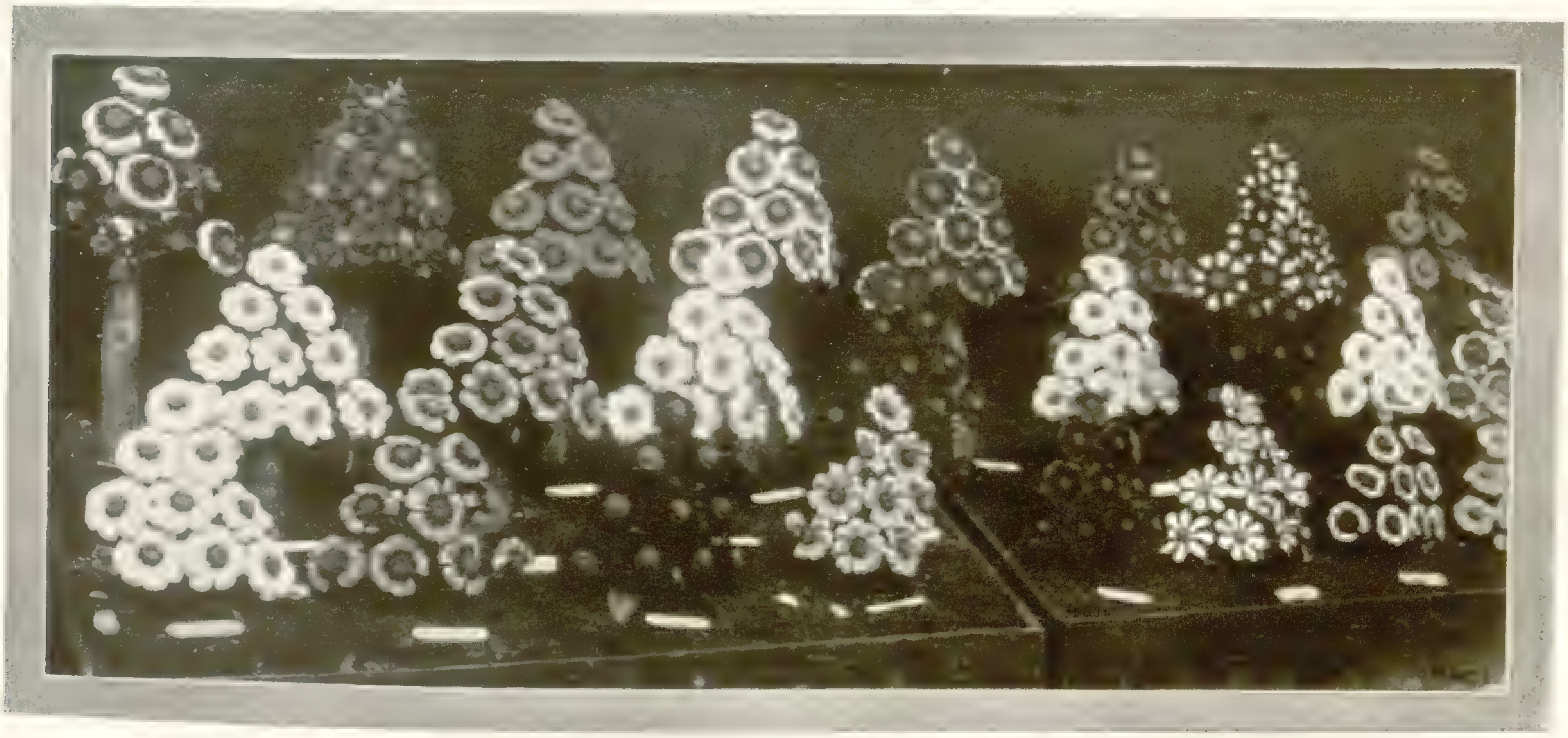
Lady Hastings, I consider too like Muscat Hamburgh. With me it had a stunted growth, often found in Cannon Hall Muscat. The wood was strong, and bore bunches freely, but the fruit did not colour well, and the flavour was too much like the Sweetwaters.

Melton Constable (if I have the right variety) I have in a Muscat house and Colmar house, and in both it seems the same as Gros Colmar; perhaps the raiser or some grower who has found it an improvement on Colmar, would give their experience, through your columns. Lady Hutt, grown in a Muscat house, colours well, and the flavour is thereby improved.

Appley Towers is an acquisition to the late varieties; it grows strong, fruits freely, and finishes well, keeping longer plump than Alicante.

W. G. PIRIE.

Dalhousie Castle Gardens, Mid Lothian.



FIRST PRIZE COLLECTION OF TWENTY-FOUR VARIETIES OF SINGLE DAHLIAS.

Exhibited by Messrs. J. Cheal and Sons at the National Dahlia Society's Show.

The notes by Mr. Coomber on Prince of Wales grape are of much interest to grape-growers generally, and I agree with him that it would prove of much value to grape growers, if those who have grown the variety would give a short account of their experience with it. I have grown this grape during the past six or seven years with results that may, perhaps, be described as very good. With me, as with Mr. Coomber, the greatest difficulty has been to induce the flowers to throw off the cap, and so expose the pistil, and thus enable the pollen grains to reach it and ensure fertilisation. This has been the worst year in this respect since I commenced growing the variety. I tried rubbing my hand over the bunches, but the caps would not move. I had quite made up my mind to use the syringe another year during the flowering period. As regards scalding, I find that with very light shading there is not much damage done.

I inarched the Prince of Wales on Gros Colmar, but, although it has made a strong growth, it has failed to set a single berry. I have had this grape to set well, and with one exception, to finish well. I exhibited it at the Royal Horticultural Society's Fruit Show, held on October 15, 1908, and, although not quite so well finished as I could have wished, the bunches were perfect in setting, as can be seen by referring to the GARDENERS' MAGAZINE of October 31, 1908, where they are illustrated. In the previous year I exhibited this grape in competition, where, in addition to the first prize, I was awarded the silver medal offered for the best exhibit in the show.

About three years ago I planted a cane of Prince of Wales in a corner of an early vinery, from which we cut our first grapes at the end of May. Now this vine has flowered satisfactorily, and set very well, and from it I showed bunches in June last at the exhibition of the Richmond Horticultural Society, and at a later show, and at both they secured the premier award, and were described in the reports in the gardening press as good examples. If I were going to plant an early vinery, I should not hesitate to include Prince of Wales in the selection. It forces well, and if it can be induced to set well it is, in my opinion, one of the very finest grapes grown; any information on this point will be most useful. With this note, I am sending for your inspection a small bunch from the early vinery which ripened about the middle of June, and I think you will admit that it is a good keeping grape.

W. LINTOTT.

Marden Park Gardens, Woldingham.

[The bunch of Prince of Wales grape that Mr. Lintott has sent for our inspection is perfect in setting, the berries are large and finely-coloured, and the flavour is rich with the characteristic muscat flavour well developed. The bunch has the appearance of having only just reached maturity. The fact that the vine in the early vinery has set its fruit satisfactorily, and the vines in the other houses have not this year set so well as usual, suggests that possibly a comparatively high temperature is favourable to the berries setting freely. What is the opinion of Mr. Lintott, and other cultivators upon this point?—ED.]

Mr. Coomber's note on this grape will interest many, those who are successful in the culture of it, and those who are not so. That it is a grape worth growing those who are successful with it will admit. It was well shown several years ago from Warren House, Stanmore, and also last autumn by Mr. Heron, from Capenod. This season I have seen some failures in the "setting" of this variety, and I have also seen some good examples of it where it has been treated as an early grape, and also where it will be in good condition later.

There appears to be at times some difficulty in its "setting" properly, through the "cap" not falling off freely, as is the case with most varieties, and I think if Mr. Coomber applies the syringe to the bunches just as they begin to flower, he will have no difficulty in obtaining a "set," as this use of the syringe is practised by some growers. Knowing the assistance this grape requires at the flowering stage, I should not consider Alnwick Seedling a good stock for inarching it on, but if I was going to inarch it, would prefer Alicante as a stock, or Lady Downes for later keeping. The scalding of the foliage which Mr. Coomber mentions I have not seen when the grape has been growing on its own roots, and it may be the Alnwick that is responsible for that. My experience of grape Prince of Wales is that it is a promising late variety, with good sized berries, nice shaped bunches, and of distinct muscat flavour. I believe I am correct in describing it as a sport from Mrs. Pince—I am writing from memory—it closely resembles Mrs. Pince in foliage and flavour, but finishes better and with finer berries.

It is a strong grower on its own roots, and so grown I should restrict the rooting space in the early establishing of this variety, while I should not give it too much manure until it had good crops to carry.

Other growers of this grape will no doubt give their opinions. I hope, however, to yet see Mr. Coomber show this grape in as good condition as he has staged other fruits at various times.

T. H. SLADE.

Ipomæa rubro-cærulea.—A few years ago we heard a great deal of the beauty of this ipomæa, and it was frequently met with, both out of doors and under glass. Without protection it often proved to be a failure, and that is no doubt why it declined in popularity. In the greenhouse, however, it is delightful, the large convolvulus-like blossoms, in colour a charming light-blue with a reddish sheen, being totally unlike any other occupants of the structure. It needs to be sown in heat in the spring, and grown on freely afterwards.—W. T.

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EXHIBITIONS AND MEETINGS.

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National Dahlia Society.

Although the exhibition held at the Crystal Palace on September 8 and 9 was not one of the largest held by the society, it was one of the best in point of quality. We should like to see a keener competition in some of the classes, and also the presence of more new growers, both trade and amateur.

SHOW AND FANCY DAHLIAS.

In the leading class for forty-eight show varieties, open to nurserymen, Mr. John Walker, Thame, secured the premier award with a clean set of fine flowers, some of which were scarcely yet at their best; some of the finest were Majestic, Rev. Gooday, Mr. Chamberlain, J. Hickling, R. T. Rawlings, D. Cornish, Blush Gem, Chieftain, and Ethel Britton; Mr. S. Mortimer, Rowledge, Farnham, came second, and most of his blooms needed more sunshine; Mr. W. Treseder, Cardiff, third. Mr. M. V. Seale, Sevenoaks, had the best set of twenty-four show and fancy dahlias, and he showed J. Rawlings, D. Cornish, Buffalo Bill, Chieftain, and Bacchus in good form; Messrs. Keynes, Williams, and Co., Salisbury, came second. For eighteen fancy dahlias Mr. J. Walker scored with a set that contained good representations of M. Campbell, Rev. J. B. Camm, Duchess of Albany, Mrs. Saunders, and Emin Pasha; Mr. W. Treseder came second, and Mr. S. Mortimer had to be content with third place. For a dozen blooms of these effective fancy varieties Messrs. Keynes, Williams, and Co. scored over Mr. M. V. Seale, these being the only competitors.

For a dozen blooms, show and fancy varieties mixed, Messrs. J. Cheal and Sons led, followed by Messrs. W. Pemberton and Son, Bloxwich, Walsall, both showing well.

NURSERYMEN'S CACTUS DAHLIAS.

The silver challenge cup, value fifteen guineas, offered as the first prize for a collection of eighteen bunches of cactus dahlias, distinct, six blooms in a bunch, was won by Messrs. Jas. Stredwick and Son, St. Leonards, who had a beautiful set composed of Crystal, Albatross, Indomitable, Irresistible, Wm. Marshall, H. H. Thomas, Rev. A. Bridge, Dr. R. Appleton, Viscount, H. L. Brousson, Satisfaction, Mrs. Douglas Fleming, Red Admiral, Golden Eagle, C. E. Wilkins, Arrow, Tokio, and Snowflake; Messrs. J. Burrell and Co., Howe House Nurseries, Cambridge, was second, and the dark variety named The Imp was a feature of their stand; Messrs. J. Cheal and Sons, Crawley, third.

There were four competitors in the class for a dozen bunches of cactus dahlias, distinct, six blooms in each bunch, and here Mr. J. Walker was an easy first with fine flowers of Snowstorm, Clincher, Mercia, Dr. G. G. Grey, Prima Donna, Mr. T. W. Willis, Ivernia, W. T. Rogers, Brutus, Mrs. A. Dyer, Red Admiral, and C. E. Wilkins; Mr. M. V. Seale second; and Messrs. Keynes, Williams, and Co., third. For forty-eight cactus blooms, on boards, Messrs. J. Stredwick and Son, St. Leonards, were to the front with a goodly set, that included Golden Eagle, Glory of Wilts, Tokio, H. H. Thomas, Ruby Grinstead, Razorbill, Viscount, and New York; Messrs. J. Burrell and Co., Cambridge, second; and Messrs. Keynes, Williams, and Co., Salisbury, third.

In the class for two dozen cactus dahlia blooms, on boards, Mr. W. Treseder scored with a set that contained fine flowers of Mrs. J. J. Crowe, Stormer, Harold Peerman, Mrs. F. G. Treseder, Conquest, and Evening Star; Mr. John Walker came second; and Messrs. W. Pemberton and Son, third.

POMPON AND SINGLE VARIETIES.

Premier place for two dozen bunches of pompon varieties, distinct, ten flowers in a bunch, was won by Mr. Chas. Turner, Slough, with a beautifully fresh and neat set of Bacchus, Ganymede, Jessica, Adelaide, Adela, Montague Wootton, Cyril, Little Mary, Nerissa, Ideal, Hecla, Mariette, Phyllis, Zerlina, Sylvia, Annie Doncaster, Mary, Wilfrid, Douglas, Portia, Mignon, Guinevere, Queen of Whites, and Darkest of All; Messrs. J. Cheal and Sons, Crawley, were a close second; and Mr. M. V. Seale took third prize.

For a dozen bunches, ten blooms each, of pompon varieties, Messrs. J. Burrell and Co. scored with a bright set of Phyllis, Annie Doncaster, Bacchus, Girlie, Nellie Broomhead, Mariette, Queen of Whites, Tommy Keith, Darkest of All, Ideal, Lassie, and Aurelia; Messrs. Keynes, Williams, and Co. second, and Mr. J. Walker third.

A very beautiful set of two dozen bunches of single dahlias won for Messrs. J. Cheal and Sons the premier award and silver medal. The blooms were unusually good, and of fine colour. The varieties were Lady Bountiful, Kitty, Alma, Sunray, Alice Castle, Miss Morland, Brilliant, Flora, Snowdrop, Peggy, Leslie Seale, Hector, Serita, Owen Thomas, Miss Roberts, Victoria, Rosemary Bridge, Betty, Winona, Stromboli, Elaine, Miss Miller, Columbine, and Royal Sovereign. Mr. M. V. Seale, the only other competitor, gained second prize. Mr. J. Walker appeared to be the only exhibitor of a dozen bunches of single dahlias, and he deservedly secured the first prize.

In the class for four varieties of pæony-flowered dahlias, six blooms of each, there were four competitors. Mr. Charles Turner secured first prize with Geisha, Rosina, Bella Donna, and Bayard; Messrs. J. Cheal and Sons came second, and Mr. J. Walker third. By the middle of the afternoon many of the flowers were drooping badly.

AMATEURS' DAHLIAS.

In the amateurs' division Mr. S. H. Cooper, The Hamlet, Chippenham, had the best two dozen show and fancy blooms, and Mr. G. Densley, Nag's Head Hill, St. George's, Bristol, came second, with Mr. G. Boothroyd, Porthfield, Chichester, third. There were four competitors. There were nine contestants in the class for a dozen show dahlias, distinct, and here the awards went, in order of merit, to Mr. S. H. Cooper, Mr. A. Robbins, Prospect Place, Keynsham, and Mr. W. Marks, Rownhams, Southampton. There were three exhibitors of six show dahlias, and here Mr. C. Luckin, Apsley, Thakenham, Pulborough, led, followed by Mr. J. Cousins, May Cottage, Greenway Lane, Chippenham, and Mr. A. P. Ironside, Park Lane, Chippenham.

For a dozen fancy dahlias Mr. S. H. Cooper was again to the front, and Mr. G. Buss, Hailsham, was awarded a third prize, both Mr. T. Jones and Mr. Boothroyd being disqualified for not having perfectly distinct varieties. Mr. J. Cousins led for six fancy dahlias, Mr. G. Densley coming second, and Mr. A. Robbins, Prospect Place, Keynsham, third.

The best table of a dozen bunches of garden cactus dahlias, distinct, six blooms in each, came from Messrs. J. Cheal and Sons, who showed Hon. Mrs. Greville, Thomas Parkin, Snowdon, Mrs. Usmar, Gold Crest, Mrs. Freeman Thomas, Brigadier, Mrs. Alfred Dyer, Mrs. C. Foster, and Flame, associating their flowers with sprays of ornamental foliaged shrubs; Mr. M. V. Seale came second. For six vases of garden cactus dahlias the Rev. Arthur Bridge, Worth Rectory, led with a good set, well arranged with grasses and foliage; Mr. Ed. Barton, 72, Brand Street, Greenwich, second.

There were seven exhibitors of nine bunches of cactus dahlias, three blooms of each, and here the Rev. Arthur Bridge led with fine examples of Red Admiral, Satisfaction, Snowdon, C. E. Wilkins, Prima Donna, H. H. Thomas, William Marshall, and Iolanthe; Mr. F. Grinsted, Beauport Park, Battle, second, and Mr. C. Luckin third. Mr. F. H. Currey, Osborne Road, Palmer's Green, led for six bunches of cactus dahlias, followed by Mr. Edward Mawley, V.M.H., Berkhamsted, and Mr. W. Lockyer, gardener to Rev. G. Twentyman, Greenhill Park, New Barnet.

Out of ten competitors, Mr. Harold Peerman, Glencross, Nantwich, scored for twenty-four cactus varieties, staged on boards, and he had beautiful flowers; Mr. M. W. Dance, School House, Abbott's Ann, Andover, second; and Mr. J. Bryant, 5, St. Martin's Terrace, Salisbury, third. Mr. C. Luckin scored for twelve blooms, similarly staged, followed by Mr. F. Grinsted and Mr. A. F. Tofield, Homesdale, Chandler's Ford, Hants; there were eight competitors. Dr. Roy Appleton, Beverley, Yorks, had the best six cactus dahlia blooms, a fine set of Brigadier, Johannesberg, Gwendoline Tucker, Glory of Wilts, Wm. Marshall, and Marathon; Mr. E. Mawley second, and Mr. R. C. Willis, Palmer's Green, third.

Messrs. Dobbie and Co.'s Gold Badge for the best dozen bunches of pompon dahlias was won by Mr. A. P. Ironside, Chippenham, with a neat set of popular varieties; Mr. H. Brown, Havelock Road, Luton, second; and Mr. W. C. Pagram, New Road, Weybridge, third. For six bunches Mr. S. H. Cooper led, with Mr. A. Robbins second, and Mr. G. Stevenson, Chadworth Cottage, Esher, third. The Rev. Arthur Bridge secured first prize in the class for a dozen bunches of single dahlias, and he had Eclipse, Snowdrop, Brilliant, Betty, and Stromboli. He was the only exhibitor, and Mr. E. Mawley was the only exhibitor in the class for six bunches of single varieties, and in the one for four bunches of twelve blooms each of single varieties.

In the maiden classes Mr. W. Marks and Mr. A. Langridge, Dalston, were the leading prizewinners.

OPEN CLASSES.

In the open classes Messrs. J. Burrell and Co. won first prize for a dozen bunches of pompon cactus dahlias with very pretty flowers of Nain, Little Ned, Martha, Mary, Argus, Lena, Minima, Nora, Wm. Marshall, Sweet, Coronation, and Titus; Messrs. J. Cheal and Sons, second; and Mr. M. V. Seale third. For six blooms of one cactus variety Mr. S. Mortimer led with C. E. Wilkins; Mr. F. H. Currey, second with Harold Peerman; and Messrs. Keynes, Williams, and Co., third with Gwendoline Tucker. Mr. Seale had the best six show blooms, Arthur Rawlings; Mr. Treseder, second; and Mr. Mortimer third.

Messrs. J. Cheal and Sons scored for six bunches of single fancy dahlias; Mr. Seale coming second. Messrs. Stredwick and Son led for six bunches of fancy cactus dahlias, winning with Humming Bird, Mercury, Jupiter, Orion, Magpie, and Sirius; Messrs. J. Burrell and Co., second; and Mr. M. V. Seale third.

DECORATIVE CLASSES.

Mr. W. Treseder was easily first for a shower bouquet of cactus dahlias with a beautiful effort; Mr. M. V. Seale second. Mr. Seale was first, however, for a basket of dahlia blooms and appropriate foliage grasses and berries, with a fine design of yellow and orange flowers; Mr. W. Treseder, second. Mr. Pagram again had the best vase of pompon dahlias, and he was followed by Mr. M. V. Seale.

In the amateurs' section Mr. Ed. E. Barton, Brand Street, Greenwich, led for a basket of dahlias with a bold but not particularly elegant design; Miss C. A. Gladstone, Hampton Hill, Bishop's Waltham, Hants, second. Mr. T. Jones, Ruabon, led for three vases of cactus dahlias, arranged with variegated foliage and berries; Mr. Jas. Bryant, Salisbury, second; and Miss C. A. Gladstone, third. Five competitors.

TRADE DISPLAYS.

Mr. Chas. Turner, Slough, made a display of pæony-flowered dahlias, showing a large variety of both single and semi-double varieties. Messrs. Hobbies, Lim., Dereham, displayed roses in great quantity, and set up tall stands of pæony-flowered and cactus dahlias, associating these with foliage and plants. Mr. J. T. West contributed a large variety of pompon, cactus, and pompon cactus dahlias, and made up a very interesting display. Mr. J. E. Knight, Wolverhampton, put up a very bright exhibit of cactus dahlias with a few early chrysanthemums. Messrs. H. Cannell and Sons, Swanley, had a very large exhibit, chiefly of cactus dahlias, set up in bunches of about nine blooms of a variety. There was a wide range of colours and varieties, and the exhibit was thus of great value to those wishing to make selections. Mr. F. Brazier, Caterham, submitted an exhibit of phloxes, pentstemons, and Michaelmas daisies. Messrs. T. S. Ware, Lim., Feltham, were represented by a display of popular cactus dahlias, and a number of fine new pæony-flowered varieties, several of their own raising. Mr. Williams, of Ealing, showed a table decoration of dahlias.

MEDALS.

Gold.—Messrs. H. Cannell and Sons, Swanley; Messrs. T. S. Ware, Lim., Feltham; Mr. J. T. West, Brentwood; and Messrs. Hobbies, Lim., Dereham.

Silver-Gilt.—Mr. F. Brazier, Caterham Valley; Mr. Chas. Turner, Slough; Mr. J. E. Knight, Wolverhampton.

Royal Horticultural Society.

There was a full meeting on September 13, and a fair attendance. Dahlias, chrysanthemums, orchids, and fruits were the leading subjects on view.

FLORAL COMMITTEE.

Very bright were the single dahlias displayed by Messrs. J. Cheal and Sons, Crawley, especially Columbine, Miss Macfarland, Kitty, and Miss Roberts; the firm also sent a few of the newer cactus varieties. Mr. J. T. West, Brentwood, put up a large collection of cactus, pompon, and pompon cactus varieties, as well as a small collection of his new and gorgeous pæony-flowered varieties. Mr. West had a splendid new garden variety, with large double flowers, belonging to the decorative class; the blooms were eight inches across, on long stiff stems, and of a rich yellow colour, and the name of this fine thing is Brentwood Yellow. Messrs. Carter Page and Co., London Wall, filled the whole of the end of the hall with a gorgeous exhibit of dahlias. In the middle there was a bank of pæony-flowered varieties, and this was flanked with large baskets of blooms, each basket filled with eighteen or twenty beautiful flowers of one cactus variety, and there were about three dozen of those baskets, as well as scores of vases and tall stands of beautiful flowers. At one extreme end there was a collection of pompon varieties, and at the other end a showy group of single varieties, the whole making up a wonderful display of fine quality and brilliant colour. A large, fragrant and charming exhibit of roses from Messrs. Wm. Paul and Son, Waltham Cross, amply demonstrated the value of so many of the hybrid tea varieties for autumn flowering, especially well represented by vases or baskets of bloom were Lyon Rose, Earl of Warwick, White Maman Cochet, Caroline Testout, Mdme. Leon Pain, Dean Hole, Mdme. Ravary, Mdme. Abel Chatenay, Prince de Bulgarie, and Le Progres. Messrs. Jas. Veitch and Sons, Chelsea, displayed Nerine Fothergilli major, in fine form, together with a selection of choice greenhouse rhododendrons, new cannas, and pelargoniums, and some standards of Plumbago capensis. The clematises in small pots, freely-flowered, exhibited by Mr. L. R. Russell, Richmond, made up a bright and attractive group; the variety Nelly Moser was especially good.

A fine exhibit of phloxes, tritomas, liliums, Michaelmas daisies, sedums, montbretias, gladioli, Aconitum Fischeri, Artemisia lactiflora, Eupatorium purpurea, etc., was staged by Mr. Jas. Box, Lindfield. Messrs. W. Wells and Co., Merstham, put up a bright display of early-flowering chrysanthemums, including grand sheaves of Roi des Blancs, Hector, Perle Chatillonaise, Leslie, Golden Glow, and Normandie. Messrs. J. Stredwick and Son, St. Leonard's, had a few beautiful new dahlias, cactus varieties, notably H. L. Brousson (A.M.), and Sweetbriar (A.M.) Mr. W. R. Hammond, Burgess Hill, Sussex, contributed about three dozen vases of sweet peas, showing popular varieties, well grown, but the flowers were not well set up.

Mr. Frank Brazier, Caterham, set up a big exhibit of pentstemons, early chrysanthemums, and Michaelmas daisies. Mr. G. Reuthe, Keston, showed some interesting tritomas, crinums, Escallonia oregana, Berberidopsis corallina, Eucryphia pinnatifida, and other rare things. Pentstemons were bravely shown by Messrs. J. Forbes, Lim., Hawick, and such varieties as Crown Princess, John Michie, Peach, Garth, Jessie Forbes, J. Lamont were conspicuous. There was also a collection of useful bedding varieties, chiefly descended from crosses with Newbury Gem. Messrs. S. Low and Co., Enfield, had an exhibit of perpetual carnations, including the new Mrs. M. T. Cook, Roseate Dawn, Lady Dainty, and other good things. The Guildford Hardy Plant Company staged a collection of hardy flowers, and Messrs. R. H. Bath, Lim., contributed a collection of good varieties of early chrysanthemums, phloxes, and other useful autumn flowers.

A great blaze of pæony-flowered dahlias, set up to make a brilliant bank of colour, came from Messrs. Bakers, Wolverhampton, Hon. Mrs. Walter Forbes, Mr. W. E. Whineray, Countess of Lonsdale, Mrs. A. Worsley, Hyde Park Gem, Lady Muriel Paget, and Ryton Roy, were the pick of a big collection.

Mr. Maurice Prichard, Christchurch, brought up Crinum Powelli, and a fine lot of tritomas and montbretias. Messrs. Barr and Sons' exhibit was chiefly notable for its colchicums, Crinum Powelli, gandavensis varieties of gladioli, the climbing Aconitum volubile, and new heleniums.

A large exhibit of Colchicum speciosum album and C. speciosum, was a lovely one from Messrs. Jas. Backhouse and Sons, York. Senecio tangutica, and Aconitum Wilsoni were also shown by the York firm. Some wonderfully fine African and French marigolds were submitted by Messrs. Dobbie and Co., Edinburgh. The blooms of Prince of Orange and Lemon Queen varieties of African marigolds were of immense size and grand colour. The same firm had on view their new cosmos, and a selection of quilled asters. Messrs. W. Cutbush and Son, Highgate, had a display of Coleus Cordelia, and the new Dracæna Bruanti variegata. Messrs. H. B. May and Sons, Edmonton, were represented by a collection of crotons and ferns.

Messrs. Whitelegge and Page, Chislehurst, were also among the dahlia exhibitors, and secured an A.M. for Princess Juliana, a creamy white, stiff-stemmed decorative variety; the same firm had a pretty blush aster, named M. Nicholls. Mr. Amos Perry, Enfield, had some very interesting hardy flowers, such as Sarracenia purpurea, Artemisia lactiflora, Sedum spectabile atropurpureum, Spiræa filipendula, and Colchicum speciosum. Early chrysanthemums in great variety were put up rather solidly by Mr. H. F. Robson, Alexandra Nursery, Ham.

Messrs. T. S. Ware, Lim., Feltham, had a rare display of dahlias, and they staged popular decorative cactus and pæony-flowered varieties in their usual excellent style. Mr. H. J. Jones, Lewisham, made a charming exhibit of Michaelmas daisies, and put up delightful bunches of Beauty of Colwall, Mrs. S. T. Wright, Finchley White, Miss Parish, Mrs. Andrews, Ryecroft Pink, R. C. Pulling, Mrs. J. G. Day, and other beautiful varieties.

Mr. Gwillim, New Eltham, had a large exhibit of cut begonias, but the flowers lost much of their beauty by being staged on flat boards. Mr. Lewis Smith, gardener to R. Fellows, Esq., Shotesham Park, Norwich, contributed several dozen bunches of well-grown sweet peas, his Earl Spencer, Rosie Adams, St. George, and Evelyn Hemus being very good.

ORCHID COMMITTEE.

In the exhibit of orchids submitted by Messrs. Stuart Low and Co., Enfield, we noticed Oncidium tigrinum, Cattleya Parthenia Prince of Wales, C. Iris in variety, Vanda Kimballiana, Cypripedium Woottoni, etc. Messrs. Sander and Sons, St. Albans, had a lovely lot of the beautiful bright blue Vanda cærulea, some spikes carrying twenty-flowers, Cattleya Iris, Brasso-cattleya Thorntoni, Lælio-cattleya Berthe Fournier, Cattleya Wavriniana, the fine Cattleya Pittiana, and Cœlogyne pandurata. Messrs. Charlesworth and Co., Haywards Heath, brought up an interesting group of orchids, which contained Lælio-cattleya callistoglossa, Brasso-cattleya Moneta, Cattleya Iris, C. Warscewiczi, Acineta chrysantha, Cypripedium Baron Schroder, etc.

Mr. J. M. Black, gardener to R. G. Thwaites, Esq., Streatham, contributed a beautiful set of orchids, largely home-raised hybrids. These were Brasso-cattleya Leemaniæ, Odontioda Thwaitesi, Cattleya Adula Thwaites var. (A.M.), Odontioda Cecilia (A.M.), a new cross between Cochlioda Noetzliana, and Odontoglossum Wiganianum; Cattleya Iris in variety, and Odontioda Charlesworthi. The pretty Neobenthamia gracilis was shown by Messrs. Jas. Veitch and Sons, Chelsea, together with Lælio-cattleya Pluto, and Cattleya Iris aurifera. In the group staged by Mr. Edward V. Low, Vale Bridge, Haywards Heath, there were excellent plants of Cattleya Adula, C. Iris, and Cypripedium James H. Veitch.

From Sir Jeremiah Colman's collection at Gatton Park, Mr. Collier brought Eria stellata, Cattleya Gaskelliana cærulescens, and Bulbophyllum lemniscatoides. Very beautiful was Dendrobium Hookeri, with panicles of fringed golden-yellow flowers (Cultural Commendation), brought up by Mr. W. H. White, orchid grower to Sir Trevor Lawrence, Bart., Dorking; Stanhopea Rodigasiana was also well shown. Messrs. Stanley and Co., Southgate, brought up some excellent forms of Cattleya Iridescens, C. Gaskelliana alba, and a large plant of Cypripedium A. de Lairesse. Mr. Alexander, orchid grower to Lieut.-Colonel Sir G. Holford, Westonbirt, Gloucester, staged the lovely Lælio-cattleya Golden Fleece (L.-c. Golden Gem x C. aurea), but notwithstanding its great beauty and freedom, it failed to secure an award; and Lælio-cattleya Berthe Fournier magnifica (F.C.C.), a lovely flower with rich rose-red colouring. Messrs. Wm. Bull and Sons, Chelsea, presented a good form of Odontioda Charlesworthi, and the handsome Cattleya Maroni aurea.

Cypripedium Angela (C. niveum x C. Fairrieanum), A.M., from Mr. H. J. Chapman, gardener to Mrs. Norman Cookson, Oakwood, Wylam-on-Tyne, was a very dainty new hybrid; with this came C. Sibyl and C. Chapmaniæ, both Fairrieanum crosses. Mr. W. Miller, Clarkson Nurseries, Wisbech, showed a few cattleyas and cypripediums.

Mr. G. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, displayed Cattleya Iris King Edward VII. (F.C.C.), Oncidium Lanceanum, Cattleya Mrs. J. Whiteley, C. aurea, Sophro-cattleya Nestor, Lælio-cattleya Bletchleyensis, and many other good things. From Messrs. Mansell and Hatcher, Rawdon, Leeds, came Odontoglossum grande, the quaint Gomeya planifolia, Cattleya Atalanta, C. Adula, C. Iris, Brasso-cattleya Digbyano-Mendeli, Dendrobium Sanderæ, and a number of other beautiful orchids.

FRUIT COMMITTEE.

A grand lot of picked fruit from Messrs. T. Rivers and Son, Sawbridgeworth, included magnificent Cox's Orange Pippin, Peasgood's Nonsuch, and Ribston Pippin apples. Reine Claude de Bavay, Golden Transparent, Decaisne, Grand Duke, Admiral, Late Orange, Monarch, and President plums. Celery from Messrs. Clibrans, Altrincham, who displayed fine heads of Early Market White, Sulham Prize Pink, Wright's Grove Pink, Prizetaker, Aldenham Pink, Jersey Lily, Standard Bearer, Clibran's Red, etc.

A very extensive exhibit of pot-grown fruit trees was staged by Messrs. G. Bunyard and Co., Maidstone, who showed apples, pears, peaches, nectarines, grapes, and figs in fine style, all the trees, eighty in number, carrying excellent crops, and attracting a great deal of attention. In addition to this fine demonstration of orchard house culture, there were several dozen dishes of splendid picked fruits of choice pears and apples—Marguerite Marillat, Uvedale's St. Germain, Beurre Diel, and Durondeau pears were superb.

Messrs. J. Veitch and Sons, Chelsea, showed two of their new apples, i.e., Rev. W. Wilks and St. Everard; the former is a splendid cooker, and gained a F.C.C., having previously gained an A.M.; St. Everard is a highly-flavoured dessert variety, obtained by crossing Cox's Orange Pippin with Margil. Messrs. Wm. Paul and Son, Waltham Cross, filled one corner of the hall with about two dozen pear trees in pots, beautifully grown, and carrying splendid crops of fine fruit; Marie Louise, Marguerite Marillat, and Beurre Diel were wonderfully well fruited. Mr. W. Poulton, gardener to C. F. Cayley, Esq., Huntley, Tunbridge Wells, showed good bunches of Gros Maroc, Black Hamburgh, and other grapes.

CERTIFICATES AND AWARDS.

First-Class Certificate.—To Cattleya Iris King Edward VII., from H. S. Goodson, Esq., Putney; to Lælio-cattleya Berthe Fournier magnifica, from Lieut.-Colonel Sir G. Holford, Westonbirt, Tetbury, Gloucester; to apple Miller's Red Victoria, from Mr. W. Miller, Clarkson's Nursery, Wisbech.

Award of Merit. — To Cattleya Adula Thwaites' var., from R. G. Thwaites, Esq., Streatham; to Cypripedium Angela, from Mrs. Norman Cookson, Oakwood, Wylam-on-Tyne; to Odontioda Cecilia, from R. G. Thwaites, Esq., Streatham; to Gladiolus Rathline, from Mr. Bull, Ramsgate; to Chrysanthemum Hollicot Yellow and Hollicot White, from Mr. W. Roots, Cranford; to Single Dahlias Cardinal and Mrs. Joynson Hicks, from Messrs. J. Cheal and Sons, Crawley; to garden cactus dahlias Mrs. Landale and Hon. Mrs. Greville, from Messrs. J. Cheal and Sons; to decorative dahlia Princess Juliana, from Messrs. Whitelegge and Page, Chislehurst; to garden cactus dahlia Minerva, and decorative dahlia Loveliness, from Mr. Charles Turner, Slough; to garden cactus dahlia Sweet Briar and cactus dahlia H. L. Brousson, from Messrs. J. Stredwick and Son, St. Leonards; to single dahlias Ouida and Loveliness, from Mr. M. V. Seale, Sevenoaks.

MEDALS.

Gold.—To Messrs. George Bunyard and Co., Maidstone, for fruit, and fruit trees in pots; to Messrs. Carter Page and Co., London Wall, for dahlias.

Silver-Gilt Flora.—To Messrs. Sander and Sons, St. Albans, for orchids.

Silver-Gilt Knightian. — To Messrs. T. Rivers and Sons, Sawbridgeworth, Herts, for choice fruit.

Silver-Gilt Banksian.—To Mr. F. Brazier, Caterham, for hardy flowers.

Silver Flora.—To Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. Mansell and Hatcher, Rawdon, Leeds, for orchids; to H. S. Goodson, Esq., Putney, for orchids; to R. G. Thwaites, Esq., Streatham, for orchids; to Mr. Jas. Box, Lindfield, for hardy flowers; Mr. Maurice Prichard, Christchurch, for hardy flowers; to R. Fellowes, Esq., Norwich, for sweet peas; to Messrs. Wm. Paul and Son, Waltham Cross, for roses.

Silver Knightian.—To Messrs. Clibrans, Altrincham, for celery; to C. F. Cayley, Esq., Tunbridge Wells, for grapes.

Silver Banksian.—To Messrs. Bakers, Codsall, for pæony-flowered dahlias; to Messrs. Dobbie and Co., Edinburgh, for marigolds; to Messrs. John Forbes, Lim., Hawick, for pentstemons and phloxes; to Mr. H. J. Jones, Lewisham, for Michaelmas daisies; to Messrs. H. B. May and Sons, Edmonton, for crotons and ferns; to Messrs. Jas. Veitch and Sons, Chelsea, for greenhouse plants; to Mr. J. T. West, Brentwood, for dahlias; to Mr. L. R. Russell, Richmond, for clematis; to W. R. Hammond, Esq., Burgess Hill, for sweet peas; to Mr. E. V. Low, Haywards Heath, for orchids.

Bronze Flora.—To Messrs. Backhouse and Son Lim., York, for colchicums, etc.; to Mr. Gwillim, New Eltham, for begonias; to Mr. G. Reuthe, Keston, for flowers and rare shrubs; to Messrs. W. Wells and Co., Merstham, for early chrysanthemums; to Mr. Amos Perry, Enfield, for hardy flowers; to Messrs. Barr and Sons, Covent Garden, for hardy flowers.

Broughty Ferry Horticultural Association.

This annual excursion took place on the afternoon of September 3, when Pitmilly, six miles S.E. of St. Andrew's, was the rendezvous. Arriving at Boarhills Station, the party was met by Mr. Hampton, the head gardener, and, by the generosity of his employer, Duncan Mackinnon, Esq., the members were driven to the gardens where a cycle corps and a few friends from St. Andrew's joined them in an inspection of the gardens and grounds, which were looking splendid. The fruit trees, especially apples, were favourably commented upon; in many cases the crop of perfect fruits was prodigious, and an agreeable surprise for such a situation and locality, being only a mile from the wind-swept coast of the German Ocean and St. Andrew's Bay, and at an elevation of thirty-six feet above sea level. By a careful selection of varieties, and good management, Mr. Hampton has achieved these fine results.

The herbaceous borders and kitchen garden, as well as the flower garden, were features largely and favourably commented upon, while the glass department, although not extensive, was taxed to its utmost.

The historical associations of the place, the natural charm of picturesque and romantic scenery, and the old trees, appealed to everyone. The geological features, the trout stream, and, above all, the botanical interest of the place, were sources of real enjoyment, Mr. Hampton informing the company that he had gathered over 120 species of British plants one morning for an exhibit in St. Andrew's.

Thoughtful and liberal hospitality by Mr. and Mrs. Mackinnon was enjoyed after the bracing air of a lovely autumn afternoon. Thanks were extended by the President, Mr. James Bethel, and compliments were expressed by Messrs. Grant, Matthew, Robb, etc., and replied to by Mr. Hampton. Photographs were taken by Mr. Hampton's son, and then the company left for home, with pleasant recollections of a profitable excursion.

Bournemouth Gardeners' Association.

SEPTEMBER 6.

A very successful and interesting meeting was held on the above date, at which Mr. Weaver presided. "A Talk on Roses," by Mr. E. Harris, of Ensbury Park Nurseries, was much appreciated by the members present.

An exhibition of dahlias was also held, some very good collections being staged. The pompons exhibited by Mr. Nippard, head gardener to J. J. Norton, Esq., were very beautiful, and showed how useful they were for decorative purposes in a cut state. Mr. Tompkins, head gardener to Lady Miller, staged some splendid tomatoes, and a monster vegetable marrow, for which a vote of thanks was accorded. For six cactus dahlias, distinct, arranged in a vase with own foliage, Mr. Reeves was placed first; Messrs. Kennairs and Marlow being second and third respectively. Mr. Marlow had the best three vases of blooms.

In a class for six pompon varieties, distinct, arranged in a vase, Mr. Nippard scored, Mr. Marlow being second. The same competitors secured the prizes in the same order for three pompon vases, three blooms in each.

Mr. Harris, in his "Talk on Roses," said all out best hybrids and hybrid teas were best from the budded plants. He referred to the French method of budding roses, keeping them in sand under cloches until the spring, and then transplanting them in beds in April. The American method was somewhat similar, and different to our method in this country. The lecturer drew attention to the necessity for protection in some parts of the country, and not to the same extent in other parts. He strongly condemned the very general practice of putting on about six inches of cold, wet manure as a top-dressing during the winter months, as it was not any protection to the roots, but kept them too cold at a season when they should be warm. He also advised cultivators to give their plants as long a season of rest as possible, and to stimulate growth about the beginning of June just when the plants require support. Good rotted manure was recommended, and bone-meal.

Mr. Harris strongly advocated the cultivation of roses separately from other kinds of plants, saying it was a big mistake to attempt to grow other kinds generally in the same beds.

Many questions were put to the lecturer, and very ably answered. He recommended the following hybrid tea roses for sandy soils, namely: Lady Ashtown, The Lyon Rose (this variety does remarkably well in the Bournemouth district), Mrs. W. J. Grant, Caroline Testout, Charles J. Grahame, Mrs. David McKee, Countess of Gosford, Dean Hole, Gustav Grunerwald, Kaiserin Augusta Victoria, Lady Battersea, and Mdme. Abel Chatenay. Mr. Harris said that rabbits would, when they had the opportunity, always eat tea roses first.

A hearty vote of thanks was accorded the lecturer, and also the chairman, at the close of the meeting.

United Horticultural Benefit and Provident Society.

The usual monthly meeting of this society was held at the Royal Horticultural Hall, Westminster, on Monday, September 12, Mr. Thomas Winter in the chair. Six new members were elected. The amount of sick pay since the last meeting was £29 14s. The whole amount paid this year is considerably less than last year up to the same date. The annual dinner will be held on October 6 at the Waldorf Hotel, Aldwych, W.C. Edward Sherwood, Esq., has kindly consented to preside on this occasion, and it is hoped that large numbers of friends will attend.

Croydon Gardeners' Association.

On Tuesday this society resumed its meetings at the Sunflower Temperance Hotel, George Street. The attendance of members was very good, and the room was resplendent with late summer flowers, while seasonable vegetables were plentiful.

The usual lecture was dispensed with on this occasion, the members joining in friendly discussion on the exhibits staged. Cultivation of the various flowers and vegetables was expounded, and in cases where insect and fungoid pests had been prevalent the methods adopted for their eradication were freely described. Discussions like this are very fruitful, for not only are they instructive, but they help to foster that good feeling one with the other by the interchange of ideas, and strengthens one of the primary objects of mutuality which this society is doing so much to bring about.

The exhibits were very varied, and reflected great credit on the cultivators. From the gardens of the President (Mr. J. J. Reid) came a collection of ten varieties of potatoes, most of them being newer kinds. Mr. F. Oxtoby, who had grown them, kindly gave a few interesting details of their qualities. Mr. A. Edwards, gardener to Mr. Pascal, staged a nice dish of runner beans and a vase of Helianthus Miss Mellish. Coombe House, the residence of Mr. Frank Lloyd, is well known in the neighbourhood for its huge collection of hardy flowers, and Mr. M. E. Mills exhibited a magnificent collection, including some very interesting varieties, also staging dishes of runner beans, peas, and onions. Two varieties of branching asters were put up by Mr. E.

Gladwell, and also a dish of runner beans. Mr. T. Brown brought two dishes of apples, and from Mr. F. Brazier, Nineham's Nurseries, Caterham, came a few choice vases of phlox, pentstemons, Michaelmas daisies, and early chrysanthemums. These were creative of great interest, all of them being good varieties and well grown.

As the gardeners had shown up in such good style, it was a pleasant feature to find two representatives in the cottagers' section, Mr. R. Cleveland staging a collection of vegetables and two vases of violas, whilst vegetables were also put up by Mr. H. Bridges. Evidently when members of a society take the trouble to exhibit in friendly rivalry without any monetary benefits held out to them, it is conclusive of the keen interest in horticulture in our midst, and long may this continue is the hope of all.

NEW BOOKS.

PROFITABLE FRUIT GROWING.

Mr. John Wright, V.M.H. (W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.) Price 1s.

Twenty-one years have elapsed since Mr. John Wright was presented by the Worshipful Company of Fruiterers with a prize of twenty-five guineas and a gold medal for his essay on fruit culture; and it is a matter of much interest that, as indicated by the appearance of the ninth edition, the book enjoys undiminished popularity. This success is in part explained by the fact, as stated by the adjudicators who made the award, that the "essay combines practical knowledge with literary ability," and in part by the care that has been taken in the preparation of the several editions of which the ninth is now before us. Mr. Wright had long previous to the writing of this essay made a special study of the practical aspects of fruit culture, and possessing literary ability of a high order, he was able to present to his readers a concise account of the more advanced methods, and in such manner as to at once interest and instruct them. Since the essay was written Mr. Wright has fully maintained his interest in fruit culture, and has embodied his more recent experience in the substantial additions that have been made in the preparation of the successive editions. The more important of these are the chapters on "Cottage Fruit Gardens," "Improving Old Fruit Trees," "Pruning, Manuring, and Cleansing Old Trees," "Branch and Root Pruning," "Pinching and Pruning," "Exact Knowledge," and "Fruit Growing in Ireland." With reference to what has been accomplished in the improvement of fruit production in Ireland, the author writes, "The most extended and thorough investigation of the condition of hardy fruit culture in Ireland that has been planned up to the present time was, however, that undertaken by Mr. George Gordon, the present editor of the GARDENERS' MAGAZINE, and Mr. R. Lewis Castle (for some years manager of the Duke of Bedford's Experimental Fruit Farm). In this tour, which extended over nine hundred miles of country, namely, from Portrush and Coleraine in the north to Killarney and Cork in the south, all the principal districts were visited where fruit growing had been tried or where well organised attempts were likely to give good results." Mr. Wright also refers to the report that was read by Mr. Gordon at the Fruit Conference held at the Crystal Palace, and states that "the conclusions fairly represent the conditions, prospects, and requirements of successful fruit culture in Ireland." We may add here that, as stated by one of the leading authorities in Ireland, the scheme adopted by the Irish Government for bringing about an improvement in fruit production was based on the report. While avowedly written for the guidance of the owners of small gardens, "Profitable Fruit Growing" contains much that is well deserving the careful attention of those in charge of gardens of large size.

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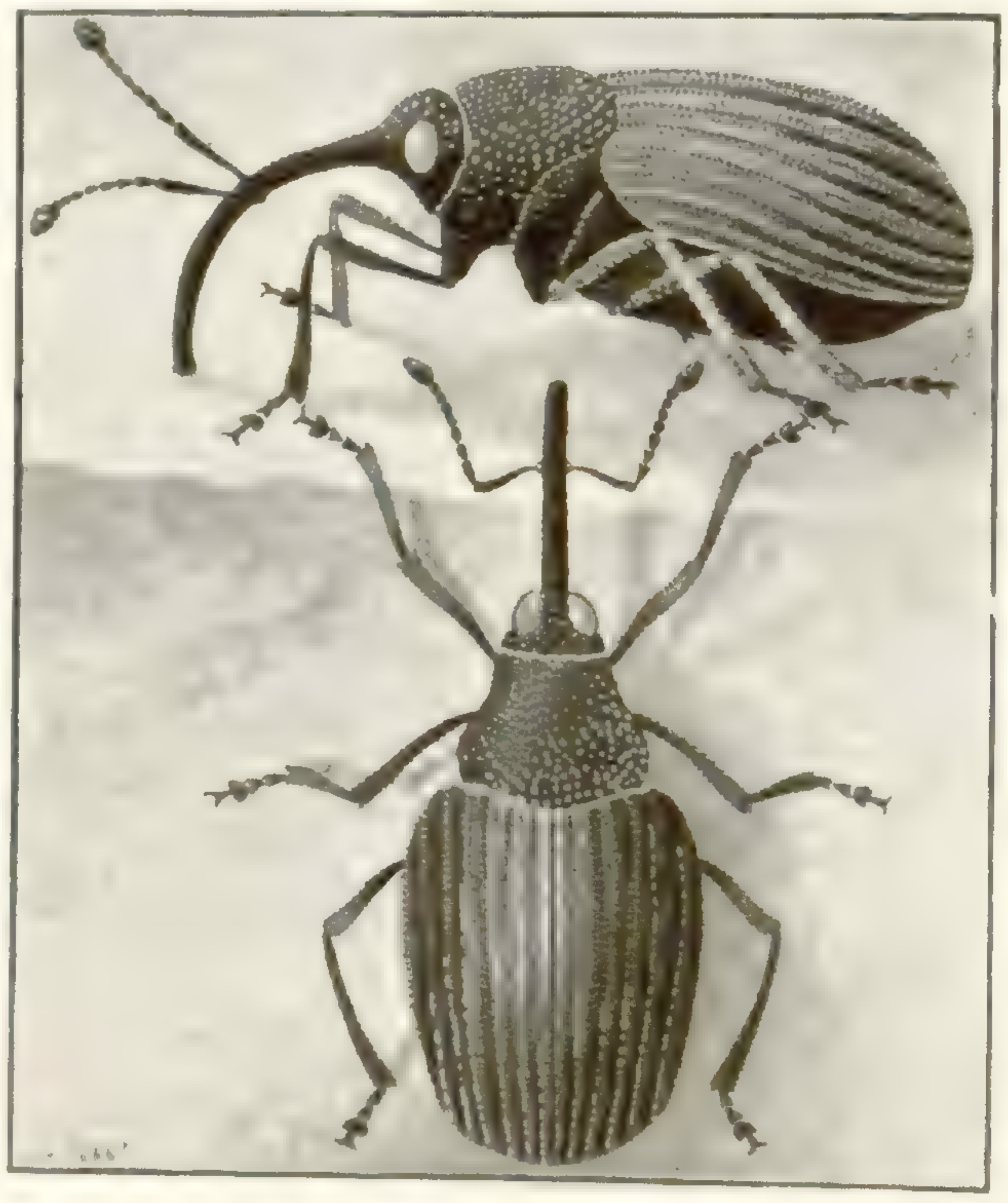
ANSWERS TO CORRESPONDENTS.

COLOUR CHART.—W. B., Swindon: There is no colour chart of any real service to florists and others, other than the "Repertoire de Couleurs," obtainable from the Royal Horticultural Society for 15s. We hear, however, that the French authorities, who so successfully produced this fine work, have under consideration a small pocket edition, in which the commoner shades of colour will be presented in such a form that one may carry the chart in the pocket ready for use as opportunity serves.

GOOD PEACHES AND NECTARINES.—C. P. O., Conway: This matter is dealt with from time to time in our columns, and details and management appear under the heading of "Work for the Week." In brief, these luscious fruits should, when in the open, be planted against a wall with a south or west aspect, and have a border that is moderately rich, contains calcareous matter, and is well drained and decidedly firm. Fan-trained trees should be selected, and planted about 15 feet apart, the roots that are injured being carefully cut away. At the winter pruning shorten the shoots to about two-thirds of their length, and subsequently train the shoots just far enough apart for the full development of the foliage. Protect from spring frosts with canvas or fish net; commence to disbud early, and proceed gradually with the work. When growth commences in spring the branches are studded with new shoots, and if the tree is well furnished with wood the proper course will be to remove or pinch back all the shoots except those at the base and upper end, first removing those growing between the branch and the wall, or at right angles from it. Some of the best peaches are: Bellegarde, Duchess of Cornwall, Duke of York, Hale's Early, Early Grosse Mignonne, Goshawk, Late Devonian, Peregrine, Royal George, Sea Eagle, Thomas Rivers, and Violette Hâtive. These are equally suitable for open walls and culture under glass. The best nectarines include Cardinal, Early Rivers, Elruge Humboldt, Lord Napier, Précoce de Croncels, Spenser, and Victoria.

BULB CULTURE IN FIBRE.—G. A. B., Middlesborough: For the culture of bulbs in fancy receptacles, without drainage, and in fibre, the cocoanut-fibre refuse should be well separated, and have ground shell mixed with it at the rate of one part of shell to four parts of fibre. Put a small handful of pieces of charcoal about the size of a filbert in each vase, then place a layer of the mixture over the charcoal, this layer to be of sufficient thickness for the necks of the bulbs to be just below the upper edge of the vase. The material should be well shaken down, but not pressed, but in filling in the spaces about the bulbs it must be moderately pressed down between them and round the sides also, to prevent there being any vacant spaces. Well moisten the material before it is used, and then no watering will be required for a fortnight or three weeks. The watering, if less troublesome than in the case of bulbs grown in ordinary flower pots with soil, requires care. An endeavour should be made to maintain the material moderately moist, and thus avoid extremes. If the material is allowed to become quite dry at the bottom of the vase, even for a short time, considerable damage will be done. On the other hand, if the water is applied so freely that it stands in the bottom of the vase, the roots will be injured, and the growth checked. It is a good plan to make a point of examining the vases once a week, and to make the examinations on the same day each week. It can be seen without any great difficulty when the moisture has been absorbed, because the material becomes dry at the top first; when it is seen to be dry, apply water moderately, sufficient, in fact, to well moisten the material. If there is a fear of too much water having been given, or it is found that water has accumulated in the vase, lay the vase on its side with the bottom tilted sufficiently to enable the surplus water to drain away. It is not necessary to put them in a cupboard or dark room, or to put them out of doors covered over; nor, indeed, is it desirable. They may be put in a light and airy spare room, where, after growth commences, they can be placed near the window. The vases may, indeed, be put in a light outhouse or shed until they commence new growth, and if a frame or greenhouse is available, it should be taken advantage of, as it is most important the plants should be fully exposed to the light during the development of the leaves and flower stems to ensure these being dwarf, and with sufficient substance to stand erect without supports.

GALLS ON CABBAGE ROOTS.—T. C. T., Southport: The swollen condition of the roots is due to the action of the Cabbage-gall Weevil (Ceutorhynchus sulcicollis), a pest that greatly weakens any crop of the cabbage family it attacks, and is sometimes so plentiful as to kill off the larger part of a plantation of cabbages or cauliflowers. The weevils lay their eggs during the summer on the roots of members of the Brassica family, and the eggs are usually hatched out in about ten days. The grubs immediately begin to feed upon the roots, and the irritation they set up causes the roots to swell up and form galls, completely enveloping the grub. Sometimes an attack of the cabbage-gall weevil is mistaken for an attack of Club-root or Finger and Toe (Plasmodiophora brassicæ), a horrid fungus pest, capable of working great destruction, but it may be readily distinguished from the latter because it does not produce the rottenness the plasmodiophora does, and, further, if the galls are cut open the weevil grub will be found, or, at any rate, evidences of its occupation. Burn all infested roots as they are pulled up, and do not plant a cabbage crop on the same plot for some time to come. During the winter deeply work the ground, manure it freely, and crop with potatoes or peas next spring.



CABBAGE GALL WEEVIL (Much Enlarged).

CLIMBING FRAU KARL DRUSCHKI ROSE.—M. R., Salford: There is a climbing variety of the popular Frau Karl Druschki rose, but we have no personal experience of its behaviour, nor have we heard it eulogised. Perhaps some of our rosarian correspondents will kindly give us their opinion of its merits. The variety was exhibited before the Royal Horticultural Society on March 20, 1906, and an Award of Merit was made in its favour. Messrs. W. Lawrensen and Son were the exhibitors.

NAMING EXHIBITS AT FLOWER SHOWS.—H. B. S., Shrewsbury: Our opinion upon this matter is well known to our regular readers, and we repeat that, educationally, there is but little advantage in exhibiting plants grown to a high degree of perfection unless visitors who are interested in plant culture have an opportunity of ascertaining the names of the specimens exhibited. Disqualification would not be too severe, and would be a just punishment for those who care a good deal for the money prize obtainable, and practically nothing for the advancement of horticulture. We discussed this matter in the issue of September 7, 1907, and in the following issues our views were supported heartily by such an able authority as Mr. William Cuthbertson, J.P.

NAMES OF PLANTS.

B. R. H., Cambridge.—1, Calceolaria Burbidgei; 2, C. amplexicaulis.

C. T. T., Reading.—1, Sarracenia flava; 2, Rudbeckia laciniata; 3, Sidalcea Listeri; 4, Hypericum calycinum.

S. J. W., Lincoln.—1, Gladiolus Brenchleyensis; 2, Isolepis gracilis; 3, Helianthus orgyalis.

S. H. J., Wallingford.—1, Cattleya Hardyana; 2, Lælia elegans; 3, Cypripedium œnanthum superbum.

H. G., Launceston.—1, Polygonum sachaliensis; 2, Pentstemon Newbury Gem; 3, Liatris spicata; 4, Artemisia lactiflora; 5, Anthemis Kelwayi.

NAMES OF FRUITS.

A. G. B., Surrey.—1, White Frontignan; 2, 3, 4, and 5, Black Hamburgh, the latter being a particularly good form; 6, Alicante; 7, Lady Downes; 8, Alicante.

NEW PLANTS, ETC.

◆

DAHLIAS.

Dr. Roy Appleton.—A fine, stiff, "spiky" cactus dahlia of excellent form; yellow, shading to pink at the tips of the florets. F.C.C., N.D.S., September 8. Messrs. J. Stredwick and Son, St. Leonards.

New York.—An effective cactus dahlia, with whorled, slightly incurving florets, making up a big bloom. The colour is bright old gold, with rosy-buff shading. F.C.C., N.D.S., September 8. Messrs. J. Stredwick and Son, St. Leonards.

Onward.—A distinct cactus dahlia with clawed florets that incurve somewhat, and intermingle in a manner suggestive of some Japanese chrysanthemums. It is a new departure that suggests future possibilities in floral development. The colour is a lovely shade of soft rosy-lilac. F.C.C., R.H.S., September 8. Messrs. J. Stredwick and Son, St. Leonards.

Sweet Briar.—A good cactus dahlia of large size, and a charming shade of soft rose or lavender. The great merit of the variety is that it carries its flowers stiffly on long, stout, rigid stems, well above the foliage, and therefore it is a garden cactus variety of merit. F.C.C., R.H.S., September 8. Messrs. J. Stredwick and Son, St. Leonards.

Glow.—A beautiful and shapely pompon dahlia of a lovely shade of rich cerise. F.C.C., N.D.S., September 8. Messrs. J. Cheal and Sons, Crawley.

Cardinal.—A splendid single dahlia of excellent form and substance. The colour is deep vivid scarlet, or cardinal shade, with a flame-yellow zone round the centre. F.C.C., N.D.S., Sptember 8. Messrs. J. Cheal and Sons, Crawley.

Mrs. Joynson Hicks.—A fine single variety, and a particularly effective one. In size and form it is excellent, and the colour is bright apricot-yellow with a maroon base to each segment. F.C.C., N.D.S., September 8. Messrs. J. Cheal and Sons, Crawley.

Minerva.—A distinct and effective variety especially adapted for garden culture. The blooms are of medium size, and the florets are straight, rather broad, and golden-yellow in centre, passing to purple-red; the blooms are carried on long, rigid stems, well above the foliage. F.C.C., N.D.S., September 8. Mr. Charles Turner, Slough.

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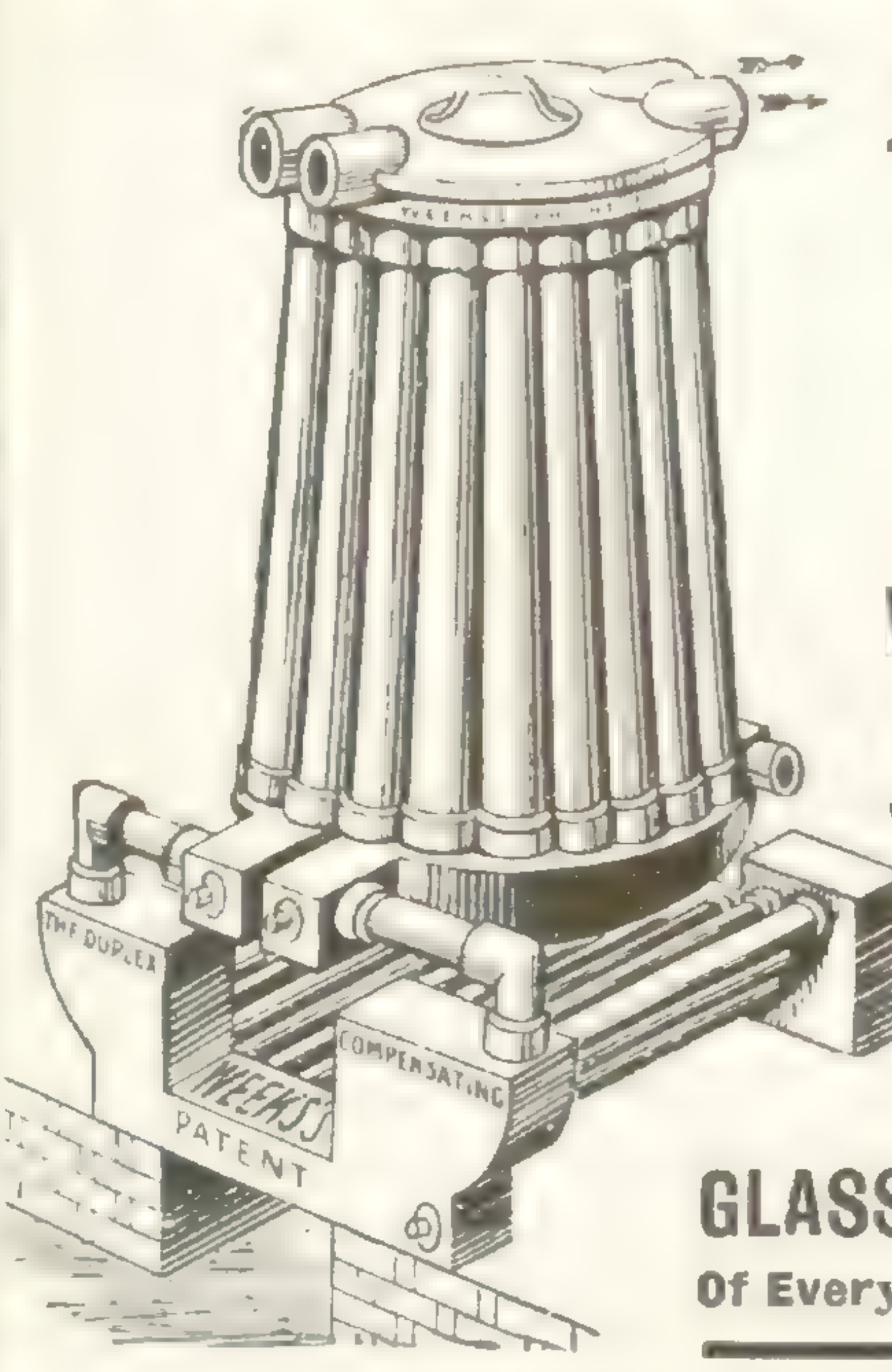

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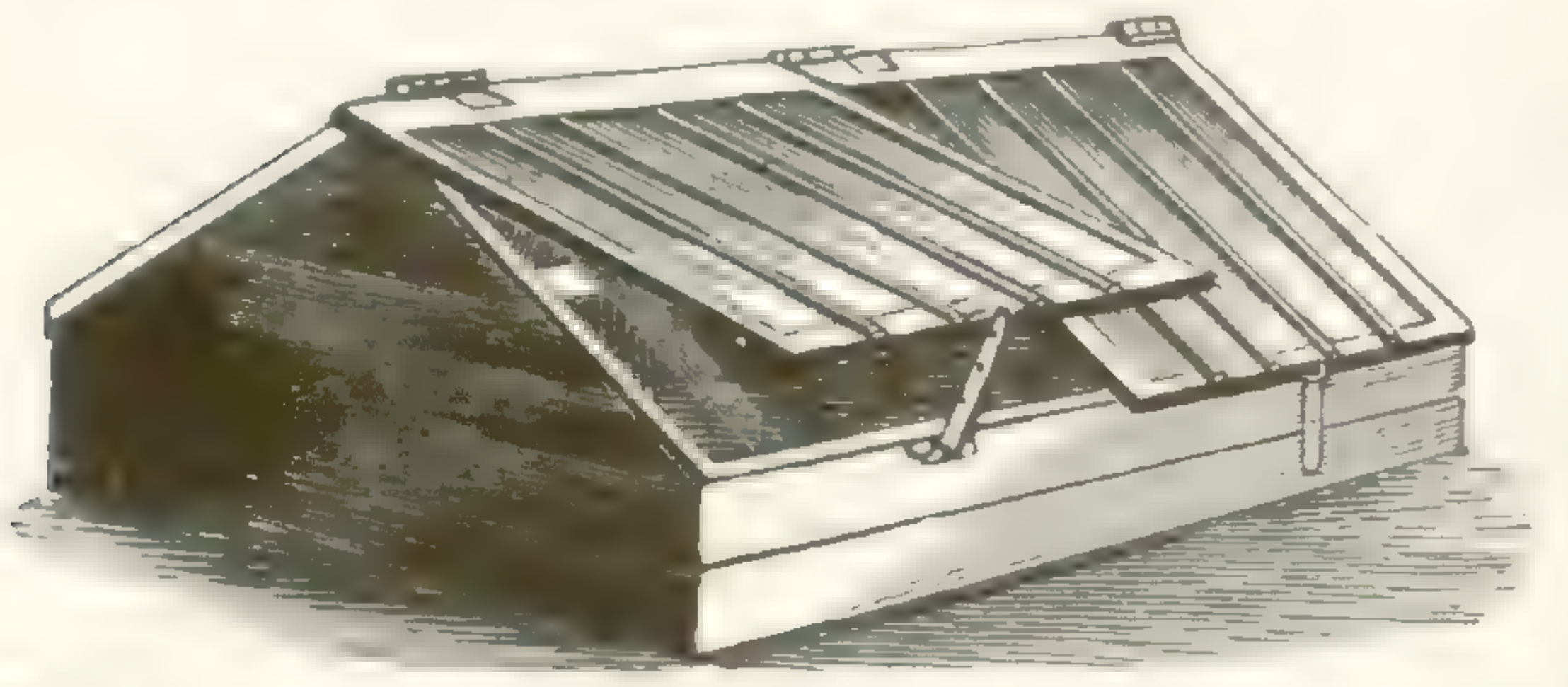

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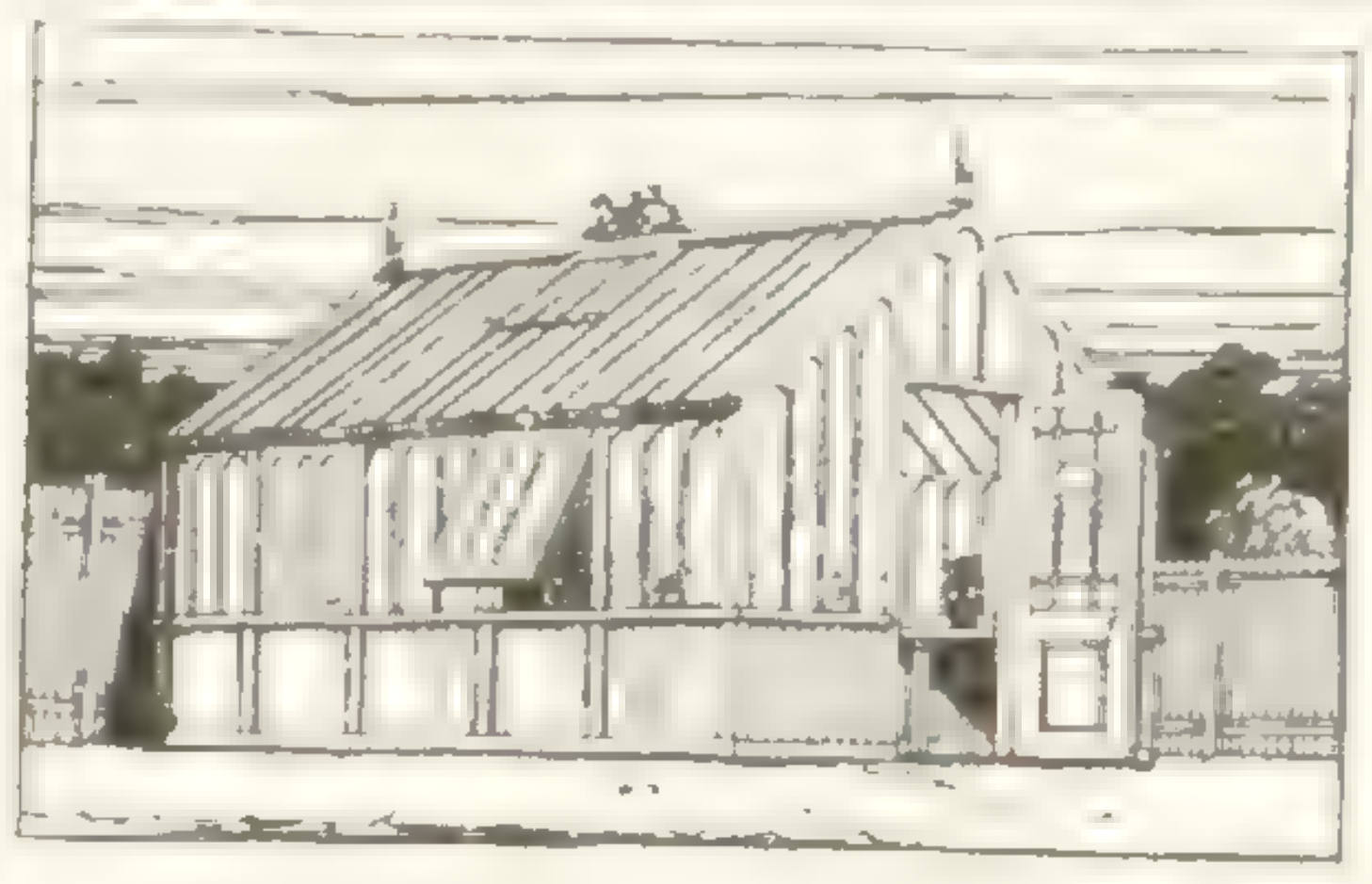

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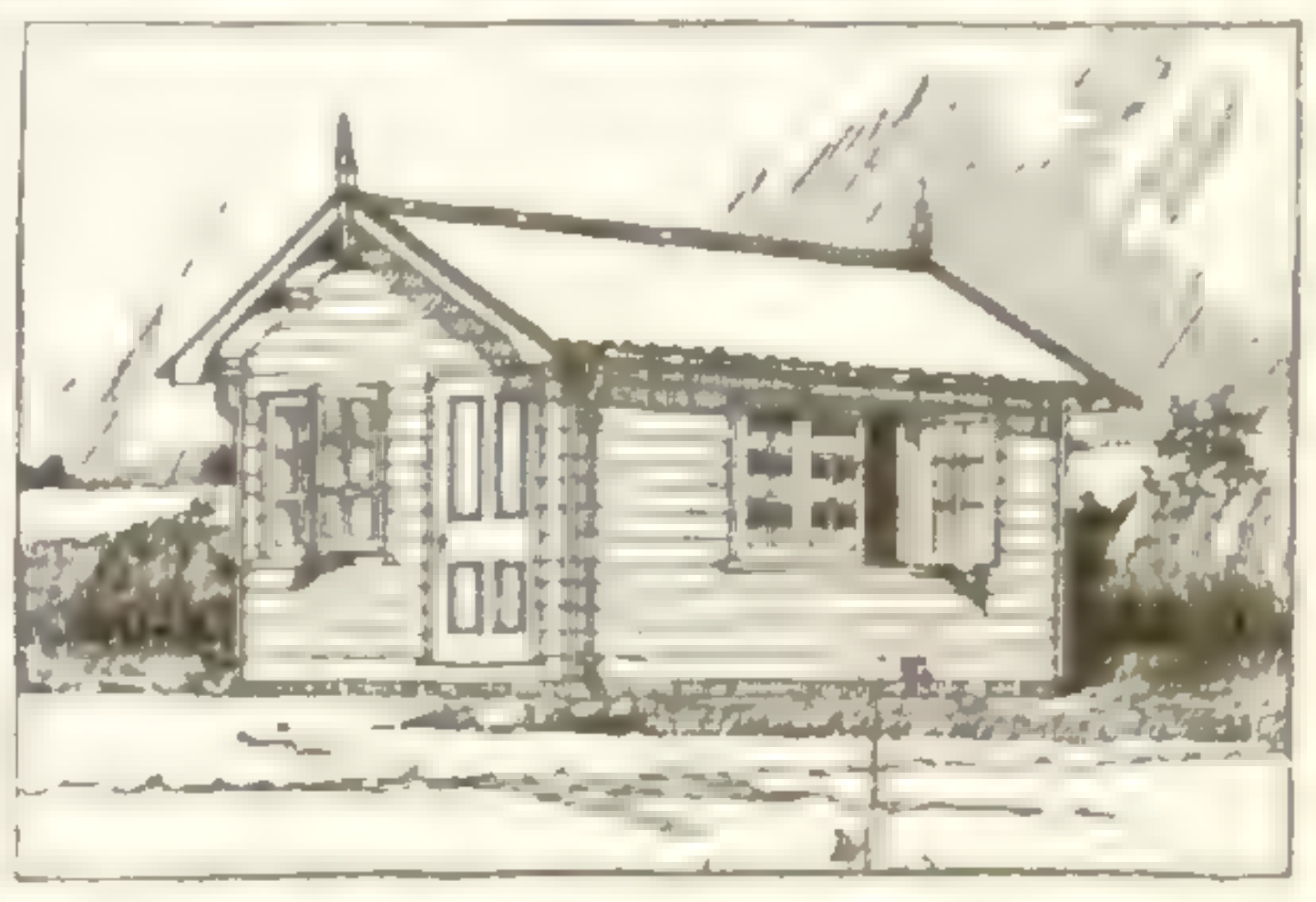

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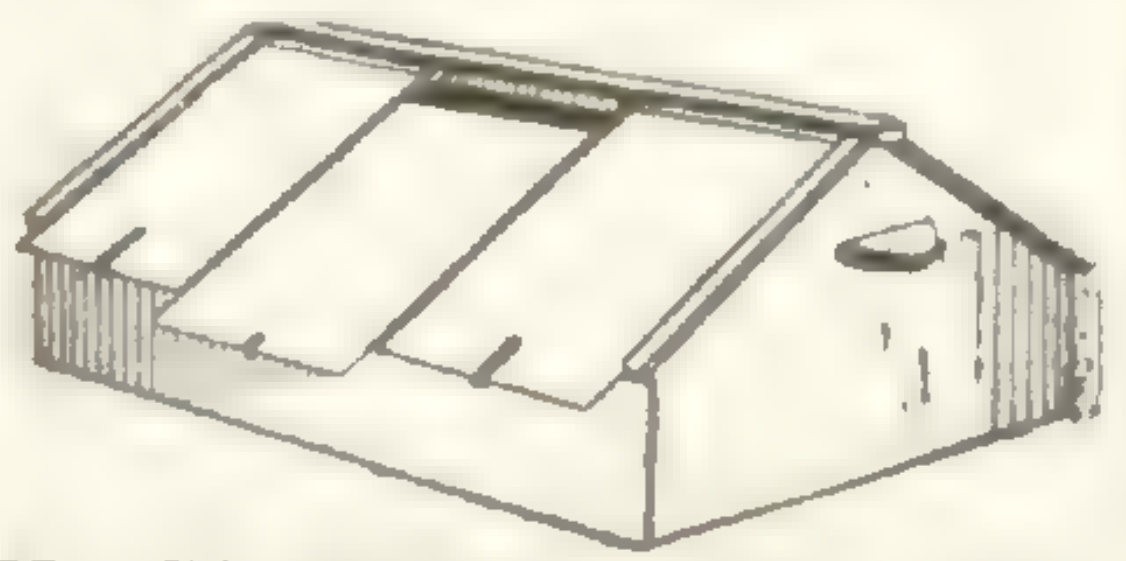

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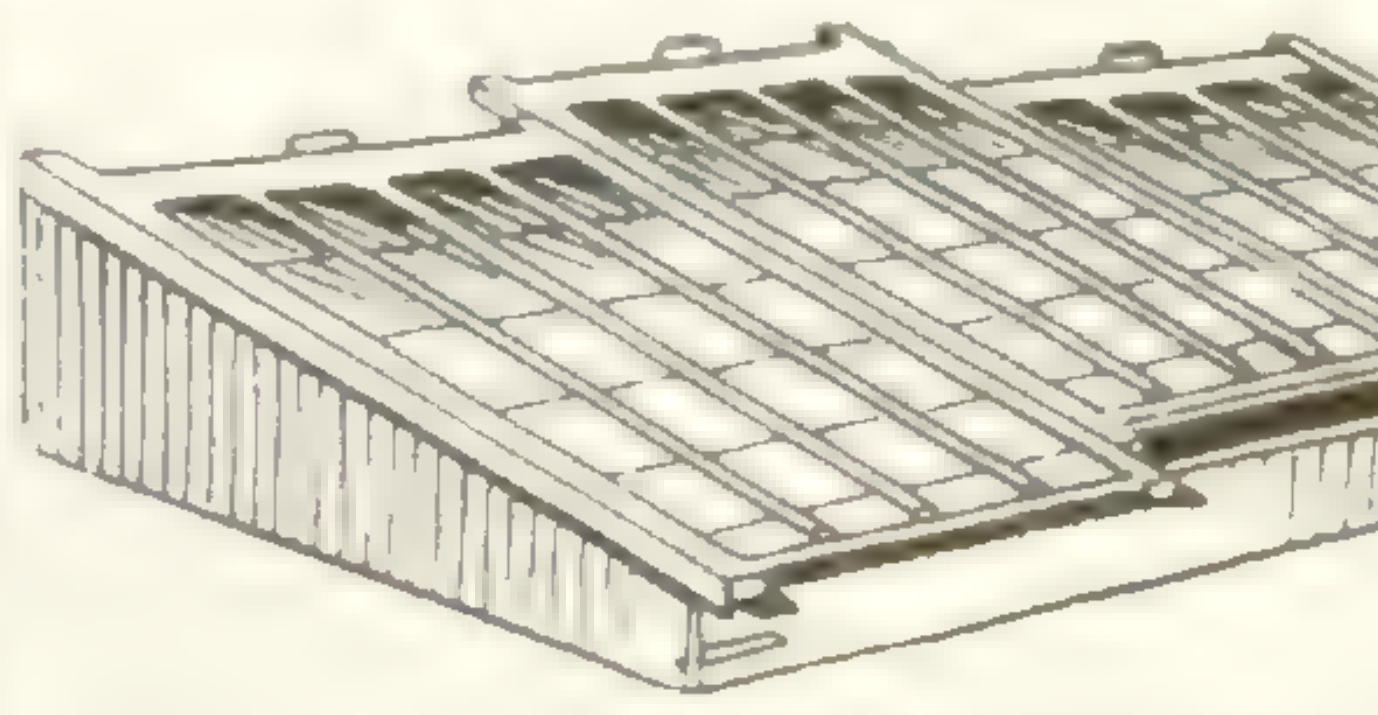

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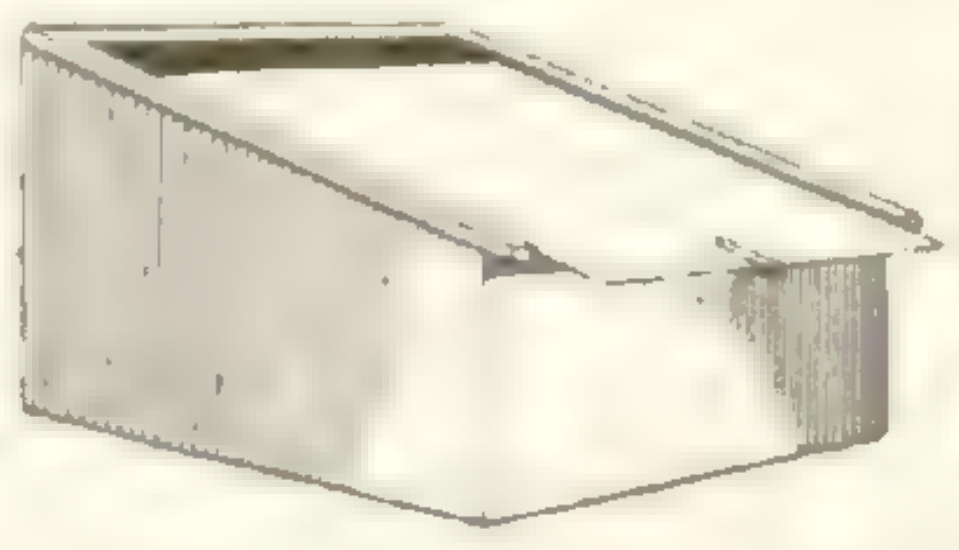
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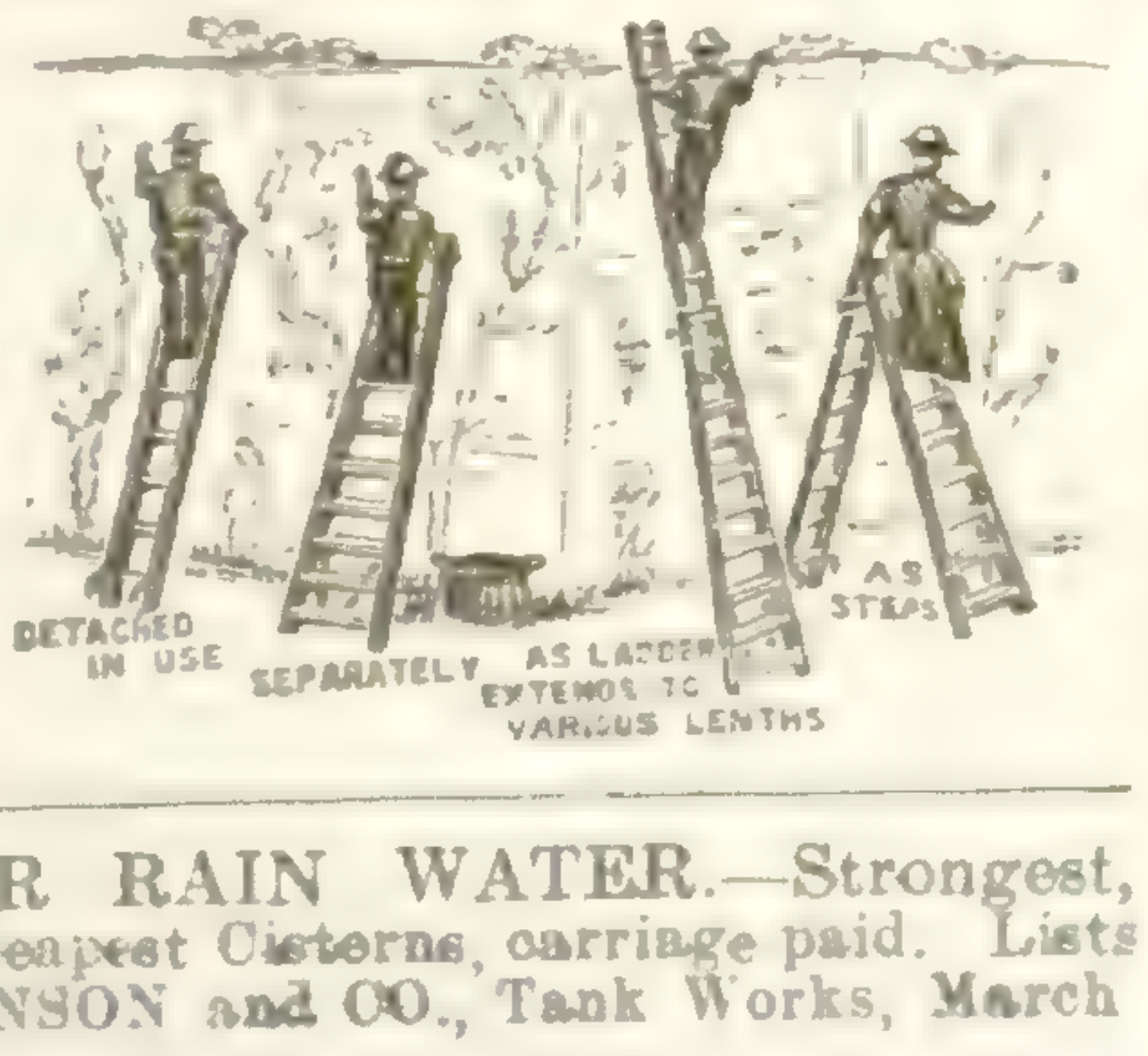
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OBITUARY.

◆

MR. THOMAS FRAZER.

It was with deep regret we learned on Tuesday last of the death, after a very brief illness, of Mr. Thomas Frazer, garden foreman at the Royal Horticultural Society's Gardens at Wisley. A quiet, unassuming man, Mr. Frazer was well liked by those who knew him best. He had a great love for hardy plants and flowers, and understood them well, and those were his chief care at Wisley. Mr. Frazer had a wide experience in this particular branch of horticulture, having been engaged some years ago at Rothesay, and subsequently at Messrs. Dobbie and Co.'s Nursery, then at Orpington. He presently took charge of the herbaceous plant department for Messrs. James Veitch and Sons, and afterwards took service with the R.H.S. at Wisley. Mr. Frazer was, we believe, only really ill for a few hours, and his sudden death has cast a gloom over the staff at Wisley, where he worked, and also resided.

HERR MAX LEICHTLIN.

The worlds of horticulture and of botany have suffered great loss by the death on September 3 of Herr Max Leichtlin, of Baden Baden. He was born at Carlsruhe in 1831, and in 1846 was apprenticed as a gardener, and subsequently worked in establishments at Frankfort, Bolweiller, and Ghent. After this he travelled about a good deal, and in 1856, returning from South America, he stayed a short time in Dublin, passing on to the Messrs. Van Houtte's nurseries at Ghent, where he stayed two years, and left to enter business with his two elder brothers. After sixteen years of close application to business, he established a private botanic garden at Baden Baden, and among other things he got together a splendid collection of liliums. In 1874 he collected Lilium Martagon in Montenegro, but, finding lilies did not succeed as he had hoped, at Baden Baden, he turned his attention to irises, nerines, aubrietias, hemerocallis, etc., and greatly improved these families; indeed, many of the finest aubrietias are due to his patience and skill. As a plant-collector he knew no fear, and to hear of a new iris was usually the signal of his departure in search of it. Eremuri, croci, arnebias, tulips, kniphofias, and calochorti all tell of his splendid efforts to enrich our gardens; indeed, it is extremely difficult just now to properly appraise the great work that Herr Max Leichtlin accomplished for horticulture in his long and busy life. He was buried at Baden Baden on September 5.

Ismene calathina.—Fine, well-ripened bulbs of Ismene calathina are sent to this country from the United States during the winter months, and with a little attention they will flower well. In a good example the green strap-like leaves are well over-topped by the flower scape, which reaches a height of 2 to 3 feet. The flowers, of which several are borne on a spike, consist of a funnel-shaped tube, and a large central cup or corona over three inches across, and fringed along the margin. The colour of the flowers is white, shaded with green, and they are very fragrant.—W. T.

Trachelium cœruleum. — This campanulaceous plant, which is a native of the Mediterranean region of Southern Europe, was first introduced over 250 years ago. The flowers are blue, and, though small, are produced in large branched heads, so that it forms a fairly decorative subject. It is in some gardens employed for the embellishment of the greenhouse during the summer. Quite a group of large specimens were shown at Holland Park—an unusual exhibit. There is a variety (alba) with whitish flowers, but it is less effective than the type.—W. T.

MARKETS.

◆

COVENT GARDEN.

Flowers.

There is a distinct improvement in business, but supplies are still large, and prices rather low.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	6	0	to	8	0
Asparagus	per bun.	1	6		1	6
Asters	per doz. bun.	2	0		3	0
Alstromerias	per doz. bun.	2	0		2	6
Carnations	per doz. blms.	1	0		2	6
,,	per doz. bun.	7	6		8	6
Cattleyas	per doz.	12	0		14	0
Chrysanthemums	per doz. bun.	3	0		6	0
Coreopsis	per doz. bun.	1	6		2	0
Cornflowers	per doz. bun.	1	0		2	0
Croton leaves	per bun.	1	0		2	6
Dahlias	per doz. bun.	2	6		5	0
French fern	per doz. bun.	0	6		0	9
Gaillardias	per doz. bun.	1	6		2	0
Gardenias	per doz.	1	6		2	0
Gladiolus	per doz. bun.	2	0		4	0
Lapagerias	per doz.	1	6		2	0
Lilium auratum	per bun.	2	0		2	6
,, speciosum	per bun.	1	0		1	6
,, longiflorum	per bun.	1	0		2	0
Lily of the Valley	per doz. bun.	5	0		9	0
Marguerites	per doz. bun.	1	6		2	0
Mignonette	per doz. bun.	1	0		2	0
Odontoglossums	per doz. blms.	2	0		3	0
Pelargoniums	per doz. bun.	3	0		5	0
Roses	per doz.	0	6		2	0
Scabious	per doz. bun.	3	0		4	0
Smilax	per doz. trails	2	0		3	0
Statice	per doz. bun.	4	0		5	0
Stocks	per doz. bun.	2	0		3	0
Sweet Peas	per doz. bun.	1	0		2	6
Tuberoses	per doz.	0	3		0	5
Violets	per doz. bun.	3	0		4	0

Fruits.

Trade is good and supplies are readily cleared.

		s.	d.		s.	d.
Apples, English	per bush.	3	0	to	10	0
Apricots	per box	0	9		1	6
Bananas	per bun.	3	6		10	0
Figs	per doz.	1	0		2	0
Greengages	per ½-sieve	3	6		6	6
Grapes, English	per lb.	0	8		3	0
,, Guernsey	per lb.	0	6		1	3
,, Belgian	per lb.	0	6		0	10
,, Denia	per barrel	4	0		6	0
Lemons	per case	10	0		30	0
Melons	each	0	8		3	0
Nectarines	per doz.	2	0		7	6
Oranges	per case	10	0		25	0
Peaches, English	per doz.	3	0		12	0
Pears, French	per crate	4	0		7	6
,, English	per ½-sieve	2	6		4	6
Pineapples	each	2	0		4	6
Plums	per ½-sieve	3	0		6	0

Vegetables.

Supplies are large and good, and there is a fair demand all round.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	0
Beans, Runner	per bush.	2	0		2	6
Beet	per bush.	2	0		2	6
Cabbages	per tally	2	0		4	6
Carrots	per doz. bun.	1	6		3	0
Cauliflowers	per doz.	1	6		3	0
Cucumbers	per flat	4	0		6	0
Endive	per doz.	1	0		2	0
Lettuce, Cos	per score	0	8		1	0
Marrows	per tally	2	0		5	0
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	7	6		12	0
Mustard and Cress	per doz. pun.	0	6		0	8
Peas	per bush.	3	6		4	6
Radishes	per doz. bun.	0	4		0	10
Parsley	per ½-sieve	1	6		2	0
Spinach	per bush.	1	3		2	0
Tomatoes	per doz. lb.	3	0		3	6
,, Guernsey	per doz. lb.	2	6		3	0
Turnips	per doz. bun.	2	0		3	6
Watercress	per doz. bun.	0	3		0	6

LONDON POTATO MARKETS.

Owing to harvest operations the quantities sent to market continue rather small, and prices have had an upward tendency.

		s.	d.		s.	d.
Round	per ton	50	0	to	55	0
Kidneys	per ton	55	0		60	0
Lincolns	per ton	55	0		60	0
Epicures	per ton	45	0		50	0
Puritans	per ton	60	0		65	0

FORTHCOMING ENGAGEMENTS.

SATURDAY, September 17.—Elstree Horticultural Society.

SATURDAY, September 24.—Brussels Market Garden Exhibition; four days.

TUESDAY, September 27.—Royal Horticultural Society: Committees meet at 12 o'clock; lecture at 3 p.m. on "South America in its Relation to Horticulture," by Mr. Arthur W. Hill; Scientific Committee at 4 o'clock.

WEDNESDAY, September 28.—National Vegetable Society's Exhibition at Royal Horticultural Hall.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
1910. September 4 to September 10.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Sept. 4—Sunday	2 36	54	49	60	47
,, 5—Monday	—	54	51	58	52
,, 6—Tuesday	—	54	50	57	52
,, 7—Wednesday	0 30	55	53	60	50
,, 8—Thursday	6 0	59	55	64	52
,, 9—Friday	1 42	54	51	59	47
,, 10—Saturday	3 54	54	51	64	37
Means	(total) 14 42	55	51	60	48

Date.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
1910. September 4 to September 10.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Sept. 4—Sunday	—	59	59	59	40
,, 5—Monday	—	58	59	59	50
,, 6—Tuesday	—	58	58	59	50
,, 7—Wednesday	trace	57	58	58	46
,, 8—Thursday	—	58	58	58	49
,, 9—Friday	—	58	58	58	38
,, 10—Saturday	—	55	57	58	31
Means	(total) —	57	58	58	43

CATALOGUES RECEIVED.

JAMES VEITCH AND SONS, LIM., KINGS ROAD, CHELSEA.—A well-arranged, descriptive, and illustrated catalogue of hardy perennials, rock plants, hardy florists' flowers, and water plants, with a special list of novelties. The same firm also issues a freely illustrated bulb catalogue.

BARR AND SONS, COVENT GARDEN, W.C.—A very handy and useful list of daffodils, the varieties being marked, to show their season of flowering, in five classes, the heights are also given. The general bulb catalogue is a separate issue.

HOGG AND ROBERTSON, LIM., MARY STREET, DUBLIN.—A comprehensive list of all kinds of bulbs.

BENJAMIN R. CANT AND SONS, THE OLD ROSE GARDENS, COLCHESTER.—A very complete catalogue of roses both for autumn and spring planting.

WM. PAUL AND SON, WALTHAM CROSS.—A catalogue of bulbs and other winter and spring flowers, with a descriptive list of camellias.

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Situations Wanted—*continued.*

GARDENER (Head); life experience in growing all kinds of fruit and plants, including orchids, also kitchen and flower garden; can be highly recommended. W. LAMBERT, The Common, Kenilworth, Warwickshire.

GARDENER (Single-handed or good Second), experienced Inside and Out; Pleasure and Kitchen Garden; good references; married when suited. W. ADAMS, 34, Victoria Road, Crawley.

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Situations Wanted.

W. H. PROPHET seeks SITUATION as HEAD WORKING GARDENER where two or more are kept; Gold and Silver Medallist National Sweet Pea Society, London, 1909 and 1910; over 20 years' experience; married; age 35; highest of references from present employer. Par, Cornwall.

GARDENER (Head); life experience all branches, Inside and Out; Grapes, Peaches, Melons, Stove and Greenhouse Plants, Orchids, Malmaison and Tree Carnations, Landscape and Rock Garden; Vegetables and Hardy Fruit; nearly 8 years as head; age 35; excellent references. F. SMITH, 4, Mellish's Terrace, Morden, Surrey.

GARDENER (Head Working, where several are kept); age 45; married, no family; thorough practical experience of gardening in all branches; excellent testimonials. WM. SMITH, The Gardens, Aston Hall, Oswestry, Shropshire.

GARDENER (Head, where two or three are kept); highly recommended; would be pleased to forward particulars to any Lady or Gentleman. CLARK, 19, Tanfield Road, Birkby, Huddersfield.

GARDENER (Head Working, where two or more are kept); thoroughly experienced; 7 and 12 years' good references as Head; age 45; active; 2 in family, youngest, lad, 15; disengaged. HUNT, 9a, Bridewell Street, Devizes.

GARDENER (Head Working).—Well up in all branches; excellent characters; 5 years' present situation; married; age 40. E. BEARDSLEY, The Finches, Ifield, Crawley, Sussex.

GARDENER (Head Working).—Mr. WATSON can highly recommend C. WALLIS, where two or three are kept; been here 5½ years as Second of five; age [illegible]; married, one child. The Gardens, Bushey Down, Tooting Common.

GARDENER (Head Working); 26 years' thorough experience in all branches, Inside and Out: Fruit, Flowers, Vegetables, Laying Out and Altering Grounds; thorough practical experience in Growing for Market; highest references; married; age 41. H., West View, Percy Road, Hampton, Middlesex.

GARDENER (Head Working) seeks RE-ENGAGEMENT; can be highly recommended by Lord ABERDARE, whom the applicant has served for the last 10 years; life experience; age 36; married, no family. MUSCOTT, Grosvenor Villa, Resolven, S. Wales.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; prize winner; leaving own request; no young children; youngest 14. W. BLOOMFIELD, Staplehurst, Kent.

MAJOR HOLROYD, Ropley Manor, Alresford, Hants, wishes to highly recommend his late GARDENER (Head Working) to any Lady or Gentleman requiring a good, competent man; life experience in all branches; single; age 32. [illegible] West Street, Marlow, Bucks.

GARDENER (Head Working); experienced in the Cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, &c., also Hardy Fruit culture; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working), late of Hungerford Park; well up in all branches, Inside and Out; excellent references; 4 years in last place; married; age 41; abstainer. F. EARL, c/o W. Irving, 2 Kent Villa, Stanwell Road, Ashford, Middlesex.

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GENTLEMAN highly recommends GARDENER Head Working, where three or more kept; Scotchman; for Fruit, Flowers, Vegetables; Inside and Out; trained in large Scotch gardens; Head Gardener over 17 years; leaving through death and estate sold; married, two children, 14 and 10; excellent references. BELL, Beechwood, Fitzroy Park, Highgate, London.

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GARDENER.—Gentleman wishes to recommend his Gardener, as Head or Single-handed; he is honest, sober, and industrious, and is a good neat gardener; he also understands cows. Apply, T. GORRINGE, Lorne Villa, Lindfield, Sussex.

GARDENER (Head Working) requires SITUATION; experienced Vines, Peaches, Melons, Fruit, Flowers, Vegetables; five years' good character; married. C. N., Clarence Cottage, Broadbridge Heath, Horsham.

GENTLEMAN recommends GARDENER (Head of two or three); life experience in all branches; understands formation of new or renovating old gardens; married, one boy 10 years; age 45. PENNELLS, Phœnix Green, Winchfield, Hants.

A. WISSMANN, Esq., Bell House, Dulwich, wishes to recommend E. ANDREWS, his GARDENER (Head Working); thoroughly practical in all branches; five years here; life experience; trustworthy; age 35; highest references from previous employers; married.

GARDENER (Head or Single-handed); 18 years' practical experience in all branches; inside and out; good rose grower; excellent references; age 30; married, one child. Apply, W. TYLER, Fair Oak, Bishopstoke, Hants.

GARDENER.—Wanted, SITUATION as good SINGLE-HANDED or where help is given; 16 years experience in all branches of gardening; 11 years present place, with best of references; age 33; married when suited. CHARLES SMITH, Broomscroft, Wateringbury, Kent.

GARDENER (Single-handed or with help); age 28; experienced Inside and Out; married when suited; good references. A. RAYFIELD, 130, Lavenham Road, Southfields, Surrey.

GARDENER (Single-handed); married; age 27, seeks SITUATION; experienced Inside and Out; 5½ years' excellent reference last situation Apply W. G. CONN, 7, Coombe Road, Sydenham.

GARDENER (Single-handed) seeks SITUATION; 12 years' good experience; good reference. Address, A. DODD, 64, Northfield End, Henley-on-Thames.

GARDENER (Good Single-handed, or where help is given); life experience in the garden; can be well recommended; young married man. C. FAGGETTER, The Gardens, Osterley Park, Isleworth.

GARDENER (Good Single-handed, or where help is given); life experience; married when suited. Apply, L. LOWNDS, Mayfield, Ashbourne, Derbyshire.

GARDENER (Single-handed or otherwise); good all-round man in all branches, or handy man on gentleman's estate; good at either; willing to be useful; active and reliable; good character; age 45; married, one child. OSBORNE, 48, Bradshaw Road, Watford.

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LADY highly recommends MAN, age 25, as good Single-handed or Second; life abstainer; excellent references; two children; state wages, with or without lodge. C. BARTON, 89, Bulverhythe Road, St. Leonards-on-Sea, Sussex.

MR. E. ANDREWS wishes to Recommend C. CURD, age 25, as SINGLE-HANDED GARDENER; 10 years' experience; well up in outside work; trustworthy; three years present situation; good references. 2, Bell Cottages, College Road, Dulwich.

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MR. T. BENNETT, late Peckforton Castle, will be pleased to recommend P. KIRTON as JOURNEYMAN, Inside; age 21 years. Apply, T. BENNETT, The Hollies, Green Lane, Wavertree.

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MR. HAWES, Royal Botanic Gardens, London, recommends W. ANSELL as IMPROVER; 18; disengaged; three years' references; Bothy preferred. W. ANSELL, St. George's Garden, Wakefield Street, W.C.

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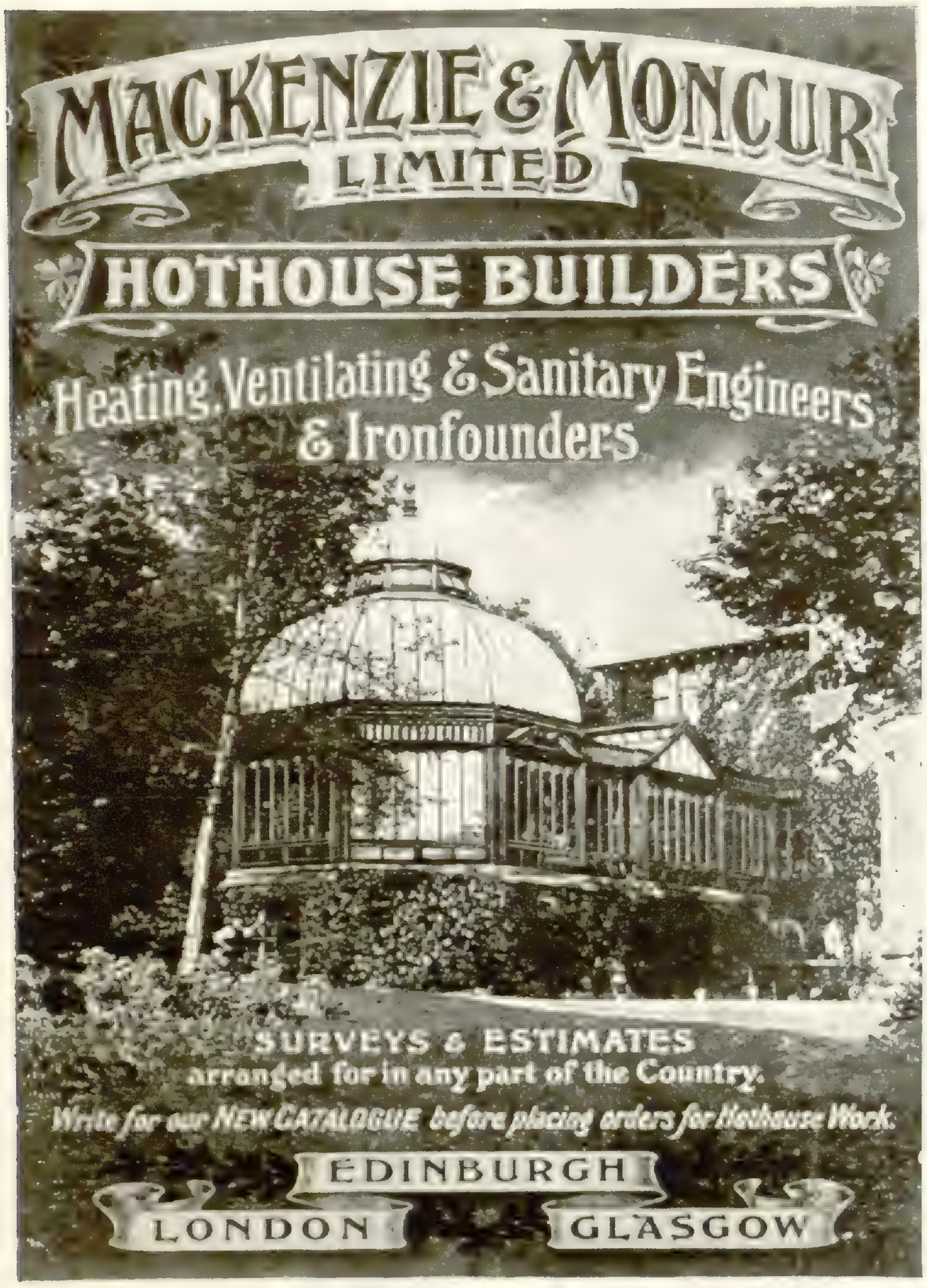

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THE GARDENERS' MAGAZINE.

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Emperor	7	6
Horsfieldii	7	6
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VOL. LIII.—No. 2,969. SATURDAY, SEPTEMBER 24, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

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Bulbous Plants in Town Gardens.

Bulbous plants that are so vigorous in growth as to admit of their being readily propagated and to produce an abundance of attractive flowers, are, as so fully recognised, of much value for beautifying gardens in country districts in which the air is of the purest; but they are especially so in town and suburban gardens, where the atmospheric conditions are not favourable to plant life. In country gardens the beauty of the flowers can be enjoyed to the full, and the plants can be grown on from year to year, and multiplied according to requirements. Consequently, in furnishing them or adding to their occupants, there is a wide range in making selections, and both bulbous and fibrous-rooted plants can be planted in accordance with the taste of the owners or those in charge, with the full assurance of obtaining successful results. On the other hand, comparatively few of the more beautiful plants can be grown on from year to year in the gardens of large towns and congested suburbs, and maintained in the state of vigour essential to abundant flower production. This necessarily excludes a very large proportion of the more beautiful of the fibrous-rooted plants, and renders it practically impossible to enjoy a really attractive and varied display of flowers at any period of the year when the selection is limited to them. It is for this reason that the best known of the spring and summer flowering bulbous plants are of such immense value for gardens in towns or within their influence. The growth of the hardy plants with fibrous roots must be made in the beds and borders where they are to bloom, because it is not until they are well established that they will yield freely of their floral beauty. Bulbous plants, on the other hand, may be cultivated elsewhere than in the gardens in which they are to produce their flowers, and of this we have ample proof on all sides. It is not even necessary in the case of some of the kinds that they should be grown within the boundaries of the United Kingdom, but happily, as the result of the enterprise of British cultivators, large proportions of the bulbs of the most valuable kinds are home grown. At the close of its season of activity the bulb contains, closely enveloped in its fleshy scales, the embryo flower or flowers, and the character of these will be largely determined by the conditions under which the bulbs were grown. If the cultural method was well devised, and the conditions otherwise favourable, the incipient flowers will be capable of attaining to a high state of development; but should the conditions, whether of soil or climate, not have been conducive to a healthy growth, they will be weak, and resulting flowers poor. This being the case, the owners of gardens in and near towns are in a position to obtain bulbs that have been grown under high cultivation, and in the open country beyond the influence of atmospheric impurities, and that will produce flowers of far higher quality than can possibly be obtained from bulbs that have had a year's stay in a crowded garden. This, briefly stated, being the case in favour of bulbous plants as aids in the adornment of the flower garden, we strongly advise those of our readers who reside in town districts to plant bulbs freely in their gardens. We need hardly suggest that the finest of the inexpensive varieties in the several classes that are known to produce effective displays of colour should be selected and planted; and when their season of flowering is past, the bulbs should be lifted and consigned to the rubbish heap as being of no further use. To some of our readers who have large gardens in country districts this may appear an extravagant method of procedure, but we suggest it as the only method of procedure, by which dwellers in towns can obtain an abundance of flowers attractive in colour and interesting by reason of their diversity of form, throughout the spring months and during the greater part of the summer. It must be remembered that the gardens under consideration are usually of small size, many indeed being so limited in their area as to render it difficult to expend a large sum in the purchase of the required number of bulbs if inexpensive varieties are purchased. If reference is made to any of the bulb catalogues of the leading firms, it will be seen that there are numbers which are cheap in the best sense of the term, inasmuch as they are low in price and of high quality for garden decoration. The narcissi should have prominence given them among the bulbous plants flowering in the spring, and Emperor, Golden Spur, Henry Irving, and P. R. Barr, of the yellow trumpets; Empress, Grandis, Mrs. Walter Ware, and Victoria, of the bicolors; Frank Miles, Nelsoni major, Sir Watkin, and Stella superba, of the incomparabilis varieties; Conspicuus and John Bain, of the Barri section; and Grandiflorus and Ornatus, of the Poeticus section, are low in price, and admirably adapted for the production of beautiful effects. In like manner the lists of early and late-flowering tulips include a considerable number of excellent varieties that are inexpensive and of high quality. Hyacinths are useful for their distinctness, and those who are satisfied with the bulbs specially offered for bedding will not find them costly. Crocuses are of much value for the rich effect they produce in advance of the early tulips and daffodils, but unfortunately the town sparrow is destructive to the flowers. The foregoing will afford a succession of

MR. HUGH PETTIGREW.

flowers over a period of nearly three months. For succeeding them there are the Spanish irises, the early-flowering and late summer gladioli, such inexpensive lilies as Lilium umbellatum and L. tigrinum, and a few other subjects that might be mentioned. These we leave to the selection of those who are specially interested in the matter, as our object is not so much to give an exhaustive list of the kinds that may be satisfactorily flowered under the conditions that obtain in towns, but to call attention to the value of bulbs for beautifying town gardens and indicating the lines on which selections should be made.

Mr. Hugh Pettigrew, whose portrait we have the pleasure of giving in this issue, is one of three brothers who, in following in the footsteps of their father, have succeeded in obtaining, while comparatively young, positions of importance in the world of horticulture. Mr. Hugh Pettigrew commenced his training in practical horticulture in the gardens of Cardiff Castle, which at that time was under the charge of his father, the late Mr. Andrew Pettigrew, who was one of the foremost gardeners of his day, and not less successful in the training of young gardeners than he was in garden management. Subsequently, Mr. Hugh Pettigrew entered the Royal Gardens, Kew, where he remained two years, and during that period was careful to take full advantage of the many opportunities the establishment affords for the acquisition of knowledge relating to botany and the practical cultivation of plants for scientific and decorative purposes. On leaving Kew Mr. Pettigrew obtained a position in the famous gardens of Ferriers, the seat of Baron Rothschild, near Paris, where he became well acquainted with Continental horticulture of the highest type. On the completion of his engagement at Ferriers, he returned to the gardens of Cardiff Castle to complete his training by filling an important position in the fruit and kitchen gardens. In stating this fact, it may be of interest to mention that the late Mr. Andrew Pettigrew regarded it as essential to success in after life that the young gardener should during the period of his training be thoroughly versed in all that belongs to the cultivation of fruits and vegetables. He also held the opinion, and gave practical expression to it, that the work in the kitchen and fruit gardens should come towards the end of the period of training, because the student is then able to fully appreciate its importance. While engaged in these departments of the gardening establishment at Cardiff Castle, Mr. Hugh Pettigrew was appointed head gardener at St. Fagan's Castle, the Welsh seat of the Earl of Plymouth. In the management of these fine gardens he has afforded conclusive evidence of his administrative ability and cultural skill, and we have ample proof of these qualities having been fully appreciated by his noble employer, for some time since the Earl of Plymouth added to his responsibilities by appointing him steward of the St. Fagan's estates, which extend over a large area, and are remarkable for their many distinctive features. Many improvements have been effected in the St. Fagan gardens within recent years, and at the present time the formation of a new kitchen garden is in progress, and when completed it will, with its ranges of glass, be one of the finest gardens of its kind in the United Kingdom.

The National Vegetable Society will hold its first exhibition at the Horticultural Hall, Vincent Square, Westminster, on Wednesday next, the 28th inst.,and it has the promise of proving eminently successful. The date arranged for closing the entries had not been reached at the time of going to press, but ten days ago applications for schedules and entry forms were coming in at the rate of about fifty per day, although 1,500 copies were, in response to applications, distributed earlier in the year. This suggests that the resources of the hall will be taxed to the utmost. We shall give an illustrated report of the exhibition in our next issue.

Poisoning by Weed Killer.—A few days since one of the employees of the Richmond Corporation lost his life through accidentally drinking weed killer instead of the beverage he had brought with him for his breakfast. Some weeks ago the man who lost his life, with another employee, brought some weed killer to Kew Green to kill the grass on the drive by the west entrance to the gardens. When they had completed their work the weed killer that remained, or a portion of it, was handed to the constable in charge of Kew Green, and placed in his shelter or box, which is unprovided with cupboards. On the day of the accident the deceased with a companion again came to Kew Green, and in accordance with the usual custom they had their breakfast in the shelter, and in the course of the meal he picked up the bottle of weed killer and drank from it instead of the bottle containing his tea. We give these particulars for the purpose of pointing out the importance of exercising the greatest possible care in handling weed killers and other poisonous preparations used in the garden. They should, in all cases, whether the gardens are public or private, be constantly kept under lock and key, and be given out as required for use by a responsible person to a responsible person, and that any remaining be at once returned to those by whom it was given out. Moreover, weed killers, when given out for use should in all cases be put into vessels that are so distinct in shape, that by no possibility can they be mistaken for bottles or other receptacles for liquids used for other purposes.

National Chrysanthemum Society.—The programme for the conference to be held on December 5, 1910, has been arranged as follows: Afternoon Session—3 p.m., paper by Mr. Norman Davis, entitled "The Culture of Japanese Chrysanthemums for Exhibition"; 4 p.m., paper by Mr. W. Higgs, entitled "The Culture of Incurved Chrysanthemums for Exhibition"; 5 p.m. to 6.30 p.m., interval for tea. Evening Session—6.30 p.m., two short papers, viz.: (a) "Methods of Exhibiting Japanese and Incurved Chrysanthemums," by Mr. H. J. Jones; (b) "The Use of Large Blooms in Floral Decoration," by Mr. R. F. Felton; 7.30 p.m., paper by Mr. Stevenson, entitled "Late-struck Japanese Chrysanthemums for Exhibition."

Fourth Conference on Genetics.—The fourth Conference on Genetics will, as decided at the Conference held in London in 1906, be held in Paris in 1911, and the dates now fixed are September 18 to September 23, 1911. The Conference will be held under the auspices of the Société Nationale d'Horticulture de France, and at its rooms. Dr. Viger is president of the Organising Committee, and M. Philippe de Vilmorin is secretary, with M. A. Meunissier as assistant secretary. The meetings of the Conference will be presided over by M. Yves Delage, Professor of the Faculty of Sciences. The programme, to be elaborated in due course, will include "not only all the problems connected with Mendelian heredity, but also all the questions of variation, mutation, and, in general, everything pertaining to the transmission of characters in living beings." All desirous of taking part in the Conference, or of obtaining further particulars concerning it, should communicate with M. Philippe de Vilmorin at 66, Rue Boissière, Paris.

Messrs. Sutton and Sons have been awarded by the jury of the Brussels International Exhibition the gold medal for the excellence of their grass seeds which have been used in the formation of the beautiful lawns that constitute a prominent feature.

National Hardy Plant Society.—Mr. Frank Bouskell, secretary of the National Hardy Plant Society, writes: "During the Royal Caledonian Horticultural Society's show at Edinburgh, a meeting of persons interested in hardy plants was held, Mr. Macself in the chair, the secretary and treasurer of the society also being present. The meeting was well attended, and a number of apologies were read from persons promising their support, who were unable to attend. The Chairman explained the objects of the society, and invited the meeting to express an opinion as to the desirability of including annuals within the scope of the society. After a most interesting discussion the meeting decided that it was not desirable to include annuals. A discussion then took place as to the amount of the annual subscription. The Chairman thanked the meeting for their expressions of opinion, which, he stated, would be of great assistance to the Provisional Committee in framing the constitution of the society. Mr. Bouskell and Mr. Brunton also addressed the meeting. The following gentlemen were elected members of the Provisional Committee to represent Scotland: Mr. M. Todd, Mr. Brydon, Dr. MacWatt, and Mr. Kidd.

Early Single Chrysanthemums.—A few days ago a party of members of the Floral Committee of the National Chrysanthemum Society paid a visit to the trials of early single chrysanthemums conducted by Messrs. W. Wells and Co., at Merstham. Marie Corelli and China were considered as too much alike, so were Charming and Esther, and Florence Gillham and Phyllis Cowley. The members then proceeded to select the best varieties in the different colours as follows: White, White City, Phyllis Cowley, and Minnie; cream, Eva Grantham and Lily Ovenden; chestnut, Donald and Chestnut; rosy-bronze, Alexandra; pink, Brazier's Beauty, Olive, and Pink Gem; amaranth, Richard and Dorothy; crimson terra-cotta, D. Ingram; rose-pink, Esther; gold edge, Gold Lace; ruby-red, Hilda's Favourite and Ruby; chestnut-crimson, Kate Westlake; yellow, Marie Corelli and Nellie King. Numerous newer varieties were voted two or three marks according to their excellence. The members also inspected the pentstemons, herbaceous flowers, early and late chrysanthemums in the nursery, and a busy, interesting, and profitable afternoon concluded with tea kindly provided by Mr. and Mrs. Wells.

Blairgowrie Raspberry Trade.—The raspberry season in the Blairgowrie district has now concluded, and, though the total crop despatched from this centre to various parts of the country fell short of the one gathered last year, it must be considered satisfactory, especially as prices have ruled high, about £18 10s. per ton being obtained during the last week, though £10 was the price earlier in the season. There has been a keen demand, and practically every berry has been marketed, whereas last year the crop in other districts was large, and prices were low. This season the output has amounted to about 3,117 tons (including packages), as compared with 3,329 tons in 1909, the fruit itself probably amounting to about 2,494 tons.

Improvement in Ulster Orchards.—Under the auspices of the Ulster Horticultural Society two silver cups—the Aberdeen and Gibson cups—are annually offered for competition among owners of apple orchards. The competition has served a most useful purpose and has resulted in a great improvement in the orchards in the Belfast district. The orchards are judged by points, and the maxima are as follows: Quality, 60; quantity, 40; skilful cultivation, 100; total, 200. The winner of the Aberdeen cup was Mr. James Bonis, of Moy, who was the cup-holder, and secured respectively 55, 37, and 85 points, making a total of 177. For the Gibson cup the competition was extremely close, the winner for the second time being Mr. J. Moffett, Portadown, who had 148 points, but Mr. J. M'Quillan, Crumlin, was second with 145 points. The judges, Messrs. J. Lynas and J. Harding, state in their report that "While some of the orchards submitted to our inspection still require a great deal of care and attention to bring them up to the high standard of the prize-winners, we were delighted to find a marvellous improvement since these competitions were inaugurated seven years ago. Instead of the miserable, starved, and moss-covered trees which we found in many of the orchards then, we now find in almost every instance clean, healthy, well-pruned trees carrying heavy crops of fine clean fruit, which will, we have no doubt, if properly graded and packed, command a good price, and amply repay the growers for the extra care and attention which they have devoted to the cultivation. We are pleased to find that spraying has now become general. Many of the growers spray two and three times, with the result that we saw very little signs of insect or fungoid pests. While the Department of Agriculture have done, and are still doing, a great deal to help and encourage the fruit-growing industry in the country, we think your society have good reason to be proud of the fact that they were the first to take it up.

AN EFFECTIVELY-ARRANGED COLLECTION OF DAHLIAS

For which Messrs. T. S. Ware, Lim., were awarded the Large Gold Medal at the exhibition of the National Dahlia Society held on September 20 and 21.

B.G.A. Visit to Wisley.—The members of the London Branch of the British Gardeners' Association propose to visit the Royal Horticultural Society's gardens at Wisley to-day (September 24), but they will be glad to have with them any members of the association who can make it convenient to attend. The train for Byfleet leaves Waterloo at 12.8 o'clock.

Monument to George Don.—George Don, a Scottish botanist, born in 1764, had a varied experience, both horticultural and botanical. In 1802 he was appointed superintendent of the Royal Botanic Gardens, Edinburgh, at a salary of £40 a year. He was a clever British botanist, but a failure as a business man, and he died in great poverty on January 15, 1814. To the memory of George Don a granite obelisk was recently erected in the parish churchyard of Forfar, and on September 8 this was unveiled by Mr. E. Claridge Druce, M.A., who, in his address, detailed Don's history.

Forestry Appointment in the Malay.—Mr. F. G. Spring, a diploma student of the Aberdeen and North of Scotland College of Agriculture, has just received a lucrative appointment in the Federated Malay States, in the shape of an assistantship to the Director of Agriculture and Superintendent of the Government plantations. The post carries with it a commencing salary of £360 per annum. A Kincardineshire man, Mr. Spring took his diploma in agriculture in 1908, after completing the stipulated college course. Since then he has undergone further training specially fitting him for such a post as he has now received, including a special course in botany at the University of Aberdeen. As may be supposed, Mr. Spring's appointment has given great pleasure to his old classmates and friends.

Supply of Botanical Material for Demonstration.—It will be within the recollection of most botanists that Messrs. James Backhouse, of York, promoted a scheme in 1899 for the supply of botanical material to colleges and schools for demonstration and research, although recognising that for some time, at any rate, the venture would not be self-supporting. Subsequently, the interests were transferred to the British Botanical Association, of which Dr. A. H. Burtt became the director. After ten years, notwithstanding the expansion of the original scheme and the increased demands due to the extension of nature study, it has become apparent, says "Nature," that the institution cannot exist as a private venture, and therefore it is proposed to enlist the help of individuals interested in the aims of the association and convert the undertaking into a public association of subscribers. This decision was formulated at a meeting of botanists and others, and an executive committee was elected to proceed with the enrolment of members and associates. As the institution exists purely for the preferment of botanical study and research, it is to be hoped that sufficient subscribers will be forthcoming to ensure its permanence.

A Good Bunch of Black Hamburgh Grape.—Mr. Isaac Read, Brunwall, has just cut a single bunch of Black Hamburgh grapes scaling $5\frac{1}{4}$lb., every berry perfectly coloured except one. How many of our readers can beat this?

NEW PLANTS, ETC.

CATTLEYA IRIS KING EDWARD VII.

Probably the best form of this hybrid that has yet been seen. It is a strong grower, and has flowers of large size and excellent form. The parents are C. Dowiana aurea and C. bicolor. The sepals and petals are yellowish-green with rosy-bronze suffusion, while the broad lip is rich red-purple. F.C.C., R.H.S., September 13. Mr. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney.

LÆLIO-CATTLEYA BERTHE FOURNIER MAGNIFICA.

A handsome variety of the hybrid between L.-c. elegans and C. Dowiana aurea. There were six fine flowers on the spike shown, and in these the shape of the lip was very like that of Cattleya Iris, whereas in some varieties the labellum is more like that of C. Dowiana. The sepals and petals are rich rose colour, suffused with golden-bronze; the lip is bright red-purple. F.C.C., R.H.S., September 13. Mr. H. Alexander, orchid grower to Lieut.-Colonel Sir George Holford, Westonbirt, Gloucester.

CYPRIPEDIUM ANGELA.

A charming new hybrid derived from C. Fairrieanum and C. niveum, and showing its parentage very plainly (see Fig. on p. 721). The silvery-white flowers are veined with rose and rose-purple, the veins on petals and dorsal sepal being composed of dots of colour. A.M., R.H.S., September 13. Mr. H. J. Chapman, gardener to Mrs. Norman Cookson, Oakwood, Wylam-on-Tyne.

CATTLEYA ADULA THWAITES' VAR.

A bold variety with large rosy-lilac sepals and petals, and a fine broad crimson-purple lip. A.M., R.H.S., September 13. Mr. Black, gardener to R. G. Thwaites, Esq., Streatham.

ODONTIODA CECILIA.

A new hybrid obtained by crossing Cochlioda Noetzliana with Odontoglossum Wiganianum. The flowers are of fair size and good shape, creamy-white freely marked with orange-red. A.M., R.H.S., September 13. Mr. R. G. Thwaites, Streatham.

APPLE REV. W. WILKS.

This splendid cooking apple has already had an Award of Merit. It is of large size, with light green-yellow skin, crops freely, and cooks beautifully. It also bears freely in a young state. The parents are Peasgood's Nonsuch and Ribston Pippin. F.C.C., R.H.S., September 13. Messrs. Jas. Veitch and Sons, Chelsea.

APPLE RED VICTORIA.

This variety has been exhibited each autumn for several years past. It has shapely fruits of the most brilliant crimson-scarlet colour, the colour passing into the flesh near the skin. The variety crops regularly and freely. F.C.C., R.H.S., September 13. Mr. G. W. Miller, Clarkson Nursery, Wisbech.

DAHLIAS.

Cardinal.—Described on p. 736. A.M., R.H.S., September 13. Messrs. J. Cheal and Sons, Crawley.

Mrs. Joynson Hicks.—Described on p. 736. A.M., R.H.S., September 13. Messrs. J. Cheal and Sons.

Mrs. Landale.—A pretty garden cactus variety with rosy-pink florets that are yellow at the base. A.M., R.H.S. Messrs. J. Cheal and Sons.

Hon. Mrs. Greville. A handsome garden cactus variety with fine blooms on long, stout stems. The colour is orange, with bright salmon shading. A.M., R.H.S., September 13; F.C.C., N.D.S., September 13. Messrs. J. Cheal and Sons.

Princess Juliana.—A rather solid pæony-flowered variety, more double than most of the section. The flowers are pure white. A.M., R.H.S., September 13. Messrs. Whitelegge and Page, Chislehurst.

Sweet Briar.—Described on p. 736. A.M., R.H.S., September 13. Messrs. J. Stredwick and Son, St. Leonards.

H. L. Brousson.—A cactus variety that has been well shown this year. The ground-colour is soft yellow, and this shades to salmon-rose at the tips of the florets. A.M., R.H.S., September 13. Messrs. J. Stredwick and Son.

Ouida.—A charming single variety of fine shape, salmon-rose, with crimson-red centre. A.M., R.H.S., September 13; F.C.C., N.D.S., September 13. Mr. M. V. Seale, Sevenoaks.

Loveliness.—A bright rosy-mauve coloured single variety, with crimson centre. A.M., R.H.S., September 13. Mr. M. V. Seale.

Minerva.—Described on p. 736. A.M., R.H.S., September 13. Mr. Chas. Turner, Slough.

Loveliness.—A handsome and very large-flowered decorative variety, with broad florets of rich rose-pink colour. A.M., R.H.S.; September 13. Mr. Chas. Turner, Slough.

Rosette. — A large rosy-purple cactus variety of good form. F.C.C., N.D.S., September 13. Messrs. J. Burrell and Co., Cambridge.

Clarissa.—A long-stemmed garden cactus dahlia of rich crimson-scarlet hue. F.C.C., N.D.S., September 13. Messrs. J. Burrell and Co.

Mrs. Usmar.—Another long-stemmed garden cactus variety, with rich soft scarlet colour over a glowing yellow base. F.C.C., N.D.S., September 13. Messrs. J. Cheal and Sons.

Butterfly.—A pretty single variety, pure white with bright yellow centre. F.C.C., N.D.S., September 13. Messrs. J. Cheal and Sons.

The Earl. — A deep crimson-maroon coloured cactus variety, with narrow, pointed, and incurving florets. F.C.C., N.D.S., September 13. Messrs. J. Stredwick and Son.

CHRYSANTHEMUMS.

Hollicot White.—A useful early variety with bold flowers of pure white, carried on long stout stems. A.M., R.H.S., September 13. F.C.C., N.C.S., September 19. Mr. W. Roots, Cranford, Middlesex.

Hollicot Yellow. A showy variety of rich golden-yellow colour; it has drooping florets, and is of very large size. A.M., R.H.S., September 13; F.C.C., N.C.S., September 19. Mr. W. Roots, Cranford, Middlesex.

Dolores.—A splendid and graceful variety with blooms about six inches across, of Japanese shape, and lovely bronzy terra-cotta shade. F.C.C., N.C.S., September 19. Messrs. Lowe and Shawyer.

El Draco.—A lovely early outdoor Japanese chrysanthemum of graceful form, with slightly drooping florets of a charming rich amber colour. F.C.C., N.C.S., September 19. Messrs. Lowe and Shawyer, Uxbridge.

Almirante.—A brilliant variety with very long stems, and stiff and yet elegant flowers of a vivid chestnut-crimson colour, almost scarlet. The blooms are about five inches across. F.C.C., N.C.S., September 19. Messrs. Lowe and Shawyer, Uxbridge.

Pink Beauty.—A glorious variety of large size and splendid Japanese form and beautiful lilac-pink colour. It grows about 2¼ft. high. F.C.C., N.C.S., September 19. Mr. W. Roots, Holly Cottage, Cranford.

Cranford Pink.—A large, flattish flower, about seven inches across, with flat, broad florets of a rich deep mauve-pink colour. N.C.S., September 19. Mr. W. Roots.

Wills' Bronze Pearl.—A rounded flower of medium size, and borne erect. Colour soft bronze, a sport from Pearl Rose. Commendation, N.C.S., September 19. Mr. W. R. Wills, Cheshunt, Herts.

Verona.—An attractive early variety of fine habit for the border, producing an abundance of neat rich bronze flowers about three inches across. Commended, September 19. Messrs. W. Wells and Co., Merstham.

Richard. — A new and distinct early single variety of fine habit, and one that promises to be a fine bedding variety. Colour deep rosy amaranth all through. F.C.C., N.C.S., September 19. Messrs. W. Wells and Co., Merstham.

W. A. Cull.—A handsome and brilliant single variety, of a rich golden chestnut shade, the bases of the florets being golden-yellow. F.C.C., N.C.S., September 19. Messrs. W. Wells and Co., Merstham.

John Woolman.—A large early single variety; rich rose-pink with small white zone round the deep yellow eye. Commendation N.C.S., September 19. Mr. H. Woolman, Shirley, Birmingham.

HYACINTHS FOR EXHIBITION AND GENERAL USE.

During the past few years valuable prizes have been offered at the Royal Horticultural Hall for the hyacinths, and in most cases the competition has been very keen, and has done much to retrieve the lack of interest in their cultivation.

The hyacinth is certainly one of the most useful of bulbs for forcing purposes, as it is easily cultivated, and with judicious care the flowering season can be extended over a very long period. Hyacinths are suitable alike for the conservatory or the embellishment of the dwelling house, either in pots or in a cut state. Well-ripened bulbs should be obtained as early in September as possible from a reliable source and potted immediately—this is a most important item in their successful culture.

The compost should be prepared a week or two previously, be thoroughly mixed, and used in a moist condition, and yet not so much so that when pressed down it becomes caked or pasty. The following will be found a suitable mixture—three parts good fibrous loam, one part well decayed cow manure, which should be passed through a quarter-inch mesh sieve, with sufficient coarse road or river sand to keep it open and porous. As to the size of pots to use, there is much difference of opinion, but I consider those generally known as 48's are the best and most convenient. These should be thoroughly cleansed and well drained, and on the crocks should be placed sufficient fibre (taken from the loam) to prevent the compost becoming mixed with them. Pot moderately firm and allow the crown of the bulb to remain about one inch above the level of the soil. Each pot should be correctly labelled, and after a thorough watering, be placed in a cold frame and covered with finely sifted cinder ashes to the depth of four inches.

The stock should be examined after about five or six weeks, and when the growths are about two inches in length they should be taken out and placed in another frame near the glass. Give air moderately at first and shade for a few days should the weather be bright. It will be found that some varieties take much longer to start into growth than others, but in no case should these be taken out of the ashes until active growth is evident. From this period hyacinths must not be allowed to suffer for want of water, and when watering the pots should be filled up at least three times to ensure every particle of the soil becoming moistened.

The plants so treated may then be introduced to heat as required, and weak liquid manure be given at alternate waterings, but when the spike commences to show colour this may be increased.

An ideal place for the full development of the spikes is a shelf near the glass, where air can be given freely when necessary. Each spike will require to be neatly staked and shaded very lightly from bright sunshine.

E. Beckett.

Aldenham Gardens.

RAMBLING ROSES.

For a considerable period after rambling roses obtained prominence as aids in beautifying the garden and enhancing its interest, there was a strong tendency to place a rather severe limit upon their usefulness, with the result that in many gardens they were not planted in sufficient numbers to contribute so liberally to their attractions as they should have done. As the result, however, of experience in their cultivation a much broader view is taken of their suitability for garden decoration, and they are grown in a much greater diversity of forms They are, indeed, recognised not only as suitable for clothing pergolas and trailing over arches, but of much value for running riot up the trunks and lower branches of trees that are not in a robust state of health, for clambering up poles, and for spreading freely over rustic and other trellises. In addition, their great value for cultivation in standard form has been proved to demonstration; and when grown under conditions favourable to their full development, they are objects of great beauty. We have evidence of this in the charming gardens of Foxhill, Reading, the residence of Sir Rufus and Lady Isaacs, and if the readers of these brief notes turn to the illustration that is given herewith, they will see that standards with stems of various heights are used with much success. It can be seen that the specimens with stems that have a height of about five feet are surprisingly beautiful, and it will not be found difficult to imagine that those some two or three feet taller will be still more effective when they have had time to develop large heads, with the long slender branches sweeping the ground. To fully enjoy these graceful and attractively-coloured roses it is necessary to grow them in as many of the suitable forms as space will allow, and to so arrange them that each form occupies a position wherein its distinctive characteristics are seen to the best advantage.

One of the most important points in the cultivation of rambling roses is the selection of varieties. In many gardens the selection is limited to two or three varieties that have become popular owing to their freedom of flowering, but from lack of variety, they lose much interest. In others the varieties are too numerous to produce really satisfactory colour effects, and when the numbers are large there is a difficulty in excluding some that are somewhat below the standard in quality. The proper course is to select a sufficient number to include the various types of bloom and shades of colour, and no more; and, it may be added, to ensure a display of bloom extending over as long a period as possible. The following will form a suitable selection from the Wichuraianas: Alberic Barbier, white, shaded yellow, early. Debutante, soft pink, sweet scented, and very free, late. Dorothy Perkins, rich pink, flowers borne in large clusters, sweet scented, late. Evangeline, flowers single and rather large, white with pink tips, sweet, late. Hiawatha, single, crimson with white centre, flowers borne in large clusters, late. Leontine Gervais, salmon-rose shaded yellow, early. Réné André, orange-yellow, early. White Dorothy, pure white, free, late. From the polyanthas and other ramblers not included in the Wichuraianas may be selected as the most desirable: Blush Rambler, single, blush, wonderfully free. Claire Jacquier, soft yellow, very free. Crimson Rambler, still one of the best in its colour, taking its many good points into consideration; late. Euphrosyne, rose-pink; early. Flower of Fairfield, crimson, hardly so bright as Crimson Rambler, but it has the advantage of being perpetual in flowering. Goldfinch, pale lemon, deep golden yellow in the bud state. Kathleen, rich carmine, with white centre. Lyon Rambler, rich carmine-pink. Mrs. F. W. Flight, bright rose-pink, very free, early. Tausendschon, flowers large, rich rose-carmine, sweet scented. Waltham Bride, white, single, very free.

AN EXCELLENT EXAMPLE OF THE USE OF RAMBLING ROSES
In the gardens of Foxhill, Reading, the residence of Sir Rufus and Lady Isaacs.

As in the case of other roses the ramblers appreciate a deep and rather rich soil, and previous to planting the soil should have a dressing of well-decayed manure, such as that from an old hotbed, and be broken up to a depth of about two feet, and the manure be well mixed with it. The end of October or the beginning of November is the best time to plant, and precautions to ensure an even distribution of the roots and a firm soil should be taken. In the case of those to be trained to pergolas, arches, etc., the growths should be loosely secured to the supports to prevent injury from the wind, and they should remain undisturbed until early in the spring. If the plants are extra strong, and an immediate effect is desired, cut the shoots back to where the wood is well ripened, and then bend them down in a horizontal direction, and make them secure by means of a stout peg or a short stake and a piece of bast or string. In due course, growths will be produced throughout their whole length, and when these are two or three inches in length train them to the posts or trellis against which they are to be grown. The best course is to wait for flowers until the second year, and at the spring pruning to cut the shoots back to the second or third bud above the surface. By this means a strong, vigorous growth is obtained from the base and a good foundation thereby laid. In the planting of standards the greatest possible care should be taken in planting to avoid injury to the roots, and to have the soil thoroughly firm. Immediately the planting is completed a strong stake of a suitable length should be fixed in position, and the stem be made secure to it.

Rosarian.

LATE TULIPS.

Among the most familiar and beautiful of our hardy bulbous flowers the tulip, and especially the late-flowering varieties, stand pre-eminent as useful subjects for the decoration of the flower garden or the home. Their brilliancy of colour and effectiveness when grown in masses in the wild garden is seldom, if ever, surpassed by other spring-flowering bulbous plants. Most of the late-flowering section have sprung from Tulipa Gesneriana, and are usually designated as "May-flowering tulips," and as such they are most acceptable and useful as cut flowers, coming into bloom at a time when few herbaceous plants are yet in flower, and when the majority of the daffodils are over.

LATE TULIP INGLESCOMBE YELLOW.
Flowers large, the colour rich yellow. From blooms supplied by Messrs. Barr and Sons.

Of the late-flowering section one might almost say (beautiful as the earlier flowering varieties are), they possess a form and general stateliness of character not seen among the other sections of the tulip family, certainly they exercise a fascination of their own, which is clearly shown by their increased popularity in recent years. The Parrot section is highly valued by some, their serrated petals and curious markings are certainly highly attractive, but for fine shades of colour these are surpassed by the "Darwins," whose symmetrical and cup-like shape of bloom places them at once in a regal position amongst their fellows. With a good selection of these—and nowadays they are numerous—charming arrangements might be made, either in the house or garden, and so cheaply can these be purchased now, that none need reject them on the score of expense or difficulty in management.

The Cottage Garden tulips, which were so named, it is said, because they have from time to time been collected from the old cottage gardens of England, had become almost forgotten, but some very beautiful varieties have been obtained, and these, like the "Darwins," are becoming increasingly popular, for, being perfectly hardy, they are excellent subjects for the permanent borders, or for naturalising in grass, while as subjects for the herbaceous border they are unrivalled, their naturally graceful habit and length of stem adds much to their artistic value, either when growing, or as cut flowers. These are now frequently seen in old-fashioned country gardens, where they are allowed to remain undisturbed from year to year—a clear proof that they are easily grown in rich soil that has long been under cultivation. For the successful cultivation of this class of tulip the soil must be deep, rich, and well prepared.

The bulbs may be planted any time from September to the middle of November, and unless the natural soil is porous it is advisable to place a little sand at the base of each bulb when planting. After planting a mulching of leaf-soil may be given to assist in keeping extreme frost from the bulbs, this, however, is not absolutely essential. After flowering, and when the old stems are turning yellow the bulbs may be lifted and dried, and kept out of the ground until planting time, or if more convenient they may at once be replanted, as nothing is really gained by keeping them out of the ground.

Where these tulips can be planted in quantity, or in broad masses of any one colour, the effect produced is exquisite and not soon forgotten, especially where the ground is carpeted with dwarfer-growing plants affording a suitable contrast of colour, either in flowers or foliage. So numerous are the varieties and shades of colour now obtainable from any reliable nurseryman, that to give a list of varieties is unnecessary in an article of this kind, for there are more than enough to meet the requirements and taste of each individual grower, amateur or professional alike, and details of height and descriptions may be found in the bulb catalogues issued by reliable firms.

W. Hedley Warren.
Aston Clinton Gardens.

SOME DOUBLE PERENNIAL SUNFLOWERS.

Sunflowers are not so much in vogue as they were at one time, but they will always find a good place in the garden where hardy autumn flowers are appreciated.

Among them are some which are too aggressive in their growth to enjoy the favour they otherwise deserve, and those which have more of the "stay at home" habit deserve fully more consideration, inasmuch as they are not so likely to encroach upon the domains of their neighbours, and so to injure their welfare.

The double varieties here named are al worthy of notice, and are all useful flowers, either in the border or for cutting, although they have not the "æsthetic" effect which was sought after and found in the huge annual sunflowers so popular some years ago. They are very beautiful, however, and good plants, some five or six feet high, are fine things in their season. Those now named are all varieties of Helianthus multiflorus, and, as the name would suggest, give a number of blooms.

Bouquet d'Or is one of the finest of these, the flowers being prettily quilled, and reminding one of a huge yellow anemone-flowered pyrethrum, or a chrysanthemum of the same type.

The older H. multiflorus plenus has also good double flowers of the character of an anemone-flowered pyrethrum or chrysanthemum, and is a good variety, not to be despised because older than the foregoing. Soleil d'Or is a very beautiful double form, after the style of plenus, but with lighter-coloured flowers. Another of the anemone section is Metéore, or Queen Victoria, which is not only one of the best, but has about it more of the merit of novelty. The blooms are both large and of a good colour.

These handsome double sunflowers are perennial, and in a fairly sheltered place are certain to give satisfaction. They like a good and rich soil, well drained, but with a fair amount of moisture in it in summer. They are real sun lovers, and are at their finest when seen in the warm sunlight of a glorious autumn day.

They can be planted in spring or in autumn, preferably in March or April.

S. A.

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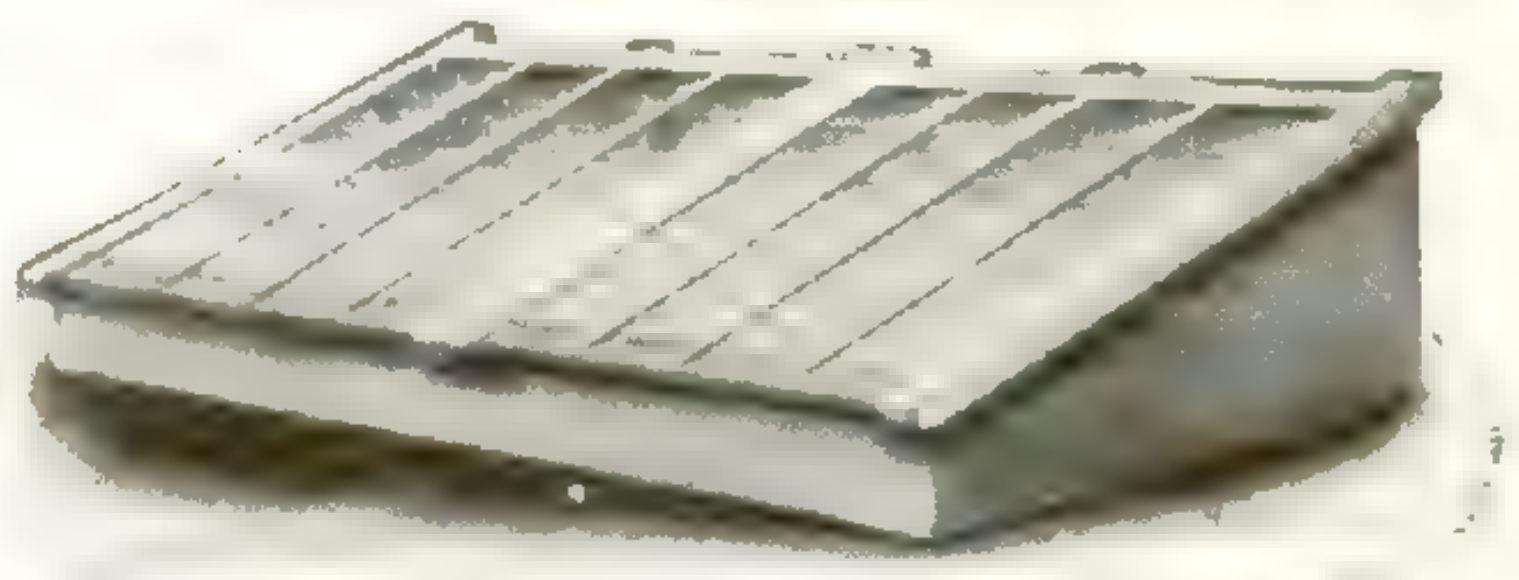

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LILIES IN BEDS.

The culture of lilies has of late years received a considerable stimulus, and they are now grown far more extensively than was at one time the case. This is not at all surprising, for many lilies are entitled to rank among the grandest of herbaceous subjects, and though some of them are decidedly capricious in their behaviour, they cannot, from their noble appearance, be omitted.

Lilies of different kinds are now frequently associated with rhododendrons, or with other dwarf shrubs that thrive under much the same conditions, that is to say where the soil is cool and moist, yet effectually drained, and contains a considerable amount of vegetable matter, preferably sandy peat. By so planting them the roots can freely penetrate into a cool medium that does not get unduly dry (a most important point in lily culture), while the neighbouring shrubs serve to protect the young and tender shoots from late frosts and harsh, cutting winds, often experienced about the time that they first make their appearance above ground. Furthermore, the protection afforded by neighbouring shrubs is of considerable value later on, as they shade the ground and the lower portion of the stems. This is of great importance, especially in the case of those species that make a considerable number of stem roots, as they develop rapidly in partial shade and play a prominent part in supplying nourishment to the blossoms.

LILIUM TIGRINUM FORTUNEI.

As grown in association with Helenium pumilum in Hyde Park.

Yet another reason exists for the association of lilies and rhododendrons, and that is these last named will have practically finished flowering before the lily blossoms open, and thus by planting the two together a floral display is maintained from spring till autumn.

Where the lilies, planted in beds, are intended to form the predominant feature, the ground may be carpeted with hardy heaths, andromedas, and similar subjects, if it is desired to be permanent, but for a summer display alone other plants may be used. This season I saw a grand bed of Lilium longiflorum (the superior Japanese variety that used to be known as Wilsoni), springing from a groundwork of a deep purple viola, which viola was also used as a carpeting to both the white and pink forms of L. speciosum, in all three cases with the happiest results. The following lilies are all well proved kinds for planting in beds associated with rhododendrons or other shrubs of this class, and what is more the bulbs can, during the season, be purchased at a moderate rate:

L. auratum, of which beside the ordinary form the strong-growing variety, platyphyllum, the white-flowered virginale or Wittei, and the high-coloured rubro-vittatum are all desirable. L. Browni, somewhat like L. longiflorum, but the ivory-white trumpet-shaped flowers are tinged with chocolate on the exterior. L. canadense, which, like the other kinds with rhizomatous bulbs, needs the moist spots. L. Henryi, a Chinese species of comparatively recent introduction, which has become thoroughly established here. L. longiflorum, an exceedingly popular lily, of which enormous quantities of bulbs are sent over annually from Japan. L. Martagon and its dark and white varieties, all of which will also thrive in a loamy compost. L. pardalinum (Panther Lily), whose creeping roots mark it, like L. canadense, as a moisture lover. L. speciosum, known also as L. lancifolium, which, given a fine autumn, is a delightful lily. The bulbs sent from Japan represent as a rule very superior forms, but the Dutch-grown ones will flower out of doors two or three weeks earlier, which in northern districts at least may be an important consideration.

There yet remains a second group of lilies, including some of the finest garden forms, the members of which, as a rule, thrive better in a good loamy soil than in a lighter medium. Instances may occur of some of them doing well under the conditions specified for the first-named group, but as a rule a deep and fairly open loam will suit them best. Those referred to are

L. candidum, the Madonna lily, than which there is no more beautiful flower in the whole genus, and a bed of it when at its best forms a most entrancing feature. Failures with this lily are frequent, a fungoid disease in some districts giving a great deal of trouble, but much of the non-success is caused by the bulbs being kept out of the ground too long, or lifted too late. Essentially an evergreen, L. candidum should be planted permanently during the last two weeks in August, or very soon after. When thriving it should not, if possible, be disturbed at the roots. The advantage of leaving this lily alone may be seen in cottage gardens where magnificent clumps that have not been moved for years may be often met with. L. chalcedonicum is another lily to which the same remarks apply. It is known as the Scarlet Martagon, and though at its best somewhat later than L. candidum, yet many flowers will be open at the same time, and then the contrast between the bright sealing-wax red of L. chalcedonicum and the spotless purity of the other is most marked. The bulbs of L. chalcedonicum produce but a few thick, fleshy roots which are of a deep, descending nature. From this circumstance a considerable check is inflicted on the bulb when moved, and, consequently it, as a rule, flowers weakly, if at all, the first season after transplanting.

L. croceum (the Orange lily is a representative of a group characterised by the flowers being upright, or nearly so, instead of drooping as in most lilies. In L. croceum the flower heads are composed of a number of blossoms of a warm reddish orange tint. This may often be seen thriving in the herbaceous border while it is also a favourite with cottagers. Associated with blue delphiniums, which bloom at about the same time, it forms a handsome bed.

L. dauricum or dahuricum, somewhat like the last named, but not so tall a grower, has flowers redder, but they do not retain their freshness as long as those of L. croceum. Several garden forms, known usually as L. umbellatum, are cheap, grow readily, and make a good display.

L. elegans, also known as L. Thunbergianum, is the most variable of all lilies, the flowers differing in colour from pale yellow to deep crimson. Nearly all the forms are exceedingly dwarf, and are on that account valuable as an edging to the taller kinds. The flowers are comparatively large. A few good varieties are atrosanguineum, deep red; alutaceum, buff; bicolor, yellow and red; Orange Queen, bright orange; Van Houttei, bright crimson; and venustum, orange-red. These upright-flowered lilies bloom well the first season. L. monadelphum, when established, is a tall, stately lily whose prettily reflexed flowers are of a varying shade of yellow, more or less spotted with brownish purple. It rarely shows much above ground the first year after planting, but, favourably situated, it improves year by year.

L. pyrenaicum is a free-growing border lily and the first of all to flower. It grows from two to three feet high, and bears a great profusion of small prettily reflexed yellow flowers, which, however, have a heavy unpleasant scent. L. testaceum is quite distinct from all others by reason of the nankeen tint of the blossoms. It is supposed to be a hybrid between L. candidum and L. chalcedonicum, but its early history seems to be obscure. At all events it must be given a place among the best of garden lilies, however rigid a selection is made, as grown in a mass or bed the drooping flowers of such a distinct tint, with their bright red anthers, form a delightful feature. While this is quite at home in a good open loam, it may sometimes be seen in a flourishing state associated with rhododendrons.

L. tigrinum, the Tiger lily, is an old and well-known kind, whose orange-red flowers, copiously spotted with blackish purple, are seen in August. There are several varieties, the best being splendens or Leopoldi, in which the stem is smooth and almost black, while the flowers are larger and brighter in colour than those of the type. The spots, too, are fewer in number but larger. This is one of the earliest to flower, while another superior variety namely Fortunei, is the latest. This is a very vigorous grower with immense heads of rather pale-coloured blossoms. Of the two varieties splendens or Leopoldi is largely grown by the Dutch, while Fortunei is principally sent from Japan. A bed of Fortunei has been of late very effective in Hyde Park, while one of the type has been a feature in the Royal Gardens, Kew.

W. T.

NARCISSUS WHITE SLAVE.

Flowers pure white with citron cup. From blooms supplied by Messrs. Barr and Sons.

CHOICE DAFFODILS.

Of roses and of sweet peas there are comprehensive lists of varieties, indeed these lists are as nearly perfect as it is possible to attain in the case of florists' flowers. But the official list of sweet peas, issued by the National Sweet Pea Society, is a fleabite as compared with the big list of roses issued not long ago by one of the Continental authorities. And, again, this rose list promises to be a small affair when compared with a complete list of daffodils, provided the output of new varieties continues at the present rate for a few years. Hosts of varieties are hopelessly out of the running as valuable garden sorts, while a hundred or two are so costly that they, too, are in a class by themselves.

Between the old and obsolete varieties and the superfine and rare ones there is a wide range, and no matter at what price per bulb one draws the line the difficulty of making a selection is immense. Those who have a great love for daffodils, and are willing to gratify their own taste, will not mind paying between ten and twenty shillings per bulb for choice varieties, though they call a halt long before Challenger at £35, Bedouin at £21, Furnace at £15 15s., Masterpiece at £21, Jasper at £25, Michael at £25, Sir Galahad at £18 18s., Uncle Robert at £18 18s., C. H. Curtis at £10 10s., or even Peter Barr at £8 8s. are reached.

Visitors to spring flower shows, and those who carefully study the reports of daffodil shows, come to be conversant with a large number of daffodil names, and also with the general appearance of the varieties they represent, but unless they are buyers, or study the autumn catalogues, they often have a very remote idea of the value placed on the bulbs of the fine varieties they see or read about.

Taking the minimum price as 10s., and the maximum as 20s., there are some wonderfully beautiful varieties to be obtained by those who desire to extend their culture beyond the large number of varieties that are eminently suitable for the garden, the conservatory, or the park and meadow—and there are large numbers of such people nowadays. Among yellow trumpet varieties we have Lord Roberts, coming within the limits, but there are very few others remarkable for refinement and brilliance that do so, though there are excellent varieties, like Outpost, King Alfred, Alma, and Admiral Togo, that are somewhat less than 10s. per bulb. Alice Knights and Lady Audrey are in the white trumpet class, and the former is a charming flower. Bicolor trumpet daffodils open to our selection are Hulda, Pyramus, and Sabrina, while Glory of Noordwijk, and Weardale Perfection are below the mark. The incomparabilis section provides plenty of choice material, and here we may select Chancellor, Lady Margaret Boscawen, a very bold variety with white perianth and golden crown; Nestor, Pilgrim, very handsome; Homespun, a shapely yellow beauty; and Whitewell, ivory-white, with yellow cup, and thus become possessed of a fine half-dozen.

In the Barri group there are the brilliant Cœur de Lion, Emerald, with its green and white crown; Circlet, yellow and orange; Finella, lemon and white; Fire Queen, Incognita, very fine, and with richly-coloured crown; Margot, Royal Star, the vivid Scarletta, the dainty Sceptre, Sunrise, and Zenith, white, yellow, and scarlet. Passing to the Leedsi section, with its galaxy of silvery-white varieties, we find the fine Eoster, that was so great an attraction at Birmingham in 1906; Evangeline, a fine grower; Janet Image, a giant variety; Penguin, with its creamy-yellow cup; Undine, a campanulate flower; White Queen, a refined white Sir Watkin; and White Slave, a beautiful shapely variety, three inches and a-half across, snow white, with citron cup. Few of the newer dainty and elegant triandrus hybrids are obtainable at the price fixed, but Anne Holloway and J. T. Bennett Poë are both within the mark, and each is very lovely.

The poeticus family is the next for consideration, and a good pair we may select are Harold Finn, very large, with dark crimson-red eye, and Ibis, with dark scarlet eye. In the other sections choice new varieties are few in number, but the above selection will be found an excellent one for those who desire to pass quietly and with no extravagant outlay from the garden varieties into the daffodil realm peopled with the achievements of our most skilful and successful raisers.

C. H. CURTIS.

THE FRAGRANCE OF THE ROSE.

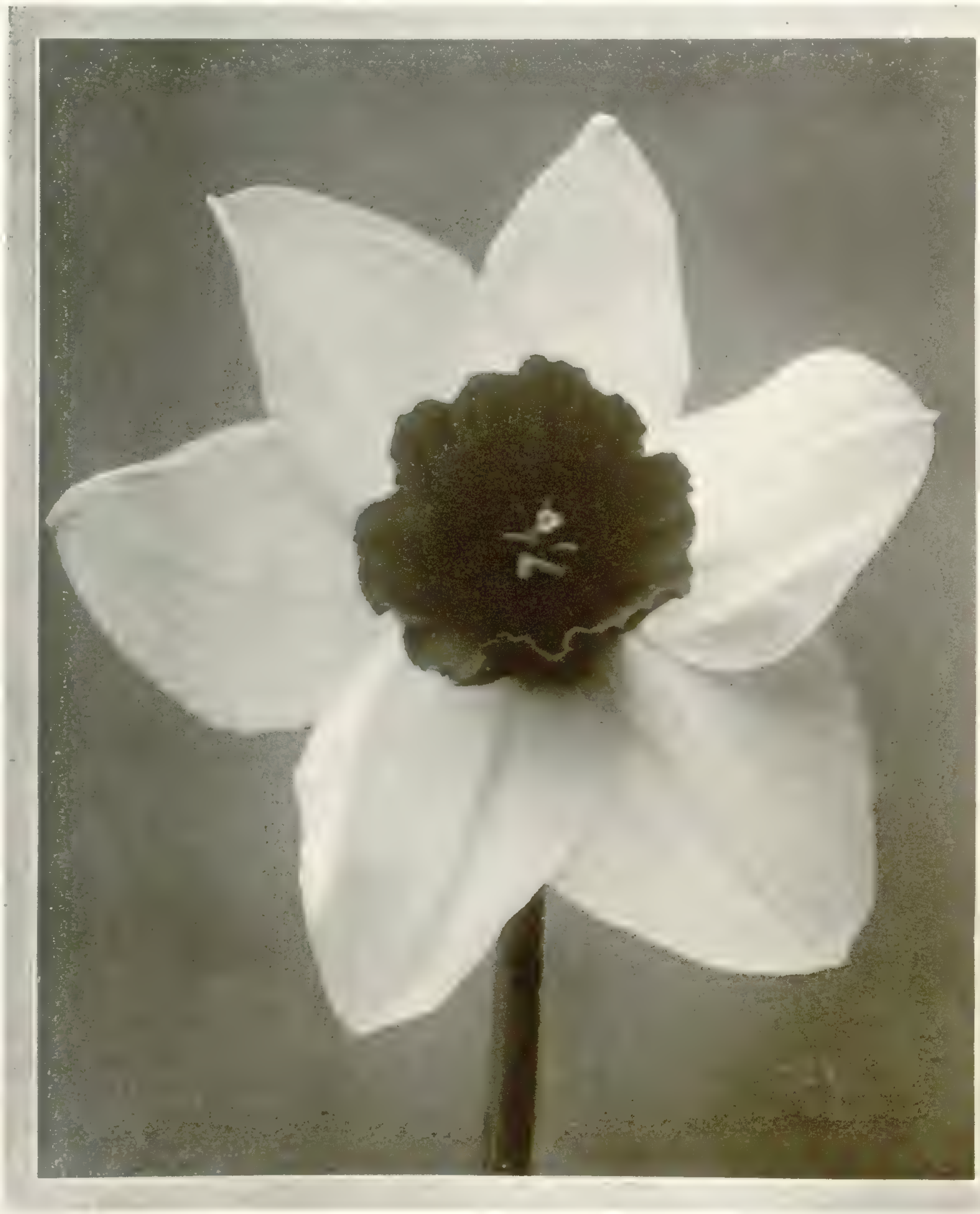
On a Tuesday afternoon in August I met someone coming from a meeting of the Floral Committee of the Royal Horticultural Society. "My friend," he said, "they have given your rose an Award of Merit, but, to tell you the truth, I don't think much of it; it's got no smell." We had on more than one occasion discussed the subject of perfume in roses, and I replied, "You are a chap, you seem to expect the damask in everything." "Yes," was the rejoinder, "even in clean linen."

I went on my way thinking. My friend's opinion is shared by many; they look for the damask perfume in all roses, regardless of the fact that unless a variety has Rosa damascena for one of its progenitors, or is in some way related to it, how can it possess the damask perfume? An ancestor of Daphne, the seedling in question, is related to Rosa maschata.

The damask perfume is not only one of the most delicious of odours in the world of flowers—they realised that, and acted upon it years ago—but it is also the most dominant in the rose family. I am conscious that a smoker is considerably handicapped in detecting perfume in flowers, and my friend indulges in a fragrant cigar.

We should bear in mind that the rose family is a large and varied one, each branch of the family possessing its own characteristic, not only in habit, but also in perfume. All species have a fragrance more or less apparent, a fragrance, in most cases, peculiar to each. The best-known perfumes are those of the Damask, the Tea, and the Musk. Probably the best-known examples of these three distinct perfumes to be found in modern roses are Marie Baumann and General Jacqueminot for the damask, Madame Bravy for the tea, and Lamarque and The Garland for the musk. The strongest perfume in modern roses is derived from the damask and centifolia roses, which, although distinct in some respects, are, as regards perfume, almost identical, and the hybrid perpetual is the offspring of the damask and centifolia. Now note what follows.

In the official catalogue of roses issued by the National Rose Society there appears a list of "the best eighteen fragrant roses," and out of these eighteen we find twelve are hybrid perpetuals, three are summer-flowering roses of the damask and centifolia class, the remaining varieties being two hybrid teas and one Bourbon. Not a single Tea or Musk rose amongst them! Were the compilers of this list oblivious to the sweet fragrance of the Tea rose or the delicate aroma of the Moschata? Surely the accurate heading of this should run "the best eighteen roses of damask perfume."



NARCISSUS LADY MARGARET BOSCAWEN.

Flowers large, perianth snow white, crown golden yellow. From a flower supplied by Messrs. Hogg and Robertson.

Why do many people dab their noses into a rose which they admire? Why not into the dahlia and chrysanthemum? It is because they expect to find in it that which has made the rose the most popular of all flowers, fragrance. But in searching for fragrance we must not limit ourselves to the damask. Our fathers and grandfathers made a great mistake when they expelled from their gardens every rose that was not a hybrid perpetual, or such as Gloire de Dijon, Aimée Vibert, Lamarque, and a few others. Do not let us imitate them in our quest of fragrance. Do not let us forget the claims of the Tea-scented and the Musk, the Austrian Briar and its progeny, Rosa pernetiana. We do not desire to always dine off roast beef and Yorkshire pudding, nor should we restrict our favours to the damask perfume.

I yield to none in my desire for perfume in the rose, for a scentless rose is a disappointment. You cut a long-stemmed Frau Karl Druschki and present it to a visitor, who has just admired those great balls of snow poised on shoots eight or nine feet high. She takes it, and immediately smells it. Alas! what a disenchantment is hers! Size, form, purity are all there, but one thing it lacks, fragrance. Now experience has proved that in this particular, rose, strange as it may seem, there is a strong element of the multiflora, and the perfume of Multiflora simplex, always faint and evanescent, has been lost in the crossing that produced Frau Karl Druschki.

One word with reference to the perfume of the Musk rose. If you have not yet appreciated it, I bid you go into the garden one early morning in summer, and smell R. moschata. Then and there you will find a fragrance which baffles description. Watch your bees, they know where the most fragrant roses grow, and I venture to say you will find more bees on R. moschata and its hybrids than on any other rose in the garden.

JOSEPH H. PEMBERTON.

Havering.

GREENHOUSE MANAGEMENT.—THE AMATEUR'S GREENHOUSE, the popular book by T. W. Sanders, not only treats of the selection and cultivation of greenhouse plants and flowers, but gives full instructions how to build a greenhouse and how to heat it, as well as every detail as to the management of the plants and flowers grown in it. The price of this book of 416 pages is 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

AUTUMN ROSES.

The recent fine and seasonable weather has been very favourable to an autumn display of roses, and it is long since we had them in better condition, for the beds are as full and gay as at any time of the year. With such a choice before one it is difficult to select the best, but a few that never fail us late in the season may be noted, and I will try and give as good a selection of varying colours as possible.

NEW HYBRID TEA ROSE MRS. CHARLES E. ALLAN.
Flowers silvery-pink suffused with rose. Raised by Mr. Hugh Dickson, and awarded a Silver-Gilt Medal at the National Rose Society's Autumn Show.

Victor Hugo is our best deep velvety crimson this autumn. This is one of the most reliable hybrid perpetuals, and seems exempt from red rust. Always a glowing crimson, shaded with velvety maroon, that sometimes has a distinct tinge of purple; not the dead and dull shade of purple found in aged blossoms, but a clear, almost bluish shade, that changes as the flower is looked at in different lights. One seldom finds Victor Hugo with flowerless growths, almost every branch carries blooms as freely as most of the teas and their hybrids. Another good late dark rose is General MacArthur. This is brighter than Victor Hugo, and minus the deep velvety colouring. A stronger grower, and one that may be depended upon all through the season. Richmond always satisfies me in the autumn, when the cooler weather helps our rather thin-petalled roses. At the time of writing (September 12) Richmond is one mass of crimson, and has been so upon three or four occasions during the present season. It does much better here than Liberty, keeping a good and even height, that is so valuable when used in beds or masses.

Among white roses Frau Karl Druschki is undoubtedly champion, and never fails. This rose is so well known that little more can be said about it. It is reputed to be a cross between Merveille de Lyon and Caroline Testout, but it resembles neither of those varieties in any single way that I can note. Frau Karl Druschki will grow anywhere, and in any position, and I know of no other white flower that retains its purity so well, and is unaffected by bad weather.

A sport from Georges Naboonnand (itself one of our best autumnals), named Peace, is another good light rose. This is not a pure white, and I would describe it as pale lemon-yellow when quite young, getting lighter with age. Peace throws large spreading trusses, each flower carried well away from the rest, and frequently upon branching stems upwards of a foot in length. It makes a long, pointed bud, opening into a flower that lasts longer than most of the few petalled varieties.

In Madame Antoine Mari we have one of the most charming coat flower roses imaginable; always of good form, and lasting well. It is even prettier than ever this autumn, and the sun has brought out its carmine tints on the margin of the petals so finely as to remind one of the colourings sometimes found on Marie Van Houtte in the autumn. Madame Antoine Mari is an excellent grower, and almost evergreen. It is a useful rose all through the season, but is certainly seen to most advantage during autumn, when it is a difficult matter to select any other in front of it. A soft creamy-blush, edged with carmine, it is always of good form, and a capital grower. Perle von Godesberg is very good just now, with its lemon-white blossoms. A grand rose this, and perhaps the best sport from another good variety, viz., Kaiserin Augusta Victoria. It does better here than the last-named, both in growth and flower. It is also a good rose to stand; some flowers have remained fresh and good for the past ten days.

I do not think we can select a better orange-yellow rose than Madame Ravary, which is also one of the sweetest scented roses grown, and is quite faultless. This is very pretty in its younger stages, and always opens well. As a decorative rose it is in the first rank, and if it has rather few petals, these are large, and make a good showy flower. We have few better growers than this, and none with more handsome foliage. Le Progres is a much purer yellow, and a larger and heavier flower. Not quite so strong and free a grower as Madame Ravary, but one of our most certain bloomers, and sweet scented. This is a heavy flower, and as it has a slight tendency to droop it is seen to the best advantage when grown in standard form. A rose that is very pleasing this autumn is La Tosca, a variety that I may perhaps describe as an upright form of Viscountess Folkestone, but I do not find the sweet perfume of the latter in La Tosca. This is an erect grower, producing large trusses of spreading flowers that do not droop like Viscountess Folkestone.

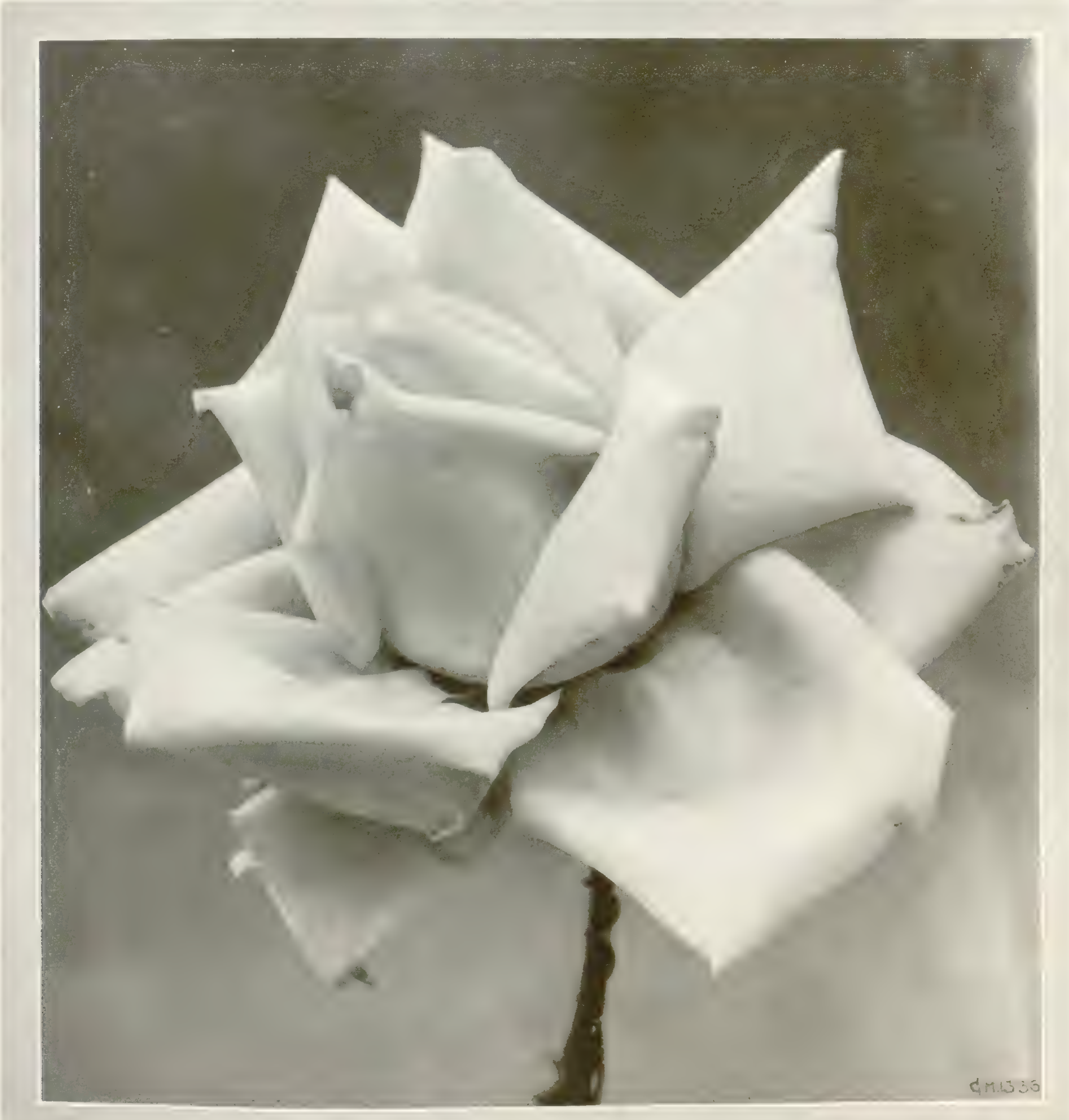
No list of late-flowering roses can be complete without Madame Abel Chatenay, which is one of the best roses we have. Not only is this an excellent late bloomer, but it is equally good all through the season, and deserves a place in every collection. I could write much in favour of this rose, but nothing against it, and it is one of the most reliable, no matter what the season may be, nor are there many with sweeter perfume. This and Caroline Testout are our two best salmon-pinks at present, and are very full of blossom. Caroline Testout is well known, and if sometimes inclined to hesitate in opening during wet weather, because of its globular form, it is certain to please during the best part of the season. It is a good variety for town culture, and one of the hardiest. It cannot well be put to the wrong purpose, and, with the climbing form for pillars, is one of the most serviceable roses we have. But to name, or even select, a few of the best late bloomers is not an easy task, for as we wander among the plants we are constantly coming upon another as good, if not better, than the last, and the present autumn has been exceptionally favourable to late roses.

Good as the above are, they do not surpass the dwarf polyanthas, which are carrying enormous trusses of flower. A small bed of Phyllis is one of the showiest features we have, and shows up well against a batch of Schneewittchen, with its large trusses of creamy-white blooms. Mrs. W. H. Cutbush is another that increases in favour. There is not the same demand now for Madame Norbert Levavasseur as formerly, its place being taken by others that do not possess its dull crimson shade that never looks clear. A variety named Orleans Rose is an immense improvement upon Madame Norbert Levavasseur, and in every direction. Aennchen Muller is a deep and clear rose colour, and one that retains its fresh appearance up to the time its petals fall. The petals are curled up very much in the form of a cactus dahlia. Not only is this a good late rose, but it is one of the first to open, and does not cease throughout the year. Of course, there are short periods when the flowers are not so plentiful, but it is always carrying them more or less.

Perle d'Or is pretty, but apt to throw a few strong side shoots, while the rest of the plant keeps close and compact. This does not make it such an ideal bedder as the majority of the dwarf polyanthas. Etoile d'Or is smaller, and only a pale lemon-yellow. Aschenbrodel is one of the most perpetual among the polyanthas, and has immense trusses of peach and orange-red flowers about the size of a shilling piece, and each little flower is of perfect rosette form. The best white here is undoubtedly White Pet.

There are not many late-blooming climbers among roses, but two need a few words. In Ards Rover we have a good dark crimson that is very useful just now. The blooms are large and well formed, carried nicely upright on stiff stems, very sweet scented, and always with handsome foliage. I think it the best red climber we have. Madame Alfred Carrière affords a good creamy-white, with a suspicion of yellow at the base of its petals. This is a rose that will grow anywhere, and is as generally useful as our old favourite Gloire de Dijon; very hardy, smooth-wooded, and almost evergreen.

These are only a few of the great number of roses now available for autumn display: indeed, I think that if we except a few of the hybrid perpetuals, and those that only flower once in the summer, we find almost all roses very pleasing during such a favourable autumn as we are now enjoying, but those mentioned in these notes are invariably good. A. PIPER.



TEA-SCENTED ROSE, MRS. FOLEY HOBBS.
Flowers bright cream colour, deeper in centre. Raised by Messrs. Alex. Dickson and Sons, Lim., and awarded a Gold Medal at the National Rose Society's Autumn Show.

DWARF POLYANTHA ROSES.

Among the many species and varieties of roses cultivated in our gardens at the present time none are more useful or easy of management than those of the dwarf polyantha or multiflora group, and where a good mass of bloom is required over as long a season as possible there is certainly nothing among roses to equal them. They are quite as floriferous as their more robust growing confreres, the climbing polyanthas, producing a good show of bloom quite early in the season, this, in many instances, continuing till well on to the autumn. From this it will be seen that they are particularly well suited for bedding purposes, either by themselves or as a groundwork or edgings to larger beds of standards, etc., and I doubt if there are a pair of more beautiful roses for buttonholes and sprays than Cecile Brunner and Perle d'Or. Though quite miniature flowers, they are as perfect in form as the best H.P. or H.T. one can name.

For exhibition purposes many of them are also useful, as they make up very fine bunches or vases for showing in the garden rose classes, and here again the two previous mentioned varieties, Cecile Brunner and Perle d'Or, stand out quite by themselves, as they make most exquisite bunches, and if a fair number of plants are grown there will be hardly a week from mid June to October when bunches may not be cut from them. This almost equally applies to quite a number of varieties, such as Etoile de Mai, Gloire des Polyanthes, Mrs. W. H. Cutbush, Perle des Rouges, White Pet, Marie Pavie, Mignonette, Orleans Rose, and several others.

Generally speaking, the colours of these dwarf polyanthas are light, ranging from white to deep pink, and from pale yellow to salmon, only three varieties that I know being fairly deep in colour, these being Madame N. Levavasseur, Orleans Rose, and Perle des Rouges; the latter is not one of the strongest of growers, but certainly the brightest of all the polyantha roses, and it makes a wonderfully bright bunch for exhibitions.

FIRST PRIZE TWELVE VASES OF EXHIBITION ROSES.
Exhibited by Messrs. J. Cocker and Sons, at the National Rose Society's Autumn Show.

The cultivation of this class of roses need not vary from that of any other group, though it may not be necessary to give them such rich soil as one would naturally give the hybrid perpetuals, neither is it necessary, when planting beds, to make them up with loam, as they will do wonderfully well in light soil with moderate manuring. If strong shoots are wanted fairly liberal treatment must be given, but they seem to flower best when only growing moderately strong. Pruning is not a serious operation, as, flowering so freely, they make very little wood growth, and all one can do is to cut back the strongest of the shoots to just below where the first lot of flowers appeared, thinning out all the small and useless shoots, as well as cutting very hard back the strong sappy growths that are frequently made quite late in the autumn, and, if left, often die back after pruning, or even just after growth commences.

As mentioned before, many of the varieties make good bedders, and the following varieties I can strongly recommend for this purpose: Gloire des Polyanthes, bright pink, one of the freest bloomers, the plants keeping of quite a uniform height. Etoile de Mai, opening yellow, and paling off to white with age; rather a large flower for a polyantha, very early and free. Marie Pavie, another good white, with pink or rose centre, very free and good. Maman Levavasseur, very pretty pink, much in the way of a small Dorothy Perkins. Madame N. Levavasseur, commonly called the Dwarf Crimson Rambler, and it certainly resembles it in colour, but is not quite so bright; very free blooming, and a much stronger grower than either of the others. Mrs. W. H. Cutbush, a prettier shade of colour than the preceding, and not quite so robust. Perle des Rouges, a velvety crimson, free, and very dwarf. White Pet, white, as its name implies, rather smaller in flower than the others mentioned, but very pretty and free. Perle d'Or, yellow, with orange centre, a perfect flower, and very continuous bloomer. Cecile Brunner, similar in form to the above, but of a different colour, it being pale pink, or rose, with a much deeper centre.

One or two other varieties which I have noted as being good, but have not seen growing in quantity, are: Orleans Rose, scarlet, shading to pink in the centre of the flower. Aschenbrodel, a very pretty deep shade of blush, but not deep enough to describe as pink, with a touch of yellow in centre. Aennchen Muller, bright rose-pink, with moderately large flowers, good as a bunch for exhibition. Phyllis, bright rose, with good trusses of bloom; and Katherine Zeimet, small white flowers, which look very pleasing in the bunch.

As decorative subjects in small pots these dwarf polyanthas are hard to beat, and are much more easily grown than either teas, hybrid teas, or hybrid perpetuals, and are very much more lasting when in bloom than either of these classes. They may also be relied upon to last in the dwelling house at least a fortnight, providing they have not been pushed along in too much heat before being taken in. In a fairly light conservatory or winter garden they will last quite a month or six weeks. For pots they may be potted up in the autumn from the open ground, and plunged in ashes or short litter, when they will soon make root. Even better are the young plants that have been grafted in pots the previous spring, and if these are shifted on into 32's they make really fine plants for flowering in the spring or early summer, and even the first year, say four months after working, they make first-class decorative plants in 54's or 48's.

For early flowering they should be put indoors as soon as the major portion of the leaves have dropped, and after being kept dry for a few days they may be pruned, giving them a slight damping overhead to induce them to break. Nothing in the way of hard forcing should be tried, or weak attenuated growth will result, and the flowers naturally be soft, and of poor colour, but if brought along steadily, giving them a temperature of about 50 degrees at night, after they are nicely in growth, they should make good plants by the end of April or early in May. They should be kept in as small pots as possible, being much more useful thus than when larger. Feed either with a little liquid or artificial manure as soon as they begin to show flower. The favourite varieties for pots are Mrs. W. H. Cutbush, White Pet, and Maman Levavasseur, and if well managed after flowering thus early in the season they will give quite a good display again a month or six weeks afterwards.

Thomas Stevenson.

NATIONAL ROSE SOCIETY'S AUTUMN SHOW.

Although there was not such a big show of roses at the Royal Horticultural Hall on Thursday last as on the occasion of the Autumn Rose Show of 1909, there was a very fine display, especially when it is remembered that a very heavy storm passed over a greater part of the country on the Wednesday. So delightful were the displays of roses made by the traders, and the little groups of vases of roses set up by the amateurs, that the question arises, Might not boxes for roses be dispensed with altogether at the autumn show? This would come hard upon some few growers, but, unquestionably, the great interest of the autumn show lies in the displays.

DISPLAYS OF ROSES.

Last year there was a grand bank of blooms in the class for three dozen vases of garden roses, but this year, while the flowers were charming, there were but two competitors. Mr. John Mattock, Headington, led the way with a beautiful exhibit of fine bunches of beautiful flowers, the leading varieties being Lyon Rose, Corallina, Mdme. Antoine Mari, White Maman Cochet, Mdme. Constance Soupert, Mdme. Melanie Soupert, Ben Cant, Gottfried Keller, Marie Van Houtte, and the inevitable Frau Karl Druschki. Messrs. Frank Cant and Co., Braiswick, Colchester, were a capital second.

In the class for a representative group of roses (150 square feet), foliage plants allowed, and either pot plants or cut flowers, or both, there were but two competitors, and they filled the two upper corners of the hall. Messrs. Hobbies, Lim., Dereham, secured the gold medal and first prize with a novel and artistic arrangement, the features of which were two miniature pergolas, wreathed with rose growth, and freely studded with blooms. Both these led to the centre of the group, and underneath them, on a carpet of ferns, were specimen blooms of Frau Karl Druschki. At the back were three tall standards, and if the higher and central one had been furnished with a quantiy of flowers of some striking colour it would have materially improved the exhibit. In the front centre were baskets and vases of Kaiserin Augusta Victoria, Lyon Rose, Betty, Mdme. Melanie Soupert, Sunset, Mdme. Ravary, etc., and towards the sides were vases of popular H.P. and H.T. varieties, the margin of the display being filled in with yellow and white tea roses amid ferns. Dorothy Perkins and Hiawatha were the rambling varieties most in evidence. Second prize fell to Messrs. Paul and Son, Cheshunt, who had a rather flat exhibit of cut flowers in low vases, bowls and vase, backed by a few pot roses and palms. Irish Elegance, Mdme. Melanie Soupert, General McArthur, Mrs. W. J. Grant, Joseph Hill, Harry Kirk, Caroline Testout, Lyon Rose, La Tosca, and Frau Karl Druschki were the leading varieties displayed.

The great feature of the show was provided by the class for a representative group of cut roses, arranged effectively on a space 18ft. by 6ft., show boxes not allowed. There were six competitors, and these filled the whole side of the hall opposite the entrance, and made a rare and fragrant display that was worth going a long way to see, and that was a striking testimony to the freedom with which so many roses bloom in the autumn, for there were many thousands of blooms here arranged. The gold medal and premier award was assigned to Mr. George Prince, Longworth, Berks, for a grand lot of beautiful roses, set up in tall pillar-like stands, sheaf-like arrangements, low bowls, and also hanging baskets. Varieties that were very freely shown were Frau Karl Druschki, Mdme. Abel Chatenay, Harry Kirk, K. A. Victoria, Lyon Rose, Pharisaer, Irish Elegance, Auguste Comte, and Gottfried Keller. The front was edged with sprays of rambling rose growths. Second prize fell to Messrs. Gunn and Sons, Olton, who had a stone-coloured latticework background with arches of Dorothy Perkins and other rambling varieties, with a few baskets of bloom suspended from the latticework. In the centre were pillars of blooms of Lyon Rose, Mdme. Abel Chatenay, Killarney, Frau Karl Druschki, Dr. Felix Guyon, Souv. de Pres. Carnot, and Mdme. Ravary, while in the front were baskets of Harry Kirk, Mrs. David McKee, Lyon Rose, Souv. de Catherine Guillot, Maharajah, and other good things. Third prize fell to Messrs. W. and J. Brown, Peterborough, and an extra prize went to Messrs. J. Jefferies and Son, Cirencester.

There were two displays in the class for a representative display of cut roses, arranged effectively on a table space of 60 sq. ft. These were at the top end of the hall, and both were good. The premier group was from Mr. F. M. Bradley, Church Street, Peterborough, who had a very high background of bamboo rods filled with splendid flowers of Frau Karl Druschki and J. B. Clark varieties. The rest of the exhibit was notable for fine stands of beautiful fresh and bright blooms of J. B. Clark, the single white Simplicity, Lyon Rose, Harry Kirk, Mrs. J. Laing, Madame Abel Chatenay, and Charles J. Grahame. Second prize was awarded to Messrs. G. Jackman and Son, Woking, who used the sprays of Rosa rubrifolia too freely among their blooms, and the colour of stems and foliage detracted greatly from the effectiveness of Lyon Rose, Madame Jean Dupuy, and Caroline Testout. Pharisaer and Edu Meyer were very good here.

NURSERYMEN.

First prize for thirty-six varieties, distinct, was won by Messrs. J. Cocker and Sons, Aberdeen, who had a box of beautiful blooms, in which the leading varieties were Gladys Harkness, F. K. Druschki, Mrs. J. Laing, Helen Keller, White Lady, S. M. Rodocanachi, Hugh Dickson, Madame Melanie Soupert, Gustave Piganeau, Betty, and Caroline Testout. This is the sixth year in succession that the Messrs. Cocker have secured this prize at the autumn show. Hugh Dickson (H.P.) and Gladys Harkness (H.T.) were silver medal roses in this stand. Messrs. Adam and Craigmile, Rubislaw, Aberdeen, came second; and Mr. W. Ferguson, Dunfermline, third; seven competitors.

Six competitors staged in the class for eighteen distinct tea or noisette roses, and here Mr. G. Prince scored with some good blooms of Mrs. E. Mawley (silver medal T.), Muriel Grahame, Medea, Golden Gate, Madame H. Berger, and White Maman Cochet; Mr. Henry Drew, second, and Messrs. Adam and Craigmile third. For twelve vases of roses, distinct, seven blooms in each, Messrs. James Cocker and Son led with bright fresh specimens of Hugh Dickson, Gustave Grunerwald, Mrs. D. McKee, Alfred Colomb, Mrs. J. Laing, Lyon Rose, Captain Hayward, Caroline Testout, Madame M. Soupert, Mrs. W. J. Grant, Auguste Rigotard, and F. K. Druschki. Mr. Hugh Dickson, Belfast, second; and Mr. Ferguson, Dunfermline, third.

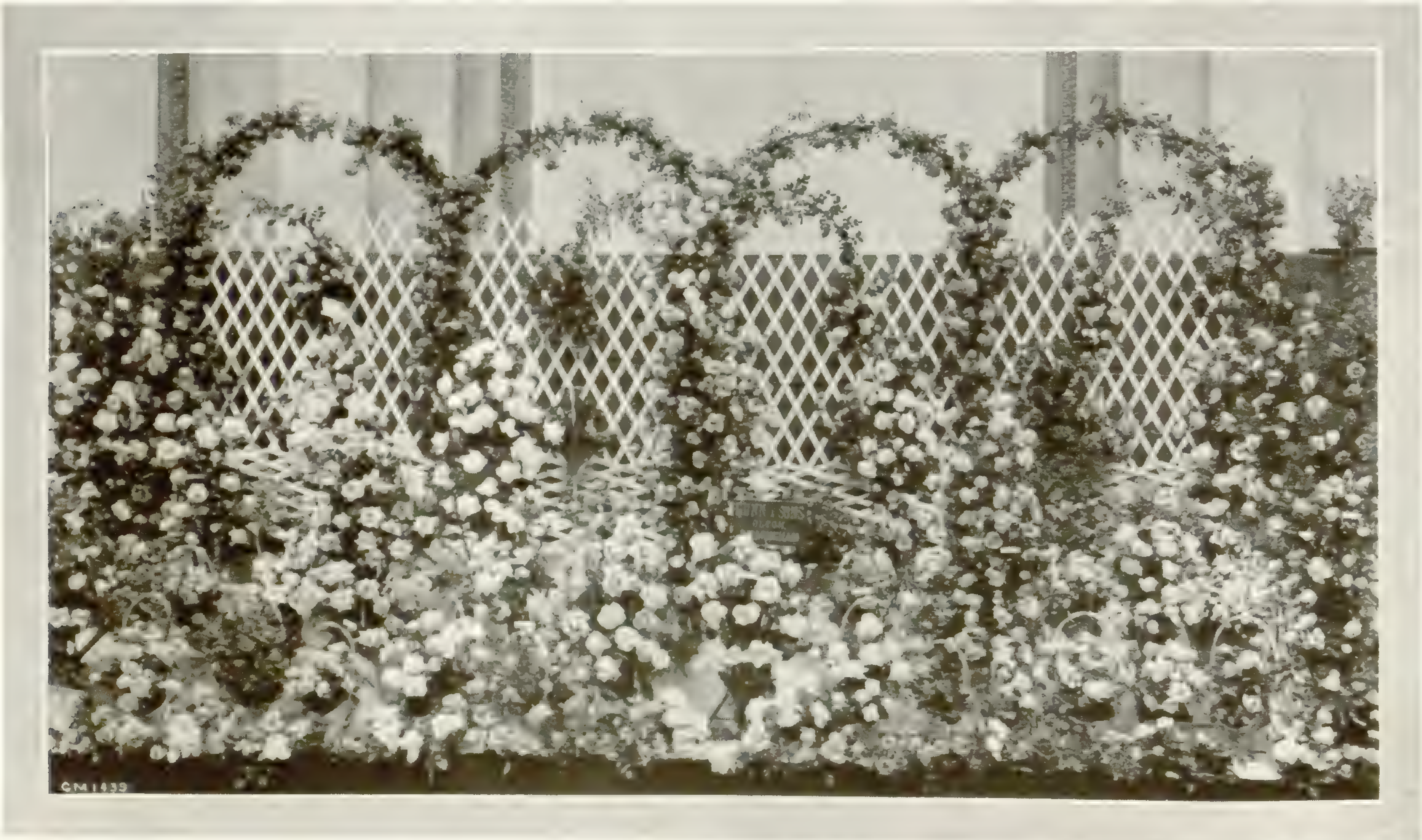
The best dozen blooms of any one rose, in a vase, were examples of Mrs. J. Laing, exhibited by Mr. W. Ferguson, Dunfermline; Messrs. Bide and Sons, Farnham, second with

TEA-SCENTED ROSE, MRS. HERBERT STEVENS.

Flowers white with pale lemon tint in the centre. Raised by Messrs. S. McGredy and Son, and awarded a Gold Medal at the National Rose Society's Autumn Show.

Frau Karl Druschki; and Messrs S. McGredy and Son, Portadown, third, with Lyon Rose. The best twenty-four bunches of decorative roses was the set from Mr. J. Mattock, Headington, Oxford, whose Marie Van Houtte, Dorothy Page Roberts, Teresa Bevan, Liberty, Gottfried Keller, and Edu Meyer were beautiful; Messrs. Paul and Son, Cheshunt, came second; and Messrs. G. Cooling and Sons, Bath, third.

There were four sets of twelve vases of decorative roses, the premier award being won by Mr. Charles Turner, Slough, whose Aennchen Muller, Souv. de C. Guillot, Marie Van Houtte, and Madame Pol Varin-Bernaix, were finely developed and most attractive; Mr. J. Crossling, Penarth, second; and Mr. G. Prince, third. Three competitors came forward in the class for a dozen varieties of roses, each variety staged in a large bamboo stand. First prize fell to Mr. J. Mattock, New Headington, who had two or three dozen flowers each of Madame Abel Chatenay, Marie Van Houtte, Prince de Bulgarie, Betty, La Tosca, Edu Meyer, Trier, etc.; Mr. Henry Drew, Longworth, second; and Mr. W. Bentley, Leicester, third.



A NOVEL AND EFFECTIVE DISPLAY OF ROSES.
Exhibited by Messrs. Gunn and Sons at the National Rose Society's Autumn Show.

Twelve distinct varieties of polyantha roses proved an interesting class, and there were five competitors, Mr. J. Mattock scoring with Eugene Lamesch, Phyllis, Canarienvogel, Aennchen Muller, Marie Pavie, Mrs. W. H. Cutbush, Perle des Rouges, Schneewitchen, Perle d'Or, and Leonie Lamesch; Messrs. Frank Cant and Co. second, and Mr. G. Prince third. Messrs. Paul and Son, Cheshunt, contributed the premier collection of nine varieties of rose hips, and their best bunches were of R. rubrifolia, R. rugosa, R. rugosa alba, R. pimpinellifolia, and R. pisocarpa. There were six competitors, and Messrs. J. Cooling and Son, Bath, came second, and Mr. G. Prince third.

AMATEURS.

Mr. G. A. Hammond, Cambrian House, Burgess Hill, annexed the premier award for eighteen roses, distinct, in the open amateurs' class, and he had fine flowers of Lady Ursula, Madame Melanie Soupert, Madame Eugene Verdier, Yvonne Vacherot, and Molly Sharman Crawford; Mr. E. M. Eversfield, Horsham, second; and Rev. T. G. Henslow, Stanton St. Quinton, third; seven competitors. Mr. R. Barrowman, Rosebank Cottage, Bargeddie, N.B., led for a dozen blooms, and had the silver medal H.P. in his Hugh Dickson; Mrs. B. Fortescue second, and Mr. Whittle third.

Mr. W. Upton, Claremont Street, Leicester, scored for nine roses, distinct; Mr. G. Moules, Hitchin, coming second, and Mr. Morris, Uckfield, third, the latter gaining a silver medal for his H.T. Mrs. W. J. Grant. Mr. H. W. Richards, Westridge, Ryde, led for six blooms in a very keen competition; Mr. P. G. Davis, North Warners, Burgess Hill, second; and Mr. A. E. Brown, Brokes Lodge, Reigate, third.

The Rev. J. H. Pemberton, Havering, had the best twelve bunches of roses, and was followed in order by Mr. F. Denison, Cranford, Leamington, and Mr. H. R. Darlington, Park House, Potters Bar. Viscountess Enfield, Dancers Hill House, was first for a dozen bunches of decorative roses, with Miss Ethel Wightman, Bengeo, Herts, second; and Mr. Conway Jones, Hucclecote, Gloucester, third. Mr. Page, gardener to Mrs. B. Fortescue, Dropmore, Maidenhead, led for a dozen tea or noisette roses, scoring with very bright flowers, and his White Maman Cochet was the medal tea rose; Rev. T. G. Henslow, Stanton St. Quintin, Chippenham, second; and Mr. Eversfield, Denne Park, Horsham, third. For nine tea roses Mr. F. Slaughter, Steyning, was to the front, followed by Rev. J. B. Shackle, Dropmore Rectory, Maidenhead, and Mr. M. Whittle, Leicester.

Mr. W. Upton had the best six tea roses, Mr. J. M. Stuart, Broomhill, Harrow, coming second; and Dr. F. G. Hayes, Dunster, Somerset, third; fourteen entries. Mr. O. G. Orpen had the best four vases of tea roses, five flowers of each, and he scored with Lady Roberts, Madame Jules Gravereaux, White Maman Cochet, and Maman Cochet; Mr. Conway Jones, second, and Mrs. B. Fortescue third. For six vases of roses, five blooms in each, Mr. G. A. Hammond, Burgess Hill, led with Bessie Brown, Madame Melanie Soupert, Madame Wagram, William Sheen, Lady Ursula, and Frau Karl Druschki; Mr. Eversfield second, and Mr. Conway Jones third.

Mr. H. R. Darlington made a very pretty display of six bunches of decorative roses, his Trier and Sulphurea being very good; Miss H. B. Langdon, Raymead, Hendon, second; and Mr. W. Colin Romaine, The Priory, Old Windsor, third. Mr. J. W. Smith, Sparrows, Herne Hall, Bushey Heath, had the best five bamboo stands of decorative roses, and his varieties were Marie Pavie, Papillon, Gustave Regis, Madame Ravary, and Perle d'Or; Mr. Conway Jones second, and Rev. J. H. Pemberton, third.

FLORAL DECORATIONS.

There were seven bowls of China roses in open competition, but in no case was the arrangement first rate. Mr. E. J. Hicks, Twyford, Berks, came first, with Comtesse de Cayla; Mr. C. Turner, Slough, third, with the same charming variety; and Mr. J. Mattock second with Comtesse de Cayla and Queen Mab.

In the ladies' class for a bowl of roses Mrs. G. C. Sawday, Heath Road, Weybridge, scored with a grand bowl of Frau Karl Druschki; Miss Harwood, St. Peter's Street, Colchester, second, with K. A. Victoria; and Miss Langton third with Madame Melanie Soupert. For a bowl of roses, exhibition varieties excluded, Mrs J. W. Smith, Bushey Heath, led with the lovely Irish Elegance; Mrs. Hammond, Burgess Hill, second with Lady Pirrie, and Mrs. O. G. Orpen third with Irish Elegance. Mrs. Butcher, Upper Brook Street, Ipswich, scored for a basket of roses, with Miss Harwood second, and Miss J. B. Langton third.

There was one class for a table decoration of roses, arranged by lady members, and there were a dozen competitors. Mrs. O. G. Orpen led with a very pleasing design, executed wholly with the new yellow Lady Hillington rose; Miss J. B. Langton second with Irish Elegance; Mrs. Hammond third with Mrs. Alfred Tate; and Mrs. Tisdall, Trevor Road, Woodford Green, fourth, with Frau Karl Druschki and Maman Cochet.

NEW ROSES.

Gold medals to Messrs. S. McGredy and Son, Portadown, for Mrs. Herbert Stevens, a new tea variety, cream coloured, and of beautiful shape, pointed; to Messrs. Alex. Dickson and Sons, Newtownards, for Mrs. Foley Hobbs, a tea rose of great beauty, very sweet, bright cream colour, rather deeper in the centre.

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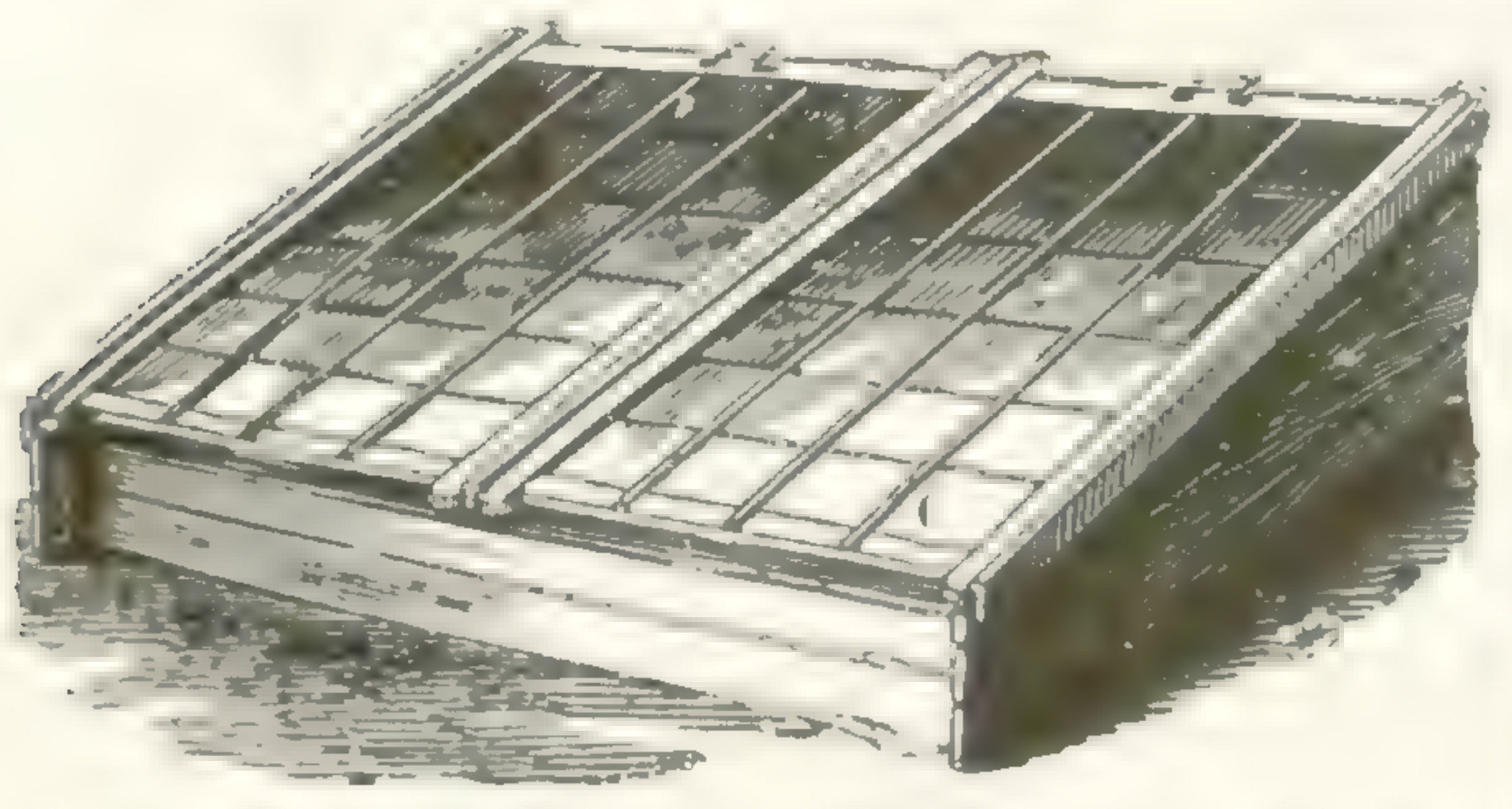

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Tulips, Darwin, mixed	3	0	25	[illegible]
Tulips, double, in the finest mixture...	2	2	20	0
Anemones, single mixed	1	2	10	0
Anemone, The Bride, pure white ...	1	2	10	0
Crocus, 1st size, in the finest mixture	1	2	10	0
Crocus, 2nd size, in the finest mixture	0	8	5	10
Scilla sibirica, rich blue	1	6	14	6
Iris, Spanish, mixed	0	6	4	6
Iris, English, mixed	2	0	16	8
Narcis., single, in the finest mixture...	1	4	12	6
Narcis., Trumpet, in the finest mixture	2	6	20	0
Narcis., double, fine mixture	3	0	25	0
Narcis.-Polyanthus, finest mixed ...	3	6	30	0
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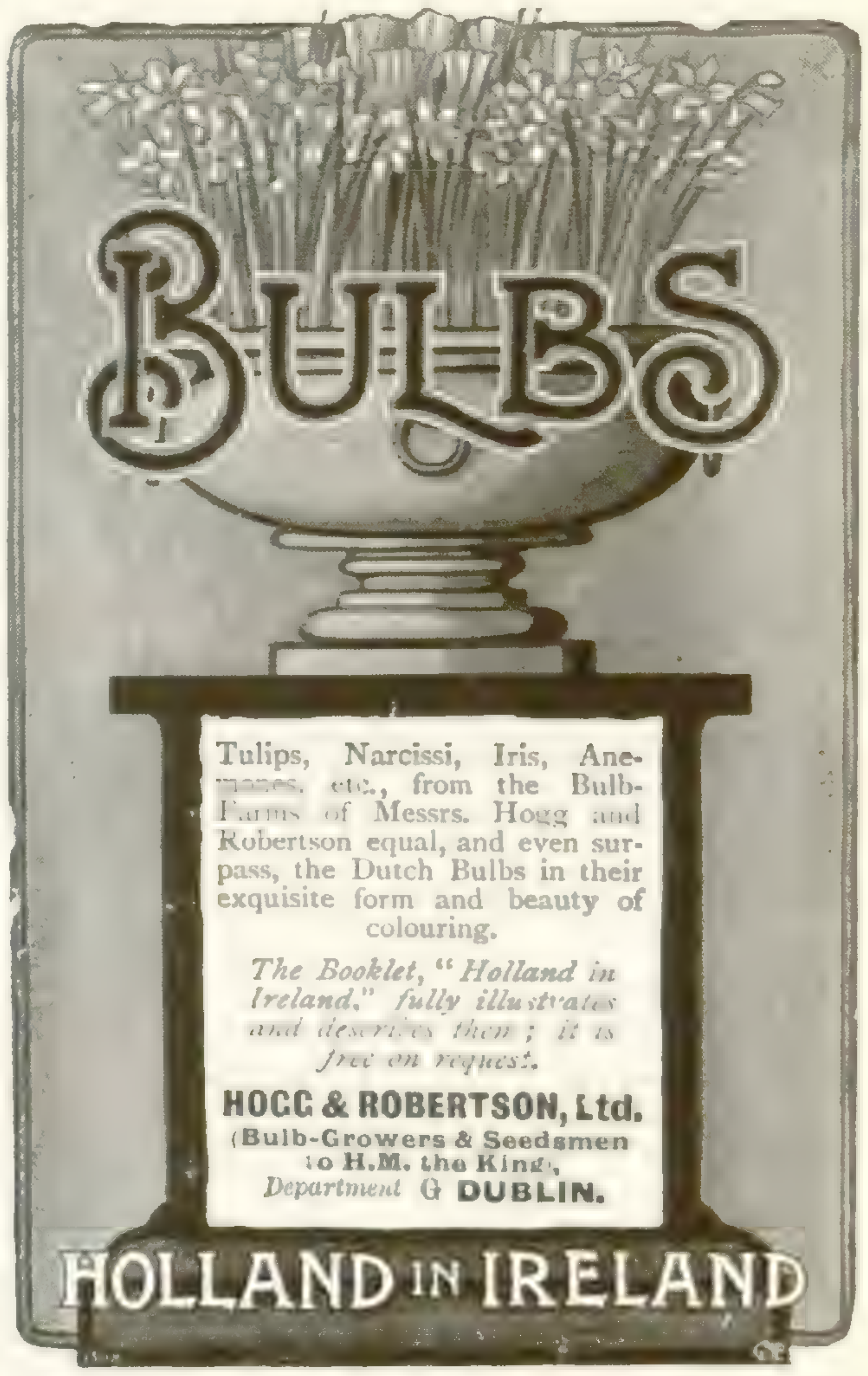

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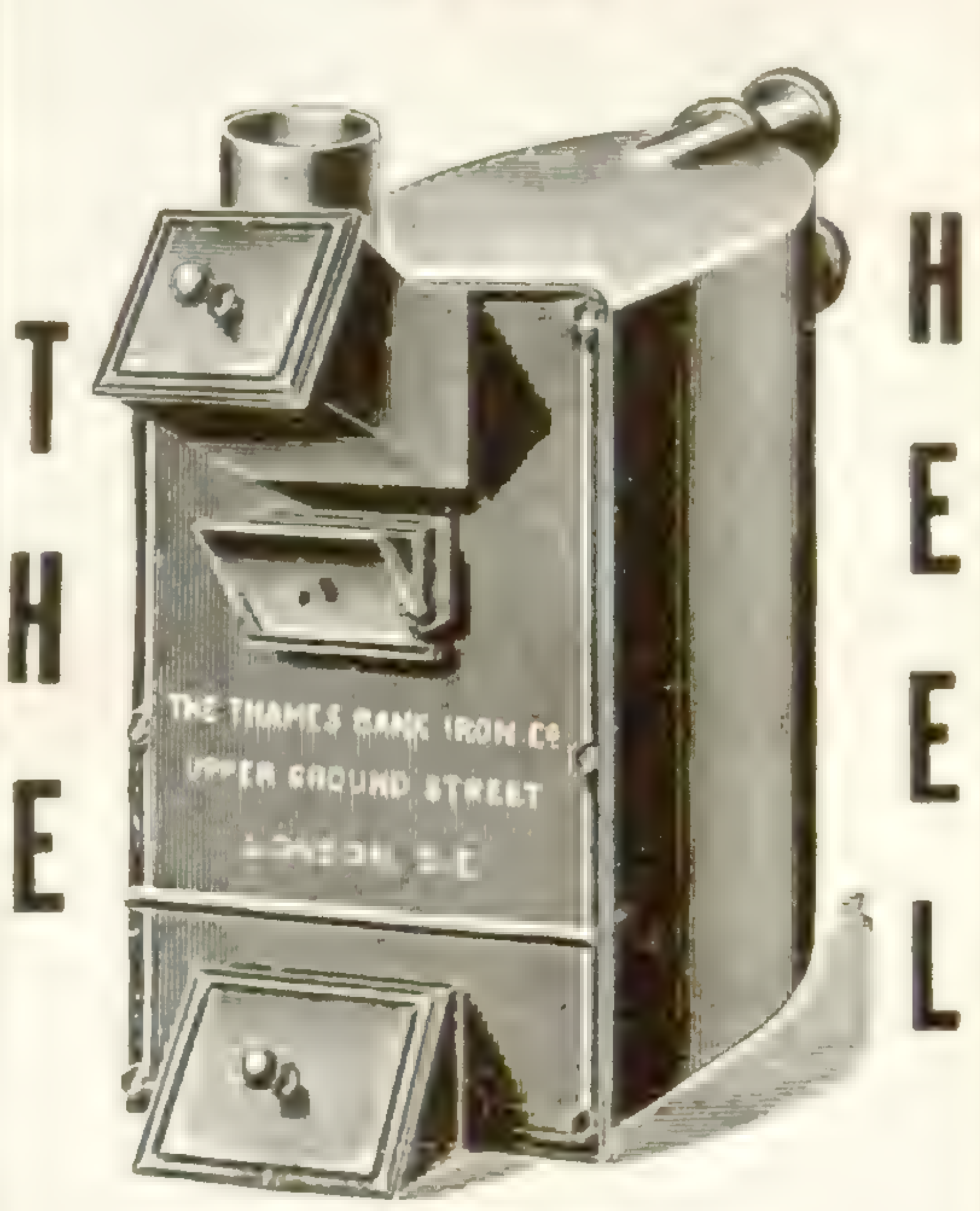

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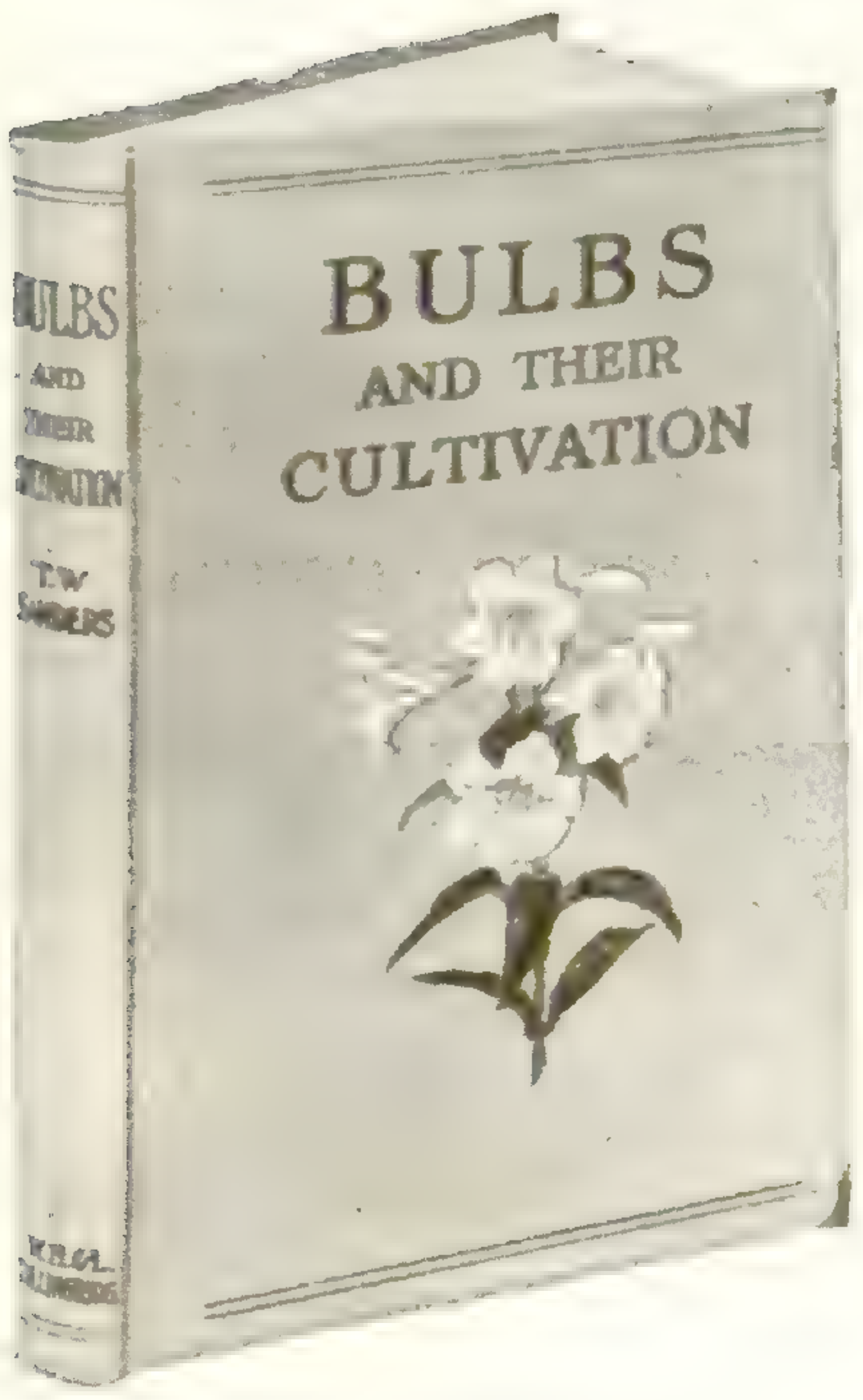

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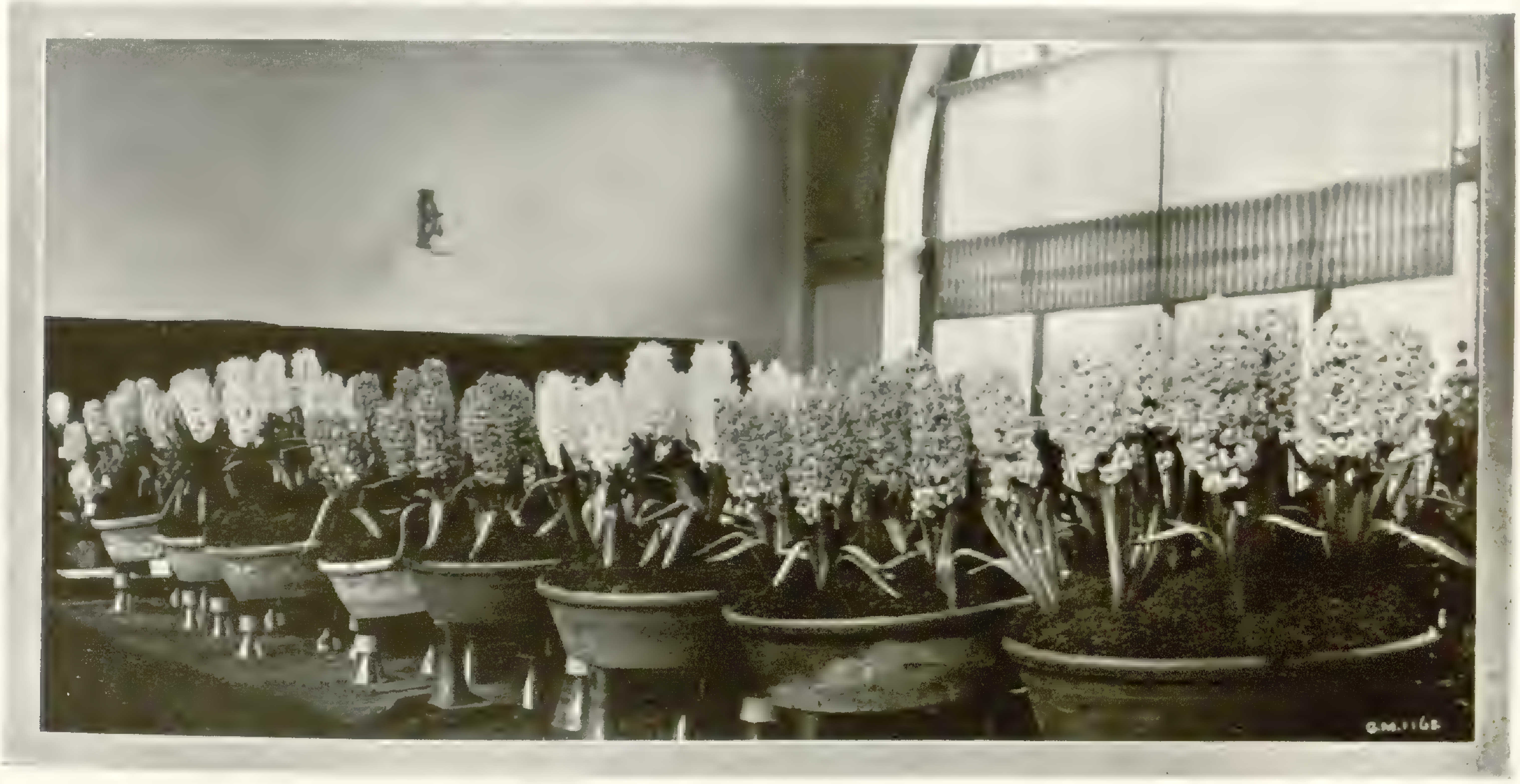
Card of Commendation to Rev. J. H. Pemberton, Havering, for perpetual-flowering hybrid musk rose Daphne, already described and figured in our columns; to Messrs. S. McGredy and Son, for H.T. rose Mrs. Muir Mackean, a rosy-red variety, flushed with vivid carmine.

HYACINTHS IN PANS.

Although they have their value for conservatory decoration when grown in pots singly, hyacinths never look so well as when massed together. At the Continental bulb shows a great feature is always made of hyacinths in broad pans, one variety in a pan, and often a number of these pans are so grouped together as to present the effect of a bed of flowers. At the meeting of the Royal Horticultural Society held on March 8 and 9 last, a number of prizes were offered for bulbs, and hyacinths were especially well catered for, the prizes being provided by the Royal Dutch Bulb Growers' Society. In one class the requirements were four pans of hyacinths, ten plants in each, and as there were three competitors the display was a good one. In the accompanying illustration the four pans in the foreground are the first-prize set staged by Mr. Edwin Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, and the next set is the second-prize one, set up by Mr. James Gibson, gardener to the Duke of Portland, Welbeck Abbey. Mr. Beckett's varieties were City of Haarlem, King of the Blues, La Grandesse, and La Victoire. We may at once point out that the hyacinths presented in pans in this way are not grown in them all the season, but are grown in pots and transferred to the pans as the spikes approach full development. As the time for potting-up hyacinths is now with us our readers will be glad to find that Mr. Beckett is contributing to these pages an article on the cultivation of these popular spring flowers for exhibition.



EXHIBITION HYACINTHS IN PANS.
Mr. Beckett's and Mr. Gibson's displays at the Royal Horticultural Society in March last.

THE KING'S SPEAR.

A bold and handsome plant, when well grown, the King's Spear, as Asphodelus albus is called, is one which is fated too often to be starved, owing to many thinking that it will stand any kind of neglect. It is worthy, however, of a better fate, and if it is grown in a rich soil, with plenty of moisture during the growing and flowering seasons, it will surprise all those who have only seen it before in poor and shallow soils. Its nominal height is about four feet, but it may be reduced by the starving treatment referred to just now, while, on the contrary, it will become taller, and much more ornamental, if given its desires in the way of soil and moisture. A good border, deeply dug and well manured, will enable it to show to advantage, but it is also an excellent wild garden plant when in a rather moist, but not too wet, place. There it will increase into a handsome clump, and give noble spikes of its white flowers from four to five, and even six feet high. It is truly handsome when well grown, with its branching stems and its pleasing white flowers.

A native of South Europe, this asphodel is yet quite hardy with us, and is certain to give satisfaction, either when planted in sun or in shade, but always in good soil where possible.

I have seen it doing well even by the sea, and with a north-east exposure, full in the teeth of the wind from the water, and in a place where it only received the morning sun for a brief season.

It is raised from seeds or multiplied by division, and is so hardy and enduring that it may well be planted by all who have plenty of room, and who care for early summer flowering plants of its kind.

S. ARNOTT.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

MASDEVALLIAS.—The various species and hybrids of the genus Masdevallia especially commend themselves to the attention of amateur cultivators of orchids. Those in possession of a greenhouse, or better still, a fernery, where the temperature maintained is sufficient to exclude frost, may engage in their cultivation with the assurance of success. In the majority of cases the plants are found growing wild at high altitudes, where even frosts are experienced, so that a normal winter temperature of about 45 degrees is ample. The tall growing kinds, being the most robust in constitution, and possessing free-flowering characteristics are those that may be specially recommended. They are at the present time most popular in our prominent orchid establishments, and are procurable at a moderate price. They are exceedingly useful for exhibition and decorative purposes, their varied colours being most effectively blended, and as large specimens are very effective. The most suitable kinds are M. Veitchi, M. ignea, and M. coccinea (Harryana) in variety, and the hybrids having one or both of the above-mentioned species as their parents. The species and varietal forms having thick leaves are also most attractive, and can either be grown in pots or baskets. They include M. calura, M. cornaculata, M. ephippium, M. guttulata, M. leontoglossa, M. gargantua, etc.

SMALL-GROWING MASDEVALLIAS.—The smaller growing kinds such as M. polystachya and M. racemosa, are also useful for exhibition purposes. The dwarf growing kinds succeed best when grown in shallow pans or baskets, so that they may be suspended near the roof glass during the winter months. I also consider that those included in the appended list succeed better when grown in a structure with a temperature of not less than 50 degrees during winter. If grown cooler they must be retained in a reasonably dry state during periods of unfavourable weather outside, or the leaves will damp off at the base. Although not so showy as the larger growers, they are most interesting, and the quaint characteristics of many of the kinds are remarkable. M. muscosa, M. simula, M. Estradi, M. Wagneri, M. abbreviata, M. Armeni, M. demissa, M. Shuttleworthi, and the numerous intermediate hybrids are all worthy of consideration.

REPOTTING MASDEVALLIAS.—There are differences of opinion as to the best season at which to repot masdevallias. I would advise the early spring as the best time for repotting the tall-growing kinds, but as the plants are actively rooting at the end of September, no harm can be done with careful attention by repotting at this season. The small growing kinds should be attended to for repotting at the present season. Take care to have any sphagnum moss that has overgrown the plants clipped away. I find that a compost of equal portions of fibrous peat and sphagnum moss, with sufficient sand added to render the compost porous, suits the masdevallias well.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

BEGONIA GLOIRE DE LORRAINE.—These will now be making rapid growth, and should be given as much space between them as possible, this tending to keep the growth sturdy, as well as keeping the plant in good shape. The early and very bushy plants should be staked out, especially if they are likely to be wanted for exhibition. For this purpose very light bamboo tips (painted green), should be used, keeping the tallest shoots towards the centre, and the shorter ones on the outside; should they, however, be rather uneven, they may be easily drawn down so as to give the plants a good even start. For pyramidal plants one strong stake only should be used, slinging all the shoots from this, and using small green twine; this is neater and less conspicuous than raffia. If required for November blooming, all the flowers should be allowed to come along, while for later use they may still be picked off, and as these plants are amongst the most useful for winter blooming, if they can be brought along in two or three batches so much the better. The plants for the latest batch should be kept in a rather cooler house, but 55 degrees at night is quite cool enough.

OTHER BEGONIAS.—The larger-flowered section, and the foliage begonia, such as Gloire de Sceaux, with John Heale, B. Haageana, and others, will all need to be looked over, and given a stake and tie wherever necessary; and as these are rather subject to attacks of thrips, especially just now when more fire heat is likely to be used, they should be given an occasional fumigation, but make sure the foliage is thoroughly dry first or the edges of the leaves may suffer. When well-rooted all begonias may be supplied with liquid manure, cow or sheep manure being very suitable. Generally speaking, all syringing overhead may be stopped, except on extra fine mornings, when the later plants may have a light spraying; but the dampings between the pots will be generally found quite enough for them.

TABLE PLANTS.—In many establishments table plants are used more during the autumn and winter months than during the summer, and this being so, the stock should be examined and some of the best of them be isolated; and where there is plenty of overhead room they may be suspended from the roof, taking care that they do not overhang other plants where the drip from them might be detrimental. This will economise space as well as add colour to the plants, but a sharp look-out must be kept on them, as they will dry up much quicker hanging up than when standing on the stage.

CALADIUMS.—Most of these will now be dried off, and, after seeing that the labels are secure in the pots, they may be packed away under the stage, not too far away from the hot-water pipes, and stacked in such a manner that they receive no drip from the plants above.

STOVE CLIMBERS.—Where these are planted out an effort should be made to dry them off somewhat, and as soon as the foliage shows signs of drying off a portion of the wood may be cut away, thus allowing as much light as possible to reach the plants underneath.

GENERAL REMARKS.—Syringings should now be less frequent, and the afternoon turn may be omitted, just damping beneath the pots instead of overhead. The morning syringing may be left until after breakfast. All permanent shading should be washed off the roofs of the houses, choosing a damp day, when it is much more easily removed, and arrangements may be made at any time for removing the roller blinds and storing them away for the winter, preferably in a place where they are free from dust and dirt. Closer attention must now be given to stoking, as the temperature frequently drops very quickly between 7 and 10 o'clock, and, though I do not believe in too high a night temperature, yet a sudden fall is detrimental to most stove plants. Where the boilers have not already been flushed out, the first opportunity should be taken to do this, and it is as well to have the bricklayer in to give the flues and chimneys an extra good clean through, and to do whatever pointing may be necessary. Much draught and heat are lost through these small repairs being neglected or overlooked.—THOMAS STEVENSON, Woburn Place Gardens.

FRUITS UNDER CLASS.

EARLY PERMANENT VINES.—Vines that ripened their fruits in May, and have had, as previously advised, their laterals shortened, should, if it is intended to force them early next season, be pruned, and otherwise prepared for it at the end of this month. Cut the laterals back to two plump buds, relieve the rods of all loose bark, and cleanse the woodwork, etc., of the house. Thoroughly wash the vine rods and spurs with an approved insecticide, and repeat the operation before the rods get dry if red spider or thrips have been troublesome, but in doing so be careful not to injure the vine eyes. Remove sufficient of the surface of the border (vines of this description should have their roots confined to inside borders) to bare the uppermost roots, and in its place put good loam, mixed with a suitable artificial manure, wood ashes, and soot.

POT VINES.—The canes of cut-back pot vines that are being prepared for very early forcing will be now well matured, and should have the necessary pruning, and the cuts dressed with styptic. Give them complete rest until placed in the forcing house by putting them in a cool position, and keeping the soil tolerably dry. Plants raised from eyes at the beginning of the year should, as soon as their canes are sufficiently hardened, be removed to a sunny border, have their pots stood on a bed of ashes, and their canes either secured to a wall or trained near to the ground in a horizontal position, and fastened to stakes.

LATE GRAPES.—Vines to provide winter supplies of fruit, if started into growth as was recommended in spring, and subsequently carefully attended, will have ripened their fruit by the end of this month. It is desirable that this should be so, both that the fruit may possess good flavour and keeping properties, and the vines be properly matured. In cases, however, where the fruit is later in ripening, advance its maturity by the discreet use of artificial warmth, careful ventilation, and by relieving the vines of all unnecessary sublateral growths, that may have extended. As soon as the fruit is perfectly ripe lower the temperatures, that for the night being maintained at 50 degrees by artificial aid, and accompanied by ventilation, and the avoidance of unnecessary use of water. Keep the atmosphere dry.

MELONS.—Notwithstanding the dull, wet weather experienced this summer, melons have been satisfactory, good flavour having been obtained by great care in the employment of fire heat and moisture. It will be necessary now that the days are shortening, whatever the conditions of the weather may be, to continue to give (in order to secure late crops of high quality) unremitting attention to these matters. At no time should the night temperature fall below 65 degrees, and in favourable weather give slight ventilation early in the day to plants swelling their fruit; increase the ventilation as the sun gains power, and close early to entrap sun heat. Keep the lateral growths regularly stopped, give the plants the assistance of diluted liquid manure, or light top-dressings of suitable artificial compounds, and as soon as the fruit commences to ripen keep up, even at night, circulation of warm air through the house, and lessen the supply of moisture both in the atmosphere and at the roots.—T. COOMBER, The Hendre Gardens.

THE KITCHEN GARDEN.

FRENCH BEANS that are now growing freely in frames will need care and attention. Stake them early to keep them in an upright position, and so have full advantage of the sunshine between the rows which will help them immensely. Hoe the soil weekly, and give an occasional dusting of soot around the plants, and on all favourable mornings give a good syringing. Ventilate freely during fine weather. In some localities frost may be experienced, therefore have in readiness mats or other protecting material for covering the frames.

BEETROOT.—This crop should now be ready for storing, particularly if the roots are of a good size. Nothing is gained in leaving them after this, as coarseness is sure to ensue. On the other hand, if many roots are undersized, and appear to be making healthy growth, they can be left to increase in size, simply examining the rows, and pulling very carefully those that are ready. During this process take special care not to damage the small rootlets. Carefully twist the tops off, and leave the roots on the ground for a few hours to dry. Beet can be stored under a north wall in finely sifted coal ashes or sand.

PARSLEY.—If there is any doubt about there being a good supply from the latest sowing seed should be sown in an unheated frame, and the produce will be found very useful during the winter months.

CARROTS may be treated as advised for beetroot, the difference being that all can be drawn or dug up, whichever the case may be, or many of the larger roots will crack, causing them to be of little use for keeping to store or consumption. It is a good plan to assort the roots according to their sizes. Select the best roots of a medium size for keeping, as these will be found to keep well until the spring for use then. The very small roots can be kept separately for the many uses for which they are required in the kitchen, and the larger and coarse ones should be consumed first. The late-sown carrots must be encouraged in every way, by thinning, hoeing, and regular dusting with soot and wood ashes.

TURNIPS.—Those sown recently will now be ready for thinning, and hoeing on all favourable occasions. The earlier sown ones will be large enough to lift and store.

CELERY.—The later plantings of celery will need a slight earthing up. Previous to this operation clear away the small leaves and side growths, and give a good soaking of liquid manure. If slugs are troublesome employ soot and lime, sowing these alternately. The celery required for November use should now be partially blanched. If exhibition sticks are desired the blanching should be done by means of narrow brown paper bands, applying them every ten days till the required height is obtained.—GEO. ELLWOOD, Swanmore Park Gardens.

Deutzia crenata.—Among July flowering shrubs, two varieties of this deutzia occupy a prominent position. They are candidissima, also known as Pride of Rochester, a pure white double flower; and flore plena purpurea, whose blossoms are also double, and suffused with purple on the outside of the flower. This feature is particularly noticeable when in the bud state. Being more robust than most deutzias, for it will form a dense bush from six feet to ten feet in height, Deutzia crenata is, when represented by the varieties named, well worth a place in the shrubbery border.—W. T.

NATIONAL CHRYSANTHEMUM SOCIETY.
The EXHIBITION of EARLY-FLOWERING CHRYSANTHEMUMS will be held at the CRYSTAL PALACE, on October 5th and 6th, 1910.
Entries close on Wednesday, September 28th. Schedules and all particulars relating to membership can be obtained post free, on application to the Secretary, RICHARD A. WITTY, 72, Savernake Road, Gospel Oak, London, N.W.

NATIONAL VEGETABLE SOCIETY.
Will hold their
FIRST GREAT SHOW,
at the
R.H.S. HALL, VINCENT SQUARE, WESTMINSTER, S.W.,
on
WEDNESDAY, SEPTEMBER 28th, 1910.
Doors open at One o'clock.
Admission One Shilling; after Five o'clock, Sixpence.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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National Dahlia Society.

Excellent quality in the flowers characterised the second show of this society, held on Tuesday and Wednesday, September 20 and 21, at the Royal Botanic Society's Gardens, Regent's Park. There was a large attendance of dahlia specialists, including the president, Mr. E. Mawley, V.M.H.; the chairman, Mr. G. Gordon, V.M.H.; and the secretary, Mr. E. F. Hawes, of the society. The President distributed the cups and medals at the conclusion of lunch on the opening day.

OPEN CLASSES.

The best three vases of cactus dahlias put into commerce in 1908-9 were examples of Echo, Mercia, and Mrs. A. Dyer, set up by Mr. John Walker, Thame, Oxon; Mr. M. V. Seale, second, with Ivernia, Rev. T. W. Jamieson, and C. E. Wilkins; and Messrs. Keynes, Williams, and Co., Salisbury, third. The premier set of twelve bunches of pompon cactus dahlias came from Messrs. J. Burrell and Co., Howe House Nurseries, Cambridge, who showed delightful bunches of Coronation, Flora, Argus, Nain, Titus, Cheerful, Sweet, Lena, Alwyn, Minima, William Marshall, and Martha; Messrs. J. Cheal and Son, Crawley, second; and Mr. M. V. Seale, Sevenoaks, third.

There were three competitors in the class for two dozen show dahlias, distinct, and here chief honours fell to Mr. John Walker, Thame, who had splendid flowers of William Powell, James Cocker, Duchess of York, R. T. Rawlings, Shirley Hibberd, D. Cornish, and Frank Pearce; Mr. S. Mortimer, Rowledge Nurseries, Farnham, came second; and Messrs. Keynes, Williams, and Co., third. Messrs. J. Cheal and Sons, Crawley, scored for a dozen show dahlias, their Mrs. Saunders, T. W. Girdlestone, and J. Hickling being especially good; Mr. S. H. Cooper, The Hamlet, Chippenham, second; and Mr. M. V. Seale, third.

There were three exhibitors of a dozen bunches of cactus dahlias, and the competition was close. Messrs. J. Stredwick and Sons, St. Leonards, won first place with superb bunches of Golden Eagle, Satisfaction, H. L. Brousson, Jupiter, H. H. Thomas, C. E. Wilkins, William Marshall, Mrs. Douglas Fleming, Indomitable, Red Admiral, Dr. R. Appleton, and The Earl; Messrs. J. Cheal and Sons, Crawley, secured the second award, and Messrs. J. Burrell and Sons, Cambridge, third. For two dozen cactus blooms, distinct, set out on boards, Messrs. J. Stredwick and Son were again to the front, and some of their finest flowers were Red Admiral, Ekko, Royal Scarlet, C. E. Wilkins, Arrow, Glorious, and William Marshall; Messrs. Keynes, Williams, and Co., second; and Messrs. J. Burrell and Co., Cambridge, third.

Mr. John Walker secured the chief award for three vases of cactus dahlias, each containing nine blooms associated with appropriate foliage; he showed a fine set of mixed varieties, all grand flowers; Mr. Charles Turner, Slough, second; and Mr. M. V. Seale, third; five competitors. Mr. M. V. Seale scored for a dozen cactus blooms on boards, and he had Advance, H. H. Thomas, and Sir John Sinclair, good; Messrs. J. Cheal and Sons, second; and Mr. S. Mortimer, third.

The only entry in the class for six blooms of any one cactus variety was from Mr. M. V. Seale, who was awarded the first prize for Mrs. T. W. Willis. Six competitors came forward in the class for a dozen bunches of pompon dahlias, and here Mr. Charles Turner, Slough, secured the chief award with a bright and very neat set of Bacchus, Ideal, Phyllis, Adelaide, Ganymede, Mignon, Nerissa, Mariette, Queen of Whites, Darkest of All, Mary, and Cyril; Messrs. J. Burrell and Co., second; and Messrs. J. Cheal and Sons, third.

The Dean Gold Medal and first prize for a dozen bunches of single dahlias was well won by Messrs. J. Cheal and Sons, Crawley, with a glorious set of Cardinal, Strombolı, Owen Thomas, Leslie Seale, Flora, Miss Morland, Miss Roberts, Rosemary Bridge, Snowdrop, Kitty, Lady Bountiful, and Mrs. Joynson Hicks; Mr. M. V. Seale, second, and Mr. J. Walker third. Three bunches of pæony-flowered dahlias was a class that contained four entries; Mr. C. Turner scored with Rosina, Bayard, and a seedling; Mr. J. Walker, second, and Messrs. J. Cheal and Sons, third.

Giant decorative varieties, six vases, and six flowers in a vase, resulted in a win for Mr. Charles Turner, who set up Attraction, Jean Charmet, Loveliness, Souv. de Gustave Douzon, Mrs. Seale, and Mdme. Van der Dael; Mr. Seale second. The only exhibitor of six blooms of a show or fancy seedling was Mr. S. Mortimer, who was awarded first prize for Wm. Pemberton, yellow with crimson marks.

AMATEURS.

The Rev. Arthur Bridge, Worth Rectory, Three Bridges, led in the amateurs' division for nine cactus varieties, three flowers of each, with Harold Peerman, Red Admiral, Snowdon, Rev. T. W. Jamieson, Iolanthe, H. H. Thomas, and Satisfaction; there were five competitors, and Mr. F. Grinsted, Beaufort Park, Battle, came second, and Mr. W. H. Peters, gardener to Sir J. Kennedy, Holmhurst, Baldstow, St. Leonards, third. The Rev. Arthur Bridge led for a vase of six blooms of any one cactus, and was followed by Mr. C. Luckin, Apsley, Thackenham, and Mr. E. E. Barton, Brand Street, Greenwich.

Mr. Edward Mawley, V.M.H., Rosebank, Berkhamsted, led for six varieties of cactus dahlias, three blooms of each, with very fine specimens of Beryl, Brigadier, Evening Star, Red Admiral, Harold Peerman, and Leda; Rev. Arthur Bridge second, and Mr. G. Stevenson, Chadworth Cottage, Esher, third. There were seven stands of a dozen cactus blooms, three flowers each of four varieties, and here the premier award was made in favour of Mr. F. H. Currey, Osborne Road, Palmer's Green, for Wm. Marshall, Satisfaction, Brigadier, and J. B. Riding; Mr. C. Luckin second, and Mr. R. C. Willis, Osborne Road, Palmer's Green, third.

Mr. J. Hicks, Thornton Heath; Mr. G. Davidson, Thornton Heath; and Rev. Arthur Bridge, were first, second, and third respectively for a dozen cactus blooms, distinct; while for six flowers the awards fell to Mr. Edward Mawley, Mr. Charles Luckin, and Mr. S. H. Cooper, Chippenham. Mrs. E. Mawley was placed first for a vase of twelve cactus dahlia blooms, arranged for effect, and she showed crimson flowers with sprays of Prunus Pissardi; second prize fell to Mr. J. Hicks, Thornton Heath; and third to Mr. T. H. Currey.

Mr. S. H. Cooper had the best dozen show dahlias, and Mr. A. Robbins, Prospect Place, Keynsham, came second; in each case the flowers were rather small. For six show blooms the prizes fell, in order, to Mr. Charles Luckin; Mr. A. P. Ironsides, Park Lane, Chippenham; and Rev. A. Chalmers Hunt, Williaa Rectory, Hitchin. Mr. G. Davidson led for six bunches of pompon dahlias, followed by Mr. A. P. Ironsides and Mr. S. H. Cooper; while for single varieties Mr. Mawley was an easy first, with Rev. Arthur Bridge second, and Rev. S. S. Pearce third. Mr. E. Mawley had the best six bunches of single dahlias, and secured the Dean medal; and Mr. W. C. Pagram had the best three vases of pæony-flowered varieties.

TRADE DISPLAYS.

An extensive exhibit in the conservatory, from Messrs. Hobbies, Lim., Dereham, was a great attraction. Half the display consisted of roses, set up prettily in stands of various forms, some of them forming light screens. The varieties shown were chiefly hybrid teas—Gruss an Teplitz, Mdme. Abel Chatenay, Frau Karl Druschki, Mdme. Ravary, and Hugh Dickson were very fine. The rest of the exhibit consisted of pæony-flowered dahlias, backed by Japanese anemones and double Michaelmas daisies, with a row of the newer cactus dahlias along the front. Mr. J. B. Riding, Chingford, contributed an interesting exhibit of colarette dahlias. These were very interesting, and attracted a great deal of attention, especially such effective varieties as Maurice Rivoire, Corbeille de Feu, Johannisfeur, Souvenir de Bernadeau, Papa Charmet, Mdme. Poirier, Orphee, and Joseph Goujon.

A very big exhibit was admirably staged by Messrs. T. S. Ware, Lim., Feltham, who put up tall and large stands of pæony-flowered varieties, such as Andrew Carnegie, Duke Henry, Ruddigore, etc. In front of and between these were sets of cactus dahlias, the varieties Dreadnought, Crescent, John Peel, Rev. Jamieson, Advance, Ruby Grinstead, Echo, M. Inman, Dibs, Nellie Riding, and Evening Star being especially well shown. The whole arrangement, as well as the flowers, was good. Mr. J. E. Knight, Wolverhampton, had cactus and pæony-flowered dahlias in goodly numbers, set up on boards and in bamboo stands; a somewhat unusual effect was produced, but some of the pæony-flowered varieties showed the effects of travel. A brilliant bank of pæony-flowered dahlias set up by Messrs. Bakers, Codsall, Wolverhampton, gave a good idea of the effectiveness of this group of varieties, and the great progress made in the direction of new colours. Very striking were the vases of Germania, Lord Elphinstone, The Tatler, Mr. Joseph Chamberlain, Ryton Roy, Sunset, Codsall Gem, The Warrior, and King Leopold.

Mr. J. T. West, Tower Hill, Brentwood, had a very interesting and bright exhibit. At one end he had a set of gorgeous pæony-flowered varieties, including the brilliant crimson Holman Hunt and the effective Liberty. The big decorative Brentwood Yellow was again grand, and it is difficult to understand that the huge long-stemmed flowers are borne by 3ft. high plants. The middle of the exhibit consisted of choice cactus, neat pompon cactus, and beautiful pompon flowers, all very well set up. Mr. Williams, Oxford Road, Ealing, showed a table decoration of single and other small dahlias. Pæony-flowered and decorative dahlias, and dwarf single Tom Thumb dahlias in pots, made up a group from Messrs. Whitelegge and Page, Chislehurst; but there was need for more skill in the disposition of the flowers.

The exhibit made by Mr. Charles Turner, Slough, contained a large assortment of pæony-flowered varieties, but the predominating variety was Loveliness, of which there was a large central stand; this is a beautiful shade of pink, and is bound to be popular. Messrs. Spooner and Sons, Hounslow, submitted a fine collection of apples, pears, etc.

NEW DAHLIAS.

First-class certificates were awarded as follows: Garden cactus dahlias White Ensign and Flagstaff, and cactus varieties Mrs. Douglas Fleming and H. L. Brousson, to

Messrs. J. Stredwick and Son; to pompon variety Pink Beauty, from Messrs. J. Cheal and Sons; to garden cactus dahlia Mary Purrier, from Mr. J. T. West; and to fancy cactus dahlia American, from Messrs. Keynes, Williams, and Co.

BOTTLED FRUITS.

In connection with this show the Anglo-Belge Glass Association offered prizes for bottled fruits, and there was a fair competition in the classes arranged.

Premier award for a dozen bottles of fruits fell to Mrs. V. Banks, Park Street, Grosvenor Square, who had splendid raspberries, rhubarb, cherries, plums, and loganberries; Mrs. Birkinshaw, Bothamsall, Retford, second; and Mrs. Ayre Foothill, Doncaster, third. Mrs. E. Beckett, Aldenham House Gardens, Elstree, scored for six bottles with cherries, blackberries, and plums, in fine condition; Mrs. V. Banks came second, and Mrs. L. Birkinshaw third. For three bottles Mrs. Banks, Mrs. Foothill, and Mrs. Birkinshaw, and Mrs. E. Beckett secured the awards in order as placed.

MEDALS.

Large Gold.—Messrs. Hobbies, Lim., Dereham; Messrs. T. S. Ware, Lim., Feltham; Messrs. Bakers, Codsall, Wolverhampton; and Mr. J. T. West, Brentwood.

Gold.—Mr. J. E. Knight, Wolverhampton; Messrs. Spooner and Sons, Hounslow, for fruit.

Silver Gilt.—Mr. Charles Turner, Slough; Messrs. Whitelegge and Page, Chislehurst.

Silver.—Mr. J. B Riding, Chingford.

GENERAL VIEW OF MESSRS. DICKSON AND ROBINSON'S EXHIBITION OF VEGETABLES.

Vegetable Show at Manchester.

Encouraged by the success of their onion show of last year, Messrs. Dickson and Robinson, of Manchester, this year not only renewed the valuable cash prizes for four bulbs of the Premier onion, but added prizes for other of their vegetables. The show was held in their large farm seed warehouse, Robert Street, Cheetham, Manchester. It proved highly successful in every respect, over 400 exhibits being staged.

For the onion prizes there were 81 entries, a number slightly less than last year, but more than compensated for by the exceptional quality of the exhibits. The first prize, for four bulbs of Premier, went to Mr. Tysoe, The Lodge Gardens, Bedford, who had beautiful, finely-finished, uniform and altogether excellent bulbs; their weight was 7lb. 10oz. Mr. Hester, Inwood Gardens, Templecombe, came second with four very large bulbs, weight 9lb. ½oz. Mr. Folkes, Gaddesden Place, Hemel Hempstead, was third with a nicely-finished four; the weight being 8lb. 1½oz. Mr. Avery, Loudwater House, fourth; and Mr. Johnson, Duffield House Gardens, fifth.

Five prizes were offered for one bunch of Messrs. Dickson and Robinson's Moneymaker tomato, and there were 23 entries, the first prize going to Mr. Caterer, Dunorlan Gardens, Tunbridge Wells, with a bunch of 24 fruits, 21 of which were ripened, very uniform and good. Mr. W. Cox, Oakfield Gardens, Wembdon, was second, and Mr. Charles Parker, Waverton, third.

For twenty-five pods of Exhibition scarlet runner 34 entered, Mr. Tysoe carrying off the first prize, and Mr. W. Cox the second. There were three other awards. Most of these entries were of a high order. For six roots of Market Favourite beet there were 35 entries and five prizes. The competition was keen. Mr. Barnes, of Bearwood Gardens, was first, and Mr. W. Folkes second.

The prizes for three heads of Messrs. Dickson and Robinson's Snowdon cauliflower brought 17 entries. Mr. W. Folkes was first, and Mr. Beckett second. The exhibits were generally very good. Eighteen entered in the class for three heads of the firm's Sugar Loaf cabbage, the first of the six prizes going to Mr. Johnson, Hall Barns, and the second to Mr. Adams, Lilleshall Gardens. The class for six roots of Messrs. Dickson and Robinson's Perfection carrot contained 37 entries, and Mr. Griffiths, The Glen Gardens, Haverfordwest, was an easy first with a very refined and shapely six; Mr. Tysoe second. For six roots of Matchless carrot there were 24 entries. Mr. Tysoe was first, Mr. Parry, Wellesbourne Hall Gardens, being a close second.

In the class for three sticks of Messrs. Dickson and Robinson's Prize Pink celery 18 entered, and Mr. E. Beckett was first with three magnificent sticks; Mr. Cole, Althorp Gardens, was a good second. The contest for six plants of Exhibition leek was very keen, there being 19 entries. Mr. Tysoe was first, and Mr. Barker a very close second.

For the prizes for six roots of Selected Manchester Market turnip the entries were numerous. Mr. Cooke, Kingston Hall Gardens, was first with a beautiful six; Mr. R. Walker, second, with six bulbs inclined to be flat, but otherwise excellent. The competition in the class for six roots of the firm's Selected Hollow Crown parsnip was very spirited, there being 33 entries. Mr. Cole was first with six which, in spite of the general excellence, were markedly superior; Mr. Tysoe came second, and Mr. Parry, Wellesbourne Hall Gardens, third.

In the classes for Hercules and The Gladstone peas there were 15 and 28 entries respectively. Mr. Guy, Halsall House Gardens, was first; and Mr. Kimber, Shenley, second, for Hercules; and Mr. Cooke, Kingston Hall Gardens, easily first, and Mr. Kimber second for The Gladstone. Hercules is a distinctive and fine pea. It is well filled, of excellent flavour, a heavy cropper, and the pods contain on the average ten peas each.

Mr. Hester, Inwood Gardens, sent a bulb of Premier onion weighing 3lb. 5oz., and measuring in circumference 22in.

Messrs. Dickson and Robinson are to be congratulated on the adoption of this show as an annual event. It has advantages quite apart from demonstrating the potentialities and possibilities of their strains of vegetables. A competition that includes the principal and most skilful exhibitors in the country, and is so numerically strong, is bound to set up and maintain a very high standard for each type of vegetable. In another direction it does much to encourage allotment holders, who are not only extremely enthusiastic, but possessed of considerable knowledge and judgment. In Manchester they are in big numbers. A show such as this must prove a healthy stimulus to their cultural achievements, and induce them to become well acquainted with the finest types.

Messrs. Dickson and Robinson arranged a fine display of flowers, comprising splendid cactus, single, and pompon-cactus dahlia blooms, sweet peas, scabious, etc., all grown within ten miles of the Manchester Town Hall. One hears much of the unfavourable atmospheric and other conditions prevailing in this active Northern city, and the display was of much interest as an example of what it is possible to do even in such a district.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, September 13.

Present: Prof. G. S. Boulger, F.L.S. (in the chair), Messrs. J. T. Bennett-Poë, A. Worsley, W. Hales, and F. J. Chittenden (hon. secretary).

FRUIT OF HIPPEASTRUM CALYPTRATUM.—Mr. Worsley showed a mature fruit of Hippeastrum calyptratum, drawing attention to the membranous ring which, attached to the style and the top of the ovary, is separable at maturity intact, and to the deep lobing of the fruit at the base, which is not shown in published figures, these having apparently been prepared from immature fruits.

PLANTAGO MEDIA BRACTEATA.—Messrs. Barr sent an excellent specimen of this plant, in which the bracts are enlarged and form a dense rosette of closely-packed and evidently spirally-arranged ovate green leaves at the apex of the peduncle. The axis elongates but very slightly as it gets older.

MAIZE INFLORESCENCES.—Mr. A. Turner, of Chelmsford, sent staminate inflorescences of maize, in which some of the flowers had been replaced by pistillate ones and branching cobs, some of the branches of which bore staminate instead of pistillate flowers.

FASCIATION IN VEGETABLE MARROW.—Mr. W. H. Mastin, of Haslemere, sent a remarkable example of a fasciated stem of the vegetable marrow, about 4-5 inches broad, the whole being about 30ft. long. Fasciation is frequent in marrows, but not often so marked as in the present case.

REVERSION IN RADISHES.—The Rev. Professor Henslow, V.M.H., sent the following communication: Pliny tells us that the Greeks discovered how to turn the rape into the turnip by sowing the seed in a very heavy soil. M. Languet de Sivny found that the seeds of short-rooted carrots, when sown in the alluvial deposits in France, yielded immediately in the first generation long-rooted plants. M. Carriere found that seeds of the wild radish (Raphanus raphanistrum) gave a majority of long roots in the light soil near Paris, but turnip forms in a heavy soil of South of France. I sowed the seed of the turnip-radish in a prepared, very light soil; of 30 plants 20 were long-rooted, and ten produced the normal forms, thus corroborating M. L. de Sivny's experience. The point to notice is that as the turnip and long-rooted radish come true, as a rule, from seed, as well as the short and long carrots, etc. We have here distinct varieties with hereditary characters, originating solely from the "direct action" of stiff or light soils, illustrating Darwin's contention that varieties arise "without the aid of selection."

THE INFLUENCE OF STARVATION ON SEX.—Professor Henslow also wrote as follows: It is well known that the male flowers of monœcious trees, as oaks, are generally on the more slender shoots than the females. So, too, in diœcious herbs the females are, as a rule, on stronger plants than the males. The following experience illustrates both these facts. Finding Mercusiolis amina to be an abundant weed in the allotment grounds at Hythe, I collected some seed and sowed it very thickly in two small 3½ inch pots. In one, of a total of 25 seedlings, 16 were male and nine female. In the other there were 64 plants, of these 39 were male and ten female, the remainder were too starved to produce flowers at all. The 55 males, therefore, were 74 per cent., and the females only 26. None of the plants were above four inches in height, but the females were decidedly stouter than the more slender males.

HYBRID PRIMULA. — Messrs. James Veitch sent a plant of Primula japonica x P. Bulleyana, which they had named P. x Briscoli. The habit of the plant, which was of vigorous growth, was that of P. japonica, but the scape, etc., were pulverulent, and the flowers were in colour and form more like those of P. pulverulenta.

National Chrysanthemum Society.

At the meeting of the Floral Committee held at Essex Hall on Monday, September 19, there was a good display of early chrysanthemums, and the meeting was specially notable for the presence of numerous varieties of a quite new race of very beautiful early chrysanthemums, from Uxbridge. Every flower was of large size, approaching in beauty and richness of colouring many of the Japanese varieties seen at the November exhibitions. All had been grown out of doors, and were disbudded. Whatever their value as border plants may be we do not know; but their value as splendid cut flowers for the market was unquestionable. We understand that in some instances the name of the variety has been registered under the Trades Marks Act, for the purpose of protecting the raisers.

Messrs. W. Wells and Co. brought up an interesting lot of early chrysanthemums, and among his single varieties the best were Richard W. Newton, and W. A. Cull; of larger, double varieties, the best were Helena, Patricia, a fine silvery-pink, Border Beauty, reminiscent of Harvest Home, and Verona, light bronze. A dozen and a-half bunches of early chrysanthemums, largely single varieties, were submitted by Mr. H. Woolman, Shirley, Birmingham, among the latter we were attracted by H. W. Bills, Shirley Pride, John Woolman, Miss R. S. Shepheard, cream, pink tipped; and Shirley Pioneer, crimson and yellow.

Particularly fine were the grand flowers, six inches and more across,which were shown by Mr. W. Roots, Holly Cottage, Cranford; the varieties were Cranford Pink, Hollicot Bronze, Hollicot Yellow, Pink Beauty, and Hollicot White; these were all magnificent, especially for September flowering, and from the open ground. Equally fine were the superb flowers of Dolores, Almirante, and El Draco, shown by Messrs. Lowe and Shawyer, Uxbridge, and to each of which an F.C.C. was awarded; El Draco, rich amber, is a magnificent flower in size and form, measuring seven or eight inches across; while Almirante is a brilliant chestnut-crimson.

The Executive Committee of this society held a meeting on September 19 at Carr's Restaurant, Strand, when Mr. Thomas Bevan occupied the chair.

After the minutes and correspondence had been disposed of, the Secretary drew attention to the great Horticultural Show of 1912, and it was agreed that prizes should be offered for chrysanthemums. The interim financial statement was read by the Secretary, showing a working balance in hand. It was also announced that the Floral Committee had again elected Mr. D. B. Crane as chairman. The Brussels Exhibition scheme was then brought forward, and it appears that, owing to the unfortunate fire in the Belgian and British Sections, the building reserved for the flower shows has been put to other uses, and therefore no official autumn show will be held, and the projected display on the part of the N.C.S. must fall through.

The International Autumn Show in Paris promises to be a most attractive one, and Sir Albert Rollit and Mr. Harman Payne have been appointed members of the jury. Other members are hoping to make up a party, and the foreign secretary will be pleased to furnish details of what promises to be a very enjoyable gathering. The show and Chrysanthemum Congress will open on November 4. It was resolved that the annual dinner be held as usual at the Holborn Restaurant about November 28 or 29. The N.C.S. Conference will take place on December 5.

East Anglian Horticultural Society.

There was a good attendance at the September meeting of this society. Mr. L. Smith, Shotesham Park Gardens, was in the chair, and after some preliminary matters had been disposed of, Mr. H. Goude, lecturer to the Norfolk County Council, gave a most interesting discourse upon the subject of "Pruning." He dealt mainly with the apple, but pears, plums, peaches, and vines were included in the scope of his remarks. In his travels he had found that the subject in its proper application was very little understood. He clearly defined how best to make a tree of any trained style from a baby plant. In cutting large branches off trees the cut should be made quite close to the main trunk and tarred over to prevent the ingress of germs of fungi. Root pruning, outside a private establishment, was hardly ever carried out. When one saw trees flourishing luxuriantly, yet with no crop, it was wonderful what results root pruning had upon such trees. The main principles were always to keep the branches well open to admit air and sunlight to ripen the wood, and promote fruit buds; leave the leading growth at the summer pruning, and whenever a tree was growing too well, without fruiting, to judiciously prune the roots.

Mr. L. Smith, Mr. J. Forder, Mr. J. Powley, and others added some useful remarks during the discussion which followed. The society decided to again enter for the fruit competition at the R.H.S., which is open to affiliated societies. Mr. F. Williams, gardener to Mr. Louis Tillett, exhibited a good cypripedium in the monthly competition classes, which throughout were keenly contested and very interesting.

OBITUARY.

Mr. Thomas Milne.

There died last week, in Aberdeen, at the ripe age of 87, Mr. Thomas Milne, nurseryman and gardener, and one of Aberdeen's most esteemed citizens. Deceased was associated with the nursery business all his life, his father having been a nurseryman in the suburbs of Aberdeen. Mr. Milne at the outset of his career cultivated the lands of Glenburnie, which now form one of the best residential parts of the city, and he had also a considerable area of land in Rubislaw Den. All these lands are now occupied by houses, some of which may be considered old. Besides his activities in gardening, he also did a vast amount of forestry work. He planted the Hill of Nigg, adjacent to the City of Aberdeen, which now forms one of the most delightful scenes to be seen from the city. Mr. Milne also did extensive work of a similar kind in the Garioch District of Aberdeenshire. It was, however, as a market gardener that Mr. Milne was best known. In this line he did splendid and most commendable work. A man of the highest integrity, and conspicuous for his geniality of temperament and pleasant manners, Mr. Milne exercised a powerful influence for good in the sphere in which he moved. During his time he had through his hands a large number of lads, and these, now grown up and scattered all over the world, are the first to admit the great benefits they derived from Mr. Milne's advice and counsel, and the example of his sterling character and personal worth. The funeral took place at St. Peter's Cemetery, Aberdeen, on Friday, the 16th inst., and a large and representative attendance proved how highly respected Mr. Milne was by his friends and neighbours.

ROSES ON LONDON CLAY.

Roses, as everybody knows, delight in a strong soil of a heavy character, and herein lies the explanation of what is to many people very perplexing—namely, that roses can be grown to a high state of perfection in London, although many common garden plants refuse to grow. The soil in almost all quarters of the metropolitan area is a stiff yellow clay, and, although very difficult to work, this may be made an ideal soil for roses. The writer has this season had a remarkably fine show of roses in a garden within three miles of the General Post Office, and the whole system of cultivation has been deep digging and the incorporation of a liberal quantity of Wakeley's Hop Manure. There is nothing superior to this manure for use on heavy, unwieldy soils, and certainly roses find something in it of considerable value, judging by the vigour with which they grow after a dressing or mulching of Wakeley's. The value of this manure is by no means limited to roses as proved by the results of its use with other plants and useful crops.

A. J.

FORTHCOMING ENGAGEMENTS.

SATURDAY, September 24.—Brussels Market Garden Exhibition; four days.

TUESDAY, September 27.—Royal Horticultural Society; Committees meet at 12 o'clock; lecture at 3 p.m. on "South America in its Relation to Horticulture," by Mr. Arthur W. Hill; Scientific Committee at 4 o'clock.

WEDNESDAY, September 28.—National Vegetable Society's Exhibition at Royal Horticultural Hall.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention correspondents are requested to distinctly mark the paragraph.

MANURING GROUND. — G. W. H. J., Sutton: If the ground has been well worked and manured previously, then the special manure you mention should prove both economical and useful for a dressing this autumn; but, unless the ground is in fairly good condition, a heavy dressing of light stable manure will be best.

DOUBLE RAMANAS ROSE.—A. L., Malton: There are two double, or rather, semi-double, white Ramanas or rugosa roses, and these are Blanc Double de Coubert and Mdme. Georges Bruant; both are vigorous growers and very free-flowering, but Blanc Double de Coubert is, in our opinion, the better of the two, and is probably the best of all rugosa roses. It has large, pure white, semi-double flowers. Nova Zembla, sent out in 1906, is a white sport from Conrad Ferdinand Meyer, and is well spoken of, but we have no experience of it under cultivation.

YELLOW DISEASE IN ROSES.—A well-known correspondent writes from Wiltshire, under the nom de plume of "Enquirer," as follows: I should be extremely grateful if you could tell me the cause and treatment of the following trouble in roses: I almost said it could be called the "yellow peril." Yes, it is in this particular district. At any rate, for the sake of a name I call it "the yellows." The mild form is a yellowing of the foliage (lack of chlorophyll, it looks like). In a worse form the foliage becomes quite yellow. In both these forms the plants go on growing just as if they were quite healthy, but the blooms have not their true colour. In the worst form the leaves change from yellow to white, and some of the leaves get brown (? scorched by the sun), and the plant slowly dies. It is more noticeable in the early summer, and many of the plants seem to grow out of it, more or less, the younger leaves and shoots getting greener as they grow, and sometimes the older yellow leaves improve, but, as a rule, a plant once affected never gets rid of the trouble altogether. I have marked plants, and find it recurs each year, more or less. Sometimes it affects only half the plant, perhaps only one shoot, or even one branch from a shoot, the rest of the plant being fairly healthy. In other gardens than my own I only see it bad where the subsoil is chalk like mine. However, I have always been able to find it slightly in every garden I have been into in this neighbourhood. My own rose garden has, perhaps, fifteen different kinds of soil in it. At any rate, within the last eighteen years, I must have had top spit from quite fifteen different places, and I might say it has occured in plants in all these soils. In some places the hole has been "made" to the depth of 3ft. and the bottom spit chalk removed. It occurs in beds artificially drained or not; I notice no difference. It attacks H.P.'s mostly, H.T.'s rather less, and T.'s much less. I have seen it in gardens where no manure at all has been used, and, also where plenty has been incorporated with all spits. It occurs in all situations, as to exposure to winds. Last year a well-known gardening expert said he would see if he could help me if I sent him some shoots. I did so, and he sent them on to an authority, who, in his turn, sent them on to, perhaps, the best-known living authority on plant diseases. They all three said: "Too much humic acid," and recommended ground lime, 4oz. to square yard in spring. In my own case this "seemed" quite right. I had already tried lime, but did so again this spring, and find no difference. I have been studying this disease for over ten years. I am always thinking about it, and trying to puzzle it out, but it is getting on my nerves, as it beats me. I have tried at various times as a top-dressing lime, gypsum, chalk, sulphate of iron, soot, charcoal, water in which green leaves have been boiled, copious plain warm waterings, liquid manure, artificials, mulching with manure, and renewing top soil. This season, in the holes and bed already prepared, and in all the other holes to be made, I am using "Vaporite," my last resource, I think. My own rather diffident opinion is that it is something that disagrees with the rootlets, and that is why the disease is so patchy in some plants, only the roots supplying one particular part of the plant being affected. I took about a dozen affected shoots up to the N.R.S. Show at Salisbury, and showed them to many of the most prominent exhibitors, both nurserymen and amateurs. They only laughed, and said I had given the roses something to disagree with them. They do not suffer from it evidently, or they would not treat the matter so lightly. About here it is the curse of rose-growers, and many have given up trying to grow roses to any extent on this account. Personally, I think the N.R.S. would be doing very good work, which would benefit hundreds of people, if they took the matter up, and got at the root of the complaint, and found a remedy for the same. I hope, at any rate, you will do your very best to help us in this district.

[Have any of our readers any experience of this disease? If so, we shall be glad to hear from them.—ED.]

WINTER-FLOWERING PLANTS.—C. R., Mapperley: You could take up the culture of winter-flowering begonias, and find this class of plants both interesting and beautiful. Primulas, both florist's and stellate forms, provide another useful and bright-flowering group of winter bloomers. Cypripediums, especially the varieties of C. insigne, C. Leeanum, and the hybrids descended from these and allied species are also delightful for winter-flowering, and they last a very long time. Either of these could be managed in your structure. We are not very clear as to your needs; please write us again.

DISEASED CELERY.—W., Devon: The celery sent shows a very bad infection of Cercospora apii, a fungus pest that sometimes spoils whole crops of celery. Pull up and burn all infected plants, as every piece of diseased leaf allowed to remain may propagate the disease next season. Prevention of attack is secured by spraying the young plants with ammoniacal carbonate of copper solution in their earlier stages of growth, following this up at intervals with the same solution or, at a later stage, with sulphide of potassium. It is practically impossible to do anything at this date in the way of spraying.

WHITE MARKS ON VIOLET LEAVES.—J. H. W., Kilmarnock: The violet leaves are small, and the plants seem to have suffered a severe check of some kind, and this has rendered them open to the attack of a fungus named Cercospora violæ, a pest that often attacks violets, especially those grown under glass. Spray the plants with weak Bordeaux mixture.

PRIMULA OBCONICA.—J. H. W., Kilmarnock: We find no traces of disease or insect pests on the foliage submitted. The trouble is due to some accidental error in culture, and is possibly the result of over-fumigation.

NAMES OF PLANTS.

B. S., Weybridge.—Aconitum volubile.

M. G., Tunbridge Wells.—Silene armeria.

S. R., Swindon.—Flower much bleached in the wet moss; probably Dendrobium dixanthum.

N. B. J., Warwick. — 1, Odontoglossum ardentissimum; 2, Pentstemon Hartwegi; 3, Tiarella cordifolia; 4, Senecio Jacobæa; 5, probably Ligustrum chinensis.

W. P. W., Galway.—1, Coleus, variety not recognised; 2, Sibthorpea europæa; 3, probably Davallia canariensis; 4, Veronica spicata; 5, Sidalcea rosea; 6, Helenium striatum.

MARKETS.

COVENT GARDEN.

Flowers.

Chrysanthemums, carnations, liliums, and dahlias are plentiful and meet a steady demand.

		s.	d.		s.	d.
Adiantum cuneatum ...	per doz. bun.	6	0	to	8	0
Asparagus	per bun.	1	0		1	6
Asters	per doz. bun.	1	6		3	0
Carnations	per doz. blms.	1	0		2	6
,, ...	per doz. bun.	6	0		8	6
Cattleyas	per doz.	12	0		14	0
Chrysanthemums	per doz. bun.	3	0		6	0
,, ...	per doz. blms.	1	6		3	0
Coreopsis	per doz. bun.	1	6		2	0
Cornflowers	per doz. bun.	1	0		2	0
Croton leaves	per bun.	1	0		2	6
Dahlias	per doz. bun.	2	6		4	0
French fern	per doz. bun.	0	6		0	9
Gaillardias	per doz. bun.	1	6		2	0
Gardenias	per doz.	1	6		2	0
Gladiolus	per doz. bun.	2	0		4	0
Lapagerias	per doz.	1	6		2	0
Lilium auratum	per bun.	1	6		2	6
,, speciosum	per bun.	0	6		1	6
,, longiflorum	per bun.	1	0		2	0
Lily of the Valley	per doz. bun.	5	0		9	0
Marguerites	per doz. bun.	1	6		2	0
Mignonette	per doz. bun.	1	0		2	0
Odontoglossums	per doz. blms.	2	0		3	0
Pelargoniums	per doz bun.	3	0		4	0
Roses	per doz.	0	6		2	0
Scabious	per doz. bun.	3	0		4	0
Smilax	per doz. trails	2	0		3	0
Statice	per doz. bun.	3	0		4	0
Stocks	per doz. bun.	2	0		3	0
Sweet Peas	per doz. bun.	1	0		2	6
Tuberoses	per doz.	0	3		0	5
Violets	per doz. bun.	2	0		3	0

Fruits.

Fruits are in fair supply and business is good.

		s.	d.		s.	d.
Apples, English	per bush.	3	0	to	20	0
Bananas	per bun.	3	6		12	0
Blackberries	per peck	2	0		3	0
Cranberries	per case	12	0		13	0
Damsons	per ½-sieve	2	0		4	0
Figs	per doz.	1	0		4	0
Grapes, English	per lb.	0	8		4	0
,, Guernsey	per lb.	0	6		1	0
,, Almeria	per barrel	9	0		10	0
Lemons	per case	10	0		30	0
Melons	each	0	8		3	0
Nectarines	per doz.	4	0		18	0
Oranges	per case	14	0		25	0
Peaches, English	per doz.	3	0		20	0
Pears, French	per crate	4	0		7	6
,, English	per bush.	4	0		8	0
,, Californian	per case	5	0		6	0
Pineapples	each	2	0		4	6
Plums	per ½-sieve	4	6		8	0

Vegetables.

There is an excellent all-round demand and prices are firm.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	0
Beans, Runner	per bush.	2	0		2	6
Beet	per bush.	2	0		2	6
Cabbages	per tally	2	0		4	6
Carrots	per doz. bun.	1	6		3	0
Cauliflowers	per doz.	1	6		3	0
Cucumbers	per flat	4	0		6	0
Endive	per doz.	1	0		2	0
Lettuce, Cos	per score	0	8		1	0
Marrows	per tally	2	0		5	0
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	7	6		12	0
Mustard and Cress	per doz. pun.	0	6		0	8
Peas	per bush.	3	6		4	6
Radishes	per doz bun.	0	4		0	10
Parsley	per ½-sieve	1	6		2	0
Spinach	per bush.	1	3		2	0
Tomatoes	per doz. lb.	3	0		3	6
,, Guernsey	per doz. lb.	2	6		3	0
Turnips	per doz. bun.	2	0		3	6
Watercress	per doz. bun.	0	3		0	6

CATALOGUES RECEIVED.

ROBT. SYDENHAM, LIM., BIRMINGHAM.—A descriptive bulb catalogue with the newer narcissi marked according to the new classification of the Royal Horticultural Society.

McHATTIE AND CO., NORTHGATE STREET, CHESTER.—Bulbous plants, seeds for autumn sowing, and sundries.

DOBBIE AND CO., EDINBURGH.—A list of bulbs, violas, sweet peas, roses, etc.

CHARLES TURNER, ROYAL NURSERIES, SLOUGH.—Descriptive list of auriculas, carnations, picotees, and pinks.

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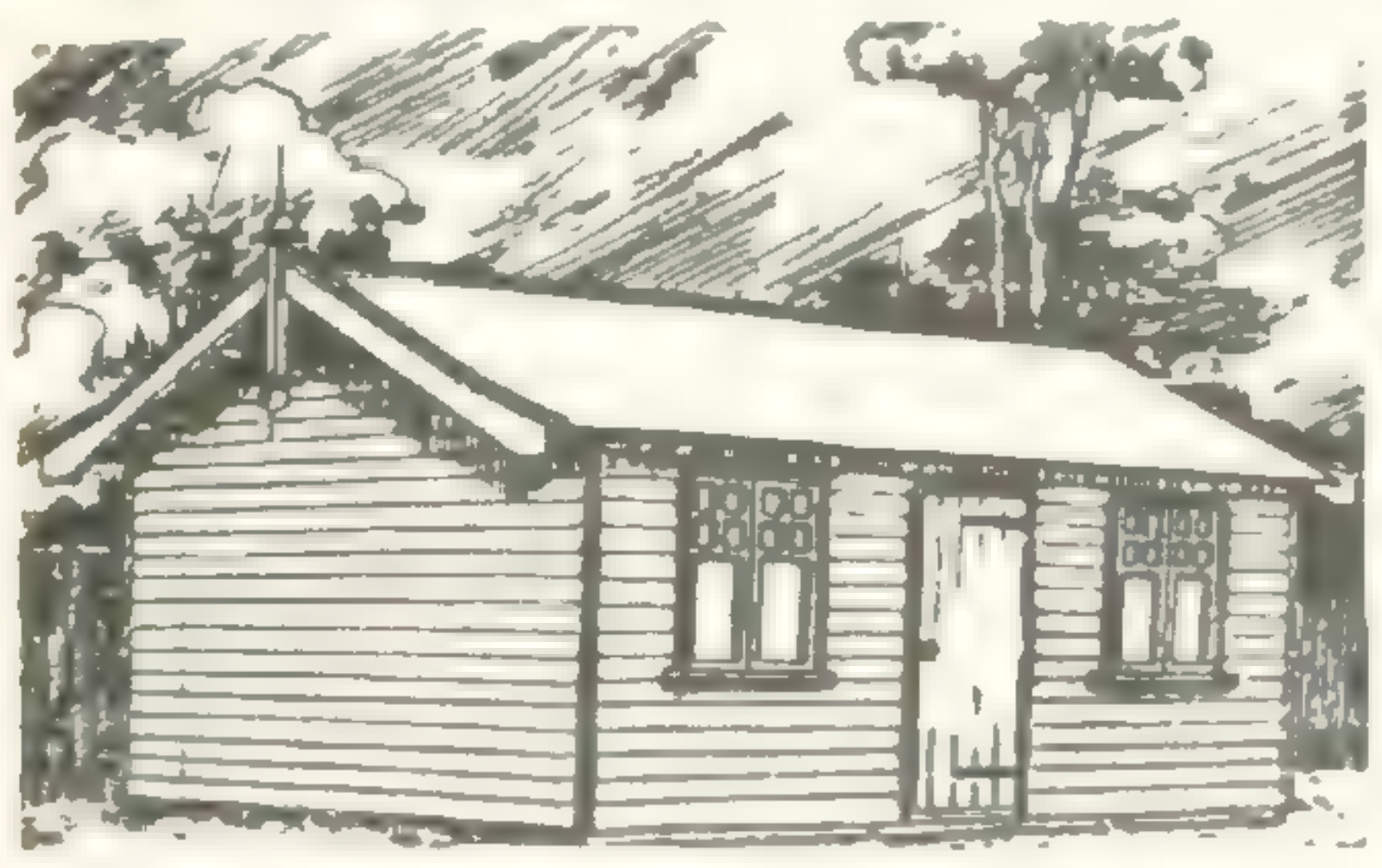

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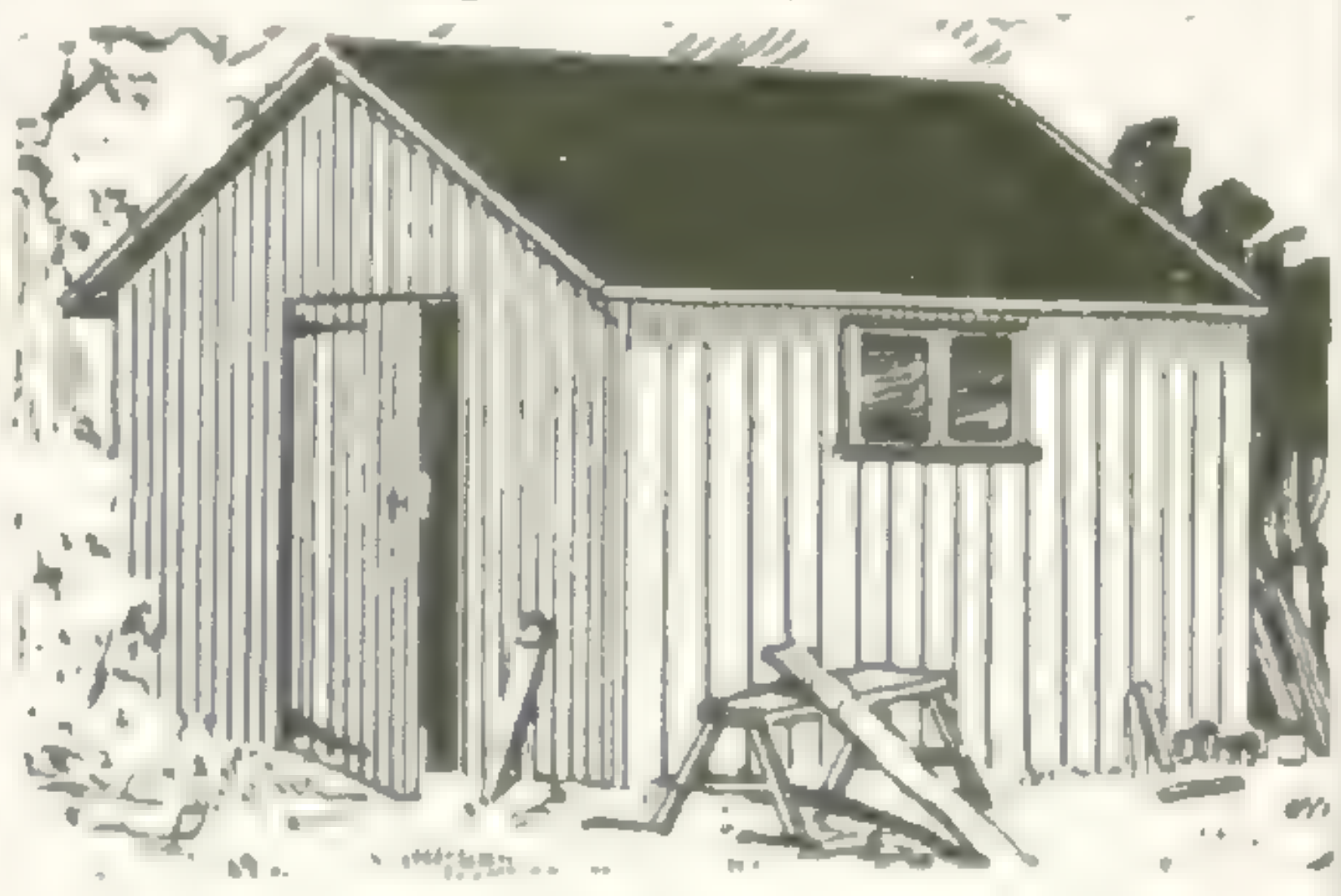

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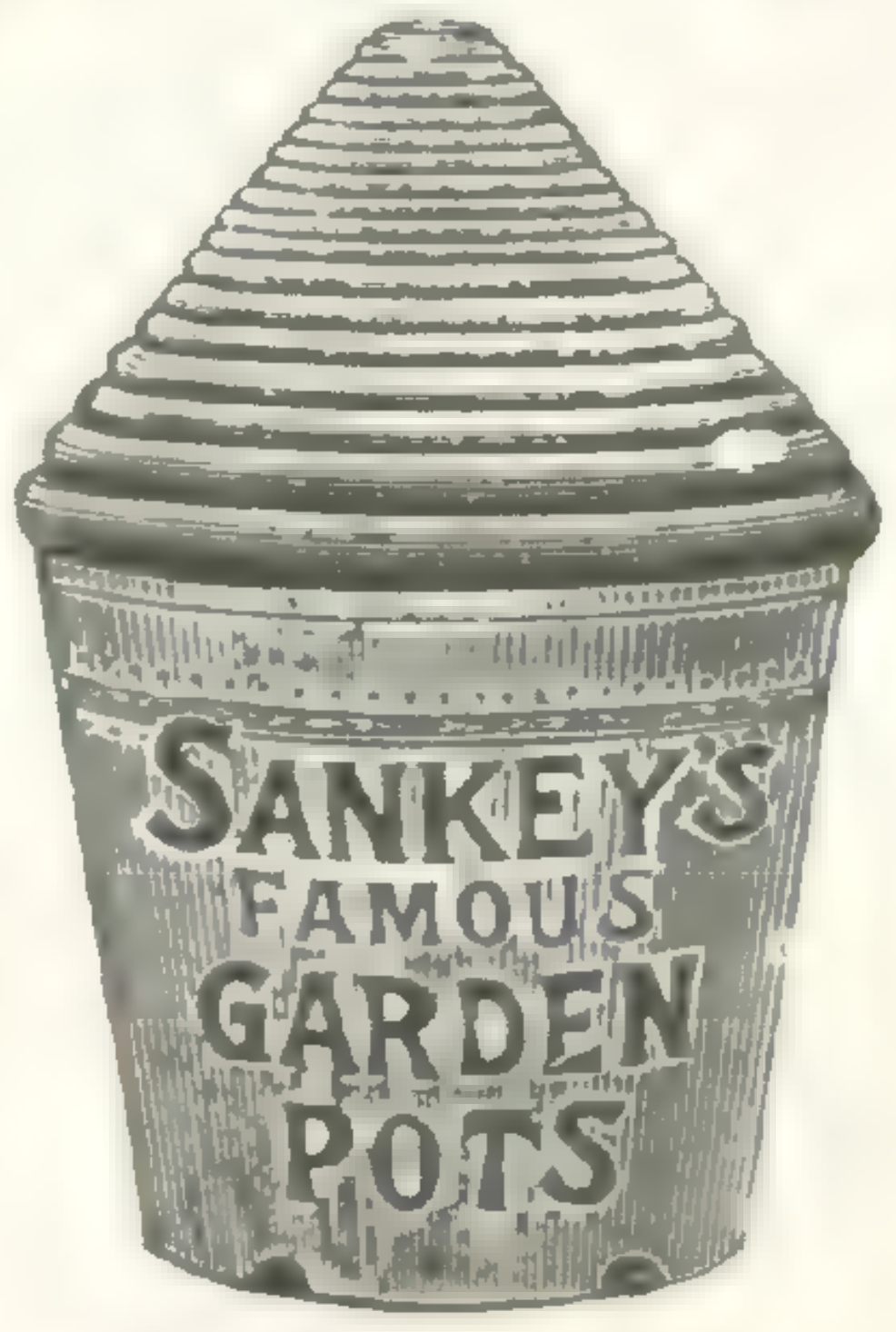

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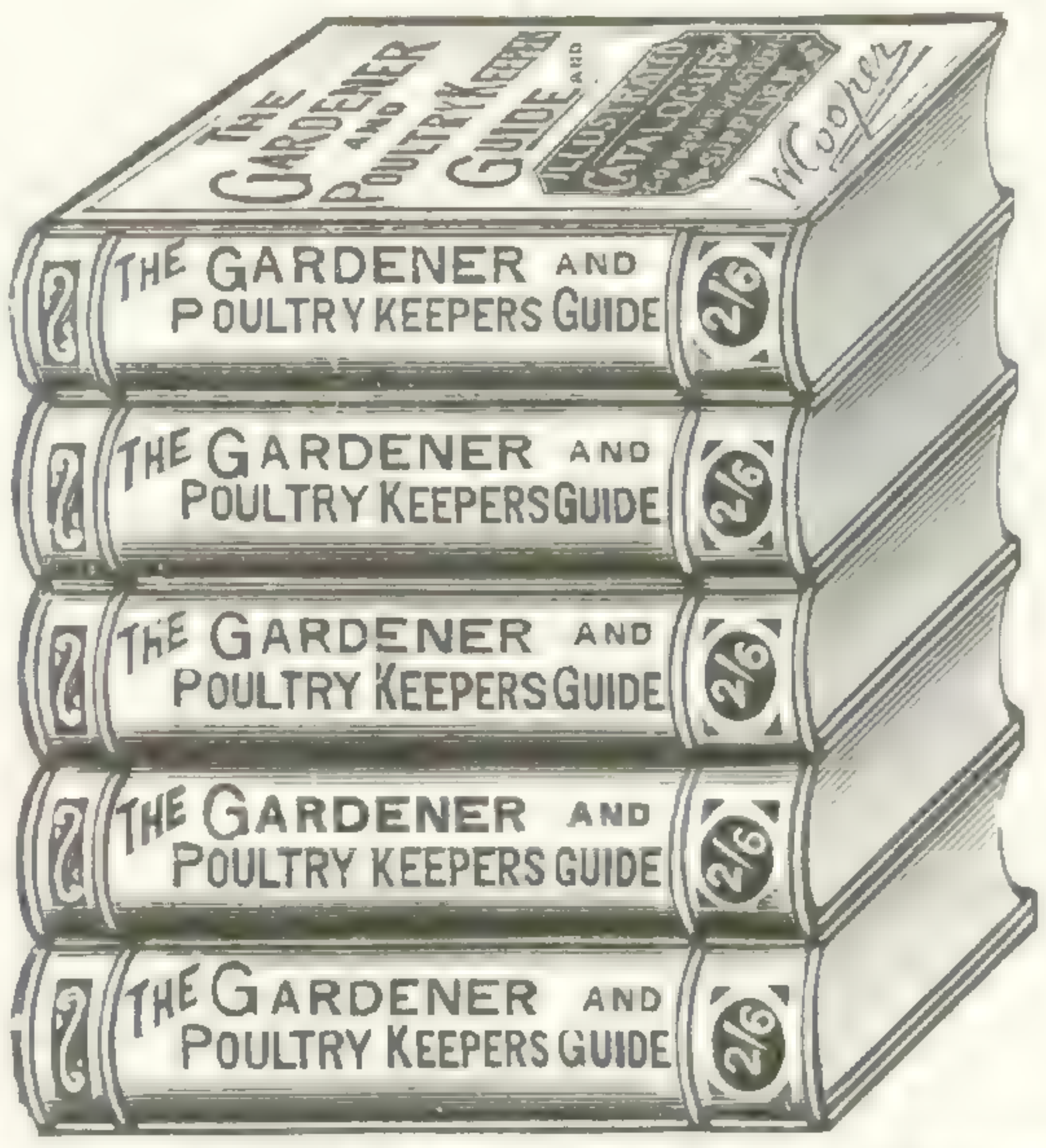

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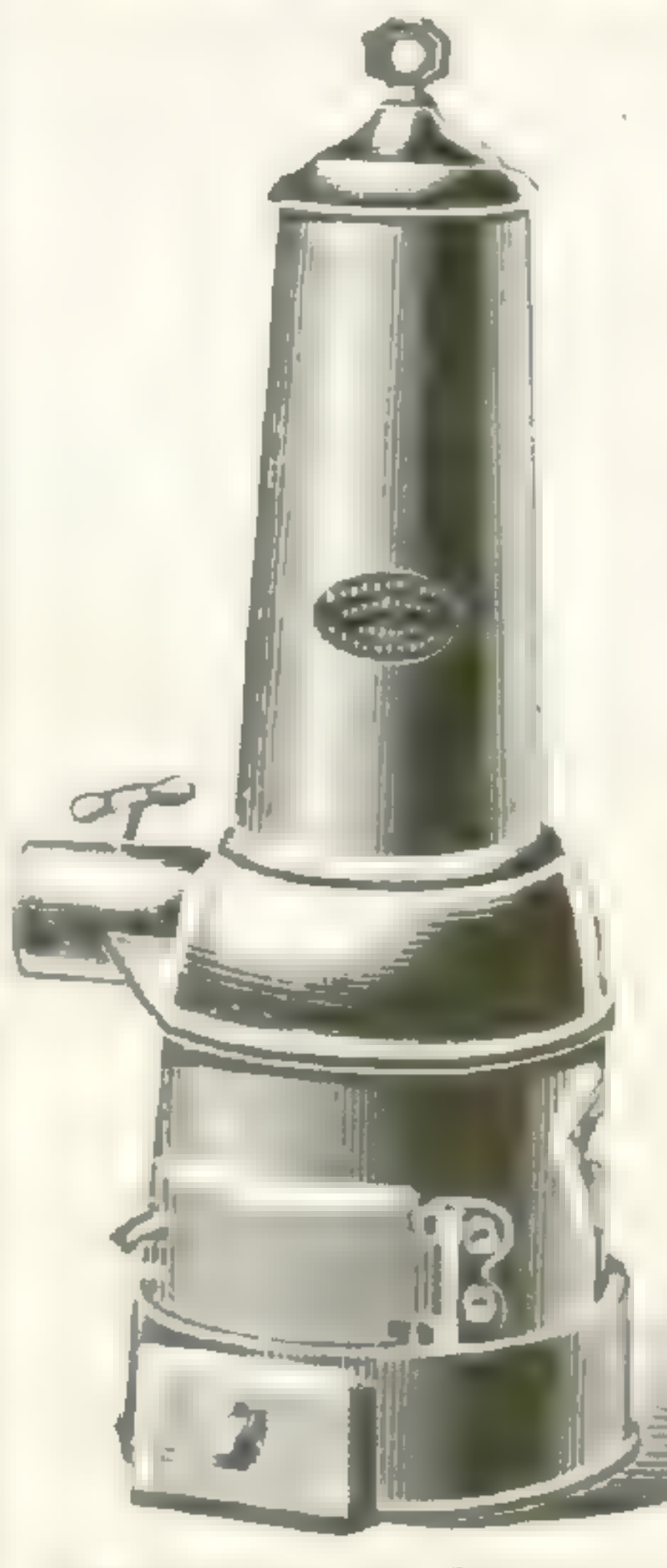

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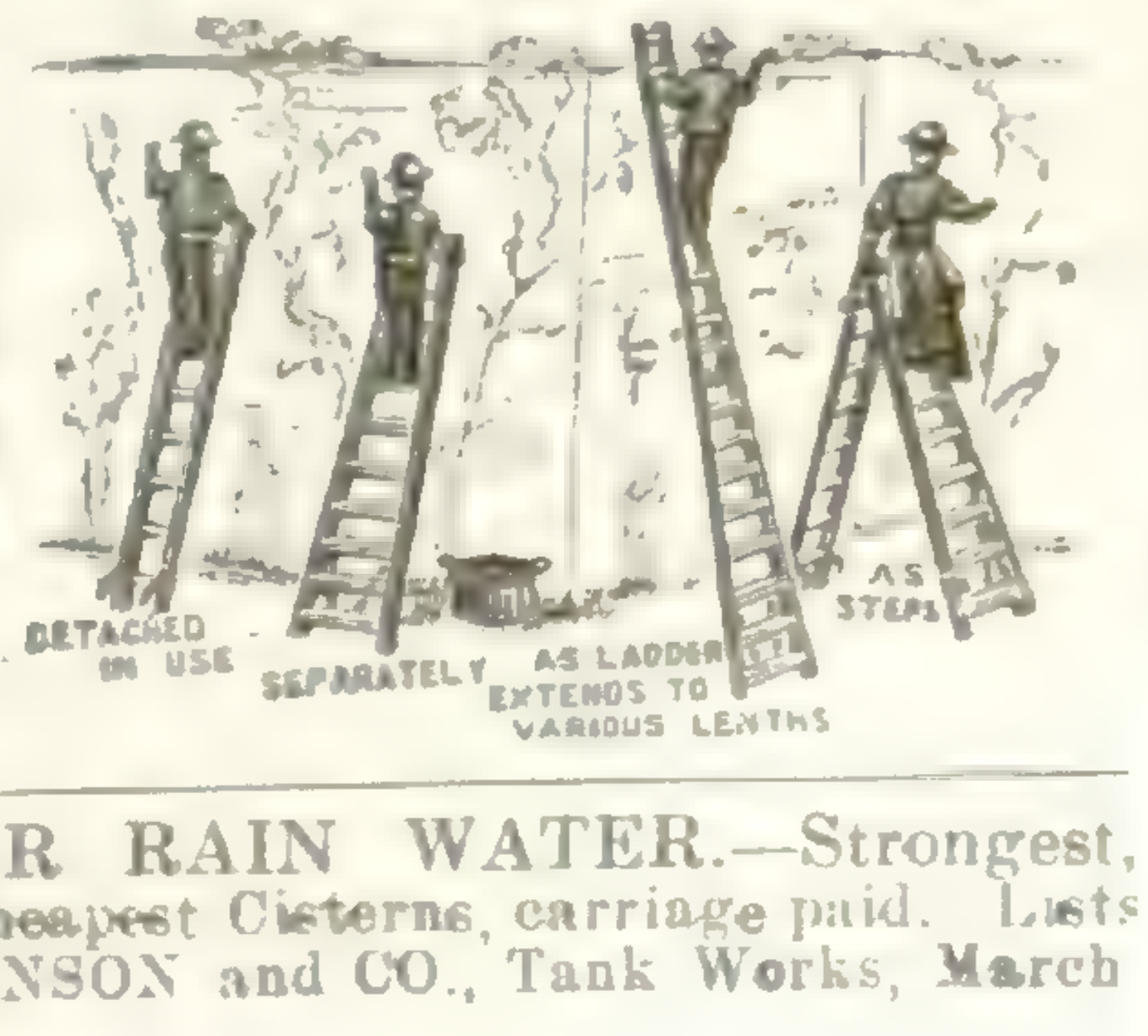

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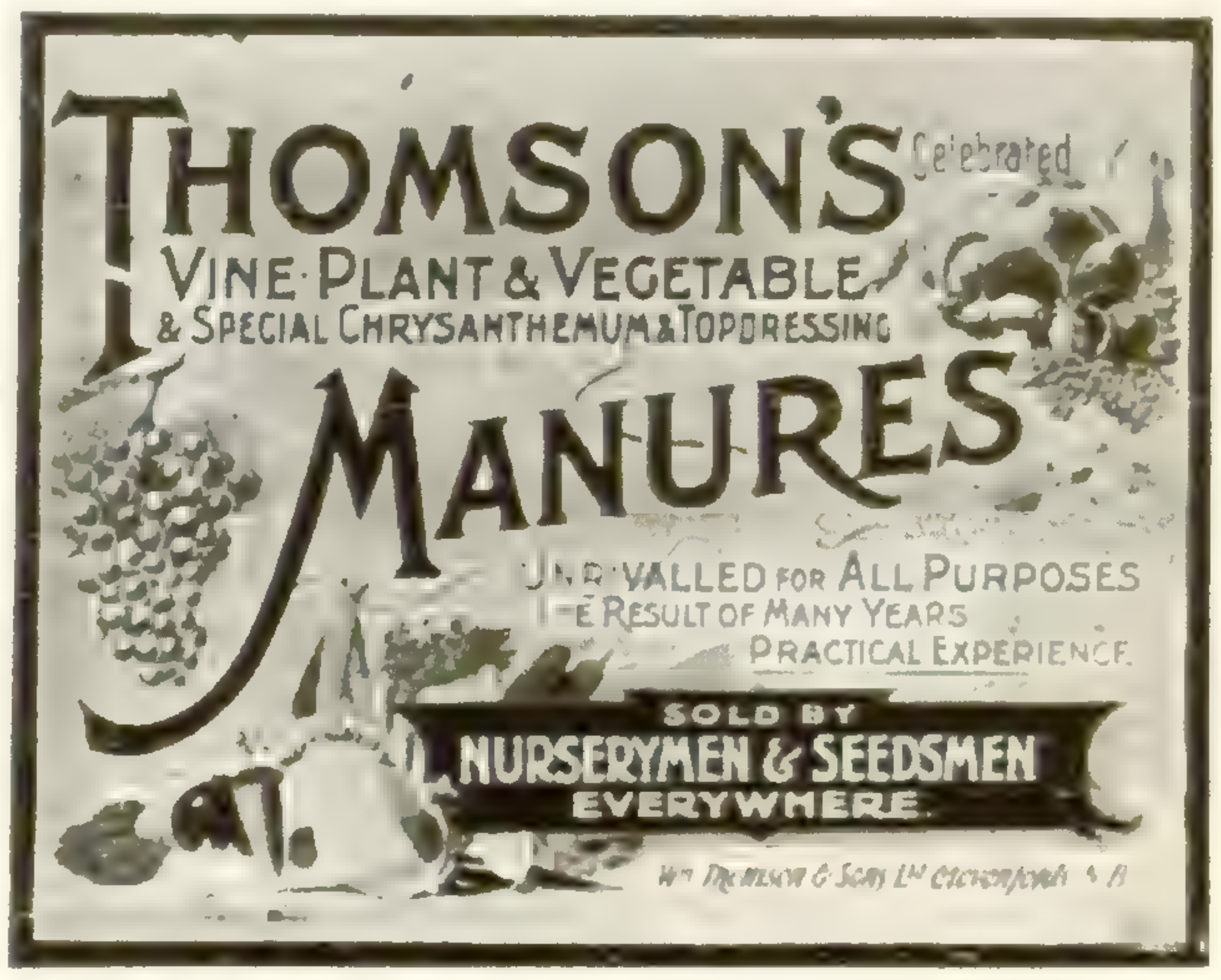

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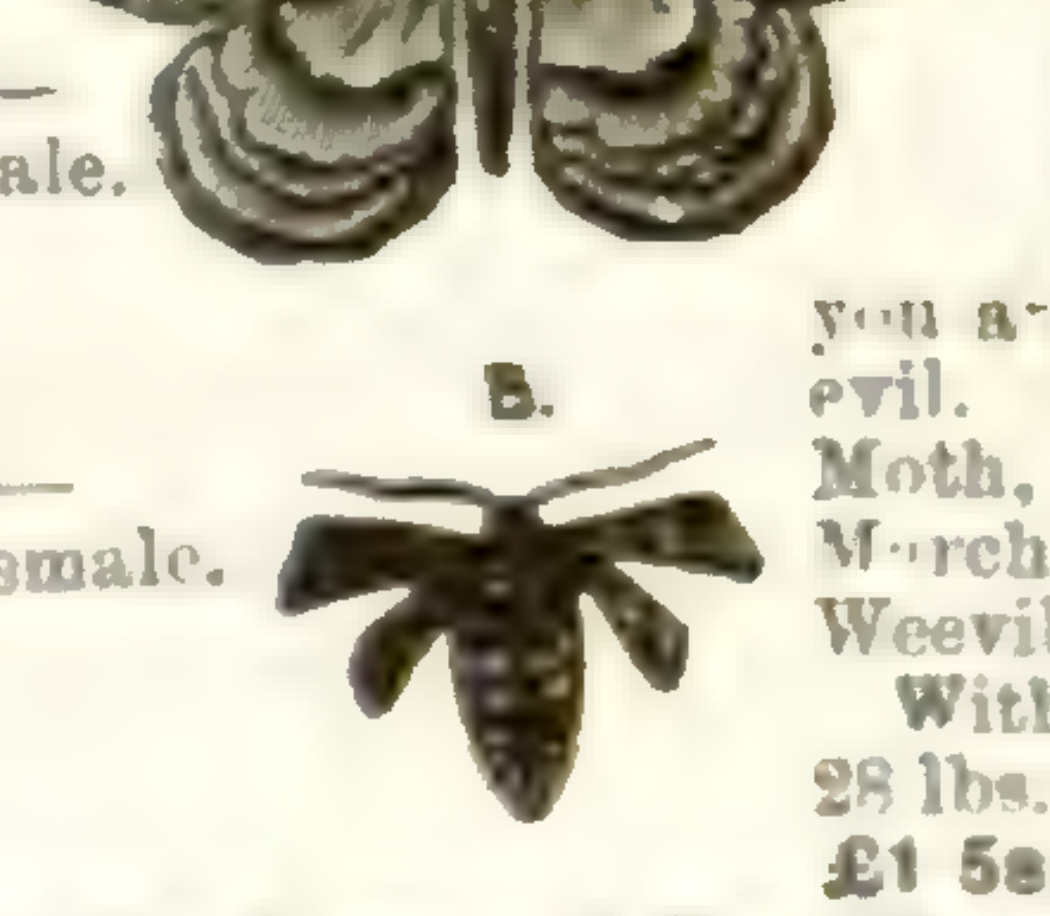
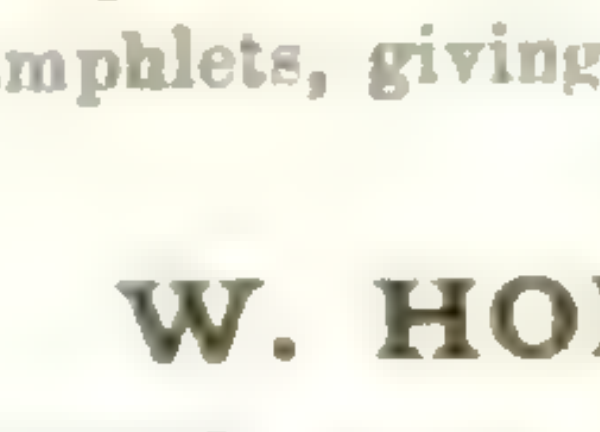


A—Male.



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DATE. 1910. SEPTEMBER 11 TO SEPTEMBER 17.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Sept. 11—Sunday	1 48	57	55	64	52
,, 12—Monday	3 18	55	52	64	49
,, 13—Tuesday......	10 0	54	49	63	41
,, 14—Wednesday..	—	52	51	56	47
,, 15—Thursday...	—	55	54	63	50
,, 16—Friday........	1 12	56	54	63	53
,, 17—Saturday.....	0 36	56	52	60	51
Means	(total) 16 54	55	52	62	49

DATE. 1910. SEPTEMBER 11 TO SEPTEMBER 17.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Sept. 11—Sunday	trace	58	57	58	49
,, 12—Monday	—	58	57	58	39
,, 13—Tuesday......	0.42	57	57	58	34
,, 14—Wednesday..	0.14	57	57	58	38
,, 15—Thursday....	0.01	57	57	58	47
,, 16—Friday........	trace	57	56	57	53
,, 17—Saturday....	—	57	57	57	50
Means ...	(total) 0.57	57	56	57	44

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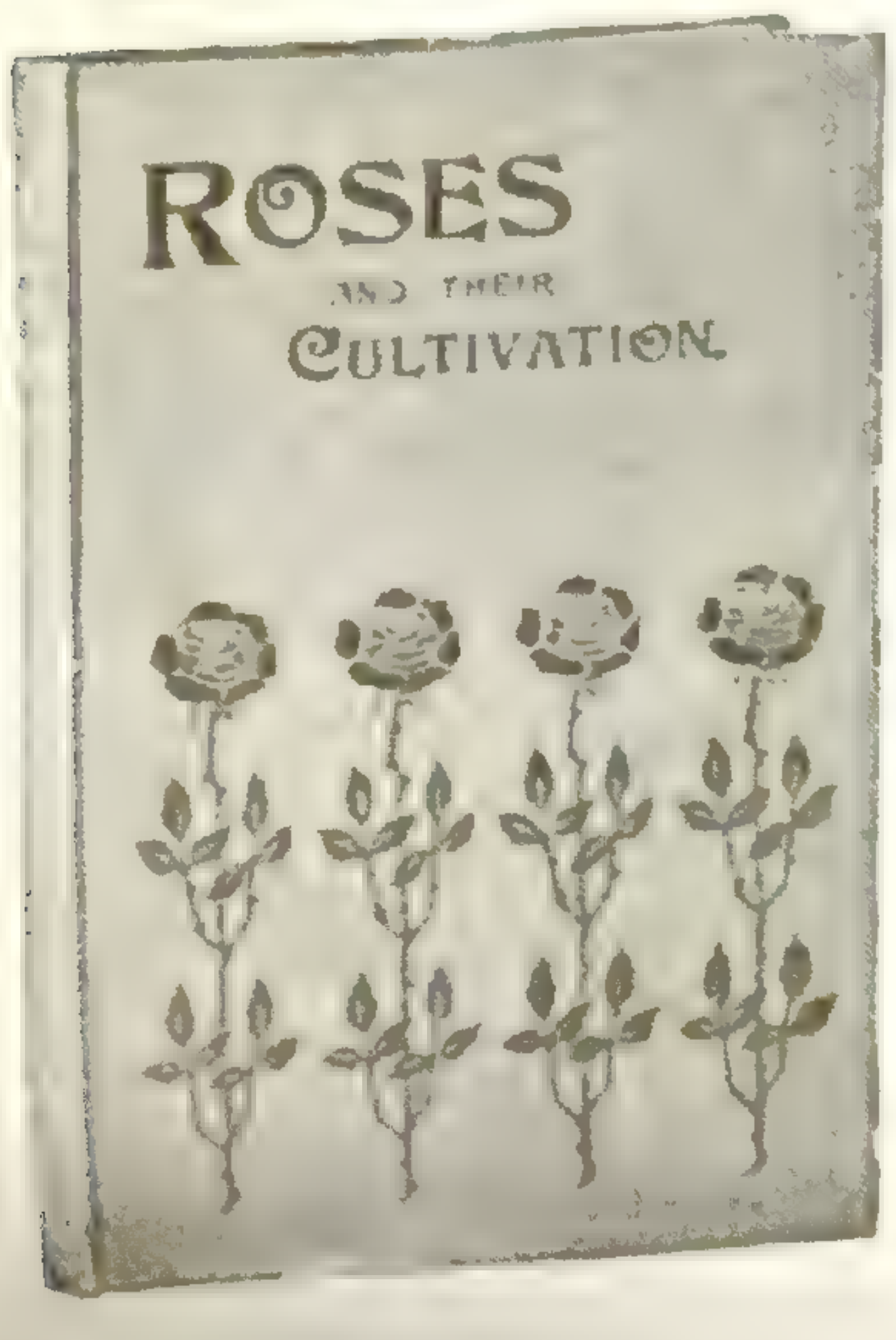

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Anemone, The Bride, pure white ...	1	2	10	0
Crocus, 1st size, in the finest mixture	1	2	10	0
Crocus, 2nd size, in the finest mixture	0	8	5	10
Scilla sibirica, rich blue	1	6	14	6
Iris, Spanish, mixed	0	6	4	6
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Narcis., single, in the finest mixture...	1	4	12	6
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Narcis., double, fine mixture	3	0	25	0
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CATALOGUES FREE.

WEDNESDAY AND FRIDAY NEXT.

WEDNESDAY NEXT, Oct. 5th, at One o'clock.
An importation received direct of
[illegible] Cases of JAPANESE LILIUMS in VARIETY, together with 22,500 Roman Hyacinths, 12,000 [illegible] and other Narcissus, 10,000 Tulips of [illegible], [illegible] Gladiolus in variety, 8,000 Paper White grandiflora, 25,000 Freesias, 2,000 Hyacinths, 1,000 Chionodoxa Luciliæ, 500 Arum Lilies, Bulbs from the Cape, etc.

At [illegible] o'clock.—100 Azaleas, Indica and Mollis, 100 [illegible] Standard and Pyramidal Bays, [illegible] and other Greenhouse plants.

FRIDAY NEXT, Oct. 7th, at a Quarter to One o'clock.—Cattleya Bowringiana, Odontoglossum hybrids, unflowered, Lælio-Cattleya Hybrids, Dendrobiums, Brocklehursti and Sanderæ, Cool, Intermediate, and Hothouse Orchids in variety, Eucharis [illegible] Orchids in flower and bud.

MESSRS. PROTHEROE and MORRIS will SELL the above BY AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C. On view mornings of sale and catalogues had.

[illegible] FRUIT TREES.

GREAT CLEARANCE SALE, comprising 10,000 Worcester Pearmain, Cox's Orange Pippin, Beauty of Bath, Lane's Prince Albert, Lord Grosvenor, Bramley's Seedling, and King of the Pippins, and [illegible] other APPLES in variety; [illegible] PEARS in sort, [illegible] PLUMS, [illegible] CHERRIES, all two, three, and four year Standard, Half-standard, and Bush Trees.

MESSRS. PROTHEROE and MORRIS will SELL the above, with other Nursery stock, at the famous ST. JOHN'S NURSERIES, WORCESTER, on TUESDAY NEXT, Oct. 4th, and [illegible] following days, at Half-past Eleven o'clock. By order of the Receiver, re R. Smith and Co., Ltd.

Catalogues may be had at the Nurseries; and of the Auctioneers, 67 and 68, Cheapside, London.

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MESSRS. PROTHEROE and MORRIS will SELL BY AUCTION, at the Nurseries, near Sunningdale Station, L. and S.W. Railway, on TUESDAY and WEDNESDAY NEXT, October 4th and 5th, at Half-past Twelve o'clock. May be viewed. Catalogues may be had on premises and of the Auctioneers, 67 and 68, Cheapside, E.C.

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CLEARANCE SALE of a portion of the stock, by order of the Receiver for the Debenture Holders of Messrs. T. Cripps and Son, Ltd., comprising large quantities of [illegible] CLIMBING ROSES in POTS, GHENT AZALEAS, STANDARD JAPANESE and other MAPLES, Cupressus, and Thujas, Yews, Rhododendrons, Aucubas, Laurels, Araucarias, Flowering Shrubs, Standard Ornamental Trees in variety, [illegible], [illegible] Dwarf Roses, Bush and [illegible] Apples, and large quantities of Herbaceous Plants.

MESSRS. PROTHEROE and MORRIS will SELL BY AUCTION, at the above Nurseries, on THURSDAY and FRIDAY NEXT, October 6th and 7th, at Half-past Eleven o'clock. Catalogues [illegible] of Messrs. [illegible], [illegible] Road, Tunbridge Wells; and of the Auctioneers, 67 and 68, Cheapside, London.

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MESSRS. PROTHEROE and MORRIS will SELL BY AUCTION, on Premises, as above (George Lane Station, G.E.R.), on WEDNESDAY, October 12th, and two following days, at Eleven o'clock. May be viewed; catalogues had on Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C.

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Flower of Fairfield, ever blooming Crimson Rambler.

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Bulbs: NARCISSUS, DAFFODILS, TULIPS, &c.

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100	Emperor	3/0
100	Empress	3/0
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100	Golden Spur	3/0
100	Horsfieldii	3/0
100	Victoria	3/0
100	Obvallaris	3/0
100	Grandis	3/0
100	Sir Watkin	3/0
100	Stella	1/6
100	Princeps	2/6
100	Ornatus	2/6
100	Double Daffs	4/0
100	Dbl. White Narcis.	2/6
100	Pheasant Eyes	2/6
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TULIPS

100	La Reine	3/0
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100	Chrysolora	3/0
100	D. de Parma	3/0
100	Keizerkroon	4/0
100	Golden Crown	3/0
100	Picotee	4/0
100	Bouton d'Or	3/0
100	Prince de Ligny	4/0
100	Duc Van Thol, sgl	4/0
100	,, ,, dbl.	3/0
100	King of Yellows	4/0
100	Mixed Tulips	1/6
100	Mixed Darwins	4/0
100	Darwins to name	10/6
100	Parrot Tulips to colour	2/6

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12—1/6	to name in colours ...... or	10/0
12—1/3	mxd in cols. or	9/0
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100	Iris, Spanish, to name	1/6
12	Iris, German do.	6/0
12	Iris, English do.	1/3
100	Anemones, Scarlet	4/3
100	,, The Bride	1/9
100	,, St. Brigid	5/0
100	Scilla Siberica	3/0
100	Freesia	3/0
100	Summer Snowflakes	5/0
12	Lilium Candidum	2/6
12	,, Crown Imperial	2/0
12	,, Auratums	7/6
12	,, Chalcedonicums	8/0
12	,, Croceums	4/0
12	,, Longiflorums	4/0
100	Snowdrops	1/6
100	Ixias, to cols.	2/0
100	Crocus, in cols.	1/3
100	Lily of Valley	2/6
100	Jonquils	4/6
100	Ranunculus	3/0
100	Montbretia	3/0
100	Aconites	3/0
100	Chionodoxa	2/6
100	Polyanthus Narcis	3/0
100	Alliums	3/0
12	Begonias, [illegible]	1/6
12	Violets, in sorts	1/6
12	Xmas Roses	4/0

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TULIPS ... ... 10/-, 15/-, 20/- per 1,000

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VOL. LIII.—No. 2,970. SATURDAY, OCTOBER 1, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

The National Vegetable Show.

Within the past three or four decades there has been a marked change in opinion with regard to the position vegetables should occupy in the economy of the garden, at the public exhibitions, and in the dietary of the community; and, happily, the change has been in a direction that should afford much gratification to those who are interested in horticulture. Some thirty or forty years ago, when plants from tropical regions were in the ascendant, and an immense amount of attention was devoted to tender summer bedders, many young gardeners regarded the acquisition in the course of their training of a knowledge of vegetables and their cultivation as a quite secondary matter. Some of these made strenuous endeavour to make good their deficiencies when they assumed the charge of gardens, and found how essential it was that they should be able to maintain liberal supplies of vegetables of high quality throughout the year, and usually succeeded. Others less able to quickly recognise the weak points in their training, and, it may be, less energetic, remained satisfied with the scant knowledge they possessed, and in many instances failed to attain to such a high position as they would otherwise have done. This having been the case, it is not surprising that vegetables should have been assigned an inferior position at the public exhibitions. At the great metropolitan exhibitions they were practically, if not wholly, unrepresented, and at the provincial shows, where encouragement was given them, they were usually presented in a manner that could certainly not be considered satisfactory. The tent set apart for vegetables was regarded by the general body of visitors as a place to be shunned, and the competitors had abundant opportunities for discussing the relative merits of varieties and points of practice, and it may be indulging in a criticism of the judging, without being jostled by visitors desirous of making a thorough inspection of the products in competition. Now, as indeed for some years past, very different views are held with regard to this all-important subject. The importance of a thorough acquaintance with all that relates to the kitchen garden and its management is fully recognised, and coincident with the improvement that has been effected in cultural methods has come a desire to present vegetables to public notice in the most tasteful manner, and in giving practical effect to this desire exhibitors have succeeded in making the vegetable tent one of the most attractive features of the exhibitions. No longer is it avoided by visitors, but it usually has its full quota, and we could mention a considerable number of exhibitions where, as at Leicester, for example, the tent is so crowded during the greater part of the day as to render it difficult to obtain a close view of the produce in competition. This largely increased interest in vegetables has given rise to a strong desire that they should have a society wholly devoted to them, and that the society should, in addition to carrying out such other work as might appear desirable, hold an annual exhibition of a truly national character. To found a society capable of successfully accomplishing such work, and place it in a sound position, is a very different matter to expressing a wish that it should be formed; and, having regard to the large amount of work it entails, there is no occasion for surprise that a society really national in its aims should not have been formed at an earlier date. It is always well there should be no undue haste in a matter of this kind, especially as unless there is a complete unanimity among the promoters on the main point a successful issue is highly problematical. It is most essential they should have a strong faith in the cause, for invariably when the preliminary steps have been taken in forming a society, whatever may be its object, there are not wanting those who are ready to express their opinion that the whole project is doomed to failure. They have not been wanting in this case, but the members of the executive being all of one mind as to the desirability of a national organisation, and possessing the courage of their opinions, they did not allow any discouragement they may have received to divert them from the course they had marked out. The course taken has been fully justified by events. The executive, with commendable prudence proceeded cautiously, and, instead of holding an exhibition last year, before their plans were fully matured, it commenced a series of trials that were likely to prove useful to the general body of cultivators, and these, as shown by the reports that we have published, were most successful. By this means the executive not only placed at the disposal of cultivators much valuable information on the selection of cabbages for spring supplies and onions for sowing in the autumn, but it made the society and the proposed scope of its work generally known. It is evident that the distinct and vigorous policy of the society has met with general approval, for the appeal made to the members of the seed trade for support in carrying out the exhibition met with a generous response, and members have been enrolled in large numbers. Not less satisfactory is the fact that cultivators contributed so freely of the products of their skill to the exhibition which was held at the Horticultural Hall on Wednesday, as to tax to the utmost capacity the build-

MR. GEORGE ELLWOOD.

ing and to form the largest and most important display of vegetables that has yet been produced in this or any other country. Our report deals so fully with the exhibition that there is no occasion for us to refer to it further than to say that the committee, of which Mr. A. Dean, V.M.H., is the chairman, may be heartily congratulated on the success achieved. The future of the society will of necessity be largely determined by those actively interested in vegetables, but as the committee consists of practical men, who fully appreciate their responsibilities, and have but one object in view, and that the encouragement of the extension and advancement of vegetable culture, there can be no doubt as to their receiving the heartiest support in carrying out the vigorous policy that has been so successfully initiated.

Mr. George Ellwood, whose portrait we have the pleasure of giving in this issue, may perhaps be best described as an "all-round" gardener, for the high condition in which all departments of the extensive gardens of Swanmore Park are maintained amply testify to his being fully acquainted with all branches of the gardening art. His great successes have been in the culture of the products of the kitchen garden, and his interest in them and his success as a cultivator he attributes in a large measure to the influence of Mr. E. Beckett, under whom he had the good fortune to serve in the various departments of the Aldenham House gardens. From Aldenham Mr. Ellwood went to Lockinge Park, and there also he had for his chief a past master in the art of fruit and vegetable culture. Here Mr. Ellwood remained five years, three as general foreman, and evidently took full advantage of the exceptional opportunities he had for the acquisition of knowledge. Mr. Ellwood left Lockinge Park to take charge of the gardens of Enbridge Lodge, Woolton Hill, Newbury, the residence of C. R. de la Salle, Esq., where orchids received special attention, seedlings of cypripediums, lælio-cattleyas, etc., being raised in large numbers, and considerable success achieved in the exhibition of groups of plants, vegetables, and other things. After a stay of four years, Mr. Ellwood was appointed to the charge of the gardens of Swanmore Park, the residence of W. H. Myers, Esq., who takes a keen interest in all that relates to his fine gardens, which for a period extending over nearly thirty years have enjoyed so high a degree of fame as to have become a household word throughout the United Kingdom. Stimulated by the encouragement of his generous employer, Mr. Ellwood has given increased attention to the exhibition of fruits and vegetables, and during the past eight years he has taken a large number of prizes at important exhibitions, such as those of Southampton, Portsmouth, Bournemouth, Winchester, and Reading.

Electricity and Plant Growth.—Sir Oliver Lodge, in discussing the effect of electricity on plants and crops, said he had been carrying out experiments in this connection, and had found that in bright weather it was not necessary to apply any electricity to the soil, but in dull weather, when positive electricity was applied, the experiment showed an increase in output of the soil of 30 per cent. It seemed to him the plants themselves had terminals which discharged electricity in bright sunshine, and it had been suggested that perhaps in applying electricity to the soil they were doing artificially what the sunshine was doing directly. Apparently there were elaborate chemical changes going on in the leaves themselves, but no doubt great assistance was being afforded to growth by the application of static electrification.

The Gardeners' Magazine Autumn Number.—We propose to devote the greater part of the space in our issue for October 22 to the discussion of matters of special import to those who contemplate planting hardy trees and shrubs either for floral or foliage effects, select fruit trees, small fruits, and choice subjects for the embellishment of the herbaceous border and other parts of the flower garden. The articles will be by recognised authorities on the several subjects, and the issue will be freely illustrated.

Study of the British Flora.—In reviewing the existing provisions for the study of the flora of the British Islands, Professor James W. H. Trail directed attention to the great need for a work on the British flora that would be worthy of the subject and the country. He also urged the importance of giving greater prominence to the study of plants in the field. He said that for a time the knowledge of plants was too much confined to the ability to name them according to the system in vogue and to a knowledge of their uses, real or imagined. The undue importance attached to this side of the study, even by so great a leader as Linnæus, naturally led to a reaction as the value of other aspects of botany came to be realised, and as improvements in the instruments and methods of research opened up new fields of study. The science had gained much by the reaction; but there was danger of swinging to the other extreme and of failing to recognise the need to become well acquainted with plants in their natural surroundings. The opportunities for study in the laboratory were so great and so much more under control, and the materials were so abundant and of so much interest, that there was for many botanists a temptation to regard work in the field as of little value. It was scarcely necessary to point out that each side was insufficient alone. The study of plants in the field was of much importance, and there were few paths more likely to prove attractive to most students. The study of the plants in their natural environments would lead to an understanding of their nature as living beings, of their relations to one another and to other environments, of the stimuli to which they responded, and of the struggle for existence that resulted in the survival of certain forms and the disappearance of others.

United Horticultural Benefit and Provident Society.—The annual dinner of this excellent friendly society will be held at the Waldorf Hotel, Aldwych, W.C., on Thursday, October 6, at 6 for 6.30 p.m. Mr. Edward Sherwood will preside, and he has very kindly undertaken the musical arrangements for the evening. It is hoped there will be a large attendance; the tickets are 5s. each, and may be had from the secretary, Mr. W. Collins, 9, Martindale Road, Balham.

Honey Harvest in Scotland.—The results this year from our busy little friends are not to be so good as the earlier summer months promised they would be. It is an old adage with bee-keepers that two bad seasons never follow in succession, but now they have had three bad seasons (1907 being disastrous) all following each other. The supply of clover honey this year has been fairly good, but very little was got from the fruit blossom. It is the heather season, however, concerning which fears are entertained. So far it has not been very productive, owing to the unfavourable weather experienced. The blossom is fully as rich as usual, but on some moors it is somewhat deficient, probably owing to the intense frosts experienced last winter. The tempestuous weather of the closing days of last month considerably damaged the heather bloom, and little can now be expected from it, while, should a nip of frost come, that would entirely shut off the flow of nectar. On Deeside the harvest is very fair. The same, however, cannot be said of the later and less congenial districts. The honey already harvested is of fairly good quality, and prices are ruling much about the same as those prevailing last year at this time.

Bees in Relation to Fruit Culture.—Canon Rawnsley, in the course of the proceedings in connection with the opening of the honey exhibition at Carlisle, referred to the importance of bees as aids in fruit production. He stated that the results of the experiments made in different parts of Cumberland by experts this year proved conclusively the vital necessity and usefulness of bees to farmers and fruit-growers. In orchards not bearing well hives were introduced, and certain trees were covered with muslin during the period of flowering. The results were that the trees to which bees had free access bore more fruit, while the trees from which the bees had been excluded were found to be wholly unproductive.

National Chrysanthemum Society.—The exhibitions of this society will be held respectively on October 5 and 6, and November 2, 3, and 4, at the Crystal Palace. There will be a conference on chrysanthemum culture at Essex Hall on December 5. The Floral Committee meetings are as follows: At the Crystal Palace on October 5 and November 2, and at Essex Hall, Strand, on October 24, November 21, December 5, and December 19.

Wild Flowers in London.—The Selborne Society has been investigating the flora of a building site in Farringdon Street, scarcely removed from the heart of the City. Although this plot has only been cleared for about two years, 28 species of flowering plants and ferns have established themselves upon it. Mosses, liverworts, and others of the more simple plants are also represented. Mr. J. C. Shenstone, F.L.S., is preparing a detailed list which will be published in the October number of the "Selborne Magazine." In a preliminary report he says that one would expect "wind distributed plants" to figure largely in this garden, but not bracken, which is a difficult fern to transplant. There is thus provided a problem for nature students to solve.

Apple and Plum Crop Around Wisbech.—In an interesting contribution to the journal of the Board of Agriculture on the fruit crop in the district of which Wisbech is the centre, Mr. H. Amos states that, in consequence of the shortage in the supplies of apples, the available produce is making a very high price; as an example, Bramley's Seedling commands £15, Lord Derby £14, Grenadier, Lane's Prince Albert, and Lord Suffield, £12, Emneth Earlier and Grosvenor, £10 per ton. Amongst the dessert apples, Beauty of Bath realised £16, Worcester Pearmain £18, and Gladstone £14 per ton. Plums also were a very short crop, and Early Rivers commenced and finished at not less than £15 per ton. Czars were firm at £15 per ton. Victorias were thin crops, and readily bought up at £18 per ton. Belle de Louvain and Ponds' Seedling sold at £16 and £18 per ton. Plums were a poor crop, but realised more than they would have done had there been a full crop.

EXHIBITIONS AND MEETINGS.

◆

National Vegetable Society.

The long-expected and much-talked of vegetable show was held at the Royal Horticultural Hall, Westminster, on Wednesday, September 28, and was a splendid success. There were many who doubted whether an exhibition of vegetables would be a success, but these who had faith worked hard and won the success they desired. Never before has such a wonderful collection of finely-grown vegetables been brought together; the competition was keen, and most of the leading growers competed. The great bulk of the work this big display entailed was borne by Mr. Alex Dean, V.M.H., Mr. Quick, and Mr. G. Wythes, V.M.H., respectively chairman, secretary, and treasurer of the society; while Mr. C. Fester, assisted by Mr. Harvey and others, superintended the show arrangements. There were fifty-nine classes, and the entries totalled 1,100, there being no fewer than 600 entries in the set of classes provided by Messrs. Dobbie and Co. There were altogether 240 different exhibitors, and these hailed from all countries in the United Kingdom, and from practically all the counties of England. There was room for some improvement both in the schedule and arrangements, but these are matters that experience will put right for another season; enough for the present that the National Vegetable Society has more than justified its existence both in the matter of trials and exhibition.

At the lunch given to judges, pressmen, and officers, at the Hotel Windsor, Mr. George Monro presided, and at its conclusion thanks were accorded the judges, the donors of special prizes, the conductors of the Society's trials, the Press, the officers of the Society, and the Chairman, the speakers being Messrs. G. Monro, V.M.H., A. Dean, V.M.H., Owen Thomas, V.M.H., N. F. Barnes, Milne, G. Gordon, V.M.H., R. Sydenham, E. Beckett, V.M.H., C. Fester, G. Wythes, V.M.H., J. H. Dick, and W. Poupart.

COLLECTIONS.

The premier class was one for a dozen kinds of vegetables, and here the first prize of ten guineas was given by the Duke of Portland, president, and the second prize of seven guineas by Lord Howard de Walden, vice-president. The schedule did not state the amount of the third prize. There were four competitors, and the chief award fell to Mr. James Gibson, gardener to the Duke of Portland, Welbeck Abbey, Worksop, who set up grand, clean specimens of Superb Pink celery, Autumn Mammoth cauliflowers, Prizetaker leeks, Tender and True parsnips, Ailsa Craig onions, Duke of Albany peas, Best of All Runner beans, Dwarf Gem Brussels sprouts, Perfection tomatoes, Sutton's Black beet, a magnificent dish of Superlative potatoes, and as fine a set of New Red Intermediate carrots as was ever staged. Second prize fell to Mr. James Hudson, Gimson Road, Leicester, whose chief dishes were of Giant White celery, Prizewinner runner beans, Ailsa Craig onions, Prizetaker leeks, A1 tomatoes, and Autumn Mammoth cauliflowers; third prize went to Mr. W. G. Lobjoit, Heston Farm, Hounslow, who had fair average produce, but not well set up.

The class for nine dishes, distinct, was open to all except those competing in the premier class. The leading award of £5 fell to Mr. W. Gaiger, gardener to H. T. Tatham, Esq., Kendall Hall, Elstree, for a splendid set of Autumn Mammoth cauliflowers, Perfection leeks, Solid Pink celery, Up-to-Date potatoes, Ailsa Craig onions, Gladstone peas, Best of All runner beans, Barr's Thick-fleshed tomatoes, and New Red Intermediate carrots; Mr. S. Cole, gardener to Earl Spencer, Althorpe Park, Northampton, second; and Mr. Avery, gardener to J. Kew, Esq., Loudwater, Rickmansworth, third; six entries.

For the purpose of bringing before the public those vegetables which are not well known, the proprietors of "Country Life" offered prizes for a collection of eight dishes to be selected from a given list of fourteen kinds of vegetables. This was an interesting class, and brought out four competitors. Premier award was made in favour of Mr. Edwin Beckett, who scored with Large Solid cardoon, Seakale beet, salsify, Golden Waxpod beans, Golden Ball turnips, Sugar Corn maize, celeriac, and Couve Tronchuda; Mr. W. Folkes, Ampthill, Beds, came second, and Mr. W. G. Lobjoit, Heston, Hounslow, third.

For a collection or display of vegetables, any kinds or varieties, to fill a table space 15ft. by 5ft., and to be effectively arranged, Messrs. Wood and Sons, Wood Green, offered prizes of ten and six guineas respectively. The only exhibitor was Mr. Edwin Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, who was awarded the first prize for an effective collection of splendidly-grown and varied produce. He had leeks, celery, cardoons, Chilian beet, cauliflowers, red cabbages, savoys, peas, Brussels sprouts, cucumbers, grand onions, potatoes, tomatoes, parsnips, kohl rabi, Globe artichokes, peas, radishes, beet, capsicums, mushrooms, shallots, celeriac, carrots, turnips, mustard-and-cress, lettuce, runner and French beans, Chinese artichokes, marrows, scorzonera, maize, and salsify—a grand exhibit even for Mr. Beckett.

The Messrs. Wood also contributed the prizes in a class for six dishes of vegetables exhibited from an establishment where there are not more than six gardeners engaged, including the head gardener. This was open only to Messrs. Wood and Son's customers. There were three entrants, and premier award fell to Mr. G. Holiday, Havering Road, Romford, who scored with celery, cauliflowers, onions, potatoes, carrots, and tomatoes, all excellent, but unlabelled. Mr. A. Folkes, gardener to the Right Hon. T. F. Halsey, Gaddesden Place, Hemel Hempstead, came second; and Mr. T. J. Broom,

MESSRS. SUTTON AND SONS' GOLD MEDAL DISPLAY OF VEGETABLES
At the National Vegetable Society's Exhibition.

gardener to Miss Langworthy, Gay's House, Holyport, Maidenhead, third.

In the class for a collection of twelve distinct kinds of vegetables, with prizes offered by Messrs. Robert Sydenham, Birmingham, there were four entrants, and the finest collection was the one staged by Mr. Silas Cole, Althorpe Gardens, Northampton, who led with good specimens of Autumn Giant cauliflowers, Ailsa Craig onions, Clayworth Prize celery, Hollow Crown parsnips, Up-to-Date potatoes, Pragnell's beet, Perfection tomatoes, Wroxton Brussels sprouts, and Gladstone peas; Mr. A. Basile, gardener to Rev. O. Turner, Woburn Park, Weybridge, second; Mr. W. Foulkes, third; and Mr. Bedford, gardener to R. H. Ling, Esq., The Braes, Berkhamsted, fourth.

There were twelve competitors in the society's class for six kinds of vegetables, and here Mr. H. Keep, Aldermaston, Reading, scored with leeks, onions, beans, potatoes, celery, and cauliflowers; Mr. W. Coleman, Hunter Street, Buckingham, second; and Mr. C. F. Jenden, Horsham, third.

Mr. T. Jones, Bryn-Penylan, Ruabon, North Wales, scored a first in Messrs. Sydenham's class for six kinds of vegetables. The famous sweet pea grower showed fine samples of Clayworth Prize celery, Autumn Giant cauliflowers, Ailsa Craig onions, New Scarlet Intermediate carrots, Ne Plus Ultra runner beans, and Satisfaction potatoes; Mr. E. Deakin, Hay Hall, Hay Mill, Birmingham, second.

In the class for eight varieties of vegetables, prizes provided by Messrs. J. Cheal and Sons, Crawley, there were three entries, and here Mr. G. Hobday was once more successful, winning with a remarkably fine collection of unlabelled celery, cauliflowers, leeks, carrots, onions, tomatoes, beans, and potatoes; Mr. T. Sparkes, gardener to Mrs. Von Hartmann, Wimblehurst, Horsham, second; and Mr. Davey, gardener to Allan Scott, Esq., Holbrook Park, Horsham, third.

In the Messrs. Barr and Sons' class for seven dishes of vegetables, Mr. W. Gaiger and Mr. G. Hobday were the only exhibitors, and the former secured the chief award with Dwarf Purple curled kale, Little Queen cabbage, Stump-rooted carrots, Golden Prolific runner beans, Red Globe beet, Crimson Globe onions, and Best of All cauliflowers; Mr. G. Hobday second.

In the society's class for three kinds of vegetables, Mr. Thos. Jones, Ruabon, scored with Ailsa Craig onions, a seedling potato, and Autumn Giant cauliflowers. There were nine competitors, and Mr. W. G. Worth, Stratfield Road, Summertown, Oxford, was second; and Mr. J. Smith, Northolt Road, Harrow, third.

FIRST PRIZE COLLECTION OF TWELVE KINDS OF VEGETABLES.
Shown in the Premier Class by Mr. J. Gibson, Welbeck Gardens, at the National Vegetable Society's Exhibition.

Four competitors entered for Mr. G. Monro's prizes for six dishes of tomatoes, and Mr. A. G. Nicholls, gardener to the Duke of Wellington, Strathfieldsaye, led with beautifully even fruits of Princess of Wales, Satisfaction, A1, Eclipse, Magnum Bonum, and Winter Beauty; Mr. J. Hudson, Leicester, second; and Mr. E. Beckett, third. First prize for six dishes of potatoes, prizes provided by Messrs. Clay and Son, Stratford, was won by Mr. J. Gibson with beautiful even and clear tubers of Windsor Castle, King Edward VII., Superlative, Supreme, White City, and Ideal: sixteen entries. Mr. J. Hudson came second, and Mr. Silas Cole third.

FIRST PRIZE COLLECTION OF VEGETABLES, EFFECTIVELY DISPLAYED.
Shown by Mr. E. Beckett, V.M.H., Aldenham House Gardens, at the National Vegetable Society's Exhibition.

SMALL CLASSES.

Messrs. Dobbie and Co., Edinburgh, provided the prizes in a number of classes, and paid all entrance fees. There were fifty-one entrants in the class for two dishes of potatoes, and these produced a wonderful display; first prize fell to Mr. C. Hudson, Leicester, for splendid tubers of Provost and The Admiral; Mr. H. Wells, Mint Street, Lincoln, second, with The Factor and The Provost; and Mr. Gentle, gardener to Mrs. Denison, Little Gaddesdon, Berkhamsted, third. In the single-dish classes provided by the Edinburgh firm, Mr. Gentle led for beet with Dobbie's New Purple, out of sixty-eight competitors; Mr. R. H. Thompson, Little Hayward, Staffs, second. For Golden Globe onions, Mr. A. G. Gentle was first out of twenty-four competitors; for Selected parsnips Mr. Gentle was again first, this time from forty competitors, nearly all of whom showed splendidly; of Golden Ball turnips there were forty-seven dishes, and the first set was from Mr. T. Antony, Lea Rig, Broxham (a working collier), who had perfect specimens of beautiful colour; there were fifty-one dishes of Model White turnips, Mr. T. Antony scoring with another beautiful set; first prize for six International Prize leeks was won by Mr. T. Hetherington, Newbrough, Fourstones, Northumberland, who led from among forty-two competitors, many of whom ran him closely.

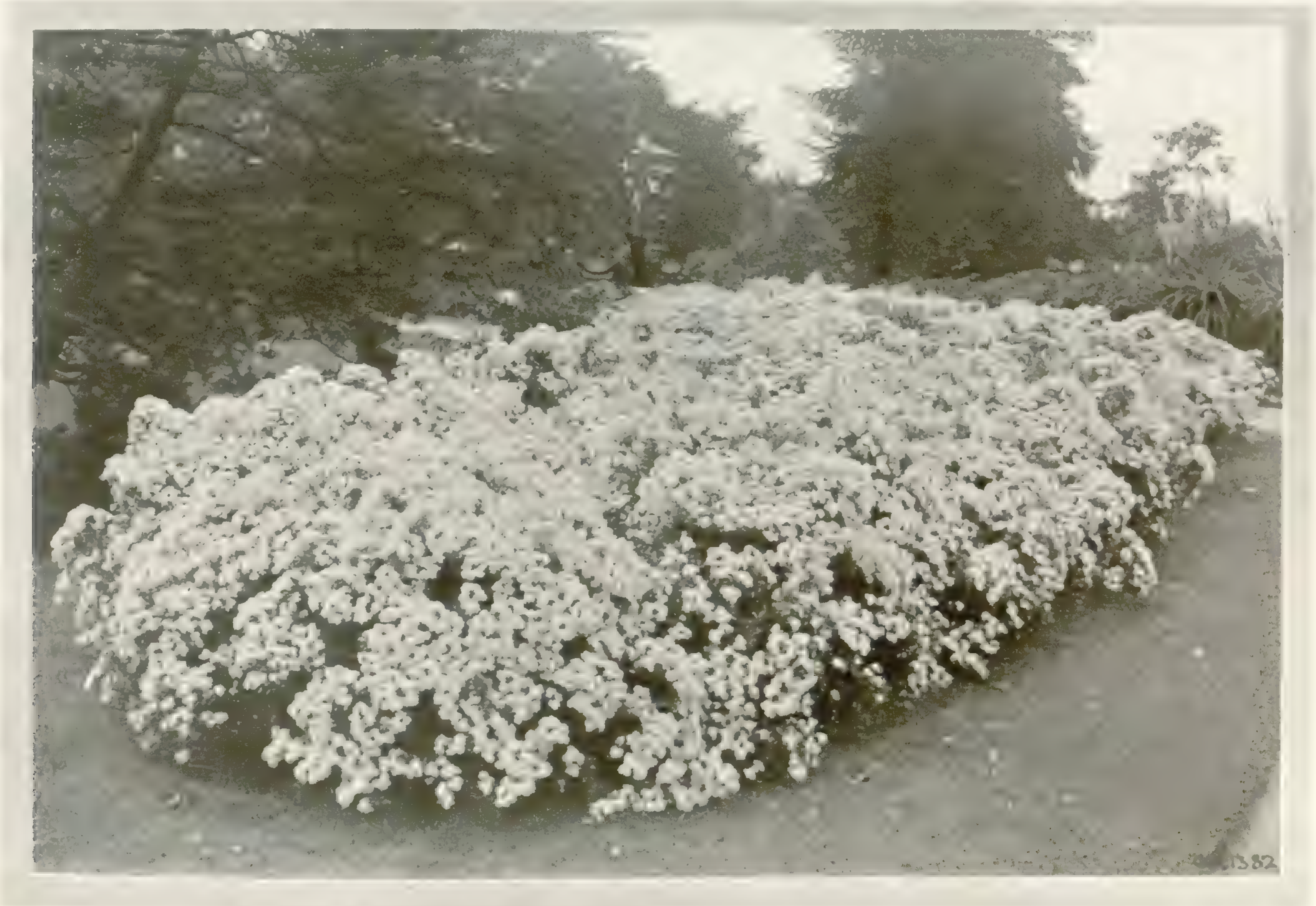
Messrs. Dickson and Robinson, Cathedral Street, Manchester, gave the prizes for a number of their specialities, and the chief prize-winners were as follows: Selected parsnips, Mr. F. West, gardener to the Right Hon. Lord Curzon, Hackwood Park, Basingstoke; six Sugar-loaf cabbages (five entries), Mr. W. Folkes, Ampthill; Manchester Market turnip (sixteen entries), Mr. R. H. Comyns, Heath Farm House, Watford; Snowdon cauliflower (eleven entries), Mr. A. Grubb, gardener to C. F. Raphael, Esq., Shenley Park; six Staghorn lettuces (seven entries), Mr. T. Jones, Ruabon; six Market Favourite beet (eleven entries), Mr. W. Waterton, Heath Farm Gardens, Watford; Perfection carrots (ten entries), Mr. Barker, gardener to the Duke of Newcastle, Clumber, Worksop; Prize Pink Celery (six entries), Mr.

(Continued on page 775.)

THE OLEARIAS.

The genus Olearia is included in the order Compositæ, an order which, considering its large number of genera and species, contains but a small number of shrubby plants. The genus under notice is composed of a considerable number of evergreen shrubs, many of which possess the further recommendation of being excellent flowering plants. Unfortunately, the majority are not sufficiently hardy to admit of their general outdoor culture in the British Isles, though most of them may be grown in Devonshire, Cornwall, and other places where the climatic conditions are similar in character. The subject of the illustration, O. Haasti, is, however, much hardier than the majority of the species, and will stand uninjured through any ordinary winter in most parts of the country. The genus is peculiar to Australia and New Zealand, and is allied to senecio and eurybia.

The various species show a great diversity of habit, some being quite low bushes, with thin, wiry branches and tiny leaves, and others good-sized shrubs with large leathery foliage; whilst one or two assume almost tree-like proportions in their native country. O. argophylla, for instance, forms a trunk a foot or more in diameter. Many of the species have the young shoots and the undersurfaces of the leaves coated with a dense greyish, brown, or silvery felty pubescence, which adds appreciably to the general effect of the bushes. In one or two instances the foliage is musk scented, whilst the wood of O. argophylla also possesses that peculiarity.



A LAWN GROUP OF OLEARIA HAASTI AT KEW.
A distinct hardy shrub, native of New Zealand, and bearing in July a profusion of white flowers.

Providing the climatic conditions are satisfactory, the majority of the species thrive in ordinary garden soil, whilst, given a cool greenhouse, all the species may be cultivated in pots. One or two species appear to prefer a mixture of light loam and sandy peat, and those are alluded to later; else, for general purposes, a light loamy soil is all that is required. Many of the kinds may be increased by means of cuttings of young shoots inserted in sandy soil in a close propagating case, whilst cuttings of O. Haasti root quite well in a cold frame. A few species are difficult to increase from cuttings, and in these instances seeds have to be relied on.

In the following notes no attempt is made to mention all the introduced species, but a sufficient number of distinct kinds is included to add interest to any garden.

O. Haasti is undoubtedly the most useful member of the genus for the British Isles, in addition to being one of our most attractive flowering evergreens. It thrives satisfactorily in inland gardens, whilst it is an excellent seaside shrub. An instance of its suitability for exposed positions near the sea is seen in the Marine Park at Southport. In this place it is planted largely, and though the town is exposed to the full force of the winds from the Atlantic, it looks just as well as we are used to seeing it in sheltered inland gardens. It is a New Zealand species, and was introduced about 1858 by Messrs. Veitch, of Exeter. Its headquarters is said to be the mountain ranges of the Middle Island, where it is met with at an altitude of 4,000 to 5,000 feet. Here we are familiar with it as a shapely bush three to four and a-half feet high, with small, leathery, broadly ovate leaves, and heads of white flowers, which are borne in great profusion in July. It is available for a variety of purposes, such as specimen bushes, beds, hedges, etc. Should it become overgrown, it may be pruned hard back, for it recovers well from severe pruning. By removing the points of young plants occasionally shapely bushes are soon formed.

O. insignis.—This, like the celmesias, may be looked on as one of the aristocrats of the New Zealand flora, for its handsome foliage and large flower heads give it a distinct appearance which readily separates it from other plants. It is figured in the "Botanical Magazine," t. 7,034, and is there stated to occur along the rocky banks of rivers in the north part of the Middle Island. It was discovered in the Province of Nelson by Captain D. Rough about 1850, and was noticed from sea level to an altitude of 5,000 feet. A peculiarity of the shrub is its stout branchlets, which are comparatively few in number. These are clothed with large leathery leaves, almost elliptical in outline, and often six inches or more long. When they first develop they are covered with wool on both surfaces. This, however, soon falls from the upper side, leaving a dark green surface. The stems and undersides of the leaves are throughout life, however, coated with a dense whitish felt. The flower heads are often two to three inches in diameter, and are borne on stout stalks four to six inches long. The ray florets are white, and the disc yellow. This species is difficult to propagate, and likes a peaty soil.

O. Solandri.—It would be difficult to imagine two species of a genus more generally unlike than this and the one immediately preceding. In place of a few specially strong branchlets we find a multitude of thin elegant growths, and tiny linear leaves, scarcely more than a quarter of an inch long, in place of imposing foliage. It is a native of the same country, and forms a pretty, elegant bush, suitable for greenhouse decoration in most parts of the country, and the outdoor border in the south. The brownish stems are coated with hairs, and the undersurface of the leaves is silvery. The flower heads are small, star-like, and white, whilst they appear in great profusion.

O. dentata is an Australian shrub, found about the east coast from Port Jackson to the Blue Mountains, according to the "Botanical Magazine" description. The branches and undersides of the leaves are covered with a brownish felt, which is somewhat conspicuous. The leaves range from one and a-half to two and a-half inches in length, and they are more or less ovate in shape. A difference occurs in the colour of the flowers from those of other species, for in this case the ray florets are tinged with rose. Sir Joseph Hooker gave the name of O. dentata to the plant which is now called O. macrodonta, hence a certain amount of confusion sometimes occurs.

O. macrodonta may be said to be the second hardiest species, for in certain parts of the country it thrives where many other kinds will not succeed. Curiously, at Kew it will not grow in an open border, whilst good bushes exist in some parts of Shropshire and Cheshire. One was noted recently in the gardens at Ince Hall in the latter county. In New Zealand it is said to attain a height of twenty feet, but bushes eight or nine feet high, and as far through, are considered of remarkable size in English gardens. The leaves are three to four inches long and an inch wide, dark green above, with deeply sunken nerves and deeply toothed margins. The undersurface is silvery. The flower heads are borne in large corymbs, often more than six inches across.

O. stellulata is an Australian species which has come prominently to the front in recent years. It forms a moderate-sized bush, with greyish stems and leaves. The latter vary considerably in size, and may be but half an inch long or nearly two inches. The surface is wrinkled, and the margins deeply dented. As in most other cases, the flowers are white, but in this case single flower heads are borne on long stalks from the leaf axils near the points of the branches. In sheltered places it succeeds out of doors further north than some of the other kinds.

O. nummularia.—This is a very distinct shrub, with rather stiff branches, clothed with small roundish leaves with reflexed margins. The leaves are scarcely more than a quarter of an inch across, and are somewhat viscid. When young the bark is golden in colour. The flowers are white.

O. argophylla is known as the Muskwood, on account of the odour of the wood resembling musk. It forms a good-sized tree, with a trunk of considerable size. The leaves are up to six inches long, with serrate margins, the undersurface and the bark of the young wood being silvery. For Cornish gardens it is an excellent shrub. Flowers are borne somewhat less freely than in the case of other species.

O. nitida is another New Zealand species. It is of strong habit, with handsome ovate long-pointed leaves with dentate margins. The upper surface is deep green, the underside silvery, and the young branches reddish. Frequent stopping is required to ensure a bushy habit.

O. furfuracea.—This forms a good-sized bush, with thick, broadly ovate leathery leaves three to four inches long, with a few very minute teeth on the margins. As is the case with so many species, the undersurface of the leaves is silvery. When grown in pots a certain amount of peat should be included in the compost.

O. myrsinoides is a rather loose-habited shrub from New Zealand, with small deep green leaves, which have wrinkled margins, and in some respects resemble miniature leaves of O. macrodonta. A peculiarity of the species is noticeable in the reddish hue of the young shoots. The flower heads are less showy than those of many other species.

For gardens in Cornwall, Devonshire, and similar localities, there are many other plants from the same countries that offer great possibilities, and it is a pity that we do not see better use made of public parks and gardens in these counties for the establishment of collections of rare and somewhat tender shrubs. W. D.

STANDARD ROSES ON LAWNS.

If there are few more showy and pleasing objects upon a well-kept lawn than a healthy - growing standard rose, few will deny but that a scrubby and half-dead specimen is an eye-sore. There is no excuse for the latter provided we use a little care in the selection of varieties and in planting. Very often standard roses are planted too deeply; partly to aid in keeping the plant upright, but more often through ignorance of the nature of the stock they are worked upon. Deep planting is fatal; and even where they have not been put in deep enough for this result, it encourages such a host of suckers that little can be done. Seeing that in any case it is necessary to afford some support to the stems, why not let this be effectual from the first, and put our plants in at a more reasonable depth? The briar stock prefers a rather stiff soil, and if such is not provided, naturally we must help a little in that direction.

To expect weak growers to draw up their nourishment through several feet of foster stock, while all the time the latter is naturally doing its best to make suckers, is, to say the least, unreasonable. Unless the top grows well, the briar stem deteriorates, and the only hope of the roots is to form suckers. Given a strong-growing rose, much of this would seem to be avoided. We too often find an attempt made to grow upon three and a-half feet stems such weak habited varieties as can scarcely exist as dwarfs, and this is more often than not the chief cause of failure among standard roses. But when we ask such to take the place of specimens upon the lawn the result is ludicrous.

I have seen quite a mound of soil piled around stems of standards on the theory that they had suffered from being too wet at the root; and have also noticed the soil pitched towards the stem because the roses were thought to need more than the usual amount of moisture. Do not plant too deeply, see that roses have a rich and fairly stiff soil, select strong growers, and there are few more pleasing features upon a lawn than standard roses.

Should a plant show signs of failing, lift it the following autumn, and add a little fresh compost. This affords a capital opportunity to remove suckers, while the shifting often improves the plant very much. Naturally there must be some losses, the same as with dwarfs, and I noticed some years back a batch of standards growing in pots ready to take the place of failures early in the spring, just the same as is practised with dwarfs for filling up gaps. A few standards in fair-sized pots, plunged upon a north border, is what a good many neglect to have in hand.

Now that we have such grand weeping and strong-growing roses, instead of standards going out of fashion, I feel we really have a better chance than before of securing such a handsome feature for our lawns.

A. P.

AUTUMN - FLOWERING HEATHS.

It cannot be said that the species of hardy heaths which produce their flowers in autumn are to be compared, as regards beauty and stature, with those that brighten the landscape from February to June. At the same time they are indispensable, and being usually found in the shape of large colonies are exceedingly attractive. It is hardly necessary to point out that the majority of the autumn bloomers are natives of our shores, being more or less abundant on moorlands, etc. As seen growing in their hundreds of thousands on the famous Dartmoor they form a glorious feature, and visitors may be noted culling huge sheaves in all directions. The same applies to many parts of the sister county, Cornwall, the Scotch moors, and many other districts, and it is gratifying to know that they are now allocated prominent positions in many private gardens and parks. In some instances they are so concentrated as to form a heath garden, while in others they are arranged in large and informal masses in the wilder portions of the garden, or to act as a wide belt to shrubberies, etc.

Few plants are more accommodating, and, given soil free from lime, with a little rough peat added, they luxuriate and grow with great freedom. Further, they call for but little attention after they become established, and beyond an annual top-dressing, which is distinctly advantageous, the removal of old flower heads in early spring, together with the cutting back of such growths that exhibit a tendency to become leggy, they are capable of looking after themselves. Early in spring is certainly the best time to plant these subjects, and, should drought prevail, artificial watering must be resorted to. The Cornish heath, Erica vagans, is altogether one of the finest in this section, attains to a height ranging from two to three feet, and becomes literally a mass of delicate pink florescence in its season. Of a much darker hue are the flowers found in its varieties rubra and grandiflora, while E. v. alba has white flowers. Other comparatively large growing kinds are named E. stricta with red flowers, and E. multiflora, both of which are very floriferous. E. ciliaris is characterised by its loose and thin habit of growth, and the flowers are as brightly coloured as any I can call to mind. Very distinct, also, is E. tetralix, popularly known as the cross-leaved heath, and it stands alone as far as the peculiar arrangement of the foliage is concerned. The normal height of E. cinerea is ten inches, but in common with other species and varieties considerable diversity is seen, both as regards stature and colouring in different parts of the country. We find some very desirable forms in its varieties, whose colourings range from purple to white, and bear the names of rosea, alba, atrosanguinea, atropurpurea, and coccinea. E. Mackayi is perhaps the least desirable, at the same time its pink flowers are attractive and add variety. Few, indeed, are the gardens where a suitable spot cannot be found to cultivate a fully representative collection of these plants, which possess a charm quite their own.

WALTER H. AGGETT.

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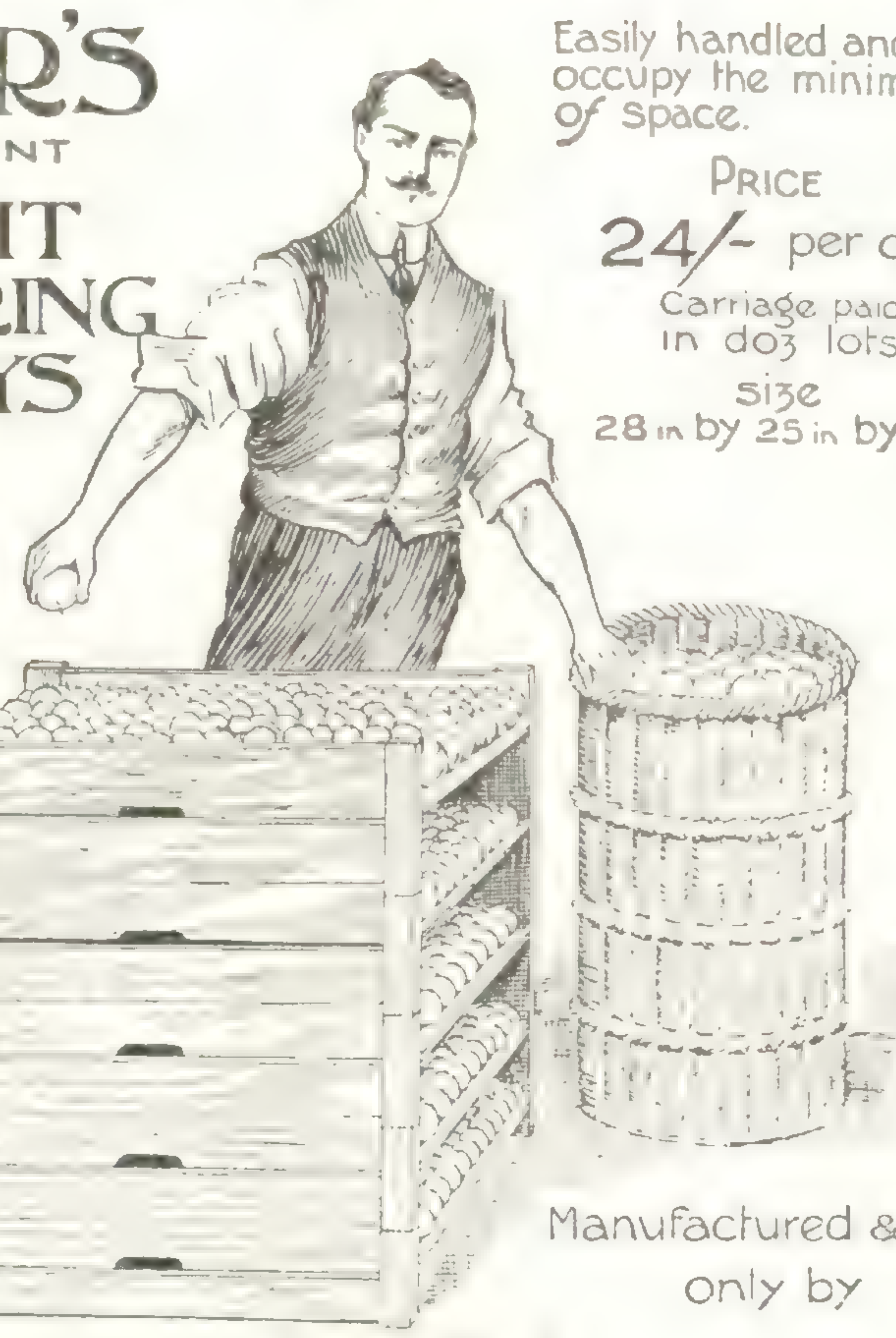

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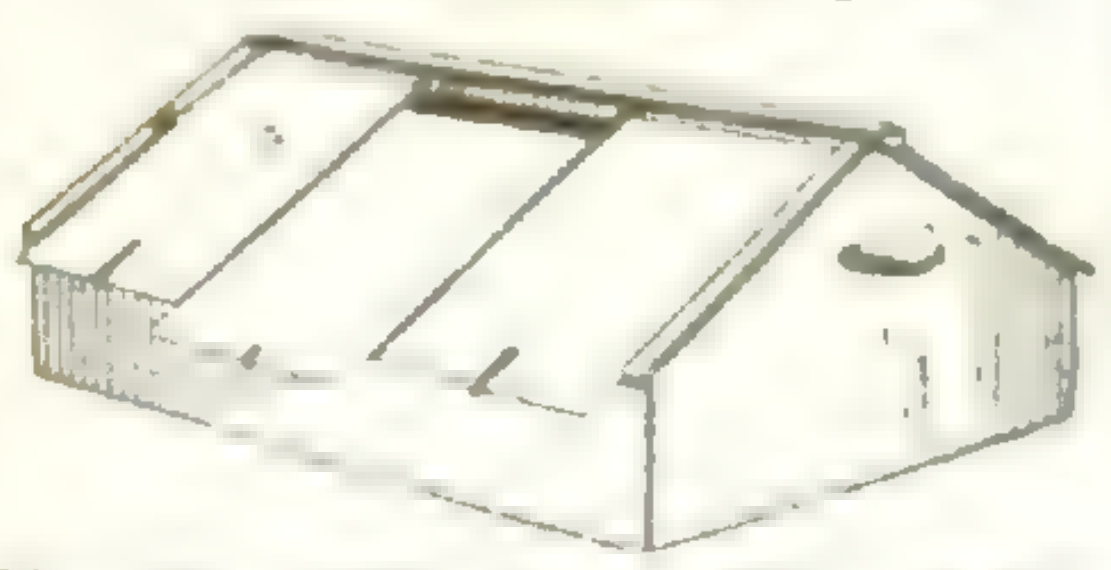

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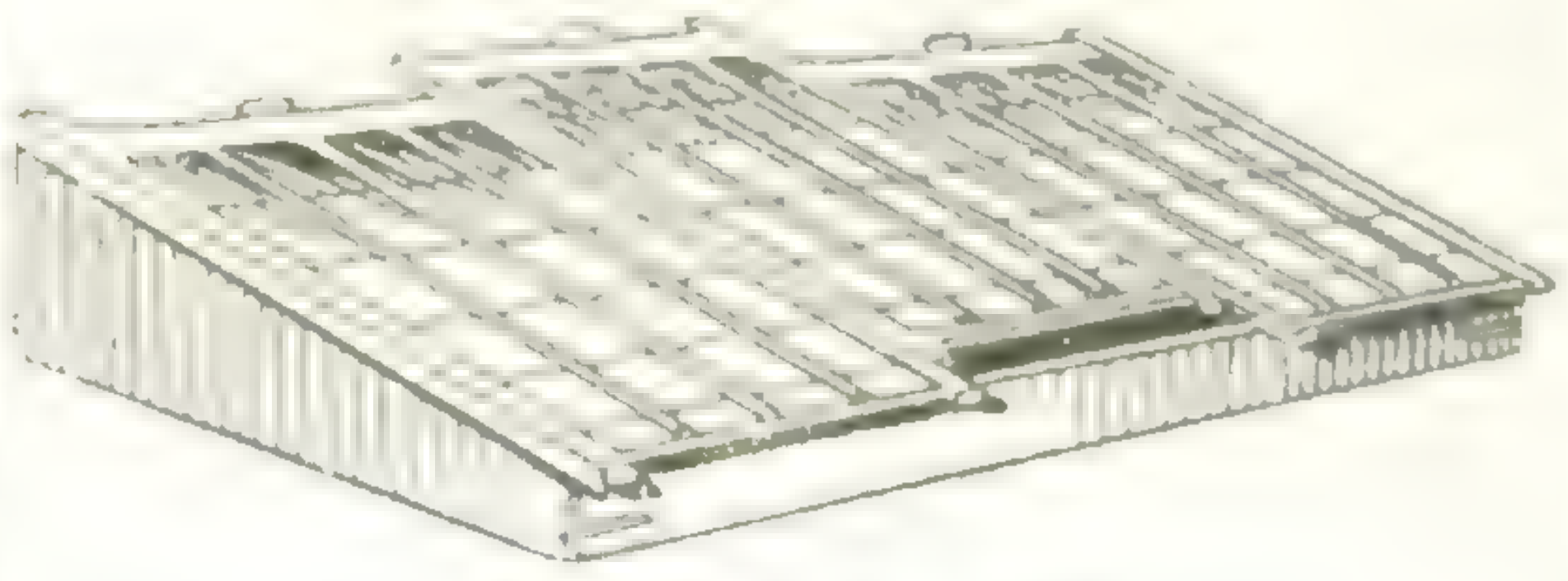

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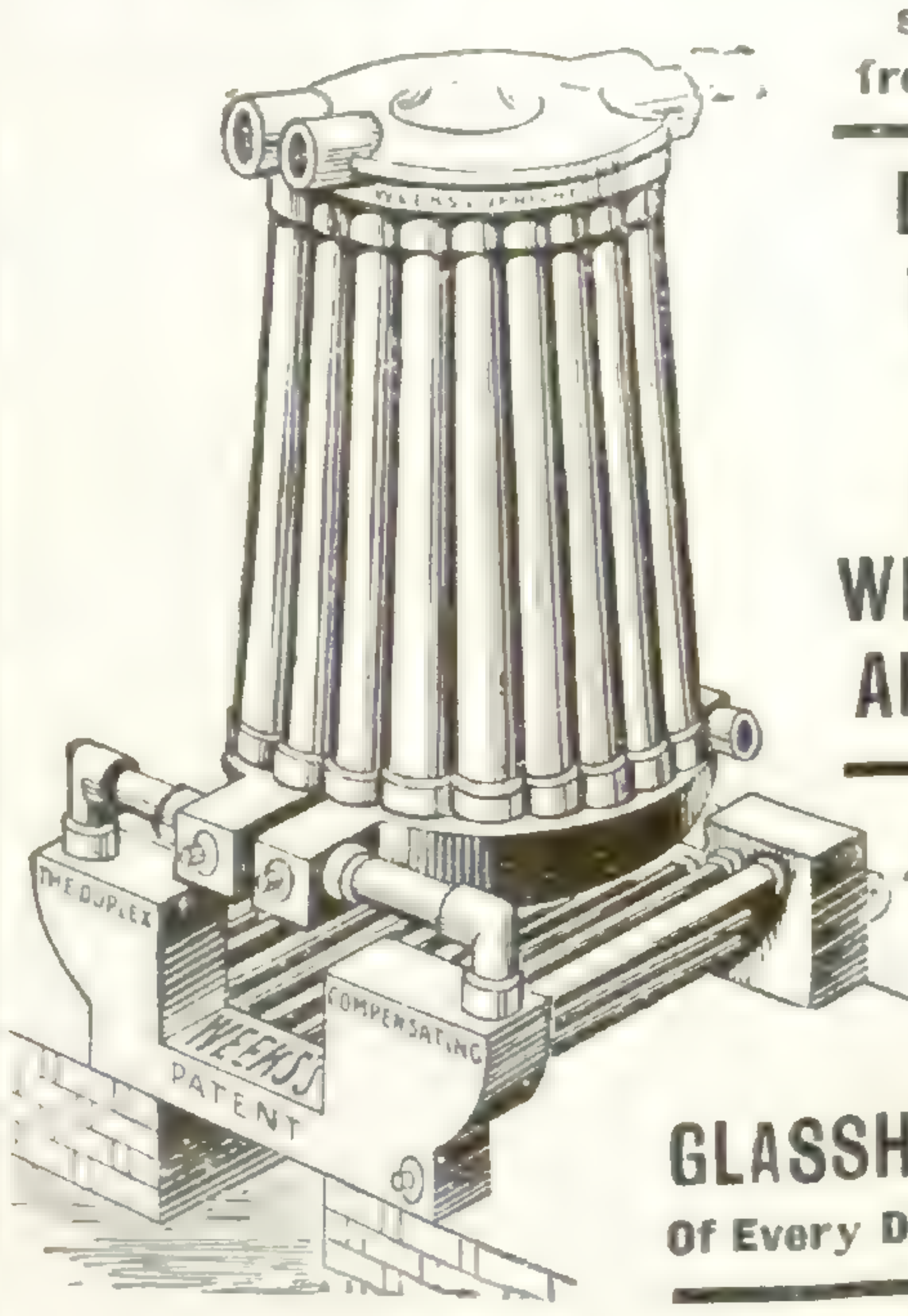

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SOILS AND MANURES IN RELATION TO PLANT GROWTH.

(Continued from page 722.)

◆

Farmyard Manure.

Farmyard manure is a mixture of animal urine and decomposing vegetable matter, such as litter and the undigested remains of food. If kept moist and well aerated, and supplied with a sufficiency, but not an excess of earth, in which chalk is a constituent, we have all the conditions for active nitrification—that is, for the conversion of the nitrogen of the vegetable matter and urine into ammonia and into nitrate of lime, for the multiplication of the bacteria, and for the elaboration of the potential plant food in the added earth.

When treated in this way the farmyard or stable manure heap becomes not only a factory of ammonia salts and nitrate of lime, but also a nursery for the raising of multitudes of bacteria. The precautions to be observed in the management of this heap are, first, to avoid too high a temperature, which may expel and cause the loss of ammonia formed by the fermentation of the urine and of the vegetable matter; the heat produced can be kept under control by watering the heap when necessary, and in preference by water from a liquid manure tank.

The second precaution is to build the heap in a covered or sheltered place, so that it is not exposed to the rain, which, in washing through, would carry away soluble salts of nitrogen and potash. There is no doubt, by the judicious use of soil and water, that all the valuable constituents of farmyard manure can be retained in the manure, and nitrifying bacteria multiplied, and such farmyard manure will not only render ground fertile in consequence of the available plant food that it brings, but will supply bacteria to land deficient in these agents of nitrification.

Soil may be infertile from many causes. Want of drainage or tillage, the presence of injurious substances, such as excess of iron, the absence of a sufficient supply of one element of plant food, may any of these reduce an otherwise highly fertile soil to infertility; and to all these may be added a further cause of infertility, and that is the absence of the bacteria of nitrification.

Denitrification.

Among the communities of bacteria that have their dwelling in the soil is one whose members are able to produce a change very different from those we have just studied. They are called denitrifying bacteria because they take nitrates and ammonia salts and set free the nitrogen, rendering it useless as plant food. These denitrifying bacteria only work in the absence of oxygen (air)—a condition existing in water-logged soils—in soils rich in humus but not aerated by tillage, or in soils where the decaying vegetable matter rapidly uses up the oxygen.

Instances have been observed where a smaller crop has been obtained on soils receiving farmyard manure than on soils which have been left without manure, because the farmyard manure, ill-rotted, and infested with these denitrifying bacteria, caused the destruction of the nitrates formed by nitrification in the soil. And again, there is always a danger that the application of nitrate of soda and sulphate of ammonia on the top of freshly-dunged soils may be wasted owing to denitrification. The addition of phosphates and potash increase the activity of denitrifying bacteria in farmyard manure because they supply food to the bacteria. Artificial manures should therefore not be applied at the same time or too soon after the application of farmyard manure.

The Supply of Humus.

We have seen that humus is being constantly used up in the process of nitrification. This consumption of humus is an essential part of the activity of soils, and is a necessary accompaniment of fertility. There is thus a constant loss of humus going on in all cultivated soils.

A due proportion of humus, however, is absolutely essential if our garden soils are to remain in good heart; it is necessary for its valuable properties in relation to the movements and conservation of moisture, it is necessary for its retention of ammonia, it is necessary in nitrificaton.

Since in cultivated soils humus is being constantly consumed, how is it to be replaced?

The answer is, by the application of farm yard and stable manure, by the digging into the soil of green crops, plant roots, and compost consisting of leaves, tree cuttings, and other organic waste materials usually to be found in a garden. In order to prevent the soil from becoming sour by the incorporation of so much decaying organic manure, apply a dressing of quicklime, 10 cwt. per acre, or a dressing of basic slag 5 or 6 cwts. per acre.

Harpenden. J. J. Willis.

(To be continued.)

EXHIBITING ANNUALS.

The mixing of colours in exhibiting annuals, as alluded to by "H.," page 666, is a common occurrence at ordinary flower shows, and though I do not recollect having previously heard of a case where it was objected to, I am not surprised that it happened, for there is a class of exhibitors who do not scruple to adopt every available means in their power, however dishonourable or dishonest they may be, to take, as it were, a few shillings from another's pocket, and place it in their own. If your correspondent was one of the judges in question, he doubtless settled the matter to his satisfaction, but, as he asked for other's views, I give mine for what they are worth.

The schedule, it appears, asked for a collection of annuals, "twelve varieties"; well, for example, we will take the sweet pea as a variety of annual, and, in my opinion, an exhibitor would be justified in staging a mixed-coloured bunch of it as one of his twelve varieties, though I don't think he would gain anything, but might in some cases lose by doing so. Had the schedule asked for twelve distinct varieties, and the sweet pea made one of them, it should, I consider, be staged in one colour only; at any rate, by so doing, one might, in close competition, avoid giving the judges a reason for passing over an exhibit; and judges, it should be remembered, are at times placed in very close corners. In trivial cases of this description, when the wording of the schedule is not definite, the judges, when dealing with exhibits staged in good faith, and with no intention of gaining an advantage (in the case referred to it is questionable if the exhibitor gained anything by mixing colours of the varieties he staged) should be given the power to act in a common sense manner, and make the awards accordingly. M.

[Our correspondent is under a misapprehension in his reference to sweet peas. Assuming there is a class for a collection of annuals, in twelve varieties, and twelve distinct bunches are shown with sweet peas as one, the exhibitor who mixes his sweet peas should be disqualified. Every distinct colour in sweet peas represents a distinct variety, and if there is more than one colour the stipulated number of varieties will be exceeded.—Ed.]

THE APENNINE WINDFLOWER.

Windflowers are among the most admired of all our garden flowers, whether they come to us in the guise of humble-growing plants like our lovely Wood Anemone of our native land, or in the shape of the taller and more majestic Anemone japonica, one of the prides of our autumn gardens. Much has been written as to the origin of the name, but much of it is purely conjectural and of little consequence, save in the eyes of philologists and searchers after the out-of-the-way points in connection with their flowers.

In the lovely little Apennine windflower we have a species which is more nearly akin, in point of stature, at least, to our anemone of the woods than to the more stately Japan anemone. When it does well, however, it is taller and more tufted in its growth than our Wood anemone, forming a tufted mass of beautiful finely-cut leaves, and surmounting these, in due time, the charming starry flowers of clear, intense sky-blue. As has been well said, the blue is not that of our own skies, but that of the heavens above the Apennines. Such, at least, we may say of the type, but, like many other flowers, it has broken from its original colouring, and we have also varieties yielding us double, white, purple, and rosy coloured flowers as well. Yet none are so beautiful as the blue, whose beauties are unspeakably superior, though the taste for something less common leads some to seek after the plants with white or rosy flowers. It usually grows about six inches high, but much depends upon the nature of the soil and whether it is cultivated under trees or in the open. When under trees it is drawn up to a greater height.

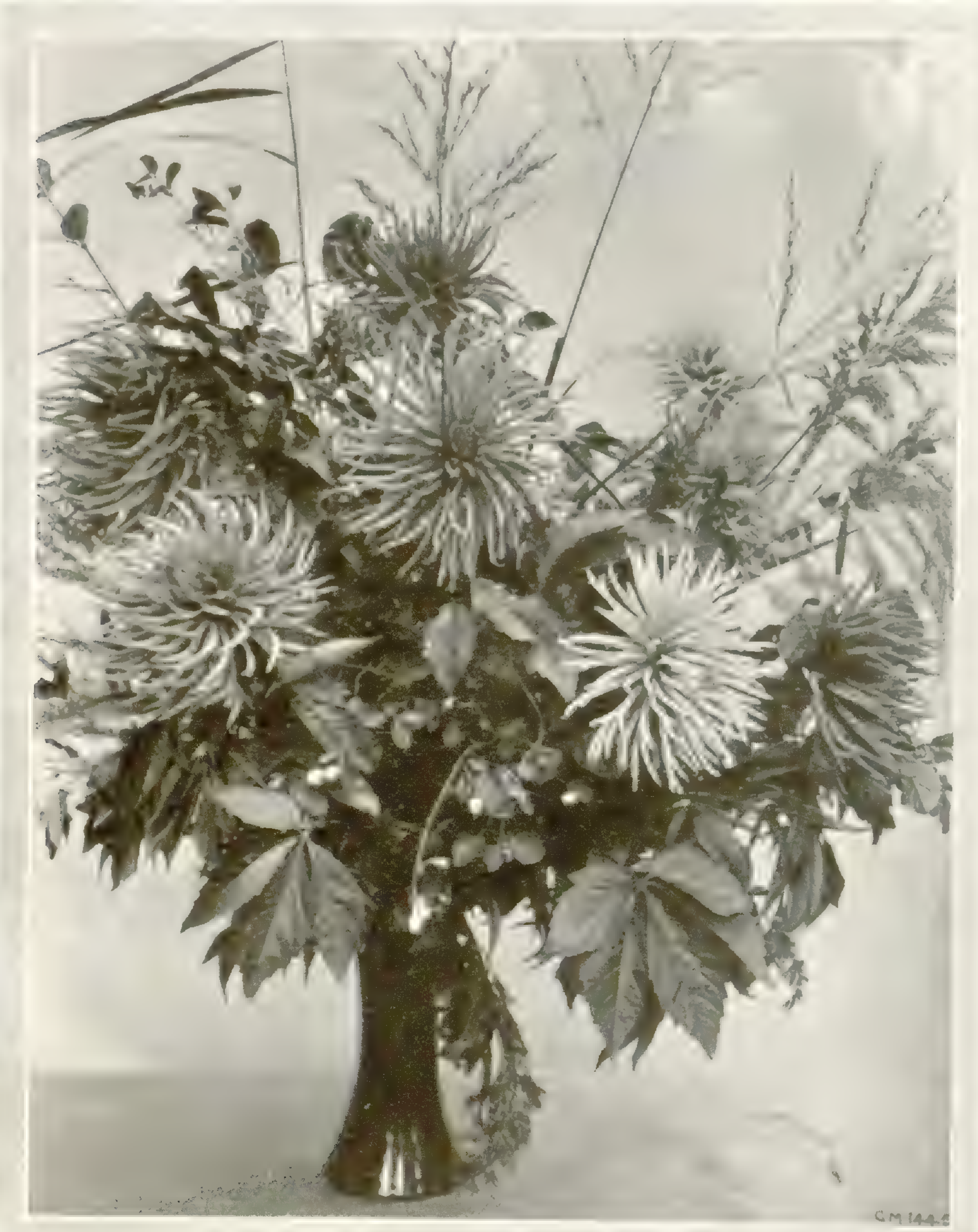
This anemone has, like our Wood anemone, a liking for partial shade. It thrives perfectly under trees, and is a charming thing for carpeting the soil in open woods or in orchards where the soil is covered with grass or other low herbage. It grows splendidly among grass, provided, of course, that this is not too early cut. As a plant for naturalising in woods and in wooded glens it is one of the most charming imaginable. The writer knows a wooded glen in a noble domain where there are millions of the Apennine anemones, presenting a truly lovely sight in April and May, and an orchard in another demesne where there are as many carpeting the ground beneath the trees. When the sunbeams come through the branches and persuade the anemones to open their starry flowers of blue it seems a veritable fairy land.

To look at the rough little tubers one would consider it incredible that such gnarled little things should be the source of so much beauty, for no one can call them attractive in themselves. Yet from these black, rough little tubers there spring the pretty green leaves and the exquisite blossoms of this windflower. As for its hardiness there is no room for doubt, seeing that it has become so naturalised in a few places that some have accounted it a native, though this idea has no real warrant. It may be said to be hardy from Land's End to John O'Groats. Planting should be done as early in autumn as possible, but it may be deferred until spring in the case of necessity, but not otherwise. From two to three inches of soil above the crowns of the tubers is a sufficient depth, but it is not at all particular in this respect. It increases readily by division of the tubers and also by means of seeds.

S. Arnott.

BULBS FOR BANKS AND SLOPES.

Take a stiff plant such as the hyacinth, set it closely all over level ground, and it is bound to have a stiff effect; set it, on the contrary, upon sloping land, and all its inelegance is hidden and only its exquisite colour and fragrance remains. Although bush roses are not ungraceful it has been truly said that for obtaining the most artistic effects with them they must be planted upon slopes, so that the lower stems of half are hidden by the blossoming tops of the others; this is the same principle that can be observed with regard to bulbous plants of innumerable species.



ONE OF THE FIRST PRIZE SET OF THREE VASES OF DAHLIAS.
Shown by Mr. J. Walker, Thame, at the National Dahlia Society's Exhibition on Sept. 20 and 21.

A grand example of bold landscape gardening is witnessed when the steep sides of a large dell are covered by Crown Imperials in spring and Hyacinthus candicans in summer, yet the bulbs only require to be alternated, then left alone for years, and both kinds are inexpensive by the hundred. A smaller dell of nodding montbretias has a marvellously lovely appearance, and there is no reason why Spanish iris should not have flowered earlier, in groups, in the same place. By trying a few of a great many species of bulbous flowers in our gardens, we often prevent our enjoying any species in perfection, since massing is undoubtedly the only style that displays the plants adequately. Natural beauties are due to the lavish representation of bluebells, primroses, daffodils, etc.; where only a few specimens are to be found we do not call the spot a notable one for charm.

If tall growers are handsome when used as a ground covering on a slope, dwarf but brilliant subjects yield more vivid sheets of colour; the ordinary crocus will so cover a bank round two sides of a tennis-court that the place in spring is a blaze of orange-gold visible across several meadows. The rich violet-purple, or china-blue of other crocuses give equally attractive, if less prominent, results, the former imparting a warmth to any garden in which it luxuriates. Crocuses, too, are charming in mixture, but, if purple and mauve are used with gold and white, no blue should be added, indeed, a more satisfactory display results from using only purple, gold, and mauve in one place, and reserving white to go with blue elsewhere.

Large yellow daffodils are admirable for clothing terrace slopes, or those of undulating lawns; instead of planting them closely in terrace borders, however, a better appearance is gained by making groups of three or four at intervals of a foot, then carpeting the earth with variegated arabis; this permits the elegance of daffodil growth to be observed as it could not be if they formed a solid field. In turf, groups or single plants are, of course, always used. The Poet's narcissus is one of the loveliest hardy bulbous plants with which to clothe abrupt slopes; it can be employed advantageously in semi-wild gardening, up and down cliff-like sides of gravel pits, or deep dells in woodlands or meadows, for example, it will flourish as though a native, and perfume the whole neighbourhood.

Bulb-planting on so large a scale is not within the power of us all; it is well to remember, therefore, that small slopes, such as those against front-garden verandahs, are exquisite when closely massed with crocuses, the scarlet Anemone fulgens, the rich blue grape hyacinth, or azure Scilla sibirica, the small single daffodil, or Van Thol tulips. Miniature or Dutch hyacinths are far too little used for such situations; their delicate colours, earliness, and perfume entitle them to attention, and they are over, and ready for removal when the first bedding plants can be located.

Few gardeners ever cover sloping borders or banks with a mixture of Allium neapolitanum and deep rose hyacinths, but these two bulbs are excellent companions. Mixed Caen anemones require a sunny position, but if shrubs do not afford too much shade a blank summit is the ideal position for them. Noted bulb-merchants, if appealed to, will supply a mixture that does not include scarlet, or else one that has scarlet but does not include pink and magenta; this is an immense gain from the artistic point of view, as, though all the colours are fair, they are sadly inharmonious together.

Exquisite effects are to be obtained by cultivating some of the bulbous plants that need lifting and storing each year; the ranunculus is one of the fairest flowers we possess, for example, whether of scarlet, crimson, gold, or white, and in foliage and habit of growth leaves little to be desired. A front garden bank, running from gate to door, and holding up a smooth green lawn, can be planted all over with mixed Turban ranunculuses, and just a few groups of tall tulips to blossom first; the cost will be trifling, the appearance in June will be glorious, after the tulip colour has departed. This species of ranunculus generally thrives when autumn-planted upon a sunny slope anywhere in England; the soil should not be new; if the bank has been recently formed a quantity of vegetable ashes and leaf-mould should be incorporated. Early gladioli give a fairy-like forest of white and rosy spires in a similar position, and planting them somewhat liberally can be strongly recommended, especially as they have the advantage of being inexpensive.

M. H.

DAHLIAS IN DECORATIONS.

In skilful hands dahlias are admirable decorative subjects in a cut state, and it is therefore very desirable that the value of the flowers in floral arrangements should be demonstrated at the leading exhibitions. Few flowers are more magnificent for large designs in harvest festivals and similar gatherings than the big, brilliant, long-stemmed pæony-flowered and decorative varieties, while the best of the cactus, as well as the pompon varieties are serviceable for smaller arrangements. Some good examples of vases of cactus dahlias were to be seen at the exhibition of the National Dahlia Society, held at the Royal Botanic Gardens, Regent's Park, on September 20 and 21. Mr. J. Walker, Thame, who secured first prize for three vases of cactus dahlia blooms, showed his flowers off to great advantage with sprays of coloured foliage, and one of his vases is figured herewith. In the amateurs' section Mrs. E. Mawley, Rosebank, Berkhamsted, was awarded first prize for a vase of handsome blooms of the crimson Dr. G. Gray cactus variety associated with sprays of the purple-leaved plum.

HORTICULTURE AND CHARITY.

A Flower Show Without Prizes.

Is it possible to run a flower show without giving prizes? Perhaps some will answer no, but I am about to point out that such a thing is not impossible, and, of course, much depends on the object of the show, its organisation, and the spirit of the exhibitors. But there, I am not here to moralise, only to describe a flower show at which no prize money is given, and in doing so I may perhaps be allowed to get away a little from the orthodox reporting style.

The time is an August morning, the place is Alveston, a little village close to Thornbury, in Gloucestershire, which is noted for its castle, which never was finished, its cattle market that is held in the street, and the fact that it is the birthplace of the Grand Old Man of cricket, "W. G.," and his hardly less famous brother, the veteran "E. M." There is evidently something going on, for there is a stir opposite to the old Ship Inn, and rattling up the road, one after another, come farmers' spring carts and milk floats laden with horticultural produce of every description. They pass into a field where two big tents are erected, and there are the usual side shows in the way of merry-go-rounds, swingboats, and the rest of the paraphernalia. There is no lack of helpers, one after another the conveyances are emptied, and by midday the two marquees are so full of produce that it cannot all be accommodated on the tables, and a good deal of it has to be "staged" on the ground underneath. We glance at the schedule, which contains classes for fruit, flowers, and vegetables open to cottagers and amateurs, as well as butter, cheese, poultry, bread, eggs, and, we know not what else besides, but not a penny is given in prize money, and now is the time to explain.

No, the show is not a novelty, for twenty-two years ago it occurred to a few people that it might be possible to hit two birds with one stone, by encouraging horticulture, and at the same time assist the medical charities of Bristol and district. The beginning was small, but the twenty-first balance-sheet shows that this worthy horticultural society has since it was established paid £638 to the Bristol Royal Infirmary, £273 3s. to the Bristol Eye Hospital, £208 to the Bristol Hospital for Women and Children, £42 10s. to the Bristol General Hospital, and £58 10s. to the Almondsbury Hospital, making a grand total of £1,220 3s. Not a bad record for a village society, which does not trouble about keeping balances in hand, for last year, after beginning with a balance of £1 3s., and paying £110 to the above medical charities, the sum of 8s. only was kept in hand.

How is it done? Well, in the first place, the affairs of the society have been managed from the first by its two excellent secretaries, Messrs. T. Croome and G. H. Riddiford, helped by a good working committee. Secondly, the local gentry and others subscribe liberally to the funds, and the people round about send the best they have got to make up the show. No money prizes are offered, only certificates of merit, and, with the exception of pot plants, everything is given, and at the close of the show is sold for the benefit of the charities mentioned.

Not until the day of the show do the secretaries know what they will get, but the farmers and others lend their conveyances, the stuff comes rolling in, more every year, and by midday all is ready for the judges. Is there much competition? Well, I should say so, when there are twenty exhibits in a class for kidney potatoes, as many for rounds, marrows by the dozen, big piles of cabbages, and keen competition in classes for onions, peas, beans, carrots, parsnips, beet, etc. In the fruit division it is just the same, the gentry competing with choice fruit, like grapes and peaches, and the cottagers sending their gooseberries, currants, and apples, which they save expressly for the show. While there is more of it, the stuff is just as good as that staged at neighbouring shows where prizes are given, and though they have only cards to award, the judges have no easy task in selecting the exhibits to receive them.

FIRST PRIZE VASE OF TWELVE CACTUS DAHLIAS.

Shown by Mrs. Mawley, at the National Dahlia Society's Exhibition on Sept. 20 and 21.

Turning to the miscellaneous department we see butter fresh from the dairy, cheese that won first prize in open competition a week or two before, home-made bread, dressed poultry, eggs, brown and white, by the dozen, two fine salmon fresh from the neighbouring Severn, a ham, a leg of mutton, and other things, all given, and all to be sold for the good of the cause. The sale of the produce is in the hands of the committee, most of it is disposed of by the time the show closes, and any that is left is sent to the hospitals.

One cannot help thinking that if there were more horticultural societies like Alveston medical charities would be better off than they are, and the spirit in which the whole thing is conducted is admirable. No mercenary feeling prevails, there are no bickerings and heartburnings over exhibits and prizes, yet the people of Alveston and district send the best they can grow to the show, value the certificates they may win, and give their produce, realising the good of the cause, and knowing that if sickness overtakes them, and they have need of the hospital, its doors will be open to them. There is a spirit of personal possession also prevailing, for Alveston is proud of its unique show, proud of what it has done, and anxious that it should continue its good work. Indeed, Alveston has reason to be proud of its show, which is a contradiction to any contention that exhibitors only show for the sake of prize money, and an example how horticulture can be encouraged and a noble charity be assisted at the same time.

G. H. H.

Cassia corymbosa. — Where a greenhouse has to be kept gay with flowering plants at all seasons this is of considerable merit. The dark green pinnate leaves are decidedly ornamental, and the rich golden blossoms, so freely borne throughout the summer and autumn, are particularly showy. It is, too, a plant of very easy culture, and in the summer it may be stood out of doors, but it should be removed under glass before frost comes. Naturally it forms a large bush, but it can be flowered freely in a small state, while for clothing the back wall of a greenhouse it is one of the most satisfactory plants that we have.—W. T.

SPRING BULBS IN THE BORDER.

Perhaps one of the most marked features of modern gardening is the increasing extent to which spring-flowering bulbs are employed, not only in the hardy flower borders, where they used to be regarded as a nuisance because they interfered with the annual digging—and this point of view is not yet extinct—but in all sorts of places, such as lawns, rose beds, rockeries, copses, and hedge banks, besides the beds and borders devoted to summer bedding. The variety is now so bewildering, and we all want to grow so many kinds, that it becomes an increasing problem to find room for those we want to grow. A few notes and suggestions with a view to the use of bulbs, with the minimum of untidiness in the late spring, and of inconvenience in the management of the borders, may not be out of place at this season.

When a hardy flower border is well planted with bulbs, as well as perennial plants, we are taking two crops off the ground every year, the bulbs taking out plant food and moisture from March to June, and the other plants from March to October, some in fact all the year. It is evident that if both are to be a success the borders must be not only top-dressed every year with both animal and mineral manures, but, as no annual digging in them is practicable, they must be also periodically—say quinquennially—turned out and dug to a depth of a couple of feet, with the addition of liberal quantities of animal manure, and of lasting substances like bone meal or basic slag. This seems all very laborious, but the trouble is more apparent than real, as a border needs so much less attention for the first couple of years following this treatment. It is the only way in which a border that is well filled with both plants and bulbs can be maintained in good condition, unless the soil is of an exceptionally favourable character.

Fortunately for our purpose many spring-flowering bulbs do well when grown among the roots of other plants and shrubs, in moderation, and, indeed, in a very heavy soil do better in such conditions than anywhere else, the roots amongst which they are growing not only giving the soil that openness which they love, but keeping them from excess of moisture during the winter and also during their resting season. With hyacinths, for instance, if the soil is heavy it is only under such conditions that they will last more than a couple of years. Hence there is nothing better for many bulbs than the neighbourhood of such surface and fibrous-rooting plants as tall phloxes, Michaelmas daisies, erigerons, the multiflorus type of sunflower, veronicas, heleniums, and so on, and they may be planted in clumps between these latter, so that in the spring the bulbs will have the ground pretty much to themselves, and when their foliage begins to get untidy the perennials growing up will hide it and leave no vacant spaces where we should feel obliged to plant something else. These clumps of bulbs should always be marked by short sticks standing out two or three inches to keep us from running the trowel into them when they have died down.

The removal of both bulbs and plants at the periodical renovation of a border presents a little difficulty. Narcissi, for instance, which form such a large part of the bulbs of any garden, are best taken up every three or four years, or even less in a very heavy soil, and the same applies to many if not most perennials, and though it might seem from this that bulbs and plants would agree together well in this respect, there is the fact that the best time to take up the bulbs—late June—is damaging to the perennials, the roots of which they are growing amongst, and October, the best time for removing the perennials, is not a good time to take up bulbs. But experience comes to our aid, and in practice we are able to make compromises which are fairly agreeable to all parties. The periodical digging up, or turning out, of the border, which should be done every five or six years, gets over half the difficulty, the new soil and increased root run after such an operation making up for any damage which the bulbs may sustain by being taken up in October. If the other lifting of the bulbs is midway between these periodical renovations, they will not suffer much. It is generally found, too, that individual clumps of bulbs which appear to be getting congested can be taken up when the leaves are dying down, without any serious damage to the perennials if done in damp weather, the bulbs being replanted in October, when, perhaps, there are some perennials which also need taking up and dividing, as, indeed, frequently happens.

Narcissi and tulips should be planted in groups of three or four, and smaller things, like snowdrops, grape hyacinths, crocuses, scillas, winter aconites, and chionodoxas, in patches running in and out amongst the perennials. It is not only in the front parts of the borders that these smaller bulbs may be planted but right at the back, as there will be nothing to conceal them when they are in flower. Crown Imperials may be planted amongst delphiniums, lupins, and the like, as they are the only bulbs which run up high enough, and early enough, to be above their spring growth not only during the time of flowering but for a sufficient time afterwards. They also do well amongst Japanese anemones and Chinese pæonies, but in each of these cases a timely stick is necessary to prevent the bulbs being unduly smothered. When a border is well cultivated in the way described above, not only may bulbs be planted amongst other plants, but many of the latter may have bulbs planted underneath them, as, for instance, candytuft, pinks, sweet williams, some of the dwarf campanulas, violas, geums, heucheras, and the like, over daffodils; tall tulips amongst Japanese anemones; crocuses and snowdrops under a carpet of Veronica rupestris, and so on ad infinitum. But in no case must the foliage of the bulbs be allowed to damage the plants above more than can be helped, nor must the growth of such plants as Veronica rupestris, Lysimachia nummularia (Creeping Jenny), double arabis, and the like, be allowed to become so thick as to choke the bulbs. Sometimes, where large spaces are left on borders to be filled up with plants in the early spring, bulbs may be planted in groups in the autumn, leaving the necessary spaces for various other subjects. This plan may be adopted with such plants as pentstemons, antirrhinums, gaillardias, and some autumn-sown annuals, which are kept in a frame during the winter, when, by the time the bulbs are dying down, these plants will have spread over the space. Besides this, there is, of course, always the obvious way with such places, namely, that of covering them with bulbs and a surfacing of spring-flowering plants, the whole being taken up at the end of May in time for summer plants like dahlias, petunias, verbenas, and the like, the bulbs being laid in somewhere to ripen.

ALGER PETTS.

EARLY CAULIFLOWERS.

Those who still adhere to the old method of wintering young cauliflower plants under handlights or in cold frames where protection can readily be afforded during severe weather will soon be planting the sturdy young plants where they are intended to remain till spring. With careful attention these should give heads fit for use in the first week of June, a little earlier or later according to climate.

I still follow out this practice, selecting for the purpose Sutton's Favourite, Erfurt, and Walcheren, and if not too early sown we find the plants are more reliable than if larger at the time they are transferred from the open border to the frames, but they should be strong enough to handle and be planted sufficiently early to become well established before the weather is too cold. At all times the plants should be grown along as hardily as possible, and given abundance of air, excepting during severe weather. If wintered under handlights, then put six or more plants under each, to be thinned out in March or April, leaving some to remain without disturbance. Choose a good sunny position, well sheltered from the north winds. The land must be in good heart and deeply worked. If set out in this at 18 inches apart, some capital curds will result.

I also make a sowing of that valuable little cauliflower, Dean's Snowball, in February, in heat; the plants raised are usually potted in small pots, and kept in a light position, and subsequently hardened sufficiently to be transferred to the open. If ample room is provided in the way of cold frames, this small-leafed variety can be planted 12 to 15 inches apart, and it is marvellous how quickly they turn in for use, while the size is just that required for the table. The great secret in obtaining early serviceable heads is to prevent the plants receiving a check and buttoning. To obtain good cauliflowers in the summer, especially should the weather prove dry and hot, deep cultivation is most essential.

I have grown Autumn Giant cauliflowers on deeply trenched land, also the Walcheren and Early Giant during a very dry season, and when watering has been out of the question, all three varieties have withstood the drought and turned in splendidly, while the same varieties planted on land dug in the ordinary way have proved almost a total failure. I am strongly in favour of deep cultivation, and would strongly urge at this time of the year and onwards all labour available should be devoted to deep trenching, especially on light land, and where, in summer time, both water and time to water are somewhat scarce, and the demand for vegetables is large and must be met.

H. MARKHAM.

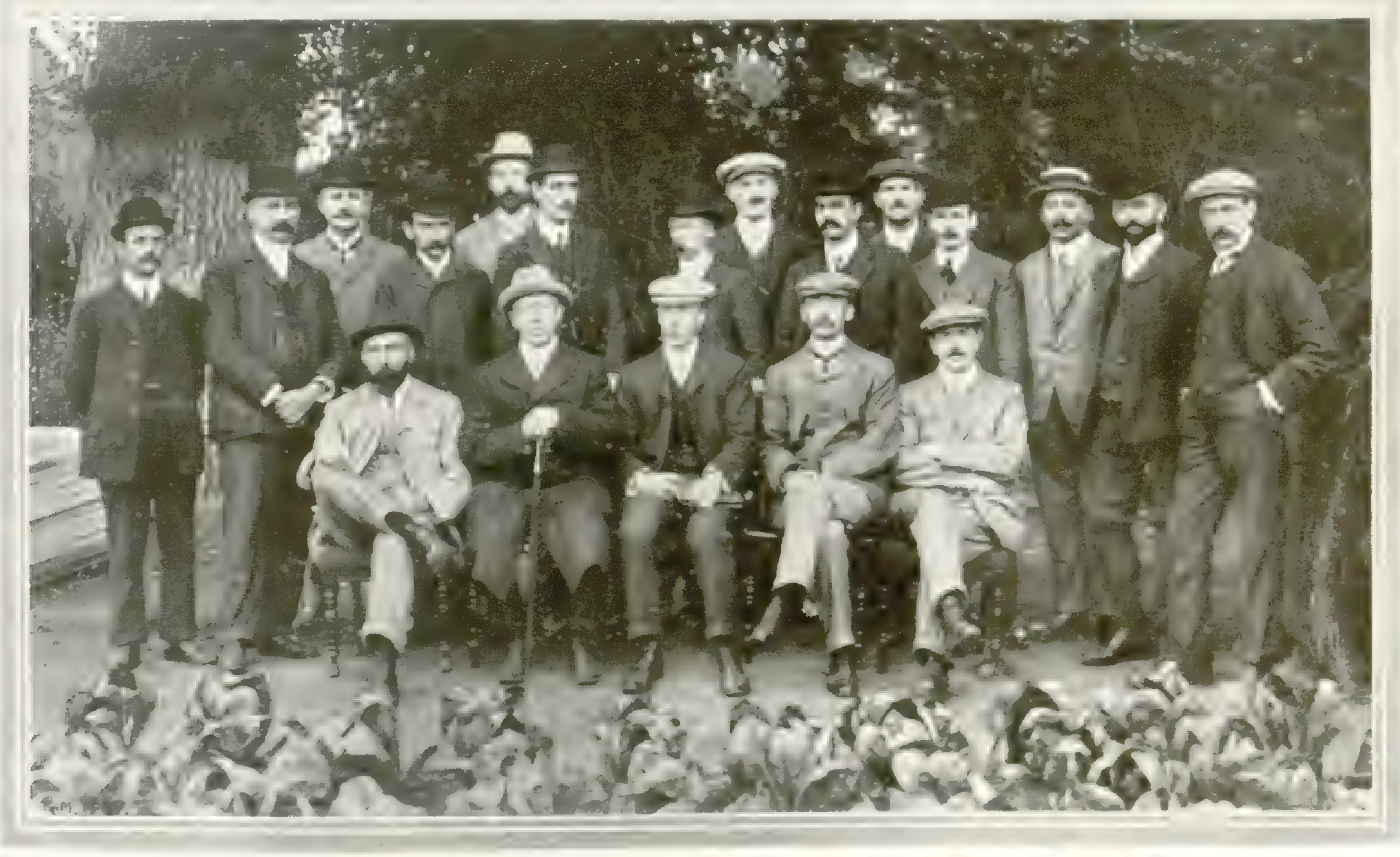
Wrotham Park, Barnet.

Sedum spectabile atropurpureum.—For furnishing a vase in a particularly hot and droughty situation in London various subjects have at different times been tried, but none of them have proved satisfactory. As a last resource it was, in the early part of the spring, planted with this sedum, which has proved to be the right plant in the right place. Throughout the growing season the mass of succulent leaves of a peculiar bluish-green tint was very grateful to the eye, and when in flower the plant was admired by everyone. The varietal name of atropurpureum, under which it occurs in most catalogues, is a decided misnomer, the colour being a decided rosy-red or reddish-rose.—W. T.

THE NEW SCHOOLMASTER.

The Horticultural Education Association; its Members and Their Work.

Poor Mother England, a little alarmed at the quality of the human material dragging at her skirts, has been looking askance at her old type of schoolmaster these latter years, and wondering if everything is for the best in her scholastic system. They can read, these urchins from the elementary schools, but they cannot think. They are able to prime themselves with the cricket averages, and the points in the football leagues; they have a certain familiarity with a particular type of literature; they readily develop a facile insolence of demeanour; and before they are any age to speak of they are clamouring for their "rights" at street-end meetings, and asking that the pensions age-limit shall be reduced to some reasonable figure, such as twenty-five. But of handiness and aptitude of intelligent application to unfamiliar tasks, of interest in the work that is given them to do, there is hardly a trace. So our excellent, if slow-witted, dame has turned to the garden at last, hoping that it can help her.



MEMBERS OF HORTICULTURAL EDUCATION ASSOCIATION AT SUTTON GREEN.

BACK ROW.—C. Martin. G. H. Hollingworth, H. J. Wright, C. Wakely, F. G. Drew, A. E. Burgess, W. H. Neild, W. B. Little, J. Slack, C. Berry, J. G. Murray, L. R. Harvey, J. Stoney, E. C. Parslow.

FRONT ROW.—J. Ettle, W. P. Wright (secretary), C. Foster, F. J. Chittenden (chairman), and J. C. Newsham.

Help her! Of course, it can! What is there that British gardening cannot do? If it can collect and subjugate plants from every clime, raise up new flowers as though by magic, spread its influence over every class of society, sustain the richest literature of modern times, and develop a school of artists of its own, surely it can smooth out this educational entanglement, and put the nation on a smoother road.

The gardener has got into the schools, and he will never be ousted from them. He is there by right of his amazing success as a practical political economist, by his earnestness, his keenness, his proved competence. It is easy to show up the foibles of the gardener, but it is impossible to deny his elemental greatness.

In a country where character has always, and rightly, been preferred to intellect, it was inevitable that sooner or later the influence of the gardener should be turned to the training of the young; for an experienced horticulturist is above all things a "man of character." His good points—concentration, sympathy, self-abnegation—are points of character, differing widely from such purely intellectual qualities as clearness of thought, breadth of view, tolerance, and humour.

Not merely will the gardener retain his footing in the school—he will mould it into a new form. The school of the future will not be a dense mass of bricks and mortar, inadequately ventilated in spite of every modern appliance; and poorly warmed by huge stoves that roast the air immediately around them while leaving the distant portions bitterly cold, or by large fireplaces which send the greater part of their heat to waste up the chimney; it will be a light and airy structure, mainly of glass, cheerful, healthy, and thoroughly warmed by steam or water pipes. Wherever we turn great and expensive blocks of buildings are rising—structures, the cost of which places a heavy burden on the rates, and which are too small, or out of date in respect to hygiene, almost before they are completed; with the result that embarrassing questions of enlargement and alteration arise. When the gardener's influence grows it will reduce the expenditure on buildings by one-third, and, what is more, it will take care that their equipment assumes the form of stimulating living things instead of dazing maps and deadening models.

We of the Horticultural Education Association are but the pioneers of a race of gardener-schoolmasters destined to revolutionise the system of training the lower classes. We are the first generation. We have had to cut the tracks, make the roads, and build the bridges. And our great aim has been to do such work as shall win the sympathy of the masses while inspiring confidence in the ruling classes. Have we succeeded? Go from county to county throughout the land, and tell me of one where it can be said that our influence has not been an acknowledged influence for good.

We are a body, so far, of forty-four strong. That is not so bad, considering that the number of counties in England is forty. It means that we have drawn into our ranks the great majority of the county horticultural teachers. Our doyen is Mr. John Wright, V.M.H., now plodding on towards the eighties, but as full of gardening enthusiasm as ever.

Once a year we foregather at some recognised horticultural centre in order to keep ourselves in touch with the latest developments in our beloved craft, and believe me, the long months of teaching have not so far worn down our voices that we are glad to rest them. Indeed, no! Never was a greater clatter of tongues, never a more incessant bombardment of question and answer, never a more eloquent outpouring of conviction and experience.

The editor asks me to tell his readers something of the individuality of the men who gathered at our meeting this year, as well as to give an idea of the association as a whole. I do this gladly.

From the fair Devonian gardens, whose charms have been sung by no less eminent a resident writer than Mr. Eden Phillpotts, comes Mr. Charles Berry, tall of figure, with the rugged features of a Puritan trooper; with something, too, I think, of the dour and dominating enthusiasm of those gaunt old warriors, for he is ever darting up to state some vehement opinion.

Surrey sends her nature-study expert, Mr. A. E. Burgess, a swarthy giant with the ascetic features and absorbed gaze of an anchorite, yet with the eager spirit of the born student. As keen a learner as teacher, as earnest a teacher as learner, Mr. Burgess is ever prominent. And the Metropolitan county sends one of her lecturing staff in the person of Mr. Horace J. Wright, but I am sure the editor recognises the ability of that exuberant personality to speak for itself.

We have Mr. F. J. Chittenden from the Royal Horticultural Society's Laboratory at Wisley, stalwart and bronzed, reflective and self-contained. Mr. Chittenden sits serene and placid, while the more impulsive spirits rattle the sabre, but when he rises a point darts home, sharp and sure.

Mr. F. G. Drew, the new superintendent of the University College gardens at Reading, peers at plants and people through a pair of prominent pebbles, and talks with the absorbed earnestness of the born plantsman. There is something of the scholar's reflectiveness in his face, of the bookman's stoop in his heavy shoulders, but for all that he is practical to the core.

Burly, deep-chested, black-bearded, Mr. John Ettle comes up from Somersetshire, where he conducts fifty odd school garden centres, looks after the cultural work at the Cider Institute near Bristol, lectures hard all the winter through, and yet is overflowing with energy and vitality.

We should see Mr. Charles Foster this year, in any case, for our first day takes us to "The Times" experimental station at Sutton Green, to spend happy hours among the trials, and in the beautiful gardens of Lord Northcliffe; but he is a faithful member, and, in spite of a press of duties, would be with us even if we wandered far away from his pleasant home.

Mr. A. R. Harvey is the horticultural superintendent of the West Sussex Education Committee, and talks keenly of gooseberry mildew, whose presence in their fields some of the Sussex growers are none too well pleased to be told of. Trim and well-groomed, Mr. Harvey is watchful, and no point passes him.

I gave up the attempt to cope with "H. J. W.," and I am almost in equally hopeless case with "G. H. H." The best thing with their type is to put them together and leave them to it. Yet, incredible though it may seem, "Hollingworth of Gloucester," graduated with me in Kent years ago. And I took trouble with him, too! Those who know their man will realise my discomfiture.

Mr. William B. Little, an old Kewite, whose keenness while in the South I have heard good reports of, came from Carlisle, and told me exciting stories of motor-cycle rides by night on the desolate lake roads. Mr. Little traverses in the winter those glorious passes which we rejoice in during summer, and has many a weird experience; but the hill folk like his lectures, and the fruit thereof is seen in the gardens which we who are merely birds of passage admire as we speed by on the coaches.

Small of figure, but full of alertness, and a capital speaker withal, is Mr. C. Martin, whose sphere of duty is the Isle of Wight.

Mr. J. G. Murray, who has seen service in Cumberland and Lancashire, and now supervises the nature study and school garden work in the Lindsey division of Lincolnshire, comes as a new member, and makes an impression that will not fade quickly. An up-to-date man, this; with many a novel idea for old hands to turn over and try to shatter.

Ridgmont sends us Mr. W. H. Neild, small, fair, voluble, who tells over-night of the unearthly hour at which he proposes to make a start in the morning, and at breakfast time is still sleeping the sleep of the just. Mr. Neild is full of the doings at Ridgmont, where ramming has now become a commonplace. Experiments are the breath of his nostrils.

We have two of a build in Mr. J. C. Newsham, who runs over from the Farm School at Basingstoke; and Mr. E. C. Parslow, who comes from distant Dorchester. Mr. Newsham's way lies rather among the farmers than the gardeners in these days, but he is as keen as ever for his old love. Mr. Parslow talks of the joys and benefits of gardening to the rustics whom his townsman, Mr. Thomas Hardy, has painted on a canvas that will be imperishable. An excellent fellow, this "E.C.P." quietly sensible, and with a humour of his own.

Bedfordshire has now taken up the teaching of gardening, and is working under the wing of Ridgmont. Her practical man is Mr. J. Slack, who gained his early experience as a teacher at Holmes Chapel, under the elder Neild (now, alas! gone over to the majority), and strengthened it in Hertfordshire as successor to Mr. A. E. Burgess.

Mr. J. Stoney represents Staffordshire, where they have one of the most thorough and complete systems of instruction in the county. An admirable gardener, and a man of keen intelligence, Mr. Stoney is one of our most valuable members.

Last of this year's participants, save for the unworthy wielder of the secretarial pen—even myself—comes Mr. C. Wakely, an incisive man, who for many years has been proving his worth in Essex.

The pleasant drives through the Surrey lanes, the hours under the guidance of Mr. Foster at Ladygrove, with Mr. J. Goatley, in the lovely Sutton Place gardens, and under the genial pilotage of Mr. S. T. Wright and Mr. Chittenden at Wisley, will live as a green memory in our hearts.

Walter P. Wright.

NARCISSUS GENERAL GORDON.

Referring to the question whether Daffodil General Gordon is quite new or not (page 724), I may be permitted to state that it was shown by my firm as a new flower for certificate at the Floral Committee Meeting of the R.H.S. on April 14, 1885, when it obtained a First Class Certificate. Curiously enough, the name was changed by the committee into that of Narcissus spurius coronatus, notwithstanding the fact that the Daffodil Conference which had been held the previous year had recommended the system of giving fancy and not Latin names to garden varieties.

Quoting from the Gardeners' Magazine of April 18, 1885, I may add the following extracts from the editorial columns: "First Class Certificate to Messrs. Krelage and Son, Haarlem, for Narcisus spurius coronatus. A very distinct and beautiful variety, which was shown under the name of General Gordon The perianth divisions are broad and spreading, and of a light yellow colour, and the chalice is of great breadth and of a rich golden hue."

In the same issue a further reference is made to this flower as follows: "A noble daffodil catalogued by the conference as Spurius coronatus was certificated on Tuesday. It was one of the grandest of the trumpet section."

In the Gardeners' Magazine of December 12, 1885, there was published a large engraving, being "a faithful portrait of one of Messrs. Krelage's flowers, as drawn by Mr. A. Slocombe at the moment of its appearing."

Unfortunately this really superior early flower is a weak doer, and consequently has not become so generally appreciated and popular as its floral merits would suggest.

Ernst H. Krelage.

[We are extremely obliged to Mr. Krelage for his interesting note. Had the variety been certificated as General Gordon there would have been no real difficulty in tracing its origin.—Ed., G.M.]

THE STRAWBERRY TREE.

The Strawberry Tree, or Arbutus unedo, has several points which recommend it to the gardener, especially to one who is situated in the milder parts of the country, for, though it succeeds fairly far north and away from the milder coast belt, it does not attain such luxuriant proportions as it does from the southern Midlands southwards. In Ireland it is found wild in a few localities, and it assumes the proportions of a moderate-sized tree in the woods about the Killarney Lakes. It is also met with, with a trunk of fair proportions, in some parts of South Wales, Cornwall, etc., particularly when it has been planted amongst other trees, and has been drawn up. In most places, however, we are familiar with it as a bush twelve to eighteen feet high, and as far through. Some years ago a very large number of handsome bushes were to be seen on Lord Morley's estate near Plymouth, while other very fine examples were to be met with so far distant as Orwell Park, Ipswich. In addition to being an excellent evergreen, the strawberry tree has other advantages, for it blossoms freely during September and October, while twelve months later the ripe fruit, which is orange and scarlet in colour, in very conspicuous

Several varieties are known which differ principally in habit, size, and shape of leaves, or colour of flowers. The most showy of these is rubra, sometimes called Croomi, which differs from the type by having reddish flowers, instead of the familiar cream colour of the more common kind Providing lime is not abundant in the soil Arbutus unedo is not fastidious, for it thrives alike in peat and loam. Care must, however, be taken in transplanting, especially after the plants have attained a height of three or four feet, for it is not an easy subject to establish. Plants two feet high are, as a rule, quite large enough to place in permanent situations, and it is usually more satisfactory to depend on young examples rather than attempt to transplant large specimens. Layered branches will form roots in the course of a year after pegging down, while seeds may be expected to vegetate freely. Varieties are usually grafted on stocks of the type.

D.

Notonia Granti.—In the group of miscellaneous flowering plants contributed by Messrs. J. Veitch and Sons to the Temple Show a few examples of this Notonia attracted attention by reason of their showy flowers and uncommon appearance. Botanically the genus Notonia is nearly related to that of Cacalia, which in its turn is sometimes referred to as Senecio. It forms a plant of a decidedly succulent character, the flowers, which are borne on branching stems about eighteen inches high, being of a bright scarlet colour, and collected together in crowded heads about one and a-half inches across. Being a plant of comparatively easy culture this notonia should soon become more generally distributed, as for greenhouse decoration at this season it will prove decidedly useful. Under the name of Senecio Galpini, a plant which must be very nearly related to the notonias, has long been grown at Kew. It has deep orange-coloured flower heads, and keeps up a succession of blossoms for a long time. The specific name of the notonia serves to perpetuate the memory of that intrepid traveller Grant, who, in conjunction with Speke, did so much to discover the source of the Nile. Though discovered during that journey, it does not appear to have been then introduced, and the plants now grown in this country were, I believe, distributed from the Cambridge Botanic Garden, having been raised by Mr. Lynch from seeds sent by a correspondent from Somaliland.—W. T.

A BRITISH FERN SOCIETY.

In 1891 a small coterie of British fern hunters and raisers met at Kendal, in Westmoreland, and started a local society, which they named the Northern British Pteridological Society, the object of which was the association of such as took a particular interest in those beautiful varieties of our native ferns, which had been, and were being accumulated by those who devoted themselves to research in ferny districts, and profited by their discoveries to improve the types they found by selective culture through their spores. Such a society naturally attracted the attention of others than the local enthusiasts, and, as a result, the membership speedily embraced such men as Dr. Stansfield, Messrs. C. T. Druery, W. H. Phillips, P. Neill Fraser, and others, with the result that the name was changed to that of the British Pteridological Society, a name which had been previously adopted by a society with the same object, and formed about the middle of the last century by Mr. G. B. Wollaston, Colonel A. W. Jones, Mr. E. J. Lowe, and others, but which survived its initiation but a very short time.

For some years the new society, which met in the Lake District every August Bank Holiday, published its reports in conjunction with a series of very interesting papers on the culture and general phenomena of fern life, but eventually, for various reasons, the membership dwindled until it became evident that something more tangible was necessary than a merely annual report as a return for the subscription, small though it was, that the members were called upon to pay.

Two of the annual meetings, indeed, were practical failures, and it occurred to Mr. C. T. Druery, who has been for some thirty years past the ardent champion of these beautiful native plants, that it would be well to try the effects of a quarterly journal, to be issued to the members as some definite return for their outlay, and with the aid of the society's funds the "British Fern Gazette" was started, and has proved a great success, the first four issues more than recouping the expenses incurred, and resulting in an addition of more than a hundred members to the society's ranks. A further result of this publication has been such a widespread knowledge of the society's existence that a number of foreign and Colonial members have joined, and some of the most important scientific institutions in the world have lent their countenance thereto. Naturally, under these circumstances, the society has developed from a merely local one into a broad-based institution, and one worthy of a cult which is peculiarly interesting in itself, embracing a study of plant variation which is open to all, and in this particular case is unique in character, since practically all the accumulated material, consisting of thousands of varieties, have been either found wild in Britain's ferny lanes, glens, and woodlands, or on our hills, mountains, and moors, or have been raised and improved by selection through the spores of such wild finds. The plants being of native origin are naturally, with a few unimportant exceptions, perfectly hardy and of easy culture, and it is little wonder therefore that those who once take up their study on thorough lines, inevitably become enthusiasts.

In the early days, when the first society was started, the good material was scanty, the popularity which had been secured by the beauty of the few good "finds" had been alienated by a flooding of the market by inferior varieties, and hence the support the society received was confined to but a few. One result, however, was the issue by Colonel Jones, undoubtedly the master spirit of the time in that connection, of a splendid series of over 300 nature prints, which have been handed down to us, together with the majority of the plants they depict, by his [illegible] in the cult.

The new society finds itself far more favourably situated, popular admiration of the up-to-date varieties is increasing daily, and is fostered by beautiful exhibits at all our shows of note; while the good material has become so abundant that there is no room for the "rogues," "irregulares," "depauperatums," etc., which in the old days did so much to bring British ferns into disrepute. For all these reasons the British Pteridological Society merits support, and Mr. C. T. Druery having now undertaken not merely the editorship of its organ, the "British Fern Gazette," but also the honorary secretaryship, will be glad to communicate with possible members. His address is 11, Shaa Road, Acton, W. The annual subscription is 5s., entitling to four issues of the "Gazette."

PROBLEMS UNDER CANVAS.

With reference to "H.'s" article on "Problems under Canvas," I hope many of your correspondents will support him in denouncing the would-be good gardener. I should like to add my testimony to the value of such an excellent comment on the methods of flower showing.

With regard to the secretary, it is quite impossible for anyone performing the secretarial duties to personally superintend the staging of all the exhibits. A head steward (non-competitive) should always be appointed for that purpose, one with a thorough knowledge of showing in all its aspects, when possible. This would greatly help to prevent the confusion that so often arises in the staging of exhibits; but, more than that, if it were possible, a steward, even in the smallest of local shows, should be in constant attendance in each section in order to show exhibitors where to place their exhibits. If something like this were done everything would be ready for the judges to commence their duties a very few minutes after the time fixed for receiving entries. In the second place, the writer of this note has had the honour of assisting to judge at considerably over three hundred flower shows, as well as having competed, and assisted as steward at many, so that his experience of these gatherings is not of yesterday. Secretaries are often blamed for this and that, whereas it is quite impossible for them to be responsible. In most cases the committee may be of good service to the secretary up to and after the staging of exhibits, but, and as I think in most cases, the majority of the committee are also competitors, they have so much to do in staging their own exhibits as to prevent them being of much service to the secretary, or indeed, to other exhibitors.

In the third place, the suggestion that the judges should be provided with cards to show the number of points they give to each individual dish or exhibit in a collection is a good one, and should be acted upon; and the committee, in arranging schedules, should add the number of points to be given to each dish or kind in a collection, so that intending competitors would know exactly what value they would obtain if it were perfection. They should know, also, that, for instance, turnips or cabbage would not be allowed the same number of points as tomatoes or French beans.

In the fourth place, the judges in the case cited were wrong in upholding their decision, seeing that in the schedule varieties were asked for. One can obtain very different colours and habits in the same kind. In judging such as these I have always given preference to the most distinct. Would it not be better in such a class to say twelve varieties, not more than two or three of any one species. I am not prepared to say what was right or wrong, only my sympathy is with the protestor, because, if it was not a very large collection, one variety of currant was sufficient.

I can here testify to the great harm done to shows by unscrupulous exhibitors, who year after year pose as great men in their profession, and who often cannot even scarcely stage one whole entry in the show without being obliged to some friend. The intrinsic value of a prize is nothing to the honest competitor as compared with the vexation of being deprived of his due award. The successful exhibitor in a case of this kind is undoubtedly dishonest. Certainly, as "H." says, it is a most difficult matter to solve. A society I had to do with some years ago had a protest against an unfair exhibitor, and although he was a Lord's gardener, he was disqualified. This, it was thought, would do the society much harm, as it seemed to be the table talk that, "if So-and-so, in his high position, would condescend to do such a mean trick, what would the ordinary man do?" It was also said by some employers, "I won't support the show any longer by exhibiting, and have my gardener deprived of his rightful position." In another case, a protest was made against a working man who competed in the professional class. It was long known to some that he was not straight, and he was often warned, and the end was thought to have come when he entered no less than eighteen classes. His garden was examined, and not one single entry could he have staged in the amateur division. He was again warned, but he brought forward ten entries, winning eight prizes then. A protest by some of the committee was made, but it was not maintained. This did the society an immense amount of harm. I suggest that the article by "H." should be printed and sent to every horticultural society. A.

FLOWER BEDS IN THE BOURNEMOUTH PUBLIC GARDENS.

Although the past summer has not been an ideal one, as regards the free flowering of bedding plants generally, those in the central gardens of Bournemouth have done remarkably well. Nearly all the beds are large ones, and contain many plants, so that the effect is very good when they are at their best. The following are a few of the principal arrangements, the beds being duplicated in nearly every case.

Cannas and gladiolus, mixed, made a brave show. Zonal pelargonium Paul Crampel formed the centre of two large beds, with blue ageratum as an edging, and standard fuchsias as dot plants. Verbenas, mixed, made the groundwork in two other beds, with broad encircling bands of Alyssum maritimum and blue lobelia respectively, and acacias as dot plants. An extremely rich-looking bed was the one filled with Iresine Lindini and Pelargonium Flower of Spring, mixed, with Lobelia cardinalis used freely all over the bed, and an edging of golden pyrethrum.

Another bed was filled with Centaurea candidissima as a groundwork in the centre, bordered by Begonia Fairy Queen, the outer edging being golden pyrethrum. In the middle of the bed there was a fine healthy specimen of Dracæna indivisa. Probably the two most showy beds in the garden were those containing Salvia Fire King, with dot plants of variegated abutilon, and an edging of ageratum. Fuchsia Mrs. Marshall looked well in two other beds, where dracænas were used as central plants, and Begonia Fairy Queen as groundwork.

Near the entrance to these gardens many herbaceous subjects are used with telling effect in the borders, where the dark blue-grey branches of the fir trees form a background. In one part of the gardens funkias luxuriate under the fir trees, and camellias, dracænas and palms give quite a tropical appearance to the gardens.

Mr. J. B. Stevenson, the able superintendent, deserves great credit for the admirable way in which he maintains the high reputation of these lovely and extensive pleasure grounds. GEO. GARNER.

DAHLIAS TO PERFECTION.—A thorough guide to the successful culture of these popular flowers is "Dahlias and Their Cultivation," by J. B. Wroe, price 1s. net, by post 1s. 2d., bound in cloth 1s. 6d., by post, 1s. 8d., from W. H. and L. Collingridge, 148, Aldersgate Street, London

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEASONABLE REMARKS. The shortening days remind one that the season is far advanced, and point out the necessity for placing any plants that are in a backward state of growth under the most favourable condition likely to assist the growth and enable them to reach maturity before the winter sets in. In almost all our warm divisions we find plants later than usual in maturing their growth; undoubtedly this may be to some extent accounted for by the unfavourable and practically sunless mid-season. The growths, too, are of a soft and sappy nature, and, as it is practically impossible to obtain flowers possessing high quality and colour unless the growths and pseudo-bulbs are properly ripened, all reasonable facilities should be made use of that will induce satisfactory ripening. In all the warm divisions where permanent shading has been used on the roof glass, this should now be thoroughly washed off, and the glass made clean, so that the plants may have the benefit of all available light, due precaution being taken, of course, to prevent the foliage becoming scorched or discoloured, which the roof blinds may prevent.

DAMPING DOWN.—This is another matter that should be practised with discretion. I find it is a good plan to delay damping in the morning until the normal temperature has been reached. We cannot at all times guard against fluctuations of temperatures, the outside conditions being so variable and the changes frequently sudden. It is a cold, moist atmosphere that causes injury in so many ways, for with a reasonably dry atmosphere there is little to be feared. Again, when damping in the afternoons, in all the divisions, this should be done sufficiently early to permit the excess of moisture being dispelled before the cool evening temperature is reached. Situations are so different and conditions so variable that it is impossible to lay down any hard and fast rules as to the number of times a house should be damped. In the first place this must be governed, to a great extent by the prevailing outside conditions, and then it is those only who have had experience that can best judge the requirements of their plants under those particular conditions. As long as the pseudo-bulbs and leaves remain plump, and there is the least possible obstruction to light, there will be little injury, even if the atmosphere is kept drier than usual.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

MIGNONETTE.—Seedlings raised a few weeks since will now require thinning; three plants in a five-inch pot are sufficient. Keep near the glass to ensure sturdy growth; give air freely, and do not coddle the plants.

ZONAL PELARGONIUMS.—For winter-flowering these will now require protection, and the structures should be thoroughly cleaned before the plants are housed. Do not pinch out the flower spikes from now onwards, but assist the plants with artificial manure at intervals. After housing it is well to fumigate lightly, afterwards giving abundance of air.

CHRYSANTHEMUMS with buds developing will now need removal indoors, as frost may appear at any time. As soon as the house has been filled, fumigate the plants, or greenfly will put in an appearance and spoil the blooms. Continue feeding with some approved artificial manure.

VIOLETS for flowering in pots should be lifted and potted up at once, care being taken not to break away much of the soil or roots. After potting give a thorough watering, and place in a frame, giving shade from bright sun for a few days.

MALMAISON CARNATIONS. — Layers that are still attached to the old plants should be severed and potted up at once, using the same kind of compost as advised in a previous calender. Those that were potted early will now require a shift into larger pots; they should have a rather heavier compost, and be potted extra firm, as more plants are lost through bad drainage and slack potting than from other causes.

SCHIZANTHUSES. — Another sowing should be made to secure plants for spring flowering; those raised earlier will now be ready for pricking out. The soil for schizanthuses should be very porous.

SALVIAS.—Those growing outside should now be lifted and potted; no more pinching will be necessary, but it will be advisable to shade the plants after potting, and spray overhead. Later plants in small pots will now require a shift.

PRIMULAS that have had all their flower spikes removed and have been grown in cool frames, should now be moved indoors for supplying early flowers. Pinching should now cease, and liquid manure should be given once or twice weekly.

REHMANNIA ANGULATA.—Seedlings pricked off into 2½-inch pots will now need a shift into five or six-inch pots. Keep them growing in an even temperature, and near the glass, and they will then furnish fine spikes next spring; with a little care fine specimens can be grown in a few months.—W. STAWARD, Belford Hall Gardens.

THE FLOWER GARDEN.

SHRUBBY CALCEOLARIAS, of whatever variety, should now be propagated for the next season's supply of bedding plants. It is usual with some to defer propagating until about this time, but to do the work earlier is not by any means undesirable if suitable cuttings are obtainable; late propagation certainly prevents the plants making too much growth before the advent of very severe weather, and those of sturdy growth are more satisfactory for wintering in unheated structures than larger plants could possibly be. If frames are at command the cuttings should be put in these, on a hard base, in not more than three or four inches of soil, which should be of a porous, sandy nature. This should receive a surfacing of sharp sand before the cuttings are inserted, and the cuttings should be placed about three or four inches apart, well watered in, and, if in a sunny position, shaded during bright weather, or until the cuttings show signs of rooting; afterwards an abundance of air should be given upon every favourable occasion. Thus treated sturdy plants are obtainable by early spring, when they may be transferred to more roomy quarters, or potted up, as may be deemed desirable. Pentstemons, antirrhinums, and plants of a like nature may be treated in a similar way.

GENERAL WORK in the flower garden just at present demands no special attention beyond the maintenance of neatness, until the beds are cleared, or the plants injured by frost. Advantage might therefore be taken to arrange for any alterations or improvements that are intended during the coming winter. Note may also be made of any plant, or plants, that have, either alone or in conjunction with others, obtained general approval; only such arrangements as are striking—which, however, should not mean gaudy—should be noted, as these are practical helps for guidance in future bedding arrangements.

SWEET PEAS.—Now is a good time for making a sowing of sweet peas in the open ground. Plants from such a sowing—unless the winter should prove exceptionally severe—will survive, and flower much earlier than those sown during the spring, however early that may be; at any rate, this has been our experience, which is doubtless similar to that of many others. Before sowing the soil should be moved to a good depth, or as deep as the natural soil will admit of so doing; at the same time a sufficient quantity of well-decayed manure should be worked into the soil, and a little bonemeal and soot may also be given in addition, or the latter, if not mixed with the soil, might be sprinkled over the surface after the seeds have been sown.—W. HEDLEY WARREN, Aston Clinton Gardens.

HARDY FRUITS.

HARDY VINES. — Where vines are planted against walls or trained to stakes in the open quarters, strict attention should be paid to the removal of all sublaterals, and where the leaves unduly shade the bunches of fruit they should be carefully tied back to expose the bunches to the direct rays of the sun; this will also assist in thoroughly ripening the current season's growth. Probably this phase of fruit culture does not appeal to the ordinary individual, but where vines are planted and grown extensively in the open quarters, such as we have in the vineyards here, the work amongst vines on a large scale is both an interesting and a profitable undertaking. Preparations are now being made here to gather the grapes for this year's vintage, which will probably commence about the middle of October. The fine sunny weather which has prevailed in this locality for the past three weeks has had a very marked effect upon the final swelling and colouring of the berries. The vines in the vineyards are planted in straight rows four feet apart, and the same distance from plant to plant. Stout ash or larch stakes are driven into the ground by each plant, and as the vine rods grow up they are securely tied to these. When they have reached the top of the stakes, which is about four feet above the level of the ground, the young growths are stopped, and the sublaterals continually pinched back to one leaf. The majority of the fruit is usually borne about twelve or eighteen inches above the level of the ground, the lower they are the better they ripen, owing to the warmth being radiated from the lime stones which are found so abundantly upon the surface soil at both vineyards. After the leaves have fallen the vines are pruned—some time before the latter end of December—to within two buds of the base of the vine. In the spring, when the buds start into growth, four or five of the strongest and best-placed shoots are allowed to develop, the weaker ones being all rubbed out. The borders in which vines are planted under walls should be examined, and if at all dry copious supplies of water should be given to the roots, and where good crops of fruit are in evidence frequent applications of liquid farmyard manure will be found most beneficial to hasten the ripening of the bunches.

WINTER MOTH.—By the time these notes appear a commencement should be made with the work of placing a band of "Willesden" paper around the stems of all fruit trees, this being immediately dressed with prepared grease. From early October to the end of February is the season when the wingless females of the winter moth ascend the trees to lay their eggs, and we have found it to be of the utmost importance here to adopt grease banding on practically all our fruit trees, as this precaution has been found to eliminate the necessity of expensive sprayings in the early summer months.—HENRY R. FARMER, Cardiff Castle Gardens.

Calceolaria Burbidgei. — When this calceolaria was first raised by the late Mr. F. W. Burbidge, about thirty years ago, it is questionable if anyone regarded it as likely to attain the popularity which it now has. It is almost impossible to find a garden where the bolder styles of bedding-out are adopted in which this calceolaria is not represented. As good-sized bushes it flowers freely throughout the entire summer, and it is not subject to any of the ailments which affect some of the calceolarias. In the greenhouse it will flower throughout the autumn and winter. The raiser always spoke confidently of it as a hybrid between C. Pavoni and C. fuchsiaefolia, but the appearance of the plant suggests a relationship to C. amplexicaulis, and in the "Kew Hand List" this last and C. Pavoni are given as the parents.—W. T.

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EXHIBITIONS AND MEETINGS.

(Concluded from page 764.)

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A. Searle, Castle Ashby Gardens, Northampton; Exhibition leeks (six entries), Mr. A. Grubb; Premier onion (ten entries), Mr. F. West, with Mr. T. Jones a very close second; Hercules Pea (five entries), Mr. A. Grubb: Giant Exhibition runner beans (nine entries), Mr. A. Searle, a fine lot, very straight and even; Moneymaker tomato, two clusters (five entries), Mr. T. Abbott, The Holme, Regent's Park.

For three heads of Clibran's Pink celery there were five entries, and here Mr. Searle was first, and Mr. S. Cole second. In Messrs. Massey's classes Mr. Gentle led for Universal potatoes, and Mr. G. Scourfield, Meath, Glam, for Ailsa Craig onions, and Mr. Gentle for Improved Black beet.

In the society's single-dish classes the awards were made as follows: Onions (twenty-five entries), Mr. Thomas Jones, with Ailsa Craig; two dishes of potatoes (seventeen entries), Mr. J. F. Hall, Little Morton, Blackpool, with King Edward VII. and Dalmeny Hero II.; three dishes of potatoes (twelve entries), Mr. T. Jones, Ruabon, with Windsor Castle, King Edward VII., and The Provost; six parsnips (twelve entries), Mr. J. Brown Robinson, Great Barford, St. Neots, with Dobbie's Selected; leeks (ten competitors), no prizes awarded; turnips (twenty-five entries), Mr. J. McCulloch, Maithill, Perth, with Golden Ball; runner beans (twenty-five entries), Mr. G. Gash, Alford Street, Grantham, with Best of All; peas (fifteen entries), Mr. H. Keep, Aldermaston; pair of marrows (sixteen entries), Mr. W. B. Wilson, The Dairy, Southlake Street, Twyford; tomatoes (eight entries), Mr. J. T. Hall; shallots (sixteen entries), Mr. C. Abbott, Lucy Cottages, School Walk, Sunbury; carrots (eighteen entries), Mr. W. Musson, Alford Street, Grantham, with Dobbie's Intermediate; beet (twenty-nine entries), Mr. Thomas Jones, Ruabon, with Dobbie's Purple; four bunches of herbs (five entries), Mr. F. C. Jenden; and celery (sixteen competitors), Mr. Thomas Jones, with Dobbie's Favourite Pink.

SMALL HOLDERS' CLASSES.

Lord Northcliffe provided the prizes in two classes for small holders, five substantial prizes in each. The first class was for holders working not less than two acres or more than twenty acres, and here there were but two entrants. The samples were packed in baskets as for market. First prize was awarded to Mr. T. King, New Road, Bromham, Chippenham, for a clean lot of potatoes, carrots, onions, runner beans, cauliflowers, carrots, and turnips; Mr. A. E. Firth, Bishopsthorpe, was second, his cauliflowers and carrots being the best samples. In the class for six baskets of vegetables or salads, from a holder working not less than one or more than ten acres, Mr. T. King won first prize, and was the only exhibitor. In his baskets he had fair examples of potatoes, carrots, parsnips, turnips, onions, and celery, but here, as in the previous class, the varieties were not labelled.

Mr. Alex. Dean, V.M.H., provided the prizes for a collection of six kinds of vegetables, submitted by cottage garden societies in the county of Surrey. The response to Mr. Dean's offer was not particularly good, and cannot be taken as representing the capabilities of the Surrey Cottagers and Allotment Holders. First prize fell to the South Park and Sidlow Cottage Garden Society, Reigate; second to the Beddington and Carshalton Society; and third to the Ashstead Horticultural Society; there were five entries.

BOTTLED VEGETABLES.

Mrs. E. Beckett, Aldenham House Gardens, led for six kinds of bottled vegetables with carrots, turnips, tomatoes (red and yellow) leeks, and celery: Mrs. V. Banks, Park Street, Grosvenor Square, second. For six bottles of peas or beans, Mrs. V. Banks scored with three bottles of green peas, one of broad beans, and one of whole and one of cut beans; Miss C. Banks, Fulham Palace Road, second.

NON-COMPETITIVE.

Right opposite the entrance Messrs. Sutton and Sons set up a very large and comprehensive collection of 113 dishes choice vegetables, tastefully arranged. Each kind and variety of vegetable was set up distinctive from its neighbour, and the whole display was an excellent one. Sulham Prize and Solid White celery were fine, Autumn Mammoth cauliflower, Ailsa Craig onions, Sutton's All Heart cabbage, Best of All runner beans, Chilian beet, Satisfaction potatoes, Dwarf Gem Brussels sprouts, Satisfaction cucumbers, Witloof chichory, aubergines, and capsicums were all finely represented. Messrs. Barr and Sons, Covent Garden, presented an attractive collection of vegetables, the quality of the individual dishes being excellent; particularly good were the examples of The Czar runner bean, Ailsa Craig onions, Red Globe beet, Autumn Mammoth cauliflowers, Red Dutch cabbage, Golden Nugget turnips, and various kales. The very fine exhibit of marrows and ornamental gourds staged the previous day by Mr. T. Stevenson, gardener to E. A. Mocatta, Esq., Woburn Place, Addlestone, remained for this function, and was very greatly admired for its cultural merit, brilliance, and great variety.

FIRST PRIZE COLLECTION OF TWELVE KINDS OF VEGETABLES.

Shown in Messrs. R. Sydenham's Class by Mr. S. Cole, Althorp Gardens, at the National Vegetable Society's Exhibition.

Messrs. Robert Veitch and Sons, Exeter, contributed a collection of vegetables grown in Devonshire, and in this representative group we noticed growing plants of Veitch's Climbing French bean, a five-pound cluster of Veitch's Glory tomato, splendid Cranston's Excelsior and Ailsa Craig onions, Gladstone peas, and the new and excellent Lady Llewelyn kidney potato. Messrs. Dobbie and Co.'s splendid display of potatoes already described was kept over for this exhibition, and was one of the leading contributions to a remarkable show; the coloured varieties, such as Exhibition Red, Queen of the Veldt, M. Bresee, Herd Laddie, Climax, Edgecote Purple, Crimson Beauty, King Edward VII., and Royal Purple looked very fine in the bright sunshine of this fine September morning.

Messrs. Wood and Son, Wood Green, N., presented a large collection of horticultural sundries, and set up these varied and useful subjects in a most attractive manner. Messrs. Jas. Veitch and Sons, Chelsea, held over their attractive display from the R.H.S. meeting, but had added a fine lot of tomatoes, notably their variety named Invicta, a handsome and heavy cropper.

From the Times Experimental Station, Guildford, came an interesting exhibit of types and varieties of swede turnips, and boxes of market produce, representing ten varieties of onions, nine of potatoes, four of tomatoes, two of carrots, one of radishes, two of turnips, two of beet, and two of cauliflowers, and the average yield per square chain of land was given in each case by Mr Chas. Foster, the director of the station.

MEDALS.

Gold.—Messrs. Sutton and Sons, Reading; Messrs. Dobbie and Co., Edinburgh; Messrs. Barr and Sons, Covent Garden; Mr. T. Stevenson, gardener to E. A. Mocatta, Esq., Addlestone; Messrs. Jas. Veitch and Sons, Chelsea; and Mr. C. Foster, Times Experimental Station, Guildford.

Silver-gilt.—Messrs. Robert Veitch and Sons, Exeter.

Silver.—Mr. W. Sands, Hillsborough, Co. Down.

Royal Horticultural Society.

The meeting held at Westminster on September 27 was a remarkable one, as every available inch of space was filled; two of the committees held their sittings upstairs, and the Orchid Committee was tightly squeezed in one of the annexes. Hardy flowers were present in great abundance, and, though there was a considerable repetition of subjects, the numerous displays were, on the whole, so good that scarcely one can be passed without comment. Dahlias were still in force, while early chrysanthemums and perennial asters were very much in evidence. Fruits, vegetables, and orchids were all well shown, and there was a fair sprinkling of novelties.

FLORAL COMMITTEE

Cactus, pompon, pompon-cactus, and single dahlias were all beautifully shown by Messrs. J. Cheal and Sons, Crawley; their single varieties were superb, especially Brilliant.

Mrs. Joynson Hicks, Leander, Miss Roberts, Miss Bates, Mrs. Miller, Betty, and Sunray. The pompon-cactus varieties attracted a great deal of attention. A big bank of such autumn flowers as Michaelmas daisies, solidagos, phloxes, heleniums, and pentstemons was arranged by Messrs. William Cutbush and Son, Highgate, N., and the Michaelmas daisies especially were displayed in such quantity as to show their character. Bouvardias in great variety and well grown were displayed by Messrs. James Veitch and Sons, Chelsea, who also showed a fine selection of their improved strain of streptocarpuses, Nerine Bowdeni, and greenhouse rhododendrons.

Belladonna lilies were finely shown by Mr. Frank Lilley, Guernsey, who also contributed spikes of the charming Crinum Powelli, of Schizostylis coccinea and Nerine Bowdeni. Great sheaves of gladioli and early chrysanthemums, backed by heleniums and Michaelmas daisies, made up a fine exhibit from Mr. James Box, Lindfield. Early-flowering chrysanthemums were largely shown by Messrs. R. H. Bath, Lim., Wisbech, and their large stands of J. Bannister, Provence, Golden Glow, Rose d'Argent, and Normandie were striking features. Mr. J. T. West, Tower Hill, Brentwood, presented a fine selection of cactus and pompon dahlias, and put up good bunches of such pretty pompon-cactus varieties as Martha, Snowbird, Minima, Cheerful, and Sweet. Messrs. Bakers, Wolverhampton, had a collection of early chrysanthemums, and showed Provence, Horace Martin, and Ralph Curtis in good form; Aconitum Fischeri and the semi-double Anemone japonica Mont Rose were also well shown by this firm.

Very striking, tall, and brilliant is Lobelia Gloire de St. Annes (A.M.), a cardinalis hybrid, shown by Mr. N. Campbell, gardener to Lady Ardilaun, St. Annes, Clontarf, co. Dublin; the stems shown were 4ft. high, and carried large crimson-scarlet flowers. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, had a charming exhibit of Michaelmas daisies, each variety set up in a goodly bunch, and lightly arranged over a white ground; Rev. T. Wilks, Robert Parker, Ryecroft Purple, Rose McDonald, Beauty of Colwall, Mrs. Duncombe Mann (very graceful), Delight, Mrs. Huson Morris, and T. S. Ware, were especially noteworthy for their effectiveness. Clematises, fuchsias, and bamboos formed an interesting group from Mr. L. R. Russell, Richmond. Messrs. Paul and Son, Cheshunt, had a display of the rarer shrubs, especially those flowering late or carrying fruits or coloured leafage; the berberises were well represented, as were the cornus, viburnums, spiræas, and hydrangeas. This firm also sent Solidago spectabilis (A.M.), a fine Golden Rod.

Messrs. G. Bunyard and Co., Maidstone, presented liliums, gaillardias, a fine selection of Michaelmas daisies, anemones, and other useful and beautiful autumn flowers. Shrubby veronicas, dwarf and standard, as shown by Messrs. H. B. May and Sons, Edmonton, were very attractive, notably the varieties Attraction, Mauvena, Mont Blanc, Gabrielle, Eveline, Conquette, and Violette. Mr. Frank Brazier, Caterham, filled one corner with a brilliant exhibit of Michaelmas daisies, pentstemons, liliums, phloxes, and early chrysanthemums—a fine display. Messrs. Frank Cant and Co., Colchester, had a small but very fragrant and beautiful exhibit of autumnal roses, and they showed a large stand of the deep-coloured Hugh Dickson.

In the group of hardy flowers put up by Messrs. T. S. Ware, Ltd., Feltham, a few of the leading subjects were Liatris pycnostachya, Eryngium alpinum, and Aster Beauty of Colwall. This firm had also a gorgeous bank of their superb double and single begonias, a remarkable lot for so late in the season. More roses came from Messrs. Benjamin R. Cant and Sons, Colchester, and from Mrs. Edward Mawley, Claudius, White Maman Cochet, Lyon Rose, La Tosca, and Frau Karl Druschki were very fine. Mr. G. Prince, Longworth, put up a lovely lot of roses in the lower annexe, and of especial beauty were the stands of Frau Karl Druschki, Dean Hole, Lyon Rose, Queen Mab, White Maman Cochet, and Gottfried Keller.

The features of Mr. Maurice Prichard's display of hardy flowers were the groups of splendid kniphofias and gladioli, and the new heleniums and Cimicifuga japonica. Roses were beautifully shown by Messrs. William Paul and Son, Waltham Cross, who, as usual, staged baskets of a variety; the exhibit was suggestive of July rather than late September; leading varieties were Lyon Rose, Mrs. J. Laing, Lady Roberts, Mdme. Abel Chatenay, Joseph Lowe, Caroline Testout, Le Progres, Mdme. Ravary, Joseph Hill, Aschenbrödel, Hugo Roller, and the useful Frau Karl Druschki. Early chrysanthemums were finely shown by Messrs. W. Wells and Co., Merstham, who set up their flowers charmingly, and had, in addition, a splendid lot of seedling pentstemons, phloxes, violas, etc., the whole producing a very fine effect. Among the chrysanthemums some of the finest were J. Bannister, Touraine, Goacher's Crimson, Polly, Leslie, Normandie, Perle Chatillonaise, and Golden Glow. Early singles were also very much in evidence.

A charming group of perpetual carnations from Messrs. Stuart Low and Co., Enfield, contained fine blooms of Lady Alington, a new pink shade; Fire Glow, a striking fancy; Lady Dainty, Dorothy Gordon, Mrs. T. M. Crook, and other good things. Seedling begonias, representing a fine strain of doubles, were staged by Mr. A. Ll. Gwillim, New Eltham. New roses from Messrs. Samuel McGredy and Son, Portadown, were a great centre of interest, and the varieties included Countess of Gosford, Mrs. Herbert Stevens, Mrs. Alfred Tate, Countess of Kilmory, Mrs. E. J. Holland, Earl of Gosford, Ethel Malcolm, and Dorothy Radcliffe.

Mr. J. B. Riding, Chingford, presented collarette and paony-flowered dahlias, and these quaint varieties came in for a good deal of comment. Messrs. G. and A. Clark, Dover, sent a group of hardy autumn flowers, and Mr. H. F. Robson, Ham, Surrey, showed early chrysanthemums.

Mr. Amos Perry, Enfield, set up a bank of delphiniums, a few Michaelmas daisies, a colony of Sarracenia purpurea, and a grand batch of the brilliant Helenium Riverslea.

ORCHID COMMITTEE.

Messrs. Stuart Low and Co., Enfield, brought up Ionopsis paniculata, Cycnoches maculatum, Houlletia Brocklehurstiana, Vanda Kimballiana, Zygopetalum Gautieri, and other interesting orchids, in addition to such showy things as Oncidium oblongatum, O. Marshallianum, Cattleya Iris, C. aurea, Cypripedium Rosetti, etc. Messrs. Stanley and Co., Southgate, presented Cattleya iridescens, and L.-c. Gottiana. From Messrs. William Bull and Sons, Chelsea, came Odontioda Wilsoni var. Gwendoline, of pale pink colour. Mr. W. Thompson, Walton Grange, Stone, sent Cattleya De Geestiana var. Thompsoni (A.M.), with lovely yellow lip and white sepals and petals. From Westonbirt Mr. Alexander, orchid grower to Lieut.-Colonel Sir G. Holford, brought up the brilliant purple Cattleya Dirce magnifica (A.M.), the handsome broad-sepalled Cypripedium Shogun (F.C.C.), C. Germaine Opoix Westonbirt var., C. Actæus Bianca, and C. Gaston Bulteel var. King Edward.

In the little group of orchids shown by Messrs. J. Cypher and Sons, Cheltenham, we noticed Cypripedium Fairrieanum, Dendrobium Phalænopsis, Brasso-cattleya Digbyano-gigas, and the pretty Sophro-cattleya Medea. Mr. E. V. Low, Haywards Heath, brought up Cypripedium Fairrieanum, C. Sanacderæ, C. Rossetti, C. King Edward VII., and C. William Lloyd superbum. Messrs. Mansell and Hatcher, Rawdon, Leeds, brought up Vanda Kimballiana, Odontoglossum grande, Brasso-cattleya Mdme. J. Leeman, Cattleya Gaskelliana albens, C. Armstrongi superba, and various odontoglossums and cypripediums. A small group of charming varieties of Dendrobium Phalænopsis Schröderiana was set up by Mr. Collier, gardener to Sir J. Colman, Bart., Gatton Park, Reigate.

Mr. Black, gardener to R. G. Thwaites, Esq., Streatham, brought up several plants of Odontioda Thwaitesi, Cattleya Iris, and the new C. Roupelliana. Mr. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, sent up Odontioda Craveniana and Cypripedium H. S. Goodson. Messrs. William Bull and Sons, Chelsea, put up an interesting group of Cattleya Gravesiæ, C. Pittiana, C. Iris, C. Marstersoniæ, Cypripedium Maudiæ, and Odontioda Charlesworthi, the latter a very fine variety. Messrs. Sander and Sons, St. Albans, were represented by a large group of orchids that included Phaius Cooperi (A.M.), Lælio-cattleya Luminosa, Brasso-cattleya Lehmanniæ, Cattleya Iris, Brasso-lælia Veitchi, Stanhopea oculata, Zygopetalum rostratum, and other good things.

Messrs. Charlesworth and Co., Haywards Heath, presented a group of interesting orchids, notable things being Cypripedium Rosetti, Odontoglossum eximium, O. illustrissimum, O. ardentissimum, O. Rolfæ, Cirrhopetalum Mastersianum, Brasso-cattleya Lehmanniæ, Cattleya iridescens, and the broad, richly-hued Cattleya Luegæ (C. Enid and C. Dowiana Rossita) (A.M.), and the beautiful Miltonia Harwoodi.

FRUIT AND VEGETABLE COMMITTEE.

A particularly fine display of ornamental gourds and marrows, set up in first-rate style by Mr. T. Stevenson, gardener to E. A. Mocatta, Esq., Woburn Place, Addlestone, was a striking feature. There were over fifty distinct varieties, their colours ranging from deep black-green to vivid orange-scarlet, and in some cases the bright and dark colours were quaintly combined in the same specimen. There was over a ton weight of these ornamental and useful fruits, and all were grown on a pergola nearly 80 yards long, thus providing a unique feature, and one which Mr. Mocatta is personally very keenly interested in. Messrs. G. Massey and Sons, Spalding, tabled a large collection of vegetables, making a special feature of celeriac, kohl rabi, aubergines, maize, onions, and beet.

Messrs. Sutton and Sons, Reading, had two exhibits—one, of runner beans only, showed the remarkable variety of size, form, and colour now obtainable in this useful vegetable. Prizewinner and Best of All were far and away the finest pods, but the purple, golden, and red-striped varieties attracted at least as much attention. In the other and larger exhibit the Reading firm had a remarkable collection of uncommon types of vegetables, and among these we noted chicory, aubergines, radishes in great variety, Couve Tronchuda, kohl rabi, celeriac, chenopodium, various beets, capsicums, and many other interesting, and useful subjects that might well enter more largely than they do at present into our vegetable dietary.

The vegetables staged by Messrs. James Veitch and Sons, Chelsea, were of excellent quality and admirably arranged; Ailsa Craig onions, capsicums, cauliflowers, Autocrat peas, and enormous Hackwood Park runners beans were especially notable. H.R.H. the Prince of Reuss, Gera, Germany, sent over a dozen and a half large specimens of the pale yellow-green cucumber named Abundance. This variety is grown especially for pickling in Germany, and is of great value for the purpose. The fruits have solid white flesh, and a very small seed cavity; some of the specimens were 19in. long, and with a girth of 13in. The exhibit was very interesting.

Fruit trees in pots, carrying excellent crops, were again submitted by the King's Acre Nursery Company, Hereford, their pears and pot vines receiving unstinted and well-deserved praise. Figs and apples were also largely represented, but we think the Hereford firm has never before shown such grandly-cropped pear trees in pots; they were pictures of high culture. Messrs. J. Harrison and Sons, Leicester, showed a few fine varieties of cabbages and savoys. The exhibit of potatoes from Messrs. Dobbie and Co., Rothesay, attracted a great deal of attention. There were four dozen large baskets of selected tubers of the leading varieties, and the arrangement, as well as the cultural merit of the display was excellent. The Provost, Climax, Sharpe's Victor, Admiral, Factor, King Edward VII., Midlothian Early, and Laing's Perfection were a few of the more striking varieties.

Mr. W. E. Sands, Hillsborough, co. Down, sent dishes of a goodly number of varieties of potatoes, many of them produced as second or catch crops after cabbage, or even after potatoes. They were fair samples all round; Irish Queen, Emerald Queen, Leinster Wonder, and Shamrock were Irish varieties of merit.

CERTIFICATES AND AWARDS.

First-class Certificates. — To Viburnum Henryi, from Messrs. James Veitch and Sons, Chelsea; to Cypripedium Shogun, from Lieut.-Colonel Sir G. Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

Award of Merit.—To Lobelia Gloire de St. Annes, from Lady Ardilaun, Clontarf, co. Dublin; to cactus-dahlia Flagstaff, from Messrs. J. Stredwick and Son, St. Leonards; to carnation Lady Alington, from Messrs. Stuart Low and Co., Enfield; to phlox Ellen Willmott, from Messrs. Gunn and Sons, Olton; to perennial aster Peggy Ballard, from Mr. Ballard, Colwall; to H.T. rose Dorothy Ratcliffe, H.T. rose Mrs. Herbert Stevens, and H.T. rose Ethel Malcolm, from Messrs. S. McGredy and Son, Portadown; to chrysanthemums Hollicot Golden, Hollicot Pearl White, and Betty Spark, from Mr. W. Roots, Holly Cot, Cranford; to Solidago spectabilis, from Messrs. Paul and Son, Cheshunt; to Lælio-cattleya Degeestiana var. Thompsoni, from Mr. William Thompson, Walton Grange, Stone; to Phaius Cooperi, from Messrs. Sander and Sons, St. Albans; to Lælio-cattleya Dirce magnifica, from Lieut.-Colonel Sir G. Holford; and to Cattleya Luegeæ, from Messrs. Charlesworth and Co., Haywards Heath.

MEDALS.

Silver-gilt Flora.—To Messrs. William Paul and Son, Waltham Cross, for roses; to Messrs. T. S. Ware, Lim., Feltham, for hardy flowers and begonias; to Mr. James Box, Lindfield, for hardy flowers; to Mr. H. J. Jones, Ryecroft Nursery, Lewisham, for perennial asters; to Mr. L. R. Russell, Richmond, for clematis, etc.; to Messrs. James Veitch and Sons, Chelsea, for greenhouse plants; to Mr. J. Brazier, Caterham, for hardy flowers; to Messrs. G. Bunyard and Co., Lim., Maidstone, for hardy flowers; to Messrs. G. and A. Clark, Dover, for hardy flowers; to Messrs. W. Cutbush and Son, Highgate, for hardy flowers; to Messrs. Stuart Low and Co., Bush Hill Park, Enfield, for carnations; to Messrs. H. B. May and Sons, Edmonton, for veronicas and ferns; to Messrs. Paul and Son, Cheshunt, for shrubs, etc.; to Messrs. W. Wells and Co., Merstham, for chrysanthemums; to Mr. G. Prince, Longworth, for roses; to Mr. J. T. West, Brentwood, for dahlias.

Silver-gilt Knightian.—To Messrs. Dobbie and Co., Edinburgh, for potatoes; to King's Acre Nursery Company, Hereford, for pot fruit trees; to Mr. Stevenson, gardener to E. A. Mocatta, Esq., Woburn Place, Addlestone, for ornamental gourds; to Messrs. Sutton and Sons, Reading, for collection of vegetables; to Messrs. James Veitch and Sons, Chelsea, for collection of vegetables.

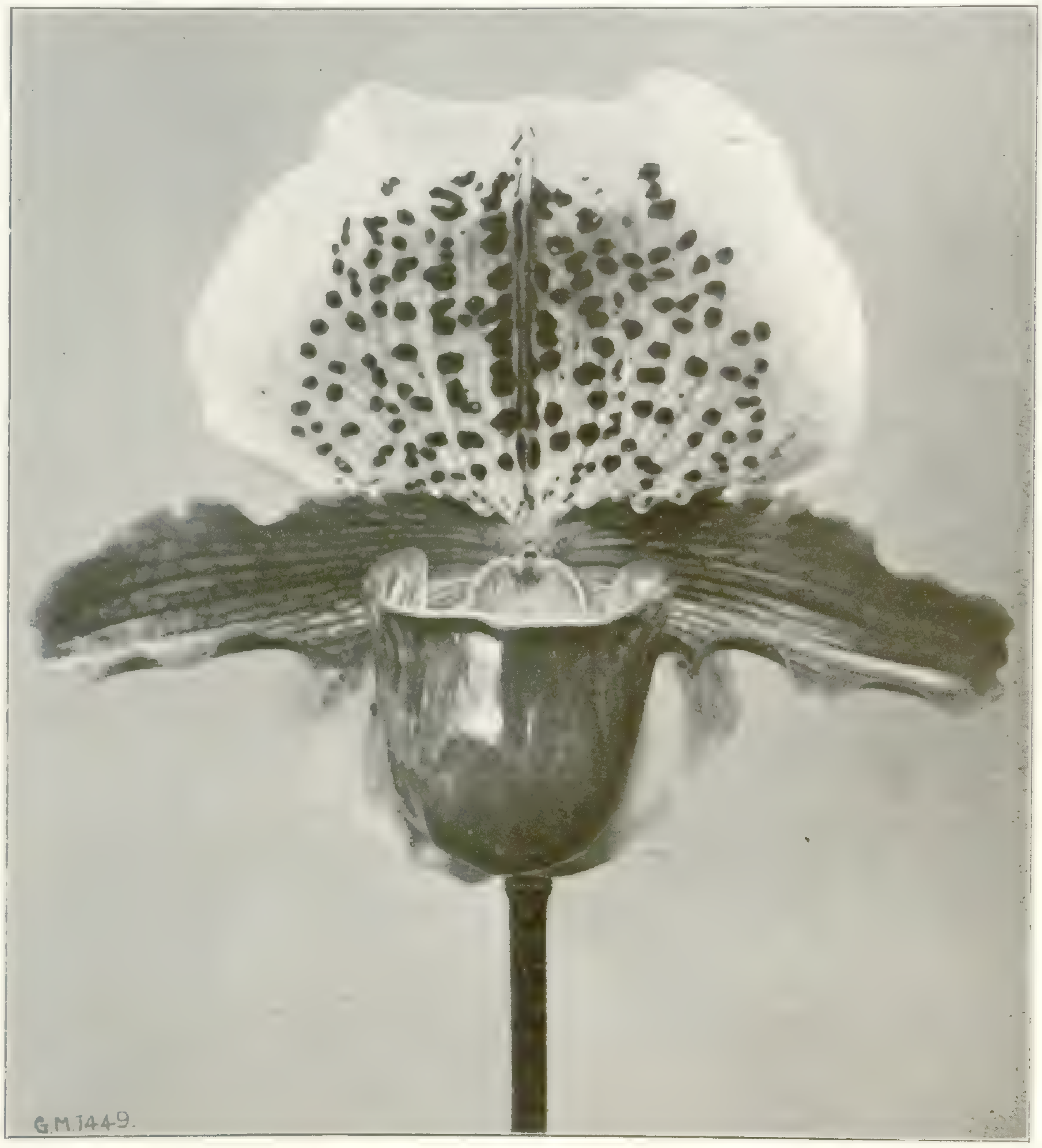
Silver Flora.—To Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids.

Silver Banksian.—To Messrs. William Bull and Sons, Chelsea, for orchids; to Messrs. Mansell and Hatcher, Rawdon, for orchids; to Mr. Black, gardener to R. G. Thwaites, Esq., Streatham, for orchids; to Mr. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Reigate, for orchids; to Mr. Sands, Hillsbrough, co. Down, for potatoes; to Messrs. G. Massey and Sons, Spalding, for vegetables; and to H.R.H. the Prince of Reuss, Gera, Germany, for pickling cucumbers.

Bronze Flora.—To Messrs. R. H. Bath, Lim., Wisbech, for chrysanthemums, etc.; to Mr. F. Lilley, Guernsey, for amaryllis, nerines, etc.

Bronze Banksian.—To Mr. Maurice Prichard, Christchurch, Hants, for hardy flowers; and to Mr. H. F. Robson, Ham, for chrysanthemums, etc.

National Dahlia Society's Awards.—A committee of this society made the following awards at the Royal Horticultural Society's meeting: First-class certificate to pompon dahlia The Moor, from Mr. S. Mortimer, Farnham; to decorative dahlia Loveliness, from Mr. Charles Turner, Slough; to cactus dahlias Kingfisher and Golden Eagle, from Messrs. J. Stredwick and Son, St. Leonards.



CYPRIPEDIUM SHOGUN.
A distinct variety with large, richly-coloured flowers. F.C.C., R.H.S., September 27. Lieut.-Colonel Sir G. L. Holford, Westonbirt (H. G. Alexander, orchid grower).

Woodstock.

SEPTEMBER 13.

In connection with a large show of farm roots, horses, dogs, poultry, and other live stock, for which about 100 classes are provided, the Woodstock Horticultural Society held its 53rd September exhibition in the beautiful domain of Blenheim Park, in close proximity to the Palace, by permission of the Duke of Marlborough. The weather, though overcast, was dry, and there was a very large attendance of the county gentry.

The horticultural schedule provides some seventy classes, but only two are devoted to plants. By the offer of the R.H.S. medals the committee were able to attract a considerable muster of cut flowers as "non-competitive exhibits"; one very prominent display was the collection of dahlias from Mr. John Walker, Thame, who had, effectively disposed on 180 feet space, nearly 140 show and fancy varieties, thirty bunches of singles, a like number of pompons, an extensive array of cactus, and a number of pæony-flowered varieties; a silver-gilt medal was awarded. Mr. Ernest Hicks, Wallingford, made a display of roses, comprising fifty bouquets of teas and garden varieties in three tiers, faced by a line of specimen blooms in which two dozen fine developments of F. K. Druschki formed a central setting, from these boxes depending sprays of climbers formed a fringe. From the upper tier sprang arching lines terminating with funnel-shaped vases of rose blooms; a silver medal was awarded. Messrs. Gardiner, Son, and Adams, Crown Road Nursery, Kidlington, put up a very showy group of dwarf-grown early-flowering chrysanthemums, which secured a bronze medal; and they further augmented the colour in the tent by a large collection of hybrid gladioli, delphiniums, and violets. Mr. Charles Turner, Royal Nurseries, Slough, arranged about eighty vases of choice perennials, roses, cactus dahlias, in triplets; pompon dahlias, in sixes; and a fine showy centre of the pæony-flowered dahlias. Mr. J. White, Worcester, sent a nice collection of garden flowers.

The largest display, however, came from the Palace Gardens, Mr. G. Hunter covering fully 700 square feet with an arrangement of stove and greenhouse subjects. The design, an elongated oval, enclosed four of the tent poles which served as centres of the scheme, each being a conical pyramid surmounted by kentia or cocos palms, the outer mounds being simply displays of tree carnations and highly-coloured plants, the two inner mounds being arrangements of Odontoglossum crispum and Dendrobium Phalænopsis, francoa, etc.; the intervening mounds were massings of Vanda teres and Odontoglossum grande, the groundwork being a myriad of dot plants, such as crotons, liliums, and greenhouse subjects in general; the verge of the design was a wide edging of scarlet zonals, gloxinias, ferns, etc. To this exhibit, and a collection of fifty dishes of fruit, a gold medal was awarded. In the fruit there were some grand clusters of Alicante and Muscat of Alexandria grapes, Dymond, Lady Palmerston, and other peaches, a few pears, a large variety of apples, the Peasgood's Nonsuch weighing fully one pound; the plums included Magnum Bonum and Cox's Transparent.

In competition, the groups of plants on forty square feet were pretty arrangements. Mr. R. Wadham, gardener to Mrs. Bradshaw, The Grange, Steeple Aston, led, and his group contained some nice liliums; Mr. H. M. Gaskell, Kidlington Hall, second, whose set was gay with Scarborough lilies and a specimen Peristeria elata. The awards for early-flowering chrysanthemums went to Mr. W. T. Mattock, Barton End Nursery, Headington; and Messrs. Gardiner, Son, and Adams, Kidlington. Displays of roses on eighteen feet were composed of numerous bouquets and columns; the first prize went to F. Taylor and Sons, Kingham Nurseries, Chipping Norton, who were strong with a front line of specimen blooms; Mr. John Mattock, New Headington, a close second. Displays of cactus dahlias (open) arranged on thirty-six feet, made a rare show, the awards falling to Messrs. J. Walker, Taylor and Sons, and J. Mattock; while the displays of herbaceous perennials secured awards to Mr. John Cooper, Hardy Plant Nursery, Chipping Norton; and Mr. Mark Burden (shoemaker), Stanton Harcourt; these two exhibits also securing the awards for a dozen bouquets of garden flowers in the same order. Mr. J. Walker led for double zinnias and quilled asters; Mr. Burden for any other variety of asters; the premier collection of gladioli coming from Mr. J, Mattock. For a dozen roses, Messrs. Taylor and Sons secured the prize.

One of the attractions were the decorated dinner tables, Messrs. Taylor and Sons scoring a premier for an elegant arrangement of cattleyas, epidendrums, phalænopsis, francoa, and light greenery; Mr. W. T. Mattock second with a charming display of Gottfried Keller rose.

Fruit was a fair all-round show; in the open division Mr. J. M. Bush, gardener to F. J. Myers, Esq., Charlton Lodge, Banbury, led for a collection, and for six dishes; for melon, grapes, and nectarines. Mr. R. Wadham scored premiers for peaches and plums; he also was strong in the classes for tomatoes, potatoes, and Messrs. Sutton's collection of vegetables. Mr. T. Sirman, Stanton Harcourt, led for celery and cauliflowers; Mr. A. Busby, gardener to Colonel Murray, Deddington, proved a champion with onions, carrots, parsnips, and turnips; Mr. J. C. Taylor, 17, Thorncliffe Road, Oxford, was premier for beet, marrows, and runner beans. The amateurs' division was well supported by Oxford cultivators, the cottagers' classes being limited to the Blenheim Estate allotment-holders.

FORTHCOMING ENGAGEMENTS.

SATURDAY, October 1.—French Horticultural Society of London.

TUESDAY, October 4.—Scottish Horticultural Association.

THURSDAY, October 6.—United Horticultural Benefit and Provident Society, annual dinner at the Waldorf Hotel, to be presided over by Edward Sherwood, Esq.; chair to be taken at 7 o'clock.

MONDAY, October 10.—United Horticultural Benefit and Provident Society; committee meeting.

TUESDAY, October 11.—Royal Horticultural Society; committees meet at 12 o'clock; lecture at 3 p.m. on "Cider and Perry Fruits," by Mr. B. T. P. Barker, M.A.; Scientific Committee at 4 o'clock.

British Gardeners' Association; Council meeting.

THURSDAY, October 13.—Royal Horticultural Society's Sixteenth Annual Exhibition of British Fruits; two days.

British Gardeners' Association; London branch.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention correspondents are requested to distinctly mark the paragraph.

PEACHES.—P. S., Swansea: We have in type an article dealing with the subject of stone-splitting in peaches, that will interest you. The specimens sent are being examined, and we hope to report upon them at an early date. What is the variety?

CREEPING JENNY. — F. H., Lee: The botanical name of the Creeping Jenny is Lysimachia Nummularia. It is a common native plant that is propagated with the greatest ease by division in early spring, though at almost any season of the year, if the long trails are pegged down on moist soil, they will root and grow from practically every joint. Seeds rarely ripen, and we do not know of any one who offers seeds.

PLANTING PEACHES. G. G., Aberystwyth.—Amsden June is a suitable peach to plant to ripen earlier than Dr. Hogg and Alexandra Noblesse, and either Violette Hâtive or Raymacker's to ripen later than these varieties. Late Devonian is a still later and a good variety. We may also direct your attention to Dymond and Bellegarde, which are midseason varieties of first-rate quality. Of nectarines Pine Apple and Humboldt are excellent, and will suit your requirements. In making the border, to every five barrowloads of soil of the description you give add one of crushed mortar rubble, or, failing this, of crushed chalk that has been well exposed to the weather, and half a barrowload of wood ashes. Crushed bones might be added, but it is preferable to use bones in the form of meal as top dressings to trees after they have attained the fruit-bearing stage. Thoroughly drain the border, and well mix and firm the compost.

BANK-SIDE OF TENNIS COURT.—A. F., Taunton: If the lawn is freely used for tennis you will find the culture of plants on the sloping bank to be a great nuisance, because, unless netted off from the court, the balls would be continually falling among the plants. This would be annoying to the players, who would have to hunt for them, and the plants would suffer in some degree from the attempts made to find the balls that had fallen among them. However, if you wish to plant the bank we suggest the use of informal groups of Mollis azaleas, cotoneasters, dwarf rhododendrons, and Wichuraiana and Rugosa roses, with spring, summer, and autumn flowering bulbs planted freely among and around them.

HEXHAM FRUIT CONGRESS.—L. E. B., Derby: The Hexham Fruit Show and Congress takes place at Hexham on October 20, 21, and 22. It is being organised in connection with the four northern counties, and the secretary is Rev. J. Bernard Hall, Dalston, Cumberland.

WALL FRUIT TREES.—M. T. J., Doncaster: Undoubtedly the cause of trouble is drought at the roots. Trees planted against walls need considerable attention in regard to a sufficient supply of root moisture, as their position prevents them from obtaining the full benefit of the rainfall, while the absorption and radiation of heat by the wall itself tends to dry the soil. Lightly point over the surface soil with a fork, and set the hose at work; let each tree have a plentiful supply, and when all have had one soaking start again, and let the water run for an hour or two at the roots of each tree.

WHOLESALE PRICE OF BULBS.—Bulb, Rugby: The wholesale price of bulbs is from 30 to 50 per cent. below that of retail prices, sometimes more. This will enable you to gauge the exchange value of any bulbs you have to offer. If the bulbs are of extra fine size their value will be relatively higher, because bulbs of ordinary size are abundant, while small ones of popular varieties have no real market value.

WATER MELONS.—E. R., Rugby: Except as a matter of interest or curiosity the water melon is not grown in Great Britain, and is only grown in Europe along the Mediterranean coast where the summers are hot. The water melon is only at its best in hot, dry countries; in South Africa and in the Southern States of America it is grown very much as we should grow vegetable marrows here, the growths being seldom pinched back. In this country it would need practically the same kind of treatment as our choice melons grown in houses and pits, and the results both in crop and quality would be far below those regularly secured by capable growers. Seeing how cheaply the water melons can be imported from Spain, etc., it would be a waste of time and money to grow them here, especially, as already stated, our home-raised varieties are immensely superior.

TREE ONIONS.—W. N. J., Thirsk: The specimen sent represents the tree onion, a distinct variety, that may be readily propagated by means of the bulblets that form at the end of the stems. These grow into bulbs of goodly size during the first year, and may then be used, but a few should be left to produce bulblets in their second year if a continuation of the crop appears desirable.

SAVING TOMATO SEEDS.—B. R. G., Worcester: Pick the fruits when ripe, and lay them on a shelf in the greenhouse in a sunny position, where they may remain for a few days. Then cut them open with a sharp knife; hold each fruit upright, and cut it in half horizontally. The seeds can then be removed easily from the cells with the handle end of a small spoon. Place the seeds and pulp in a gauze-wire sieve, and clean thoroughly under running water. When the seeds have been thus cleaned as well as possible, spread them out on a sheet of clean glass to dry; when dry, or nearly dry, rub the seeds through fine dry silver sand, to remove any vegetable matter that may still adhere. Sift all the sand away, and store the seeds in a tin in a dry, cool cupboard. If the tomatoes are cut as advised there will be plenty of material for cooking after the seeds have been removed.

FRUIT CULTURE AT WISLEY.—M. R. D., Evesham: A scheme for experiments in fruit culture was initiated at Wisley in 1908 to demonstrate (1) the effects of various methods of planting fruit trees, (2) the influence of pruning and not pruning in the winter after the autumn of planting, and (3) of summer pruning, (4) the importance of planting trees at a correct depth, and (5) the effect of grass around trees. The planting of trees for these purposes will extend over a period of three years, and apples on broad-leaved paradise and crab stocks, and pears, plums, cherries, on various stocks are being prepared.

NAMES OF PLANTS.

B. C. M., Enfield.—1, Viburnum lantana; 2, Euonymus europæus.

M. D. L., Iffley.—1, Vitis Henryi; 2, Cratægus crus-galli; 3, Symphoricarpus racemosus.

W. A. E., Abergavenny.—1, Gloriosa superba; 2, Cattleya Trianæ; 3, Cypripedium Milo; 4, Cotoneaster frigida.

A. G., Penarth.—1, Carex brunnea; 2, Panicum plicatum; 3, Polygonum Baldschuanicum; Chrysanthemum uliginosum.

F. E. B., Southend.—1, Helenium striatum; 2, Liatris spicata; 3, Godetia Schamini; 4, Helianthus multiflorus.

L. E. M., Guernsey.—1, Crinum Powelli; 2, Sciadopitys verticillata; 3, Gunnera scabra; 4, Libertia formosa; 5, Chorozema Lowi.

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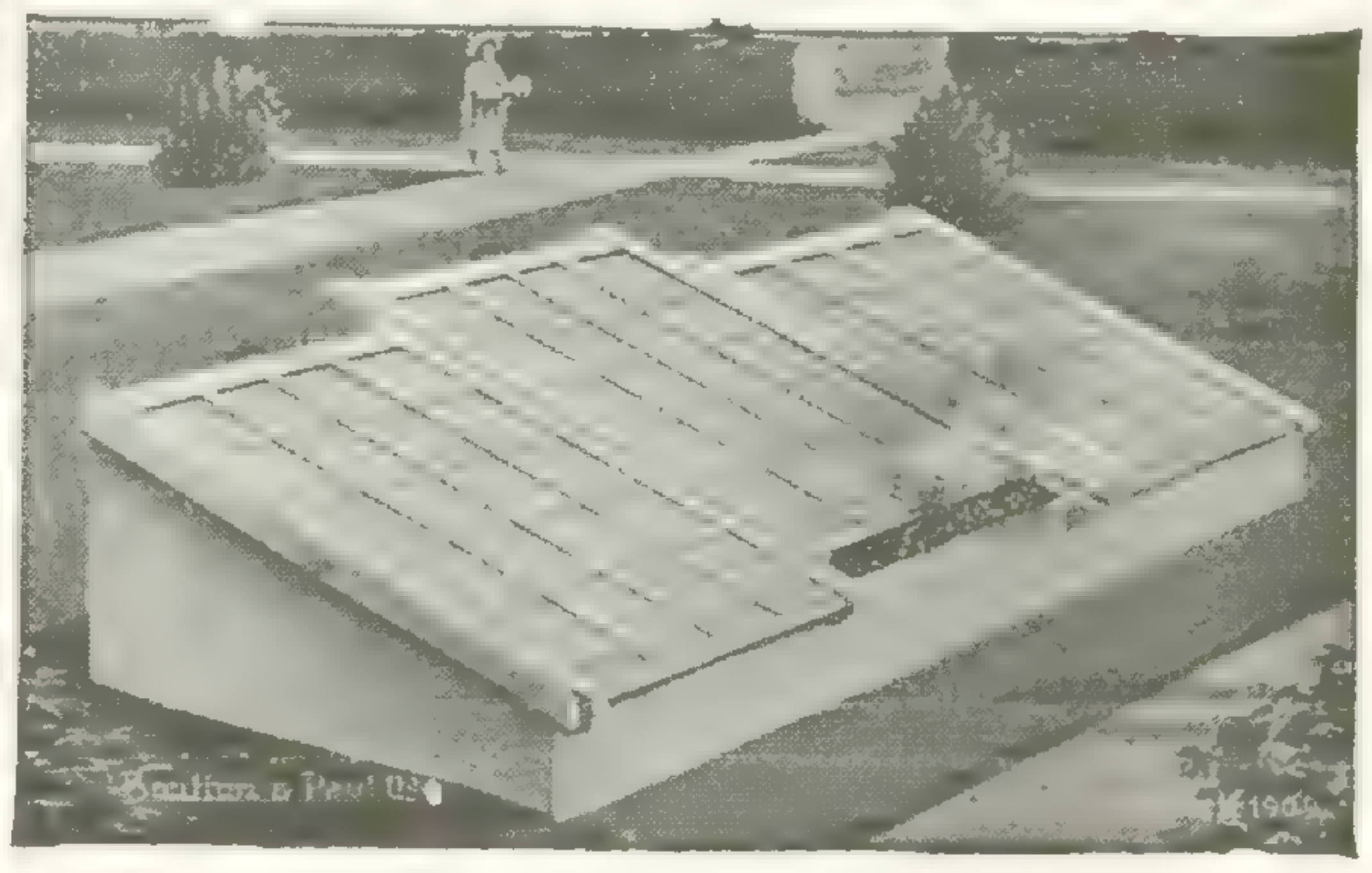

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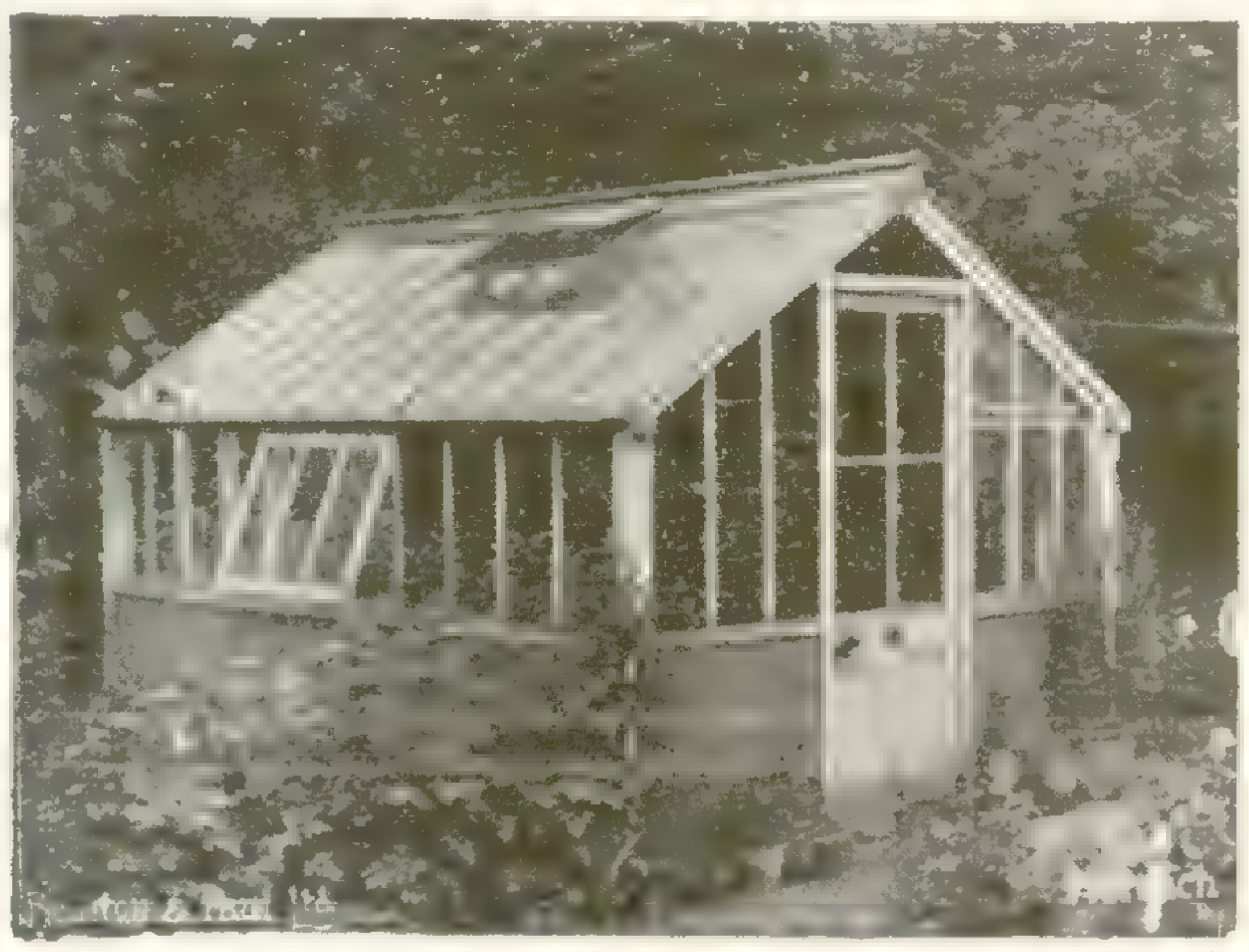

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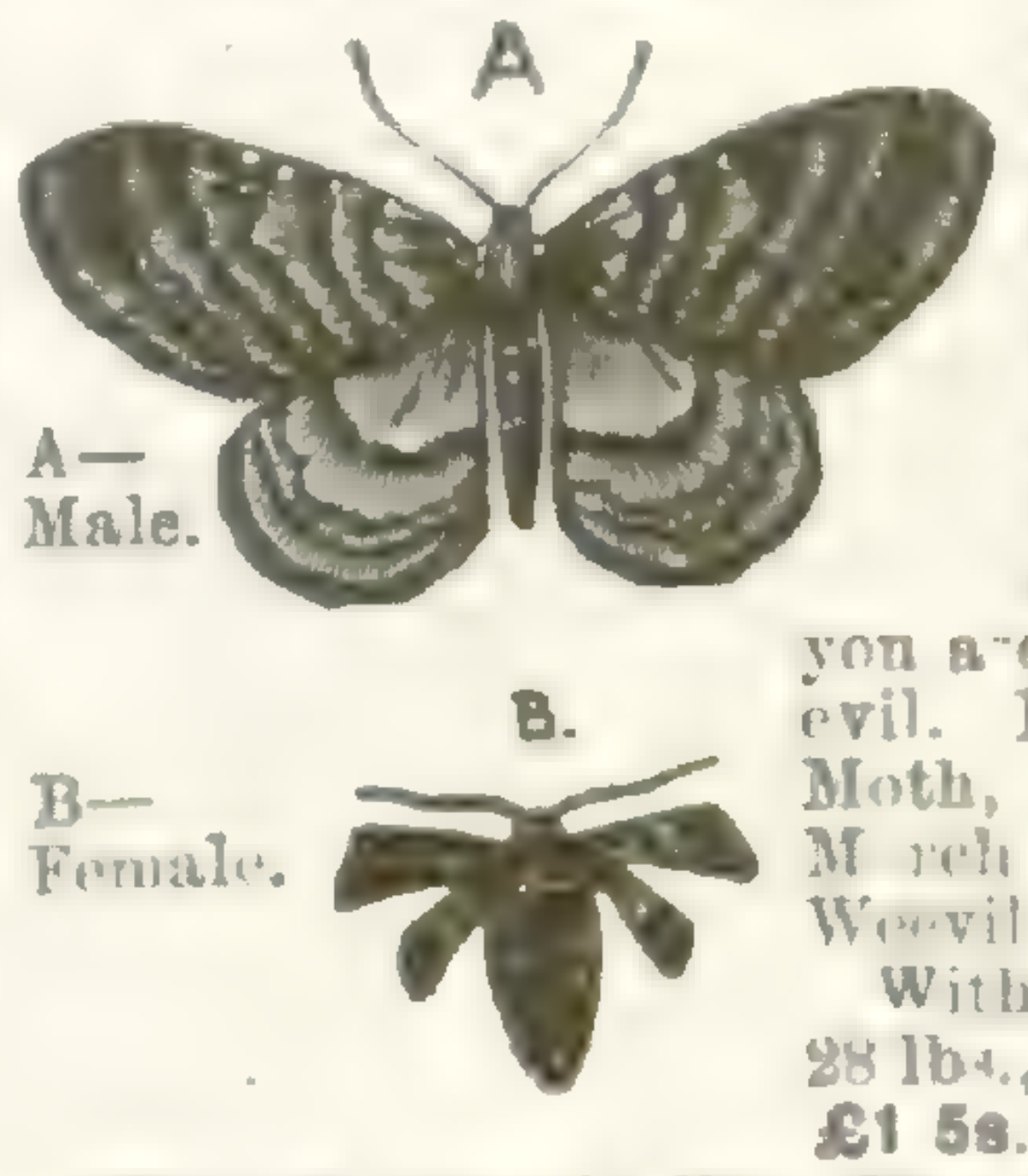
A
A—Male.
B.
B—Female.

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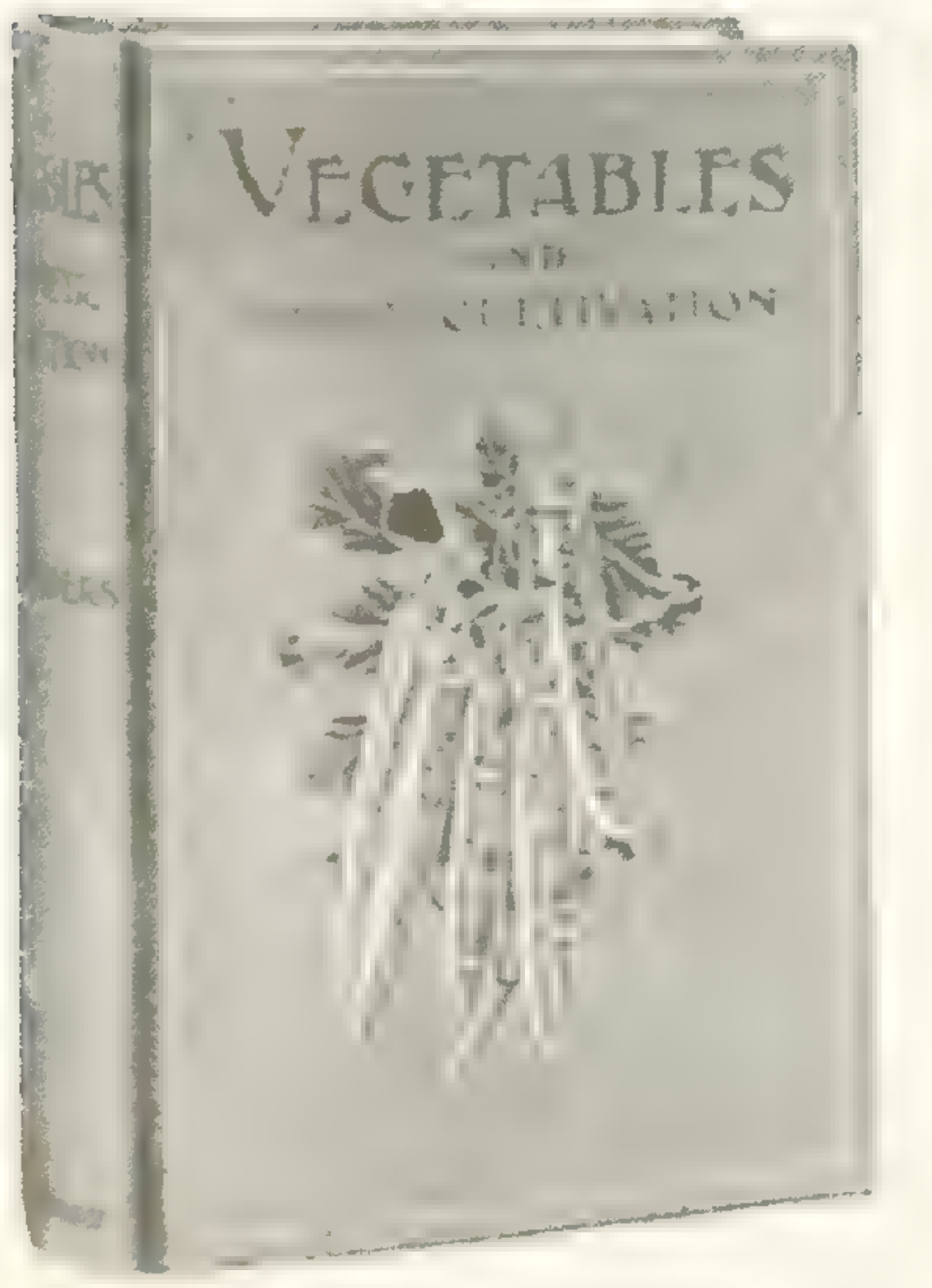

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J. L. W., Faversham. — Leycesteria formosa

F. W.—1, Berberis vulgaris; 2, send when in flower; 3, Mahonia (or Berberis) aquifolia; 4, probably Daphne Mezereum; we do not recognise the roses.

D. A. S., Abbeyleix.—1, Polygonum cuspidatum; 2, Helianthemum, species not recognised; 5, Polygonum sachalinense; 6, see next issue.

NAMES OF FRUITS.

H. T., Stone.—1, Magnum Bonum; 3, Pond's Seedling.

F. E. T., Twyford.—1, Alfriston; 2, Beurre Bosc; 3, Louise Bonne of Jersey.

S. G. W., Cirencester.—1, Warner's King; 2, Ribston Pippin; 3, Golden Noble; 4, Beurre Clairgeau.

OBITUARY.

◆

MR. GEORGE STARK.

On September 23, Mr. George Stark, founder of Messrs. G. Stark and Son, Great Ryburgh, passed peacefully away after a painful illness lasting nearly twelve months. Mr. G. Stark was formerly a gardener, and his wide experience and genial manner made him an excellent companion. The business he founded at Great Ryburgh was of a varied character, comprising provisions, clothing, implements, seeds, and hardy plants, and he also had charge of the post and telegraph office, but he was never so happy as when in the garden, or in the field among the sweet peas. Assisted by his son, Mr. Arthur Stark, he made sweet peas a special feature during recent years, and our readers will remember that the brilliant crimson-scarlet variety named George Stark secured the Silver Medal of the National Sweet Pea Society as the best novelty of the year 1908. Mr. G. Stark was held in very high esteem by all who had business relations with him, and he had many friends. The funeral took place on Wednesday, September 28, at Great Ryburgh, and sweet peas were largely used in the floral tributes to his memory. The business, in all its branches, will be continued under the same title, under the direction of Mr. A. Stark, who has for some time past assumed the chief responsibility. Mr. George Stark was 65 years of age.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea level, 150 feet.

Date. 1910. September 18 to September 24.	Sunshine.	Temperature of the Air			
		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Sept 18—Sunday	7 18	59	55	64	52
,, 19—Monday	5 12	56	54	65	49
,, 20—Tuesday	9 0	50	47	57	37
,, 21—Wednesday..	7 48	48	4[illegible]	60	34
,, 22—Thursday	8 30	50	49	61	40
,, 23—Friday	7 6	53	50	61	40
,, 24—Saturday.....	5 42	54	51	64	47
Means ..	(total) 50 36	53	50	61	42

Date. 1910. September 18 to September 24.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Sept. 18—Sunday	—	57	57	57	45
,, 19—Monday	—	57	57	57	43
,, 20—Tuesday	—	55	57	57	30
,, 21—Wednesday .	—	53	57	57	28
,, 22—Thursday	—	54	56	57	34
,, 23—Friday	—	54	55	57	33
,, 24—Saturday	—	55	55	56	39
Means ...	(total) —	55	56	57	36

MARKETS.

◆

COVENT GARDEN.

Flowers.

Flowers continue to arrive in quantity and of good quality and business is good.

		s. d.		s. d.
Adiantum cuneatum ...	per doz. bun.	4 0	to	8 0
Asparagus	per bun	1 0		1 6
Asters	per doz. bun.	1 0		2 6
Carnations	per doz. blms.	1 0		2 0
,,	per doz. bun.	6 0		8 6
Cattleyas	per doz	12 0		14 0
Chrysanthemums	per doz. bun.	3 0		4 0
,,	per doz. blms.	1 6		3 0
Coreopsis	per doz. bun.	1 6		2 0
Cornflowers	per doz. bun.	1 0		2 0
Croton leaves	per bun.	1 0		2 6
Dahlias	per doz. bun.	2 0		3 0
French fern	per doz. bun.	0 6		0 9
Gaillardias	per doz. bun.	1 6		2 0
Gardenias	per doz.	1 6		2 0
Gladiolus	per doz. bun.	2 0		4 0
Lapagerias	per doz.	1 6		2 0
Lilium auratum	per bun.	1 6		2 6
,, speciosum	per bun.	0 6		1 6
,, longiflorum	per bun.	1 0		2 0
Lily of the Valley	per doz. bun.	5 0		15 0
Marguerites	per doz. bun.	1 6		2 0
Mignonette	per doz. bun.	1 0		2 0
Odontoglossums	per doz. blms.	2 0		3 0
Pelargoniums	per doz bun.	3 0		4 0
Physalis	per doz. bun.	3 0		4 0
Roses	per doz.	0 6		2 0
Scabious	per doz. bun.	2 0		3 0
Smilax	per doz. trails	2 0		3 0
Statice	per doz. bun.	3 0		4 0
Stocks	per doz. bun.	2 0		3 0
Sweet Peas	per doz. bun.	1 0		2 6
Tuberoses	per doz.	0 3		0 5
Violets	per doz. bun.	2 0		3 0

Fruits.

Fairly good supplies of fruit are arriving and business is steady at nrm rates.

		s. d.		s. d.
Apples, English	per bush.	3 0	to	15 0
Bananas	per bun.	3 6		12 0
Blackberries	per peck	2 0		3 0
Cranberries	per case	12 0		13 0
Damsons	per ½-sieve	2 0		4 6
Figs	per doz.	1 0		4 0
Grapes, English	per lb.	0 8		3 0
,, Guernsey	per lb.	0 6		1 3
,, Almeria	per barrel	6 0		10 0
Lemons	per case	10 0		30 0
Melons	each	0 8		3 0
Oranges	per case	12 0		25 0
Peaches, English	per doz.	3 0		15 0
Pears, French	per crate	4 0		7 6
,, English	per bush.	3 0		6 0
,, Californian	per case	5 0		6 0
Pineapples	each	2 0		4 6
Plums	per ½-sieve	3 6		5 6

Vegetables.

Business is good; cauliflowers are very plentiful and cheap.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	3 0
Beans, Runner	per bush.	2 0		2 6
Beet	per bush	2 0		2 6
Cabbages	per tally	2 0		4 0
Carrots	per doz. bun.	1 0		3 0
Cauliflowers	per doz.	1 0		3 0
Cucumbers	per flat	4 0		6 0
Endive	per doz.	1 0		2 0
Lettuce, Cos	per score	0 8		1 0
Marrows	per tally	5 0		6 0
Mint	per doz. bun.	1 0		2 0
Mushrooms	per doz. lb.	7 6		12 0
Mustard and Cress	per doz. pun.	0 6		0 6
Peas	per bush.	3 6		4 6
Radishes	per doz. bun.	0 4		0 10
Parsley	per ½-sieve	1 6		2 0
Spinach	per bush.	1 3		2 0
Tomatoes	per doz. lb.	3 0		3 6
,, Guernsey	per doz. lb.	2 6		3 0
Turnips	per doz. bun.	2 0		3 0
Watercress	per doz. bun.	0 3		0 6

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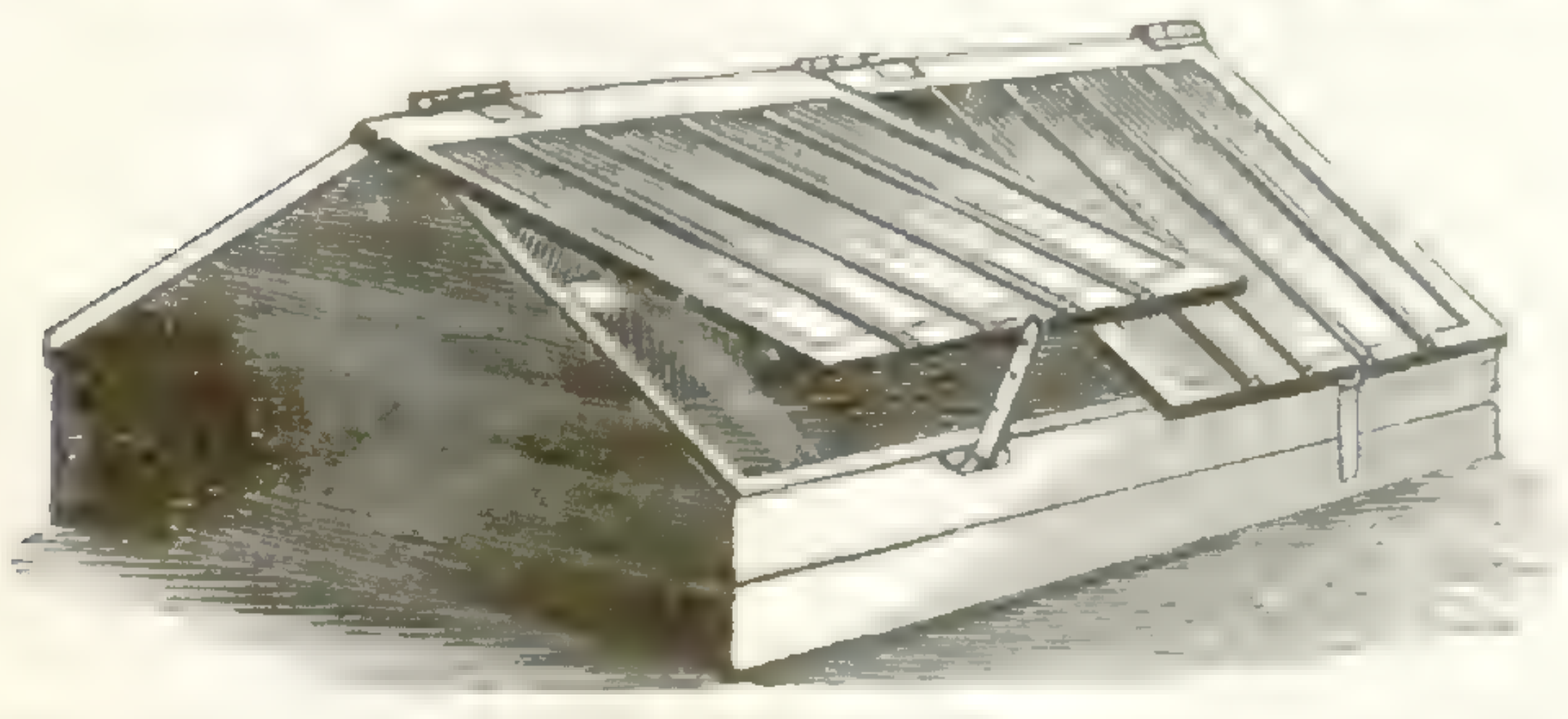

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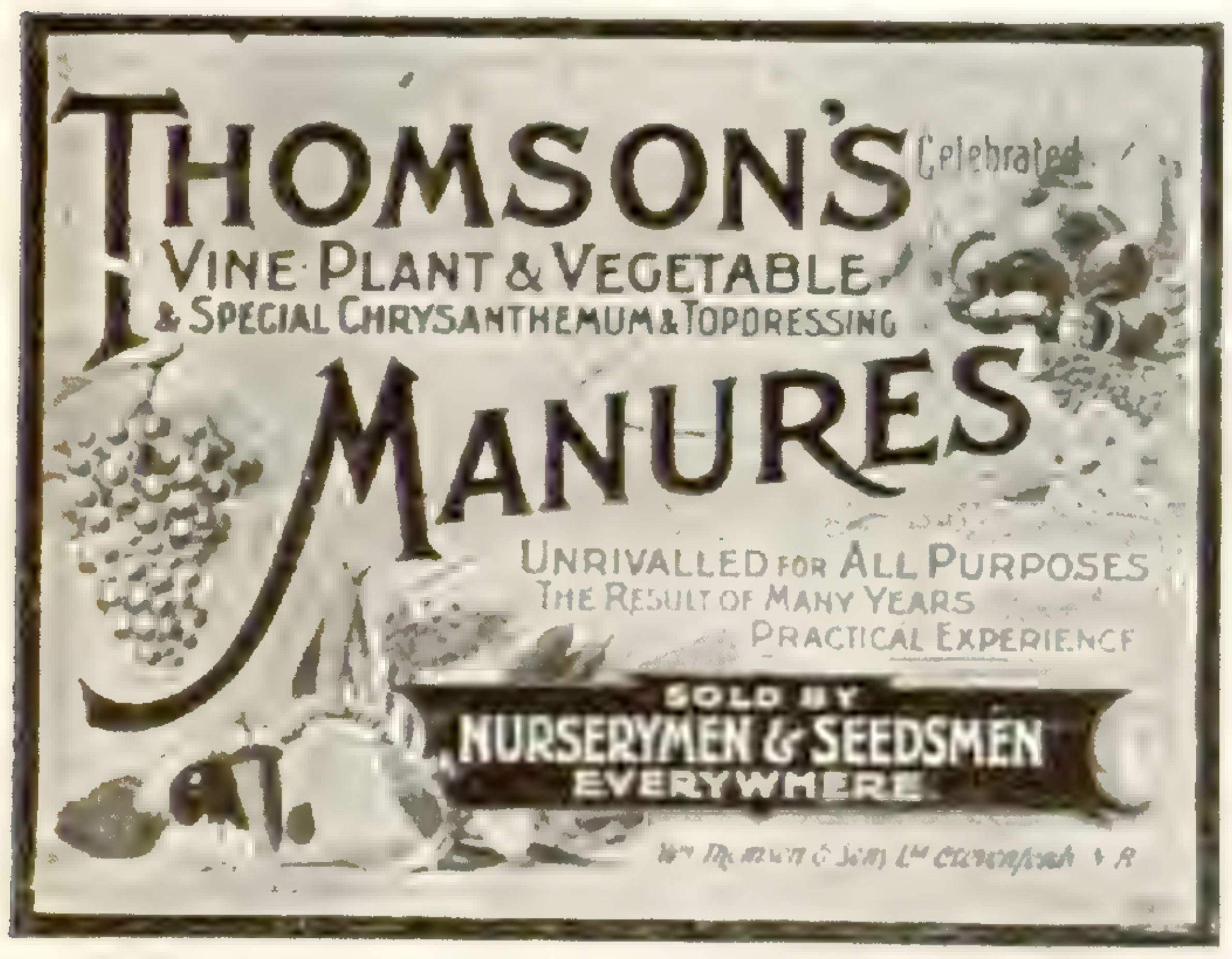

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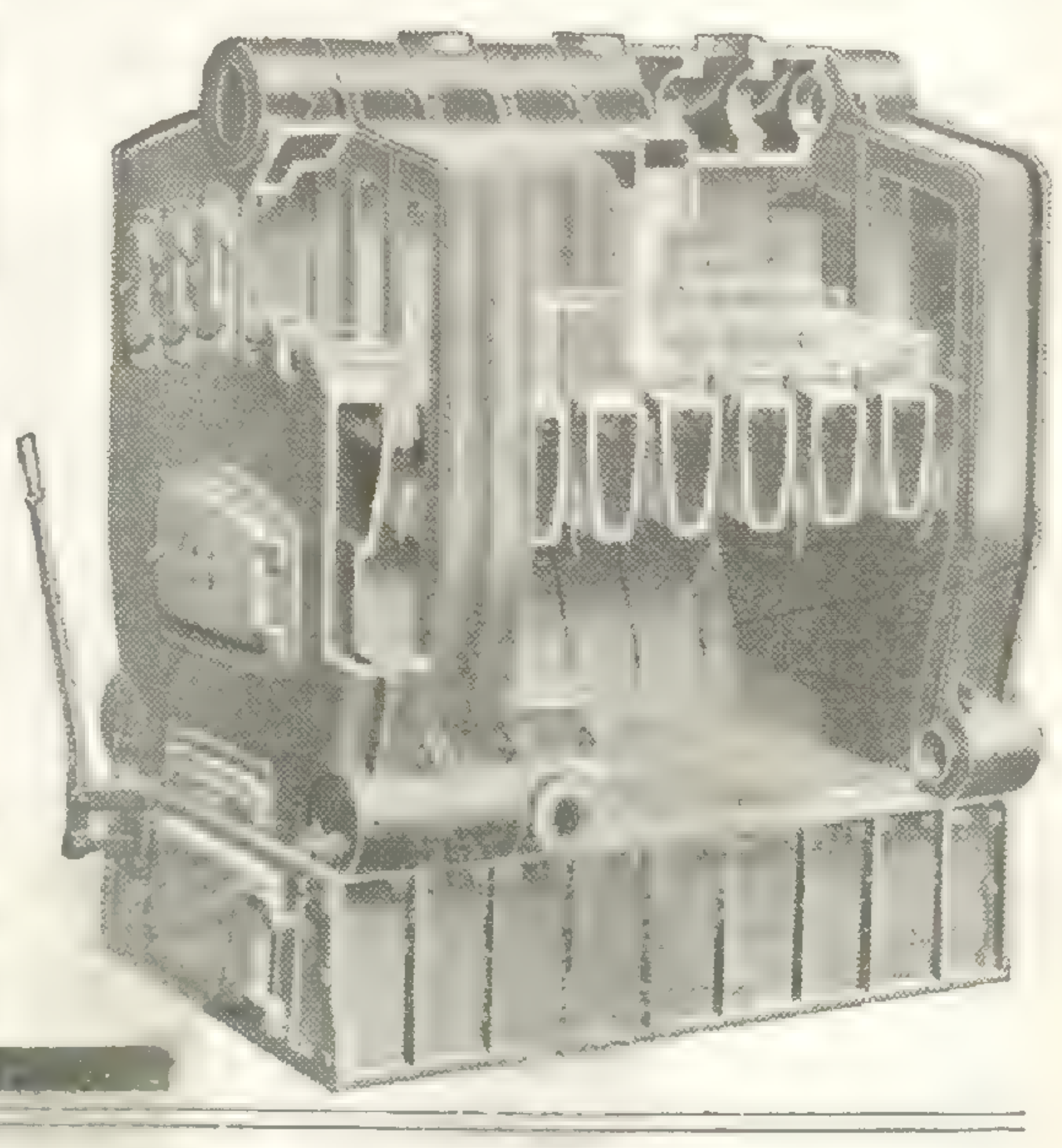

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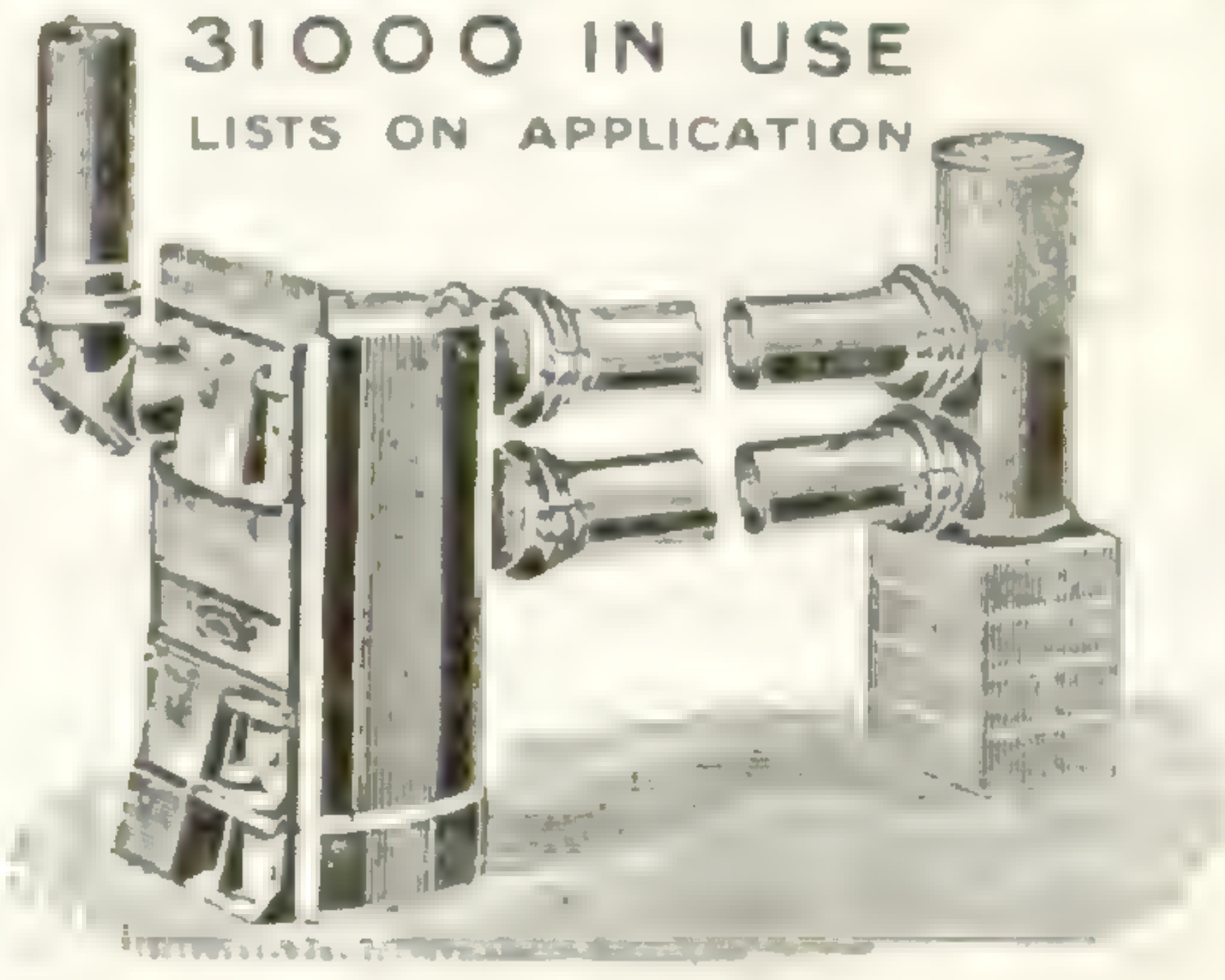

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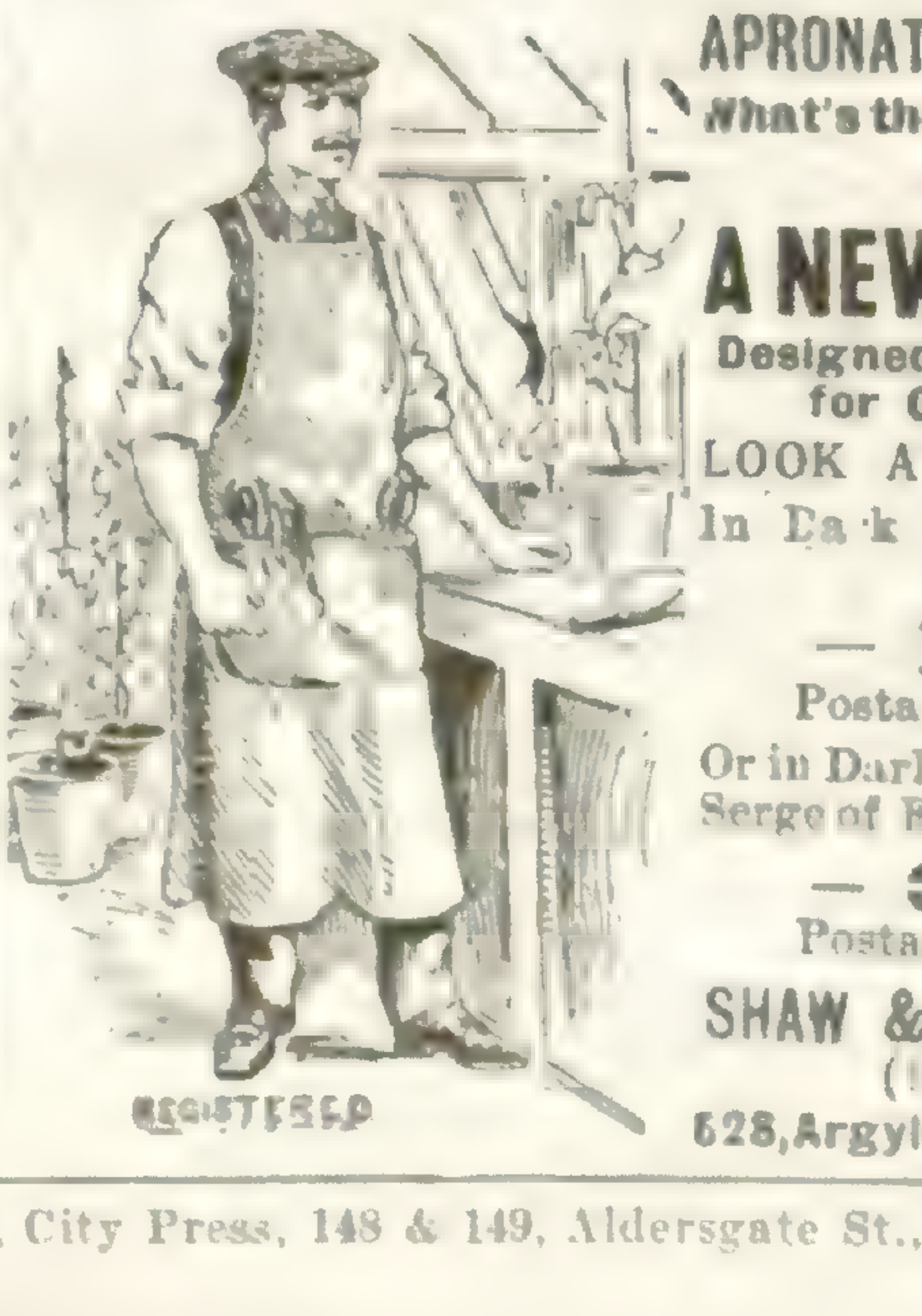

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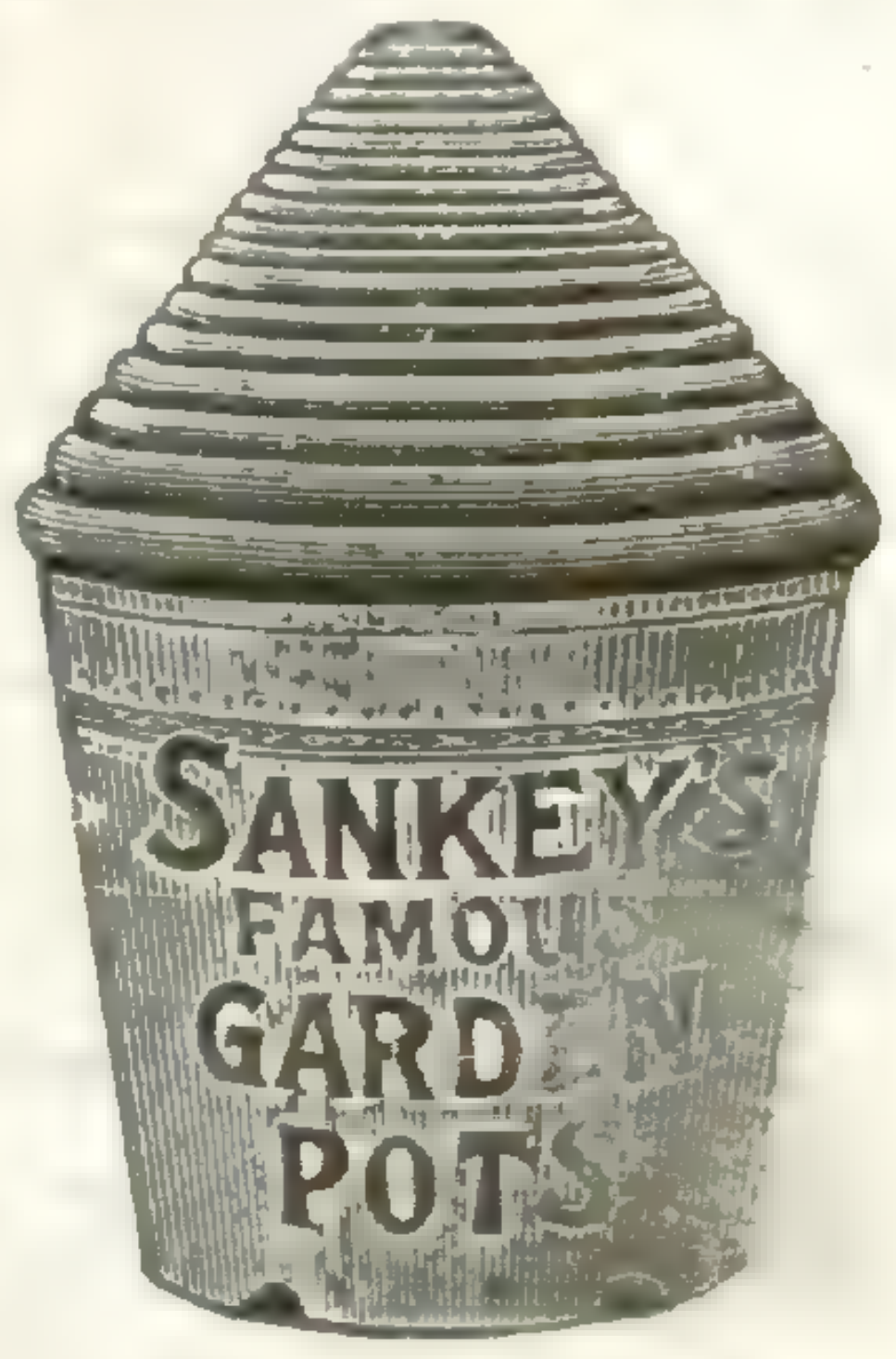

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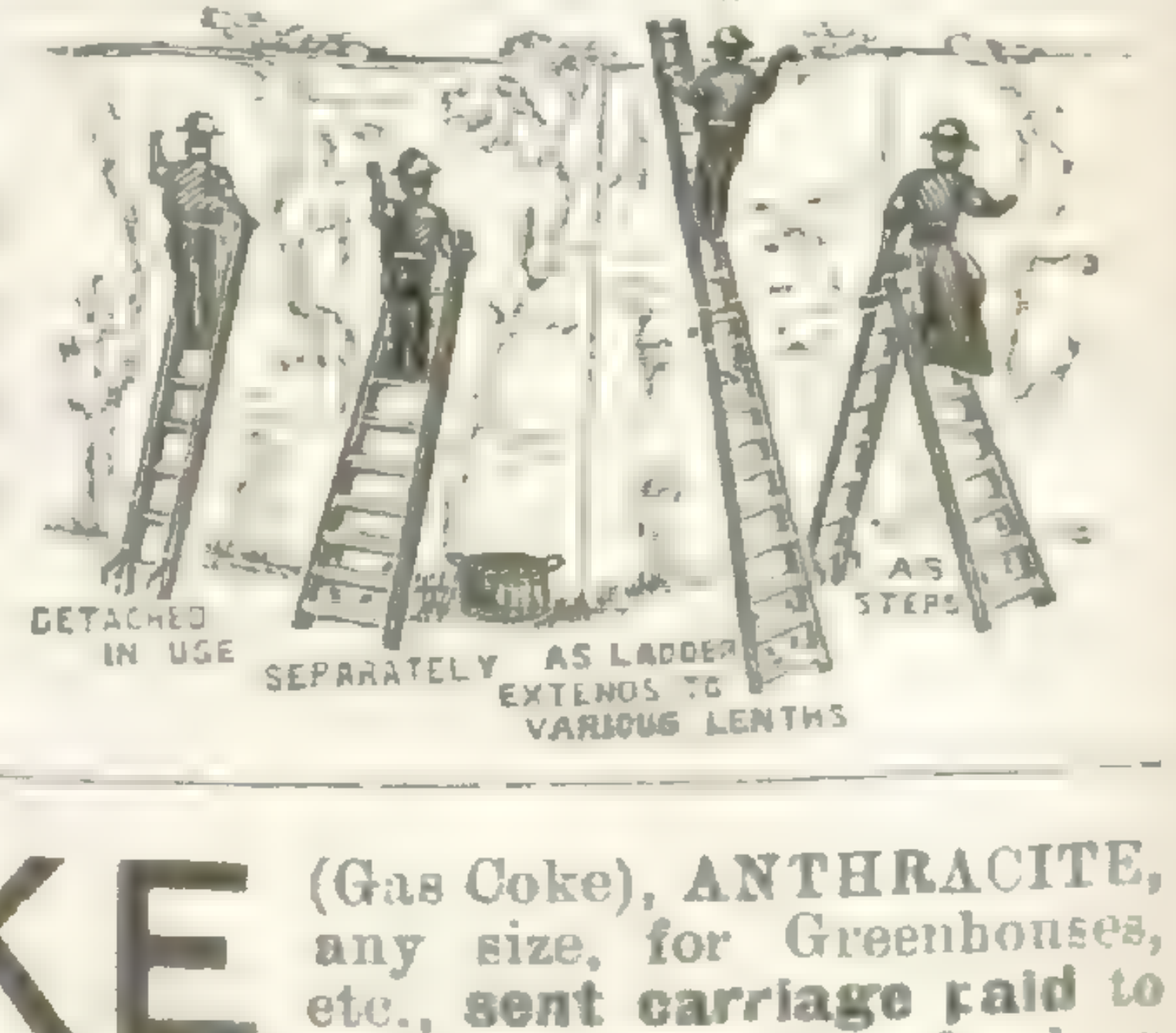

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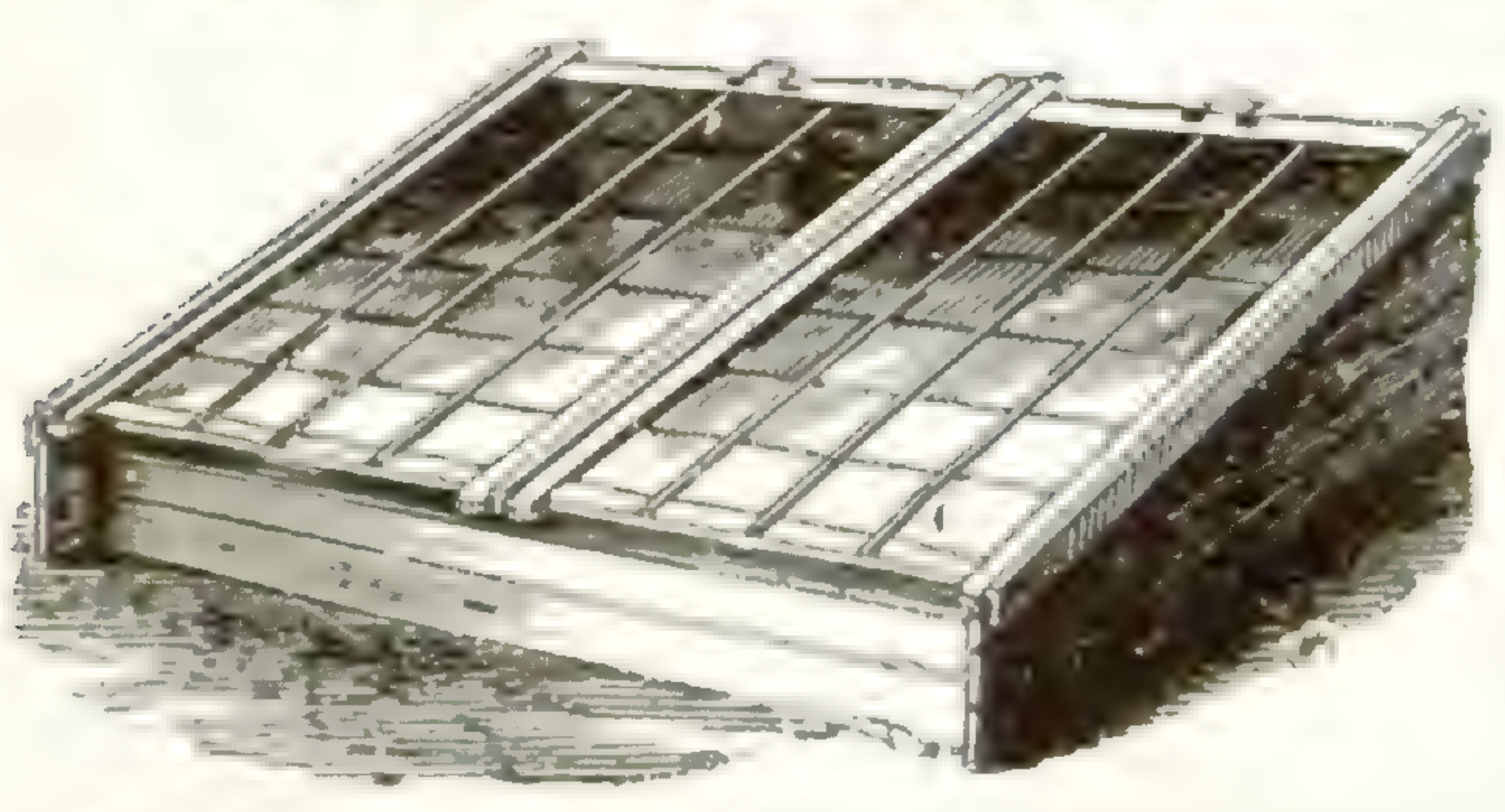

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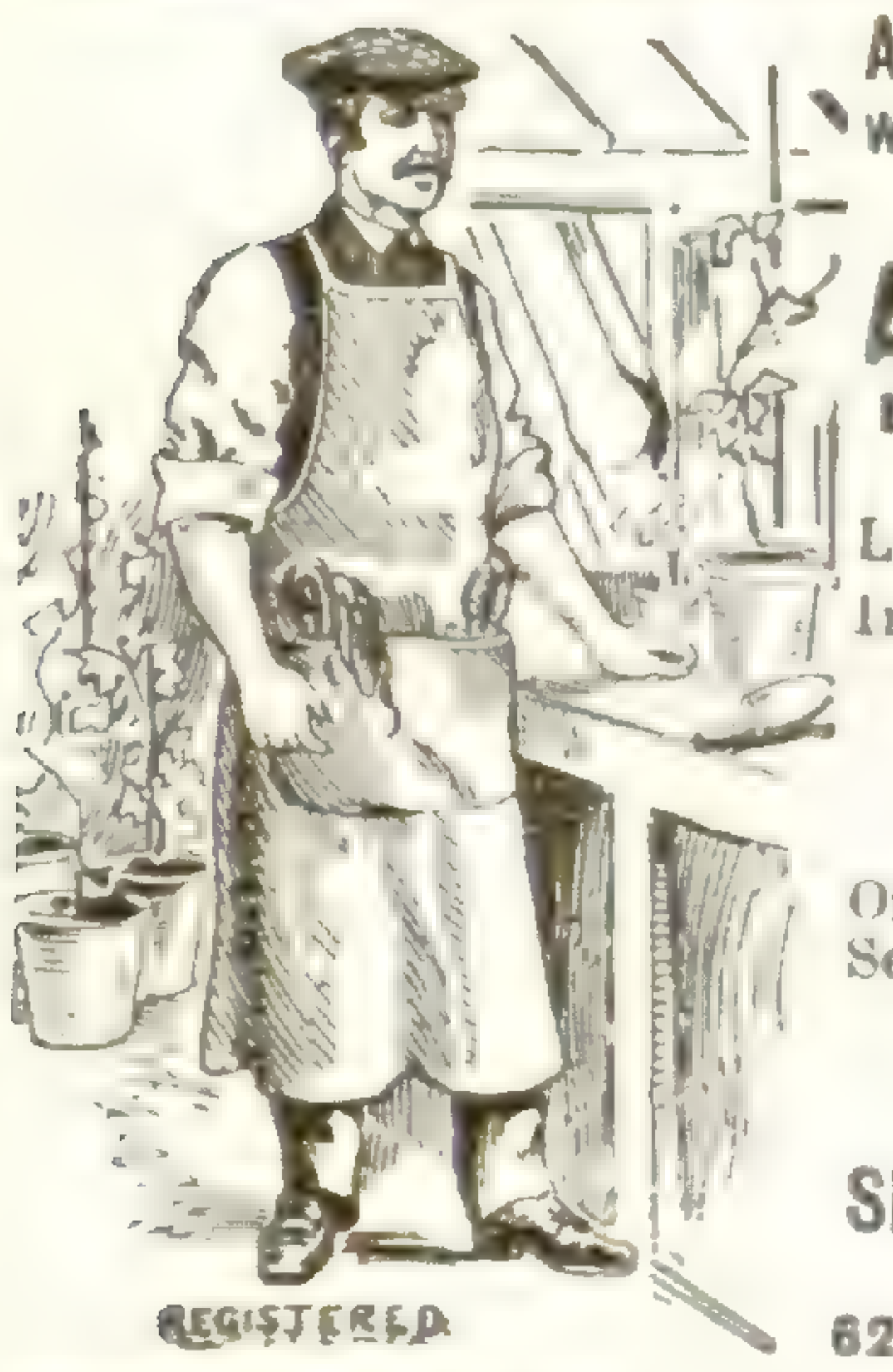

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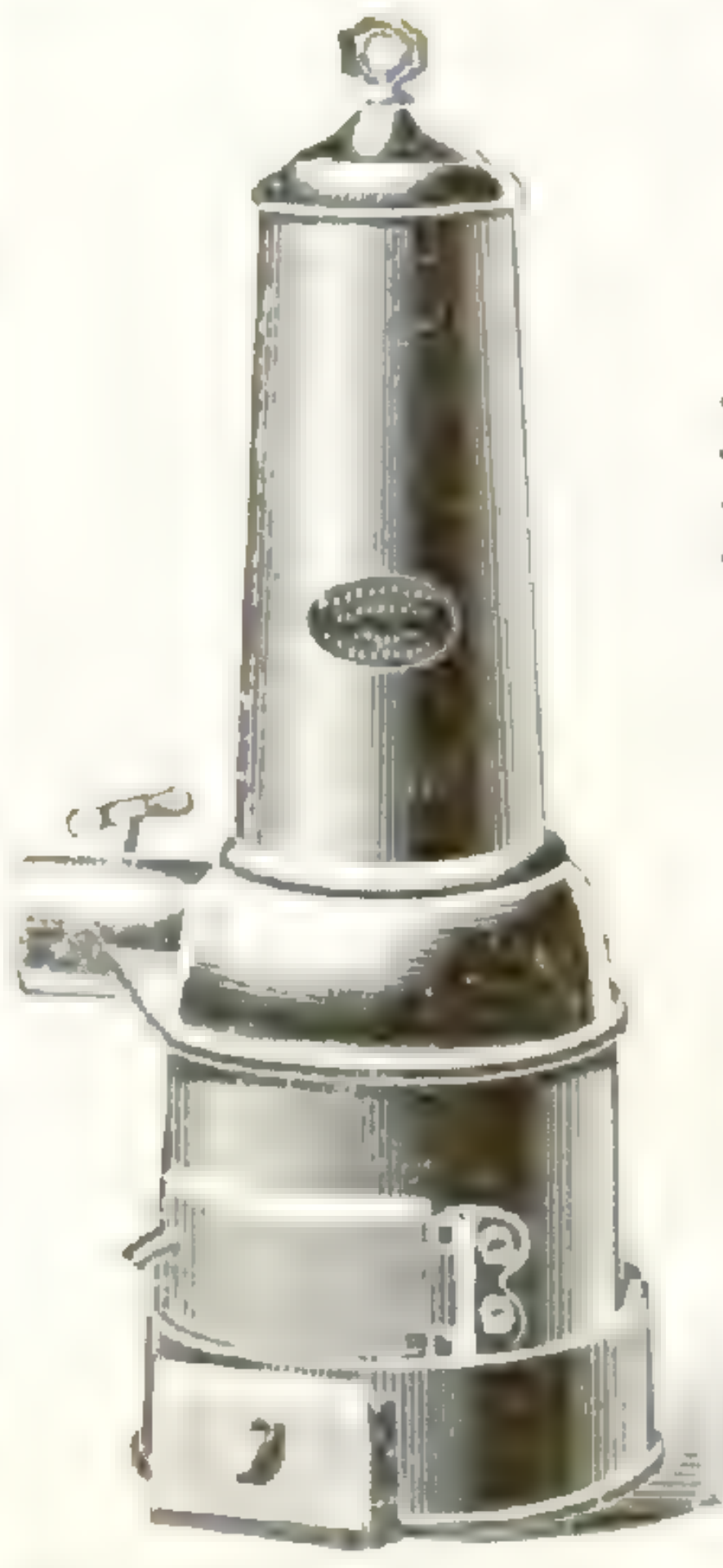

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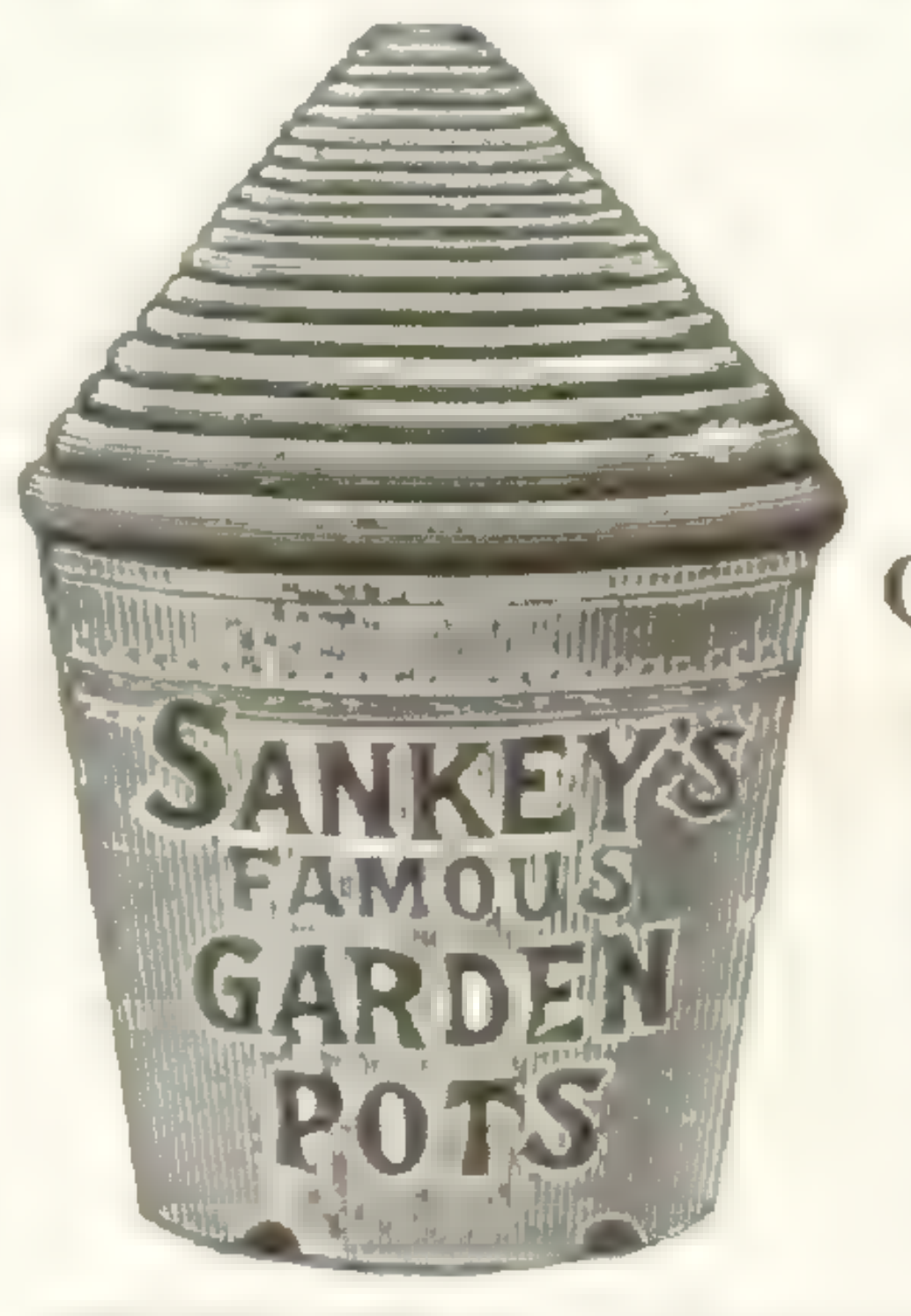

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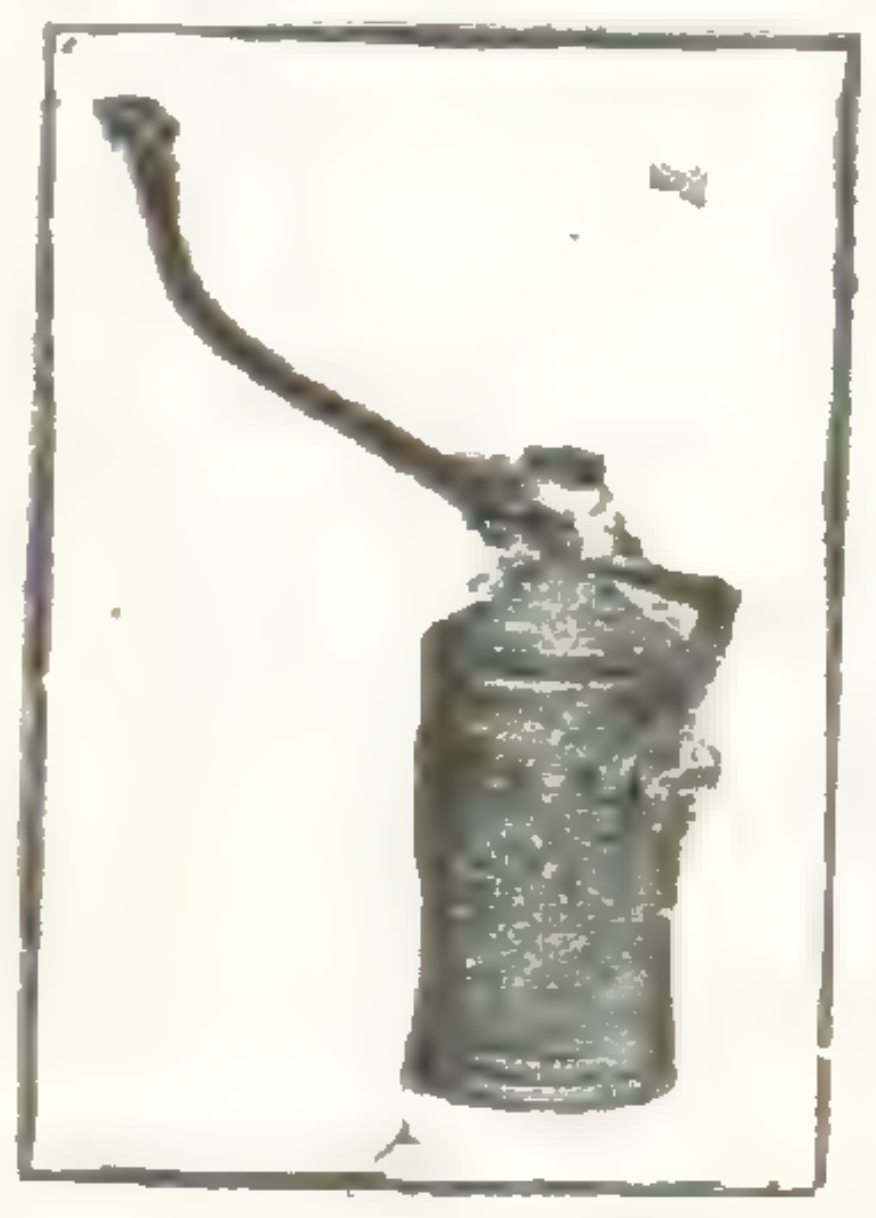

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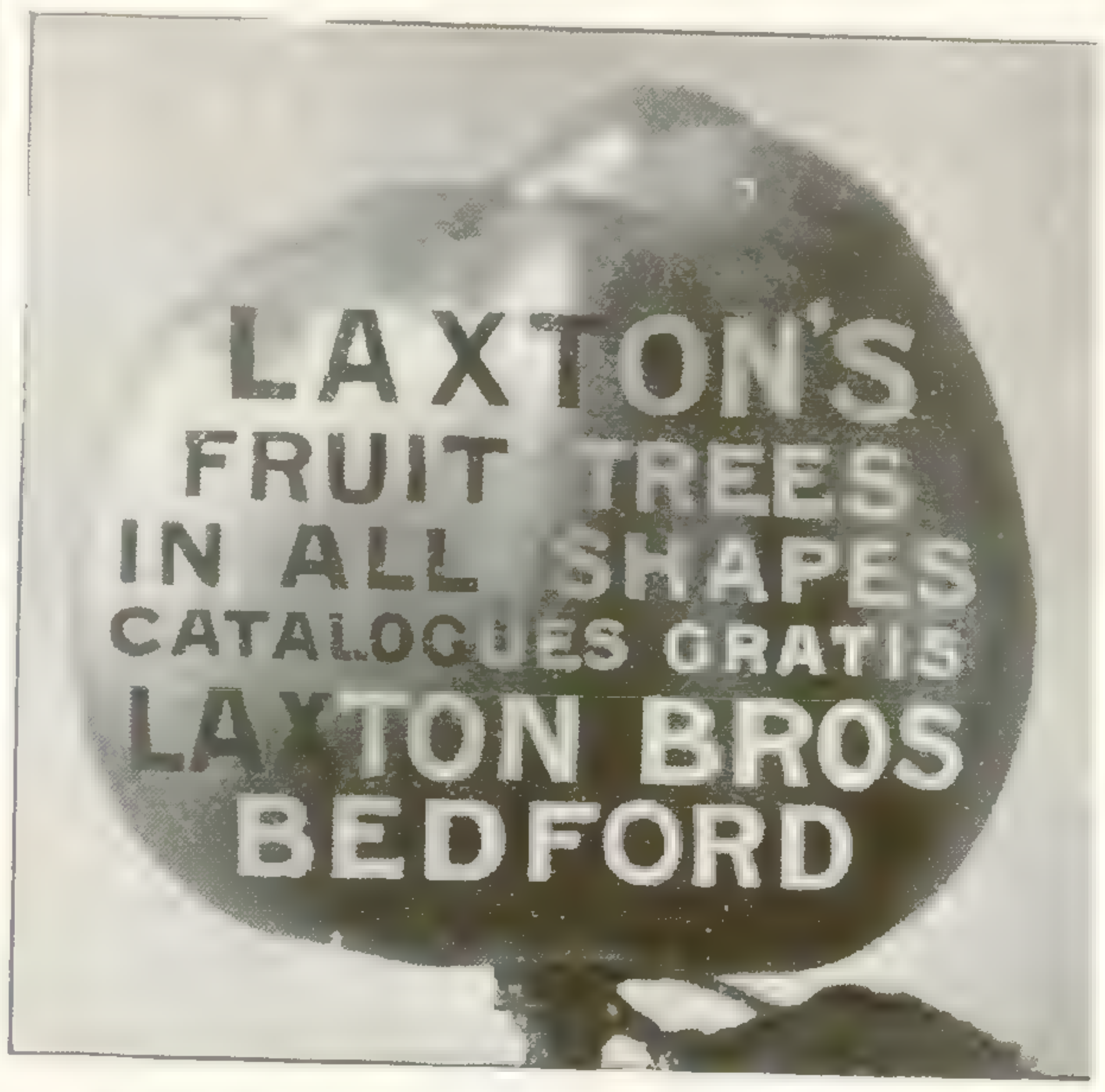

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Anemones, single mixed	1	2	10	0
Anemone, The Bride, pure white ...	1	2	10	0
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Iris, English, mixed	2	0	16	8
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100	**Scilla Siberica**	3/0
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12	" **Crown Imperial**	2/6
12	" **Auratums**	7/6
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100	**Ixias,** to cols.	2/6
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THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Floral Societies.

To the students of floricultural progress undoubtedly one of the most interesting phases must be the wonderful development of many flowers and the marvellous diversity of form and colour which cultural selection and new introductions have brought about. As a result of this, it has gradually become obvious that none but special experts could possibly be qualified to deal with them as judges, and hence, in the first place, they became the particular object of special committees, and eventually, in many instances, special societies have been formed, as has been the case with the chrysanthemum, the auricula, the daffodil, the carnation, the sweet pea, the dahlia, and other flowers which have shown themselves capable of a diversity so great as to entirely defy the judgment of the general florists. One great difficulty in connection with this question of judging, that is of determining whether the innumerable new introductions are really new at all, and if new, represent any improvement on known types, is that a great many growers are concerned, and, as a result, very similar or even identical sports or varieties crop up in different quarters, and being regarded by their raisers as presenting new and improved features, are christened according to their fancy with different names. In such cases it is obvious that it is only the expert, who has familiarised himself thoroughly with all the good forms extant, and has a memory sufficiently retentive to recall those already certificated, who is in a position to determine the novelty or otherwise of the new introductions. An ideal committee or society would need to be a solitary central one to which all presumed novelties would require to be presented for judgment; but, unfortunately, this ideal is an impossibility, since in these days of free international intercourse, many presumed novelties originating abroad speedily find their way here, and are introduced under fancy names, while even here, exhibitions on a large scale are held in various great centres besides London, and awards given as may be determined by local judges. The result is that with most of the flowers of chief importance, the number of names indicating distinct forms is undoubtedly very largely in excess of the actual number of varieties, in fact no sooner is a society proper formed than one of its first attempts is to rectify this by classing together the "too much alikes," which generally means the "exactly similar." It is, indeed, only a judge of flowers who can really grip the difficulty involved. On a given date in the proper season, some dozens it may be, say of cactus dahlias or phloxes, are presented for awards or other certificates of merit, which involves not merely merit in itself, but a definite measure of distinctness in the way of colour, size, habit, or other characteristic. Superficially the varieties are on familiar lines, and it is often a matter of surprise to the expert as to what the distinct feature is that experienced growers see in them to induce their presentation. Scores of varieties of all imaginable tints, and with the cactus dahlia, of the true slender-petalled curly cactus form, have already been certificated, and to permit of proper judging, must be present in the memory of the judge. As a rule the great majority are recognised at once as being mere replicas of known varieties, while some are probably condemned for imperfection of form. The eye of the expert, however, may detect some particular good feature not hitherto noted, some subtlety of colouring or delicacy of make, and in that case, if his opinion be sufficiently supported by his fellow experts, an award is given; but, not infrequently, a remark is made by another that he has had precisely the same type for some time under another name. Obviously under such circumstances it is only by the establishment of societies and the consequent concentration of expert knowledge, that really distinct varieties can be determined in these days when the multiplicity is so great and the recurrence of identical forms originating simultaneously in different hands is so frequent.

MR. FRANK BOUSKELL.
Hon. Secretary Hardy Plant Society.

Mr. Frank Bouskell, whose portrait is given in this issue, has, during the past twenty-three years, devoted a large share of his attention to the cultivation of hardy flowers, and has achieved so high a degree of success that he has long since occupied a foremost position among amateurs who are recognised as authorities on the occupants of the herbaceous border. We have on so many occasions had the opportunity of enjoying the beauty of the magnificent collections contributed by Mr. Bouskell to the principal exhibitions held in the Midlands, that we are not surprised to learn that during the last six years he has been awarded five silver cups, ten gold medals, and twenty silver-gilt and silver medals. Mr. Bouskell has not devoted his whole attention to cultural matters, but has recognised the possibility of improving classes of plants that have not as yet received much attention from raisers, and he is at present specialising with the verbascums, and, judging from some varieties we had an opportunity of seeing at the Abbey Park Flower Show, at Leicester, considerable progress has been made in the work of improvement. In view of his accomplishments as a grower and exhibitor of hardy flowers, and his remarkable activities in other directions, it is not surprising Mr. Bouskell should have been regarded as especially adapted to the position of hon. secretary of the newly constituted Hardy Plant Society, and unanimously elected. It can hardly fail to be of interest to mention, in view of what Mr. Bouskell has accomplished in connection with hardy flowers, that he is a solicitor by profession, and that he is the Deputy Coroner for South Leicestershire, and Clerk to the Board of Guardians and the Rural District Council of Market Bosworth. From 1891 to 1894 he was hon. secretary of the Knighton Horticultural Society, and he is vice-president and hon. solicitor of several horticultural societies in Leicestershire. Mr. Bouskell takes a keen interest in entomology, as evidenced by the fact that he has been a Fellow of the Entomological Society since 1891, was hon. secretary of the Leicester Entomological Society from 1894 to 1904, and this year is its president. This does not by any means exhaust Mr. Bouskell's activities, but we have mentioned more than sufficient to justify the members of the Hardy Plant Society in heartily congratulating themselves on his having accepted the position of hon. secretary.

The Gardeners' Magazine Autumn Number.—As announced in our issue for the 1st inst., we shall devote the greater part of the space in our issue for the 22nd inst. to the discussion of matters of special import to those who contemplate planting hardy trees and shrubs either for floral or foliage effects, select fruit trees, small fruits, and choice subjects for the embellishment of the herbaceous border and other parts of the flower garden. The articles will be by recognised authorities on the several subjects, and the issue will be freely illustrated. In the same issue we shall give a full and illustrated report of the Royal Horticultural Society's exhibition of British grown fruit.

Brussels Horticultural Exhibition.—It was originally arranged to hold two autumn flower shows in connection with the International Exhibition now being held in Brussels, and of these one was to have been held from September 24 to October 2, and the other from October 29 to November 2. Owing to the destructive fire that occurred some time since, it was feared that both exhibitions would have to be abandoned, but, thanks to the support of the Belgian Government, the Société Royal de Flore, and the Société Linnéenne, have decided to hold an exhibition on the dates last mentioned, which shall include the whole of the products included in the two shows that had been previously arranged. Accordingly there will be classes for chrysanthemums, orchids, and other flowers, ornamental plants, market produce, and fruits. It is not proposed to issue fresh schedules, but all contributions of flowers, fruits, plants, and market produce will be received and exhibitors be recompensed according to the merits of their exhibits.

September in the North.—In marked contrast to the fearful weather experienced in the corresponding month last year, the September just closed has, our Aberdeen correspondent writes, proved one of the finest on record. The rainfall in the Aberdeen district was barely 1.5 inches, and it was on the first two days of the month that most of the rain fell. The number of days on which the gauge contained a measurable quantity of water was only seven or eight, and on most of these the amount was very trifling. There were no gales; in fact, the atmosphere was unusually quiet, often dead calm in the morning and evening. Needless to say, the husbandman made the most of his opportunities, and the hum of the reaper might have been heard morning, noon, and night. A vast area has been cleared of the crops, which are now snugly housed under "thack" and "rape." And more pleasant still to relate, the crops have been secured in first-class order. The disease spot on the potato leaves, which made its appearance in some districts during the last few days of August, and continued to spread gradually ever since, has received a check owing to the fine dry weather experienced. It is hoped, therefore, that the damage done to the tubers will not amount to very much. The turnip crop—a very important one in the North of Scotland—on dry-bottomed land has been feeling the want of rain, some of the leaves turning yellow. As is well known, this crop requires much moisture in the autumn season. The required moisture came, however, with the advent of October, as there was a veritable deluge on the night of the 2nd and morning of the 3rd. Altogether the September of 1910 will long remain a pleasant memory in the mind of the Scottish gardener and agriculturist.

Proposed Horticultural Society for Yorkshire.—On the evening of the 30th ult., a meeting of horticulturists was held at the Grand Central Hotel, Leeds, for the purpose of considering the question of forming a horticultural society for Yorkshire or the North of England. Mr. P. Clapham, of Calverley, presided over a representative gathering. Mr. W. Mansell suggested that the proposed society should extend its work over an area bounded by the Tyne in the north and the Trent in the south, as at present, to see a good exhibition, it was necessary for a Yorkshire gardener to go either to Edinburgh or the South of England. Mr. T. H. Gaut considered the society should be on the lines of the Royal Horticultural Society. After some discussion it was, on the motion of Mr. J. Donoghue, seconded by Mr. Gaut, resolved to appoint a temporary committee, with Mr. A. J. Allsop as chairman and Mr. Clapham as secretary, for the purpose of drafting a scheme. It was also decided to submit the scheme to a representative meeting, to be held, if possible, on the 22nd inst., at the Grand Central Hotel, Leeds.

Cider and Perry Fruits will be discussed by Mr. B. T. P. Barker, M.A., on Tuesday, October 11, who will lecture on this subject at the Royal Horticultural Hall, at 3 p.m.

Transparent Museum Specimens.—At the recent meeting of the Royal Horticultural Society's Scientific Committee, Dr. J. A. Voelcker showed a section of a woody stem prepared in the same manner as those of zoological anatomical specimens shown by him last year. The section was immersed in a fluid which rendered it practically transparent, and made its structure throughout evident to the eye, although the specimen was about ¼ inch thick. The mixture of oils and ethers, etc., which renders this mode of preparation possible, is the discovery of Professor Werner Spalteholz, of Leipzig University.

Pentstemons from Hawick.—The Buccleuch Nurseries, Hawick, have been so closely associated with the development of pentstemons as florists' flowers, that the box of spikes of the finer forms we have had the pleasure of receiving from John Forbes Hawick, Lim., was of quite exceptional interest. The florists' pentstemons are alike remarkable for the height and strength of the flower stems and for the splendid development of the individual blooms, and when grown under the conditions favourable to their full development they produce a fine effect, whether occupying positions in the mixed border, or in beds wholly devoted to them. Especially noteworthy among the fine varieties received from Hawick are: Sandringham, bright red; Mrs. J. McHattie, rich purple; Mrs. Michie, crimson; Marchioness of Linlithgow, bright pink; Miss Noble, rose-red; John Lamont, scarlet; Colonel Seely, violet; Mrs. Cook, rich rose; Lizzie Roberts, white with mauve lobels, and Mrs. Forbes, deep purple.

Horticultural Club.—The next house dinner and conversazione will be held at the Hotel Windsor, on Tuesday, October 11, at 6 p.m. Mr. George Bunyard, V.M.H., has promised to lecture on "Impressions of Carnae," and will illustrate his remarks with lantern views of the dolmens, menhirs, etc., of this part of Brittany.

Northern Fruit Congress, 1910.—The arrangements for the fruit congress and fruit show to be held at Hexham from the 20th to the 22nd inst., are, we learn from the Rev. J. Bernard Hall, the energetic honorary secretary, progressing satisfactorily. The exhibition will be of a comprehensive character, and the programme of the congress has been so prepared as to leave no doubt that the proceedings will be varied, interesting, and instructive. As indicating the importance of the gathering, it may be mentioned that deputations from the Royal Horticultural Society, the Royal Caledonian Horticultural Society, and the Scottish Horticultural Society will attend.

Admission of Dematured Tobacco.—At the meeting of the National Fruit Growers' Federation, held at the Horticultural Hall on Monday last, the secretary, Mr. W. Miskin, reported that there had been no developments in the agitation initiated by the Federation to induce the Government to allow dematured tobacco to come into the country free of duty. From this waste tobacco a solution was obtained which was of great value as an insecticide. The only source of supply at the present time was from waste tobacco in bonded warehouses, and so meagre was this quantity that the price had this year been forced up to 17s. a pound. Only amateurs had been able to avail themselves of the nicotine, which for the commercial fruit grower should cost no more than 5s. a pound. Mr. Miskin was directed to ask the Board of Agriculture if there were any hopes of the matter being dealt with in the next Finance Bill. It was arranged provisionally to hold a conference of large fruit growers and delegates from federated societies, on the invitation of the principal, at Wye College on December 2.

Fruit Trade in France.—According to a Foreign Office report on the trade of Lyons, various attempts have been made in the last few years to form small local co-operative unions of growers in this district for the disposal of their produce, but hitherto without success. In 1909, however, a group of fruit growers in one commune of the Department of the Rhône, agreed upon common action for the sale of their cherries on the Paris market, each member being responsible in turn for the collection of the fruit, its delivery to the railway station, and its despatch to Paris. The experiment was a great success, and the growers realised handsome profits. On its side, the Paris, Lyons, and Mediterranean Railway Company endeavours to stimulate the cultivation of early fruit and vegetables for the Paris and foreign markets in the districts through which that line passes. By means of special packing and fast trains, these perishable goods arrive quickly at their destination. The time now occupied in transit from Lyons to London is only twenty-eight hours.

"**Plant Life in Alpine Switzerland**" is an interesting contribution to the literature of the Swiss Flora. It is illustrated with forty-eight plates of photographs from Nature. The author is Mr. E. A. Newall, M.A., F.L.S., F.G.S., and the work is published at 7s. 6d. net by Mr. John Murray, 50a, Albemarle Street, London, W.

Dry Weather at the Equinoxes.—"W. M., Cheshire," writes: The year 1910 will be remembered as remarkable for the unusual dryness of the months of March and September, the time of the vernal and autumnal equinoxes. During March we registered 0.56in. of rain, and this amount fell during six days; in September we registered 0.22in., which, by a singular coincidence, was also distributed over six days. It is really surprising how dry the ground has become during September, although August was such a wet month; therefore it will be a good plan to defer the planting of trees and shrubs until the ground is fairly moist with the rains we may expect during October.

Perpetual Carnation Society.—This society will hold its winter exhibition at the Royal Horticultural Hall, Westminster, on December 13. Full particulars and schedules may be obtained from the Secretary, Mr. Hayward Mathias, Lucerne, Stubbington, Fareham.

American Gooseberry Mildew in Suffolk.—At a recent meeting of the Suffolk County Council, at Ipswich, it was reported by the clerk that the thirty outbreaks of gooseberry mildew reported on July 15 had increased to fifty-four, and there was reason for believing that there were other cases which had not been reported. It is possible during the autumn to take remedial measures to cope with the plague, and thus save next year's crop from heavy loss. An expert explained that the methods of treatment are by spraying and then cutting off the shoots attacked and burning them, otherwise the germs are blown about and infection is spread. Young bushes are more likely to become diseased than are seasoned bushes.

Horticultural Education in Edinburgh.—The interesting departure of the Edinburgh School Board in instituting a horticultural class for adults has met with great success. The class, which comprises both men and women, is associated with the school in Gilmore Place, while a quarter of an acre of waste ground in Warriston Park has been transformed into a flower, fruit, and vegetable garden. The class has two sessions—summer and winter—and instruction is given on two days in the week—Tuesday and Saturday. During the past summer session 42 pupils attended the class. The instruction given relates to the preparation of the ground by digging and manuring, sowing seeds, and tending the growth of the crops, special attention being devoted to insect pests.

French Horticultural Society of London.—The annual "Bulletin" of this society has reached us, and proves not less interesting than those of previous years. Sir Albert Rollit's portrait adorns the frontispiece; there is a list of members, and accounts of the monthly meetings, and a word of counsel to young Frenchmen proposing to enter service in horticultural establishments in the London district. There is a capital account of the banquet and proceedings held in January, 1910, and M. E. Stappaert gives an account of horticulture in the London area. Numerous articles follow, these having been given at the society's regular monthly meetings. The Temple Show of 1909 is described at some length, and at the end the Board of Agriculture's account of forestry education in Great Britain is reproduced in English. The society's finances, like everything else connected with it, are flourishing under the care of Mr. Schneider and Mr. W. O. Hiehle; a balance to the good of £232 10s. 1d. shows the excellence of the management.

British Grown Fruit.—We may remind our readers that the Royal Horticultural Society's exhibition of British grown fruit will be held at the Royal Horticultural Hall, Westminster, on October 13 and 14; doors will be open at 1 p.m., on the first day, and 10 a.m. on the second day, and will close at 6 p.m. each evening.

A New Disease of the Tomato.—We have to record the fact that a tomato disease practically unknown to cultivators in this country has made its appearance in the Henllys district of Monmouthshire. Specimens of plants and fruit affected by the disease have been sent to the Board of Agriculture for identification of the nature and origin of the disease, and for information as to its prevention. The Board has been able to declare the disease to be the tomato and potato bacteriosis, the organism concerned being termed Bacillus solanacearum (E. F. Smith). This disease was first discovered in potatoes, though on a very small scale, in the North of England and in Scotland in 1902. So far as Mr. Grant, the Director of Agricultural Education for Monmouth, has been able to ascertain, the first and most pronounced attack upon the tomato has been in the county of Monmouth. It would appear, says Mr. Grant, that the spread of this disease is caused by insects of various kinds which feed alternately on diseased and healthy plants, hence the necessity of immediate destruction by the burning of any tomato plants that may show the slightest indication of being attacked. Mr. Grant believes this new disease to have been imported from America in tomato seed. He strongly recommends that the soil in which an affected tomato crop has been grown, though only a few plants may have been attacked, should either be burned or treated with an application of gas lime. Soil in which tomatoes are to be grown might, as a precaution, be treated with a half-hundredweight per acre dressing of superphosphate, and the plants, from an early stage of growth, be frequently sprayed with Bordeaux mixture.

The Potato Crop.—It is highly probable that before the winter is over there will be a shortage of potatoes. From many quarters we hear of disease spreading badly in crops that were lifted as soon as fit, and when there was little appearance of disease in the haulm. Where harvest operations of various kinds delayed the work of lifting potatoes, the tale of diseased tubers is unpleasant. In the United States it is estimated that the potato yield is 70.5 per cent. of a full crop. Reports to hand also tell of the failure of the late potatoes in Southern France.

Pinching the Plums.—Our contemporary, the "Agricultural Gazette," tells the following amusing tale: A teacher of a large school in the East End of London sent one of her scholars to buy a pound of plums from one of the costers outside, and as she handed the girl sixpence, said: "Be sure, Mary, before buying the plums to pinch one or two just to see that they are wholesome." In a little while the girl returned with flushed face and a triumphant look in her eyes. Handing the teacher the bag of plums, she dashed the sixpence on the desk, exclaiming: "I pinched one or two, as you told me, and when the man wasn't looking I pinched the lot!"

BIRDS IN THE GARDEN.

There are many persons who set the highest value on the services of birds in the garden, even among those owners who cultivate with a view to supplying domestic needs. A few there are who presume to be quite satisfied if the birds take all, or practically the whole of the fruit crop as each kind comes into season, but it is pretty certain that even the most whole-hearted bird lover will sooner or later tire of the cost of gardening when bird monopolies are absolute. The passing season is one when the garden seems to have been overrun with birds, not of one species only, but many. Blackbirds, at the present moment, swarm everywhere, and whole crops of pears, plums, and apples have been ruined by them, and this, too, in a season when the supply is so disappointingly limited.

Tomtits usually spoil quantities of choice pears by sampling, and, unless placed in bags, few remain sound to be brought into the store. They are not content this year with sampling only, they are seen actively engaged feeding with blackbirds on pears as yet unripe. As a change of diet they choose late peas as quite their own property, and from several lengthy rows of Autocrats and Gladstones one cannot get a respectable dish for the table. Chaffinches are usually looked upon as seed-eating birds, and in summer time give but little trouble among garden crops. This year, for the first time, they have set upon garden peas, in company with the impertinent tomtit. We had not taken serious notice of chaffinches flitting about the pea rows, until it was observed they were engaged in feeding on green peas. It is true, birds do change their customs, and vary their tastes with passing seasons, and so, perhaps, it is not so very unusual for chaffinches to find new diet from the pea rows. At the same time the gardener's chances receive another setback, when invasions such as these become so numerous and varied.

It is curious how blackbirds choose certain kinds of apples and pears, following their favourites with such assiduity that unless steps are taken to protect them they clear the whole tree of its fruit in a short time. Doyenne Boussoch we have for years noticed to be an early favourite of the blackbird, and unless netted a large tree provides no supplies for home dessert. In some previous years wall plums escaped both blackbird and thrush, but in later seasons nets have become as essential for these as for strawberries. Formerly, too, it was only the dark-coloured plums that attracted the notice of these birds; this year they do not discriminate at all between colours. Starlings, when they visit fruit areas, terrorise the owner or those responsible, because invasions of these birds are in flocks, and crops vanish quickly. Hawfinches seriously reduce peas, and bullfinches not only convert fruit buds into food during winter, but they assert a right to their share of raspberries in summer. It is passing strange that in a year when weeds of all kinds have been so plentiful, and passed freely through flower and seed stages, offering, one would think, ample natural foods, that birds assume a right to cultivated crops. W. S.

Wilts.

DODDER.

The question to what extent the various species of dodder are harmful to crops is one which is of considerable interest, and the leaflet relating to this destructive parasite that has been issued by the Board of Agriculture, and is herewith reproduced, will be found helpful to cultivators.

Description of Certain Species of Dodder.

Some eighty species of dodder are known to science, and of these several occur in Britain. Dodder is botanically included in the order Convolvulacæ under the genus Cuscuta. The dodder plant is an annual, growing from seed either self sown or sown with other seed, and it is parasitic on other plants of a higher order, germination, however, taking place in the soil. Four species or varieties are mentioned in Hooker's Flora of the British Islands, these being Cuscuta europaea, C. epilinum, C. epithymum, and C. trifoli, the most important being C. trifoli. Other species, however, which have been introduced with imported clover and other seeds, may cause much damage in European countries, these being C. corymbosa (of American origin), C. Gronovi (also American), and C. monogyna. All species are parasitic on other plants, and all have the same method of reproduction.

Cuscuta trifoli.—This species, significantly termed "clover dodder," and, according to Hooker, a variety of C. epithymum, is the species commonly met with. It chiefly attacks red clover and lucerne. After a seed has once germinated the seedling quickly dies unless a clover or other suitable plant be at hand. Once established on a plant, however, it sends out roots or suckers (haustoria), which take firm hold of the host, loses its connection with the soil, and thereafter, unless checked, will rapidly spread in all directions by means of its slender, thread-like stems, which twine round the plants from which the pest draws its sustenance. C. trifoli is quite leafless, but produces clusters of small white bell-shaped flowers, each of which yields a two-celled capsule. Each cell contains two seeds, a single flower, therefore, producing four.

C. epithymum.—The flowers of this species are variable in colour, and about ¼ to ¾ inch in diameter, opening from July to October. The stems are reddish in colour, and very slender. It occurs in Britain from Ayr southwards. It is also termed C. minor, or lesser dodder.

C. europaca.—In this specias the stems are reddish or yellow in colour, and as thick as twine, the flower-heads being from ¼ to ¾ inch in diameter, and tinged with red. Flowering takes place in Britain during the summer months, the species being found from York to Sussex and Devon; it is, however, rather rare in Britain. This species is also known as C. major, or greater dodder.

E. epilinum.—This species, flax dodder, occurs sporadically on flax in Great Britain and Ireland, and is distributed throughout Europe. It is as large as the last species, but is paler and more succulent. It flowers during summer.

C. Gronovi.—This parasite, known as large American dodder, was identified in France by M. Schribaux some twenty-five years ago, when it appears first to have been introduced into that country from Canada or the United States. Owing to the fact that the seeds are about the same size as those of lucerne, they are with difficulty separated therefrom, and this renders the pest more dangerous. It is believed that this species does not ripen its seeds in this country, but the seeds germinate when sown, and produce dodder plants which are quite able to kill their host plant.

C. monogyna and C. corymbosa (C. hassiaca, or C. suaveolens) are also harmful to certain plants. The latter is of American origin, and bears large seeds.

Description of Dodder Seed.

The seeds of most species of dodder are very small—usually much smaller than the seed of red clover—roundish, and angled. It may be stated that they are generally smaller than the seeds of the plants on which they are parasitic. Exception must be made, however, in the case of the large American dodder, C. Gronovi, which is much larger than the seed of most species. The seeds of C. trifoli are roundish, about 1 mm. in diameter, dull in appearance, and grey, brown, olive-brown, or yellowish-brown in colour. In the case of C. epithymum the seed is round-oval in shape, and yellowish-brown in colour.

Dodder seeds can soon be recognised with a little practice, but cannot be certainly identified without the aid of a pocket-lens, or a slightly enlarging microscope.

Life History.

The embryo of the dodder seed is simple and thread-like, and coiled spirally round the fleshy albumen, while the radicle is thickened. The seeds seem to germinate best during damp seasons. At a suitable temperature they will germinate in five to eight days. When a seed germinates the thread-like coil unwinds gradually, the radicle end taking root in the soil, the remainder meanwhile lengthening and when it reaches a suitable host commences to twine itself round the stem, to which it attaches itself firmly by means of the suckers or haustoria. (Should the thread-like stems fail to reach a suitable host plant, they die.)

The plant now extends its thread-like stems to neighbouring plants, and large patches may rapidly become infested and overcome, the dodder soon leaving its hold of the soil, and living wholly on the host plant. On becoming firmly established the dodder grows and spreads rapidly, produces flowers, and, if nothing be done to prevent it, seeds are formed and the soil is re-sown. Small fragments of the stems, constituting veritable cuttings, may suffice to establish new centres of infestation, attaching themselves to fresh plants. M. Marre states that dodder may also be spread by means of little tubercles, which are formed in winter.

As stated above, however, dodders are annual seed-producing plants, and are no doubt chiefly distributed by seed included amongst agricultural seeds.

As regards the life-history and manner of growth, the various species closely resemble one another. The harm done is best explained by stating that dodder possesses no chloroplasts, and is unable to take up carbon dioxide from the air like ordinary green plants, but after leaving its hold of the soil, it depends entirely for its food material on the ready-made products which it absorbs from its host plant, which therefore becomes exhausted and dies. So rapidly does the pest spread that it has been stated that in three months a single stem may kill all the clover or lucerne plants on an area of twenty-eight square metres (thirty square yards nearly), and so complete is the destruction that one would say a fire had passed over the spot. Infested plants may be said to present the appearance of being wound about with reddish or yellow threads.

(To be continued).

Nerine Fothergilli major.—There are now a great number of nerines in cultivation, many of them being garden hybrids, but for general purposes this is second to none. Its requirements are less exacting than some of the others, and it will flower freely, providing the bulbs get a good roasting in the summer. The effect produced by its brilliant scarlet flowers is very striking, and when well-bloomed plants are arranged in the conservatory they at once attract attention. Though the above name is the one generally applied to it, this nerine is now by botanists assigned the specific name of curvifolia.—W. T.

ORNAMENTAL GOURDS.

The cultivation of gourds is not so much taken up in this country as it might be, occasionally one sees a few plants grown for the sake of novelty, but even then they are planted out and allowed to ramble about much as the vegetable marrows are, and, consequently, much of their beauty and colouring is lost. On the Continent many of them, besides the ordinary vegetable marrow, are grown for eating purposes, and are largely used for soups and jam making.

As decorative subjects they are well worth attention, and, as they cover a very large amount of space in a very short time, they in many instances are very useful, and, whether trained up a larch pole, or covering a trellis or pergola, they are equally at home, providing they are not placed in too exposed a position. The cultivation is very simple, but as their season of growth is very short, the ground in which they are to be planted must be thoroughly well prepared. Personally I do not advocate the growing of them on manure heaps, as with too vigorous growth the fruit does not set so well as when the growth is a little less rampant. I prefer to trench the ground about three feet deep, giving a fair dressing of manure, in fact about the same as for any other kitchen-garden crop.

The seeds should be sown in 48's, two seeds in each, about the first week in April, and placed in a moderately warm house, or in a frame on a mild hotbed. As soon as the plants are large enough to make sure they are going to grow away nicely, the weakest of the two should be pulled out, and a few days after this they should be strong enough to remove to a cold frame. Keep well supplied with water, and about the middle of May they should be ready to plant out. Previous to planting thoroughly pulverise the soil to give them a chance to grow away freely; should there be any chance of cold winds or frost they must be protected for a time with handlights, or a few branches of laurel, till all danger is past. With the advent of warm nights growth will be very rapid, and if the plants are to be trained they must be attended to regularly, and the tying should be done with some strong soft string, as when they are well set with fruit, particularly with the larger fruited varieties, there is a good deal of weight to support.

At all times they should be kept fairly moist at the roots, and once the fruits begin to set freely liquid manure should be given in quantity, and occasionally a little artificial fertiliser will help to swell the fruits. If they are wanted to be kept during the winter for filling large bowls, etc., in the house, they should be left on the vine till they become thoroughly hard and dry, when they will keep for a good length of time, some of them for two or three years.

There are very many varieties worth cultivating, but it is a difficult matter to keep them true; they intercross very freely, and where they are just grown for garden decoration this is not a disadvantage, as the results are very curious and interesting.

A few useful varieties are as follows: the Giant White, Yellow and Grey, Red Etampes, Crown Gourd, Turk's Cap, Crook Neck, Striped Bergin, and Ohio Squash, these are all fairly large. Amongst the smaller varieties are the Egg-shaped, Pear, Apple, Orange, Nutmeg, and Gooseberry, these taking after the shape of the fruit from which they are named, and many of them may be had in the warty and striped forms.

Thomas Stevenson.

AZALEA NOTES.

Azaleas are such favourite subjects for spring flowering under glass that one is apt to lose sight of the fact that they are especially valuable for outdoor decoration, and in the hands of a careful planter they are capable of some gloriously effective displays.

They are of especial value for lawn groupings, and are delightful subjects for favourable positions in the rock and wild gardens, and ought to become very popular for emphasising rockwork formations and for crowning bluffs and banks with a dominant note of colour.

In the gardens of Japan azaleas are freely planted, and in the majority of cases very charming effects are created by their use. This free adoption of azaleas in the making of the garden is doubtless derived from the wealth of native Japanese forms, and the glorious pictures they produce in a state of nature. Mountain slopes and rocky bluffs are "fired" by the glow of the azaleas when in blossom. Rich hues are delineated in all their beauty against the dark boulders and the grassy slopes, and a distant view gives a truer idea of their value than close inspection, though they are beautiful at any distance. Having regard to their picturesque effect, I would urge the idea of massing suitable forms on the higher summits of the rock garden, using them freely in order to produce those "glowing masses" which are so pleasantly effective.

In the open spaces of the wild garden, upon the grassy knolls, and rising banks, the azaleas are worthy of extended planting. Bold, free grouping will give delightful results, especially if the species or varieties used are grouped separately, and not intermixed in an indiscriminate manner. In the flower garden proper azaleas of the various types look well in beds upon the lawns, and will provide pleasing front-row plants to groups of rhododendrons, or to other arrangements of flowering shrubs.

Peat is usually recommended for the culture of these subjects, but it is not absolutely necessary, as the majority can be well grown in good rough fibrous loam and leaf-mould. A combination of the three might attain to the ideal, and I certainly regard the use of loam as being of value for the production of short bushy growth, as well as assisting in the prolonging of the display of blossom. Many of the species grown are of Japanese origin, among these being the favourite A. mollis. No word of mine is necessary to advocate the merits of this group, for it is extensively grown in the majority of gardens.

There are many named varieties of note, including such gems as W. E. Gumbleton, multiflora, Elizabeth, M. Koster, Mrs. L. J. Endtz, and Comte de Gomer, these being but few among a very fine range of colourings. The newer hybrids, raised by crossing superior forms of mollis with A. sinensis, are certainly a noteworthy group, among which are some specially bright forms. Among the finest one might note Alma Tadema, a soft rosy-pink; Charles Darwin, a bright clear red; Emil Liebig, a glowing salmon-red; Anthony Koster, bright yellow; Baron von Wolff, primrose, margined with pink; General Vetter, orange; and Dr. Pasteur, a bright shade between orange and red.

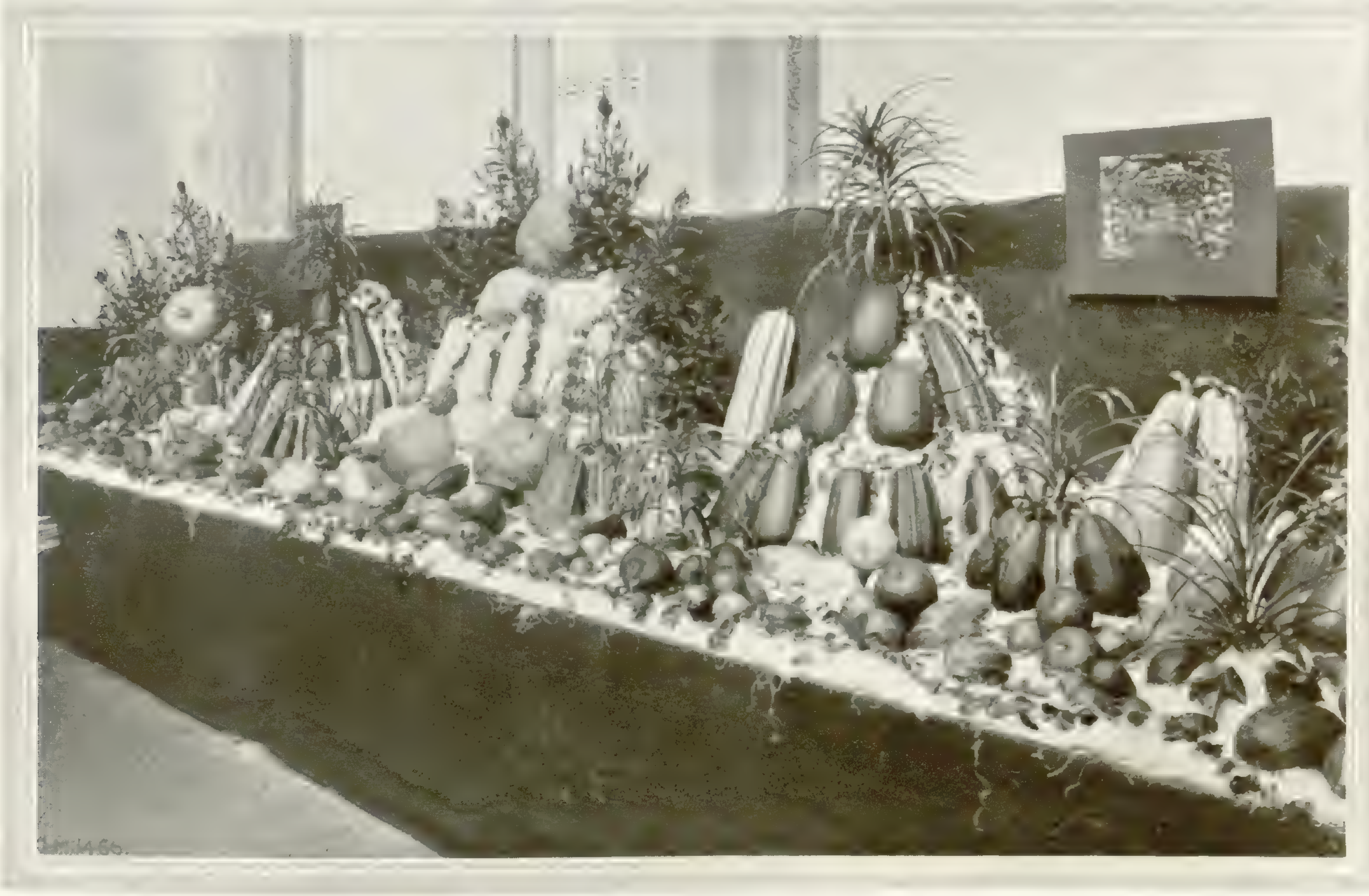
These, of course, are excellent for forcing, but grown outside they are of even greater importance, and after the blossoms are past and forgotten one has the beauty of the foliage colourings in the autumn. The dwarf evergreen species and varieties are exquisite for rock garden adornment. A. roseflora is typical of the value of the group, and one notes with pleasure that this beautiful rosy-salmon gem is becoming popular; certainly its neat habit and rich-hued blossoms are great points in its favour. Others of the same Japanese group are Daimio, an effective dwarf with glowing salmon-scarlet blossoms; Mikado, a bright rich red; and the soft rosy-pink Forsteri.

Other sterling Japanese azaleas include the exquisite A. ledifolia, and its charming varieties. These are extremely fragrant, and the forms alba, a wonderfully profuse white, and rosea, a somewhat rare rose-pink, are probably the best. The clouds of blossoms which these varieties carry make them very conspicuous and pleasing.

A. Omurasaki, a new introduction, is recommended for its freedom and earliness; the blossoms are of a bluish-lilac shade. In A. Hinodegiri we have a typical favourite of the Japanese garden maker. It is delightful for massing, and its "fire-lit red" colouring, and its floriferous habit, should make it as popular here in the future as it is in the Flowery Land. A. amœna, a neat little shrub with rosy-magenta flowers, is of service for the rockery, where its earliness and its bright touch of colour are duly appreciated. Somewhat dwarfer, but a very pretty companion plant, is A. alpina, which is of a soft pink shade.

Of the North American group one briefly notes A. Vaseyi, an April-flowering gem of pale pink colouring, which is of especial value for wild garden plantings. A. lutea, a deep yellow of medium height, is wonderfully pretty en masse; the white A. nudiflora, which loves a cool soil with a little shade, is noteworthy with its tube-like blossoms; whilst the fragrant cream-coloured A. viscosa is somewhat similar in formation.

P. S. Hayward.



DISPLAY OF ORNAMENTAL GOURDS.
Made at the Royal Horticultural Hall, Westminster, on September 24, by Mr. Thos. Stevenson, gardener to E. A. Mocatta, Esq., Woburn Place, Addlestone.

Philesia buxifolia.—This is a near ally of Lapageria rosea, and, like it, a native of the temperate regions of South America. Instead, however, of being like the lapageria—a decided climber, the philesia forms a dense tuft of leaves, not much bigger than those of the box, though they have the harsh texture of the lapageria. The flower, too, greatly resembles a small bloom of Lapageria rosea, while they were both introduced by William Lobb about 60 years ago.—W. T.

NOISETTE ROSES AND THEIR HYBRIDS.

In the majority of catalogues the Noisettes are amalgamated with the tea-scented roses: and justly so, seing the number of varieties that possess the generally recognised characteristics of both classes. Caroline Kuster is usually spoken of as a Noisette, while such authorities as Messrs. Paul and Son put it among the Teas. A rose that is surprisingly little known, considering its age and great decorative beauty, viz.: Souvenir de L. Viennot (Bernair, 1897), is considered a Tea by Messrs. B. R. Cant and Sons and William Paul and Son, but Messrs. Paul and Son place it among the Noisettes, and personally it seems quite as much entitled to that class as does Caroline Kuster; but I must add the National Rose Society classes it as a Tea. Many such variations occur to one who has any acquaintance with roses.

It was not of these differences of opinion as to classification that I wished to treat. however, so much as call attention to a few of our best Noisettes, and we number many very old favourites among these. For instance, Céline Forestier has been with us since 1858, and is still one of the best yellow climbers, almost evergreen, and very sweetly scented. But we have a much older favourite in La Marque (1830), a rose it is difficult to beat in its colour—pure white, with a lemon shade in the centre—and where it seems at home we have no stronger growing or freer blooming variety. Near here is a plant that is known to be upwards of 60 years old, and that has a stem about four inches in diameter; and yet it produces a good crop year after year. La Marque needs a warm and sheltered situation, and then, like the Banksians, it is difficult to dethrone.

DISPLAY OF POT-GROWN FRUIT TREES.
Made at the Royal Horticultural Hall, Westminster, on September 24, by the King's Acre Nurseries, Lim., Hereford.

In Aimée Vibert (1828) we still possess one of the hardiest and most continuous bloomers, which is justly considered by many the best pure white cluster rose for arbours, pergolas, and any rustic work, while it is almost evergreen, and as free from mildew and red rust as any variety I am acquainted with. Ophirie (1841) is yet another old rose that always flowers freely late in the season, when its nankeen and copper blossoms are very welcome. It is not so much grown as it deserves, but one sometimes meets with a veteran plant upon the wall of old buildings. Rêve d'Or (1869) and William Allen Richardson (1878) need no commendation except to say that, with L'Ideal (1887), they are quite indispensable climbers; their colours being too well-known to need any description. I had almost overlooked Triomphe de Rennes (1856), a seedling from La Marque, but by no means so rampant a grower. It is very much hardier than its parent, and pure primrose yellow throughout.

There is a newer Noisette that I do not find in many lists, which can be recommended. This is Crépuscule. It is a good grower and free blooming. Rather a difficult colour to describe, quite distinct, and one of the best. "A rich coppery-yellow, rayed and tinted with nasturtium-red," fits it very well, and is from the only list in which I find it. Our own experience of this rose is very favourable, it being hardy and with good foliage.

A few Hybrid Noisettes deserve a word or two, for in them we have Madame Alfred Carrière (1879), a Nickerson Cup winner, which is about the highest praise a rose can have, seeing it is the result of so many votes from all growers of repute. A large, almost white flower, with a tinge of pale yellow at the base of its petals, very sweet-scented, and as suitable for any purpose or position as the old Gloire de Dijon, if not more so. Boule de Neige (1867), often placed among the Hybrid Perpetuals in nurserymen's lists, claims its correct place under the Hybrid Noisettes.

But I must not miss Maréchal Niel (1864), still the best yellow upon a sheltered wall, and unapproachable under glass. The opinion has been expressed that we do not see this grand rose in the same perfection as was the case some ten to fifteen years back, and many theories have been advanced to account for this. Last spring I saw it in a cool conservatory, and never came across better specimens. I must admit it is long since I saw it in any way approaching the grand blooms almost everyone seemed able to secure some twenty-five years ago; so many plants produce comparatively small flowers, and entirely deficient of the intense golden yellow so much desired. This, I take to be a Noisette, although not a few folks list it as a Tea.

Uckfield. **A. Piper.**

TWO FINE EXHIBITS.

There were many fine exhibits at the recent meeting of the Royal Horticultural Society, and two of these we selected for illustration in the present issue. Both came under the jurisdiction of the Fruit and Vegetable Committee; both of them merited and received a Silver-gilt Knightian Medal, and yet each was as distinct from the other as it possibly could be.

From the King's Acre Nurseries, Hereford, came a fine collection of grandly grown fruit trees in pots, the wonderful crop of fine fruits that these carried proving a great source of interest to the visitors. The kinds represented were apples, pears, grapes, figs, plums, and peaches, and though all these were good, the grapes, Alicante, and the pears were of outstanding merit.

The ton weight of gourds, squashes, and marrows staged in most attractive fashion by Mr. Thomas Stevenson, gardener to E. A. Mocatta, Esq., Woburn Place, Addlestone, was probably the very finest exhibit of ornamental cucurbits, fruited out of doors, ever exhibited. As already stated, these are grown on a pergola 12ft. wide and nearly 80 yards long, and each year the display at the end of the summer is a wonderful one, the brilliant colouring and varying form of the fifty or sixty varieties grown being unusually attractive.

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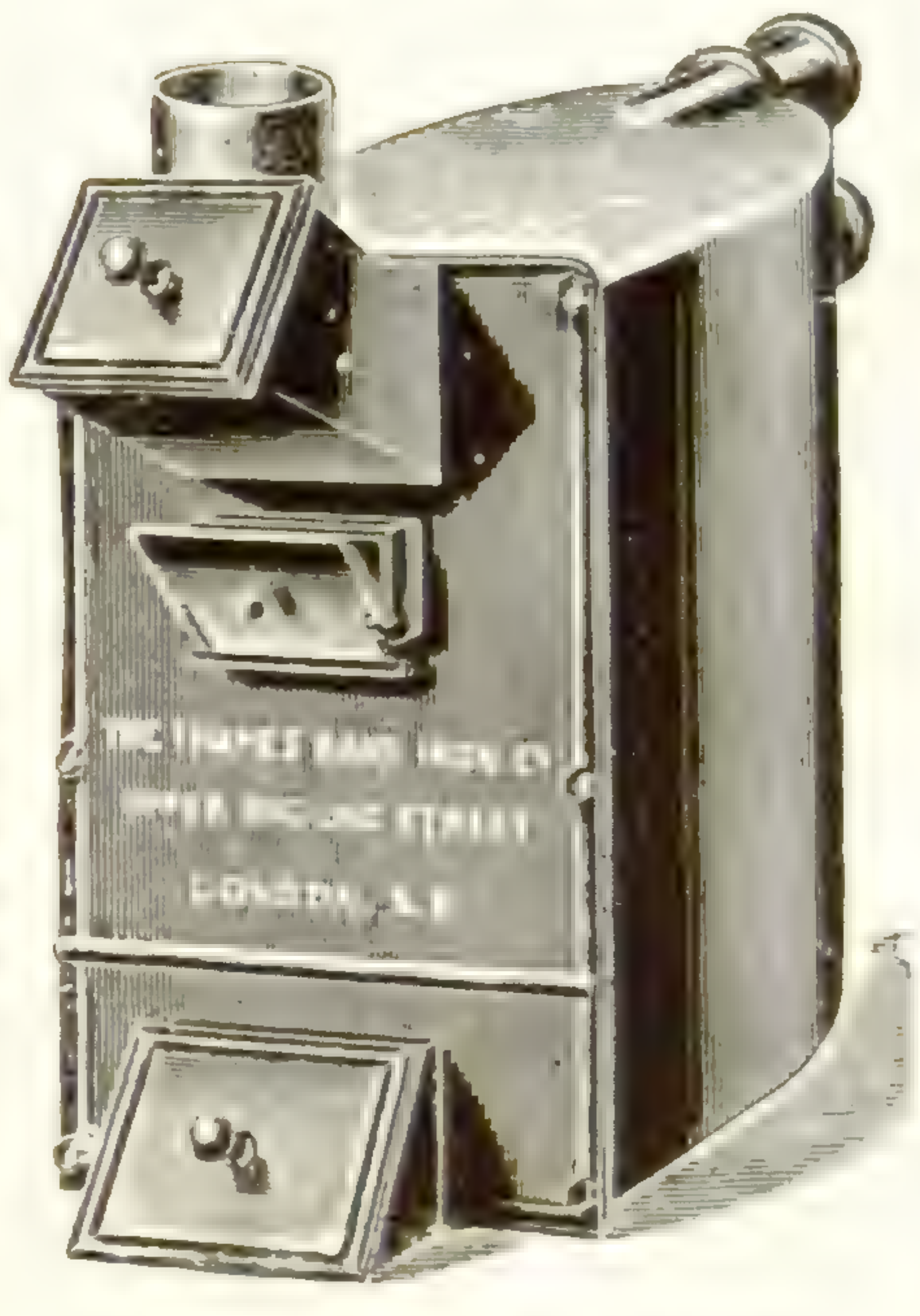

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NEW PLANTS, ETC.

CYPRIPEDIUM SHOGUN.

This very fine cypripedium is of unknown parentage. It has a dorsal sepal over three inches broad, and of the finest shape, white at the apex, yellow-green below, and heavily marked with rows of purple spots. The petals are yellow-green shaded with brown, and the lip is of similar colour. The lower sepal is particularly large, green and white. F.C.C., R.H.S., September 27.; Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

PHAIUS COOPERI.

This new species was shown previously, on January 11 of the present year, when a Botanical Certificate was granted, but on this occasion a higher award was made. The leafage is long and robust, but the flower spike is dwarf, the flowers being of fair size, with deep bronzy-red white-margined sepals and petals, and a white, purple-marked lip. A.M., R.H.S., September 27. Messrs. Sander and Sons, St. Albans.

CATTLEYA LUEGEÆ.

A very handsome and large-flowered cattleya, obtained by crossing C. Enid with C. Dowiana Rosita. This splendid hybrid has one small tailing, i.e., the throat of the lip expands rather much, and displays the whole of the column. The sepals and petals are broad, deep rose-purple, and the big spreading lip is ruby-purple handsomely veined with gold. A.M., R.H.S., September 27; Messrs. Charlesworth and Co., Haywards Heath.

LÆLIA DEGEESTIANA THOMPSONI.

A pretty hybrid derived from L. Jongheana alba and L. flava. The sepals and petals are white, and somewhat narrow; the narrow lip rich deep yellow, and waved. A. M., R.H.S., September 27; W. Thompson, Esq. (gardener, Mr. Stevens), Walton Grange, Stone, Staffs.

CATTLEYA DIRCE MAGNIFICA.

A large and handsome form of the hybrid between C. Warscewiczi and C. Vulcan. The sepals and petals are deep rose-purple, the lip of brighter hue, and lightly veined with gold. A.M., R.H.S., September 27; Lieut.-Colonel Sir George Holford, Westonbirt, Gloucester.

VIBURNUM HENRYI.

A new and hardy Chinese shrub that has already been well proved. As shown, it is about 4½ft. high, and has rather narrow, serrately-margined bronzy-green leaves, and an abundance of axillary clusters of red and black fruits. It will evidently be a very useful shrub. F.C.C., R.H.S., September 27. Messrs. James Veitch and Sons, Chelsea.

DAHLIAS.

Flagstaff.—A garden cactus variety, long-stemmed, and a pretty combination of yellow and rose. A.M., R.H.S., September 27. Messrs. J. Stredwick and Son, St. Leonards.

Loveliness. — A fine rose-pink decorative variety of splendid size, and with long stems, described on p. 742. F.C.C., N.D.S., September 27; Mr. Charles Turner, Slough.

The Moor.—A neat pompon dahlia of deep dark crimson hue. F.C.C., N.D.S., September 27; Mr. S. Mortimer, Farnham.

Kingfisher.—A finely-formed cactus dahlia of deep rosy-mauve colour; very striking. F.C.C., N.D.S., September 27; Messrs. J. Stredwick and Son.

Golden Eagle.—A beautiful cactus dahlia with incurving tips; the colour is soft yellow overlaid with rose and fawn-pink. F.C.C., N.D.S., September 27; Messrs. J. Stredwick and Son.

CHRYSANTHEMUMS.

Hollicot Golden.—Another member of the new race of large-flowered early chrysanthemums. It is of rich golden-yellow colour. A.M., R.H.S., September 27; Mr. Roots, Holly Cottage, Cranford.

Betty Spark.—Though not so large as other fine things from this raiser, the new-comer has substantial flowers of a rich deep rosy-lilac or rosy-pink shade. A.M., R.H.S., September 27; Mr. W. Roots, Cranford.

CARNATION LADY ALINGTON.

A useful long-stemmed fragrant perpetual carnation with flowers of good form and substance, an excellent non-bursting calyx, and a lovely shade of self pink. A.M., R.H.S., September 27; Messrs. Stuart Low and Co., Bush Hill Park, Enfield.

ROSES.

Mrs. Herbert Stevens. — A shapely tea-scented rose with pointed flowers of great beauty; the colour is soft creamy-white. Gold Medal N.R.S., September 15; A.M., R.H.S., September 27; Messrs. S. McGredy and Son, Portadown.

Ethel Malcolm.—A fine hybrid-tea rose of rich blush-pink shade; a large, full bloom. A.M., R.H.S., September 24; Messrs. S. McGredy and Son.

Dorothy Ratcliffe.—A beautiful H.T. rose, rather lighter, perhaps, than the Lyon Rose, but of very similar colouring, and we are afraid there will eventually be some confusion between the varieties, unless Dorothy Ratcliffe eventually assumes a more decided character. Silver-Gilt Medal, N.R.S.; September 15; A.M., R.H.S., September 24; Messrs. S. McGredy and Son.

PHLOX ELLEN WILLMOTT.

A distinct and charming phlox of dwarf habit, and carrying large heads of fine lavender-coloured blooms; a splendid addition. A.M., R.H.S., September 24; Messrs. Gunn and Sons, Olton, Warwick.

LOBELIA CARDINALIS GLOIRE DE ST. ANNES.

A very bold and stately variety of the Cardinalis group of herbaceous lobelias. The flowers are of large size, and rich crimson-scarlet colour, and these are borne freely on an erect spike at the head of 4ft. stems. The leaves are green, and of a shade that does not enhance the colour of the flowers. The variety is said to have resulted from crossing L. Firefly and L. Lord Ardilaun. A.M., R.H.S., September 24; Mr. A. Campbell, gardener to Lady Ardilaun, Clontarf, Co. Dublin.

PERENNIAL ASTER PEGGY BALLARD.

A useful addition to the select Michaelmas daisies. It is of dwarf habit, and carries a wonderful profusion of double rosy-violet flowers. It is a miniature Beauty of Colwall. A.M., R.H.S., September 24; Mr. E. Ballard, Colwall.

SOLIDAGO SPECTABILIS.

A fine hardy plant for autumn flowering. It grows about 2ft. high, and bears long graceful plumose spikes, crowded with tiny deep golden-yellow flowers. A real acquisition. A.M., R.H.S., September 24; Messrs. Paul and Son, Cheshunt.

SOLIDAGO SPECTABILIS.
A graceful golden-yellow hardy flower; A.M., R.H.S., September 24.
Messrs. Paul and Son, Cheshunt.

Pentstemon Newbury Gem.—This pentstemon, which has made considerably headway in popular favour within the last few years, and is often largely planted in the flower garden, is at Kew considered to be a recognised species, namely, Pentstemon Hartwegi. It is a native of the mountainous regions of Mexico. There is also a white-flowered variety, known as P. Hartwegi alba, which corresponds with the White Newbury Gem.—W. T.

Crossandra undulæfolia.—This near ally of the aphelandras is, like several members of this last-named genus, a very attractive flowering plant for the cool portion of the stove, or for the intermediate house. It is an upright growing subject that will flower when from a foot to eighteen inches in height. The blossoms are individually about an inch across, and of a bright orange-salmon tint. They are borne in a terminal head, from which a succession is kept up for some time.—W. T.

APPLES CROPPING WELL IN 1910.

An inspection of our trial apple orchard early in September showed certain varieties bearing well, even in this bad season, and my notes may be of interest to your readers who contemplate planting. The trees are sixteen years planted upon the paradise stock, grown in basin form, and they are summer pruned in August-September, and the leaders are tipped back to four leaves in February. They have a dressing of cow manure on the surface one season, followed by lime, then soot, kainit, and a light dressing of nitrate of soda, one stimulant being used in a season; nitrate or mulch of dung being given where the trees crop freely.

The trees average about seven feet in height, and have a spread of from 12 to 14 feet, according to the habit of the variety. They are a mass of fruiting spurs, which are thinned from time to time. The crop is given attention in June for the first thinning of the fruit, and again early in August. The result of this care is that every fruit is perfect of its kind, and the trees are sprayed for winter moth caterpillars as soon as the buds open, and, if needed, again after the blossom falls. In addition, a winter wash is given, so that the trees are unusually clear in the bark and healthy in the foliage. Many sorts are cankered, but as they are in trials, this enables us to avoid working such kinds. The land is lightly dug in winter, and the surface is kept open by hoeing, which is a most important factor in getting the wood ripened. The plantation is the admiration of all visitors, and an admirable guide to those who are about to plant. The trees have grown faster than expected, and are too close at 9ft. by 12ft.; 12ft. square would give best results.

Cooking varieties that can be recommended for general culture in gardens are: *Mere de Menagé, *Royal Jubilee, Hambling's, Warner's King, *Newton Wonder, *Bramley's, King's Acre Bountiful, Stirling Castle, *Lord Derby, *Lane's Prince Albert, *Grenadier, *Bismarck, *Lord Grosvenor, Alfriston, *Lady Henniker, *Golden Spire, and *Histon Favourite.

Dessert varieties are: *Venus Pippin, *Worcester Pearmain, *Cockle's Pippin, *Ross Nonpareil, *Baumann's Reinet, *Mabbot Pearmain, *Gravenstein, Adam's Pearmain, *Mannington Pearmain, James Grieve, Cox's Orange (some trees only), Braddick's Nonpareil, *Wealthy, *Sanspareil, *Hereford Queening, D'Arcy Spice, Old Nonpareil, *May Queen, *Lady Sudeley, Winter Ribston, *Allington Pippin, and Early Transparent.

Those marked with an asterisk are loaded with fruit; the others carry a fair crop.

The following less known kinds are also fruiting well, but they are not adopted for general cultivation, except in a few cases: Brabant Bellefleur, Dredge's Fame, Hereford Beaufin, Seaton House, Old Royal Russet, Nelson Codlin, Sultan of Devon or Red Ribbed Greening, Old English Codlin, Betty Geeson, New Bess Pool, Cobham, Mrs. Barron, Chatley's Kernel, Reinet Superfin, Frogmore Nonpareil, Boston Russet, Washington, Baxter's Pearmain, Cat's Head, Farmer's Seedling, Foster's Seedling, Gospatric, Croucels, and Early Rivers.

The crops in many cases are larger than were anticipated, but one fact is patent, i.e., that it is the well tilled arable lands that give crops this season. In orchards the long grass, lush from the wet season of 1909, prevented that ripening of the wood which is essential to secure fruit in an adverse season.

Maidstone. George Bunyard.

NEW PERPETUAL CARNATION LADY ALINGTON.
Flowers, bright pink; A.M., R.H.S., September 24; Messrs. Stuart Low and Co., Bush Hill Park, Enfield.

OUTDOOR PEACHES.

In a season like the passing one, when it has been the exception rather than the rule to find a good crop of peaches on outside walls, it is satisfactory to note that in a few gardens average, and occasionally more than an average, crop has been secured. Of the several crops that have come under my notice, the best is in the Wychcross Gardens, and comprise the following varieties: Waterloo, Alexander, Hale's Early, Bellegarde (extra good), Stirling Castle, Sea Eagle, Royal George, Goshawk, and Late Devonian, all carrying heavy crops of highly-coloured fruits. Other varieties are cropping fairly well, but those enumerated are the best. Nectarines carrying good crops at the time of writing are Humboldt, Pine Apple, Milton, etc., the first-named carrying the heaviest crop. The soil at Wychcross is strong, and with a disposition to encourage strong growth in the trees.

Mr. Field is a believer in annual or biennial lifting of the trees, and his trees so far justify his procedure. Certainly, it entails some extra labour, but it also checks that strong growth which is neither desirable nor useful in peaches, whether grown outside or under glass. One of the principal factors in successful peach culture is wood of medium length, well ripened, and all that tends to such production should be studied; this is much more necessary with outside trees than with those grown under glass, as inside trees will ripen a longer growth than can be secured outside.

It is not every gardener who has the courage to lift his outside peaches or nectarines annually or biennially, and even if he is bold enough, he may not be able to afford the necessary labour, as such work requires to be well done. Besides this lifting there are other essential details in the successful culture of outdoor peaches, and the question sometimes arises: Is it all worth the trouble, considering our seasons and climate? But with everything grown in or on the land, it is the man who does the thing thoroughly who commands success.

The condition of many stone fruits points to a too free root-run, and a too liberal compost at the start; it is not the amount of space a tree may have to root in that produces good crops, but healthy fibrous roots which cause the trees to make suitable fruit-bearing wood.

T. H. Slade.

STACHYS LANATA.

An old-fashioned plant, at one time fairly common in old gardens, but now less frequently met with, is the Woolly Woundwort, or Lamb's Ear, as it is frequently called, but Stachys lanata in botanical parlance. It is always a plant that those unversed in flowers view with some interest if his or her attention is drawn to it. This is because of the thick, wrinkled, woolly leaves, which are so soft beneath, and look so silky that one cannot well quarrel with the fancy which likens it to the lamb's ear. They are large, and quite white in dry weather.

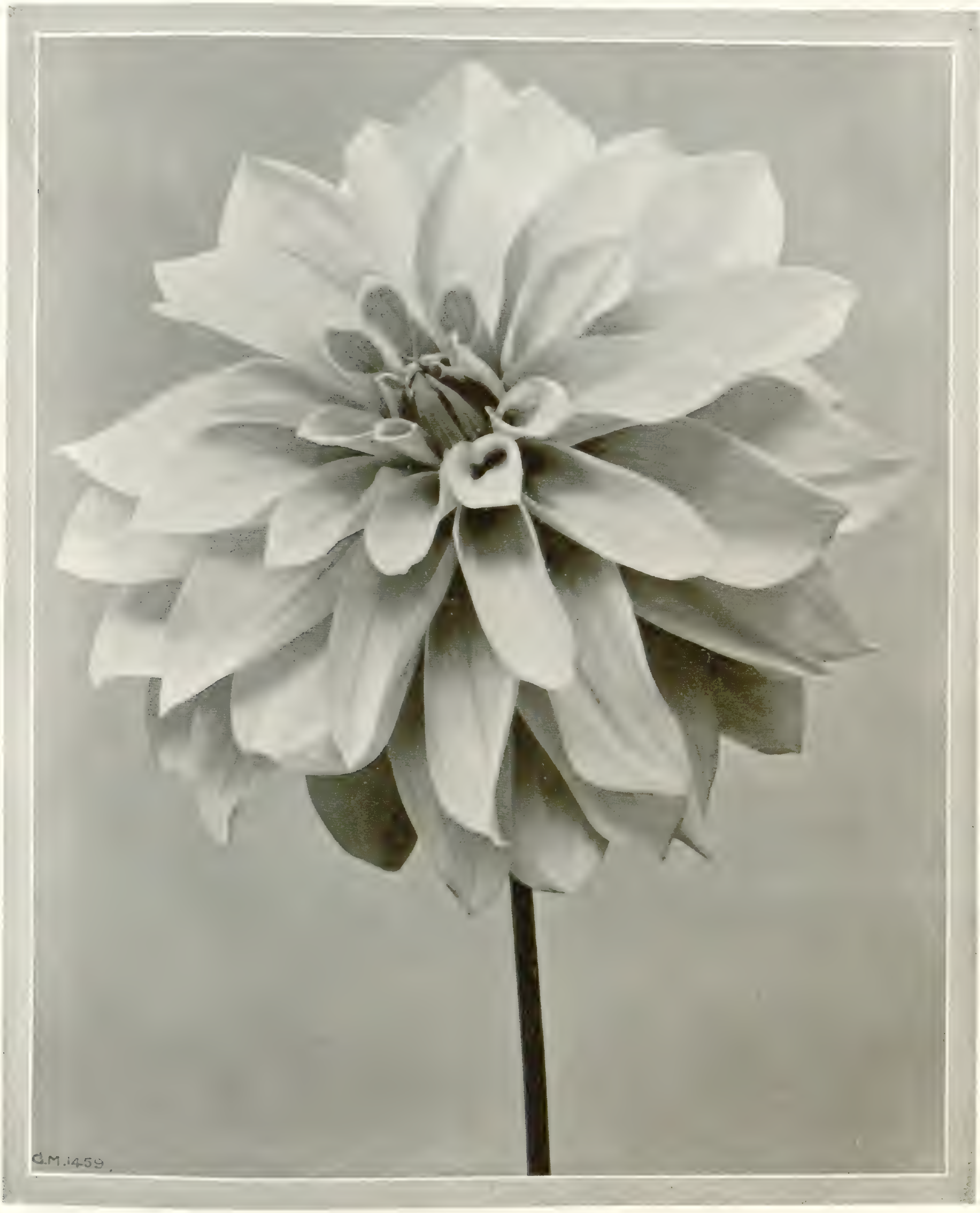
It makes rather a good edging plant, especially in dry situations. Like many other plants its floral attractions are not commensurate with those of its foliage, as the long spikes, from a foot to a foot and a-half in length, are not showy, their purple flowers being small, although numerous, there being some thirty or more flowers in one of the whorls which form the inflorescence.

Mingled with the stem leaves, also white, they give little effect, and for edging they are better cut off as they appear, their height making them unsuitable for the edging of the border.

In clumps in a border, or even on a large rockery, this plant has a good appearance with its snow-like foliage in summer.

It is of rather spreading habit, and is easily increased by division, and as it is liable to become bare in the centre, it should be lifted occasionally, and replanted when in a clump. As an edging, where it is not allowed to spread out, it does not require this so frequently. A native of Tauria and the Caucasus, it does not suffer much in our winters, but dislikes excessive wet at that season.

S. ARNOTT.

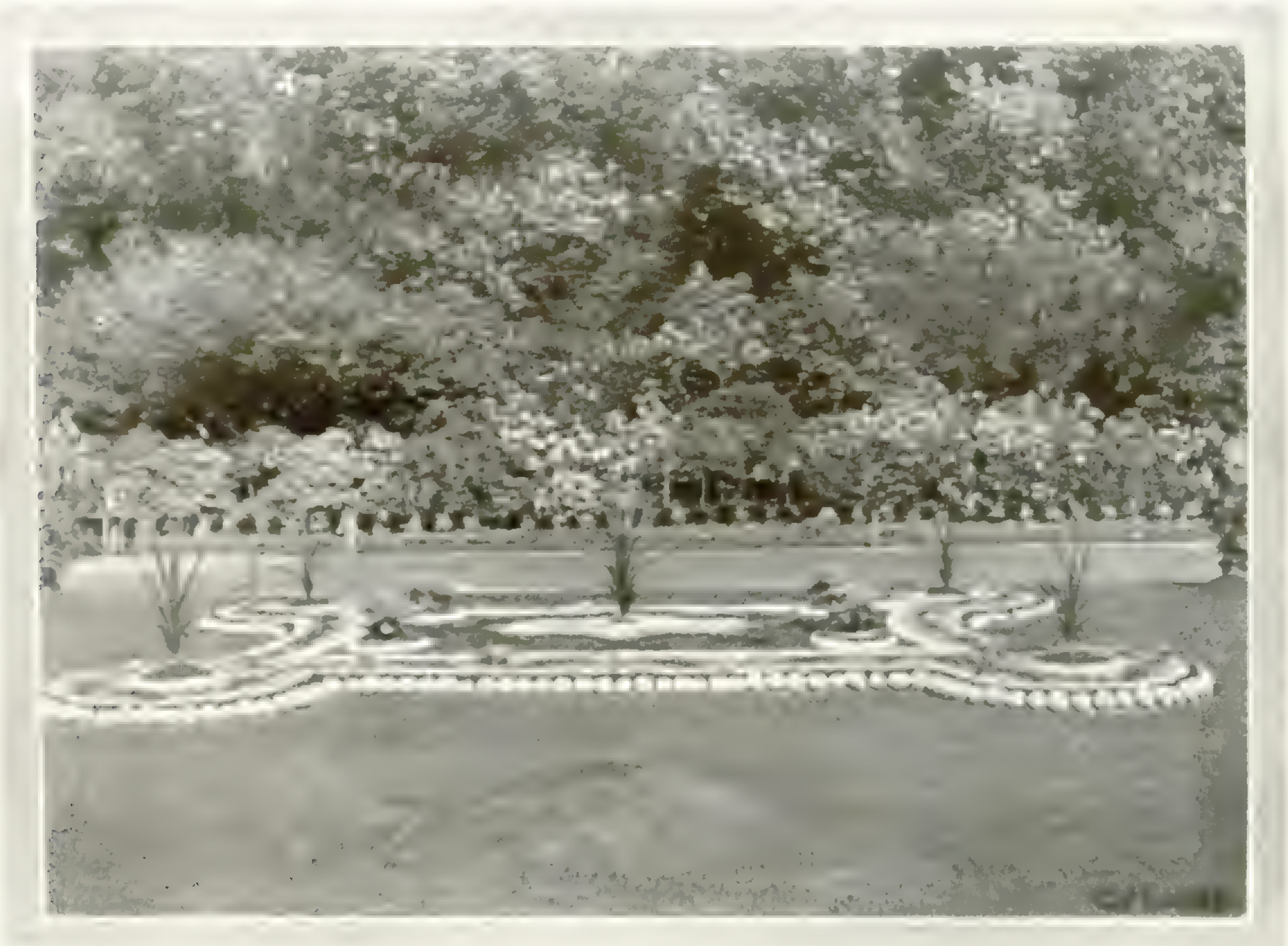


NEW DECORATIVE DAHLIA LOVELINESS.

Flowers, bright rose-pink. A.M., R.H.S., September 13; F.C.C., N.D.S., September 27; Mr. Chas. Turner, Slough.

PECKHAM RYE PARK.

To residents north of the Thames Peckham Rye Park is comparatively little known, but in the south-east its beauties are much appreciated, as is well shown by the great number of visitors that are at all times to be seen there. Opened first in 1894 as a fourth-class park, it has steadily advanced till it now stands out as one of the first class.



AN EFFECTIVE CARPET BED IN PECKHAM RYE PARK.

A few years ago an adjoining estate was purchased and added to the park, this extension being first opened to the public in 1908. This being well timbered, and to a great extent retaining its wild woodland character, it has, with the many improvements effected therein, proved to be a source of delight to thousands. The attractions of the park (the area is nearly fifty acres) are many, but the principal features are the groves of umbrageous elms, the delightful Old English garden, the long pergola clothed with climbing roses, clematis, and ornamental-leaved vines, the herbaceous borders, the high class of its summer bedding, the picturesque lake with its ornamental waterfowl, and the splendid turf of its playing fields.

In the wild portion, with its wooded banks clothed with ferns and other native plants, a little streamlet meanders along, and it is difficult to imagine that one is only just outside the four-mile radius from Charing Cross. Taking matters further in detail, on entering by the Forest Hill Road Gate, the principal walk is bounded for some distance on either side by a wide border containing a selection of the finest herbaceous plants. This border extends on the left for a distance of about 250 yards, and is backed throughout its entire length by ornamental shrubs. On the right it is only about half the length, but where it finishes the scheme of decoration is maintained by beds of flowering subjects, some of the finest displays in the park being there shown. By the second half of September many of the herbaceous subjects are past their best, but there is even now a brilliant display of colour from the numerous asters, the later kinds of phloxes, chrysanthemums, dahlias, Sedum spectabile, Anemone japonica in variety, helianthus of sorts, pentstemons, hollyhocks, rudbeckias, and many other well-known and showy subjects.

The flower beds on the right are varied in size, shape, and arrangement, a few notable examples being one of large plants of ivy-leaved pelargonium Souvenir de Charles Turner alternated with standards of Veronica Andersoni variegata, carpeted and edged with blue viola, in which are set plants of Phalangium lineare variegata. Another of Lobelia cardinalis Queen Victoria and the variegated Fuchsia gracilis over a double red-flowered form of Begonia semperflorens with bronzy foliage is bright and attractive. There is not space to enumerate the occupants of the various beds, but a few more uncommon subjects are worthy of especial mention. Fuchsias are very fine, one bed being planted entirely with large and small plants of Fuchsia Cadmus, which I have not before seen bedded out. It was distributed by Messrs. William Bull and Sons, of Chelsea, about half a dozen years ago. It is a bold, but not too large flower, with a single white corolla, and bright coral-red sepals. The flowers are borne in great profusion, and I should not be surprised if this variety was in time to supersede the popular Madame Cornellison for bedding purposes. Two of those distinct hybrid fuchsias, namely Andenken and Heinrich Henkel, associated with tall plants of Artemisia argentea, and Furst Otto Von Wernigerode, alternated with the grey-leaved Gnaphalium microphyllum are very pretty and uncommon. In an attractive bed of succulents the bright-flowered Kalanchoe flammea is flowering freely. I have not before met with it planted out of doors.

VIEW IN BAMBOO GARDEN, PECKHAM RYE PARK.

Early chrysanthemums are bright and effective, the open weather being greatly in their favour. A bed of the bright yellow Horace Martin, edged with the dwarfer bronzy tinted Harrie, is particularly noticeable, as also is Marie Massé, the deep rosy flowers being very fine. There are many other kinds, but these are the best, though the somewhat later Soleil d'Octobre promises well should the weather keep open.

One of the finest examples of carpet bedding that I have seen this season is at Peckham, the dot plants being Cordyline australis and Echeveria metallica. Other plants employed in this carpet bed, whose pattern is too intricate to detail, are the golden-leaved spergula, Alternanthera amabilis, A. magnifica, A. Kingi, A. versicolor, Echeveria farinosa, and E. secunda glauca as an edging. Opposite the flower beds, and forming, as it were, a continuation of the herbaceous border is another long border in front of shrubs, planted entirely with tender subjects disposed in bold masses or groups. So treated, there is quite a collection of fuchsias and many pelargoniums, both as dwarfs and standards. One variety that is now seldom grown, namely, Chelsea Gem, with variegated leaves and double pink flowers, is particularly good as a standard plant. Lantana delicatissima, begonias, cupheas, calceolarias, heliotropes, especially the variety Madame Bussey, and many other plants, combine to form a very effective whole.

From near the Forest Hill Road Gate, previously alluded to, is an avenue of fine elms affording a direct walk to the ground set apart for games. Proceeding along this avenue to the left are the old English and wild gardens, while to the right is the nucleus of an arboretum, in which many uncommon subjects are planted, with sufficient space to allow for future development. Pinus excelsa does well, as also does Pinus laricio, while there are a number of thriving examples of Cupressus Lawsoniana from seed saved in the park. Other trees and shrubs not often met with are Cornus macrophylla, which was just passing out of bloom, Spiræa Aitchisoni, Elæagnus angustifolia, Liquidambar styraciflua, Abies pungens glauca, Betula Maximowiczi, and many others. Close by a grove of elm trees, not so large as those forming the avenue, but sufficiently lofty to afford a delightful retreat during hot days, extends for quite 300 yards. The pleasures of this grove are enhanced by the fact that seats are plentiful, as indeed they are throughout the entire park.

The old English garden is intersected by a pergola of rustic oak branches. The roses, which play an important part in its embellishment are now over, but many of the clematis are still bright, while some examples of Solanum jasminoides planted out during the summer are laden with blossoms. In the centre of this pergola is a fountain, in which gold fish and water lilies thrive. The pergola there takes a circular sweep, and, instead of roses and clematis, it is, just at that rounded portion, furnished with fine-leaved vines, thus forming a striking and distinct feature. Apart from the pergola there is much to interest in the old English garden, a few fine old specimen trees being there. Next, a large thuja is completely enveloped with Polygonum Baldschuanicum still a mass of its feathery flowers, and Clematis montana has quite taken possession of a neighbouring tree. Dahlias are just now very much in evidence, and the roses have been very fine, but are almost over. Of the numerous autumn-flowering composites, one that merits a note to itself is Helenium Riverton Gem, with brilliant terra cotta red flowers. Some masses of this stand out for a considerable distance, the colour being so rich and glowing.

The wild garden has been, to a very great extent, left to itself, at least as far as it could possibly be done consistent with the making of paths and other arrangements for the convenience of visitors. Wandering about under the shade of the trees pretty little scenic effects may be met with, in some of which a meandering streamlet plays a conspicuous part. In one portion the water has been allowed to form a little pond, on the edge of which Myosotis palustris has made itself quite at home. Irises of sorts, Senecio clivorum, spiræas, Lobelia cardinalis, and other moisture lovers there find a congenial home. The ground in the neighbourhood is moderately moist, and there a bamboo garden has been formed. It has not been long planted, but the bamboos are growing so luxuriantly as to afford conclusive evidence that the position just meets their requirements. Associated with the bamboos are Arundo conspicua, whose silvery plumes are just developing; yuccas of sorts, and the different eulalias. The effect is heightened by some tall stately specimens of Cordyline (Dracæna) australis being plunged in the turf of the bamboo glade, while a bright feature is furnished by three or four masses of cannas, which are still laden with bloom.

The condition of everything speaks volumes in favour of the superintendent. Mr. Ashmore—who has, I believe, occupied that position since the park was opened—and the other responsible members of the staff.

W. Truelove.

GREENHOUSE MANAGEMENT.—The Amateur's Greenhouse, the popular book by T. W. Sanders, not only treats of the selection and cultivation of greenhouse plants and flowers, but gives full instructions how to build a greenhouse and how to heat it, as well as every detail as to the management of the plants and flowers grown in it. The price of this book of 416 pages is 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

FRAMES AND PLANT PROTECTORS.

The value of frames and other forms of protectors for forwarding garden crops have for many generations been recognised in British gardens, and it is possible that in former years they were more cherished by gardeners than is now the case. Perhaps the larger number of frames and cloches now being employed for forwarding crops on a commercial basis has something to do with the greater interest that owners of gardens are taking in the matter of frame protectors for the forcing of early vegetables, salad, and low-growing fruits like the strawberry.

In private gardens the number, size, shape, and whether they shall be artificially heated or not, are matters that must be decided upon by those having to produce continuous supplies of given things over a period of the year when they cannot be had in a naturally-grown state; more detail in management of crops is necessary when manure alone is the heat-producing medium than when it is supplemented by hot-water pipes. In private gardens a number of smaller frames are superior to a few large ones for producing regular and continuous supplies, and a proper system must be maintained all through the season to prevent irregularities. In the near future gardeners are likely to suffer more than ever for the want of good stable manure, which is such an essential item for not only producing moist healthy warmth to their growing crops, but also for providing the rich residue of humus that is also so essential to the growing wants of many vegetable crops when it is sufficiently decomposed to enrich the rooting medium.

Portable Cold Frames.

These will always be popular with every class of grower on account of the general ease with which they may be moved at different seasons of the year to varying aspects that are peculiarly suited to the occupants they are intended to protect. Frames of this description are also easily arranged at varying angles, according to the sun's power, and for many crops a sharp pitch during the dull winter months makes all the difference between success or failure with them. What have been termed cucumber and melon frames in gardens for many years past may still claim to be better suited to taller growing vegetable crops than those termed French frames, which are so much in evidence for salads and the dwarfer-topped vegetables. A general size are those 6ft. wide and 12ft. long, carrying six lights of 4ft., and frequently with four panes of glass in each fitted into wooden bars. These frames are very cheaply produced by many large firms, being often made from surplus material from larger buildings. Three panes of glass in a 4ft. wide light is much superior to four, and, provided the glass is well bedded in good oil putty on the bars, no top putty is required. If the front boards of the frame are 1ft. deep, those at the back will require to be 2ft. in a frame 6ft. wide. Larger frames of this type are in use in some gardens, but on account of the greater difficulty of giving attention to the growing plants, they are not generally recommended.

The low frames so popular for salad and other crops on the Continent, and which have latterly been increased very much at home, are undoubtedly a great asset to any garden. As the secret of success with many of these salad plants is their proximity to the glass the type of frame is specially suited to them. The frames are composed of unplaned planks 1½in. thick, 7in. high in front, to 9in. or 10in. high at the back, with a length of 13ft. 6in., to carry three lights, each 4ft. 6in. wide; the lights fit on to the frame, and have no wooded partitions between them, as in the ordinary English frame. There are two cross pieces, 1½in. x 2in., with hoop iron at each end; these rest on the legs of the frame, and support the lights; there are also legs at each corner, and the whole frame is fitted together with hoop iron at each of the four corners. Flat pieces of iron attached to the front of the frame are required to prevent the lights slipping when propped up for giving attention to the crops. Lettuces, carrots, radishes, endives, cauliflowers for wintering, and such crops are very much at home in these almost flat frames. In the later spring months, when lettuces would burn under the ordinary English frame, with its deeper pitch, they are perfectly at home in these French frames; the atmosphere is also more humid, and watering less frequently needed by the crops.

Portable Span Frames.

For many classes of plants it would be difficult to overestimate the value of the span frames, particularly those with glass ends. For subjects like alpines, where the maximum amount of light is an important factor, and for other plants required to be kept during the dull winter days in a dry yet airy state, these frames are superior to any other. Not only are they provided with hinges or rods, which simplifies the airing and watering, but top, end, or either or both sides may be ventilated at one time, or in the direction which the wind at certain seasons best allows. For this type of frame I always think it worth the trouble to prepare a foundation for it; it costs very little to fill a shallow trench with some six inches of concrete, on which should be fixed a single brick, on which the frame may rest always clean and dry. For growing dwarf peas, dwarf French beans, bush marrows, potatoes, cos lettuces, etc., early in the year, they are excellent, also for carnations, schizanthus, flowering stocks, and many other plants that like cool treatment. During the summer they are the ideal home of many winter-flowering intermediate temperature plants. The general width of these frames is 6ft. to 7ft. wide, with wooden base of frame composed of 1½in. planed and well painted boards; these latter should not be more than 1ft. deep.

Fixed Heated Frames.

These possess many advantages over the portable cold frames, and if, as in the case of forcing early crops, manure alone is the heat producer, there are many advantageous points in favour of frames heated by hot water. Damp in winter is more easily expelled, also less outside covering is required to keep out frost. From the practical working of both cold and heated frames the latter are the more economical in many districts, as the pipes keep the wood dry, while in the case of manure forcing, the moist warmth very quickly sets up decay. A frame 50ft. long x 6ft. wide, heated by 2in. pipes running once round, will keep up a forcing temperature. For such a frame either two or four courses of bricks may be allowed out of the ground. These, of course, should rest on a 9in. bed of concrete; 1¼in. boards will be required for the front, back, and ends of the frame, and these boards are strong enough to carry the hot-water pipes, to which they are secured by bent flat iron screwed into the wood; this keeps the frame rigid. The base of the frame is best cemented where it rests upon the brickwork, and the pipes are most convenient kept close to the boards and arranged just above the brickwork. Such frames are of the greatest value, and the interior soil may always be thrown out to also allow of manurial bottom warmth for such crops as benefit most by it. My frames of this description have been 6ft. wide, 2ft. high at the back, and 1ft. in front, and the cost of heating, connecting to existing pipes, £9 for 50ft. frame run. For lettuce in winter, carrots, French beans during the spring months, and similar crops, one pipe arranged along the front is sufficient, the return pipe being taken along the end and carried back along the front of a second frame, which is best fixed one brick lower.

Frames are often economically heated by ordinary gas pipes, and I have had excellent results from the span frames having one row of 2in. pipes running all round. Span frames are more suited to potatoes, French beans, early forced turnips and carrots, and similar crops, making in the case of the two latter, less foliage, and developing a larger root more quickly. For winter work in the purely French type of frame I greatly prefer tee iron bars, as they allow much more light for the crops grown.

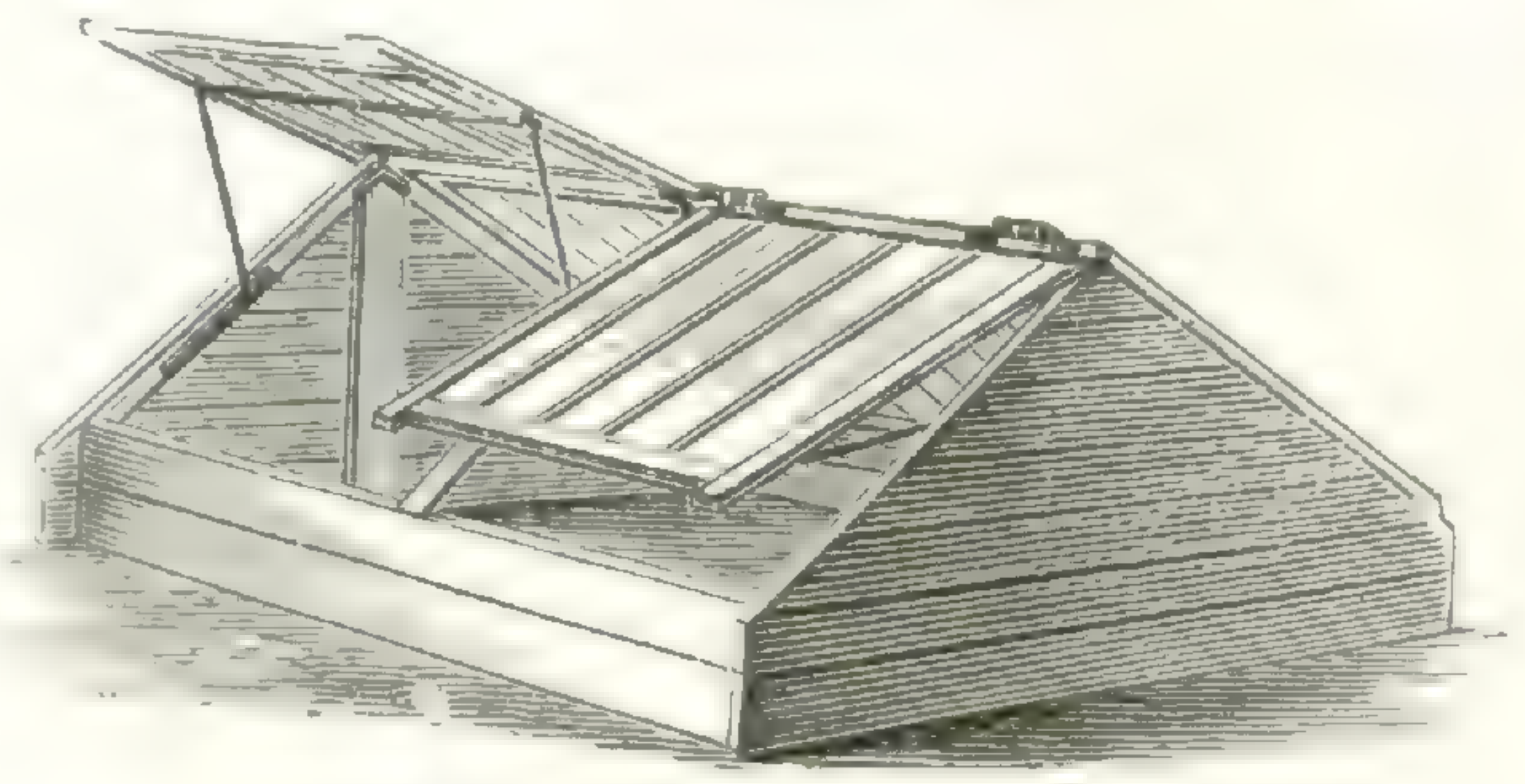
Smaller Protectors.

In addition to bell glasses, or cloches as they are sometimes termed, there are many forms of protectors that are elaborations of the old hand-lights of our boyhood days that were so effectively used for protecting early cauliflowers, and for pricking off numerous seedlings for first early crops. The white appearance, under which crops like lettuce quickly burn, has now been overcome by several makers in England, who are placing a strongly-made cloche at a reasonable price upon the market. A decided greenish tint is required for the ideal bell glass, and it is also important that there should be as few blisters in the glass as possible. There are now several forms of bell glass with more upright sides and open tops, over which a small square of glass is fixed when no air is required. These are made of whiter glass, and I am now testing their value. For early salad crops during the dullest season of the year bell glasses are superior to frames; both lettuces and radishes mature more quickly under them, and if only a limited number are in use they are better arranged in two lines instead of three, upon prepared hotbeds 18in. deep and 5ft. wide. I greatly prefer bell glasses to hand-lights for giving protection and for forcing crops. For propagating many subjects in the ordinary garden soil they are invaluable, and lettuce, cauliflower, and similar tender seedlings, are quite safe under them during the whole winter, and seeds of them may also be sown during any month from October to March. Lettuces, radishes, carrots, marrows, ridge cucumbers, cauliflowers, and tomatoes are all crops that may be forwarded by their aid, and, as I am now proving, strawberry plants are considerably forwarded by their use. Their good points are that there is no drip, and no cold draughts, and the labour required by crops under them from October to March is very little. After that time airing and watering require daily care. Hand-lights are more cumbersome and draughty, and the crops do not come on so quickly as they do under bell glasses. As plant protectors, however, they are of more general use, air being more important to many subjects that are not required for salad purposes. The Eclipse hand-light is a lighter-made protector than many, also much closer fitting than the old type, with removable top. These are made in varying sizes, from 16in. square to 22in. square. A small square cloche, by the same firm, is also made, and for owners of small gardens is a handy protector; the largest size made is 20 square inches, and the most generally useful size. The most useful size in cloches are those 18in. in diameter, and when bought in moderate numbers the price is reasonable enough. The cultivator with knowledge of the varieties of vegetables suited for growing under them, and who knows the ins and outs of soil management may, near a town, produce useful and profitable crops by their aid.

Charles Foster.

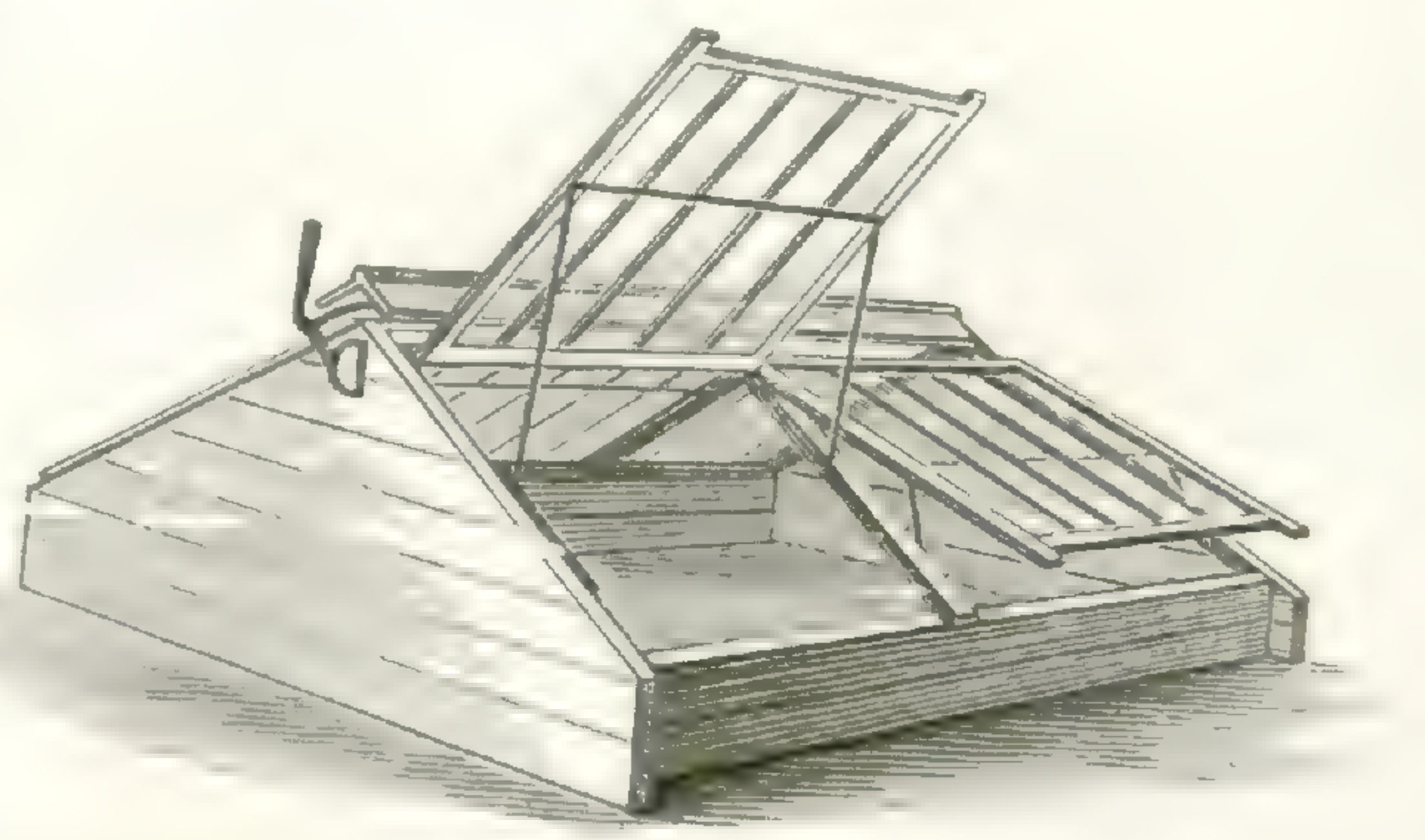
SPLIT PEACH STONES.

In my earlier connection with peach culture the splitting of the fruit stones, especially in houses where the trees had been subjected to hard forcing, was both troublesome and inexplicable, seeing that the growths were of a texture to warrant solidity, with a complete absence of secondary shoots. The borders were well prepared, thoroughly drained, and contained an ample supply of old plaster, bonemeal, and potash in the form of potassic sulphate, but neither stable or farmyard manures. In autumn the wood took on the nut-brown colour which is generally accepted as a sure sign of thorough maturation. As may naturally have been expected, the wood of the trees which had been forced early in the season was the best ripened.



PORTABLE PLANT FRAME,
Constructed by Messrs. R. Halliday and Co., Middleton, Manchester.

In spite of all this, it was always the fruits on the trees in houses where early forcing was carried on that the greatest percentage of split stones occurred. Having noted this fact, I concluded that the evil agency was in some way due to the course of treatment, or influences differing with those under which later supplies were obtained, and this induced me to adopt a keener observance of everything affecting the growth in order that I might fathom the mystery.



SPAN-ROOFED FRAME WITH RISING RIDGE,
Constructed by Messrs. R. Halliday and Co., Middleton, Manchester.

To secure peaches early in the year it is necessary to start the trees into growth at a time when the days are short, and, under ordinary circumstances, during cold, changeable weather. Some days are dull, others bright, with a few "blinky" ones thrown in amongst them, so that the man in charge is sometimes at a loss to know how to use the ventilators. If the wind is cold and the sunshine comes in bursts more often than otherwise the temperature is allowed to rise unduly in the house, and rather than admit a cold current of the external atmosphere water is freely sprinkled over the border and path. This is undoubtedly right at certain periods of the development of the fruits, but when it is practised while the stones are forming, or in the early stages of their growth, its virtues are doubtful.

As the matter of which the stones consist in their formative stage is more or less liquid, and more susceptible of changes of temperature than the dry kernel of the mature fruit, it is not very difficult to conceive why the thin wall should give way under pressure of the expanding mass within caused by a sudden increase of heat. This sudden swelling of the pulpy matter overcomes the cohesion, or chemical affinity, of the thin wall enclosing it, and a split stone is the result. This is the solution I arrived at, and since then my aim has been to maintain a lower, rather than a higher, temperature during the stoning period, and the almost complete absence of split stones among the fruits induces me to believe that the evil and remedy are within the influence of the ventilators.

The ventilators of houses in which late supplies of peaches are cultivated are usually kept open throughout the summer months, so that there is no sudden rise of temperature within the structure, and an almost complete absence of split stones is found in these crops. My method for many years has been to maintain a night temperature of from 50 degrees to 55 degrees in the house while the peaches are stoning, and admit air freely under favourable climatic conditions when 60 degrees is reached. In the afternoons of fine days I avoid early closing. Since adopting these precautions against sudden changes of temperature split stones are of very rare occurrence.

Hibernia.

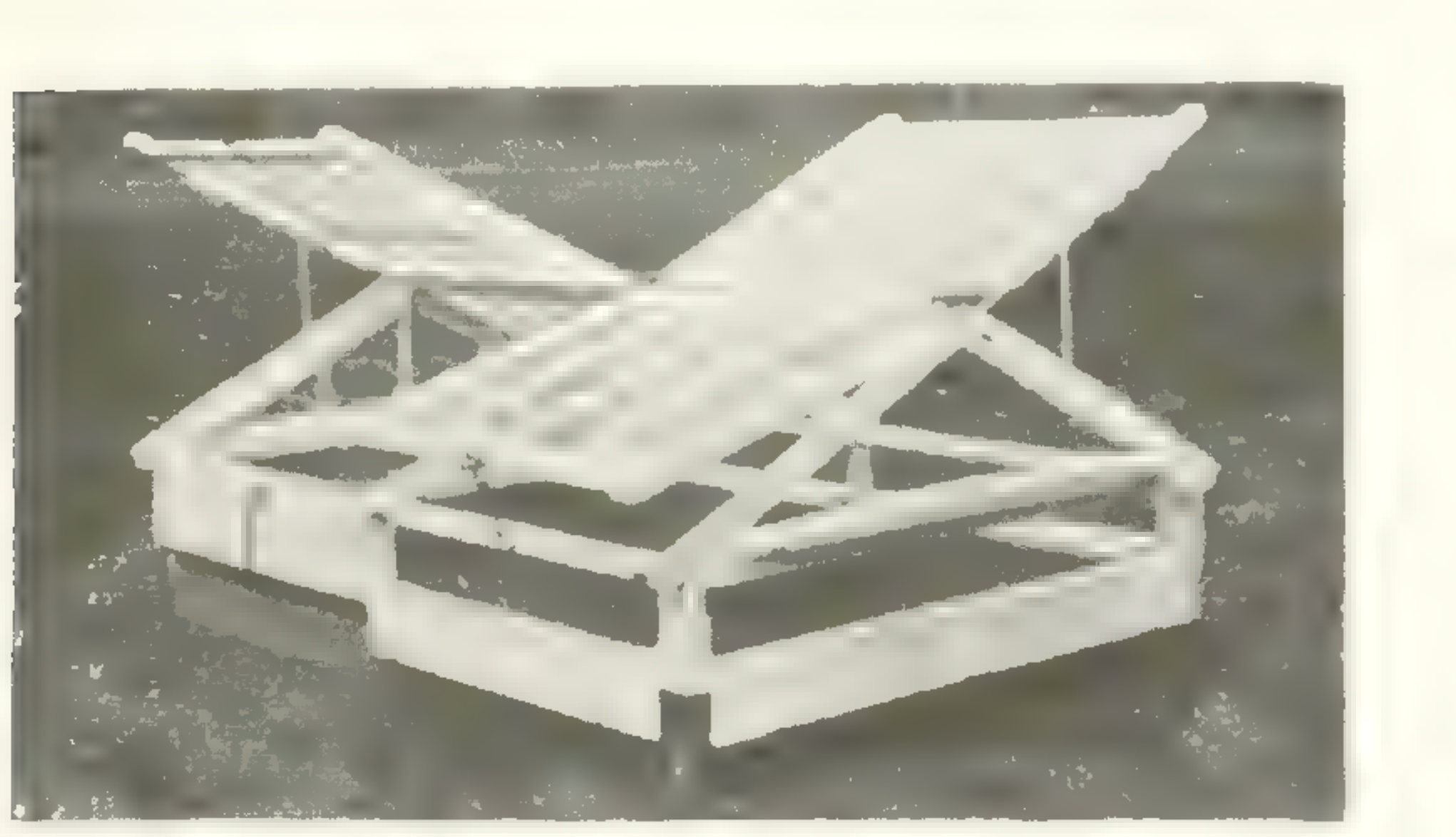
Gilia coronopifolia.—This biennial, to which some attention of late has been directed, is a valuable subject for the embellishment of the greenhouse during the summer months. It may be grown as a bushy specimen, and in this way, reaching as it does a height of 3 to 4 feet, with each upright growing branch laden for the greater part of its length with tubular shaped blossoms, it makes a goodly show. The colour is a very distinct tone of scarlet.—W. T.

Salvia patens has flowered abundantly with us this season, and once again proved its general usefulness as a summer bedding plant; whether planted in beds or border it has alike proved attractive and beautiful, and it well deserves a front place among our blue-flowering plants. It is a distinctive subject, wherever placed, charming alike in flower and foliage, the long erect spikes of flower being freely produced all through the summer and early autumn months.—W. Hedley Warren, Aston Clinton Gardens.

Grape Melton Constable.—Although Mr. Shingler, the raiser of this grape from seed (the result of a cross between Gros Colmar and Lady Hastings), does not claim for it much difference in flavour as compared to its parent, he does consider it superior to Gros Colmar in other respects. One matter of importance is the ease with which it colours, as compared with Gros Colmar, which, under ordinary circumstances, colours indifferently, especially if started late in the season. I have seen the two growing at Melton Constable many times, and always could see the advantage of the newcomer.—E. M.

GARDEN FRAMES.

The value of frames in a garden cannot be overestimated, but it is essential that the frames used be well built. In the old days a garden frame, even of one light, was a cumbersome thing, and the solid weighty light was not easy to move. Now we have frames of altogether lighter build for general purposes, and yet they are at once durable and lighter, and more easy to handle. Messrs. W. Duncan Tucker and Sons, Lim., 27, Cannon Street, E.C., while catering for the most extensive and elaborate of horticultural buildings, also make a speciality of garden frames. They have fitted up several French gardens in this country, and the accompanying illustration shows one such installation, at Howberry Park, Wallingford, for Harvey Du Cros, Esq. In this case, durability, lightness of construction, and wide panes of glass are essentials. Span-roofed frames with hinged sashes, and with the wooden sides constructed with hinged flaps, are another speciality, and these are of immense value for accommodating perpetual carnations all through the summer and autumn, and for other purposes, but there is almost no end to development and adaptation of garden frames in the hands of the Messrs. Tucker.



SPAN-ROOFED CARNATION FRAME,
Constructed by Messrs. Wm. Duncan Tucker and Sons, Lim., Cannon Street, E.C.

Garden frames are also a feature of the horticultural work executed by Messrs. R. Halliday and Co., Royal Horticultural Works, Middleton, who construct these useful plant protectors in a great variety of shapes and sizes. Two of these we illustrate. One is a span-roofed portable plant frame, with hinged reversible sashes and swing bars that serve to keep the sashes open at any angle; the whole thing is extremely handy, and so constructed that it can be taken to pieces and re-erected elsewhere in a few minutes. The other frame illustrated is constructed on very similar lines, but there is this great difference, i.e., that there is a ridge that can be raised by a swing bar, and thus the frame can be ventilated at a time when it would not be desirable to have the sashes set open. For very many purposes this kind of frame is especially useful, notably for hardening off tender subjects, and their value is not less in the garden of the amateur than in the ducal establishment.

Cotoneaster horizontalis.—Beautiful as are many of the cotoneasters, this is, to my mind, one of the best. Its distinct growth marks it out from every other hardy shrub, and the specific name of horizontalis is a particularly appropriate one. It is now fairly well known, therefore it will suffice to say that it forms a spreading bush, whose sturdy branches are disposed in an almost horizontal manner. The minor shoots are disposed in a regular fishbone-like fashion, while the leaves are almost all on one plane. It is deciduous, and the pale pink flowers nestling among the freshly-expanded leaves make a pretty spring feature, while in August the berries acquire their bright red tint.—W. T.

LIME AS A FERTILISER.

The element calcium is a necessary constituent of plants; but as almost all soils contain it in sufficient amounts for their needs, the action of lime is not like that of a direct fertiliser. Indirectly, however, it is an agent by which insoluble potash is changed to a form available as plant food. For this very reason, says Bulletin 163 of the Connecticut Experiment Station, it must not be made to take the place of potash fertiliser unless it is absolutely certain that large quantities of insoluble potash are present in the soil under consideration. Otherwise, the time when the soil will be depleted of potash is simply hastened. Whether the addition of lime affects the solubility of soil phosphates is undecided. Any chemical action on these compounds must, at least, be slight.

The other important chemical action of lime is to correct soil acidity. This lies largely in its effect on low forms of plant life. Neither of these reactions is affected by the form of lime used. Soil, air, and water contain much carbonic acid, which quickly acts on burned lime, on water-slaked lime, and converts it back into a calcium carbonate, the form in which it existed before burning. The kind of lime to be used thus depends almost entirely on the cheapness of the brand when figured to burned lime or calcium oxide, and on the ease with which it can be handled from the car to the field. The only time when the use of burned lime is inadvisable is when large quantities (2,000-3,000 pounds) are necessary to correct the acidity, and the application is to be made in the spring. It takes some time for such quantities as these to be changed to calcium carbonate, and in the meantime the caustic lime is burning out the humus in the soil. If large amounts of quick lime are to be applied to the soil, it should be spread early in the winter and worked into the soil in the spring.

Lime has a further effect upon soils which may be partly a chemical action, but which is in the main an effect upon their mechanical character. Clay soils are probably the most benefited, for it greatly increases their porosity. The movement of water, both upward and in drainage, is thereby facilitated. A possible injury may result, however, if clay soils are limed too much or too frequently, through its cementing action, analogous to that when used in mortar. Paradoxical as it may seem, light soils are also benefited, for lime increases both their water holding capacities and their capillarity.

FRAMES FOR FRENCH GARDENING,
As constructed by Messrs. Wm. Duncan Tucker and Sons, Lim., Cannon Street, E.C.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

WINTER - FLOWERING CYPRIPEDIUMS.—Many of the autumn and winter-flowering section of cypripediums are expanding their flowers or developing their flower scapes. These must now have every attention, so that their requirements may be met to assist the development of flowers. In cases where plants have filled their pots with roots, particular care is necessary to see that they do not remain for any length of time in want of root moisture. There is nothing affects the substance and quality of the cypripedium flowers so much as permitting them to suffer from want of root moisture. The favourable bright conditions outside, combined with the increasing hours of artificial heat, has a tendency to make the plants dry more quickly than was the case a few weeks ago, therefore close observation is necessary to keep the plants moist. We find it very beneficial to spray the plants once or twice a day with the syringe whenever the outside conditions permit, until the flowers are about to expand, when overhead moisture is best dispensed with.

THRIPS.—At the present season, where the houses are in close proximity to herbaceous borders and deciduous trees, it is necessary to keep a sharp look-out for black thrips. In windy weather these pests are blown into the houses, and frequently after a shower of rain I have observed the surface of the water in the rain-water tanks literally covered with them. They are easily dipped from the tanks and conveyed to the plants when watering, and they quickly establish themselves on the flower scapes and leaves of the cypripediums. It is desirable to fumigate and spray the plants with some safe insecticide at regular intervals, and where the eggs are deposited on the undersides of the leaves they must be carefully removed with a sponge and warm soapy water.

STAKING.—It frequently occurs that the flowers on the same plant point in different directions. I always find that where the plants can be induced to expand all their flowers facing to one front the general appearance is improved, and if they are required for exhibition purposes it is desirable they should all be showing to one front, as most of the exhibition stages are only suitable for such a display. It is impossible to do this satisfactorily at one tying and staking. The stakes used in the first place should be long, and only thick enough to hold the flower in position, so that when the scape has advanced a few inches they may be gradually trained in the desired position. The flowers should be open before the final tying is made.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

THE WEATHER.—Since writing the last calendar notes, we have experienced probably the brightest fortnight of the whole summer, and those of us who had removed our blinds from the roofs of the houses must have felt that we were a little premature in the matter. However, it has been an easy matter to provide a little temporary shade where it was absolutely necessary, and though we have had very little sunshine all the summer, we can hardly hope for this bright spell to continue very much longer, and even if it does, the sun is very fast losing its power, so that I hope no real injury may have been done, even to the more tender things. In many instances it will have proved of great benefit, the crotons colouring exceptionally well, and the wood of many of the stove flowering plants is now in a good condition to go through the winter.

POINSETTIAS.—The earlier batches are now throwing up their bracts, and, though they must be kept growing steadily, care must be taken not to unduly excite them. Keep them going with light doses of liquid manure, and as the bracts expand decrease the moisture in the house, and keep a little top air on on all favourable occasions; a temperature of 60 deg. is quite high enough at night. Later batches, on being brought into the houses, must be kept moist, and occasionally sprayed overhead for the first few days, or there may be leaf-dropping; if damping is looked after, and watering carefully done the plants will soon get over the change of environment.

EUPHORBIA JACQUINÆFLORA will have especially benefited by the past bright weather, providing, of course, that watering has been well done. Well-ripened wood is quite necessary for the production of long racemes of bloom. These may also be still fed, and, as it is necessary to increase the fire-heat in the house, due attention must be given to the watering.

FERNS.—These generally will need less atmospheric moisture, and if the house in which they are grown is at all inclined to be damp, it is wise to leave a little air on the top whenever the weather permits, this applying more particularly to the adiantums and other close-growing kinds; by this means the fronds and plants will keep in a good usable condition for a long time. Whether growing in pots or planted out on walls, or on rockeries in the house, ferns should all have a thorough good picking over, removing all old or decaying fronds, thus allowing air to pass more freely through them. Keep such subjects as Lygodium scandens carefully trained up their strings for the greater convenience when cutting, as, when the outside foliage is over, this and smilax will be in greater demand for the table, especially where there are shooting parties, etc. — Thomas Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

NEW PEACH BORDERS.—Where the planting of peach and nectarines has to be done this autumn no time should now be lost in preparing the borders. For early forced trees borders placed entirely inside are preferable, but for midseason and late supplies of fruit the roots may have the run of borders both inside and outside, or, particularly in the case of late supplies, those wholly outside. Efficient drainage is important, and should be secured by first concreting the site of the border so that it falls slightly to the front, where a four-inch tile drain should be placed and slightly sunk in the concrete. Upon this place ten or twelve inches of brick, or some similar rubble, and cover it with a layer of turves grass side down. The compost should consist of roughly broken good turfy loam, mixed according to its texture with more or less crushed mortar rubble, wood ashes, or burned garden refuse, and if the soil is poor some finely crushed bones may be added.

EARLY PEACH HOUSE.—This house should be prepared for next season's crop as soon as the trees have lost their leaves, by attention, in the first place, to pruning, releasing their branches from the trellis, and tying them in bundles. The pruning will be a light matter if the advice given in a former calender concerning the work to be done as soon as the fruit was gathered was followed. Cleanse the glass and woodwork of the house by washing it with warm soapy water, and, if necessary, paint the woodwork and limewash the walls. In cleaning the trees well wash them with the aid of a brush, and a warm solution of insecticide, but in doing so avoid wetting the young wood, as the buds are impatient of powerful insecticides. The young wood may be cleansed with warm water mixed with soft soap, not exceeding 4ozs. to the gallon of water. If the trees are badly affected with scale, previous to applying the insecticides syringe them with water at a temperature of 130 degrees, and, subsequently, when using the brush, dislodge the scale, being careful in so doing not to injure the buds.

STRAWBERRIES.—The continuance of heavy rains experienced immediately after the plants were placed in their fruiting pots was detrimental to their well being, but the plants improved greatly during the recent spell of fine weather, and their pots have now become well filled with healthy roots. The maturing of the crowns is an important item to now further as much as possible, and to assist it the weak side growths and runners should be regularly removed, and means taken, such as screwing the pots round occasionally to prevent the roots from running through the holes at the bottom. On no account, however, should checks be enforced by such means as withholding necessary supplies of water.

LATE CROPS OF FIGS.—Good fruits of figs can be obtained at this season of the year from thinly trained trees grown in houses placed in sunny positions. The fruits, nevertheless, are liable to split unless the atmosphere of the house is kept dry, and for this reason a little fire heat should be employed in damp or cold weather, and the house be carefully ventilated at favourable times. Supplies of root moisture will be now less needful, and after the fruit is all gathered root pruning, if it is necessary, should be carried out, as was recommended for earlier cropped trees.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

LATE PEAS. — With such favourable weather as we have experienced during the last month, and is still with us, late peas will go on bearing for some weeks to come. The health of the bine is very good, with freedom of flowers and pods, reminding one of June. The rows should be well supplied with both liquid manure and clear water. The points should be stopped, and side growths pinched to hasten the development of the late pods, as one cannot possibly expect the very late bloom buds to mature after this date, therefore, every attention should be given to those that can develop under reasonable weather conditions. The Gladstone, Webb's Masterpiece, and Autocrat are the varieties successful here.

CABBAGE.—The first plantings are doing remarkably well, and will soon be in need of earthing-up. Ply the hoe frequently between the rows. During this dry weather and until the earthing-up takes place, give a scattering of soot and burnt garden refuse around each plant, as this is an excellent stimulant, and a deterrent to slugs. If any plants go off quickly and unexpectedly, withering up in wind or sun, one may be certain that the cockchafer grub has eaten the stem through; hunt for, and kill the grubs, otherwise every plant will be killed. Continue to plant later, sowing as ground becomes vacant; a great gain is assured by early planting, as strong and well-rooted plants are obtained before the unfavourable weather sets in.

CAULIFLOWERS.—If the seedlings are not satisfactory in health or number, sow seeds in boxes, and place in a cold frame. Prick off those seedlings in frames and boxes that are ready, and grow them on as sturdily as possible while weather permits.

ENDIVE. — The earliest sowing is now quite ready to take up and place in pits and frames for protection; a fine day must be chosen for this important task. Lift the plants wth good balls of earth attached, and place thickly in frames. We place finely-sifted ashes around the plants as the work proceeds, finding this prevents decay. Draw the lights of the frame on all fine days to keep them hard and strong. For blanching, a portion can be covered with a good quantity of clean straw, and the flavour will be more nutty and crisp under these conditions than if blanching is done in a warm mushroom house. Water must be given, if needed. The later planting must be hurried on by hoeing and watering. Those sown for March and April use should be pricked out in frames forthwith.

LETTUCES are in excellent condition still. Care should be taken of the forward plants, as at this season they remain fit for use over a long period if decayed leaves are cleared away and the hoe worked among them. It will soon be time to treat them as advised for endive, particularly if much wet and frosty weather is experienced. The August sowings of lettuce should ere this be planted in various positions, and encouraged to root freely, whether in frames or the open ground, by regular hoeings and a dressing of soot amongst them.

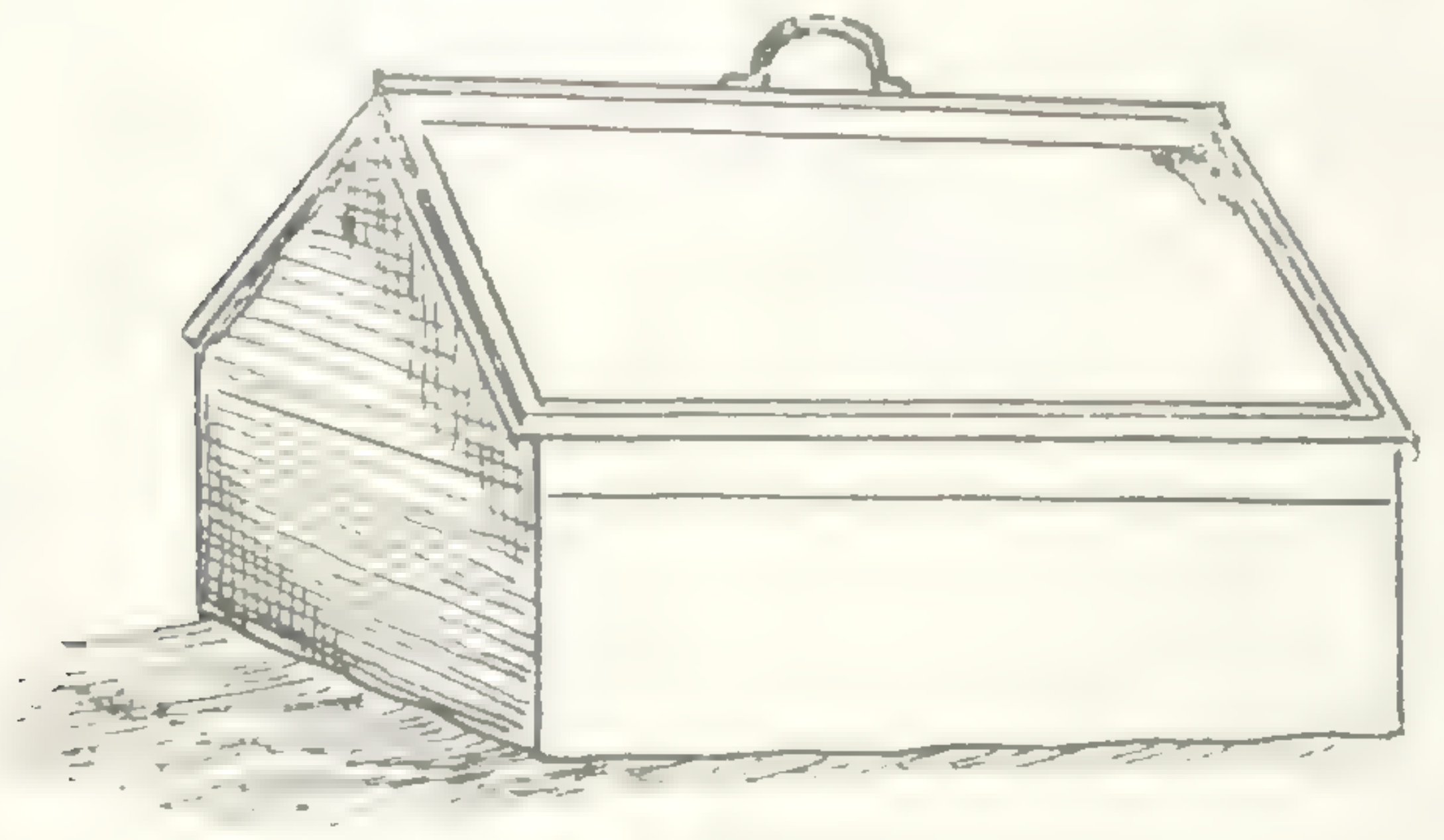
GENERAL.—Such summer-like weather as we have had lately will tend to ripen and harden up all vegetable crops for winter and spring supplies. If any help is needed amongst the Brassica crops, to assist this give it by clearing off any foliage that is spotted or decaying, and so letting every possible sunbeam reach each plant. Brussels sprouts will be greatly benefited by this procedure, as will the kales. All vacant ground should be roughly broken up, or trenched if time will allow, during this dry spell of weather, and all growing crops be well hoed weekly. Frosts must be prepared for by having in readiness either lights, boughs, mats, or strawy litter, according to the subject to cover.—George Ellwood, Swanmore Park Gardens.

Freesias.—These Cape bulbs can hardly be over-rated where choice fragrant flowers are needed. Bulbs are now to hand, and if potted at once can be had in flower from Christmas onwards, and just at the time when chrysanthemums are waning. Freesias are of great value for table decoration. The bulbs should be potted in a mixture of good loam, with peat, sand, and some charcoal added. When potted, place in a cool frame or house, give a good soaking of water, and never allow them to become dry. A temperature from 50 deg. to 60 deg. will be quite warm enough, and as growth advances neat stakes should be provided to support it.—W. Staward, Belford Hall Gardens.

Clethra arborea.—This tender species of clethra is a native of Madeira, from whence it was introduced in 1784. When oranges and other plants were grown in tubs, and stood outside during the summer months, this clethra was often treated in a similar way. Owing to this large examples are now occasionally to be met with in old-fashioned gardens. It is well suited for growing in lofty conservatories, as it forms quite a tree, a dozen feet or more in height. It is an evergreen, and in general appearance very much suggests an arbutus, while the flowers (at their best in the autumn) are a good deal like those of the lily of the valley. They are freely borne in spike-like racemes.—W. T.

DRY GLAZED GARDEN FRAMES.

The garden frames manufactured by the well-known firm of horticultural builders, Messrs. Saunders and Biss, of Exeter, are especially deserving of attention for their usefulness in the cultivation of a wide range of subjects, and for the distinctive character of their construction. For fully a quarter of a century this firm has achieved a high degree of success in the use of their system of zinc bar dry glazing in the construction of the roofs of conservatories, plant and fruit houses, and forcing pits, of which they have built large numbers in various parts of the British Isles. Their system of dry glazing has been adopted with equal success in the construction of span-roof and other garden frames. We hope to have an opportunity at no distant date of describing the system of dry glazing, as used by the firm in glazing plant and fruit houses of various descriptions, and we need not, therefore, do more now than mention that it admits the fullest light, and is thoroughly sound, watertight, and drip proof. In the glazing of the lights of garden frames and plant protectors, the zinc bars that hold the glass are affixed to the wooden bars, these being placed at the usual distances apart and the squares slipped into the grooves, which hold them firmly in position. The zinc bars are of the same pattern as those used for houses erected by Messrs. Saunders and Biss, and consequently are watertight and drip proof. We give an illustration herewith of an extremely useful form of span-roof frame that is fitted with the firm's patent zinc dry glazing bar, and equally adapted for the cultivation of ornamental plants and such useful crops as early vegetables and saladings. We also illustrate a simple handlight, which is made in various sizes, and can be used for the raising of seedlings, the shelter of small plants, and other purposes. The sides and ends are made of wood, and the glass at the top is held firmly by the patent zinc dry glazing bars, but in such manner as to admit of the glass being readily moved horizontally for the admission of air. We have had our attention called to a four-light telescopic garden frame. In this the lights instead of being made in one length, are made in two portions, and slide one over the other. The advantages are, it is suggested (1). The sashes being small the wear and tear is considerably reduced. (2). They are more easy to handle. (3). Ventilation can be given at the top and bottom. (4). The sashes are not pulled out over the paths, are not likely to be blown about in windy weather, and space is economised.



A USEFUL HAND LIGHT.
By Messrs. Saunders and Biss, Exeter.

DRY GLAZED GARDEN FRAME.
By Messrs. Saunders and Biss, Exeter.

BRITISH PERPETUAL CARNATIONS.

The following British-raised seedlings of perpetual-flowering carnations have been registered by the Perpetual Flowering Carnation Society this year.

By Mr. C. F. Waters, Balcombe, Sussex: Albert E. Manders, orange with red stripes; Edith Waters, cerise.

By Mr. H. Burnett, Guernsey: Aurora, buff marked with pink; Bridesmaid, deep salmon-pink; Countess of March, salmon-pink; Daphne, deep pink; Fortuna, yellow inclined to buff; Marmion, cherry-red, with white margin; Mikado, deep heliotrope at its best; Mrs. W. B. Clode, reddish-salmon; Mrs. W. J. Hunter, cherry; Mrs. Tatton, white, overlaid with pink and margined white; Orpheus, bright yellow ground, marked with pink and white; R. F. Felton, pink; Snowball, white, inclined to blush in centre on opening; Snow Queen, white (pure); Vulcan, buff, heavily marked scarlet.

By Messrs. Young and Co., Cheltenham: Duchess of Devonshire, bright crimson, after President colour; Lady Henderson, bright flesh pink.

By Mr. A. Smith, Enfield Highway: Empire Day, pale salmon-pink.

By Mr. W. H. Lancashire, Guernsey: Emperor, white ground, striped carmine.

By Mr. C. Engelmann, Saffron Walden: Harlequin, yellow ground, heavily striped red.

By Messrs. Stuart Low and Co., Bush Hill Park: Lady Dainty, white overlaid purple; Rival, coral-red.

By J. Wormald, Esq., Harrogate, Pride of Wharfedale, mauve ground, marked pink; The Socialist, scarlet.

By Mr. Hayward Mathias, Medstead, Etna, bright orange-scarlet; Mascot, salmon-pink; O.K., blood-red; Pink Pearl, rose.

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23RD AUTUMN SHOW, ADULT SCHOOL, PARK LANE. WEDNESDAY and THURSDAY, OCT. 26th and 27th.
Challenge Cups, £35, with £20 money. Total Prizes over £100.
Entries close Oct. 20th.
W. B. BECKETT, "Woodcote," Purley.

THE FOUR NORTHERN COUNTIES, FRUIT CONGRESS and SHOW, HEXHAM, 20-22 October, 1910. Particulars of space for Trade Exhibits from the General Secretary, Rev. J. BERNARD HALL, Hon. F.R.H.S., Dalston, Cumberland.

THE BOURNEMOUTH HORTICULTURAL SOCIETY EXHIBITIONS:
AUTUMN SHOW. SPRING SHOW.
1st and 2nd Nov., 1910. 4th and 5th April, 1911.
For Schedule and particulars apply to
C. W. BARRETT, Sec., "Lucerne," Fenton Road, West Southborne, Bournemouth.

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EXHIBITIONS AND MEETINGS.

◆

National Chrysanthemum Society.

In glorious autumn weather this society held its first show of the season on October 5 and 6, at the Crystal Palace. The schedule was not a large one, and the competition was not particularly keen, except in a few instances, but what the show lacked in extent it made up for in quality, while decorative features and non-competitive displays were numerous and good.

OPEN CLASSES.

Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham, led for a floral display of chrysanthemums, either pot plants or cut flowers, with a bold semicircular group of big blooms, associated with bamboos, crotons, and ferns; Mr. F. Brazier, Caterham, was second with a bright exhibit of cut flowers of outdoor early varieties.

There were five stands of twelve blooms of Japanese varieties, distinct, and here the premier award fell to Mr. Thos. Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone, with Lady Talbot, Capt. Mitford, Mrs. L. Thorn, Master James, Mary Farnworth, Mrs. F. C. Stoop, Mrs. A. T. Mills, C. H. Totty, Francis Joliffe, Blanche, Mrs. H. D. Thornton, and Harry Poulton. Mr. T. J. Broom, gardener to Miss Langworthy, Gay's House, Holyport, second; and Mr. J. Kirkwood, gardener to E. Wormald, Esq., Grass Farm House, Finchley, N., third. All of the flowers were remarkably good for this time of year. For six Japanese, distinct, Mr. F. Cordell, gardener to Alfred F. Blades, Esq., Rookfield, Reigate, scored with Mrs. L. Thorn, G. F. Bunyard, Mrs. G. Milcham, Master James, Mrs. A. T. Miller, and Mrs. W. Knox, in good form; Mr. T. W. Stevens, gardener to W. H. Stone, Esq., Laurie Park, Sydenham, second.

Mr. J. Smellie, Busby, Glasgow, won first prize for a dozen bunches of early-flowering pompons, showing good flowers of Canari, Alice Butcher, Mignon, White St. Crouts, Blushing Bride, Bronze Bride, Early Blush, Scarlet Gem, and Piercey's Seedling; Mr. G. Bowness, Riverside Nursery, Busby, second. There was but one entry in the class for a dozen bunches of undisbudded early chrysanthemums, and this, which was awarded the first prize, was a fine set from Mr. G. Bowness, who had big sheaves of Jas. Bateman, Roi des Blancs, Nina Blick, Elstob Yellow, Feu Parisienne, Market White, Miss B. Melville, Normandie, Wells' Scarlet, Hector, Polly, and Lillie.

Only a third prize was awarded in the class for six vases of early varieties, raised from Messrs. Wells' seeds of earlies, and this fell to Mr. W. Newton, gardener to Miss Nathan, Little Heath Road, Potter's Bar.

Mr. J. Emberson scored for half a dozen bunches of early Japanese or decorative varieties with fine flowers of Goacher's Crimson, Lillie, Hector, Roi des Blancs, Wells' Scarlet, and Harry; Mr. F. Brazier, Caterham, a good second, and Mr. G. Bowness third. Mr. T. Stevenson had the best single vase of three Japanese blooms, showing immense brilliant flowers of Master James; Mr. A. Smith, gardener to Mdme. Stuart, The Convent, Roehampton, second with White Queen; and Mr. G. Mileham, gardener to A. T. Miller, Esq., Emlyn House, Leatherhead, third.

Mr. G. Bowness was to the fore in the class for a vase of yellow or bronze early-flowering single varieties with a fine sheaf of Eric; Mr. F. Brazier, second. Mr. Brazier won in a similar class for any other than yellow or bronze varieties with Brazier's Beauty; Mr. Bowness second, and Mr. L. T. Groves, Cedar Nursery, Ham, third. Mr. Bowness scored for a vase of early single varieties with a big bold effort in mixed colours; Mr. J. Emberson, Walthamstow, second; and Mr. F. Brazier, third, the latter having too flat an arrangement.

The display in the class for one vase of chrysanthemums for table decoration was good, and out of the five competitors Mr. C. Fox led the way with a bold vase of white, yellow, and crimson flowers, pleasingly associated with suitable foliage; Mr. J. Kirkwood, second, and Mr. Webb third.

AMATEURS.

There was only one exhibitor of six bunches of early Japanese varieties, and this was Mr. C. Fox, Eridge Road, Tunbridge Wells, whose set was only considered worthy of a second prize. For six bunches of early pompon varieties, Mr. J. Smellie scored with very fine bunches of Blushing Bride, Scarlet Gem, Alberta, St. Crouts, Canari, and La Luxembourg; Mr. J. Emberson, Grove Road Nursery, Walthamstow, second, and Mr. G. Bowness third.

There were two sets of three vases of early-flowering varieties, undisbudded, and here Mr. C. Fox was to the front with Roi des Blancs, Horace Martin, and Goacher's Crimson; Mr. W. Webb, second.

DECORATIVE EXHIBITS.

Mr. A. H. Cole, Camberwell New Road, secured the first prize for a table of floral designs, the most notable effort being a golden crown of chrysanthemums on a cushion of crimson flowers.

Five competitors came forward in the open class for a table decoration, and here Mrs. A. Robinson was first prize winner with a bold design in white and bright chestnut-red flowers, elegantly arranged; Mr. T. W. Stevens, gardener to W. H. Stone, Esq., Donnington, Laurie Park, Sydenham, second; and Mr. W. Webb, gardener to J Chapman, Esq., Laurie Park Road, Sydenham, third. Two competitors came forward in the class for three epergnes, and here the honours fell in due order to Mr. T. W. Stevens and Mrs. Brewster, St. Peter's, Canterbury.

In the amateurs' section for a table decoration of chrysanthemums, Mrs. A. Robinson, Norhyrst, Park Hill, Carshalton, led with a light arrangement of yellow and bronze flowers; Mrs. W. Maslin, Ongar Hill Cottage, Addlestone, second, with yellow flowers; and Mr. J. B. Harrison, gardener to R. Girvin, Esq., Ashbourne, Laurie Park, Sydenham, third. Mrs. Brewster was a good first for a hand basket of chrysanthemums with golden and bronze flowers, prettily disposed; Miss J. Martin, Warminster Road, South Norwood, second; and Mr. R. F. Groves, third.

Mrs. Brewster led for a hand basket of autumn foliage and berries with a design in which honesty, clematis, physalis, berberis, asparagus, and bracken were well arranged; Mrs. Maslin second, and Mr. F. Brazier third.

Out of five entries, Mrs. W. Maslin led in the class for one epergne of chrysanthemums, with a pretty association of chestnut, white, and soft yellow flowers; Mr. C. Fox second, and Mr. W. Webb, third.

NON-COMPETITIVE.

On this occasion the trade growers nobly supported the society, providing the great bulk of the display, and setting up exhibits of excellent quality and considerable extent.

Messrs. J. Cheal and Sons, Crawley, presented a collection of dahlias; the centre of their group consisted of the finer cactus varieties, and this was flanked at one end by single and pæony-flowered dahlias, and at the other with delightful pompon and pompon-cactus varieties. The latter are charming, and if they can be produced with long stems, they have a great future before them for all kinds of floral decoration. Messrs. T. S. Ware, Lim., Feltham, filled three sides of a square stage with brilliant groups and stands of pæony-flowered and cactus dahlias, some of the latter being especially good, and represented by choice varieties. Early chrysanthemums, pentstemons, solidagos, and Michaelmas daisies were all used effectively in this exhibit.

A large and imposing group of chrysanthemums was arranged by Messrs. W. Wells and Co., Merstham. At the back were big stands of such attractive varieties as Eden, Mrs. Balfour Melville, October Gold, Roi des Blancs, Tapis d'Or, Normandie, and Provence. In front of these were a few plants, carrying big blooms of the new white Japanese variety, White Queen, while the foreground consisted of large vases of early single varieties, among which Formidable, Netty King, Surrey, Eric, Richard, Esther, Dolly, Kate Carter, and Jano were conspicuous. In addition to this group, the Messrs. Wells had a lengthy exhibit of Michaelmas daisies in great variety, a selection of their fine pentstemons, phloxes, and other late hardy flowers.

Messrs. H. Cannell and Sons, Swanley, presented a collection of early-flowering chrysanthemums, and set these up in goodly bunches; pentstemons, Cosmos bipinnatus, Sweet Sultans, and Helianthus sparsifolius were also included. A delightful exhibit of graceful Michaelmas daisies was made by Mr. H. J. Jones, Ryecroft Nursery, Lewisham; this was 60ft. long, and included about seventy varieties of these useful autumn flowers. The setting up was excellent, and every variety and every vase was well displayed. In front of the big group there were huge vases of mixed Michaelmas daisies, and a central vase of big blooms of chrysanthemum Mrs. Thorn, while the whole exhibit was edged with small bunches of early chrysanthemums.

Two distinct and very effective groups were set up by Messrs. Hobbies, Lim., Dereham. One consisted of a blaze of pæony-flowered dahlias margined with cactus dahlias and backed by Michaelmas daisies and early chrysanthemums. This firm has done good work in continually representing the value of the pæony-flowered dahlias for decorative purposes. The other exhibit was composed of roses set up in vases and stands of varied sizes, the whole making up a fragrant and charming exhibit for thus late in the season. Mdme. Abel Chatenay, Earl of Warwick, Mdme. Melanie Soupert, General McArthur, Frau Karl Druschki, Caroline Testout, Duchess of Wellington, C. J. Grahame, and Mdme. Ravary were roses freely shown.

Mr. Norman Davis, Framfield, Sussex, put up a particularly handsome and well-arranged exhibit of early chrysanthemums, Michaelmas daisies, and the elegant Solidago grandiflora, these latter forming a fine background for the chrysanthemums. Very fine were the stands of Tom Edwards and David Ingamells, two splendid yellow Japanese varieties. With these were stands of Roi des Blancs, Goacher's Crimson, La Somme, Perle Rose, La Garonne, Belle Mauve, and other good new and old varieties; while small groups of the Framfield varieties of Amellus bessarabicus were associated with ferns close to the front margin. Mr. Frank Brazier, Caterham Valley, set up a very bold exhibit of select Michaelmas daisies, early chrysanthemums, and branches of autumn-coloured foliage. Phloxes also entered into the composition of a striking display that proved Mr. Brazier to be a good decorator as well as grower, and that he is improving at a great rate as an exhibitor.

Messrs. Dickson and Robinson, Cathedral Street, Manchester, had a large exhibit of early chrysanthemums in great variety and well set up, but some of the flowers had suffered during transit. Mr. T. Williams, Oxford Road, Ealing, put up a small exhibit of floral designs.

MEDALS.

Large Gold.—Mr. H. J. Jones, Ryecroft Nursery, Lewisham, for Michaelmas daisies and chrysanthemums; Mr. Norman Davis, Framfield, Sussex, for chrysanthemums, etc.; Messrs. W. Wells and Co., Merstham, for chrysanthemums and hardy flowers; and Messrs. Hobbies, Lim., Dereham, for dahlias and roses.

Gold.—Mr. F. Brazier, Caterham, for Michaelmas daisies and other hardy flowers.

Silver-Gilt.—Messrs. J. Cheal and Sons, Crawley, for dahlias; Messrs. T. S. Ware, Lim., Feltham, for dahlias; Messrs. Dickson and Robinson, Manchester, for early chrysanthemums.

Silver. — Messrs. H. Cannell and Sons, Swanley, for early chrysanthemums, etc.

Bronze.—Mr. T. Williams, Oxford Road, Ealing, for floral decorations.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE.

SEPTEMBER 26.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair), Prof. J. A. Voelcker, M.A., Messrs. A. W. Sutton, F.L.S., V.M.H., A. W. Hill, M.A., F.L.S., J. Douglas, V.M.H., J. T. Bennett-Poe, M.A., A. Worsley, E. M. Holmes, F.L.S., R. Irwin Lynch, M.A., V.M.H., R. H. Pearson, W. Hales, J. Fraser, F.L.S., W. Cuthbertson, J.P., R. A. Rolfe, A.L.S., and F. J. Chittenden, F.L.S. (hon. secretary).

BULBS DECAYING.—A number of narcissus bulbs teeming with bulb mites and in a decaying condition were received for examination. There seemed no doubt that the mites were the cause of the trouble, though doubt is sometimes cast upon this idea. On this point Mr. A. D. Michael, F.L.S., writes: "I have investigated the question of the injury done by the bulb mite to the best of my ability, and for the purpose of tracing the life history have kept specimens frequently under observation in confinement throughout their whole development from egg to adult. I have found it best to feed them on sound, healthy bulbs, which they eat with avidity. . . I have no doubt as to its attacking healthy bulbs, and look on the creature as a true destroyer." (See also "British Tyroglyphidæ, Vol. ii., Ray Society, pp. 92-95.)

CATASETUM SP.—Mr. G. Rae Fraser, of Letchmore Heath, sent a pistillate flower of a species of catasetum from Bermuda, which Mr. Rolfe considered to be probably C. macrocarpum, but as the pistillate flowers of the different species of catasetum are so similar to one another, there is a little doubt about the name, which can only be settled when the much more commonly produced male flowers appear. The whole inflorescence has, by the kindness of Mr. Fraser, been deposited in the Kew herbarium.

FASCIATION IN EUPHORBIA CYPARISIAS.—A well-known example of fasciation in the stem of this euphorbia was shown.

OAK GALLS.—Mr. J. Fraser showed a number of oak galls from the common oak, and commented upon the variety that may be found even upon a single leaf.

VARIATIONS IN RYE GRASS.—Mr. John Fraser also showed some specimens of Lolium multiflorum (equals L. italicum), which he had collected on a rubbish heap, to illustrate the wide variation in the form of the inflorescence of this species. One of them had the spikelets set very close together on the rachis, and was apparently the forma cristatum of C. T. Timm, a rare form analogous to the Lolium perenne var. cristatum, which is much more common. Another had a branch spike with two or three empty glumes at the

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base of each branch and scarcely-awned outer glumes, appearing to be a hybrid, probably between Lolium multiflorum and Festuca pratensis.

VARIATION IN ACER. — From Mr Beamish, of Glounthaune, Co. Cork, came a specimen of the Japanese maple Likonishke, with branches showing very much the character of the stock upon which it had been grafted arising considerably above the place of grafting. It was thought probable that the variation might be due to the tendency of the variety to vary.

FROST INJURY.—The Secretary produced a draft of the report on the damage done by frost during the winter 1908-9.

Bristol Gardeners' Association.

The usual monthly meeting was held at St. John's Parish Rooms, Mr. Hayball in the chair. Mr. Gostling read a paper on "Orchids," and the lecturer gave several reasons why orchids are, or should be, grown, and in the discussion gave cultural details, in reply to enquiries made. Three new members were elected. Mr. Wall, of Melrose Nursery, Bath, had on view several vases of perpetual-flowering carnations, including Princess and Salmon Queen, two new varieties of his own introduction; also May Day, Enchantress and sports, Mikado, Carola, Afterglow, Aristocrat, Winsor, and White Perfection. A special certificate was awarded Mr. Wall. Mr. Shaddick was awarded an ordinary certificate for three large bunches of outdoor-grown tomatoes.

There was keen competition in the class for three bunches of hardy flowers, for which Messrs. Binfield, T. Clark, and Scott were placed in the order given.

Reading Gardeners' Association.

The opening meeting of the autumnal session took place on Monday, September 26, at the Abbey Hall, Reading (by kind permission of Messrs. Sutton and Sons), when the president, Mr. Alderman Parfitt, J.P., gave a cordial welcome to the large number of members present.

The minutes of the last meeting having been read, eight new members were elected.

The President then announced that the gathering was honoured with the presence that evening of Mr. Hart Synnott, D.S.O., B.Sc., Director of Agriculture and Horticulture at the Reading University College, and his object in attending was to offer every possible assistance from the college to the association. The announcement was received with applause. Mr. Powell then proposed, Mr. Tunbridge seconded, and was supported by other members, that a non-competitive exhibition be held, on the same lines as last year, during the latter part of November. This was carried, and the arrangements were left in the hands of the committee.

The lecturer for the evening was Mr. H. C. Loader, The Gardens, Erleigh Park, Reading, and his subject was "Spring Bedding—The Arrangement of Plants and Bulbs for Harmonious Effect." Mr. Loader opened his remarks by expressing regret that in many gardens spring bedding was almost entirely neglected, and pointed out that empty beds were out of harmony with Nature, and, he might add, out of touch with all things. He then proceeded to deal with failures, warning his audience to avoid certain combinations, which, though having a good appearance on paper, he had proved by experience to produce "discord" rather than harmony. The lecturer then pointed out the necessity in arranging colour schemes of making sure of the "angles," so that, no matter from what point of view the arrangement might be regarded, there was nothing, such as a distant bed or building, which might clash, or appear ill-assorted, with the effect desired.

In conclusion many examples of harmony in colour which the lecturer had proved to produce most gratifying and beautiful results, were enumerated, and carefully noted by the members.

An animated discussion followed the paper, and at the close of the evening Mr. Loader was accorded a hearty vote of thanks.

Certificates for cultural skill were presented to Mr. G. Carter, head gardener to S. Griffith, Esq., Gordon Lodge, and to Mr. F. Townsend, head gardener to L. G. Sutton, Esq., Hillside.

Very fine seedling carnations were exhibited by Mr. H. C. Loader, head gardener to M. H. F. Sutton, Esq.; Lobelia cardinalis by Mr. W. J. Townsend, head gardener to Sir W. Farrer; and a group of perennial asters by Mr. J. Durrant, gardener to Miss Cripps, Preston House.

CLASSIFICATION OF SWEET PEAS.

The following is an up-to-date selection of varieties in commerce, drawn up by the Floral Committee of the National Sweet Pea Society. The varieties are in order of merit. * Indicates a grandiflora variety, all others are waved.

- Bicolor—
  - Arthur Unwin.
  - Mrs. Andrew Ireland.
  - Colleen.
- Blue—
  - Flora Norton Spencer.
  - Mrs. G. Charles.
  - *Lord Nelson.
- Blush—
  - Mrs. Hardcastle Sykes.
  - Princess Victoria.
- Cerise—
  - Cherry Ripe.
  - Chrissie Unwin.
  - *Coccinea.
- Cream, Buff, and Ivory—
  - Clara Curtis.
  - Paradise Ivory.
  - *James Grieve.
- Cream-Pink—
  - Mrs. Hugh Dickson.
  - Gladys Burt.
  - Constance Oliver.
- Crimson—
  - King Edward Spencer.
  - *King Edward VII.
- Fancy—
  - *Sybil Eckford.
- Lavender—
  - Masterpiece.
  - Asta Ohn.
  - Frank Dolby.
  - *Lady Grisell Hamilton.
- Lilac Shades—
  - Mrs. R. H. Carrad.
- Magenta—
  - Menie Christie.
- Marbled—
  - Helen Pierce.
- Maroon—
  - Nubian.
  - Othello Spencer.
  - Tom Bolton.
  - *Hannah Dale.
- Mauve—
  - Tennant Spencer.
- Mauve—(continued)
  - Helio-Paradise.
  - *Mrs. Walter Wright.
- Orange-Pink—
  - Helen Lewis
  - *Miss Willmott.
- Orange-Scarlet—
  - Dazzler.
  - Edna Unwin.
  - St. George.
- Picotee Edged (Cream Ground)—
  - Mrs. C. W. Breadmore.
  - Evelyn Hemus.
- Picotee Edged (White Ground)—
  - Elsie Herbert.
  - Mrs. Townsend.
  - *Dainty.
- Pink and Salmon Pink—
  - Countess Spencer.
  - Zarina.
  - *Prima Donna.
- Rose and Carmine—
  - John Ingman.
  - Marie Corelli.
  - *Prince of Wales.
- Salmon Shades
  - Earl Spencer.
  - Nancy Perkin.
  - *Henry Eckford.
- Scarlet—
  - Doris Burt.
  - George Stark (1908 medal stock).
  - *Queen Alexandra.
- Striped and Flaked (Purple and Blue)—
  - Suffragette.
  - *Prince Olaf.
- Striped and Flaked (Red and Rose)—
  - America Spencer.
  - Aurora Spencer.
  - *Jessie Cuthbertson.
- White—
  - Etta Dyke.
  - Nora Unwin.
  - *Dorothy Eckford.

TRADE NOTE.

At the Brussels International Exhibition Messrs. John K. King and Sons, of Coggeshall, Essex, have been awarded a prize medal for an exhibit of their pedigree seed corn and farm seeds, and an exhaustive exposition of their system of pedigree selection of seeds.

Plums at Aldenham.—In a season like the present, when plums are generally scarce, it is a pleasure to find even one garden with a good crop. On the south wall at Aldenham I lately noted trees of the following varieties carrying desirable crops of extra fine fruit: Golden Transparent Gage, Coe's Golden Drop, and especially the purple form, which usually does well at Aldenham; Grand Duke, and Jefferson, which is a plum not nearly enough grown.—E. M.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention correspondents are requested to distinctly mark the paragraph.

DISEASED VIOLET LEAVES.—A. B., Ashbourne: The violets are suffering from an attack of Cercospora violæ. Spray with diluted Bordeaux mixture, and provide for a free circulation of air among the plants.

SULPHIDE OF POTASSIUM.—M. E. M., Milborne: We thought we had made it quite impossible for any of our readers to make the mistake of confounding sulphate of potassium with sulphide of potassium. The latter is the substance used as a fungicide, and its popular name is liver of sulphur.

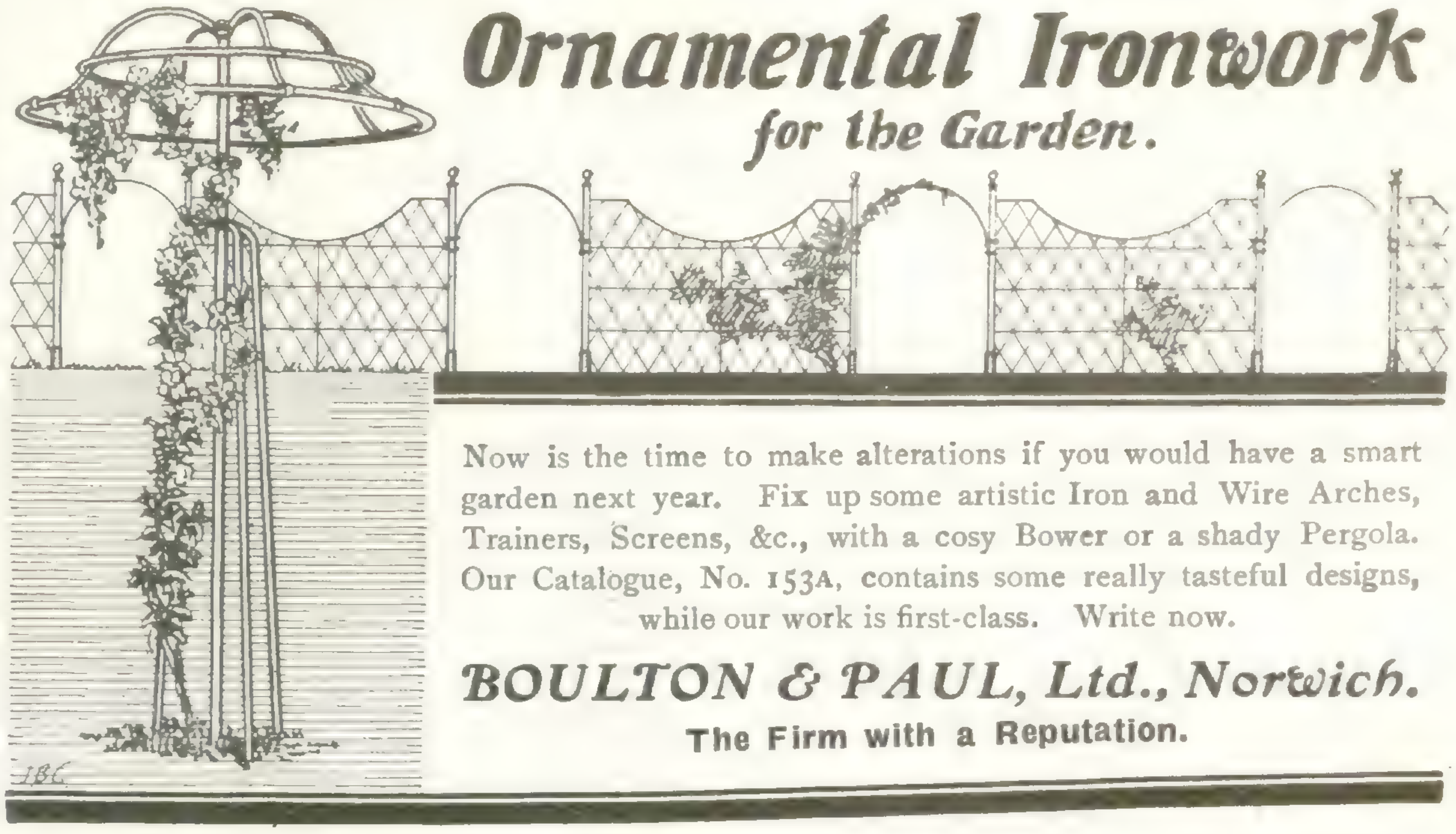
SMALL HOLDINGS.—H. L. B., Rainham: Three books that will be of special interest and value to you are "The Small Holder's Guide," 1s. 2d., post free; "Profitable Fruit Growing," 1s. 2d., post free; and "Packing and Selling Fruit and Vegetables," 1s. 2d., post free. All of these can be obtained from the GARDENERS' MAGAZINE office, 148, 149, Aldersgate Street, E.C.

CORAL-SPOT FUNGUS ON RED CURRANTS: J. C., Halstead: The coral-spot disease is caused by one of the most common and most generally distributed of British fungi, i.e., Nectria cinnabarina. The first stage of the disease takes the form of bright coral-red warts, which are about the size of millet seed, and are thickly scattered over the surface of dead or dying branches of the tree attacked. These red warts are very conspicuous, and at one time this condition of the fungus was considered to be an independent plant, and called Tubercularia vulgaris. At this stage numerous and exceedingly minute spores are produced, and readily scattered by the wind or by insects. At a later stage the coral-red changes to a rusty-brown colour. The surface becomes rough with projecting points, and a second form of fruit is produced. In many instances the fungus passes through all its stages on dead branches, and in such a case no direct injury will be done, but rather a certain amount of good consequent upon the hastened decay of the wood on which the fungus is growing. The indirect danger arising from its presence on dead wood is the possibility of infection of living plants by the spores produced. The earliest indication of disease caused by Nectria cinnabarina is the drooping and yellowing of the leaves, which soon die and fall to the ground. In a few weeks the bark becomes slightly shrivelled, and the characteristic coral-red warts appear on the surface. Death of the leaves, and finally of the branch, is due to the choking of the wood vessels by the mycelium, which cuts off the supply of water and food. The fungus is remarkable for the great number of species of woody plants upon which it can grow and produce perfect fruit, being met with on all fruit and forest trees, excepting conifers, and also on various shrubs. Amongst plants specially susceptible to the attacks of nectria may be mentioned sycamore, elm, hazel, apple, pear, and red and black currants. Preventive measures suggested by the Board of Agriculture are: (1) Whenever diseased branches are observed they should be removed and burned without delay, as after infection recovery is impossible, and any delay in removal permits the formation of spores, and probable infection of neighbouring plants. (2) Fallen branches, stored pea rods, poles, etc., are often literally covered with the bright coral-pink warts of the nectria, and should then at once be destroyed. (3) When pruning, it is a wise precaution to protect every cut or damaged surface with a coat of gas-tar, and also to remove and trim the ends of branches broken by the wind or by other agency.

INSECT AND FUNGUS PESTS.—A. C., Helensburgh: There is no one book that covers the subject, or subjects, for an expert on injurious insects is seldom also an expert on fungi. Further, the expense of issuing books of this character, freely illustrated in colours, has hitherto been practically prohibitive, but now that reproductions in natural colours is becoming simpler and cheaper, we may in the near future have books of the character you suggest. Miss Ormerod's "Handbook of Insects Injurious to Orchard and Bush Fruits" (Simpkin, Marshall, Hamilton, Kent, and Co.) is still of great value, though we have advanced a good deal in methods of prevention since its publication in 1898. More recent is Mr. T. Martin Duncan's "Insect Pests of Farm and Garden" (Swan, Sonnenschein, and Co., Bloomsbury, 2s. 6d. net), illustrated from photographs and original drawings. "Fungoid Pests of Cultivated Plants" practically reaches your ideal in the matter of identification of species, as it contains two dozen coloured plates representing no fewer than 357 fungoid diseases, besides illustrations in black and white. This is by Dr. M. C. Cooke; it was issued in various numbers of the "Journal" of the Royal Horticultural Society, and is now issued by that body in one volume, 5s., post free. One other book we would draw your attention to in this connection, and it is "The Book of Garden Pests and Plant diseases" (John Lane, 2s. 6d.), by Mr. R. Hooper Pearson. Microscope slides of a few injurious insects, and plant diseases, may be obtained from or through firms that make a speciality of microscopes.

POND WEED.—Welshman, Llanelly: What kind of weed is it that you wish to destroy? If you tell us that we may be able to help you. We do not know a chemical preparation for the despatch of water weeds, which at the same time will do no harm to cultivated water plants.

FIG TREE DISEASE.—J. P., Worthing: The disease is by no means a new one, but a few years ago it became very prevalent, and at our request Mr. G. Massee investigated the matter, and his report, together with an illustration of the disease, were published in the GARDENERS' MAGAZINE of July 23, 1898, p. 475. A fig tree branch that is attacked always dies above the point of attack: the branch is girdled and cankered, and from the dead portion the minute spores ooze out in little hair-like strings, connected by a viscid substance that is brittle in dry weather and soluble in wet, so that the spores are readily distributed. Experiments conducted on healthy fig trees have shown that the fungus (Libertella ulcerata) will not cause the disease when placed on the unbroken surface of even very young branches, whereas, when the spores are placed on the end of a cut branch or on injured bark, inoculation always followed, and the mycelium was found in abundance at the expiration of ten days. In one experiment a badly diseased branch, showing numerous threads of spores, was cut through; immediately afterwards the same knife was used for making an incision in the bark of a branch of a healthy young plant of Ficus religiosa. At the expiration of ten days the wound showed undoubted symptoms of disease, and at the end of five weeks the white threads of spores were formed. This experiment proved that the disease may be imported to healthy plants by using a knife that had been used for pruning diseased plants, and an examination of various diseased plants suggested the idea that this method of spreading the disease is a not unusual one. With regard to preventive measures, there is no evidence to show that the mycelium of the fungus ex-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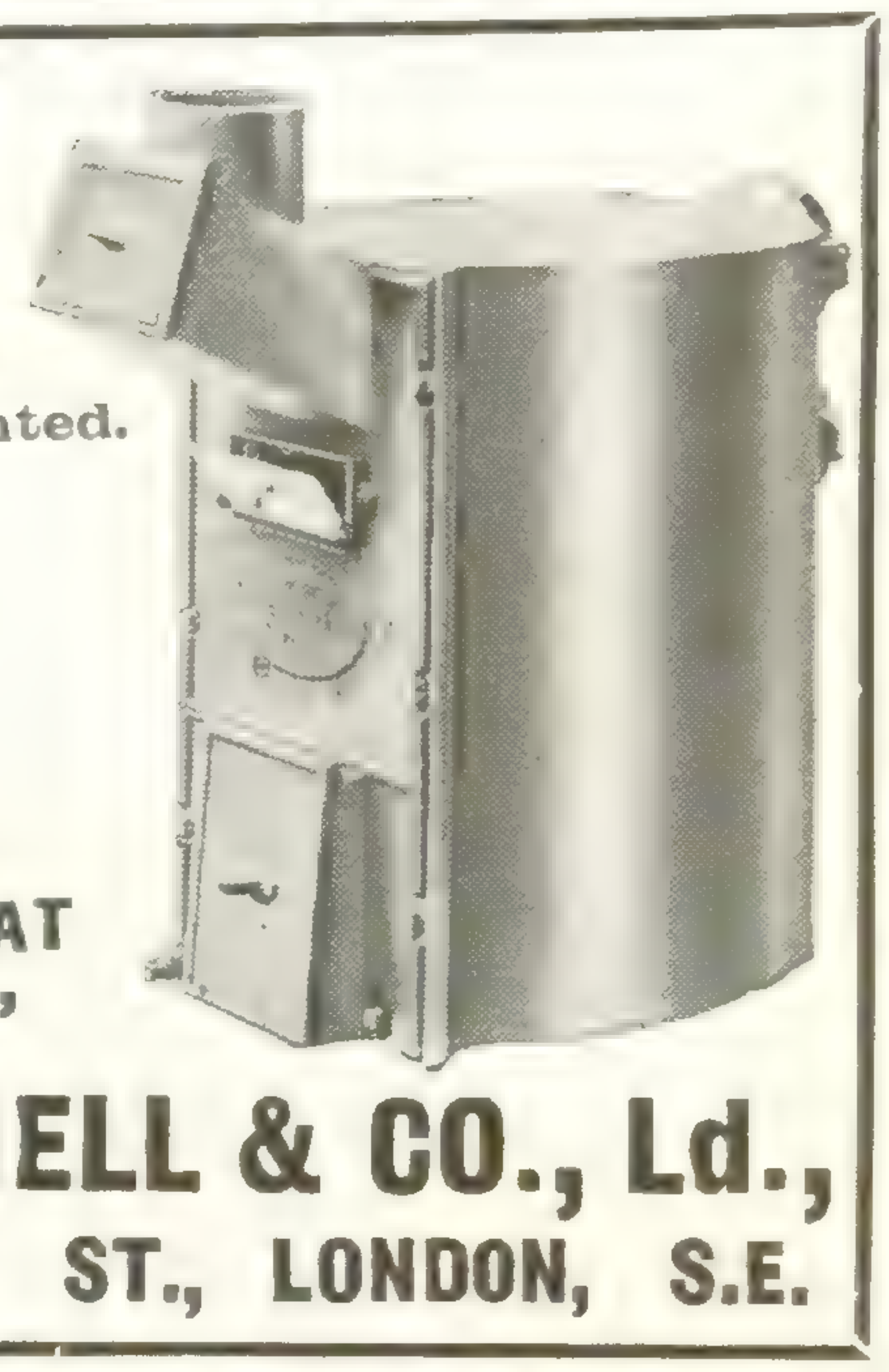

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tends backwards below the point of infection, hence, when a canker spot appears, the removal of the branch below the diseased spot should be effected at once as the upper portion is certain to be killed by the fungus. every cut curface should be painted at once with a solution of sulphate of copper dissolved in water, and afterwards with tar. It would be wise when cutting diseased plants to dip the knife in a solution of sulphate of copper after each cut, to remove any spores that may adhere to it.

NAMES OF FRUIT.

N. D., Sidmouth.—1, Pitmaston Duchess; 2, Golden Noble.

F. J. F., Chesham.—1, Black Hamburgh; 2, Alicante; 3, Madresfield Court.

M. E. J., Lincoln.—1, Ribston Pippin; 2, not recognised; 3, Worcester Pearmain.

D. C., Widcombe.—1, Warner's King; 2, Pott's Seedling; 3, Golden Noble; 4, Beurre Rance.

M. W., Chippenham.—1, Beurre Hardy; 2, not recognised; 3, Gascoigne's Scarlet; 4, Cox's Pomona.

L. S., Worksop.—1, Beurre Diel; 2, Beurre Clairgeau; 3, Durondeau; 4, Hessle; 5, Catillac; 6, Pitmaston Duchess.

L. S. B., Allendale.—1, Blenheim Pippin; 2, Cellini; 3, Gloria Mundi; 4, Sandringham; 5, Lane's Prince Albert; 6, Golden Spire.

NAMES OF PLANTS.

D. A. S., Abbeyleix.—Rodgersia podophylla—remarkably large and well grown.

G. W. (no address).—Your specimens were named on p. 780, under the initials of "F.W."

C. W. A., Monmouth.—1, Cassia corymbosa; 2, Berberis vulgaris; 3, Chrysanthemum uliginosum.

C. S., Wingham.—1, Not recognised, should have been sent earlier; 2, Aster Linosyris; 3, Ceanothus azureus; 4, Reseda alba.

M. E. M., Milborne.—1, Caryopteris mastacantha; 2, Helenium striatum; 3, Aster diffusus horizontalis; 4, Helianthus multiflorus.

G. T. J., Stamford Hill.—1, Lastrea filix mas; 2, send when in flower; 3, a spiræa, probably S. discolor; 4, Ligustrum lucidum; 5, a prunus, send when in flower or fruit; 6, probably a cratægus, send when in flower.

THE HORTICULTURAL EDUCATION ASSOCIATION.

Apart from the novelty of the thing, there is something funny about the idea of giving brief "character" sketches of the members of an association after their annual meeting, and I am undecided as to which is the most complimentary, to be described in the likeness of a "Puritan trooper," "a swarthy giant," "burly, deep-chested, and black-bearded," "trim and well-groomed," "small, fair, voluble," or, as with two unfortunate members of the party, "hopeless cases." If it wasn't so amusing the latter description might be perturbing, but, as one of the "hopeless," I wish for nothing better than to be "left to it" with a type like "H. J. W.," my good chum of nearly twenty years' standing, who is one of the best, and I know this statement would be supported by Kentish cottage gardeners and Surrey schoolmasters. It is hard to believe that "Nield of Ridgmont," the small, fair, and voluble, should be late for breakfast, considering that at Bristol last year he was out on Clifton Downs with his inevitable camera in the early hours of the morning, and the modesty of the estimable secretary of the association, in describing himself as "unworthy," is overwhelming, but there, you know, he doesn't mean it. It is sad to think of him as trainer of the "hopeless cases"—and he took trouble with me, too. Dear, dear, how very disappointing, but who has the greater claim to sympathy, "Wright of Kent" or

"Hollingworth of Gloucester"?

MARKETS.

◆

COVENT GARDEN.

Flowers.

Flowers are plentiful, and of good quality, and business is fairly brisk.

		s. d.		s. d.
Adiantum cuneatum	per doz. bun.	4 0	to	8 0
Asparagus	per bun	1 0		1 6
Asters	per doz. bun.	1 0		2 6
Carnations	per doz. blms.	1 0		2 6
,,	per doz. bun.	6 0		8 6
Cattleyas	per doz	12 0		14 0
Chrysanthemums	per doz. bun.	3 0		3 6
,,	per doz. blms.	1 6		3 0
Coreopsis	per doz. bun.	1 6		2 0
Cornflowers	per doz. bun.	1 0		2 0
Croton leaves	per bun.	1 0		2 6
Dahlias	per doz. bun.	2 0		3 0
French fern	per doz. bun.	0 6		0 9
Gaillardias	per doz. bun.	1 6		2 0
Gardenias	per doz.	1 6		2 0
Gladiolus	per doz. bun.	2 0		4 0
Lapagerias	per doz.	1 6		2 0
Lilium auratum	per bun.	1 6		2 6
,, speciosum	per bun.	0 6		1 6
,, longiflorum	per bun.	1 0		2 0
Lily of the Valley	per doz. bun.	5 0		15 0
Marguerites	per doz. bun	1 6		2 0
Mignonette	per doz. bun.	1 0		2 0
Odontoglossums	per doz. blms.	2 0		3 0
Pelargoniums	per doz bun.	3 0		4 0
Physalis	per doz. bun.	3 0		4 0
Roses	per doz.	0 6		2 0
Scabious	per doz. bun.	2 0		3 0
Smilax	per doz. trails	2 0		3 0
Statice	per doz. bun.	3 0		4 0
Sweet Peas	per doz. bun.	1 0		2 6
Tuberoses	per doz.	0 3		0 5
Violets	per doz. bun.	2 0		3 0

Fruits.

Liberal supplies of fruit continue to arrive, and business is steady at firm rates.

		s. d.		s. d.
Apples, English	per bush.	3 0	to	15 0
Bananas	per bun.	3 6		12 0
Blackberries	per peck	2 0		3 0
Cranberries	per case	12 0		13 0
Damsons	per ½-sieve	2 0		4 6
Figs	per doz.	1 0		4 0
Grapes, English	per lb.	0 8		3 0
,, Guernsey	per lb.	0 6		1 3
,, Almeria	per barrel	6 0		10 0
Lemons	per case	10 0		30 0
Melons	each	0 8		3 0
Oranges	per case	12 0		25 0
Peaches, English	per doz.	3 0		12 0
Pears, French	per crate	4 0		7 6
,, English	per bush.	3 0		6 0
,, Californian	per case	5 0		6 0
Pineapples	each	2 0		4 6

Vegetables.

Most kinds are coming to market in large quantities and in excellent condition; there is a good demand.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	3 0
Beans, Runner	per bush.	2 0		3 0
Beet	per bush	2 0		2 6
Cabbages	per tally	2 0		4 6
Carrots	per doz. bun.	1 6		3 0
Cauliflowers	per doz.	1 6		3 0
Cucumbers	per flat	4 0		6 0
Endive	per doz.	1 0		2 0
Lettuce, Cos	per score	0 8		1 0
Mint	per doz. bun.	1 0		2 0
Mushrooms	per doz. lb.	7 6		12 0
Mustard and Cress	per doz. pun.	0 6		0 8
Peas	per bush.	3 6		4 6
Radishes	per doz. bun.	0 4		0 10
Parsley	per ½-sieve	1 6		2 0
Spinach	per bush.	1 3		2 6
Tomatoes	per doz. lb.	3 0		3 6
,, Guernsey	per doz. lb.	2 6		3 0
Turnips	per doz. bun.	2 0		3 0
Watercress	per doz. bun.	0 3		0 6

LONDON POTATO MARKETS.

The supplies have largely increased of late, and there has been a good demand at late rates.

		s. d.		s. d.
Round	per ton	45 0	to	50 0
Kidneys	per ton	55 0		60 0
Lincolns	per ton	55 0		60 0
Epicures	per ton	45 0		50 0
Puritans	per ton	55 0		60 0

FORTHCOMING ENGAGEMENTS.

MONDAY, October 10.—United Horticultural Benefit and Provident Society; committee meeting.

TUESDAY, October 11.—Royal Horticultural Society; committees meet at 12 o'clock, lecture at 3 p.m. on "Cider and Perry Fruits" by Mr. B. T. P. Barker, M.A., Scientific Committee at 4 o'clock.

British Gardeners' Association; Council meeting.

THURSDAY, October 13.—Royal Horticultural Society's Sixteenth Annual Exhibition of British Fruits; two days.

British Gardeners' Association; London branch.

FRIDAY, October 14.—Conference of Mutual Improvement Societies at the Royal Horticultural Hall.

THURSDAY, October 20.—Fruit Show and Congress at Hexham; three days.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea level, 150 feet.

Date. 1910. September 25 to October 1.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Sept. 25—Sunday	—	52	51	62	47
,, 26—Monday	3 30	55	54	66	51
,, 27—Tuesday	10 18	59	56	71	51
,, 28—Wednesday	8 42	57	56	74	42
,, 29—Thursday	0 6	61	59	64	54
,, 30—Friday	6 24	53	52	68	49
Oct. 1—Saturday	2 12	56	56	t9	46
Means	(total) 31 12	56	54	67	48

Date. 1910. September 25 to October 1.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Sept. 25—Sunday	trace	55	55	56	49
,, 26—Monday	—	55	55	56	47
,, 27—Tuesday	—	56	56	56	46
,, 28—Wednesday	—	56	56	56	37
,, 29—Thursday	0.03	57	56	56	47
,, 30—Friday	—	56	56	56	41
Oct. 1—Saturday	0.05	56	56	56	41
Means	(total) 0.08	56	56	56	42

GARDENING ENGAGEMENTS.

Mr. W. Staward, for many years at Belford Hall Gardens, Belford, has been appointed head gardener to Mrs. Henry Callender, at Preston Hall, Dalkeith, N.B.

CATALOGUES RECEIVED.

AMOS PERRY, ENFIELD.—Three separate lists have reached us, one of bulbs, one of irises—very interesting and descriptive, and one of delphiniums.

CHARLES TURNER, SLOUGH.—A classified and descriptive catalogue of roses.

T. JANNOCH, DERSINGHAM, NORFOLK.—A list of specialities in lilacs, lily of the valley, and liliums, chiefly for forcing; the list is well illustrated.

H. MERRYWEATHER AND SONS, LIM., SOUTHWELL, NOTTS.—Roses, fruits, and trees, and shrubs are all listed in this catalogue, including the new Crimson Bramley apple and the Merryweather damson.

ROBERT VEITCH AND SON, EXETER.—Dutch bulbs, with flowering roots and sundries are the features of this catalogue.

GEO. COOLING AND SONS, BATH.—An autumn plant and bulb list.

DANIELS BROTHERS, LIM., NORWICH.—Catalogue of bulbs, flower roots, fruit trees, roses, etc.

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GARDENER (Head): life experience all branches, Inside and Out; Grapes, Peaches, Melons, Stove and Greenhouse Plants, Orchids, Malmaison and Tree Carnations, Landscape and Rock Garden; Vegetables and Hardy Fruit; nearly 8 years as head; age 35; excellent references. F. SMITH, 4, Melish's Terrace, Morden, Surrey.

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MR. E. R. BEVAN, highly recommends his late HEAD GARDENER; 13 years in his service, life experience in all branches; most capable and trustworthy; 39; married, one child. H. KING, Rempstone, Corfe Castle.

GARDENER (Head Working, where several are kept); age 45; married, no family; thorough practical experience of gardening in all branches; excellent testimonials. WM. SMITH, The Gardens, Aston Hall, Oswestry, Shropshire.

GARDENER (Head Working).—Mr. WATSON can highly recommend C. WALLIS, where two or three are kept; been here 5½ years as Second of two; age 30; married, one child. The Gardens, Bushey Down, Tooting Common.

GARDENER (Head Working); experienced in the Cultivation of Fruit, Plants, Flowers under Glass, Flower and Kitchen Garden, Forcing, and also Hardy Fruit culture; good references; married, no family W. S., 16, Warwick Place, Maidstone, Kent

GARDENER (Head Working), late of Hungerford Park; well up in all branches, Inside and Out; excellent references; 4 years in last place; married; age 41; abstainer. F. EARL, c/o W. Irving, 2, Kent Villa, Stanwell Road, Ashford, Middlesex.

GARDENER (Head Working); life good practical experience in all branches, Inside and Out, Early and Late Forcing; excellent references. H. TURNER, 62, Star Road, Peterborough.

GARDENER (Head Working where one or two more are kept, or good Single-handed); experienced, Inside and Out; good references, and recommended; age 27; married when suited. W. POUCHER, 11, North Terrace, Hythe, Kent.

GARDENER (Head Working, where two or more are kept); good all-round; can be well recommended; married when suited; age 36. PEARCE, Ridley, near Wrotham, Kent.

GARDENER (Head Working) requires SITUATION; experienced Vines, Peaches, Melons, Fruit, Flowers, Vegetables; five years' good character, married. C. N., Clarence Cottage, Broadbridge Heath, Horsham.

GARDENER (Head Working); age 44; life experience, 21 years' excellent references from first-class establishments; thorough knowledge in all [illegible] winner, leaving own request, no [illegible] youngest 14. W. BLOOMFIELD, [illegible] Kent.

GARDENER (Head Working, or a good Single-handed, with help); life experience, both inside and out. HARRY GOOD, Pertenhall Manor, St. Neots, Hunts.

W. LAMBERT seeks SITUATION as HEAD WORKING GARDENER, where several are kept; life experience in growing Grapes, Peaches, Melons, Stove and Greenhouse Plants, Orchids, Carnations, Kitchen and Flower Garden, and Hardy Fruit; good reference; married; age 44; one daughter, age 10. W. LAMBERT, The Common, Kenilworth, Warwickshire.

GENTLEMAN recommends GARDENER (Head of two or three); life experience in all branches; understands formation of new or renovating old gardens; married, one boy 10 years; age 45. PENNELLS, Phœnix Green, Winchfield, Hants.

GARDENER (Single-handed) seeks SITUATION; 12 years' good experience; good reference. Address, A. DODD, 64, Northfield End, Henley-on-Thames.

GARDENER (Single-handed or otherwise); good all-round man in all branches, or handy man on gentleman's estate; good at either; willing to be useful; active and reliable; good character; age 45; married, one child. OSBORNE, 48, Bradshaw Road, Watford.

GARDENER (Single-handed, or Second of three or four); age 30, married, no family; good references. C. PERRY, 12, Kensington Road, Reading.

YOUNG MAN seeks SITUATION (Single-handed); married; 10 years' experience; age 24. Apply J. PRATT, Bramblehurst, Ewhurst, Surrey.

GARDENER (Second, where three or four are kept); 13½ years' experience, Inside and Out; good reference from present employer. S. WILSON, 62, Camden Road, London, N.W.

GARDENER (Second in good establishment); 14 years with stove and greenhouse plants, carnations, chrysants., fruit, flower and kitchen garden; married when suited. E. MOORS, 67, Church Street, Old Town, Eastbourne.

MR. HASTINGS WHELER wishes to recommend A. JENNINGS, age 20, to anyone wanting a GARDENER (Second of four); hard-working. Apply HASTINGS WHELER, Ledston Hall, Castleford, York.

JOURNEYMAN, or UNDER GARDENER seeks SITUATION, Inside or Inside and Out; 3 years in present situation; age 20; good references. A. MYERS, Silvecfields Road, Harrogate.

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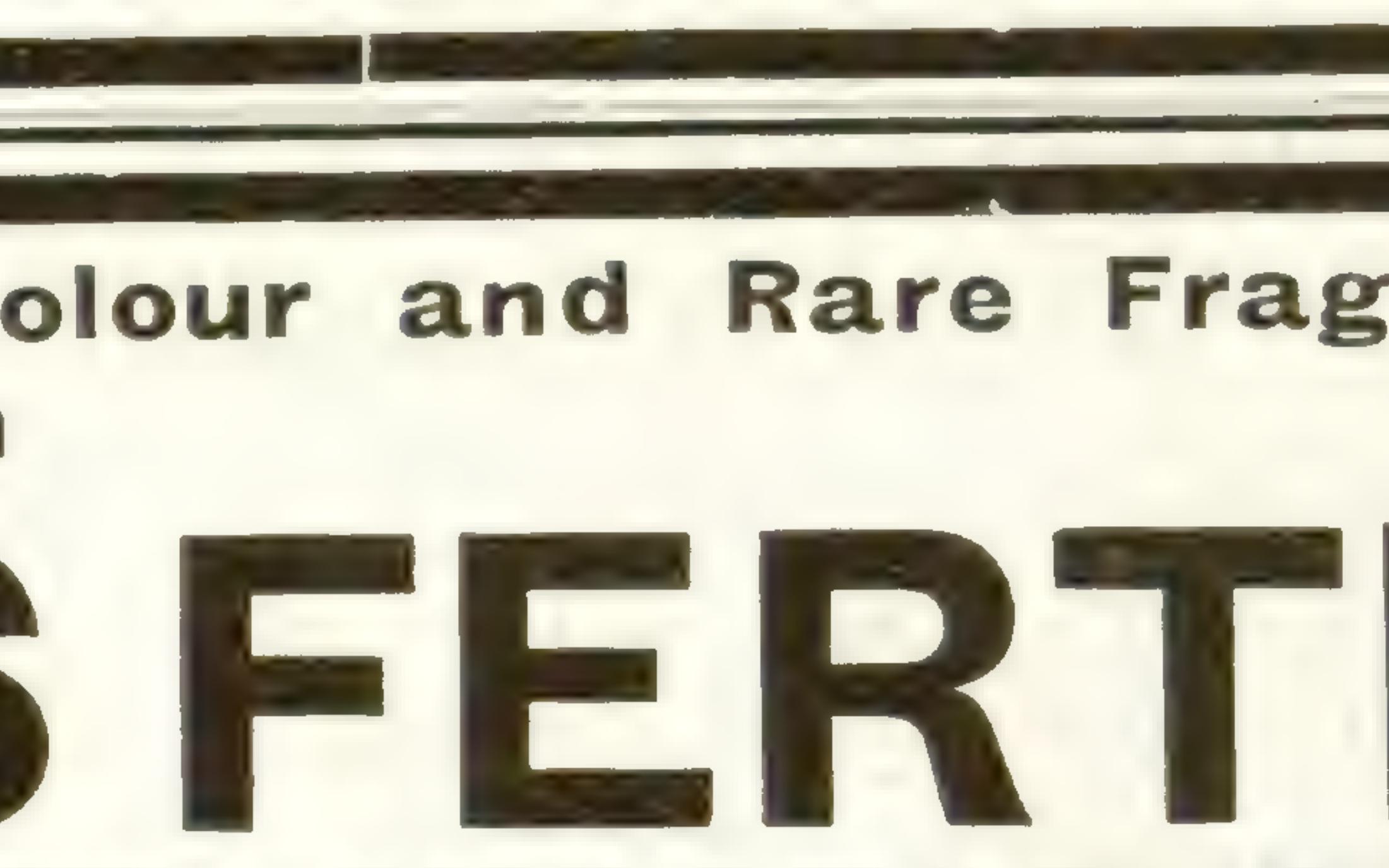

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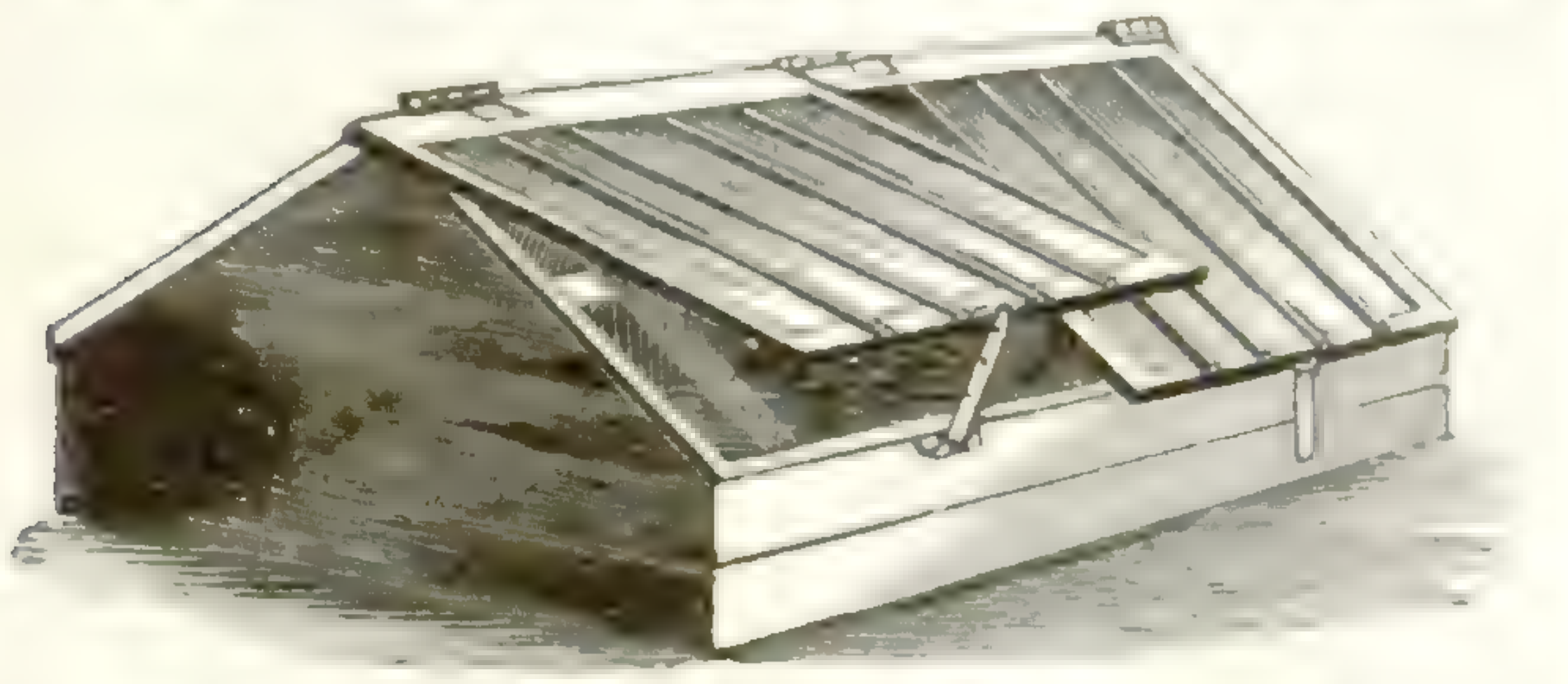

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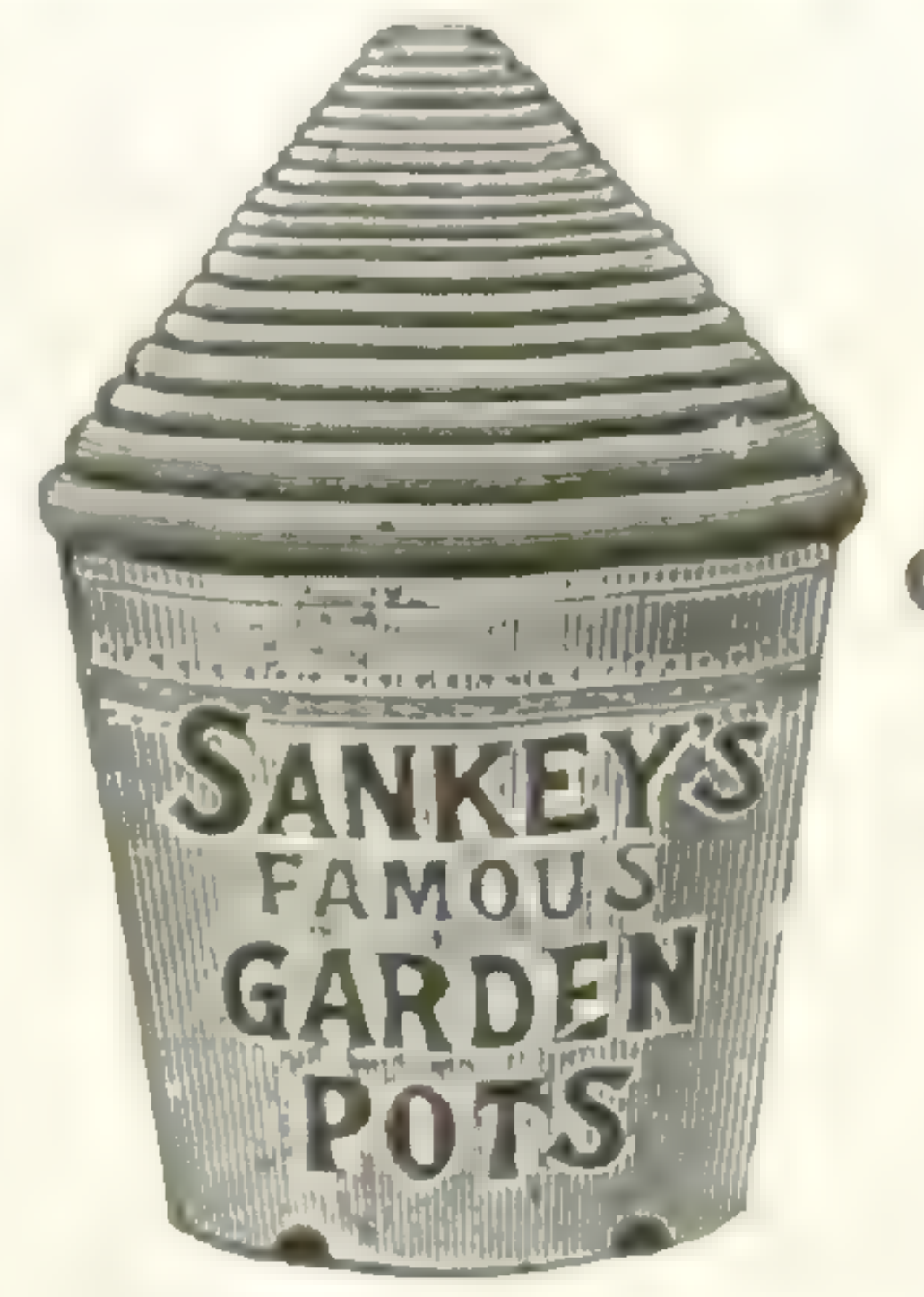

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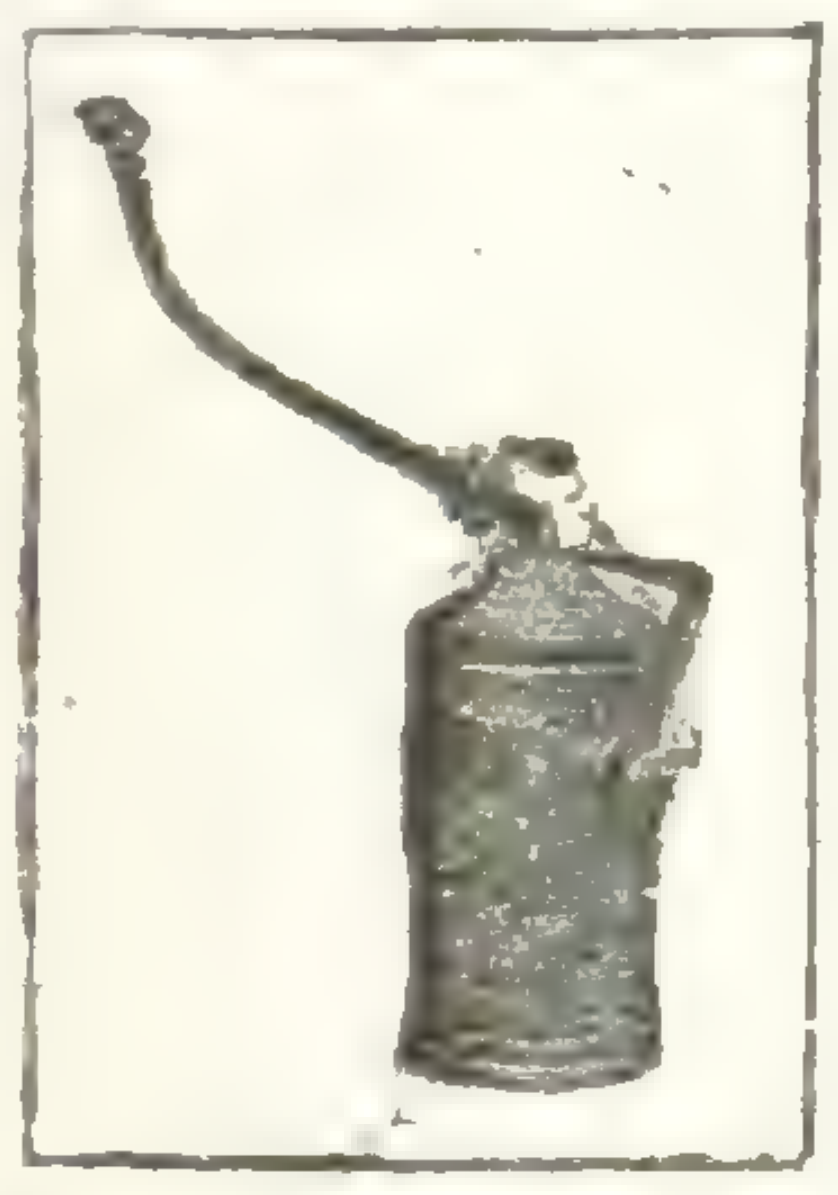

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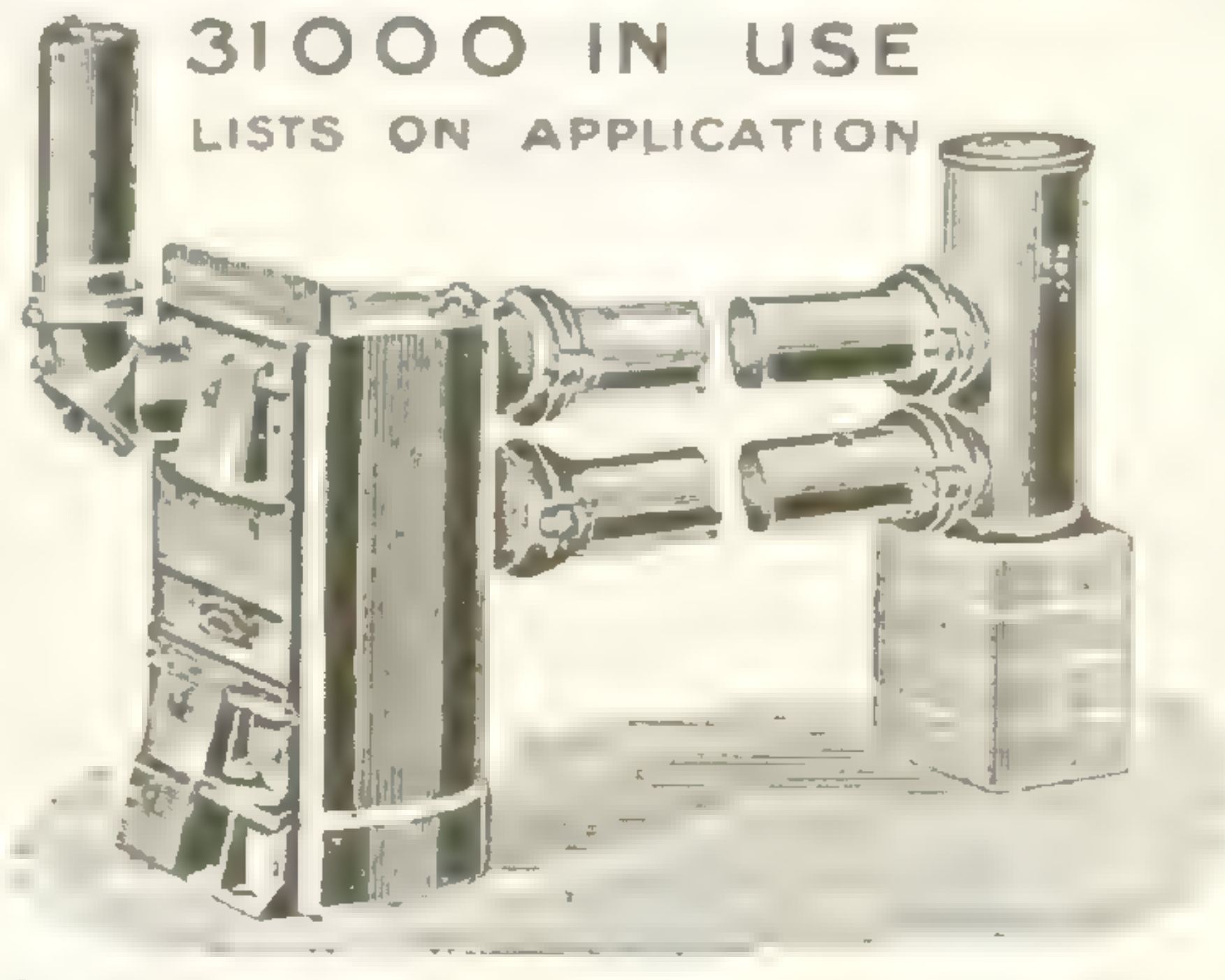

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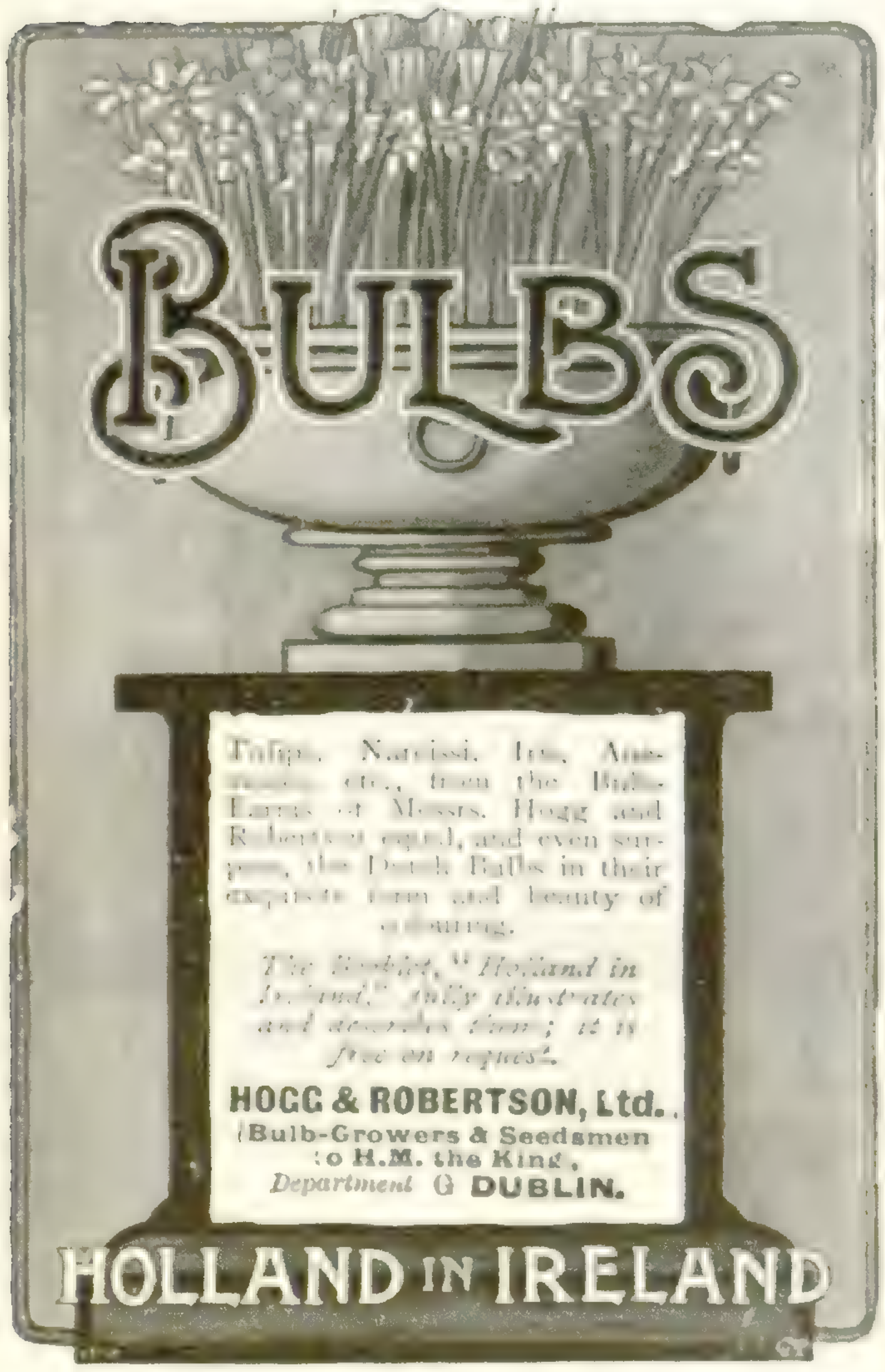

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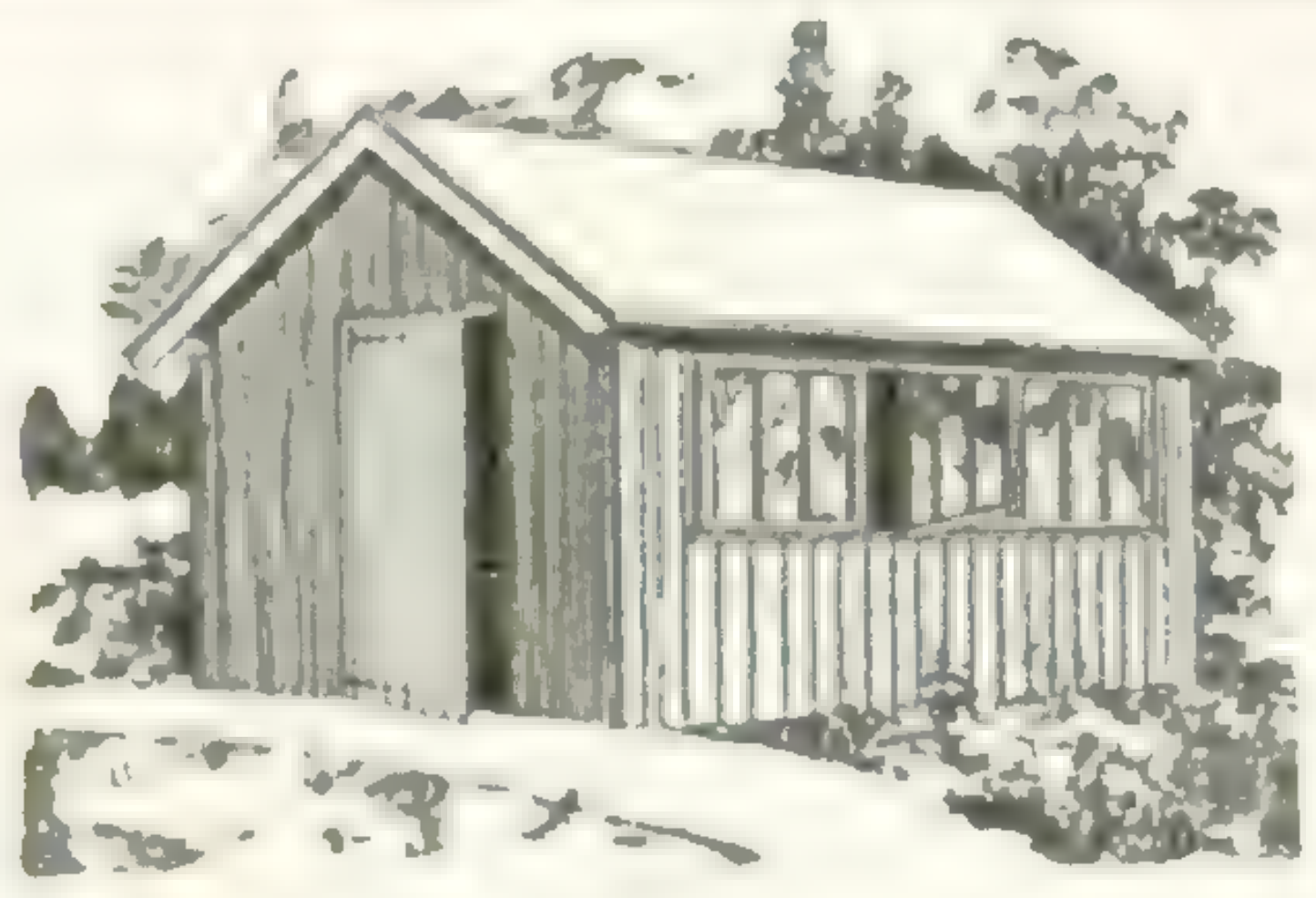

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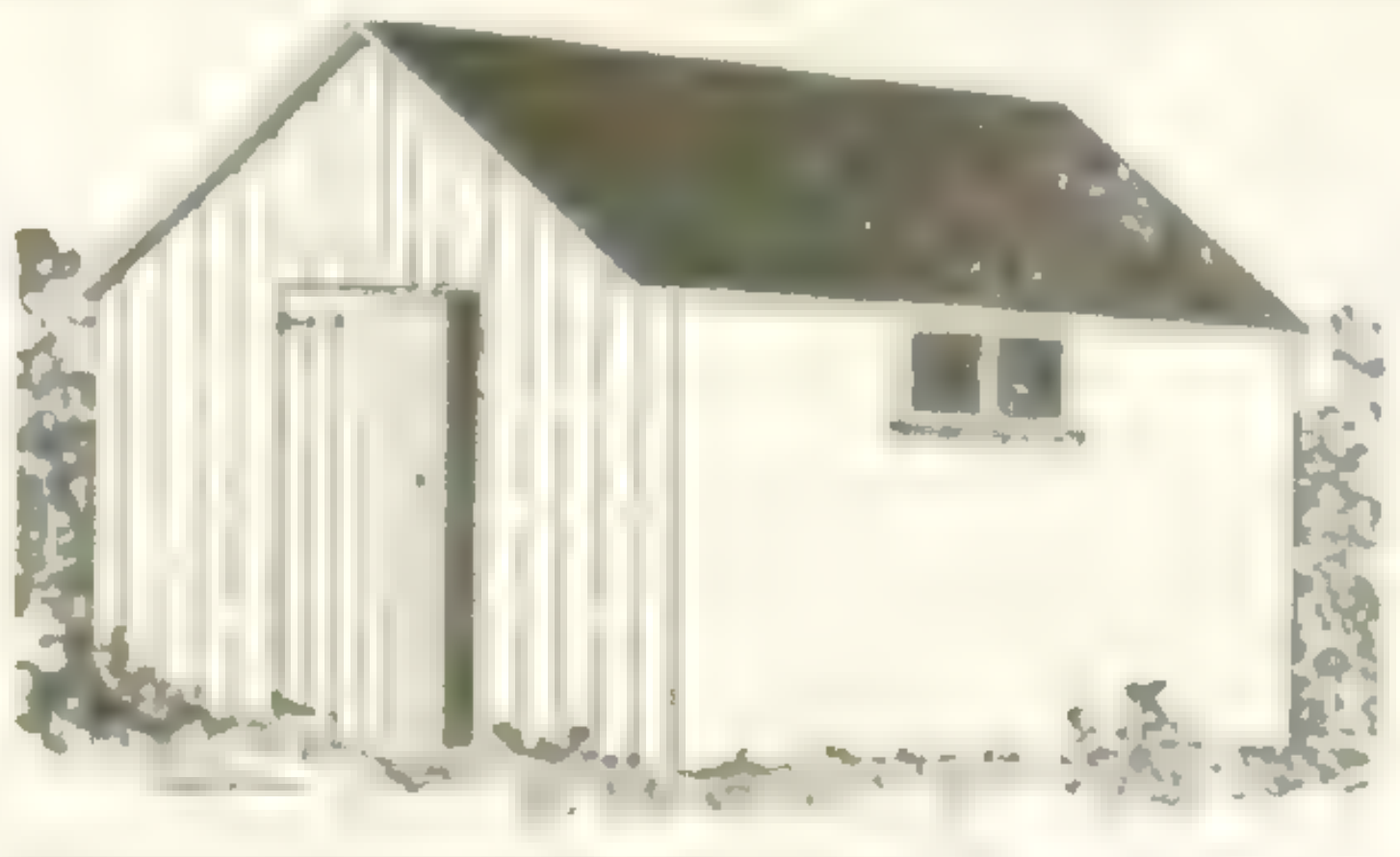

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VOL. LIII.—No. 2,972. SATURDAY, OCTOBER 15, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Silver-leaf Disease of Fruit Trees.

The diseases with which fruit growers have to contend are many, and a considerable proportion are so difficult to hold in check that it is only by unremitting endeavour on well-devised lines they have found it possible to maintain their trees in a vigorous state of health. Of the several diseases affecting fruit trees there has not, perhaps, been one that has been so great a source of perplexity to both scientists and practical men as the one commonly known as silver-leaf. In some parts of the country, and especially in the Thames Valley, much injury has been caused to the plum orchards by the fungus to which the silvering of the leaves is due, and as the owners have found themselves quite unable to check its development, the most divergent views have been expressed with regard to the cause of the disease and its prevention and cure. None of the suggested remedies have proved efficacious, and it is, therefore, of special interest that Mr. Spencer Pickering should have devoted the annual report of the Woburn Experimental Fruit Farm, which is just published, chiefly to an account of his investigations of silver-leaf. The disease, which has long been known, manifests itself, as Mr. Spencer Pickering points out, by the leaves of affected trees assuming a silvery appearance. The trees thus attacked often die, although death may not supervene for several years, and they may, in the interval, continue to bear fruit, and for a time present a somewhat vigorous appearance. To Professor Percival, of the Reading University, belongs the credit of having associated the silvering of the leaves of the plum and some other fruits with fungoid action, and of having been the first to determine that the fungus known as Stereum purpureum, which bears its fruit only on the dead wood of a tree killed by the attack, is the cause of the disease. When, in 1902, Professor Percival published the results of his investigations in the "Journal" of the Linnean Society, his conclusions were received with some doubt. But Mr. Spencer Pickering has accepted them, and states that, independently of the results obtained by Professor Percival, those described in the report now before us would be quite sufficient to place the matter beyond doubt and with this statement we are in full agreement. The inoculation of a tree with a piece of the fungus has, in the experiments at Woburn, almost invariably been found to produce silver-leaf, while neighbouring trees which were not thus inoculated remained quite healthy. Further, we learn from the report, that trees which have died, partially or entirely, after an attack of silver-leaf, so often develop the stereum on the dead wood as to render it impossible to avoid connecting the one with the other, especially as no single instance is on record of the appearance of this fungus on a tree which has been known to have shown no signs of silvering while alive. One of the first points investigated at Woburn was the manner in which the disease may be conveyed from tree to tree, and in 1906 Mr. Spencer Pickering initiated his experiments in the inoculation of healthy trees. The fungus forms flat roundish discs on the bark of the dead tree, and in inoculating a healthy tree a small portion of the fungus about twice the size of a pin's head is inserted in a cut made in the bark, the cut being bound up to prevent the fungus being washed out. The first sign of infection is a gradual silvering of the leaves, and this, when the tree is in active growth, may occur in a week or two after the inoculation, while the whole tree may become seriously affected in four or five weeks. As might be expected, the infection seems to spread from the point of inoculation, and if one branch only has been inoculated it is on that side only that the silvering first appears. The outward manifestation of disease is, in Mr. Spencer Pickering's opinion, due to a poison formed during the growth of the fungal threads, for no evidence of the mycelium has been found in the leaves. The silvery appearance of these is attributed to the cells composing them having become partially disconnected owing to changes brought about in the nutrition of the tree. When the experiments at Woburn were commenced a plantation of plum trees consisting of twenty-eight trees each of Czar, Rivers' Early Prolific, Monarch, and Victoria, was formed. Forty-eight of these trees were inoculated early in the year with stereum obtained from a silver-leafed plum, and of these thirty-nine showed signs of silvering before the end of July, four of them having been killed outright by that time, and two others were half dead. On the other hand, none of the sixty trees that were not inoculated showed any signs of silvering, and none of them, unless subsequently inoculated, has shown any signs of the disease during the succeeding years. These results may well be regarded as ample proof that the disease is a consequence of Stereum purpureum. It is generally considered that once a tree is attacked by silver-leaf it never recovers, but, in Mr. Spencer Pickering's opinion, this view is erroneous. In proof of this, he states that of fifty-six trees that were silvered in the first year eighteen recovered, and also cites a case at Harpenden where about 25 per cent. of silvered trees, some sixteen years of age, had recovered. With regard to the relative susceptibility of the

MR. JAMES STREDWICK.

several varieties of plums to silver-leaf, it would appear that in plantations under ordinary treatment the Victoria is the most liable to attack, but in the case of inoculated trees at Woburn there was no appreciable difference. The results obtained at Woburn are, in Mr. Spencer Pickering's opinion, readily reconciled with the experiences recorded by growers, for while the experiments show that different varieties are equally susceptible when inoculated with the disease, the extent to which trees in an ordinary plantation would suffer would depend on the ease with which stray fungus spores could effect an entry into the different trees. This, as pointed out, would naturally be greater in the case of those most liable to injury in consequence of being soft-wooded, or of being heavy bearers, and subject to having their branches broken. The experiments conducted with a view to determine the influence of the vigour of the tree and the character of the soil on the development of the disease, the possible infection of the trees by the pruning knife, the utility, or otherwise, of sulphate of iron as an antidote, are all of interest, and of considerable practicable value, but as the report can be obtained for a small sum there is no occasion for us to refer to them in detail. Briefly stated, the strong-growing trees suffer rather less from the disease than weak ones, there does not seem to be any connection between the appearance of silver-leaf and gumming, the character of the soil has no appreciable influence on the development, or otherwise, of silver-leaf, and the application of a solution of sulphate of iron to the roots has no effect upon trees that have been attacked. With regard to the pruning knife as a carrier of the disease the results of the experiments show that so far as the pruning of diseased trees which contain no dead wood is concerned, there is no danger of infection being carried to other trees by the tools used. But when a tree with dead wood is pruned the knife or other tool should be disinfected before being used on healthy trees. Although Mr. Spencer Pickering is not, as the result of his investigations, able to give us a remedy for silver-leaf, he has placed at the command of fruit growers much valuable information relating thereto, and we recommend our readers to obtain a copy of the report and carefully peruse its contents.

Mr. James Stredwick, whose portrait is given herewith, affords an excellent example of the possibility of a man possessing ability to achieve a high degree of success in a vocation wholly different from that for which he was trained. Mr. Stredwick, who is the head of the firm of Messrs. J. Stredwick and Sons, of St. Leonard's-on-Sea, is at the present time best known for his success as a raiser of cactus dahlias, and yet he was trained for the building trade, and made a good position in connection therewith, when he began to show his strong affection for floricultural matters. He first engaged in the cultivation of chrysanthemums, and for several years he was, as an amateur, a successful exhibitor of these flowers at the shows of the National Chrysanthemum Society, and of the leading chrysanthemum societies in the South of England. After a time, as the result of his success, he became so interested in flowers as to greatly extend their cultivation, and subsequently to engage in their cultivation as a matter of business. About this time the cactus dahlia began to obtain prominence, and, appreciating its distinctive characteristics and recognising its possibilities, he engaged in the raising of seedlings on a large scale, and achieved much success. In this work he has been assisted by his son, and the number of varieties raised and distributed by the firm must be very large. There is no occasion to give figures in proof of the success achieved in the raising of new varieties, and in the production of blooms of cactus varieties for competitive purposes, for that is well known and fully recognised by those who are interested in this section of dahlias. Neither is there occasion to enumerate the most noteworthy of the varieties raised at St. Leonard's, because they are in general cultivation. While giving close attention to dahlias, Mr. Stredwick does not overlook his responsibilities as a citizen, as evidenced by his occupying the position of Alderman of his borough, and filling the chair of one of the most important of the committees of the Corporation.

Our Autumn Number.—As previously announced, we shall devote the greater part of the space in our next issue to the discussion of matters of special import to those who contemplate planting ornamental trees and shrubs, fruit trees, and the various kinds of hardy flowers. The contents of the issue will include articles on the mock orange, cypresses, ceanothuses, as bedding plants, the making and planting of an orchard for a private garden, raspberries and blackberries, choice plums as bush trees, a remarkable new rhododendron; the planning and making of a herbaceous border, moon daisies, and herbaceous pæonies. The articles will be by recognised authorities, and the issue will be freely illustrated. We shall also give a full and illustrated report of the Royal Horticultural Society's exhibition of British grown fruit.

National Rose Garden. — In several quarters a suggestion has been made that a National Rose Garden should be formed at the Crystal Palace. It is further suggested that there should be trials of all new roses in connection with this garden. Both suggestions are good, but the circumstances of the Crystal Palace are not sufficiently settled at present to permit of a serious discussion of the suggestions. The need for a public and independent trial of new roses is obvious to all who take a close interest in roses and rose culture, but whether the Crystal Palace would be the best place at which to hold such trials is an open question.

New Park at Winchmore Hill. Sixty acres of the Grovelands Estate, Winchmore Hill, are being acquired by the Southgate District Council for the purposes of a public park, and towards the £20,000 required the Middlesex County Council has promised to contribute £5,000. There is a rumour to the effect that owing to its shape the park will be known as the Leg of Mutton Park.

Sand Dunes and Golf Links.—At a meeting of the Botany Section of the British Association, Professor F. O. Bower gave an interesting lecture on "Sand Dunes and Golf Links," which proved highly attractive to the members. In his opening remarks he described the qualities of sand as a medium for the growth of plants, and then proceeded to point out that to flourish in sand plants had to be capable of readily standing extremes of heat and drought, and of recovering after being buried deeply by sand carried on the wind. It was due to the fact that there were such plants that it was possible for the sand to be bound together in a permanent way, and form the dunes that became the basis of our most attractive links. With the aid of photographs Professor Bower indicated the process of the building up of dunes, showing the sand gathering between the branches of various plants, and gradually heaping itself into hills—a process which the plants followed faithfully, ever rearing their heads above, while at the same time spreading their roots laterally underneath, and forming a strong network structure. He directed special attention to the work done in this direction by the coarse, sharp-edged grass which is known as ammophila, a stiff and wiry plant that may be buried a foot deep by a gale, but which goes on pluckily with its task of binding the sand. He described the plants which are most valuable in giving permanence. Thistles, gorse, heather, the sea buckthorn, and the moonwort were among them, together with the lichens, which perhaps more than anything gave its name to the grey dune. Between them these plants formed a sort of skin on the top of the sandhills, forming a rough turf which was the raw material of the golf links. This was the plan of Nature, then came man with his scythe and mowing machine and roller, and almost entirely removed the actual factor which had built up the dunes.

Monument to Mendel.—The monument erected to the memory of Gregor Johann Mendel, at Brunn, was recently unveiled in the presence of the University authorities and many representatives from foreign institutions, including Cambridge University. Mendel, botanist-naturalist, was born at Amsterdam in 1822, and died at Brunn in 1884.

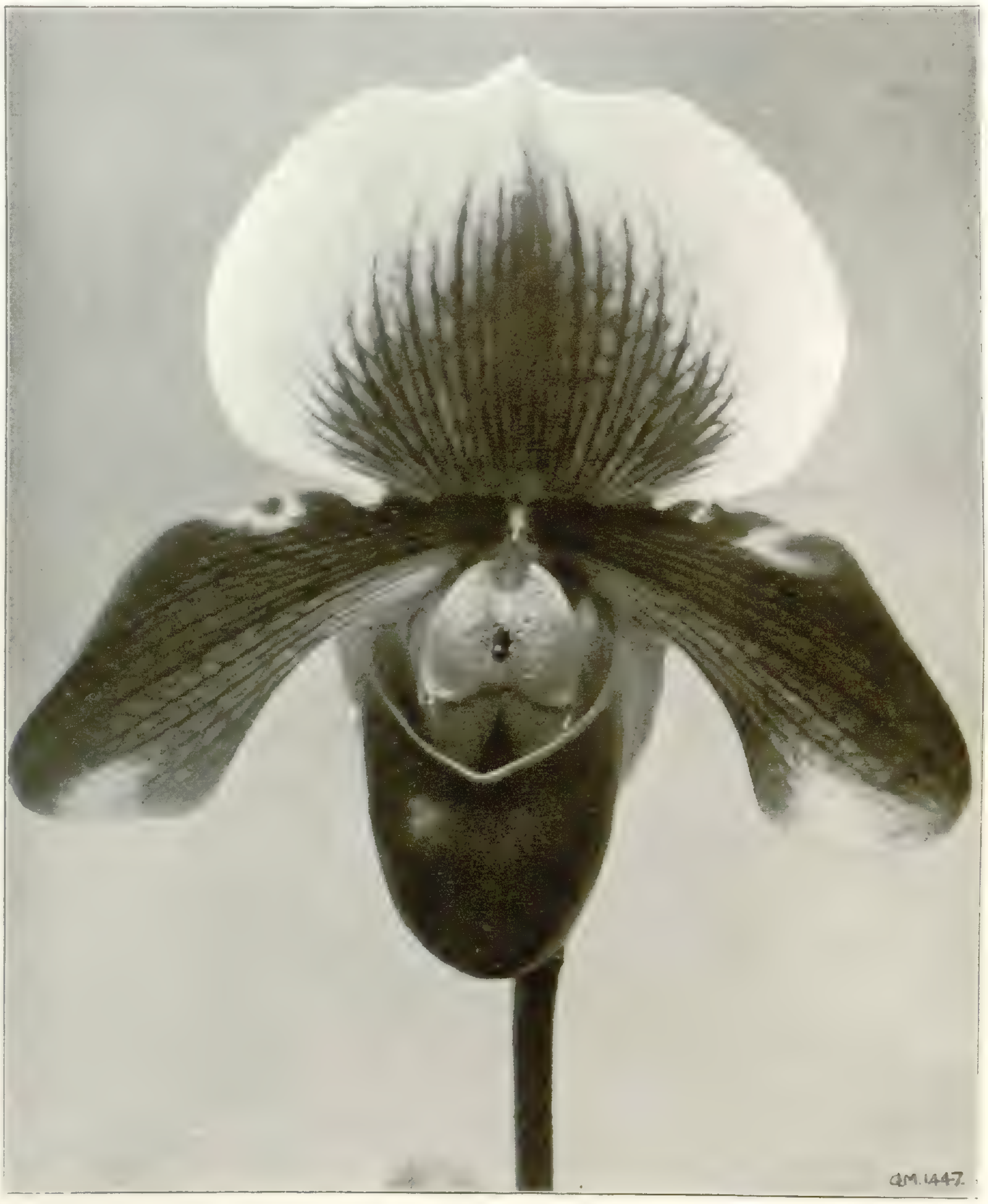
Northern Fruit Congress.—The final arrangements for the fruit congress to be held at Hexham on Thursday next and two following days, are as follows: Thursday, 2.45 p.m., formal opening of the show and congress in the Town Hall by the joint presidents, Mrs. J. C. Straker and Captain J. H. Cuthbert; 3.15, papers will be read by Mr. G. P. Berry, Mr. W. B. Little, on "Fruit Storage and the Bottling of Fruit," and "The Storage of Fruit," respectively; 6 p.m., papers will be read by Mr. H. Somers Rivers on "Stocks for Fruit Trees Historically Considered," Mr. J. S. Chisholm on "The Best Apples for Northumberland," and Mr. W. B. Little on "The Best Apples for Cumberland and Westmorland and Stocks for Same," Mr. G. Bunyard, V.M.H., on "Manners and Culture of Fruit Trees." The discussion will be opened by Mr. G. O. Rimington, and be continued by Mr. J. W. Robson, who will speak on the "Fruit Industry in the North of England." Friday, spraying trials and demonstration in the asphalte tennis court opposite the Town Hall; judging will commence at 10 a.m., and the demonstration will be given at 11 a.m. Gold, silver, and bronze medals are offered for knapsack sprayers; silver and bronze medals for other hand-power machines, and also for spraying syringes. The congress will reopen at 2.15, and papers will be read by Mr. F. B. Theobald on "Fruit Pests and their Treatment." Mr. H. Hogbin on "Smudge Fires, or Orchard Heating," and by Mr. S. T. Parkinson on "Damage done to Fruit Trees by Cold and Late Frosts." The discussion will be opened by Mr. R. A. H. Gray, and be continued by Mr. F. J. Chittenden. At the evening meeting, which commences at 6 p.m., papers will be read as follows: by the Rev. H. Purefoy Fitzgerald on "French Gardening," Mr. Cecil H. Hooper on "Small Holdings," and by Mr. G. W.

Avery on "Bees as Aids to Fruit Culture." At 8 p.m. Mr. E. S. Salmon will give a lantern lecture on "Fungus Diseases of Fruits and their Remedies." On Saturday at 10 a.m. there will be a meeting at which "Co-operation in the Marketing of Produce" will be discussed, but the names of the speakers are not given in the programme; at 2.30 p.m. and 3 p.m., Mr. J. S. Chisholm will deal with "Fruit Bottling" in the Wesleyan schools, and at 3.30 p.m. the cups and medals will be presented in the Town Hall to the successful competitors. In addition to the foregoing the British Gardeners' Association will hold a meeting at 2 p.m., and the National Fruit Growers' Federation have arranged a meeting for 4 p.m. As we have previously intimated, the Rev. J. Bernard Hall, Dalston, Cumberland, is the hon. secretary.

Hampton Court Palace.—The restoration of the Moat at Hampton Court Palace has been completed, and it is expected that the hoardings will be shortly removed. The work of restoration has been carried out under the direction of Mr. E. Chart, the resident surveyor, and so well has it been done that it harmonises perfectly with the rest of the buildings.

Flowering of Trees and Shrubs.—We have received intimation of several instances in which various trees and shrubs that usually bloom in spring are flowering at the present time. A peach tree in a garden at Kentish Town has flowered; an apple tree at Highgate has blossomed and set a second crop of fruit, and a laburnum tree in the same neighbourhood is in bloom. There is nothing exceptional in this, indeed, it is a quite common occurrence to meet with fruit and laburnum trees in blossom during the course of the summer months. It is due to the development of some of the latent buds some time after the trees have made their growth. In 1908 we obtained in the autumn a fine display of flowers upon a large laburnum tree that we headed back after it had flowered owing to the branches obstructing the light.

The Origin of Osmotic Effect.—In an important contribution to the Royal Society, Professor H. E. Armstrong and Mr. E. F. Armstrong dealt at some length with the function of hormones in stimulating enzymic change in relation to narcosis and the phenomena of degenerative and regenerative change in living structures. The authors state that when a leaf of cherry-laurel is exposed to the vapour of an anæsthetic, hydrogen cyanide is at once liberated, and affords a delicate indication of the occurrence of enzymic change in the leaf. Not only the common anæsthetics, but most organic vapours, appear to act as excitants. Ammonia is very active, and it is noteworthy that even carbon dioxide, hydrogen cyanide, and benzaldehyde effect the breakdown of the cyanophoric glucoside in laurel leaves. When solutions are used, it is found that weak solutions of mineral acids, alkalies, and most salts are inactive, but the simple organic acids all pass into the leaf from solutions. Apparently, the behaviour of the laurel leaf resembles very closely that of the barley grain. It is proposed to divide substances other than colloids into two subclasses, according as they will or will not pass through differential septa such as occur in the barley grain and the laurel leaf; also to apply to the former the term hormone, introduced by Starling. The change brought about by hormones may be attributed largely, but not entirely, to the influence they exercise in causing alterations in concentration of the fluids within the leaf. Experiments were adduced showing that water actually passes into the leaf, together with the hormone; also that not only is hydrogen cyanide liberated and water absorbed, but that the amount of reducing sugar in the leaf is increased. The hypothesis is advanced that when substances which are not attractive to water are introduced into the living cell, they exercise stimulative effects that are primarily mechanical. It was pointed out, also, that the hypothesis may afford an explanation of a number of more recent observations on plant metabolism. Partially sterilised soils, for example, which Russell has shown to be so fertile, are rich both in carbon dioxide and ammonia: it is suggested that these are two factors of prime importance as stimulants of plant growth; for a similar reason, sulphate of ammonia may have special value in comparison with other nitrogenous fertilisers. The deleterious effect of grass growing over the roots of fruit trees may be more or less due to the removal, which the grass effects, of ammonia, and the consequent withdrawal of the stimulus which this hormone affords to the roots of the trees.



CYPRIPEDIUM KING GEORGE V.

A handsome variety with large, finely-formed flowers, attractively coloured rose, green, brown, and white. F.C.C., R.H.S., October 11. Mr. E. V. Low, Haywards Heath.

Importation of Plants into Canada.—By the Destructive Insects and Pests Act (Canada) and regulations under the Act nursery stock, including trees, shrubs, plants, vines, grafts, scions, cuttings, and buds, may be imported into Canada only through the following ports and during the following periods:—Vancouver, British Columbia, and Niagara Falls, Ontario, from October 1 to May 1; Winnipeg, Manitoba, and St. John, New Brunswick, from March 15 to May 15, and from September 26 to December 7. Any nursery stock or other vegetable matter infested with any of the following insects and diseases will be destroyed, together with the cases, etc., in which it is contained:—San José Scale (Aspidiotus perniciosus), Brown-Tail Moth (Euproctis chrysorrhœa), Woolly Aphis (Schizoneura lanigera), West Idian Peach Scale (Aulacaspis pentagona), Gypsy Moth (Porthetria dispar), Potato Canker (Chrysophlyctis endobiotica), parasitic diseases affecting potatoes externally or internally, Branch or Stem Canker (Nectria ditissima), Gooseberry Mildew (Sphærotheca mors-uvæ), White Pine Blister Rust (Peridermium strobi). In certain cases provision is made for the fumigation of nursery stock entering these ports, but such stock originating in Europe is exempt from fumigation, and may be inspected on arrival at its destination instead of at the port. Compensation up to two-thirds of the value of vegetation, cases, etc., destroyed will be granted on the recommendation of the Minister of Agriculture.

Chrysanthemums in the London Parks.—The annual exhibition of chrysanthemums in Southwark was opened to the public on Saturday last, and the exhibitions in Battersea Park, Brockwell Park, Finsbury Park, Victoria Park, and Waterlow Park will be opened to-day (October 15).

DODDER.

(Concluded from page 784.)

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Plants Attacked.

The cultivated crops attacked by the various species of dodder are numerous, the most important, however, being clover and lucerne.

C. trifoli.—This variety is that which is most commonly found on clover and lucerne in Great Britain. According to Frank, however, it has been found on vetches, lupines, potatoes, beet, carrots, fennel, aniseed; not infrequently the wild species C. epithymum, of which C. trifoli is a variety, is found in meadows and pastures, on heaths, etc. M. Marre cites also Lotus corniculatus, lavender and other labiates, St. John's wort, species of heaths, Achillea millifolium, and even (according to Prillieux) such graminaceous plants as ryegrass, as having been noticed attacked by this species. He observes, however, that very probably in some cases the dodder is merely entwined round the plants, and not attached to them by means of its suckers. C. epithymum is also found on furze, thyme, and ling.

C. europaea.—In Britain, this species is found on vetches, nettles, etc. In France, it is recorded as living on hops, hemp, vetches, potatoes, the vine, acacia, poplar, aconite, and other plants.

C. epilinum.—Known as flax dodder; this species chiefly attacks flax, but on the Continent it is found also on hemp and camelina.

C. Gronovi. — Besides attacking lucerne, and without doubt other leguminous plants, it is stated to infest chicory, potatoes, and beet.

C. monogyna infests vines and some other plants; and C. corymbosa not only develops on lucerne, but on various other leguminous plants.

Prevention and Remedy.

1. As it is so harmful when once established it is very important that dodder should not be allowed to obtain a footing on clean land. This is undoubtedly only rendered certain by taking great pains that no seed is sown in which there is any trace of dodder. Bearing this in mind the purchaser should only deal with reliable firms, and should always insist, among other things, on a guarantee that all his seed is absolutely free from dodder.

2. If the purchaser is not satisfied as to the purity of any seeds he may have purchased an excellent plan is to sift clover and lucerne seeds, using a sieve of twenty meshes to the inch. Although the seeds of large American dodder are not removable in this manner, those of other dodders are separated with comparative ease. According to Nobbe's experiments, however, this method is not always entirely satisfactory owing to variations in the size of the clover and dodder seeds. In the case of white clover, for instance, the seeds may approximate in size to those of dodder. To make a cheap serviceable sieve for the purpose a light wooden frame may be constructed about twelve inches square and three inches deep, over the bottom of which a 20-mesh wire screen (made of No. 32 English gauge, round wire) should be tacked. In this one-fourth to one-half a pound of seed may be placed at a time and vigorously shaken for half a minute. A man should be able to deal with from five to ten bushels per day. It may be remarked that where much seed is to be dealt with a larger sieve would be more useful.

3. In the case of all seeds the purchaser will be well-advised to consider the question of submitting samples to some authority for expert examination and approval.

4. Where dodder is found infesting a crop, however small the patch, steps should at once be taken to destroy it. This may best be done by digging up the infested plants and burning the whole, in situ, by covering the area six to nine inches thick with long chaff, sprinkling it with paraffin, and then firing it. It is wise not to remove the infested plants for burning, as small pieces left on the field or dropped in fresh places may only serve to spread the pest. It is better to lose completely a small area of the crop by burning than to take risks and possibly have a much more serious infestation another year, especially since dodder seed may lie dormant in the soil for five or six years.

5. An infested field should not be allowed for a few years to carry a clover, lucerne, or other leguminous crop.

6. Thaer recommends that the infested spot be surrounded by a small trench at a suitable distance from the outermost threads of dodder, the soil removed from the trench being thrown on the infested spot. This method, or burning with straw, he considers to be better than the employment of corrosive substances, sulphate of iron, large quantities of superphosphate, or the refuse liquor from the manufacture of sulphate of ammonia, all of which work certain destruction to dodder Such substances, however, ruin the soil for one or more years after use.

7. Tearing out the dodder with a rake is to be condemned, as this only serves to spread the evil.

8. Infested clover or lucerne should not be fed to stock, as the seeds may pass through the alimentary canal unaffected, and Frank mentions a case in which a field was actually infected by means of manure from young cattle which had been fed on rape and linseed cake containing dodder seed, the germinating capacity of which had not been destroyed.

9. Frank suggests that substances which will smother the dodder may be effectually employed, such as a layer three inches deep of chaff, tan or gypsum, covered with an inch or so of fine soil and saturated with liquid manure or sprinkled with powdered quicklime in winter. The clover will generally break through such coverings but the dodder will be unable to do so.

10. In cases where the infestation is very extensive, covering the larger part of the crop, it is perhaps better to plough the whole under before seeds are formed.

11. M. Garrigou called attention in 1904 to the value of calcium sulphide as a means of combating dodder and other parasites. In this connection he says, "One may, with this parasiticide, cause the dodder completely to disappear in two days. A few hours after it has been sprinkled with calcium sulphide the dodder commences to blacken and wither, and, forty-eight hours afterwards, above all if the weather has been somewhat damp, it is completely destroyed." M. Garrigou's experiments show that this substance is very clearly superior to sulphate of iron. It should be applied in the form of a powder when the dew is on the leaf.

12. Above all good cultivation in the widest sense should prevail, and all fields, hedges, and ditches should be kept clean and free from weeds.

It may perhaps be stated generally that clover seeds are imported into Great Britain from nearly all parts of the world, particularly Germany, France, Austria, Russia, Chile, the United States, and Canada. With the exception of the seed from the United States and Canada nearly all these contain more or less dodder, but it is hardly known in the two last-named. English-grown seed also rarely contains dodder. Some particularly fine samples of clover seed have lately been exported to Great Britain from New Zealand. These samples are clean and of the best quality, and appear to be generally free from dodder.

Lucerne is chiefly imported from France and the United States, but in much larger quantities from the former. The plant, too, from French seed is altogether superior to the American. Lucerne from these countries hardly ever contains dodder.

Everyone interested in a garden should obtain a copy of the Alphabet of Gardening, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price, bound in cloth, 1s. 6d. net, post 1s. 9d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

TOO-MUCH-ALIKE SWEET PEAS.

The following varieties have been bracketed as too-much-alike by the Floral Committee of the National Sweet Pea Society. "Not more than one of the bracketed varieties shall be shown on the same competitive stand at any exhibition of the National Sweet Pea Society." The names are placed in alphabetical order.

Blue—Anglian Blue, Flora Norton Spencer, Kathleen McGowan, Shawondasee, Zephyr. Blush—Bobby K., Countess of Northbrook, Florence Morse Spencer, Mrs. Hardcastle Sykes, Princess Victoria; Blush Spencer, Lady Althorp, Mrs. T. G. Baker, Paradise Regained, Sankey Spencer. Chocolate flaked—President, Senator Spencer, W. R. Beaver. Cream-pink — A. B. Bantock, Earl of Plymouth, Holdfast Belle, Mrs. Henry Bell, Mrs. Hugh Dickson, Mrs. Routzahn, Queen (Sutton's), Romani Rauni, W. T. Hutchins; Constance Oliver, Nell Gwynne. Cream-pink (deep)—Anglian Pink, Doris Usher, Miriam Beaver, Mrs. R. Hallam Syeira Lee. Crimson—Dodwell F. Browne, G. C. Waud, King Alfonso, King Edward Spencer, Paradise Crimson, Rosie Gilbert, Sunproof Crimson, Sunproof King Alfonso, The King. Ivory—Paradise Beauty, Paradise Ivory, Queenie, Sea Foam. Lavender—Asta Ohn, Frank Unwin, Masterpiece, Mrs. Charles Foster, Mrs. E. Noakes. Magenta—Menie Christie, Mrs. Charles Mander. Maroon—Anna Lumley, Black Knight Spencer, Douglas Unwin, Dusky Monarch, Maroon Paradise, May Gerhold, Nubian, Othello Spencer, Silas Cole, Tom Bolton. Mauve—Amethyst, Empress, Helio-Paradise, Ida Townsend, Mrs. Walter Wright Spencer, Queen of Norway, Tennant Spencer, The Marquis, Wenvoe Castle. Orange-pink—Anglian Orange, Edrom Beauty, Helen Grosvenor, Helen Lewis, Maggie Stark. Orange-scarlet—Dazzler, Edna Unwin, Gordon Ankentell, Ruby (Aldersey), St. George, Thomas Stevenson. Picotee-edged (cream ground)—Evelyn Hemus, Mrs. C. W. Breadmore. Picotee-edged (white ground) — Dainty Spencer, Distinction, E. J. Deal, Elsie Herbert, Picotee, Winifred Deal. Pink—Countess Spencer, Enchantress, Paradise, Pink Pearl. Red flake—America Spencer, Lizette Lumley, Mrs. Wilcox, Paradise Red Flake, Uncle Sam, Yankee. Rose and carmine—Albert Gilbert, Lady Farren, Marie Corelli, Marjorie Willis; E. J. Castle, George Herbert, John Ingman, Mrs. W. King, Paradise Carmine, Spencer Carmine. Salmon—Earl Spencer, Nancy Perkin, Stirling Stent. Salmon flake—Magnificent, Mrs. W. J. Unwin. Scarlet—Doris Burt, George Stark, Scarlet Monarch. White—Etta Dyke, Freda, Moneymaker, Nora Unwin Paradise White, Purity, Snowflake, White Spencer, White Waved. Yellow and buff (grandiflora)—Harold, James Grieve, Mrs. Collier, Mrs. A. Malcolm, Safrano, Yellow Hammer. Yellow and buff (waved)—Clara Curtis, Giant Cream Waved, Mrs. Miller, Paradise Cream, Primrose Paradise, Primrose Spencer, Primrose Waved, Princess Juliana, Waved Cream (Malcolm's.

Hydrangea paniculata grandiflora.—An attractive flower bed just now in Hyde Park is filled with large specimen plants of this hydrangea, each carrying several massive heads of bloom. The entire surface of the bed is thickly carpeted with the rich pink-flowered pelargonium Constance, and the total effect, though bold, is decidedly pleasing. Such an arrangement is, to my mind at least, preferable to a bed with a great variety of subjects planted therein.—W. T.

Berberis vulgaris is now looking very beautiful, and although a somewhat common shrub, there are few to equal it at this season of the year. It will thrive in almost any position, and does not require any special preparation of the soil, as many shrubs do. At the present time it is holding its own against other hardy shrubs in the grounds and gardens, while used for indoor decorations the sprays last a long while after being cut.—W. Hedley Warren.

HARDY FLOWER CHAT.

Montbretia Comet.

A new montbretia which promises well is that called Comet, one of the noble flowers which owe their creation to Mr. G. Davison. It is, I believe, from Prometheus, and has all the fine qualities of that glorious montbretia. Its colour is deeper, and the dark centre gives this flower an aspect of its own. One expects it to reach as good a position in the estimation of the public as any other of Mr. Davison's noble flowers. The blooms are large and well-formed, and when this notable flower is distributed growers who wish to keep to the front will do well to secure it.

Pentstemon cobæa cæruleus.

Of quite a lovely tint of blue is this fine variety of the old Pentstemon cobæa, and a very large grower of hardy flowers was enchanted with it, especially noting its value for the autumn herbaceous border. He is a past master in the planting of borders for autumnal display, as well as a specialist and raiser of pentstemons, so that he was well qualified to judge. He drew my attention to this plant at the Edinburgh Show, and I do not wonder at his enthusiasm for this glorious pentstemon, which might have been the product of many years of the work of a pentstemon raiser. Its colour is exquisite, and the flowers are individually large and of a good shape, while the spike is long and well-formed. As a flower for the autumn border or for a blue bed this should be in demand.

Antholyza paniculata.

Antholyzas are not very well known, but they are fine border plants for late autumn. Probably the hardiest is Antholyza paniculata, which is after the montbretia style, but is yet distinct in the formation of its flowering portions. The blooms are of scarlet and yellow, and the leaves are broad and beautifully ribbed. I think, also, that this antholyza has a future before it, and that there is a field for the work of a Mr. G. Davison in this South African bulb. There is a variety called major, but this is not such a good thing for the garden, inasmuch as it is later than the other, and is sometimes caught by frost. But, as I have said, there is room here for the seedling raiser, and I am hoping that somebody will take up this fine bulbous plant and improve it for garden effect.

Alstrœmeria psittacina.

There is something almost barbaric in the colouring of this handsome herb lily, but in my estimation it suffers from its dullness of colouring. Yet I find that some people appreciate it for its autumn bloom, and for its curious form and its colouration of chocolate and crimson. The interior of the throat is often prettily spotted, and I observe that some forms are much finer in their markings than others. I do not think that it is as hardy as A. aurantiaca, aurea, or chilensis, nor is it of so much use either for the garden or for cutting as these lovely herb lilies are. But there is room for all in the affections of a lover of the alstrœmerias, and if he lives in a cold district a little covering in winter will put A. psittacina beyond the reach of danger. But alstrœmerias are not too easily established, and some experienced growers put the tubers in pots at first, and then plant them out when they have made a little growth.

Galega Hartlandi.

It has been said that the pretty Galega Hartlandi, which is so finely variegated in its foliage in spring, and follows up its vernal beauty by giving us hosts of its lilac and white flowers, never seeds. This is an utter error, as not only have some people succeeded in raising seedlings, practically the same as the parent from it, but it is seeding this year with me very freely. We owe a debt of gratitude to Mr. W. Baylor Hartland, of Irish daffodil fame, for this pretty goat's rue. Its variegation of silver and green in spring is charming, and then the flowers compensate for the most of that passing away as the season goes on. Like the other goat's rues, it is hardy enough and accommodating enough for anybody.

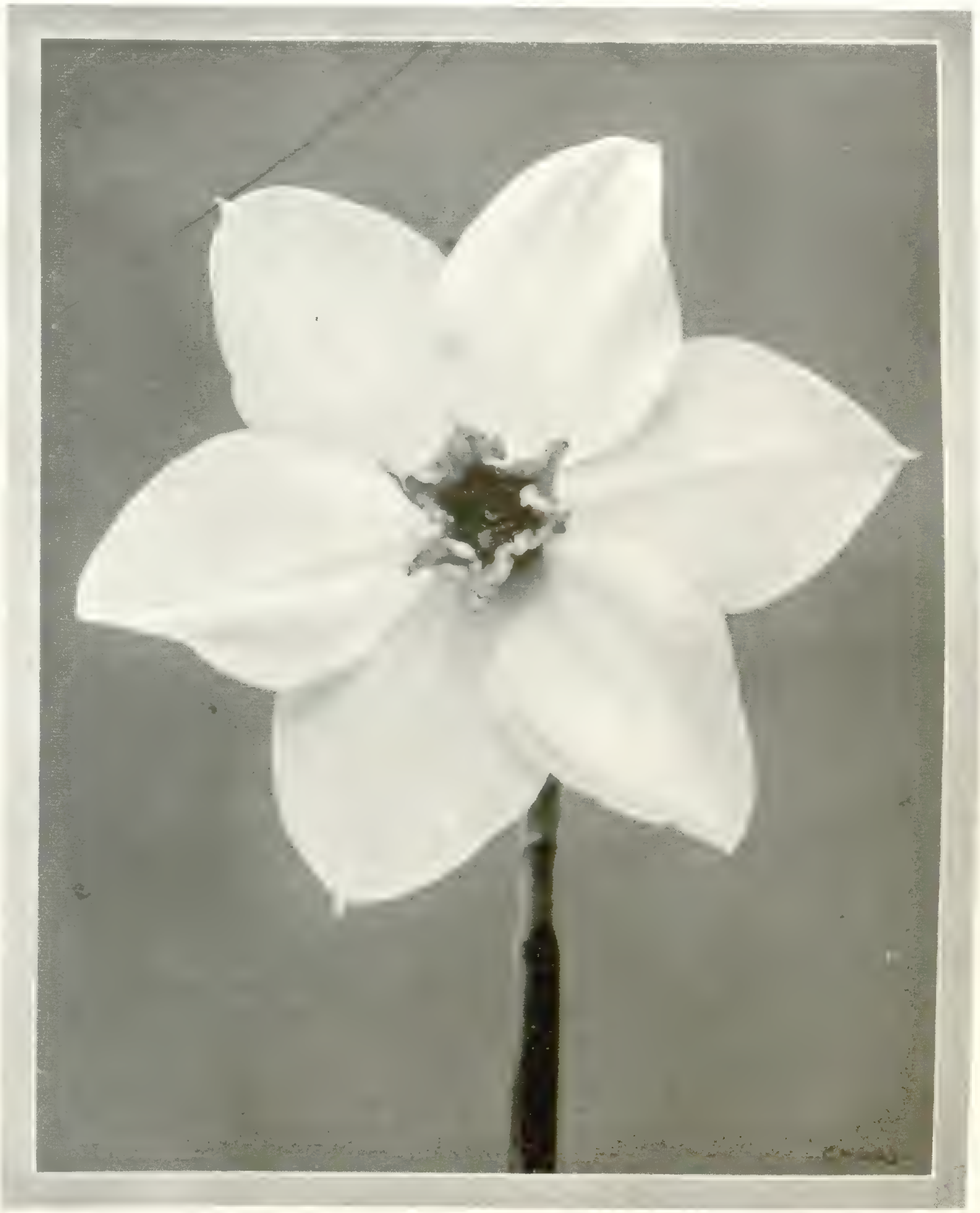
Incarvillea Olgæ.

The popularity of the best of the incarvilleas may lead to purchasers investing in some plants of Olga's Incarvillea, but it may lead to economy and prevent disappointment if I say that this species is not so hardy as the fine I. Delavayi or I. grandiflora, and that it may cause disappointment in gardens where plants with a little tenderness are sure to be lost, if not in the first, in subsequent winters. It is a nice species with its neat leaves and good rose-coloured flowers, but is too tender for all but the milder gardens, and is thus not an incarvillea for the many. But it is cheap, and may thus be tried by many as a variety. I well recollect seeing it when it was introduced, and I had frequent opportunities of watching its behaviour, with the result that I noted it as pretty, but not quite hardy. Further experience confirms this, but a plant which can be bought for sixpence (I see it catalogued at that by a reliable firm) is not unworthy of a trial. But I do not consider it as fine as I. Delavayi or I. grandiflora, and it should not be cultivated to the exclusion of these.

S. ARNOTT.

NARCISSUS WHITE LADY.

One of the most beautiful, as well as one of the finest, of the Leedsi group of narcissi is White Lady. It produces flowers of fine form and large size, and carries these on long stout stems. The broad, pure white perianth segments make up a round and very pleasing flower. The cup, or crown, is very prettily crinkled, and of a very pale shade of canary-yellow. White Lady is a good grower and a free bloomer, and as its price is now just over a shilling per bulb, if a dozen are taken, it cannot be regarded as an expensive variety. White Lady is in the hands of most bulbs dealers, and it has the hallmark of an Award of Merit from the Daffodil Committee of the Royal Horticultural Society.



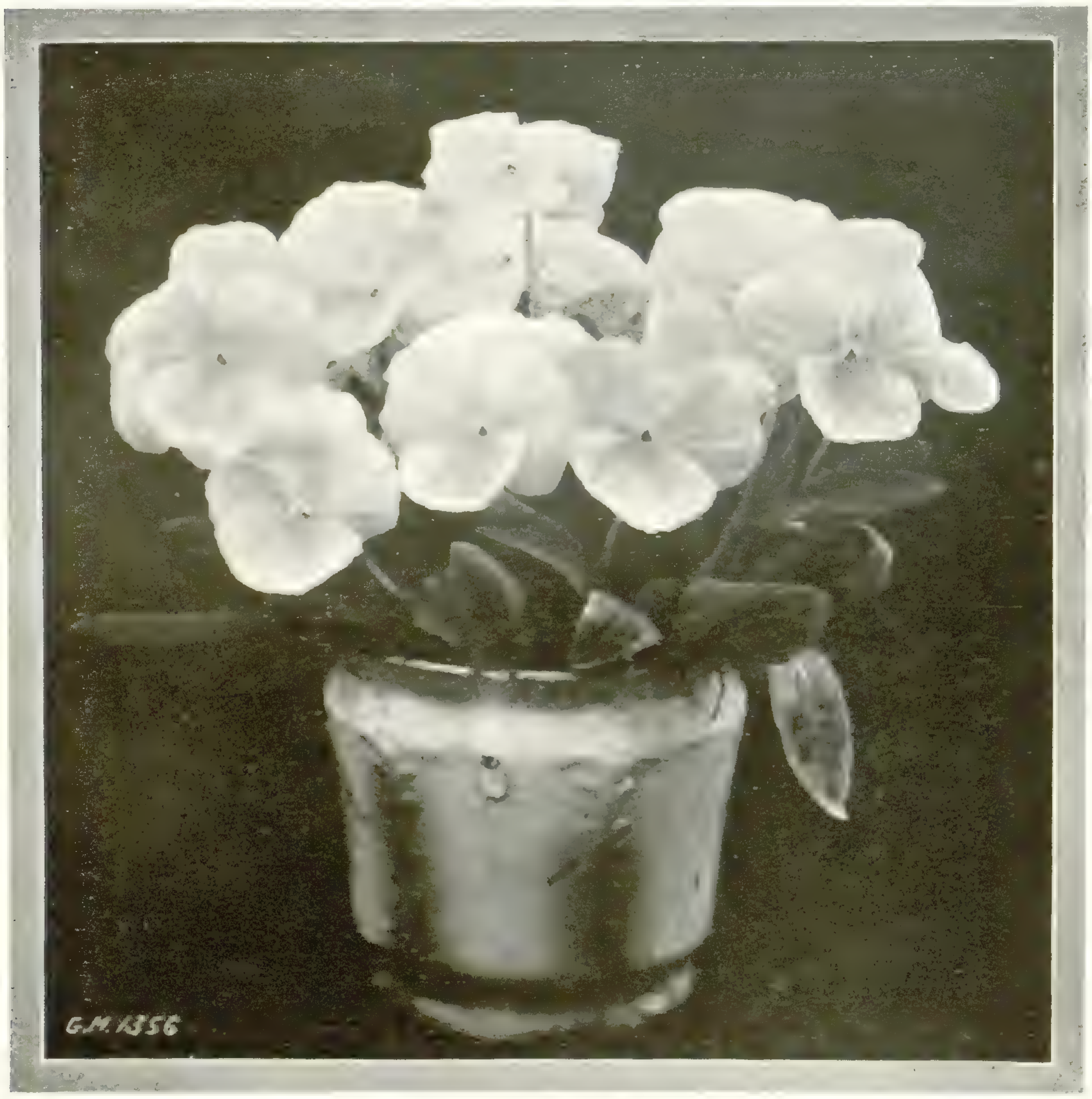
NARCISSUS WHITE LADY.

A beautiful Leedsi variety with pure white perianth and pale yellow cup.

BULBS.—A practical treatise on the cultivation of hardy, hothouse and greenhouse bulbous and tuberous rooted plants is "BULBS AND THEIR CULTIVATION," by T. W. Sanders, price 2s. 6d. net, or by post 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

MYSTERIES OF GRAPE CULTURE.

In the every-day phases of grape cultivation, whether it pertain to the modest garden of the villa, the ducal ranges, or the market-growers' extensive blocks, there often occurs some mystery, varying in subject, not easy to understand, nor simple to investigate. In a recent issue of the Gardeners' Magazine Mr. Coomber gave an instance coming under his charge wherein mystery abounds in regard to the new grape Prince of Wales. This grape is one that has not many years' culture behind it, and therefore the habit and constitution is not yet understood. We have recently included it in our stock, though not with any great hope of gain over and above that obtained from well-tried varieties. We have not observed the leaf peculiarities in our own case, but in another garden recently we came across a newly-planted specimen showing apparently the same failing Mr. Coomber complains of. No reason, however, could be adduced by those in charge; other varieties planted at the same time assumed normal vigour and leaf characters.



VIOLA MOSELEY PERFECTION.
Deep golden-yellow; raised and exhibited by Messrs. Bastock and Son, Moseley, Birmingham.

Reviewing a heavy crop of grapes in a market nursery recently, a mystery presented itself in regard to the growth of the berries, as well as the process of colouring. The ground had a natural rise, though but a slight one, from one end of the house to the other, and as would be naturally expected, there were the usual graduations common in such cases in the progress of the crop. Strangely enough, though the work of thinning, beginning at the higher end, was continued by a natural passage forward, and was carried out promptly, yet at the time of our inspection all appeared to be in the same stage of colouring through the whole range. Then, too, while the forward bunches assumed their natural size at the first swelling, the later bunches, instead of doing the same, showed signs of colour whilst the berries were yet undeveloped, and it was explained this is no unusual course, but a yearly recurring experience. Mystery is extended further in that at the finish all are equal in the matter of size and perfection of colour. Truly the remarks of the proprietor struck us as being aptly put, when he says: "The mysteries of grape-growing in some of its phases are unfathomable, both to the simple as well as the cultured mind."

Instances are often recorded where vine roots are found ramifying among potato and other vegetable plots, when exhaustive, and even expensive, means, have been adopted for their accommodation within the house itself. Stout, strongly-built walls have been passed by these strenuously persistent roots in order to escape from a well-provisioned larder to wander into areas altogether opposed to the gardener's ideal, the result of which, in due time, is plainly discerned in shanked berries and a considerably lessened output in bulk and value. Gardeners, again, who have only the old-time turf-made borders as the base of their experience, almost stand aghast when the market-growers' methods are recommended as a better alternative scheme; yet how often does experience obtained from these sources verify the truth of modern adaptation.

From such simple rules as apply to the market growers' vine borders come wonderful results; it may be in individual quality of bunch or berry, or extent of crop, as the case may be. Yet in the gardeners' hands, even when he has the advantage of park or meadow land for border construction, he sometimes signally fails when comparisons are made. Though much might be done by aiding Nature with chemical compounds, there is, according to our own personal experience, no equality of result following the natural versus chemically-constructed vine borders. We have recollections of borders made from soils obtained from no less than four different areas, the hope arising in the mind of the operator that, among the many a perfect combination would result. The end of all this effort was failure. Some would suggest an analysis of the soil, and, perhaps, rightly so, and though by such means sometimes faults are located, the remedy applied is not equal to conditions that Nature herself provides.

Then, again, does not mystery arise when the differing characters of the several sorts are seen when they are grown in a comprehensive collection? In the setting of the berries, their development, and particularly in colouring, there are no uniformly applied laws governing each or any, consequently the highest possible state of perfection, though an outstanding hope of everyone, is acquired by only a few. While the old-favourite Black Hamburgh is such an adaptable vine, and attains to so high a state of perfectness in the hands of some, others are denied that pleasure, not from want of will, but often from conflicting circumstances. Madresfield Court, Duke of Buccleuch, Alnwick Seedling, Lady Downes, Canon Hall Muscat, and Mrs. Pince, to name only a few, have each of them some disturbing element that upsets the calculations of those who set their thoughts on possible trophies.

Is there no mystery in insect and fungoid attacks that are made on the vine? How many have tried year by year to conquer that most loathsome of pests "mealy bug," and yet how few really succeed? Both red-spider and thrips, common though they are, have a mystery in the mind as to their origin, and still less the purpose of their undesirable mission. Mildew parasites are equally mystifying and undesirable, though science comes to the rescue when early and intelligent means are sought to combat them. One might continue to recount the many incidents that follow the trail of the grape enthusiast, aiming apparently, and most assiduously, at defeat, but aiding voluntarily success, perhaps, never.

W. Strugnell.

Rood Ashton Gardens.

VIOLA MOSELEY PERFECTION

There is no need to emphasise the value of violas in general, or yellow violas in particular, because the merits of these sweet, free flowering plants are now recognised—not to the full perhaps, while golden colouring in the garden is as necessary as the sunshine. A viola that came under our notice at Handsworth Park, on the occasion of the Summer Show, on July 22 last, was named Moseley Perfection. This was shown by Messrs. Bastock and Sons, Moseley, Birmingham, and attracted a great deal of notice because of its splendid yellow colouring, fine form, and good habit. It stood out conspicuously among numbers of excellent violas, and was so good that we obtained the photograph from which the present illustration is reproduced. Messrs. Bastock and Son are raisers as well as growers of violas, and they have scored a great success with Moseley Perfection, for the keen florists of the Birmingham district have signified their approval of the variety.

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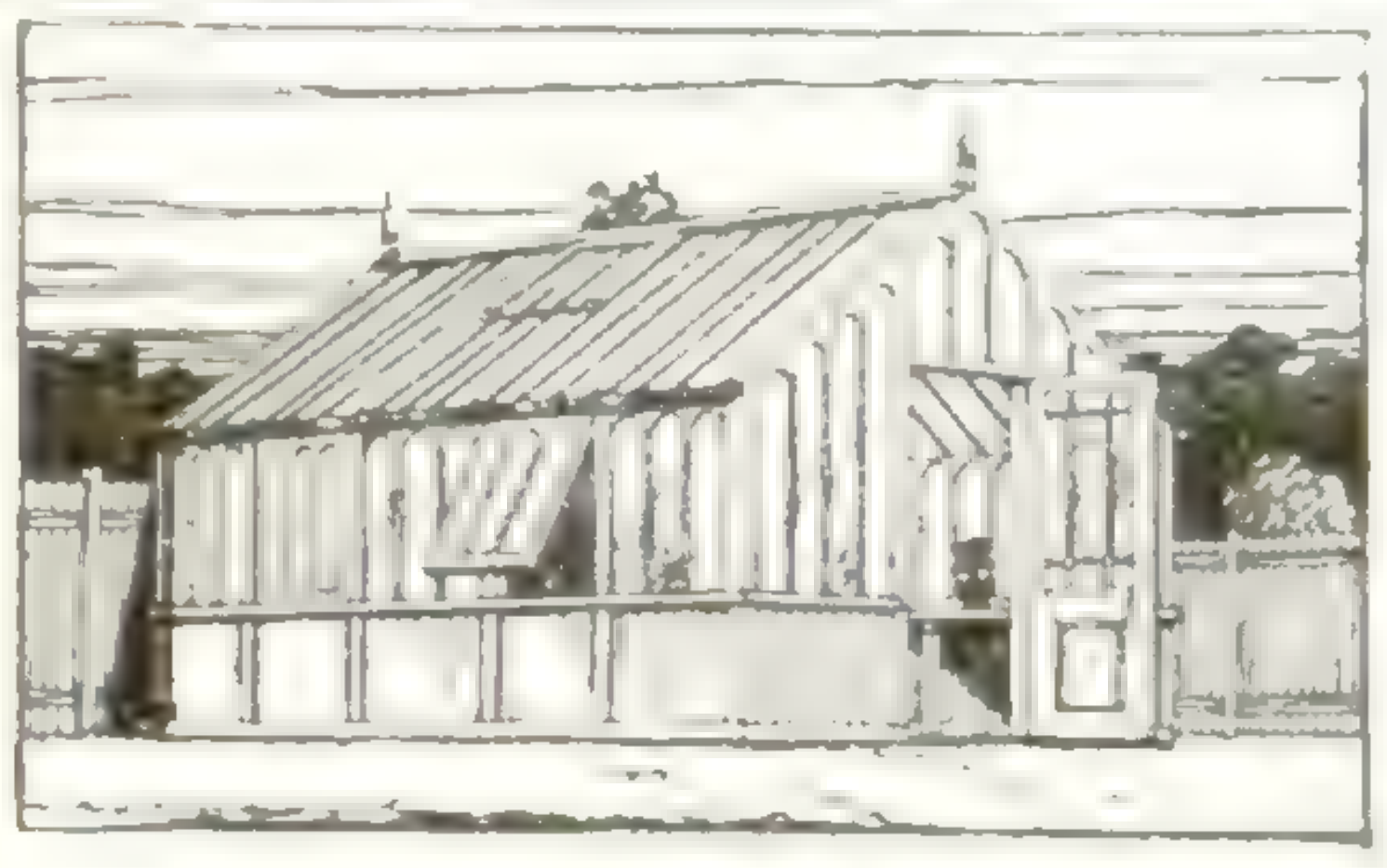

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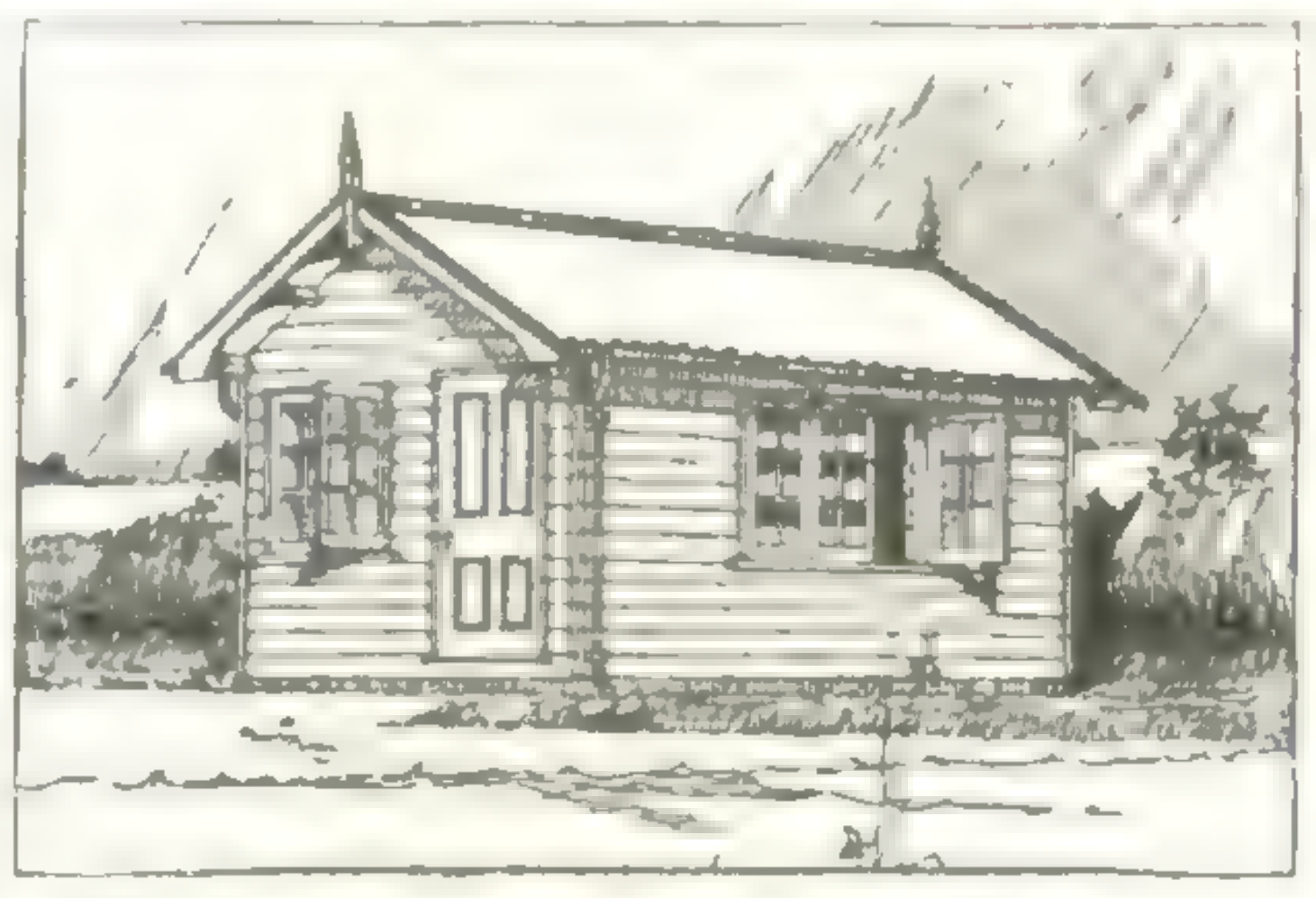

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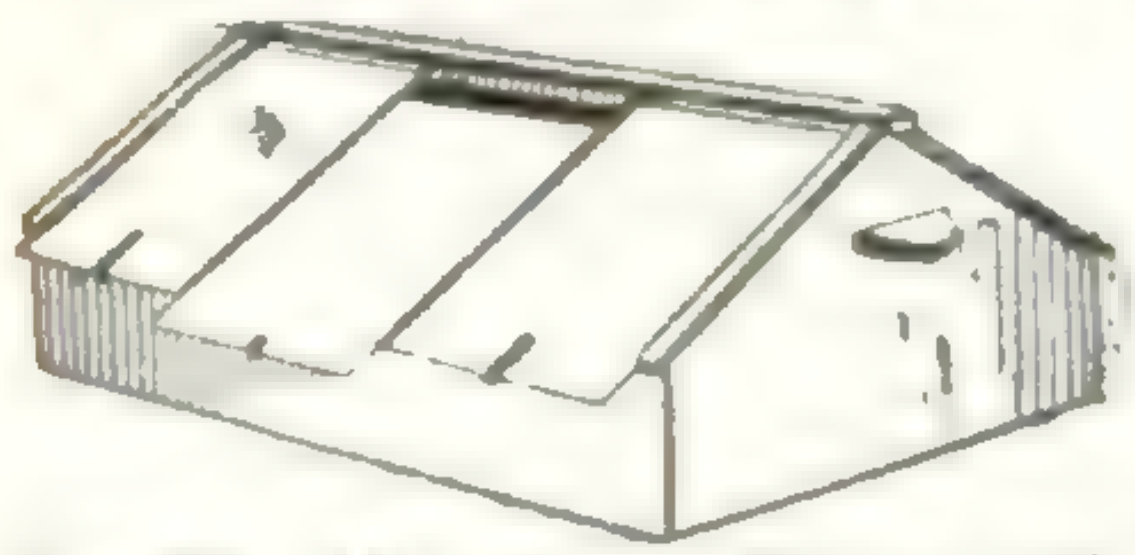

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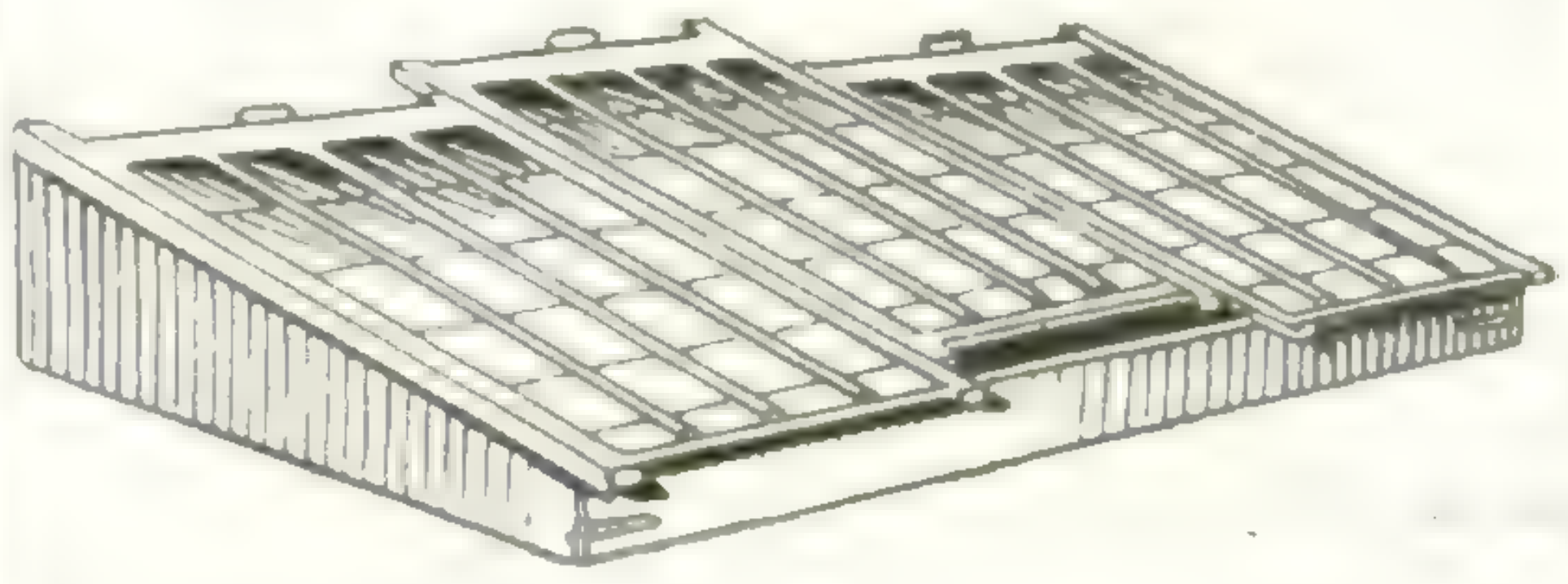

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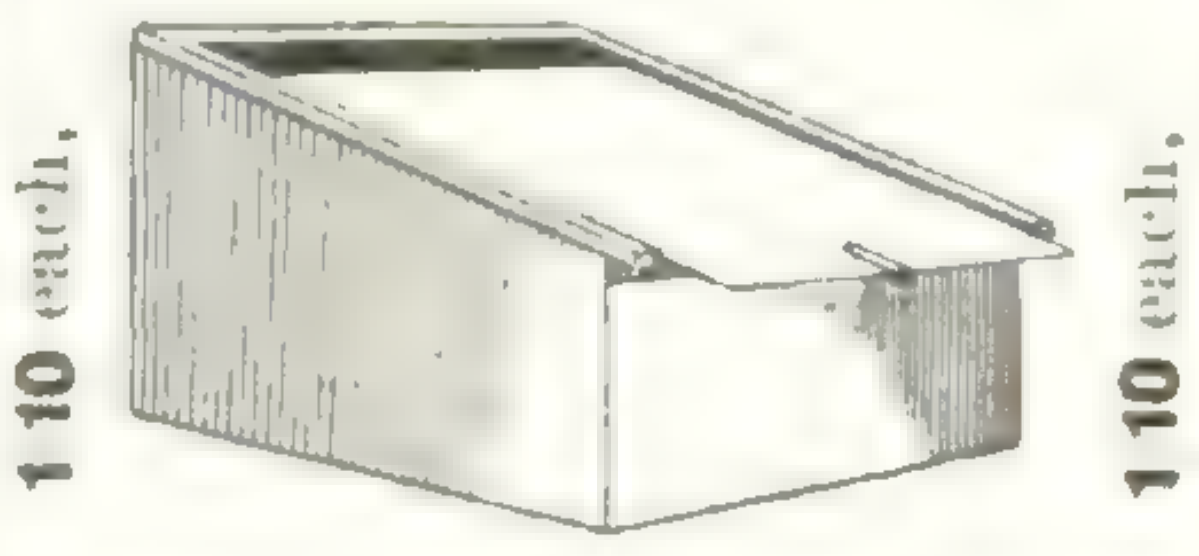
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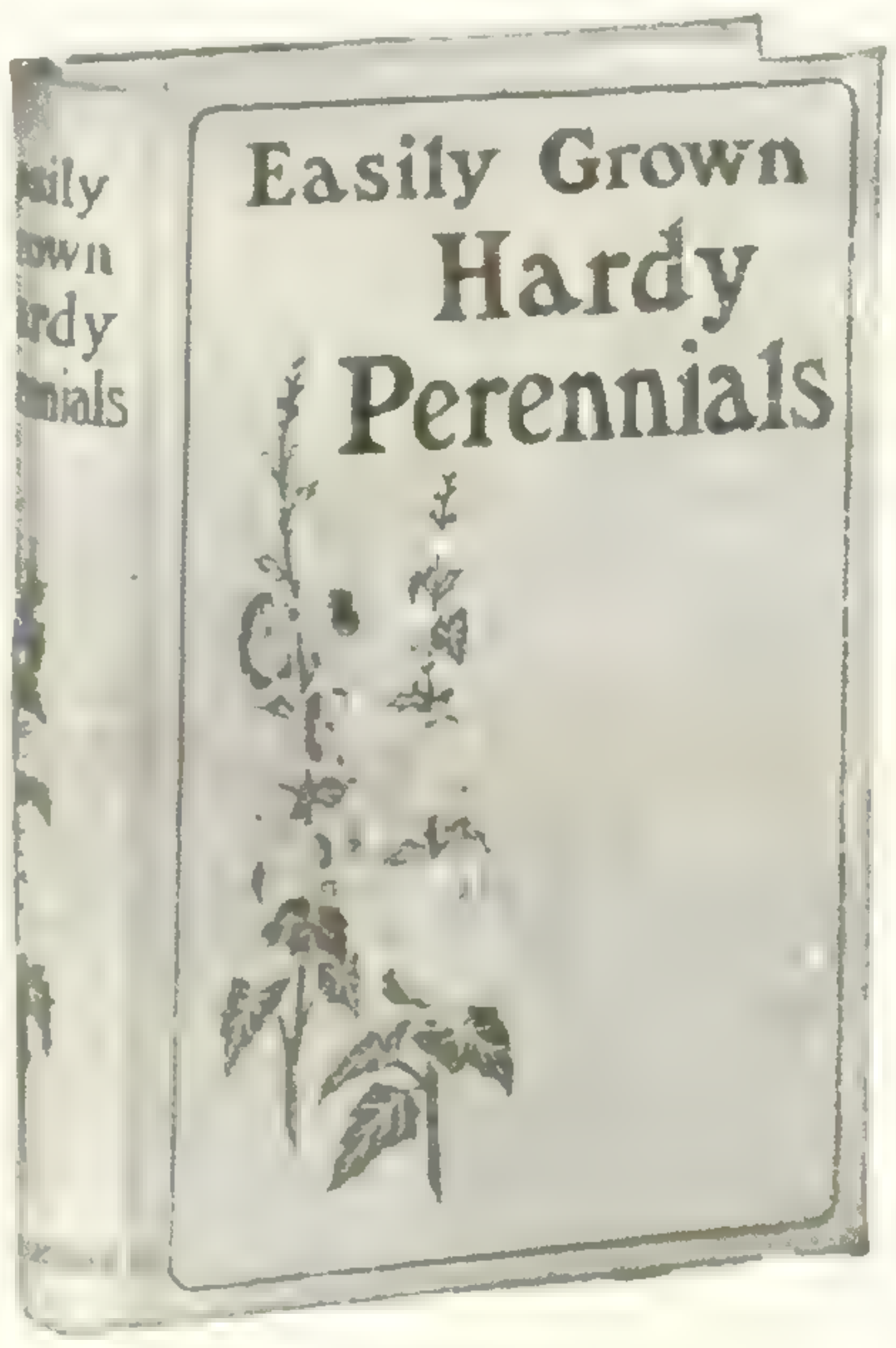

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SOILS AND MANURES IN RELATION TO PLANT GROWTH.

(Continued from page 767.)

Nitrogen.

Among the elements of the nutrition of plants the first place must be given to nitrogen; not only does it cost more per pound to the gardener than do the other necessary ingredients, but as a fertiliser applied to ordinary soils it seems to have a more direct and immediate effect upon plant growth. There are several forms of nitrogen—the question therefore arises: What form should be used? What amount, and when and how should it be applied?

Nitrogen may be obtained in the form of nitrate of soda, nitrate of lime, sulphate of ammonia, and Peruvian guano. Other materials that supply nitrogen are dried blood, bonemeal, fish and meat refuse, the horns and hoofs of animals, rape-cake, and shoddy.

Nitrate of soda and nitrate of lime are the most immediately available forms of nitrogen; consequently, upon the advent of rain, after long periods of drought, or in instances where plants are losing their dark green colour for the want of nitrogen, as in soils in which nitrification is inactive, of all compounds of nitrogen nitrate of soda or nitrate of lime will produce the most rapid results

Sulphate of ammonia and the other nitrogenous manures are less rapidly assimilated than are the nitrates, but should always be applied during the most active period of plant growth, but the application must not be so late as to trespass upon the ripening period. Excessive applications of nitrogen and dressings made too late in the season cause rank leaf growth, late ripening, with impure and weak sap.

Potash.

Potash salts when applied to the soil perform an essential part of the mechanism of the process of assimilation of plant food, and act as a carrier of nitric acid from the roots to the various organs of plant growth. When potash is deficient in a soil the manufacture of carbohydrates, like starch, sugar, and cellulose is greatly reduced, and in practice it is the crops rich in carbohydrates which are most dependent upon a full supply of potash. These crops include beets, carrots, peas, beans, potatoes, parsnips, asparagus, onions, tomatoes, and all kinds of fruits.

There are three kinds of potash salts on the market, sulphate of potash, muriate of potash, and kainit. Sulphate of potash is the purest kind, and can be mixed in safety with other fertilisers. Muriate of potash and kainit should not be used on soils deficient in lime. When kainit is employed three times the quantity of the other two must be used.

Phosphoric Acid.

Just as nitrogen delays plant maturity by promoting an extended growth, so phosphoric acid has an opposite effect. Phosphates are in some way very closely bound up with the formation of flowers, fruits, and seeds, being always found in greater proportions in the reproductive organs of the plant than elsewhere. The action of phosphoric acid on plant growth is not, however, confined to its ripening effect, for it stimulates the early development of young seedling plants to a remarkable extent, especially in the lateral and fibrous feeding roots.

Taken as a whole, phosphoric acid improves the quality of vegetables, flowers, and fruit, and greatly assists in the formation of brilliant colours. As a manure it can with advantage be used on most descriptions of soil, and is not liable to be washed away by heavy rains.

The most common kinds of phosphatic manures are superphosphate, basic slag, ground bones, guanos, and fish meal. They can be applied early in spring at the rate of from four to six ounces per square yard. If applied a little in excess of the usual requirements phosphoric acid has not the injurious effect upon plant growth as many of the other concentrated manures have.

CACTUS DAHLIA SWEETBRIAR.

A long-stemmed garden cactus variety, raised by Messrs. J. Stredwick and Sons. The colour lavender-rose.

Growth of Fruit Crops.

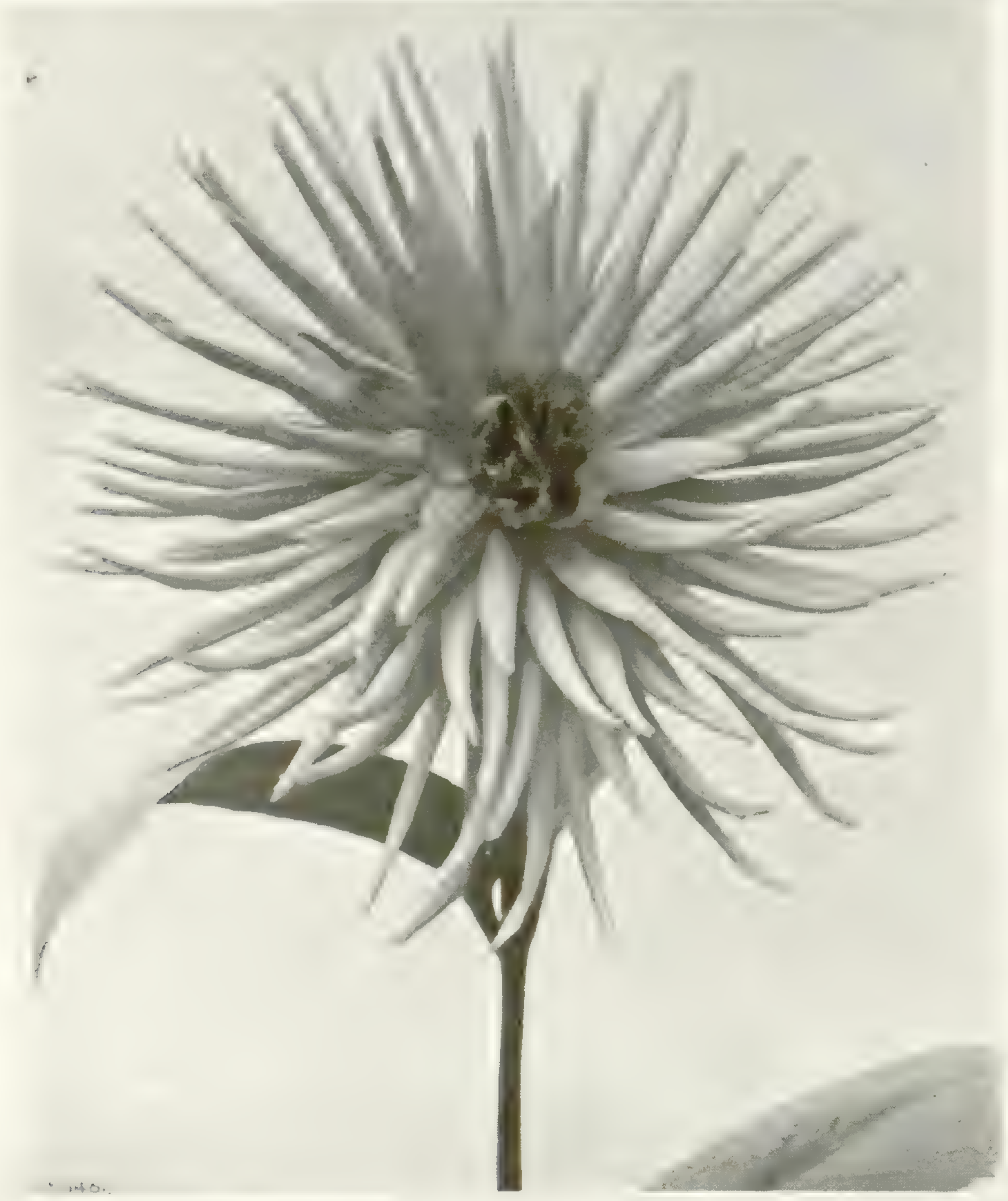
It is obvious that suggestions as to the manuring of vegetables and flowers must be somewhat different from that of fruits, because the former differ from the latter, not only in their habits of growth, but in the character and chemical composition of the crop produced. Vegetables and flowers, with few exceptions, require but one year for the entire processes of vegetation and maturation. Fruit crops, as a rule, require a preparatory period of growth of tree or bush before any crop is produced, which is longer or shorter according to the kind of fruit. Also, after the fruit-bearing period begins, the vegetative processes do not cease, but are coincident with the growth and ripening of the fruit. That is, in fruit growing it is necessary that there shall be a constant transfer of the nutritive juices from the tree to the fruit throughout the entire growing season, while the growth for each succeeding year of both tree and fruit is dependent upon the nutrition stored up in buds and branches, as well as upon that which may be derived directly from the soil.

Harpenden. J. J. Willis.

Tibouchina semi-decandra.—This is the name that botanists have now given to an old favourite, namely, a plant long grown in gardens as Pleroma macrantha, or Lasiandra macrantha. For furnishing the end of a greenhouse, or in some similar position, it is an extremely desirable subject, the large saucer-shaped blossoms of the richest purple being freely borne, and spread over a considerable period in the late summer and early autumn months. There is a less vigorous form, known as Lasiandra macrantha floribunda, which used to be a favourite for growing into specimen plants.—W. T.

LONG-STEMMED DAHLIAS.

From a comparatively early period of my association with the affairs of the garden I have had a strong affection for the various classes of flowers that have, as the result of the persistent endeavour on the part of the florists, old and new, been brought to the high degree of perfection for which they are now so remarkable. No one who is not busily engaged in the raising of new varieties could possibly more highly appreciate the distinctive form and exquisite colouring characteristic of the more highly-developed florists' flowers than myself, and possibly I might have devoted some time to the improvement of some of them had my avocation permitted. Whether I should have achieved success as a raiser is a matter on which it is not necessary to express an opinion. But it may be said without question that my views have not for a long time been in full accord with those of many of the raisers. The teachings of the florists, as handed down to us from past times, has been to regard the size, form, and colouring of the individual blooms as practically the only essentials of importance in estimating the merits of new varieties. Many proofs of this might be given, but it must suffice to say that it is a doctrine to which I have not been able to suscribe. The desirability of flowers of high quality in the respective classes has not, of course, occasioned any difficulty; but I have consistently held the view throughout that there is another factor of the highest importance, and that is a plant strong enough in growth to produce the flowers in profusion and with a habit that will ensure their distinctive characteristics being readily seen. I urged the necessity of the character of the plant being taken into consideration upon many of my florist friends of past days, and the memory of their kindly smile as they endeavoured to formulate a reply that would not completely annihilate me will ever remain fresh in my memory.



CACTUS DAHLIA HON. MRS. GREVILLE.
A long-stemmed variety, raised by Messrs. J. Cheal and Sons.
The colour rich rose-pink.

I have not only held the view that the plants should possess the two characteristics mentioned, but have persistently advocated the flowers being shown on stems of sufficient length to carry them in a graceful manner. When I began to advocate the exhibiting of asters, carnations, zinnias, and similar flowers with a portion of stem it was said by not a few that the advocacy was that of a faddist, and when, some years later, a further step was made, and the exhibiting of the large Japanese and the formal incurved chrysanthemums on long stems suggested, such method of staging was stated to be an absurdity by those whose opinions differed from mine. Has it proved so? The exhibitions have afforded an answer in the negative. After much persuasion the National Chrysanthemum Society, in the management of which I was then taking active part, provided classes for flowers in vases; other societies followed the example, exhibitors soon fell into line, and the exhibitions have been enormously increased in attractiveness and utility.

The dahlia is one of the first of the florists' flowers to which I gave my attention, and it has been a matter of much regret for some years past that it should not be more freely utilised in beautifying the garden at the end of the summer and early in the autumn. The introduction of the elegantly formed cactus varieties that had been derived from Dahlia Juarezi so diverted attention from the more formal varieties that had rendered good service for a long period, that the public would not buy and plant them. Instead, they bought and planted the cactus varieties. It is not surprising they should have done so, for the individual blooms possess lightness and elegance in a marked degree, and are exceedingly attractive in colour. The earliest of the cactus varieties possessed much beauty, and of late years the improvement in the individual blooms has proceeded at a very rapid rate. If one had only to consider the exhibition side of dahlia culture nothing better could well be desired than the many beautiful varieties now in commerce. Unfortunately, in the work of improving the cactus dahlia the chief attention was, as in the case of other florists' flowers, given to the development of the individual blooms. The habit, which was not good, has not been improved to the extent it should have been, and many of those who have planted cactus varieties for the decoration of their gardens have been woefully disappointed with the results. The growth has been robust, but the blooms that charmed them on the exhibition stage have been hidden away among the foliage. This naturally brought about a decrease in the cultivation of this section of dahlias for garden decoration, and a material decline in the interest taken by the public in the dahlia.

Two years ago the National Dahlia Society were good enough to invite me to occupy a position in the executive that would necessitate my taking a more prominent part in the work of the society than I had previously done. In accepting the position, which involved increased responsibility, it appeared that some change in policy should be made, and that increased attention should be given to dahlias specially adapted for garden decoration. As the views of Mr. E. Mawley, V.M.H., the president, and myself upon this point were practically identical, there was no difficulty in bringing about the desired change. One point that impressed me most was the necessity of so improving the cactus section that cultivators should have at their command a race of varieties of moderate growth and bearing the blooms well above the foliage.

In other words, that there should be, in addition to the varieties bearing flowers of exhibition quality, a race of cactus dahlias that would produce a good display of colour in the garden. My views were regarded as somewhat visionary, but I knew that those who had accomplished so much in the development of the individual blooms could improve the habit if their energies were diverted in that direction. I knew, of course, that before progress could be made in this direction it was necessary to formulate rules for estimating the merits of garden varieties, for not until committees charged wih granting certificates recognised the value of long stiff stems could it be expected that raisers would turn their attention to the development of varieties specially adapted for the garden. This year, as duly recorded in these pages, a considerable number of garden varieties has been submitted to the committees of the Royal Horticultural Society and the National Dahlia Society, and a large proportion of them have received distinction from one or both of these bodies. Three of these are herewith illustrated, and with reference to them it may be said that they have erect stems ranging from fifteen to eighteen inches in length, and so stiff as not to require support of any kind when exhibited; other varieties certificated have stems of similar lengths. The varieties are Hon. Mrs. Greville, raised by Messrs. J. Cheal and Sons; Minerva, raised by Mr. Charles Turner; and Sweetbriar, raised by Messrs.

J. Stredwick and Son. These, it should be added, are illustrated as good types of the new race of garden cactus varieties, and not as being superior to others that have received distinction.

G. G.

SHOWY-FRUITED EUONYMUSES.

Among British shrubs or small trees the common Spindle-tree, Euonymus europæus, is conspicuous in autumn by reason of its crimson fruits, which when mature, burst open and disclose the pretty orange-covered seeds within. It is to be met with in hedges and copses in some part of the country, while in many cases it has been introduced to the garden with effective results. For park planting and grouping in a more or less informal manner it has much to commend it, as it may be left alone to develop at will, without fear of encroaching on, and interfering with the development of some choice shrub, and under such conditions it is seen at its best, for mature specimens rarely fail to produce an abundant crop of fruit.

Some considerable difference is noticeable in the colour of the fruits of different forms of this species, for, in addition to several shades of red, purple and white fruits are met with. It is not, however, the common spindle-tree only which is useful amongst species of euonymus for the sake of ornamental fruit, for there are other kinds which are equally showy, while some bear fruits as large again as those of E. europæus. One of the most showy of the larger fruited kinds is E. latifolius, a native of Europe and Asia; another quite as decorative being the North American, E. americanus, commonly called the strawberry bush. Both these have the additional advantage of the leaves colouring brilliantly previous to falling.

Then we have the Chinese and Japanese E. oxyphyllus, which bears red fruits with less prominent ridges than those of the kinds previously mentioned; while yet another showy fruited kind is met with in E. planipes. Though not a very free fruiting species, E. alatus is well worth growing for the sake of the brilliant orange and scarlet shades assumed by its foliage in autumn. It is a Japanese species and may be recognised from other kinds by reason of its curiously winged branches. The deciduous species of euonymus are accommodating shrubs, for they can be grown almost anywhere in an open position, and are not fastidious about soil, for any ordinary garden soil suits them.

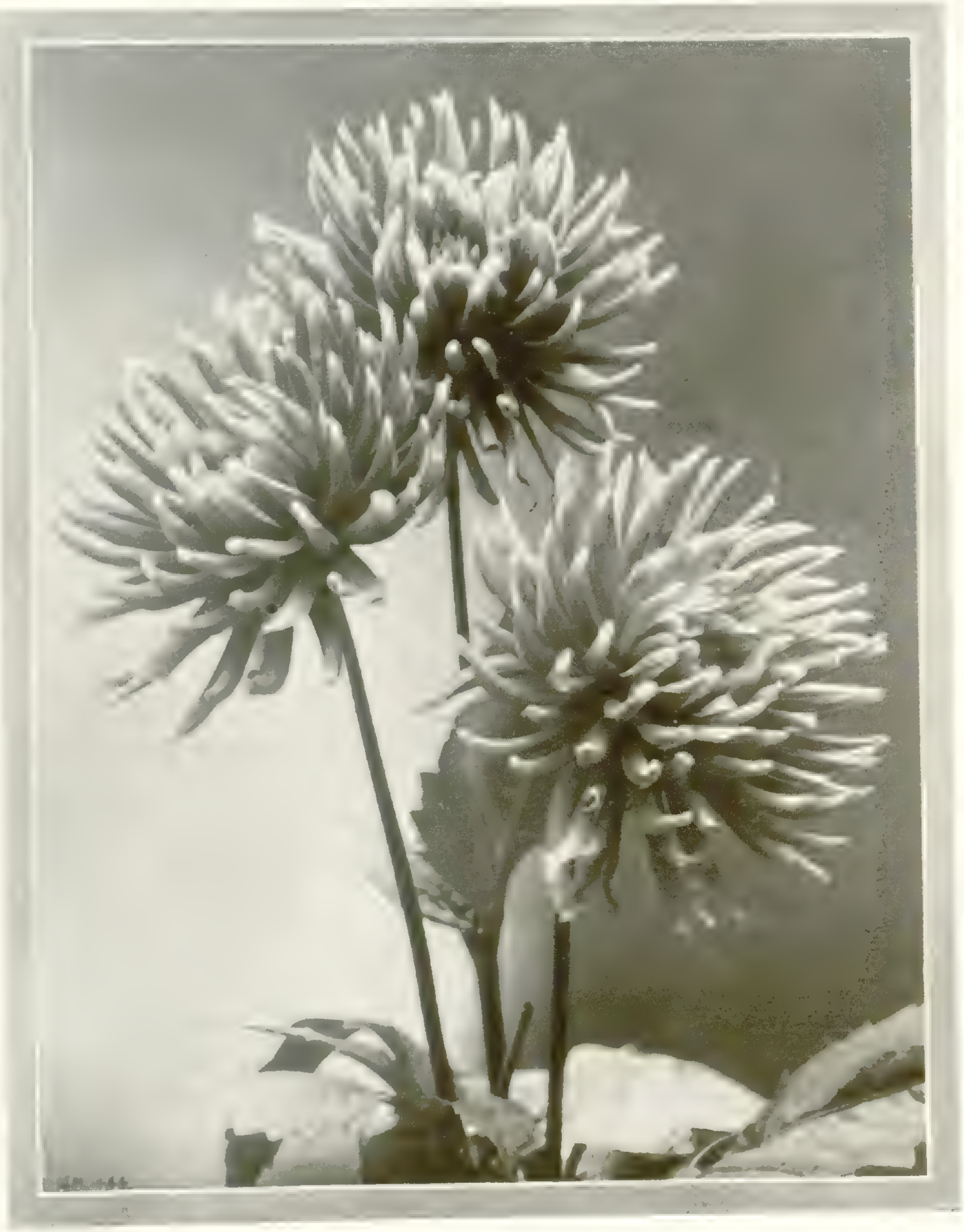
D.

Ilex Fargesi.—Among the many interesting shrubs which have been received from China within the last few years are several new species of Ilex which differ to a remarkable degree from those kinds which were previously in cultivation. Of this number I. Fargesi is very distinct. Up to the present time small plants only have been seen in British gardens, but in China it is said to grow to a height of 15 feet or thereabouts. Its chief peculiarity lies in its evergreen leaves, which are from three to four inches in length and a quarter to one-third of an inch wide. The margins are but slightly serrated without any approach to spininess. Judged from dried specimens the fruits appear to be borne in axillary clusters, and are red in colour. As far as can be ascertained at the present time, similar culture to that given to hollies in general will meet its requirements; while, though it is of less decorative value than many of the other kinds, its distinct appearance warrants it a place in gardens where collections of rare and curious plants are encouraged.—D.

WORTHLESS FRUIT TREES.

One can scarcely believe, without seeing, that there are as many worthless fruit trees growing in our orchards as is actually the case. During a journey from the South to the North of England recently many hundreds of old fruit trees could be seen from the railway carriage, and as I have had the privilege of personally inspecting many orchards—some situated close together, others far apart—I was surprised that the owners should still remain so indifferent to their own welfare as regards fruit-tree culture.

The trees in some orchards were giants—as regards size of stem and height—but they only possessed small tops, which grew so close together that the branches of one were bruising those of others. Furthermore, even in good seasons the fruits are not of high quality, and rarely realise even moderate prices. The varieties are obsolete. As one gentleman remarked when passing a very neglected orchard, "Ah! another example of English fruit-growing."



CACTUS DAHLIA MINERVA.

A long-stemmed cactus variety raised by Mr. Charles Turner. The colour yellow in the centre passing to purple.

There has, from time to time, been simple and valuable instructions in the Gardeners' Magazine, available for all, respecting the good cultivation of fruit trees generally, and I have had ample evidence that numbers of persons are making good use of such hints. I found that new orchards were being planted in every direction; the trees being mainly standards and bushes. Very clean and healthy, too, the trees appeared to be; and a very pleasing feature near many farm-houses was a new orchard, principally composed of apples, pears, plums, and cherries. Small enclosures near farmsteads are used for young stock to graze in, and now these small paddocks are being turned into orchards, standard trees being planted so as to permit of young stock, such as calves, to graze there as usual. Even the farm buildings are being used to train fruit trees on. I know of pear trees so growing, and they are loaded with fruits, the trees being grand ones, quite 24ft. high.

The new plantations, I find, are being manured, and, in the majority of cases, carefully pruned, staked, and cleansed; all this promises well for the future. The good work should go on; old orchards grubbed up, and new ones established. It makes one almost envious to see the great possibilities—the splendid land in nicely-sheltered quarters littered with heaps of brushwood that might be made in a few short years fruitful land, at present neglected.

Geo. Garner.

Vallota purpurea.—Of bulbous plants that flower during the autumn this is one of the most accommodating, for either in the greenhouse or in the window of a dwelling-house it will, as a rule, bloom in a perfectly satisfactory manner. At the same time the flowers are not all of equal merit, and the old and best type with fine round flowers and a rather dwarf habit of growth is now much scarcer than it was. Within the last few years bulbs have been largely imported from South Africa (its native home), and these, as a rule, do not represent so good a form as those which used to be grown here.—W. T.

NOTES FROM ORCHARD LAND.

In this delightful Indian summer weather that is prevailing at the beginning of October there is a ruddy glow on the leaves of the trees in West Country orchards, and during the last few weeks the sunshine has done wonderful things in painting the colour on the cheeks of the apples. Very hard things have been said about the apple orchards in the West, and fruit experts never tire of holding them up as object-lessons to show how fruit should not be grown; but, in fairness to the West Country, let me say that there are good orchards as well as bad ones, though I will not say that the latter do not predominate; and while there are growers who do not treat their fruit seriously, there are others who do, and in their confidential moments they will not hesitate to admit that, taking one season with another, no part of the farm is more profitable than the orchard.

My remarks are confined to orchards which stretch away along the fertile vale of the Severn, and though crops, as a whole, are by no means heavy, there is more fruit than was at one time anticipated, and scenes of activity may be observed in the orchards on every side. At one tree you can see two or three tapering ladders, and men amongst the branches picking the fruit into the round pot baskets which dangle from the ladder staves; but under the next tree there is a waggon drawn up, and it is the duty of someone to go round every day, pick up the fallen apples, and put them into the vehicle. The difference in the processes is simply this: The apples that are being hand-picked into the baskets are what are known as "potting" fruit, i.e., they have a value in the market, while the others are cider apples, which are collected into big heaps, and later on, when the picking season is over, a travelling cider mill will come round, there will be a general grind up, and the juice of the apples will be converted into the popular West Country beverage.

In reference to cider making, one day last week I chanced to walk into a young orchard containing a hundred trees of cider apples in ten varieties. Two things struck me in connection with these trees, which have some educational interest. First, they were planted in December, 1908, and left till March, 1910, before they were pruned. I have never seen young trees make finer growth, and the question is, would the growth have been as good if they had been pruned immediately after planting? I think not. Secondly, when the planting was done the turf was buried in the holes, and the surface soil has since been kept hoed for a distance of two feet from the stems—with the exception of two trees of each of the ten varieties, and in these cases the turf was put back over the roots. The effect is that the heads of the trees where the turf was put back over the roots are not more than half as big as the others of the same varieties which have been kept cultivated. No further demonstration is wanted of the advantage of burying the turf when planting trees in grass orchards.

There is something so novel in these days about planting an orchard with cider apples alone that a word of explanation appears necessary. The orchard in question is only one of a number that have been planted in the West Country since 1908, and their establishment is carrying out one of the objects of the National Fruit and Cider Institute at Long Ashton, near Bristol, which, when it was originated, set out to collect all the best-known cider apples from different localities, propagate them, and distribute the trees in the contributing counties. Thus we have it that cider apples hitherto unknown outside Devon and Somerset are growing in Hereford and Gloucester, and varieties belonging to the latter countries have been transferred to other parts. Further, on account of the propagating and distributing work done by the Institute, under the able directorship of Mr. B. T. P. Barker, M.A., more cider apples have been planted in the Western counties during the past few years than has been known for a very much longer period before, and, it is assumed that the industry of cider making will be benefitted.

In passing through a typical West Country orchard when fruit picking is going on one cannot fail to note one of the mistakes made by planters, both in recent years and a long time ago. In going from tree to tree you will notice that they are most of them different varieties, some being of local origin, and others known in commerce, but different. What is the result? There is a basket of this, a basket of that and the other, but rarely a bulk of any one sort, and they have either to be put up in small lots, which salesmen do not care to handle, or else be jumbled together and sold at the reduced price which is the result of the mixing. It is usual for landlords to supply the trees which the farmers plant in their orchards, and it is characteristic of the latter, acting on the principle that if one variety does not bear another may, to safeguard himself by having a number, forgetful of the fact that the man who would make money out of his apples in these days must be able to consign to the market a quantity of fruit of just a few popular varieties.

Here and there, however, one sees an exception to this general order of mixing up, and I will mention a case in point. When Mr. Merryweather, of Southwell, first introduced his famous Bramley's Seedling, he described it as "the finest apple on earth," which might have been a smart bit of advertising, but it is literally true, for if there is a finer apple than this for orchard use I have not yet made its acquaintance. Well, the individual referred to above discovered Bramley's Seedling years ago, and, realising its possibilities, he not only planted it largely, but cut off the head of every doubtful apple tree he possessed, and grafted them with Bramley. They have done splendidly, the young trees are well established, and the old specimens have been made young again. The man picks Bramley's Seedling by the ton in an average season, and while he has never any difficulty in selling them, this year he is in a position to choose his buyers, and Bramley's will put a nice bit of money into his pocket.

Along with cider, perry is a favoured beverage in the West, and the pears from which it is made are all of local origin, and mostly named after the place where they were raised. Blakeney Red is a well-known perry pear in the Vale of the Severn, where it grows into an immense tree, is a reliable cropper, and the fruits, which are above the average size of perry pears, have rather a taking appearance. Last year pears generally were a big crop, Blakeney amongst the rest, and they were mostly allowed to fall to the ground before being ground into perry. This year, however, there is another tale to tell, and Blakeney Red has cropped well, while many much better eating pears have failed. This will explain the following experience: One day I saw some Blakeney Reds being hand picked and packed in hampers under the trees. A few days later I happened to be in London, and, seeing some rather nice-looking pears on sale, I was tempted to purchase. One bite was sufficient for me to recognise the variety; it was Blakeney Red, the despised pear in years of plenty, but this season valuable enough to be sent by rail to London.

Growing in solitary luxuriance in many a West Country orchard are to be found apples which are unknown in commerce, though some of them are infinitely better than many a variety included in up-to-date nursery collections. Many of these apples came up from the pips thrown out with the "must" from the cider mill, and somebody took the trouble to grow and fruit them, and honour them with a local name. The other day I noticed some finely-grown trees in an orchard, which were bearing large, firm apples, and as the variety was unfamiliar I asked the name of it. "Oh, that's what we call the Cow apple," replied the grower, and in answer to further questions he went on to explain that a previous tenant of the farm discovered the original seedling growing up through some cow manure in the orchard. In all probability the cow had eaten the apple, and the pip had passed through her system; but, be that as it may, the farmer grew the seedling in his garden, and, finding it to be a good variety, he raised a stock of it by grafting, and gave it the name it still bears, i.e., the Cow apple.

Even at this late period many of the orchards in the West bear traces of the "blight" which ravaged the district in the early summer, and they may be observed in the shape of lacerated foliage and leafless trees. As yet the West Country farmer is not a confirmed sprayer; he is sitting on the fence, waiting and wondering whether he will have to come to it or run the risk year by year of losing his crop. Some few, however, are not content with waiting, and one of the most enterprising farmer fruit growers in the West sprayed the whole of his orchards last spring with lime and salt. The whitened trees were the object of much comment, and some ridicule, though, strangely enough, the idea of lime appealed to the critics more than any other insecticide would have done. Some said that the first shower of rain would wash it off, but it didn't, and when I saw those whitened trees a few weeks ago they were simply laden to breaking point with magnificent apples. Perhaps the lime is not entirely responsible for this, but some credit may be given to it, considering that there are orchards round about with scarcely any fruit in them. I shall not be surprised to see more whitened trees next spring in that locality. H.

Dipladenia boliviensis.—Though decidedly less showy than many other dipladenias, this is an especial favourite of mine, as it is of free, yet neat, growth; the flowering season extends over a lengthened period, and the rich golden-yellow of the throat stands out in a most marked manner from the pure white of the rest of the flower. It will also thrive under somewhat cooler conditions than the rest of the dipladenias. As indicated by the specific name, it is a native of Bolivia, and it first flowered at Chelsea in June, 1868.—W. T.

CHIMNEY CAMPANULAS.

The great beauty and value of the varieties of Campanula pyramidalis have been set forth in these pages again and again, and, as occasion has offered, illustrations of notably good culture have been presented. Mr. G. Wythes, V.M.H., when in charge of the Syon House Gardens, grew these campanulas finely, and raised a vastly improved strain of them. The latest examples of high culture that have come under our notice were those staged at the meeting of the Royal Horticultural Society on August 16 last, by Colonel George Howard Trollope, of Fairmile Hatch, Cobham. Some of the specimens had six or more spikes that were each a fine column of blooms, and both blue and white varieties were represented. The specimens were remarkable for their great size, some of them, like the one illustrated herewith, standing six feet high. Colonel Trollope is to be congratulated upon the success he has obtained in the culture of a subject that is so often neglected, because, being easily grown, so few people take the little extra trouble necessary to grow it superlatively well.

WILD PLANTS ON WASTE LAND IN LONDON.

The waste ground between Aldwych and the Strand has, says "Nature," been colonised by a variety of plants, most of which show luxuriant growth. Many of the colonists have fruits or seeds adapted to wind distribution, as in the case of the winged fruit of the sorrel (Rumex acetosa), and of the plumed seeds of the hairy willow herb (Epilobium hirsutum) and French willow, or rose bay (E. angustifolium), by far the most conspicuous plant on the ground. It is of interest that E. angustifolium, which is absent in many of the waste places of London, occurs in the garden of Fountain Court, near the Strand. Among wind-distributed forms are also numerous Compositæ, the fruits of which are furnished with a pappus; these include the spear thistle (Cirsium lanceolatum), the groundsel (Senecio vulgaris) and its ally S. viscosus, the dandelion (Taraxacum vulgare), the butter bur (Tussilago petasites), and the Canadian fleabane (Erigeron canadense). Fruits and seeds of these various types might be blown with some readiness from neighbouring districts, or from one part of London to another. To a varying extent, wind may be also efficient in carrying the seeds of hedge mustard (Sisymbrium officinale), London rocket (S. irio), which appeared in quantity after the Great Fire of 1666, and shepherd's purse (Capsella bursa pastoris); and the same is the case with chickweed (Stellaria media), white campion (Lychnis alba), opium poppy (Papaver somniferum), a garden escape, frequently established in waste places, great plantain (Plantago major), pale persicaria (Polygonum lapathifolium), and scentless mayweed (Matricaria inodora). In several of the above the seed is small or flattened, but it is not elaborately adapted to wind dispersal, and it may be questioned whether wind alone will account for the presence of these plants. A probable auxiliary exists in the sparrow, through the alimentary canal of which various seeds and fruits no doubt pass, and it is not unlikely that others become attached to its feet by means of the sticky London mud. It will be remembered that Darwin in the "Origin of Species" describes eighty-two plants as springing from the earth obtained from the feet of a single partridge. This method of distribution no doubt accounts for the presence of Dutch or white clover (Trifolium repens) and of two balsams, the pink-flowered Impatiens glandulifera and a white variety. The explosive fruit characteristic of this genus could certainly not shoot its seeds across the traffic of a London street. Possibly cats may be effective as agents of distribution in this case, and they may also account for the presence of cleavers (Galium Aparine), the hooked fruits of which would readily cling to their fur. Among garden escapes, the marigold, nasturtium (equal Tropæolum), wallflower, and a species of prunus can be observed, as well as the opium poppy mentioned above; in connection with these, and with many of the wild species also, the neighbourhood of Covent Garden must be recalled.

A FINE SPECIMEN OF CAMPANULA PYRAMIDALIS.
Exhibited before the Royal Horticultural Society on August 16, by Colonel G. Howard Trollope, of Cobham.

The above list is by no means exhaustive, none of the grasses, for instance, having been mentioned: in one or two cases the identification had to be made from a distance and through the fence surrounding the waste ground.

A NOTABLE STAFFORDSHIRE NURSERY.

Mention of the Staffordshire Potteries is calculated to conjure up visions of a bleak, unlovely country, with many dowdy buildings and gaunt chimneys, a district practically barren, and endowed with extremely little of horticultural interest. It is, however, good to know that here, as in the case of many another manufacturing centre, one may, in a very short time, leave the dirt and grime, the rush and roar of the haunts of the moulders of clay behind, and enter a district as quiet and peaceful as one could wish, where the beauties of Nature may be enjoyed to the full, and where the earth is clothed with fresh green grass, and trees wave their spreading branches in the breeze.

Thus it was our pleasure awhile ago to quit Stoke-upon-Trent, and journey to Milton, a picturesque old village but a few miles distant, where, beyond the cluster of homely cottages, the pastures and wooded hills stretch away in lovely panoramic view. It is here, in this open country, that the nurseries of Messrs. Isaac Matthews and Sons, Lim., are established, a tour of which contitutes a pleasure and an education to anyone who takes a lively interest in horticulture. It is over three-quarters of a century since the firm came into existence, and during that long period their business has developed to such an extent that to-day the nurseries occupy an honoured position among the most extensive and representative establishments in the British Isles.

The five nurseries occupied by the firm cover an area of some 300 acres, and in one or other of the branches stock of almost any class of plant worth cultivating in Great Britain may be found. If asked to indicate their leading speciality Messrs. Matthews would probably reply that their endeavour is to maintain the stock of general or all-round nurserymen up to high-water mark, but that if one subject does take precedence it is rhododendrons. Of these no less than sixty acres are grown, and this huge stock embraces the whole family, from seedling ponticums for plantations and coverts, to the choicest hybrids that shall grace the lawns and shrubberies of the best-kept nobleman's estate. In size they range from young plants of a season's growth to fully-developed specimens capable of producing immediate effect, the latter being kept in capital condition for removal by periodical transplanting. To attempt to enumerate any of the varieties to be seen here would serve no useful purpose, for it may at once be said that the collection includes practically all varieties in commerce that are worth growing.

Equally noteworthy are the immense stocks of forest trees, the most serviceable timber trees, and such subjects as may be classed as the more ornamental forest trees being grown in huge breaks. Messrs. Matthews consider Pinus laricio, the Corsican Pine, one of the best trees for plantations, especially for hillsides or where sea breezes are wont to sweep with full force over the land, consequently this is very largely grown, and is strongly recommended when the firm's advice is sought by intending planters.

It may be remarked that the Light Oaks and Bagnall branches, where much of the forest stuff is grown, are situated on the top of a hill about a thousand feet above sea level, so that buyers need have little fear about planting in exposed positions, robustness and hardihood being well assured. Grand quarters of specimen hollies, yews, box, and choice coniferæ are still another feature of these resourceful nurseries, and for the convenience of those who cannot spare the time to ramble over the wide-spread area covered by the stock, a long show border near the chief office is effectively planted with representative specimens. This border is backed by a fine hornbeam hedge, and behind this are squares, divided also by hedges, in which young shrubs and ornamental plants of every description are coming along.

Roses are grown to the extent of about 70,000 per annum, as well as fruits of all kinds and shapes, sufficient to stock a respectable nursery in themselves, the batches of the more popular varieties running into many thousands of trees. A fine collection of herbaceous and alpine plants were a source of special interest to us, many things we are accustomed to see in small numbers being grown at Milton in great beds.

In an extensive range of glasshouses ferns, carnations, fuchsias, and a general collection of cool greenhouse plants are produced, whilst pot roses, clematis, ivies, and other climbing plants are turned out from the propagating houses in ceaseless succession. Considerable trade is done in floral designs and decorative work, and the seed and bulb warehouse is, in its season, a busy department of this extensive and many-sided establishment. From what we have written it will be apparent to our readers that within the compass of a brief article it would be impossible to go deeply into detail respecting particular subjects grown at Milton, but it will be equally evident that the nurseries are eminently worthy of review.

We would add that the firm extend a hearty welcome to all who are interested in horticulture, and we repeat our opening remark, that a visit of inspection proves both a pleasure and an education. As may well be imagined, a firm with so extensive and varied a stock at command publishes a comprehensive catalogue, a copy of which would undoubtedly prove to be of service to prospective planters.

PENTSTEMONS AT ALDENHAM.

As is now well known, Mr. E. Beckett has taken a keen interest in pentstemons, and has raised many new varieties each year for several years past; and when I say that he has taken the flower in hand seriously, it will be known that the varieties he has given names to for perpetuation are beyond the ordinary type. Lately I had the pleasure of inspecting the plants as grown at Aldenham, both the old and the newest batches of seedlings. The strain is now of exceptional vigour, several of the plants being fully three feet to four feet high, with flower spikes in proportion, and with extremely large blossoms.

The following few varieties I was especially interested in: Helen of Troy, the most perfect pentstemon I have ever seen, being strong in growth, with an enormous flower spike of exceptional colour, the tube and edge deep crimson, with a pure white throat. The blooms, 2½in. in diameter. Autumn Glory has a rose-coloured tube, with crimson edge and throat stripes; very showy. Clad In Beauty is scarlet in the tube, white with crimson stripes in the throat, and quite compact in spike. Murex has somewhat small flowers of a pleasing purple shade of colour. Aldenham Pride has pink bells, with a crimson throat. Bianca is white, faintly edged with pink. Fair To See is of a rich rose colour, with purple throat. Purple Emperor, as its name implies, is intensely purple in colour, with a bold, well-set spike. E. M.

Sedum Kamtschaticum variegatum.—Given a somewhat dry spot fully exposed to the sun, the leaves of this sedum acquire a brightness of colouring such as is to be found in very few variegated-leaved plants. It has a free, spreading growth, and the leaves, which are about an inch in length, and ovate in shape, are of a somewhat fleshy character. They are freely variegated with varying shades of cream, green, and red, so that a well-coloured specimen forms a very attractive feature. This sedum is quite hardy.—W. T.

MONTBRETIAS.

The montbretias have come to the front of late years, and certainly must take rank amongst the most valuable of hardy flowers. Many beautiful varieties have been raised that are a decided advance upon those previously in cultivation, and when seen in bold masses present a brilliant appearance. Further, they possess the fine quality of remaining long in bloom, and, provided they are not allowed to suffer from drought, will flower for six or eight weeks. Full exposure to the sun is essential to proper development, and it is useless to plant in a badly drained and waterlogged soil, as they will most assuredly succumb during the dull and winter season. Therefore, if the natural soil is tenacious, special preparation should be made by the removal of a couple of feet of the soil, replacing it with sandy loam or soil from underneath the potting bench.

It is a grave error to lift montbretias in the winter, either with a view to increase the stock or to transfer to a new site, as the bulbs do not become re-established until spring, and, in the meantime, a great many suffer appreciably. If it is thought desirable to increase the stock, the work should be done about the end of March, when the batches may be lifted, and a number of stolons taken off, which will be numerous in healthy plants, or a portion of the old bulbs with stolons attached, it matters not which.

The finest examples I have seen were growing in a narrow raised border facing south, and had not been disturbed for ten years. Every winter a heavy coating of cow manure was placed over them, for the purpose of protecting the roots and enriching the ground, and they were further assisted by occasional dressings of an approved artificial manure when in active growth.

The montbretias are of much value in supplying cut flowers of a lasting nature, and the branching spikes, from two to four feet in length, being both elegant and brilliant, lend themselves to artistic treatment. The colours found in these plants are delightful, and cannot fail to please. Yellows, reds, and bronze are represented in every conceivable shade, a great number being sweetly soft, and calculated to harmonise with almost anything.

A flower of more perfect form has yet to be raised than the old Rayon d'Or, or a more distinct form than Etoile de Feu. Coming later, and thanks to enthusiasts, who have taken a delight in improving the family, are Chrysolora, with large individual flowers of a beautiful shade of yellow; Germania, splendid scarlet, shading to brilliant orange; Fireworks, and Martagon, taking its name from the fact that the petals are reflexed similar to that section of lily, and this characteristic is seen in Westwick that is not yet common in our gardens. A rich golden variety, towering to three and a-half feet, and producing splendid spikes in profusion, is named after its raiser, George Davison, and certainly is second to none in that particular colour. The giant of the family is Prometheus, crimson and orange, while small forms are finely represented in Vulcan, M. Fleura Jaune, Tigridia, and Eldorado. Of those of medium growth mention should be made of Messidor, Anglia, and King Edmund, all vigorous, and free in blooming, and the last-named quality is applicable to all from the first introduction to the latest hybrid. Given liberal and correct treatment, they respond with a lavish display of flowers, which is repeated over a long term of years.

Walter H. Aggett.

DARWIN TULIPS.

The remarkable advances made with "Darwin" tulips during the last few years has given them a very prominent place among the bulbous flowers cultivated in English gardens.

The charming selection of first-rate forms evolved from the old-fashioned Breeder tulips, has undoubtedly taken the flower-loving world by storm. Undoubtedly the late-flowering tulips are "the flowers" to follow the narcissi when the reign of the latter is ended, and for that reason one feels that, now the Darwins have come to their own, their position will be assured for many long years to come. The splendid decorative effects rendered by these tulips, and their value for gentle forcing, makes them of value for all gardens, and where they can be freely planted, whether in formal beds or groups, or in informal sweeps of colour, they will be looked upon as one of the great features of the garden.

Readers are doubtless familiar with the standard varieties, and know full well the beauty and characteristic boldness of outline of such forms as King Harold, Henner, Fra Angelico, La Candeur, Margaret, Clara Butt, Europe, Zulu, and Antony Roozen, therefore there is no necessity for me to go into detail concerning these and many other varieties.

There are, however, newer and less-known varieties in cultivation, which have yet to make their appeal to the flower-loving public generally, and these and some of the rarer varieties I will refer to.

Viola is a large, bold flower, of bright attractive violet colour. Yolande should prove an acquisition, for its rich pink, salmon-shaded blossoms embody good size, form, and colourings. Velvet King is large, very tall, and carries a rich shade of purple, which is charming contrasted with paler hues. Sophrosyne, a fine tall variety, is of a pretty rose shade, shading to blush, with a deep, well-defined blue centre. Remembrance will be sought by many growers; it is a fine sturdy tulip, of medium height, and is rich lavender, shaded with rose, and inclining to a silver hue at the margins.

Deep-coloured tulips loom large among the novelties, for in addition to the already noted Viola and Velvet King, one notes the rich violet-purple Morales, a sterling gem of medium height, and the taller, finely-shaped Purple Perfection, a maroon-purple, combining size and vigour. Others in the same class of colourings are Grand Monarque, a very bold attractive tulip with plum-purple colouring, and Faust, one of the tallest of tulips, late in bloom, with maroon-purple colouring, very deep and decisive. Amor, with its cherry-carmine colouring surely deserved a better name, and certainly should become popular. Edmee, near to Amor in colour, being but little deeper in tone, with faint white marginal flushings, is an attractive form.

In Beethoven is noted a pleasing rose-pink shading, in a long erect flower, and Ariadne is a fine crimson-scarlet, tall in growth, and effective. The delightful flesh-pink Suzon will be remembered by many readers, and it should be secured wherever a collection is in the making. Prince Eugène, a study in reddish-bronze, and the rich rosy-scarlet Princess Elizabeth, should be given a trial, both being fine handsome tulips. Duchess of Westminster, one of the finest of all, partaking of the colouring of Clara Butt, save for an old rose shading, is very finely formed, and very attractive. Other tulips of note include Flamingo, a fine rich rose; Dream, a splendid variety, of a pale heliotrope shade; Bartigon, a brilliant fiery-red; Marc Micheli, extra large, rose-pink; Professor Trelease, soft pink; and the notable, though not new, Le Tulip Noire, the famous black tulip, completes a group of first-rate forms.

P. S. Hayward.

THE BLACK TULIP.

Among those May-flowering tulips grouped under the title of Darwin varieties there are several remarkable for the intensity of their dark colouring, and one of these has quite frequently been referred to as the Black Tulip. This is the variety correctly named The Sultan, and one that is fine for spring bedding, especially in association with orange, crimson, and yellow varieties, or grown over a groundwork of bright polyanthuses. It is sufficiently cheap to be planted freely, and it is a grand tulip, growing from 2ft. to 3ft. high, and carrying its shapely blackish-maroon flowers on stout, erect stems. The variety has obtained an Award of Merit from the Royal Horticultural Society, and was a conspicuous feature in the society's trials of tulips held at Wisley a few years ago. Zulu and Philippe de Caminet are other very dark varieties belonging to this class, but they are rarer, more expensive, and the colouring is purple-black.

TULIP THE SULTAN.

A May-flowering Darwin variety; deep blackish-maroon, the colour being very "solid."

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

Sobralias. — There is considerable variation to be found among the different species and hybrids of sobralias, now plentifully distributed in cultivation, and they are among the most tractable to cultivate. There is only one objection that may be raised against them, and that is the short duration of the flowers. Under hot-house treatment many of the varieties will only retain their flowers in perfection for a few hours, or a day at the most; but others are more durable. Where plants are grown in an intermediate house the flowers are much more durable, and there can be little doubt but that the greater duration may be attributed to the more robust growths obtained under the cooler treatment, and it will generally be found that the flowers are finer in colour and of greater substance than is the case when grown under warmer conditions. When raising an objection as to the fugitive nature of the flowers, it is well to bear in mind that a succession of flowers is produced from the same stem, so that some compensation is afforded in this way. They are exceedingly serviceable for exhibition purposes; nothing makes a finer background in groups of orchids than well-flowered plants of the commoner kinds of sobralias. The requirements of the plants are simple; a house where the temperature is about 55 degrees in winter, with ten degrees higher and more humid conditions as summer treatment.

POTTING.—The best time to attend to potting is during the autumn months, when the plants are producing their new roots. They are robust rooting subjects, and therefore soon fill their pots with roots when growing satisfactorily. Ample room should be provided when potting, so that they may remain undisturbed for a season or more. The pots used should be clean and filled to about one-third their depth with clean broken crocks. A good compost consists of equal portions of good turfy loam and fibrous peat, with sufficient silver sand and broken crocks added to render the compost porous. This compost should be made firm about the roots of the plants. It is a good plan to cover the surface of the potting compost with a thin layer of finely chopped sphagnum moss. The reed-like growths should then be neatly staked, thin bamboo canes being useful for this purpose, and more durable than deal ones. Give a thorough watering as soon as potting is completed, wetting the compost through. Shade carefully from the direct rays of the sun until the new roots have become established in the new compost, and syringe overhead in the morning and early afternoon.

PROPAGATION.—The stock may be increased by making divisions of the plants when potting. If small portions are removed, especially those consisting principally of old back growths, pot them into small pots, and give them every encouragement to produce new growth, and as the plants advance more root space can be afforded.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

SOUVENIR DE LA MALMAISON CARNATIONS.—Good plants for next season's flowering depend on the care and management during the next few months. They should be given a place as near the glass as possible, consistent with safety from extreme cold; above all, avoid overcrowding the plants on the stages. Should the weather continue mild, lose no opportunity of ventilating the structures freely, both at top and sides, during the day, and allow a free circulation of air at night time from wall ventilators. Damp is far more injurious to these plants than cold, and encourages the dreaded rust. As a preventive against this fungus, the plants should be sprayed on the under surface of their leaves with a fungicide at least once a fortnight.

ROSES.—All the plants should now be turned out of their pots to see that the drainage is in good order, and, at the same time, any plants which require repotting should receive attention. Roses thrive in a tenacious loam with some bone-meal added. The plants to be repotted should have the ball of roots slightly reduced. The potting must be firmly done, and the plants placed on a bed of cinders, plunging the later kinds to the rims of the pots, so that they may not be broken by frosts.

CINERARIAS.—The most forward plants should now be shifted into 6-inch pots, in which they will flower. A suitable compost is one formed of two-thirds loam and one-third consisting of leaf-soil and dried cow manure in equal quantities, with the addition of a little bone-meal and sand. They should be grown as cool as possible, syringing them on fine days. A look out must be kept for the disfiguring leaf-miners, and as a precautionary measure syringe the foliage with a solution of soft soap or quassia chips, which will render the foliage distasteful to the fly.

CYCLAMENS.—The earliest plants will now be showing their flower buds, and may be given frequent doses of weak liquid manure. Place the plants in a good position in a light, well-ventilated house. Unless it is intended to save seed from them, the flowers should be removed as soon as they show signs of fading, to encourage the plants to produce a succession of bloom. Seedlings raised during the present autumn are ready to be pricked off, and the largest may be put singly in thumb pots, using a light, porous compost, such as one composed of equal parts of loam and leaf-soil, with plenty of silver sand; press the soil firmly, and place the plants near the glass in a temperature of 55 degrees. Give shade from sunshine the first few days. Cyclamen should be fumigated to check red spider.

FUCHSIAS.—Cuttings should be now inserted to furnish shapely young plants to bloom next summer. As soon as the cuttings are rooted put them singly into small pots. Keep the plants steadily growing in an intermediate degree temperature. If the plants are well-grown and allowed ample room for development, they will form pyramidal plants without stopping the leading shoots. While not neglecting the newer varieties, we find that the old free-flowering Rose of Castile, and the large-flowering Phenomenal are indispensable. Gradually reduce the amount of water afforded the large plants which have finished flowering, so as to encourage thorough ripening of the wood before storing them in their winter quarters.

CHRYSANTHEMUMS.—Although it is advisable to keep the plants out of doors as late as possible, all must be housed at this date, except the very latest varieties. Before the plants are removed indoors cleanse the pots and spray the foliage with some suitable insecticide, such as a solution of sulphide of potassium or weak paraffin emulsion.—W. Staward, Preston Hall Gardens.

THE FLOWER GARDEN.

BORDER CARNATIONS that were layered during July or August may now be removed from the parent plant, and potted up, or planted in their permanent quarters, as may be desirable. Care should be exercised in removing the layers, disturbing as little of the soil attached to the roots as possible. The compost used for potting should be rich and porous. If the plants are placed in a frame—which is usual—see that the frame is clean, and a fresh dressing of ashes and soot inside the structure will assist in safeguarding the plants from the attacks of slugs, these pests having a special liking for carnations. Excessive moisture during the winter months, both overhead and at the roots, does more harm to these plants than extreme cold. This should therefore be specially guarded against, by giving abundance of air upon every favourable opportunity.

WINTER BEDDING will soon be in full swing, or as soon as the condition of the summer bedding plants will warrant their removal. Many varieties of bedding narcissi are already showing signs of impatience, and should be planted out as soon as possible. In many gardens dwarf shrubs enter largely into the winter and spring bedding, and these are certainly very effective if properly disposed about the beds or borders, and help to relieve the flat appearance of the beds, which is so frequently a drawback in spring bedding. Retinosporas, thujas, cupressus, aucubas, variegated hollies, and euonymus are all suitable subjects to use. Shrub and tree planting should be proceeded with as opportunity offers, for the earlier this is done the better.

IRISES.—If not already done, Spanish irises may now be planted; these may be placed fairly close together in the borders, their growth being small and slender compared with others of the same family. These bulbs can now be obtained so cheaply, and in so great a variety of shades, that they deserve to be used far more extensively than they are. As subjects for the wild garden they are excellent.

TIDINESS.—Constant sweeping and rolling will become necessary on the lawns if a tidy appearance is desirable. On the more conspicuous parts of the lawn mowing may yet require to be done, although it is not desirable to continue this very late in the season, it being better in every respect to roll the turf.

HERBACEOUS BORDERS are yet very gay with Michaelmas daisies, anemones, helianthuses, and other flowering plants. With such a variety of Michaelmas daisies now obtainable, these of themselves furnish the borders and shrubberies with colour, and are among the finest of September and October flowers. Japanese anemones, both white and coloured, have furnished a mass of flowers during the present season, and where flowers of this description are in demand, good cultivation will well repay the grower of these fine autumn flowers.—W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

ROOT PRUNING.—Where it has been decided to carry out root pruning, this operation should be taken in hand at once, careful note having been previously made of the trees which make a superabundance of growth at the expense of fruitfulness; root pruning is undoubtedly a necessity where trees are planted and grown in a restricted space, as close pruning has to be resorted to, and consequently results in much useless growth, and little or no fruit. Where such circumstances exist, root-pruning, if properly carried out, will be found to produce a marked effect upon the fruitfulness of the trees. It should be borne in mind that if half as much attention were bestowed upon the roots as is given to the summer and winter pruning, a far better state of productiveness would be seen in many of our fruit gardens. At the same time, soils, situations, and locality have often a beneficial effect upon the continuous fruitfulness of the trees, and no necessity arises for root pruning. There is no need to perform this operation where the trees are making clean, healthy growths, and producing good crops of fruit. Young trees which are too vigorous can be lifted, and carefully replanted, keeping the roots near the surface, as this will materially check undue vigour and cause the formation of fruit buds next season.

THE ROOTS TO BE REMOVED.—All roots which grow in a downward direction should be cut off; prune back the strongest roots and bruised portions, using a sharp knife or chisel for this operation. Where large trees have to be dealt with, it will be necessary to take out a trench three or four feet from the main stem, three feet wide, and about four feet deep. As the work proceeds, shorten all the big roots that are found within the trench, carefully preserve all the fibrous roots, fork out the soil from the roots under the trees, severing all those which are growing in a downward direction, using a good sharp chisel for this operation. If the soil is of a poor character, it should be removed and a mixture of good loam and wood ashes used. As the work of refilling proceeds, carefully lay out all the fibrous roots, keeping them as near the surface soil as possible, and at the same time making the soil quite firm by treading it. Long rammers will be found useful to firm the soil under the base of the tree. When the filling operation is finished, a thorough soaking of water should be given to settle the soil. If the trees are in an exposed position they must be staked, and made secure with strong tying material. Where it is deemed advisable to undertake root-pruning with very large trees, it is a wise plan to carry this work over for a period of two seasons, pruning one-half of the roots at the present time and the remaining half next year; otherwise, if all the roots are cut off around the tree at one time, the check upon the flow of sap will be too great, and also, in all probability, difficulties will be experienced in keeping the trees in an absolutely perpendicular position. Orchard planted standard trees should on no account be root-pruned at any time; in fact, we have never found it necessary to perform this operation where the trees have received proper attention with regard to the careful thinning of the branches, and adding manurial stimulants to the roots.—Henry R. Farmer, Cardiff Castle Gardens.

GREAT FOUR NORTHERN COUNTIES
FRUIT CONGRESS AND
FRUIT EXHIBITION.
AT HEXHAM,
(¼-Mile from Station, in Town Hall Buildings).

THURSDAY, October 20 .. 2.30 p.m. to 10 p.m.
FRIDAY, October 21 ... .. 10 a.m. to 10 p.m.
SATURDAY, October 22 ... 10 a.m. to 5.30 p.m.

FORMAL OPENING BY
Mrs. J. C. STRAKER, F.R.H.S., and Captain J. H. CUTHBERT, D.S.O., F.R.H.S., at 2.45 on Thursday.

Presentation of CUP, MEDALS, etc., on SATURDAY, at 3.30 p.m., by Mrs. BAINBRIDGE, F.R.H.S., of Eshott Hall.

MUSICAL AND DRAMATIC ENTERTAINMENTS
Each Day at 4.15 and 7.15.

GOLD, SILVER, and BRONZE MEDALS at
SPRAYING DEMONSTRATIONS on FRIDAY, 11 a.m.

CHEAP RAILWAY FARES and EXCURSIONS.

KENT COUNTY CHRYSANTHEMUM SOCIETY.—The 23rd GRAND ANNUAL EXHIBITION will be held at the CONCERT HALL, BLACKHEATH, on WEDNESDAY and THURSDAY, November 2nd and 3rd, 1910. Schedules and all particulars of the Hon. Sec., F. FOX, The Gardens, The Cedars, Lee, S.E.

NATIONAL CHRYSANTHEMUM SOCIETY.
GREAT AUTUMN SHOW.
At the CRYSTAL PALACE,
On November 2nd, 3rd, and 4th, 1910.
Entries close October 26th. Write at once for Schedule (post free) to the Secretary, RICHARD A. WITTY, 72, Savernake Road, Gospel Oak, London. N.W.

YORK.
The 30th GRAND ANNUAL CHRYSANTHEMUM SHOW will be held on 15th, 16th, and 17th November. About £200 offered in Prizes. Groups, Cut Fowers. Fruits and Vegetables. (36 Japanese Cut Blooms £20 10s.) Medals for Trade Exhibits.
Entries due 12th November.
Schedules on application to the Secretary.
H. DALE, 26, Blake Street, York.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

The exhibition held at Vincent Square on Tuesday, October 11, must stand as one of the very finest yet held in the Royal Horticultural Hall. The hall was well filled with fine exhibits, and small exhibits of miscellaneous subjects were extremely few. Messrs. James Veitch and Sons secured two gold medals, one for fruit, and one for choice and new shrubs, while Mr. L. R. Russell also obtained the coveted gold medal with a very large and remarkable group of bamboos. Hardy flowers were much in evidence, and it was a rare day for Michaelmas daisies, the display made from the Aldenham Gardens standing first, both for quality, variety, and arrangement. There was a good attendance of Fellows and visitors, and in the afternoon the famous and veteran botanist and one-time Director of Kew—Sir Joseph D. Hooker, visited the show, and, notwithstanding his ninety-four years, took a keen interest in the display.

FLORAL COMMITTEE.

Gleichenias were very well shown by Messrs. J. Hill and Son, Barrowfield Nursery, Edmonton; the large group of elegant plants included good specimens of G. semivistita, G. dichotoma, G. Speluncæ, G. rupestris, and the fine old G. Mendeli. Right across the top of the hall Mr. L. R. Russell, Richmond, staged a large and wonderful collection of bamboos in pots and tubs. The collection consisted of about thirty-eight species and varieties, and a few that were particularly attractive were Phyllostachys Henonis, P. flexuosa, P. aurea, P. rubicunda, P. violescens, Bambusa Alphonse Karri, B. gracilis, Arundinaria japonica, A. anceps, and A. Simoni. The plants were in many cases of large size, and they were very well arranged.

A remarkable exhibit that filled all one side of the hall was composed entirely of ornamental shrubs from Messrs. Jas. Veitch and Sons, Chelsea, and a large number of the subjects being new ones from China. Besides hollies, in variety, eleagnus, coprosmas, euonymuses, ivies, and cratægus, there were such interesting plants as Berberis Knighti, Viburnum rhytidophyllum, V. coriaceum, V. Henryi, V. utile, Cotoneaster frigida, Ligustrum lucidum, Ilex crenata, I. Pernyi, Griselinia littoralis macrophylla, Ligustrum Henryi, Berberis polyantha with drooping racemes of coral-red fruits; Berberis Wilsonæ, a low-growing neat and free-fruiting species, Stransvæsia undulata, with orange-coloured berries, Desmodium penduliflorum with purple flowers, and Symphoricarpus mollis (A.M.), carrying crowds of pure white fruits. Messrs. J. Peed and Son, West Norwood, S.E., put up a bank of hardy flowers, comprising scabious and Michaelmas daisies. In another group the Messrs. Veitch showed standards of the blue and the white forms of Plumbago capensis, a selection of beautiful streptocarpus, and batches of the brilliant winter-flowering begonias Mrs. Heal and Elatior.

A fine batch of well-grown plants of Gesnera Orange King was shown by Mr. Dickson, gardener to Adeline Duchess of Bedford; this brilliant gesnerad, with its pyramids of orange-coloured flowers, was figured in our columns last year; it now obtained an Award of Merit. Some beautiful perpetual-flowering carnations were displayed in stands, tall vases, and bowls by Messrs. Stuart Low and Co., Bush Hill Park, Enfield, and among newer things they had Fire Glow, Marchioness Linlithgow, Mrs. C. W. Ward, Scarlet Glow, Lady Alington, and Mrs. T. M. Cook. Mr. J. T. West, Tower Hill, Brentwood, showed a few very effective pæony-flowered dahlias, such as Rembrandt, Van Dyck, Geisha, Turner, Liberty, and also his new big decorative yellow variety Brentwood Yellow.

An interesting exhibit of collarette dahlias was set up attractively by Mr. J. B. Riding, Chingford, and the varieties Meteor, Joseph Goujon, Mdme. L. Viger, Mdme. R. Schoffer, Mons. L. Ferrard, Mdme. R. Crozy, Diamante, and Mons. Porrier attracted a great deal of attention by reason of their bright colours and quaint form. A large bank of pæony-flowered dahlias from Messrs. Bakers, Wolverhampton, was ample evidence of the fine weather now prevailing. There were large vases of these showy flowers, and especially noteworthy were Germania, Mrs. Whineray, Codsall Gem, The Warrior, Ryton Roy, Mrs. R. Copeland, Red Indian, and Sunset.

Mr. Edwin Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, put up a wonderful exhibit of Michaelmas daisies, many of the varieties being of his own raising. The variety of form and colour displayed was remarkable. Each variety was represented by a very big stand of flowers, the sprays being so arranged as to show the effect and habit of each. Among large-flowered varieties we made special note of were Climax, Sirius, Stella, Dog Star, and Damsel, while among the smaller-flowered and very graceful varieties Cinderella, Coquette, Comeliness, Desire (very fine, white), Grace, Silvery Star, White Diana, and Little Boy Blue, and Perfection (A.M.).

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, had a beautiful exhibit of Michaelmas daisies set up in vases and stands in sufficient quantity to show each variety to advantage. Very fine were Climax, Mrs. Southall, Chastity, Mrs. C. Davies, Keston Blue, Star Shower, Moonstone, Melpomene, and Mrs. Richardson. Mr. G. Reuthe, Keston, showed nerines, Michaelmas daisies, Magnolia grandiflora plena, Cimicifuga racemosa, and liliums. A beautiful set of cactus dahlias came from Messrs. Thos. S. Ware, Lim., Feltham, these being associated with pæony-flowered and decorative varieties; Debutante was very delightful among cactus varieties. Mr. H. F. Robson, Alexandra Nursery, Ham, brought up an effective display of early-flowering chrysanthemums. Messrs. G. and A. Clark, Dover, had the charming and graceful Cimicifuga simplex in splendid form, and they also showed Kniphofia corallina and Aster Climax finely.

Autumn coloured foliage was prominent in the display made by Messrs. J. Cheal and Sons, Crawley, and especially attractive were the sprays of Acer dasycarpus tripartitum, Ginkgo biloba, Rhus typhina ailantifolia, R. lacineata, Acer japonica variegata, Quercus rubra, Euonymus atropurpurea, Mollis azaleas, Corylus avellana aurea, Berberis Thunbergi, Prunus Pissardi, and Cornus Spathi. The Crawley firm also presented another of their effective displays of dahlias, and once more showed single and pompon cactus varieties finely. Mr. Maurice Prichard had the new Helenium Riverton Gem, H. Riverton Beauty, and H. Riverslea Beauty in a group of late hardy flowers.

Messrs. W. Cutbush and Sons, Highgate, had a very large display of Michaelmas daisies, these being put up in large batches. Some of the varieties were very beautiful, notably Climax, Perfection, Chastity, and the erect-growing Desire. A few poppies, heleniums, helianthuses, solidagos, and pentstemons added bright colour to the display. A bright and fragrant exhibit of perpetual carnations from the Highgate firm contained good vases of Victory, White Perfection, Lady Elphinstone, Mrs. Fortescue, Beacon, and Lady Miller, the latter a blush-coloured perpetual Malmaison variety.

Several varieties of the popular Begonia Gloire de Lorraine were submitted in quantity by Messrs. H. B. May and Sons, Edmonton, together with veronicas and the very beautiful Nephrolepis Marshalli. Messrs. B. R. Cant and Sons, Colchester, brought up a few finely-developed blooms of autumn roses, those of the new hybrid perpetual being especially noteworthy; and Messrs. William Paul and Son, Waltham Cross, filled a corner with Cratægus Lelandi, freely berried, and baskets of large, fresh, and otherwise excellent blooms of Pharisaer, Corallina, Madame Leon Pain, and Margaret roses.

Mr. James Box filled a large space in one of the annexes with a handsome display of Michaelmas daisies, gladioli, phloxes, gaillardias, early chrysanthemums, and Cimicifuga simplex. The central table in the annexe was filled with brilliant early chrysanthemums by Messrs. W. Wells and Co., Merstham, their varieties Leslie, Pollie, Wells' Primrose, and October Gold, standing out well, pentstemons and the new clove-scented white perpetual carnation named White House (A.M.) were also displayed. Messrs. Carter Page and Co., London Wall, filled one end of the annexe with a big and brilliant bank of dahlias in great variety. Mr. Frank Brazier, Caterham, had Michaelmas daisies, early chrysanthemums, pentstemons, phloxes, dahlias, very prettily disposed in large stands to form an attractive and extensive exhibit. Mr. C. Engelmann had one of his attractive groups of perpetual carnations, and in this he showed Harlequin, Carola, and the pink Rex freely and well.

ORCHID COMMITTEE.

Messrs. Charlesworth and Co.'s exhibit from Haywards Heath included a considerable batch of Epidendrum vitellinum majus, carrying quite tall spikes of brilliant flowers. With these were Dendrobium formosum giganteum, the lovely Lælia præstans alba, Cattleya Rhoda, C. Basil (A.M.), the handsome Odontoglossum Dora, Odontioda Bohnhofiæ, Eria stellata, and other good things. Messrs. Sander and Sons, St. Albans, had a quite brilliant group of orchids, and among many good things on view we noted Cattleya Bowringiana, Brasso-cattleya Thorntoni, Cattleya Hardyana, C. Fabia, C. Peetersi, Læliocattleya Walter Gott, L.-c. Phœnix, the quaint Bulbophyllum Medusæ, the wonderful B. Ericssoni, Cypripedium Niobe Westonbirt var., and C. Trafalgar.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, contributed a display in which Oncidium tigrinum, O. phymatochilum, O. pulvinatum, O. oblongatum, O. varicosum Rogersi, and O. divaricatum were well represented; other good things were Odontoglossum grande, Cypripedium Maudæ, C. Acteus, C. Chas. Richman magnificum, Pilumna fragrans, and Vanda Kimballianum. Messrs. Stanley and Co., Southgate, showed a large batch of the useful and beautiful Cattleya Minucia, Lælio-cattleya Walter Gott, and the fine Brasso-cattleya Maronæ. Mr. E. V. Low, Vale Bridge, Haywards Heath, showed Oncidium incurvum album, Cattleya labiata alba G. G. Whitelegge, Odontoglossum crispum Lady Jane, and a splendid cypripedium with very large bold and rounded green, rose and white dorsal sepal, named C. King GeorgeV. (F.C.C.)—this was greatly admired. Messrs. J. Cypher and Sons, Cheltenham, brought up Cattleya Bowringiana sanguinea, Odontioda Charlesworthi, Cattleya Mantini, C. Ashtoni, Cypripedium triumphans, C. Milo, C. Niobe, C. Olivia, etc.

Mr. Alexander, orchid grower to Lieut.-Colonel Sir George Holford, Westonbirt, Gloucester, showed Lælio-cattleya Arthur (C. Harrisoniæ x L.-c. exoniensis), with a spike of ten beautiful flowers; L.-c. Ortrude magnifica (A.M.); and the showy L.-c. Golden Oriole superba (A.M.) Mr. J. Musk, gardener to Captain Laycock, Wiseton, Bawtry, showed Cattleya Adula Laycock's var., finely coloured. Mr. Black, gardener to H. G. Thwaites, Esq., Streatham, put up a very pretty group of orchids, these including Cattleya Adula, Brasso-cattleya Leemanniæ, Lælia præstans alba, Odontioda Charlesworthi, Cattleya Fabia, etc.

Mr. H. J. Chapman, gardener to Mrs. Norman Cookson, Oakwood, Wylam-on-Tyne, sent up Cypripedium Sibyl punctatum, C. Charlesworthi, and a richly-coloured Odontoglossum named O. Clive, parentage unrecorded. The pretty Cypripedium Venus, Park Lodge variety, was brought up by Mr. Carr, gardener to Edward Roberts, Esq., Park Lodge, Eltham. Sir W. S. Marriott contributed the curious Cattleya Pechaviensis, a cross between C. Acklandæ and C. Schilleriana. A fine plant of Cypripedium Pyrrha was contributed by Messrs. James Veitch and Sons, Chelsea.

FRUIT AND VEGETABLE COMMITTEE.

A magnificent exhibit of apples was arranged along one length of tabling by Messrs. Jas. Veitch and Sons, who staged no fewer than a hundred and thirty-four dishes and baskets, representing a hundred and thirty-four varieties. From such a splendid lot of fruit, clean, and finely-coloured, it is difficult to make a selection without leaving a large number of fine varieties unmentioned, but Cox's Orange Pippin, Gravenstein, Alfriston, Chas. Ross, Peasgood's Nonsuch, Newton Pippin, Ribston Pippin, Tyler's Kernel, Mère de Ménage, Reinette du Canada, Lord Derby, Golden Spire, Warner's King, Annie Elizabeth, the new Rev. W. Wilks, American Mother, Wealthy, Bramley's Seedling, King of the Pippins, Lane's Prince Albert, Cockle Pippin, Sandringham, King of Tompkin's County, and the useful Hambling Seedling. Christmas Pearmain, Claygate Pearmain, Cornish Aromatic, Baxter's Pearmain, and Golden Reinette and Egremont Russet were a few other dessert varieties of high merit.

Mr. C. Foster, The Times Experimental Station, Guildford, brought up fifty-two stocks of radishes, all from a sowing made on September 3, in the open. All were shown with their foliage so as to give an idea of their manner of growth, and indicate the need for thin or thick sowing; The Sutton. Long White, Wood's Frame, Crimson French Breakfast, French Breakfast, Golden Olive, White-tipped Forcing, Covent Garden Scarlet, Forcing Carmine, Red Forcing, and Turnip-Rooted White were among the best in this very interesting and instructive exhibit.

The Hailshamberry, a large fruit of the Loganberry type, and suitable, when cut back in spring, for autumn fruiting, was submitted by Mr. W. Knight, Hailsham, Sussex.

CERTIFICATES AND AWARDS.

First-Class Certificate. — To Cypripedium King Georve V., from Mr. E. V. Low, Vale Bridge, Haywards Heath.

Award of Merit.—To Lælia-cattleya Golden Oriole and L.-c. Ortrude magnifica, from Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester; to Cattleya Basil, from Messrs. Charlesworth and Co., Haywards Heath; to Catasetum fimbriatum aureum, from J. Gurney Fowler, Esq. (gardener, Mr. Davis), Glebelands, South Woodford; to Ligustrum Henryi and Symphoricarpus mollis, from Messrs. Jas. Veitch and Sons, Chelsea; to Carnations Scarlet Glow and Shasta, from Mr. C. Lange, Hampton; and to the former also from Messrs. Stuart Low and Co., Enfield; to Chrysanthemums Cranfordia and Miss F. Collier, from Mr. W. Roots, Holly Cot, Cranford; to Perpetual Carnation White House, from Messrs. W. Wells and Co., Merstham; to Gesnera Orange King, from Adeline Duchess of Bedford (gardener, Mr. Dickson), Chenies; to Chrysanthemum Mary Poulton, from Mr. H. Poulton, Huntleys, Tunbridge Wells; and to Aster ericoides Perfection, from Hon. Vicary Gibbs (gardener, Mr. Edwin Beckett).

MEDALS.

Gold.—To Messrs. J. Veitch and Sons, Chelsea, for choice shrubs, and a second medal for a collection of apples; to Mr. L. R. Russell, Richmond, for a collection of bamboos.

Silver-Gilt Flora.—To Mr. James Box, Lindfield, for hardy flowers; to Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, for Michaelmas daisies.

Silver-Gilt Banksian.—To Messrs. J. Hill and Son, Edmonton, for Gleichenias; to Mr. H. J. Jones, Lewisham, for Michaelmas daisies.

Silver Flora.—To Mr. Frank Brazier, Caterham, for hardy flowers; to Messrs. Carter Page and Co., London Wall, for dahlias; to Messrs. J. Cheal and Sons, Crawley, for autumn foliage; to Mr. C. Engelmann, Saffron Walden, for carnations; to Messrs. Wm. Paul and Son, Waltham Cross, for berried shrubs and roses; to Messrs. W. Wells and Co., Merstham, for chrysanthemums, etc.; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to R. G. Thwaites, Esq., Streatham, for orchids; and to Messrs. J. Cypher and Sons, Cheltenham, for orchids.

Silver Banksian.—To Mr. E. V. Low, Haywards Heath, for orchids; to Messrs. Stanley and Co., Southgate, for orchids; to Messrs. B. R. Cant and Sons, Colchester, for roses; to Messrs. J. Cheal and Sons, Crawley, for dahlias; to Messrs. Wm. Cutbush and Son, Highgate, N., for carnations, etc.; to Messrs. Stuart Low and Co., Enfield, for carnations, etc.; to Messrs. H. B. May and Sons, Edmonton, for begonias and ferns; to Mr. Robson, Ham, for chrysanthemums; to Messrs. T. S. Ware, Lim., Feltham, for dahlias; to Mr. Dickson, gardener to Adeline, Duchess of Bedford, for gesneras; and to Mr. Charles Foster, Times Experimental Station, Sutton Green, Guildford, for radishes.

Bronze Flora.—To Messrs. Bakers, Codsall, Wolverhampton, for pæony-flowered dahlias; and to Messrs. G. and A. Clark, Dover, for hardy flowers.

United Horticultural Benefit and Provident Society.

The above society held its twenty-fourth anniversary dinner at the Waldorf Hotel, Aldwych, W.C., on Thursday, October 6, under the presidency of Mr. Edward Sherwood, who was supported by Mr. N. N. Sherwood, Mr. W. A. Bilney, Mr. W. Sherwood, Dr. Boxall, Mr. Cox, Mr. Andersen, and the officers of the society. Altogether there were about eighty members and friends present. An excellent musical programme was provided by the kindness of the chairman, under the direction of Mr. Tonking. The speeches were commendably brief throughout, and a most successful and enjoyable evening was spent.

After honouring the loyal toasts, Mr. Edward Sherwood proposed "Continued Success to the United Horticultural Benefit and Provident Society," and in doing so pointed out the society was not a charity, but a mutual self-help and benefit society that encouraged thrift and independence among gardeners. It was the only benefit society of its kind, and was established as long ago as 1865. It had a small beginning, but had progressed steadily until now it had 1,382 members, including 56 added during the present year. The funds of the society were admirably and safely invested, and for the comparatively small sum of either 6d. or 9d. per week members provided for assistance during sickness, for chronic illness, for accident or calamity, and also in some measure for old age. To these charges there were added the small one of 3s. and 2s. 6d. annually for the benevolent and management funds respectively. The convalescent fund was not largely used, and he thought if members took advantage of its assistance more than they did it would be a good thing for themselves and the society, because if a man returned to business before fully recovered he not seldom suffered a relapse. The Chairman concluded by hoping that the influence of the society would extend, and expressed a wish to be enrolled as an honorary member.

The response to the toast was by Mr. Chas. H. Curtis, chairman of committee, who tendered to Mr. E. Sherwood the thanks of the committee and members for his kindness in presiding, and pointed out that the chairman was following in the footsteps of his father, Mr. N. N. Sherwood, V.M.H., who had presided on a former occasion, and who instituted the convalescent fund. Mr. Curtis said that the society's funds now closely approached £38,000, or nearly £28 per member, a position, he thought, not attained by any other friendly society. The progress in membership was very steady, but, considering the advantages offered, he considered young gardeners should join in larger numbers for their own benefit. Notwithstanding the kindness of the horticultural press and the notice of the society given in many a nurseryman's catalogue, it was evident the society did not reach all young gardeners, therefore the committee had on foot a movement for circularising the gardeners of the country, and bringing before them the advantages of membership; this was being done county by county, and an increase of membership was anticipated as a result.

Mr. E. F. Hawes proposed, "The Honorary and Life Members" and observed that these lent an added dignity to the society and also provided a welcome contribution to the benevolent fund. Mr. N. N. Sherwood said he was glad to hear such an excellent report of progress, and after an absence of several years he was pleased to be present once more at the annual dinner, and delighted to find his son occupying a position he had himself had the honour of filling. The society did not ask for money; indeed, did not need it; but he felt sure that its aims were so excellent, and its work so good that if at any time such a thing should be necessary the honorary and life members would not only lend the dignity of their names and give moral support, but would be ready to open their purses to afford substantial aid. He expressed great pleasure at the means now being taken to reach the young gardeners in the country, and said he should continue to subscribe annually to the convalescent fund, because he felt this would some day be of very great service to members.

Mr. Thomas Winter proposed "The Visitors," and Mr. E. Thomas very ably and briefly responded, observing that in these days it was a pleasure to find a body of men possessing the spirit of mutual friendliness and helpfulness, coupled with independence of governmental or charitable institutions.

Mr. W. A. Bilney proposed "The Chairman," and echced the sentiments of all present when he said how fine a thing it was to see Mr. Edward Sherwood following his father as a first-rate business man, as a kindly, considerate employer, and in the interest he was taking in the gardening charities and in the United Horticultural Benefit and Provident Society. The toast was enthusiastically received and with musical honours. When responding, Mr. Sherwood added a few words of thanks to those who had kindly contributed plants, flowers, and fruits for the dinner, and concluded by proposing the health of "The Secretary, Mr. Wm. Collins," who has now held that position for twenty-four years.

Bournemouth Gardeners' Association.

On October 4 Mr. F. W. Shrivell, Golden Green, Tonbridge, gave a most interesting and instructive lecture on "The Manuring of Market and Kitchen Gardens." There was a good attendance, the chair being taken by Mr. Geo. Garner.

Mr. Nippard, head gardener to J. J. Norton, Esq., exhibited, not for competition, six grand dishes of apples of the following varieties: Warner's King, Peasgood's Nonsuch, Lord Derby, Gascoigne's Scarlet, The Queen, and Cox's Orange Pippin. The dish of Peasgood's Nonsuch was a remarkably fine one, especially so when one realises that the trees are grown in a light Bournemouth soil. One specimen of Peasgood's Nonsuch weighed eighteen and a quarter ounces; the six fruits totalling six pounds five and three-quarter ounces.

Mr. Shrivell, referring to artificial and animal manures, said that the former prevented undue evaporation on light soils, and kept stiff, clayey soils warmer. Cow manure was recommended for light, and horse manure for heavy soils. The lecturer urged his audience to be extra careful in the use of artificial manures, and always to apply small doses often rather than large ones at a time and seldom. He advocated the use of animal manure as well as chemical manures. Such crops as celery, strawberries, parsley, beet, must have animal as well as chemical manures. If, said Mr. Shrivell, the leaves of plants assumed a yellow appearance, nitrogenous manures were required, and although nitrate of soda did not increase the crop of peas, it improved the flavour if applied judiciously. Used in a similar way it was beneficial to sweet peas, increasing the size of the flowers, and improving the colours. He spoke of the beneficial effects of lime in the garden, and said that when parsley and other crops began to die off it proved that lime was needed in the soil, especially when damping was the cause of the plants dying off. Brassicas, he said, could be well grown with the aid of chemicals alone; bush fruits required a certain amount of animal manure as well as chemicals. With the aid of chemicals alone, he said, it was possible to grow magnificent crops of cabbages, savoys, broccoli, cauliflowers, and kales on absolutely hard, clayey ground, as was proved by the experiments made in Kent. Referring to asparagus, he said salt only kept down the weeds. He recommended a light annual dressing of manure, put on late in winter or early in spring; also fourteen pounds of superphosphate and ten pounds of kainit per 100 square yards late in winter, with a top-dressing of five pounds of nitrate of soda in April, to be followed by a top-dressing of five pounds of nitrate of soda per 100 square yards of beds in May. The lecturer said it was a curious fact that nitrate of soda increased the yield when applied to dwarf beans, but was not similarly beneficial when given to scarlet runners.

One member asked the lecturer to explain how it was that basic slag increased the crop of clover to such great extent. The answer was that in poor ground the seeds do not germinate freely, but when basic slag is applied they find the necessary nutriment and grow freely, whereas before they only got a bare living. Many questions were put by the members and answered in a very interesting manner by the lecturer, who, with the chairman, was accorded a hearty vote of thanks at the close of the meeting.

Dundee Horticultural Society.

The annual general business meeting was held in the Y.M.C.A. Hall on the evening of the 7th inst., Walker S. Melville, Esq., the president, in the chair. The balance-sheet for the year showed a heavy loss occasioned by the inclement weather during the three days of the show. The statement showed expenditure to be £1,008 19s. 10d., and the income from all sources £785 11s., leaving a debit balance of £223 8s. 10d. The President, in formally moving the adoption of the accounts, referred to the policy of the committee in their endeavour to run the show on a sound financial basis, and made special reference to various items calculated to lower the expenditure. Unfortunately, the weather conditions on the days of the show had been against them, and was accountable for the reduction of the drawings at the turnstiles by £34 5s. from the total of last year. Their funds were reduced from £300 of last year to £95 credit at the present time. They were hopefully looking forward to a more successful year with a membership of 544, most of whom were enthusiastic supporters, the majority of them working men, who devoted their leisure time and energy to horticultural pursuits. He reminded them of the visit of the British Association which was to take place in Dundee in 1912, and urged the members to strenuously assist the committee to realise their cherished hope of making their exhibition of that year one of the finest that had ever been brought together in the country.

A SEASONABLE NOTE.

For practical guidance and valuable help the following Books will be found indispensable.

EASILY-GROWN HARDY PERENNIALS.
The Culture of Hardy Flowers, Outdoor Plants, &c. By GEORGE H. VOS, B.A. **Price 5/0 net.** By post 5/6.

BULBS AND THEIR CULTIVATION.
A complete Guide to the Culture in Garden or Greenhouse. **Price 2/6 net.** By post 2/10.

ROSES AND THEIR CULTIVATION.
Outdoors and under Glass. Description of over 1,660 varieties, &c. **Price 2/6 net.** By post 2/10.

Obtainable at all Booksellers or direct from
THE PUBLISHER, AMATEUR GARDENING,
148 and 149, Aldersgate Street, E.C.

The election of officers and committee resulted in an almost complete return of retiring members. The treasurer had the unpleasant experience of having his salary reduced from £20 to £15 to meet the demand to raise the ground manager's salary from £10 to £15. A motion was also made to allow an increase to the secretary, Mr. W. F. Hill, but this Mr. Hill magnanimously declined owing to the present financial position. The show for 1911 was fixed to be held on the Magdalen Green (usual place) on August 31 and September 1 and 2, the prize money being also fixed as usual at £300, although there was a movement to have it reduced to £230.

Agapanthus Mooreanus.—This is usually classed as a variety of A. umbellatus, but it is, as far as my experience goes, decidedly hardier than the typical form. In A. Mooreanus the flower scape is taller in proportion to the size of the plant than in any other kind. The flower head, too, is almost globular, while the blossoms themselves are deep blue. A notable feature of this form is that, unlike all the others, it becomes totally dormant during the winter.—W. T.

EDUCATIONAL VALUE OF KEW GARDENS.

The following interesting letter, published in "The Times" of October 10, was sent by Dr. David Walsh, of 27, Welbeck Street, W.:

"Amid the stress and struggle of modern life it is pleasant to think of the parks and museums and other places to which one may turn now and then for a brief period of restfulness. One such place is Kew Gardens, the home of scientific and in latter years also of practical and economic botany. As an ardent botanical student in my school and college days, it has been a privilege from time to time to visit the beautiful collection at Kew, and to remind myself of some of the many facts that appertain to the romance of plant and tree life. But, as often happens with those who have in youth made a study of a particular science, later life has brought with it pursuits that have long since elbowed early fancies into the background. Nevertheless, it is a real pleasure to be able to awaken former interests and associations by an occasional visit to Kew Gardens.

"Now, there must be many more in the same position as myself, and a still larger number ready and anxious to learn something about botany; and it is in the interests of all such that I write. It seems to me that the community hardly derives the benefit to which it is reasonably entitled from the large sums of money expended upon this public institution. Let me hasten to add that the work done in the Gardens is earnest and excellent, and the reputation of the scientific staff second to none in the world. If I may venture to say so, however, the popular, or shall I say the popularising educational, element appears to be lacking. The public want elementary information conveyed in an easy and simple manner. Labels, for instance, should be attached, as far as possible, to every important tree, shrub, and plant, or clump of plants in the Gardens. The labels should be legible, indestructible, and placed at such an angle as to permit of their being easily read. They should not be placed, as can be actually seen in one instance at the present moment, upon the trunk of a tree at a distance of eight feet from the ground, where the small lettering can be read only by persons possessing exceptional powers of vision.

"Further, in order to popularise the subject, would it not be possible for the curators to give demonstrations to parties of visitors desirous of learning something about the wonders of plant life? Such demonstrations might be made of fascinating interest. It might be possible to issue booklets dealing with such subjects as English ferns, cacti, orchids, lilies, roses, laurels, palms, oaks, cedars, English climbing plants, and so on. Perhaps some of your readers might furnish suggestions in other directions."

Our contemporary very reasonably observes that the obvious difficulty is "that the curators, who are indeed willing to give all the assistance they can, have their own proper duties. They can answer occasional questions, but could hardly undertake regular demonstrations, we imagine." Further, "The seasonal difficulty would probably be considerable in Kew Gardens. They are thronged in summer and on fine days, and we have no doubt that guide demonstrators would be extremely popular; but at other times there might be nothing to do. That, however, is not an insuperable difficulty. At any rate, the suggestion is worth discussing. There can be no doubt that a much more intelligent use might be made of the national collections and that this plan, if it proved feasible, would be of real value."

FORTHCOMING ENGAGEMENTS.

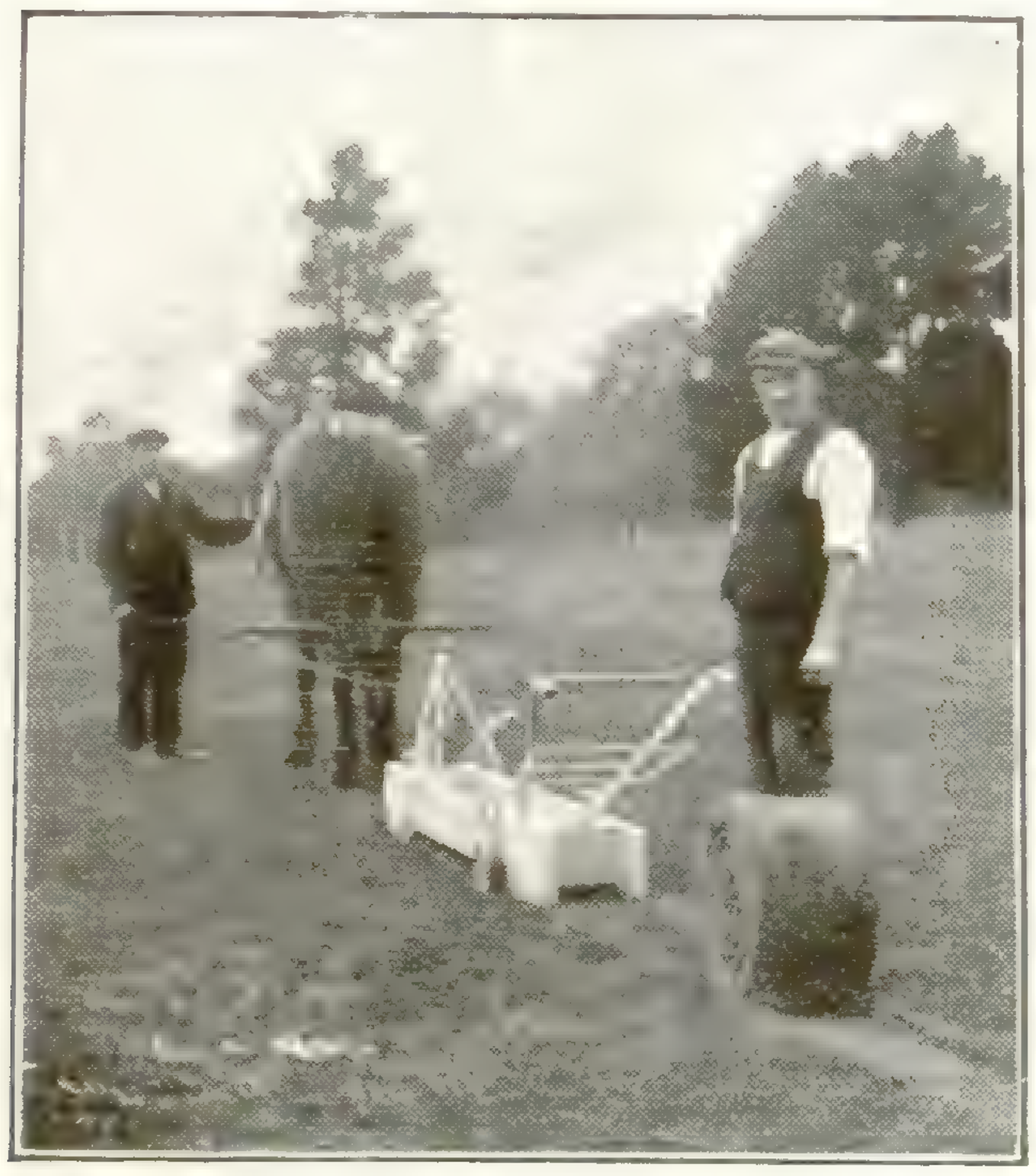
THURSDAY, October 20.—Fruit Show and Congress at Hexham; three days.

TUESDAY, October 25.—Royal Horticultural Society; committees meet at 12 o'clock; lecture at 3 p.m. on "Life—A Director of Force in Development and Evolution," by the Rev. Prof. G. Henslow, V.M.H. The society's Vegetable Exhibition will be held on this date.

WEDNESDAY, October 26.—Hereford Fruit and Chrysanthemum Show; two days.

NEW TURF PLOUGH.

We have had submitted to our notice by Messrs. Boulton and Paul, Lim., Norwich, a new machine for cutting turf that appears to be not less remarkable for its usefulness than for its novelty in construction. This turf plough is the outcome of much thought and practical experience, and is the invention of H. J. Muntz, Esq., of Hungerford. We are informed that with it an acre of turf can be easily cut in two hours; and it is a point of great practical importance that it will not only cut the turf at a uniform width, but slices it off in a manner that is practically impossible by hand. So accurate is the cutting that the thickness of the turf does not vary an eighth of an inch, which we need hardly say effects a material reduction in the labour of relaying. The plough is manufactured by Messrs. Boulton and Paul, Lim., of Norwich, and will be found of much value on estates, in parks, and to golf clubs and landscape gardeners. The illustration so admirably portrays the plough as to render detailed description unnecessary. It should, however, be mentioned that, as in the case of so many other inventions of merit, the mechanism has the advantage of simplicity.



MESSRS. BOULTON AND PAUL'S NEW TURF PLOUGH.

Wisley Students' Diploma Examination, 1910.—We are informed by the Rev. W. Wilks that the Wisley Diploma examinations in 1910 were held in March and July for those students whose two years' courses of instruction terminated in these two months respectively. Mr. John Fraser, F.L.S., acted as external co-examiner with the Laboratory Director on each occasion in both principles and practice of horticulture. The sets of questions given in March and July, though different, were of equal difficulty. In addition to this examination, the merits of an essay on a horticultural subject and of botanical and entomological collections made, together with the powers of intelligent observations shown, are adjudicated upon in awarding the diploma. The collated results show the following order of merit, those taking the examination in March being distinguished by an asterisk: 1, H. F. Clough; 2, J. W. McCaig; 3, R. McK. Robson; 4, W. Cartwright; 5, L. C. Dyer; 6, *R. L. Brazier; 7, *A. F. Leverett, 8, *E. Krumbholtz; 9, H. Lane. Two other students, failing to satisfy the examiners, the diploma has not been awarded to them. The following recognitions have also been given: The student demonstratorship mentioned in the syllabus has been offered to Mr. Clough. The Sutton prize has been awarded to Messrs. J. W. McCaig, R. McK. Robson, and W. Cartwright. The Nicholson prize of £2 2s. has been awarded to Mr. J. W. McCaig for observations. The £5 offered by Mrs. G. F. Wilson for collections has been awarded to: 1, Mr. H. F. Clough; 2, Mr. R. McK. Robson; 3, Mr. L.C. Dyer; 4, a special prize for a collection of fungi, Mr. J. W. McCaig.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention correspondents are requested to distinctly mark the paragraph.

BUSH PLUM TREES.—L. G. W., Buckingham: We hope to publish an article on this subject in our next issue.

FAILURE OF PEACHES.—P. S., Swansea: After a careful examination of the fruits sent, and their stones, the conclusion arrived at is that the particular tree has some constitutional failing that will not give way to treatment. Your success with other trees in the same house also points to this conclusion, and we advise you to root out the tree, and, if possible, put in its place one of proved excellence from the wall outside. If the work is done at once there should be no loss of crop next year, especially if the house is shaded for a week after planting and the tree is syringed daily until the leaves fall.

EARWIGS.—W. C., Wadhurst: Earwigs may do a great deal of damage to dahlias, chrysanthemums, peaches, nectarines, etc., by biting the leafage, flower buds, or fruits, as the case may be. Trap them with hollow bean stems, pieces of hollow cane, or inverted pots partly filled with dry hay or moss.

SCALE ON GOOSEBERRIES.—O. H., Bury St. Edmunds: The best means of destroying or controlling such an insidious pest as the gooseberry and currant scale is to spray the bushes with a caustic solution early in February. The annual pruning and the removal of old interlacing branches should take place before spraying is done. A suitable caustic wash for the scale is composed of sulphate of iron ½lb., lime ¼lb., caustic soda 2lb., paraffin 5 pints, and enough water to make up ten gallons of mixture. The wash should be prepared as follows: (1) dissolve the sulphate of iron in about 9 gallons of water; (2) slake the lime in a little water, and then add more water to make a milky solution; (3) add "2" to "1," passing it through a piece of canvas so as to keep back any grit; (4) churn the paraffin into the mixture; (5) add the caustic soda, in powdered condition, just before the mixture is to be used.

PROPAGATING VIOLAS.—G. S., Southampton: Go ahead with the work at once. Cuttings should be plentiful now, and they strike root very readily at this season. Add a goodly proportion of road grit to the soil.

SINGLE - STEMMED MICHAELMAS DAISIES.—S. W. H., Gloucester: We entirely agree with you that many of the Michaelmas daisies or perennial asters are charming when grown as single-stemmed specimens, especially the more graceful and elegant varieties of the cordifolius and similar groups. It is a quite easy matter to accomplish, and a very economical way of proceeding is to lift a clump or two of each variety you propose to treat in this way soon after they have flowered; carefully pull the clump to pieces and pot each single growth that has roots attached in a 60-sized pot of good and fairly substantial soil. Plunge the pots to their rim in ashes in a rough frame where a little protection can be given in very severe weather. This will permit you to clear the border entirely and trench and manure it for the reception of a general collection of herbaceous plants. The plants in the pots should be set out where they are to flower in early April. A few may be potted in larger pots, and again plunged out of doors; and if they do not suffer from want of moisture, and are given liquid manure occasionally when the pots are full of roots, then they will provide some pretty specimens for conservatory decoration, or for grouping in connection with house parties and harvest festivals.

SOLANUM NIGRUM.—A. M., Cromer: An interesting account of the solanine in Solanum nigrum berries, and the conditions under which the fruits might possibly be non-poisonous when cooked, is given in our issue of October 9, 1909.

GREENING OF SEED POTATOES.—C. G. O., Saxmundham: A year or more ago a series of experiments was concluded at Kew on behalf of the Board of Agriculture, and those proved conclusively that the greening of seed potatoes was followed by many advantages to the grower. The cleverest growers have for many years advocated and followed the practice of greening their seed potatoes by exposing them to the light for a greater or less period. Many growers believe in selecting and greening their seed potatoes as soon as the crop is lifted; others keep their seed potatoes always exposed to light during the winter; while all are agreed that it is necessary to "up end" and expose the seed tubers to light early in the new year, so that the sprouts shall be strong and sturdy. In the report of the Kew experiments there appeared the following statement: The general opinion held at the present day is that it is essential to have a good, firm tuber that has not been partly exhausted by loss of moisture and continued formation of sprouts that are broken off when the tuber is planted. As the experiments indicate clearly, this result is better attained with "greened" seed than with seed not so treated. A potato not "greened" loses just over six times as much weight during the season as a potato of equal weight that has been "greened." A potato that is "greened" in spring loses twice as much in weight as a potato "greened" immediately after lifting in the autumn, other things being equal.

PRIMULA FORRESTI.—W. B., Leighton Buzzard: Primula Forresti is a Chinese species, discovered and introduced by Mr. E. Forrest when collecting for the Messrs. Bees, Lim. It has rich yellow flowers, and produces these freely, and is regarded as quite hardy. We described and figured the species in the Gardeners' Magazine of April 24, 1909, p. 325, on the occasion of its receipt of a first-class certificate from the Royal Horticultural Society.

NAMES OF PLANTS.

J. W., Glossop.—Athyrium filix fœmina Victoræ.

W. C., Wadhurst.—The flowers were badly smashed, but we think they represent Helenium striatum.

M. J. S., Hounslow.—1, Aster cordifolius; 2, Solidago altissima; 3, Cypripedium insigne; 4, Sedum spectabile.

F. R., Upminster.—1, Aira cæspitosa; 2, Begonia fuchsioides; 3, Linum trigynum; 4, not recognised, send when in flower.

T. H. B., Exeter.—1, Escallonia macrantha; 2, Vitis Coignettiæ; 3, Kochia scoparia; 4, Adiantum cuneatum grandiceps; 5, Stachys lanata.

D. B. D., Wellingborough.—1, Cattleya Trianæ; 2, Oncidium, not recognised from specimen sent; 3, Nephrolepis exaltata; 4, Adiantum gracillimum; 5, Adiantum fragrantissimum.

NAMES OF FRUIT.

G. N., Clitheroe.—Beurre Hardy.

A. J. G., Calne.—Your apple is American Mother.

G. B., Dublin.—The pears are: 1, Beurre Hardy; 2, Durondeau, and the apple Keswick Codlin.

No Name.—3, Beurre Diel, Marie Louise d'Uccle; 7, not recognised.

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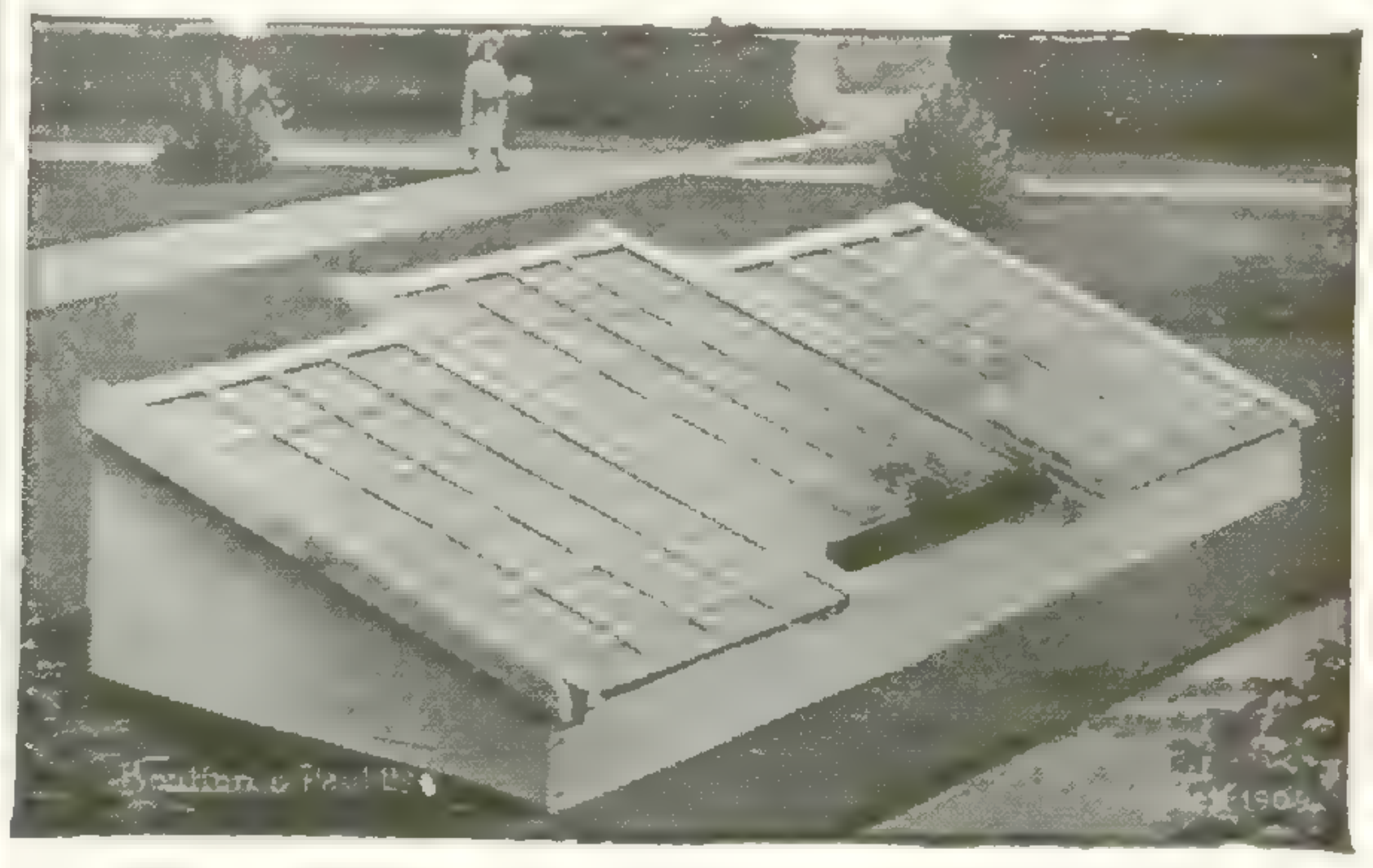

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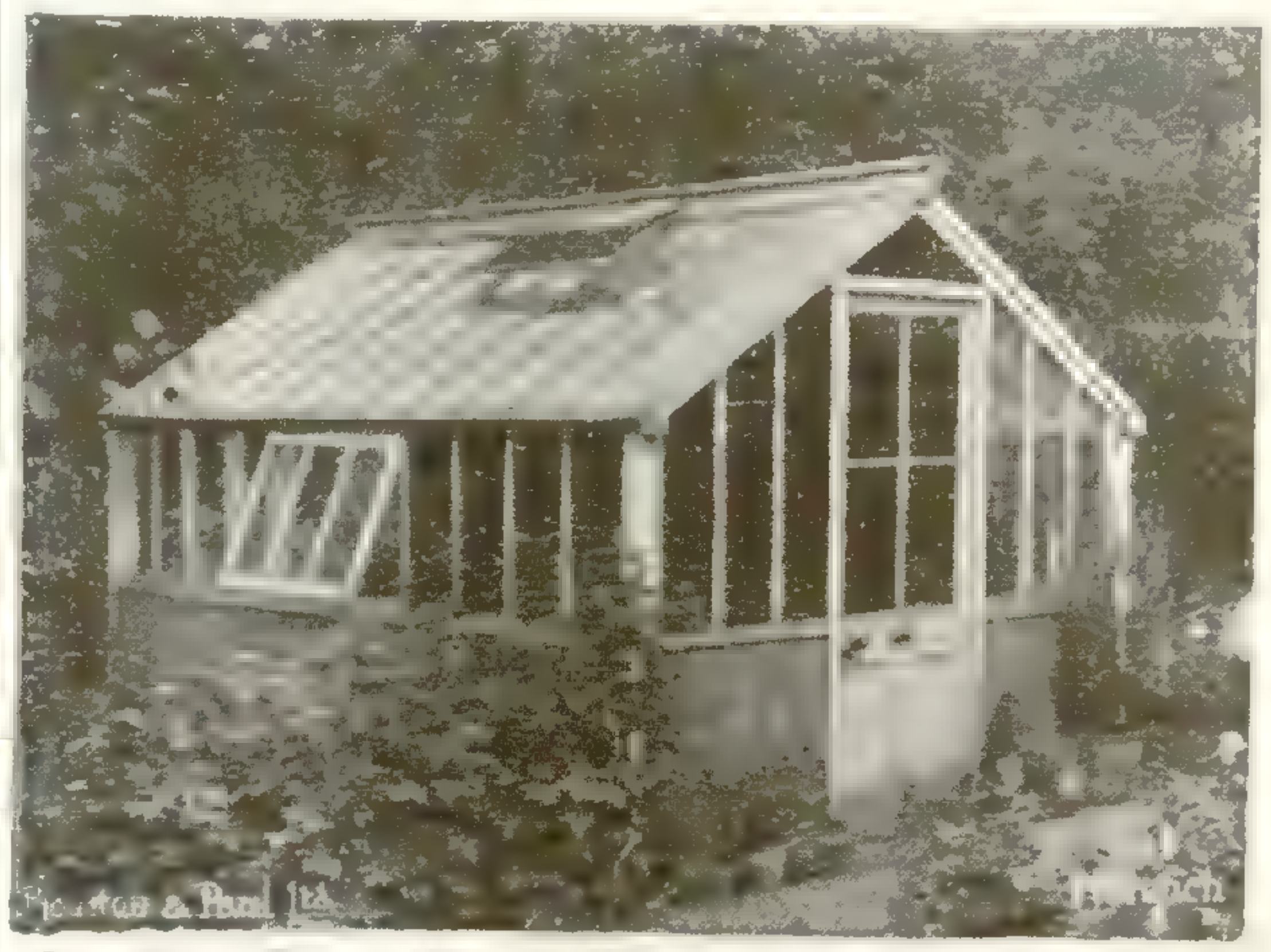

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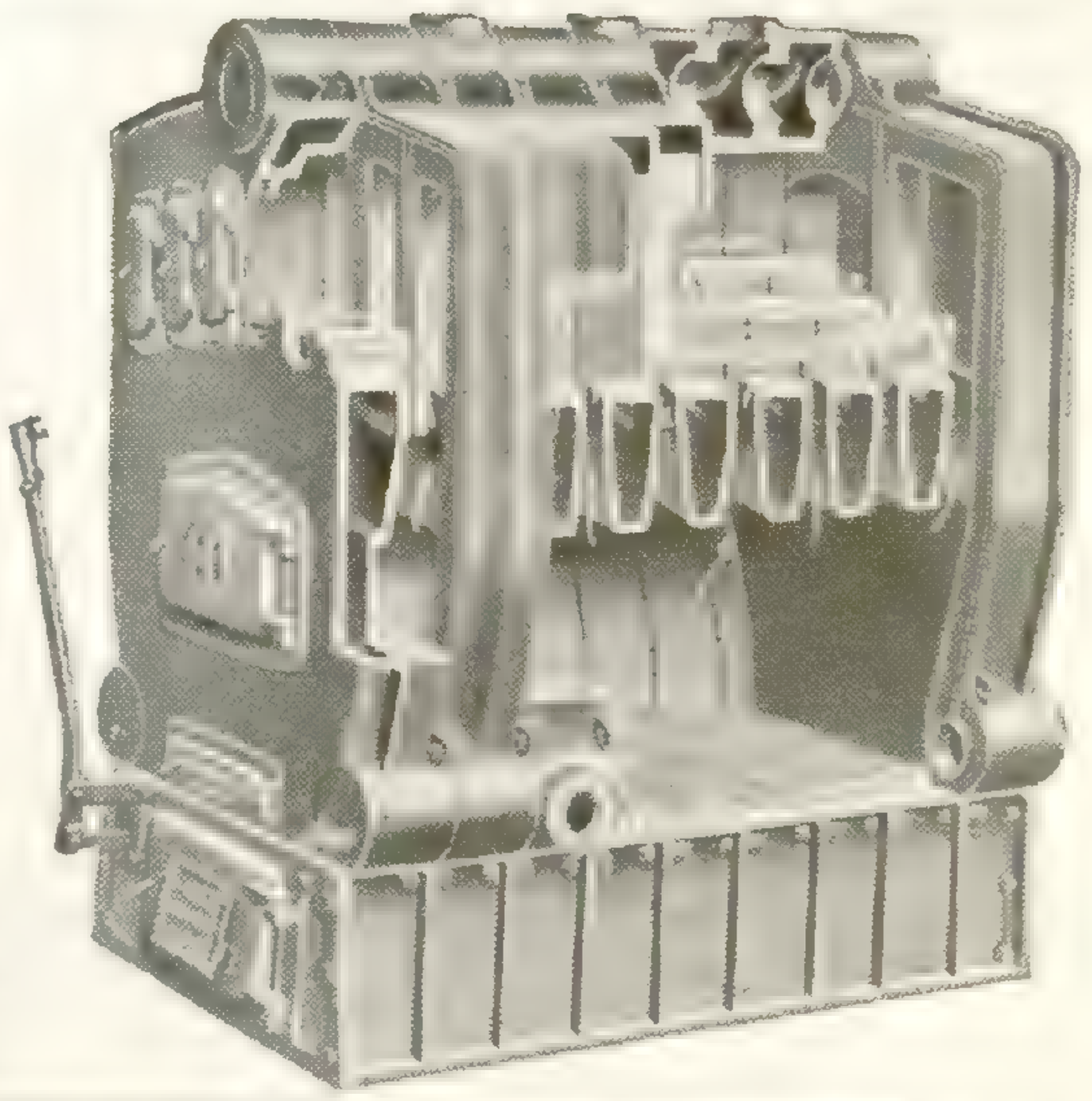

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Dahlias	per doz. bun.	2	0		3	0
French fern	per doz. bun.	0	6		0	9
Gaillardias	per doz bun.	1	6		2	0
Gardenias	per doz.	1	6		2	0
Gladiolus	per doz. bun.	2	0		4	0
Lapagerias	per doz.	1	6		2	0
Lilium auratum	per bun.	1	6		2	6
,, speciosum	per bun.	0	6		1	6
,, longiflorum	per bun.	1	0		2	0
Lily of the Valley	per doz. bun.	5	0		15	0
Marguerites	per doz. bun	1	6		2	0
Mignonette	per doz. bun.	1	0		2	0
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Smilax	per doz. trails	2	0		3	0
Statice	per doz. bun.	3	0		4	0
Sweet Peas	per doz. bun.	1	0		2	6
Tuberoses	per doz.	0	3		0	5
Violets	per doz. bun.	2	0		3	0

Fruits.

Supplies are good and an excellent demand prevails.

		s.	d.		s.	d.
Apples, English	per bush.	3	0	to	12	0
,, Californian	per box	7	0		10	0
,, Nova Scotian	per barrel	14	0		25	0
Bananas	per bun.	3	6		12	0
Blackberries	per peck	2	0		3	0
Cranberries	per case	8	0		9	0
Damsons	per ½-sieve	2	0		4	6
Figs	per doz.	1	0		4	0
Grapes, English	per lb.	0	8		3	0
,, Guernsey	per lb.	0	6		1	3
,, Almeria	per barrel	8	0		12	0
Lemons	per case	10	0		30	0
Melons	each	0	8		2	6
Oranges	per case	12	0		25	0
Peaches, English	per doz.	3	0		15	0
Pears, French	per crate	6	0		10	0
,, English	per bush.	3	0		8	0
,, Californian	per case	5	0		6	0
Pineapples	each	2	0		4	6

Vegetables.

Business is fairly brisk, a steady demand being met by good supplies.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	0
Beans, Runner	per bush.	2	0		3	0
Beet	per bush	2	0		2	6
Brussels Sprouts	per ½-bush.	1	6		2	0
Cabbages	per tally	2	0		4	6
Carrots	per doz. bun.	1	3		3	0
Cauliflowers	per tally	5	0		7	0
Cucumbers	per flat	3	6		6	0
Endive	per doz.	0	9		1	6
Lettuce, Cos	per score	0	6		1	0
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	7	6		12	0
Mustard and Cress	per doz. pun.	0	6		0	8
Peas	per bush.	3	6		4	6
Radishes	per doz bun.	0	4		0	10
Parsley	per ½-sieve	1	6		2	0
Spinach	per bush.	1	3		2	6
Tomatoes	per doz. lb.	2	3		3	6
,, Guernsey	per doz. lb.	2	3		3	0
Turnips	per doz. bun.	1	0		3	0
Watercress	per doz. bun.	0	3		0	6

LONDON POTATO MARKETS.

Supplies are moderate and the demand is rather quiet.

		s.	d.		s.	d.
Round	per ton	45	0	to	50	0
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CATALOGUES RECEIVED.

KING'S ACRE NURSERIES, LIM., HEREFORD.—We have received two of the sectional catalogues issued by this firm; one is devoted entirely to roses, and the other to fruits, both are illustrated, the latter more freely than the former.

STEWART AND CO., 6, MELBOURNE PLACE, EDINBURGH.—A concise list of bulbs, flower roots, and sundries.

JOHN JEFFERIES AND SONS, LIM., CIRENCESTER.—A comprehensive and illustrated catalogue of roses, ornamental trees and shrubs and fruit and forest trees.

ALEX. DICKSON AND SONS, LIM., NEWTOWNARDS, CO. DOWN.—A very interesting descriptive and illustrated catalogue of roses. The "Hawlmark" novelties for 1910 are fully described, and there are coloured plates of four of them.

SOUPERT AND NOTTING, LUXEMBURG.—A freely illustrated and descriptive list of roses.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.
Height above sea level, 150 feet.

DATE. 1910. OCTOBER 2 TO OCTOBER 8.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Oct. 2—Sunday	5 48	60	59	70	56
,, 3—Monday	7 54	55	50	60	52
,, 4—Tuesday	3 30	55	53	65	46
,, 5—Wednesday	4 36	53	52	67	47
,, 6—Thursday	1 18	53	53	63	48
,, 7—Friday	7 12	57	55	67	47
,, 8—Saturday	1 36	56	55	62	51
Means	(total) 31 54	55	55	65	49

DATE. 1910. OCTOBER 2 TO OCTOBER 8.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Oct. 2—Sunday	0.05	58	57	56	51
,, 3—Monday	—	57	57	57	48
,, 4—Tuesday	—	55	56	57	38
,, 5—Wednesday	—	55	56	57	43
,, 6—Thursday	—	56	56	57	43
,, 7—Friday	—	56	55	56	34
,, 8—Saturday	—	55	56	56	42
Means	(total) 0.05	56	56	56	43

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GARDENER (Head, where four or five are kept); life experience in all branches; excellent references, age 31; married, no family. C., care of Stokes, Nurserymen, Trowbridge.

GARDENER (Head). R. ROBERTSON, gardener to the Rt. Hon. Lord Kinnoull, desires engagement with lady or gentleman, where several are kept. 19 years' practical experience in all branches of gardening; age 34; married and well recommended. Address Balhousie Castle Gardens, Perth, N.B.

MR. E. R. BEVAN, highly recommends his late HEAD GARDENER; 13 years in his service, life experience in all branches; most capable and trustworthy; 39; married, one child. H. KING, Rempstone, Corfe Castle.

GARDENER (Head Working).—Mr. WATSON can highly recommend C. WALLIS, where two or three are kept; been here 5½ years as Second of five; age 30; married, one child. The Gardens, Bushey Down, Tooting Common.

GARDENER (Head Working), late of Hungerford Park; well up in all branches, Inside and Out; excellent references; 4 years in last place; married; age 41; abstainer. F. EARL, c/o W. Irving, 2, Kent Villa, Stanwell Road, Ashford, Middlesex.

GARDENER (Head Working); life good practical experience in all branches, Inside and Out, Early and Late Forcing; excellent references. H. TURNER, 62, Star Road, Peterborough.

GARDENER (Head Working where one or two more are kept, or good Single-handed); experienced Inside and Out; good references, and recommended; age 27; married when suited. W. CROUCHER, 11, North Terrace, Hythe, Kent.

GARDENER (Head Working), age 45; married, no family; experienced in all branches Inside and Out; excellent testimonials. WM. SMITH, care of Mrs. Clibury, Weather Lane, Astley, Stourport.

GARDENER (Head Working) requires SITUATION; experienced Vines, Peaches, Melons, Fruit, Flowers, Vegetables; five years' good character; married. C. N., Clarence Cottage, Broadbridge Heath, Horsham.

GARDENER (Head Working, or a good Single-handed, with help); life experience, both inside and out. HARRY GOOD, Pertenhall Manor, St. Neots, Hunts.

W. LAMBERT seeks SITUATION as HEAD WORKING GARDENER, where several are kept; life experience in growing Grapes, Peaches, Melons, Stove and Greenhouse Plants, Orchids, Carnations, Kitchen and Flower Garden, and Hardy Fruit; good reference; married; age 44; one daughter, age 10. W. LAMBERT, The Common, Kenilworth, Warwickshire.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references [illegible] establishments; thorough knowledge in all branches, leaving own request, no young [illegible] youngest 14. W. BLOOMFIELD, Staplehurst, Kent.

GARDENER, life experience Inside and Out, Head Working, or good Single-handed; 38; married; disengaged; good testimonials. W. ANDREWS, Queenborough Cottage, London Road, Braintree.

GARDENER (Head Working), age 33; can be highly recommended; thorough experience in all branches, fruit, flowers, and vegetables; Inside and Out; excellent references. WICKS, The Gardens, Halstead Place, near Sevenoaks.

GARDENER (Head Working, where two or more are kept); good all round; can be well recommended; married when suited; age 36. PEARCE, 10, Roxwell Road, Shepherd's Bush.

GARDENER (Head Working) requires SITUATION; good, all round knowledge Inside and Out; 9 years present situation; age 37; married; good references; abstainer. T. LITTLE, 23, Wanstead Park Avenue, Manor Park, E.

GENTLEMAN recommends GARDENER (Head of two or three); life experience in all branches; understands formation of new or renovating old gardens; married, one boy 10 years; age 45. PENNELLS, Phœnix Green, Winchfield, Hants.

GARDENER (Head or Single-handed); age 43, active and energetic; life experience Inside and Out; boy 14; good references. BASS, 15, Salisbury Road, Chingford Mount, Essex.

GARDENER (Single-handed or otherwise), good all round, under glass; grapes, etc.; married; age 40; one child; good references; suburbs. QUARTERMAIN, 15, Collins Street, Blackheath Village, S.E.

GARDENER (Single-handed or otherwise); good all-round man in all branches, or handy man on gentleman's estate; good at either; willing to be useful; active and reliable; good character; age 45; married, one child. OSBORNE, 48, Bradshaw Road, Watford.

GARDENER (Single-handed or Second of three or four); 13½ years' experience Inside and Out; good reference from last employer. S. WILSON, 62, Camden Road, London, N.W.

JOURNEYMAN (Second, Inside or Inside and Out) seeks SITUATION; age 21, four years' experience, excellent references. DREW, 21, Market Place, King's Lynn, Norfolk.

GARDENER (Second in good establishment); 14 years with stove and greenhouse plants, carnations, chrysants., fruit, flower and kitchen garden; married when suited. E. MOORS, 67, Church Street, Old Town, Eastbourne.

JOURNEYMAN (Second Inside) seeks SITUATION; 3½ years' last place; highly recommended; height 6ft. J. CUMMINS, North End, near Newbury.

GARDENER (Second), age 24, where four or five are kept; 11 years' experience in good establishments; highly recommended. W. HAWTIN, The Gardens, Wykham Park, Banbury.

JOURNEYMAN, or UNDER GARDENER seeks SITUATION, inside and out; [illegible] years present, [illegible] previous, age 22, good references. C. G. STEVENS, 10, Clinton Road, Leatherhead.

JOURNEYMAN. J. BAILEY, Fulmer Hall Gardens, can highly recommend Young Man as above; has been with me three years, Inside and Out; age 20; Bothy preferred. Address, H. ROBINSON, Uxbridge Road, Stoke Poges, Slough.

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For OCTOBER 22, 1910.

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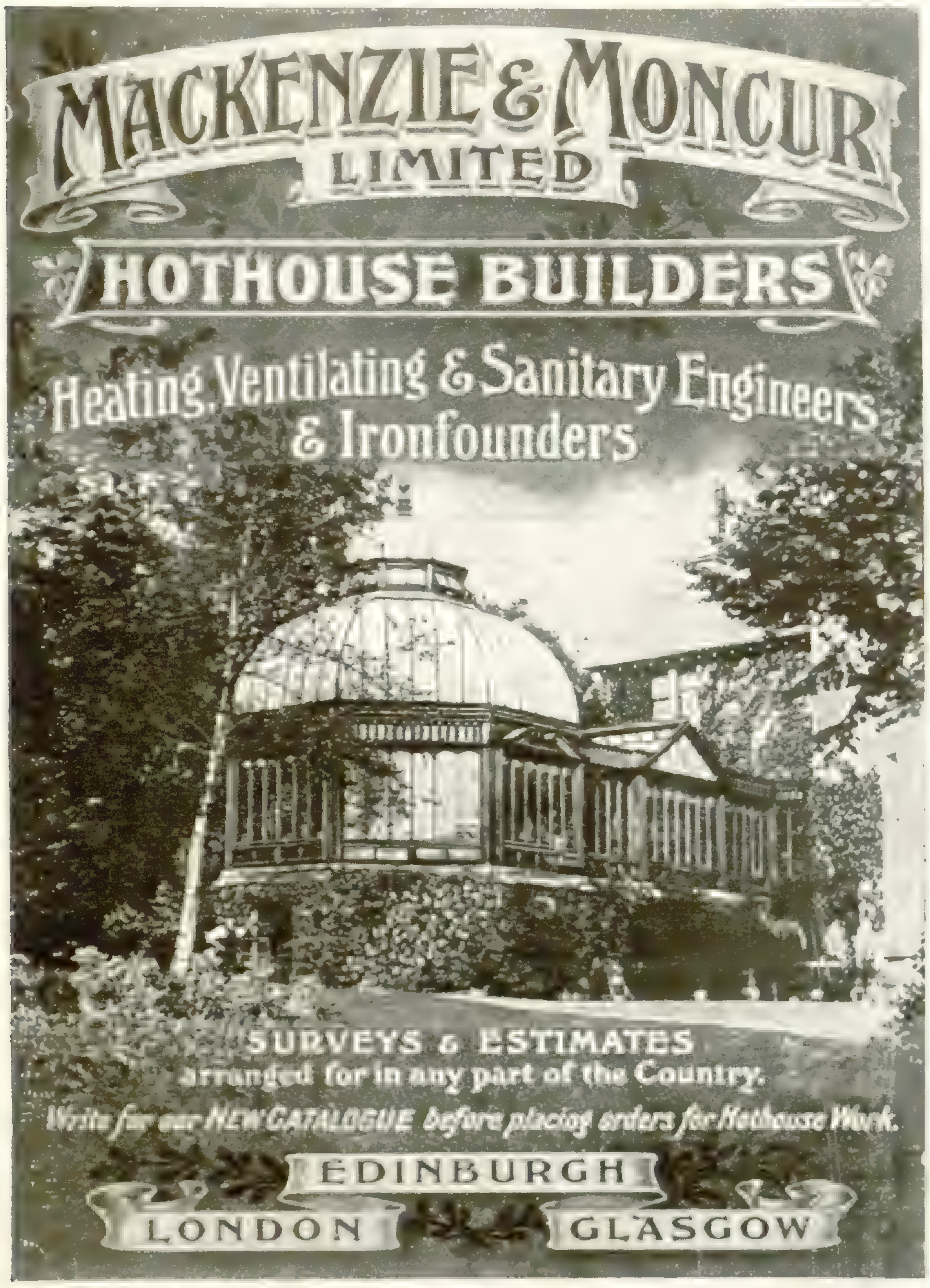

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AUTUMN PLANTING NUMBER.

THE GARDENERS' MAGAZINE.

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Crocus, 2nd size, in the finest mixture	0	8	5	10
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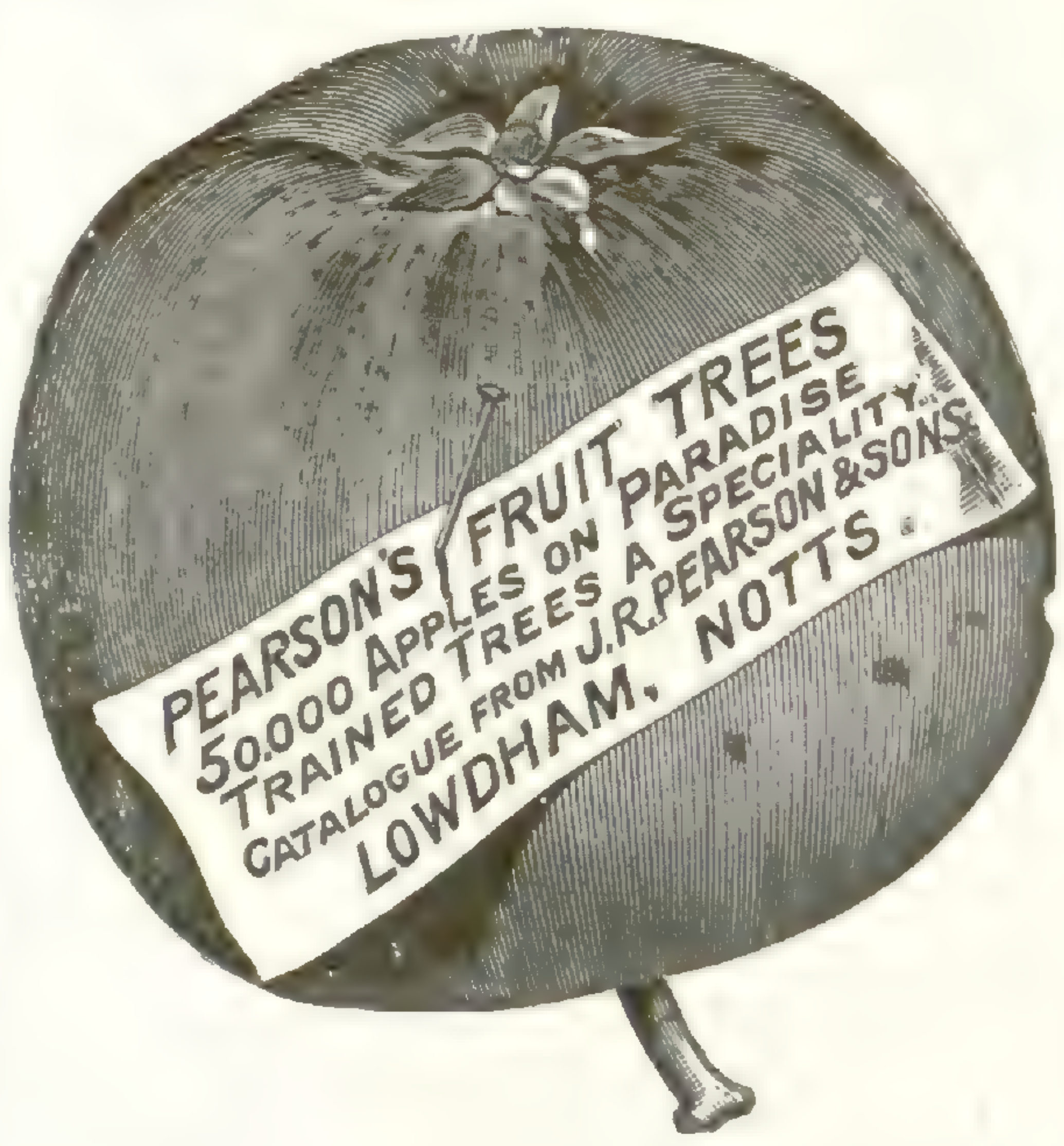
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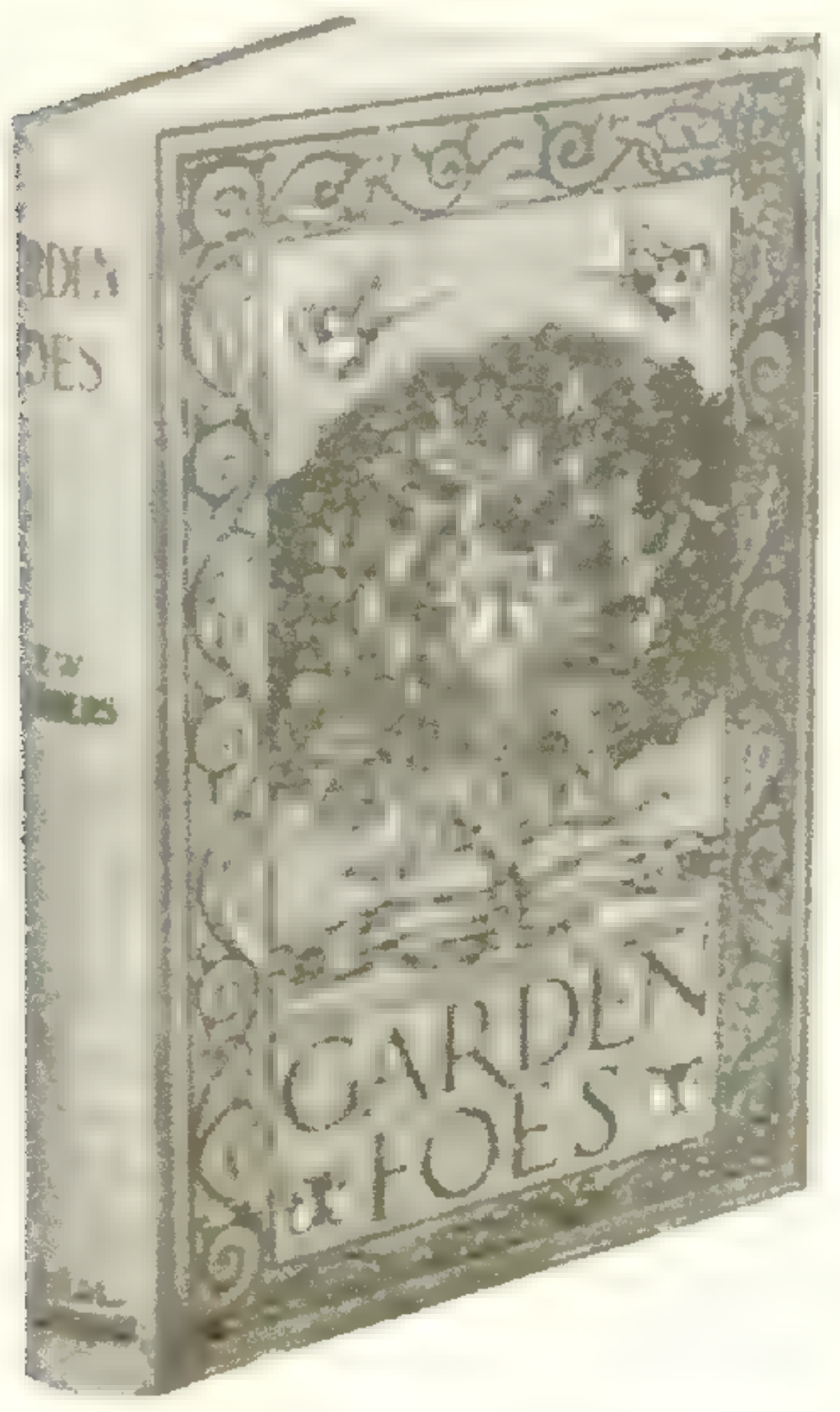

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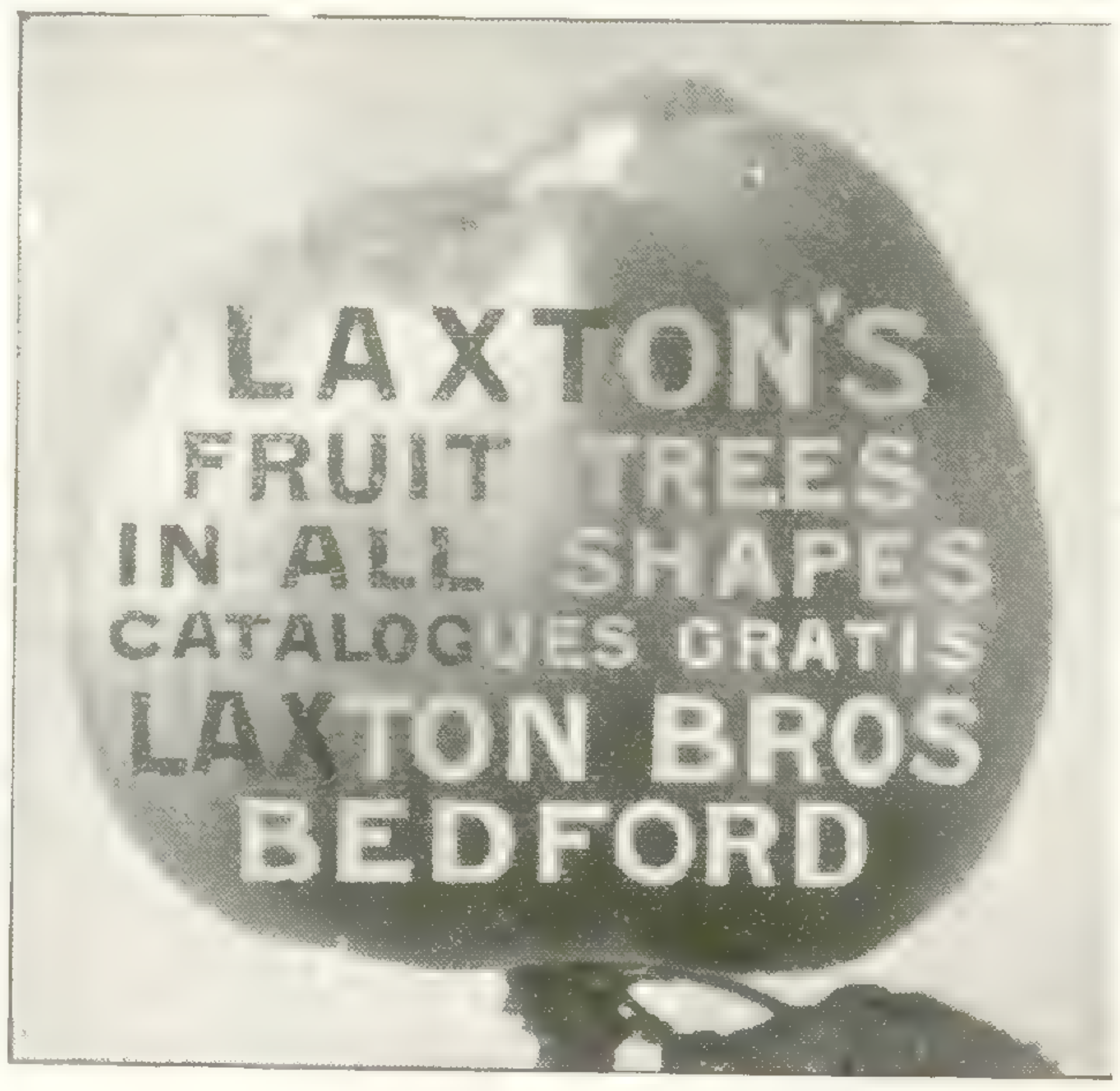

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VOL. LIII.—No. 2,973. SATURDAY, OCTOBER 22, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Human versus Natural Selection.

In considering the problems of that natural selection which underlies the evolution of organic life, and has led up to the wonderful diversity in the midst of which we now exist, there is always a tendency to draw a hard and fast line between it and that selection which is induced by man. Properly speaking, however, no line should be drawn, for man himself is as natural an outcome of evolution as any of the others, and the wonderful results which he produces are simply due to the extra evolution of his intellect, and his consequent greater power of comprehending and utilising natural laws. In Nature, it is entirely the law of the survival of the fittest, i.e., those most capable of surviving in the purely natural struggle for existence, which prevails. The reproduction, and consequent continuance of the race, is the main end in view, and all the contrivances which have been evolved have been developed to that end, viz., preservation of the individual, and security for a succession. Man, however, has other objects in view besides this, and probably the great majority of these objects tend rather to frustrate than to aid such survival under unassisted conditions. To counteract this, with the evolution of flowers, fruit, cereals, and other vegetable products of value, there has been simultaneously evolved the knowledge of manures, the construction of greenhouses and other protective contrivances, the study of temperature, and a thousand and one other interacting factors in development, without which there is no doubt whatever the great bulk of our horticultural and agricultural acquisitions would either die out or revert with greater or less rapidity to the original unsophisticated types or forms but little differing therefrom. Naturally, it is no advantage to the rose to be diverted from the robust and vigorous simplicity of the single wild type to the comparatively huge double forms, in which the great bulk of Nature's most precious product, the all-essential seed, is largely, or perhaps entirely, suppressed, or, where existent, is so pervaded by the conflicting tendencies of mixed ancestors as to be quite incapable of true reproduction of the parental type, and possibly only owes its vitality to a persistence of the old wild blood of the briar, which it will do its level best to reproduce, abjuring in this fashion the unnatural interference of man. Man, in pursuing selection, does so, as a rule, on perfectly arbitrary lines from Nature's point of view. His aim is to satisfy the eye with brilliant and delicate hues displayed as conspicuously and gracefully as possible, and allied with forms as attractive as he can conceive them, or to satisfy the palate by added sweetness and abundance of luscious pulp, and so long as he achieves this end he is quite content to propagate by cuttings or other asexual methods, and even in many cases regards the seeds as a nuisance which it is a merit to reduce to a minimum, or even a nullity. In the cereals, it is true, the precious seed comes to the front, but it is mainly because it happens to form his "staff of life" that he devotes so much of his energies to the improvement of it in size and yield. So far as Nature is concerned, the small original grass seed is equally valuable, and equally well plays its fundamental rôle of race continuance as the fat bloated grain of the finest pedigree wheat. It is, however, in the direction of hybridisation that man departs the farthest from Nature's course. She has invented a myriad subtle contrivances to prevent the world from being peopled with an infinity of mongrels. Difference of construction, subtle antipathies, and a thousand and one incompatibilities between race and race keep them from intermingling, and by so doing have secured the definition of innumerable orders, genera, and species of both plants and animals, and indubitably led up to the evolution of man himself, who could not conceivably have become differentiated and elevated had such barriers as we have alluded to been non-existent. Divergent, however, as is man's procedure in selection from that of Nature, he must, as we have said, be regarded as a natural factor. In Nature, there are other living selective agencies which, like him, select on purely selfish lines, the fertilising moths and bees to wit, to whom we owe our wild floral wealth, have performed their office solely for the love of nectar, and if he differs from these involuntary agents by the possession of a brain which enables him to work to definite ends, this brain is, after all, but another link in the general evolutionary chain, and is only differentiated by its unique development.

MR. F. DENNISON.

Mr. F. Dennison, of Cranford, Leamington, marches in the forefront of that army of clever and enthusiastic cultivators which owes allegiance to the Queen of Flowers. He is an ardent rosarian, and has for many years taken a very active part in the work of the National Rose Society, having a seat on its Council. He has been successful in winning a large number of prizes with roses at various exhibitions, but his ambition has been to win the Amateur Championship. However, he is not able to compete with Mr. Lindsell and the Rev. J. H. Pemberton in the leading amateurs' class at the metropolitan exhibition of the N.R.S., because the date is usually too early for him. But at the society's provincial show he invariably gives a good account of himself; and at Salisbury, in July last, he achieved one success for which he has made many bids, by winning the Provincial Amateur Championship and securing the Jubilee Trophy with a splendid lot of blooms, that was well ahead of the sets staged by other competitors, including even Mr. Lindsell, who had to be content with second place. In his set of flowers a bloom of C. J. Grahame was awarded the silver medal as the best amateur's H.T. rose in the show.

Dahlias and Chrysanthemums at the Wisley Trials, 1910.—A sub-committee of the Royal Horticultural Society visited the Wisley Gardens on September 15, and recommended Awards of Merit, which have been confirmed by the council, for the following: Chrysanthemums.—To Messrs. Wells and Co., of Merstham, for Elaine; to Messrs. Dobbie and Co., of Rothesay, for Abercorn Beauty, Flora, Miss Balfour Melville, Mr. Selby, Nina Blick, and Leslie. Dahlias.—To Messrs. Hobbies, Lim., Dereham, for Grenadier; to Mr. Pfitzer, Stuttgart, for Hohenstanfen; and to Messrs. Bakers, Codsall, for S. T. Wright. The sub-committee also visited the Wisley Gardens on September 29, and recommended Awards of Merit, which were confirmed by the council on October 12, for the following chrysanthemums: To Messrs. Dobbie and Co., of Rothesay, for Diana, Market White, Mrs. A. Thompson, Polly, Tapis de Neige, Fee Japonaise, Perle Chatillionaise, and Provence; to Messrs. Wells and Co., of Merstham, for Diana, Cecil Wells, and Gatton.

Proposed North of England Horticultural Society. An important meeting has been arranged for the discussion of a proposal to establish a North of England Horticultural Society, with headquarters at Leeds. This is to take place in the Town Hall, Leeds, on Tuesday, October 25, at 3 p.m., when the Lord Mayor, W. Penrose Green, Esq., will preside. All who are specially interested in this movement are invited to attend the meeting.

Fruit Congress at Hexham.—In our issue of October 29 we shall give a descriptive and illustrated account of the Fruit Show and Congress held at Hexham from October 20 to October 22. This exhibition and congress, designed to emphasise the importance of hardy fruit culture in the Northern Counties, is one of the most important meetings of its kind held during recent years, and we have, therefore, made special arrangements to record the proceedings.

Distribution of Plants from the Royal Parks and Gardens.—The surplus bedding plants that are available when the beds in the Royal Parks are cleared this autumn ready for bulbs and other spring-flowering subjects, will be distributed among the poor inhabitants of London. Clergy, school committees, and others interested are requested to make application at once to the superintendent of the park nearest their respective parishes, so that early intimation of the number of plants allotted to each applicant, and the manner of their distribution, may be given. The plants will be distributed from Hyde Park, Regent's Park, and Hampton Court Gardens.

A Fine Lilium.—During the past week there has been on view in a Stoke Newington shop a splendid example of Lilium speciosum rubrum, bearing five spikes and an aggregate of 110 flowers and buds. The bulb was purchased for 1s., and was cultivated in a Stoke Newington home.

Value of Cross-fertilisation in Apples.—Experiments made at the Oregon Agricultural College go to show that many apples cannot be fertilised with their own pollen. It was found that out of 87 varieties of apples no fewer than 59 were self-sterile, while 15 were self-fertile, and 13 partially self-fertile. The sterility or fertility of a variety may be influenced by climate, hence the need of careful examination and experiment in every locality. The varieties of apples found to be self-sterile, i.e., needing cross-pollination, at Oregon, were Bottle Greening, Canada Reinette, Gravenstein, Holland Pippin, Jonathan, King of Tompkins County, Monmouth Pippin, Rhode Island Greening, Summer Pearmain, Twenty Ounce, Winesap, and York Imperial. Among self-fertile varieties were Baldwin, Keswick Codlin, Duchess of Oldenburg, White Pippin, and Yellow Newtown, and among partially self-fertile varieties were Ben Davis and Canada Red.

Potatoes Resistant to Wart Disease.—Recognising that it is practically impossible for cottage gardeners and allotment holders to avoid planting potatoes on plots previously occupied by the crop, even though the latter was badly affected by wart disease, the Board of Agriculture arranged for experiments to be made for the purpose of ascertaining whether any potatoes were sufficiently disease resistant to produce good crops of sound tubers on infected land. In 1909 the experiments were conducted at five places, and the varieties, Langworthy, What's Wanted, Golden Wonder, Sutton's Abundance, and Findlay's Conquest, were found to resist the disease. During the present year, the experiments were conducted on land infected with wart disease at five centres. At the Holmes Chapel College the land was very badly infected, and only two varieties were entirely free from the disease, viz., Sutton's Discovery and Golden Wonder, though Langworthy and What's Wanted were but very slightly attacked. At the other centres results in conformity with those of 1909 were obtained. Findlay's Conquest, Golden Wonder, and Langworthy were planted at four places; Snowdrop and Sutton's Abundance at three places; and What's Wanted at one, and in all cases they showed no trace of wart disease. Other varieties that were grown at from one to four places and were not attacked were: Early Varieties.—Aberlady Early, Southern Queen, Southern Star; Second Earlies.—Favourite, St. Malo Kidney, Supreme; Maincrop.—Champion, Chiswick Favourite, Crofter, Laird, Prolific, Provost, Reading Giant, Rector, Schoolmaster, White City, and Peacemaker. Millcross Early was free from disease at two centres. Snowdrop was this year planted at three centres, at two of them on duplicate plots, and was not affected, although at Holmes Chapel, where but few varieties escaped, it was attacked.

Area under Potatoes in Great Britain. The area under potatoes this year in Great Britain is 35,777 acres less than in the previous year, or a reduction of about 6.2 per cent. This, together with the prospect of bad-keeping qualities in the crops harvested, further confirms the opinion that potatoes will be dear before the end of the winter.

Royal Horticultural Society's Trials at Wisley, 1911-12.—The Royal Horticultural Society have arranged for trials of the following subjects to be made at Wisley in 1911-12. Everything sent for trial must be named, and the name and address of the sender attached. Fruit.—Strawberries and raspberries, autumn fruiting; these trials will be continued. Flowers.—Fuchsias for bedding and for the conservatory; two plants of each to be sent in early March. Begonias (fibrous), including summer and winter flowering, and bedding varieties; two plants of each to be sent in March. Delphiniums, two plants of each in February. Dahlias (decorative), introduced into commerce since January 1, 1908; two plants of each in May. Primulas (hardy), for borders and rock work; three plants of each in February. Vegetables.—Carrots, half ounce of each early in February. Cucumbers, six seeds of each in February. Peas, half-pint of each early in February. Cabbages, savoy, one packet of seed of each in March. Potatoes, midseason and late; each variety must be labelled as being "midseason" or "late"; twenty tubers of each to be sent by February. If sent by post the address should be: The Superintendent, R.H.S. Gardens, Wisley, Ripley, Surrey. If sent by rail: The Superintendent, R.H.S. Gardens, Wisley, Horsley Station, L. and S.W.R., with advice by post to the superintendent.

The King and Irish Horticulture.—It is with very great pleasure we learn that his Majesty the King has graciously consented to become a patron of the Royal Horticultural Society of Ireland.

Fruit Growing in County Down.—Mr. Walter Smyth, of Belfast, writes: "In your issue of September 24 your reference to fruit growing in Ulster was very instructive, and for those interested in the subject I now send you a list of the apples which are most satisfactory in County Down. The ground is on a hill, and is gravelly, with a clay subsoil. We have found Lane's Prince Albert a most reliable constant bearer, one tree has not missed cropping for eight years. Next comes Bramley's Seedling, then Grenadier and James Welsh, and then Lord Grosvenor and Duchess of Oldenburgh. Cox's Orange Pippin is not reliable, the fruit being hard and scanty. Instead, I would recommend Allington Pippin, which gives large crops of fine fruit. I have found Hessle Pear and Victoria Plum satisfactory, and on a wall the Jargonelle pear comes to perfection. The trees grown on cultivated ground, as compared with grass land, have the largest crops and the largest fruit, 30 going to a stone, against 40 on grass lands."

The Hampton Court Vine.—A large number of the two hundred bunches of fine Black Hamburgh grapes produced this year by the famous old vine at Hampton Court have been distributed among the London hospitals, by the direction of his Majesty the King.

Ipomæa rubro-cærulea at Walmsgate. — Mr. Thomas Smith writes: Your correspondent's note on page 731 regarding Ipomæa rubro-cœrulea reminds me of the fine display it produced at Walmsgate this season. Raised from seed sown in February under glass, subsequently potted in a light soil, and eventually planted out at the foot of a low wall having a south aspect, the plants made marvellous growth, the bine extending some 15 feet along the wall top. The maximum point was reached by the first week of September, when I counted 50 fully-developed flowers open at one time. At its best, the colour is one of those shades of blue that appear too delicate for our English summers; as its purity is entirely dependent upon warmth and abundant sunshine for the transition from purple and magenta up to the point when the colour is faultless is extremely rapid, so that within the space of a few hours each stage can be clearly observed. Nevertheless, it is an annual climber that well merits a position in the garden, as, succeeding with it, we introduce an interest that is quickly noted and duly appreciated. It is a plant for favoured gardens and favoured positions and under these conditions we may generally regard its flowering as a certainty.

Colonial Fruit Show.—We are informed that the Colonial Fruit Show, to be held at the Royal Horticultural Hall, Westminster, on December 1, 2, and 3, will be opened by Sir Edward Grey, the Secretary of State for Foreign Affairs.

GREAT EXHIBITION OF BRITISH-GROWN FRUIT.

On October 13 and 14 there was a remarkable exhibition of British-grown fruit at the Royal Horticultural Hall, Westminster. There was such a grand display of splendid produce that it seemed to give the lie to the general assertion that fruits, especially apples and pears, are a small crop his year. The truth, of course, is, that in a year when the crops are moderate or thin, the fruits that do develop are able to do so without the severe competition that would exist in the year of full crops. Then, too, the splendid weather of late September and early October added materially to the size and colour of the fruits, so that the quality of the apples and pears displayed at Vincent Square was very high. There have been finer exhibitions and a larger competition, but, all things considered, the show of 1910 must be regarded as a remarkable one, and evidence of the skill of our cultivators under trying conditions. The outstanding feature of the exhibition was the high quality of the apples, for, although pears and plums were good, and so, too, were some of the grapes, these have been better shown on other occasions. There was a good attendance on the opening day, but the visitors were very largely composed of gardeners, market growers, salesmen, and others directly interested in the production and distribution of fruits. Ladies and society folk were chiefly noticeable by their absence—to use an Irishism.

CHOICE FRUITS.

There were two entrants in the class for a collection of nine dishes of ripe dessert fruit, to consist of at least six kinds, and here the silver cup and first prize fell to Mr. T. Pateman, gardener to C. A. Cain, Esq., The Node, Welwyn, Herts, for nicely-coloured Muscat of Alexandria and Alicante grapes, Hero of Lockinge melon, Pitmaston Duchess and Beurre d'Amanlis pears, Cox's Orange Pippin and Duchess's Favourite apples, Lady Palmerston peaches, and Coe's Golden Drop plums, Mr. S. Neal, gardener to J. A. Nix, Esq., Tilgate, Crawley, Sussex, second, his dishes of Doyenne du Comice pears and Nectarine peaches being very good. Neither collection was of extraordinary merit.

The best collection of six dishes of ripe dessert fruits, pines excluded, came from Mr. W. H. Cooke, gardener to Lord Belper, Kingston Hall, Derby, who had very fine bunches of Gros Colmar and well-finished Muscat of Alexandria grapes, Eminence melon, and excellent examples of Doyenne du Comice pears, Cox's Orange Pippin apples, and Gladstone peaches; Mr. S. Barker, gardener to the Duke of Newcastle, Clumber, Worksop, second, with well-finished Madresfield Court grapes, and a fine dish of Pitmaston Duchess pears; Mr. T. W. Birkinshaw, gardener to Sir C. E. Hamilton, Bart., Hatley Park, Sandy, and Mr. G. Richardson, gardener to H. St. Maur, Esq., Newton Abbot, were awarded equal third prizes.

GRAPES.

Only a second prize was awarded to Mr. H. Cornish, gardener to A. Benson, Esq., Upper Gatton Park, Merstham, Surrey, for his collection of four varieties of grapes, two bunches of each; he was the only exhibitor in the class, and his varieties were Madresfield Court, Muscat of Alexandria, Mrs. Pearson, and Mrs. Pince. Mr. J. Shelton, gardener to Lord Hillingdon, Sevenoaks, had the best pair of bunches of Black Hamburgh, Mr. E. Neal coming second. Mr. Shelton also scored for Mrs. Pince with shapely clusters; Mr. G. Richardson, second.

Out of six competitors, Mr. S. Barker scored for a pair of bunches of Alicante, with large-berried and highly-coloured clusters; Mr. H. H. Brown, gardener to W. G. Raphael, Esq., Castle Hill, Englefield Green, second with big bunches, but small berried; Mr. W. Lintott, gardener to Sir Walpole Greenwell, Bart., Marden Park, Surrey, third.

Mr. Barker also scored for Madresfield Court, with medium bunches of fine berries; Mr. W. H. Cooke, second; and Mr. J. Kidd, gardener to G. Miller, Esq., Newberries, Radlett, Herts, third; five entries. Mr. J. Gibson, gardener to the Duke of Portland, Welbeck Abbey, was the only exhibitor of Prince of Wales, and was deservedly awarded the first prize for well-set bunches. In the "any other black" class, Mr. S. Barker scored with huge bunches of Gros Guillaume; Mr. T. Pateman second with Appley Towers.

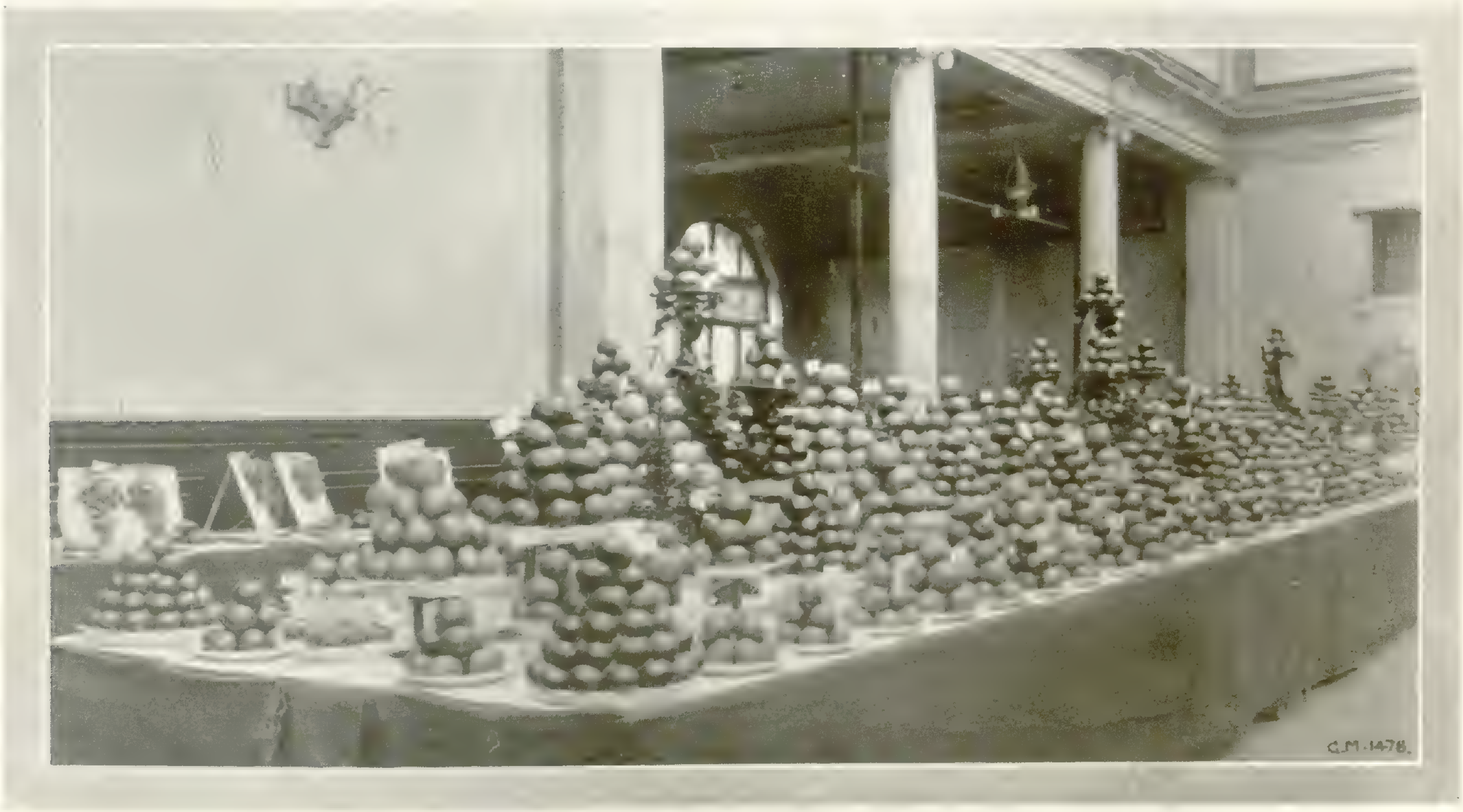
Mr. W. D. Pope, gardener to L. G. Pike, Esq., Wareham, Dorset, led for a pair of bunches of Muscat of Alexandria with fine clusters, admirably finished; Mr. T. Kidd, second; and Mr. H. Cornish, third; seven competitors. For any other white grape, Mr. Birkinshaw was first and Mr. Hyde, Norwood Hall, Sheffield, was placed second with Foster's Seedling, and Mr. Cornish third with Mrs. Pearson. Mr. W. Hyde, Norwood Hall, Sheffield, was given a second prize in the Frontignan class for narrow bunches of shrivelled berries of (possibly) Dr. Hogg.

COLLECTION OF HARDY FRUITS.

Mr. J. Whittle, Cheveney, Kent, scored for a collection of hardy fruits arranged on a space 12ft. by 3ft., and all grown out of doors. He had a very weighty set of cooking apples, good dishes of Allington Pippin and Cox's Orange Pippin apples, Conseiller de la Cour and Durondeau pears, Sea Eagle, Princess of Wales, and Walburton Admirable peaches, damsons, cobnuts, walnuts, blackberries, and quinces; Mr. F. Cornford, gardener to Major Powell Cotton, Quex Park, Thanet, second; and Mr. W. H. Bacon, gardener to Sir Marcus Samuel, Bart., Maidstone, third, the latter showing several dishes of plums, St. Joseph strawberries, figs, and raspberries.

NURSERYMEN'S GROUPS.

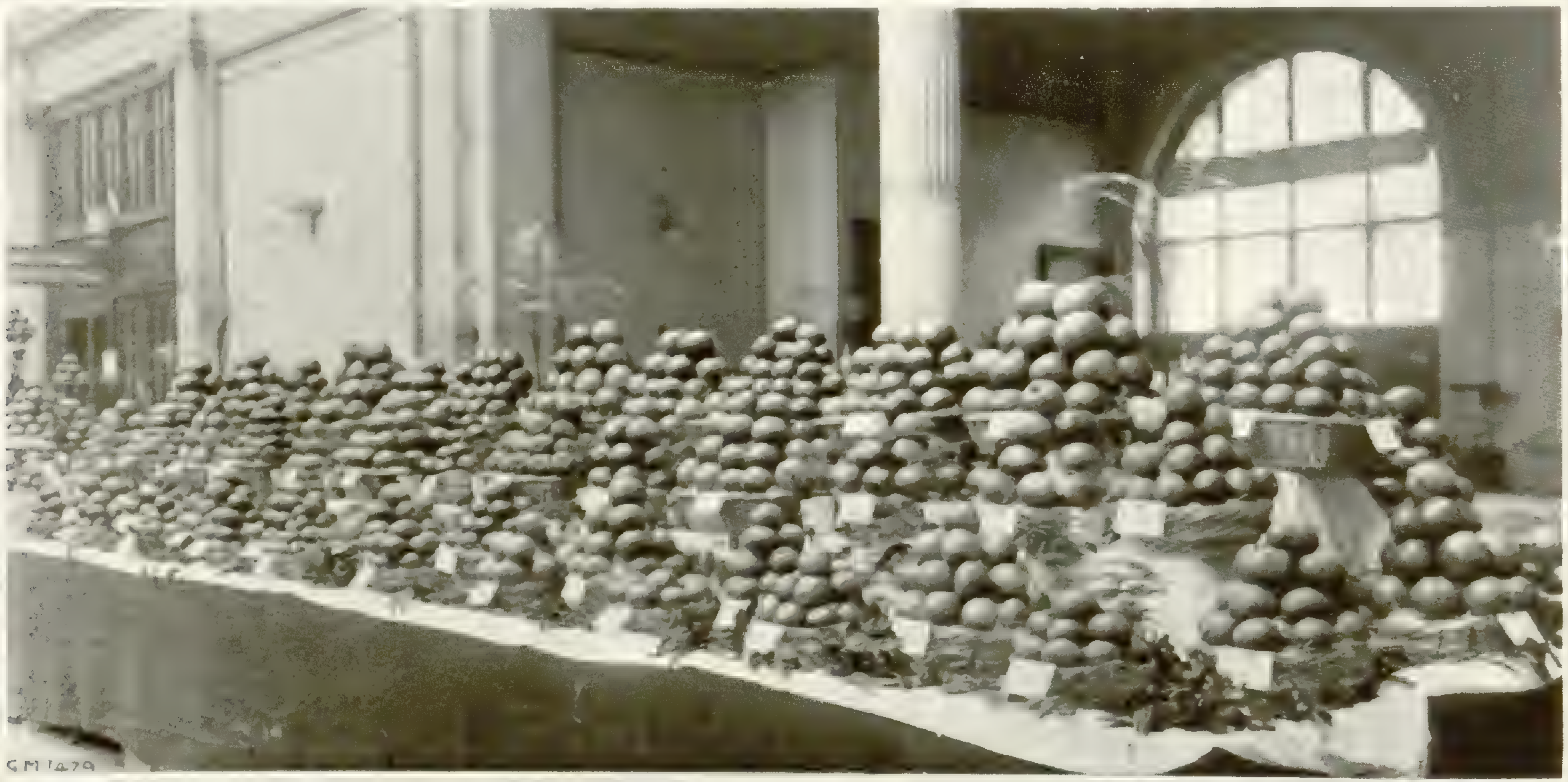
For a collection of fruit, to be grown entirely out of doors, arranged on a space 30ft. by 6ft., Messrs. G. Bunyard and Co., Lim., Maidstone, once again secured the premier position, and did so with a fine collection of about a hundred and forty varieties of apples and pears. The arrangement was excellent, three stands of highly-coloured apples being raised well above the rest of the group. Leading varieties were Newton Wonder, Gascoigne's Scarlet, Lane's Prince Albert, Golden Noble, Blenheim Pippin, Royal Jubilee, The Queen, Hollandbury, Brownlees Russet, Allington Pippin, Bramley's Seedling, Warner's King, Foster's Seedling, Brabant Bellefleur, Lord Derby, James Grieve, Bismarck, and Gold Medal



R.H.S. FRUIT SHOW—FIRST PRIZE COLLECTION OF HARDY FRUITS.
Occupying thirty feet run of table. Exhibited by Messrs. G. Bunyard and Co.

apples. The King's Acre Nurseries, Lim., Hereford, secured second prize with a fine set of fruit, their Pott's Seedling, Lady Sudeley, Tyler's Kernel, Cox's Orange Pippin, Peasgood's Nonsuch, Charles Ross, Rival, Wealthy, and Allington Pippin apples, and Pitmaston Duchess pears being particularly good. The third prize was awarded to Messrs. H. Cannell and Sons, Swanley, who had a brightly-coloured set of fruits, nicely arranged; Messrs. J. Cheal and Sons, Crawley, fourth.

Messrs. Seabrook and Sons, Chelmsford, gained the chief horours in the class for hardy fruits arranged on a space 20ft. by 6ft., and they put up a remarkably fine lot of apples and pears, staging these in dishes and in large baskets: The Queen, Bismarck, Allington Pippin, Blenheim Orange, Royal Jubilee, Peasgood's Nonsuch, and Cox's Orange Pippin apples were very fine, as also were the samples of Marie Louise d'Uccle, Beurre Fouqueray, Emile d'Heyst, and Catillac pears; Mr. R. C. Notcutt, Woodbridge, Suffolk, gained the second award, and had some very big examples of the more popular culinary apples; Messrs. Laxton Brothers, Bedford, were third with well-selected bright fruits, very prettily arranged; Messrs. Spooner and Sons, Hounslow, fourth.



R.H.S. FRUIT SHOW—FIRST PRIZE COLLECTION OF FRUIT.
Occupying fifteen feet run of table. Exhibited by Messrs. Seabrook and Son.

Mr. Will Tayler, Osborn Nursery, Hampton, led in the class for hardy fruit arranged on a space 12ft. by 6ft., with some splendid apples and pears, rather flatly arranged: Allington Pippin, King of the Pippins, Lord Derby, Newton Wonder, and Annie Elizabeth were finely shown; Mr. H. T. Mason, Millcote, Hampton Hill, came second; Messrs. J. Peed and Sons, Norwood, third; and Messrs. R. Veitch and Son, Exeter, fourth, the latter having fine dishes of Christmas Pearmain and Coronation.

MARKET GROWERS.

Mr. A. Poupart, Marsh Farm, Twickenham, was easily first in the market growers' class for fruits arranged on a space 18ft. by 6ft., and he was awarded the medal of the Fruiterers' Company; he showed fine baskets of Wealthy, Norfolk Beauty, King of the Pippins, Peasgood's Nonsuch, Lane's Prince Albert, Rev. W. Wilks, Bismarck, Allington Pippin, Cox's Orange Pippin, Charles Ross, Bramley's Seedling, Chelmsford Wonder, and Washington apples, and Conference, Beurre Superfin, Durondeau, Pitmaston Duchess, and Louise Bonne of Jersey pears; Mr. Startup, manager to the Kentish Fruit Growers' Union, Maidstone, second, the fruits being staged in boxes.

The premier collection of fruit arranged on a space 12ft. by 6ft. was the one staged by Mr. W. Stowers, gardener to G. H. Dean, Esq., Whitehall, Sittingbourne, who had splendid baskets of Mère de Ménage, Peasgood's Nonsuch, Sandringham, Warner's King, Bramley's Seedling, Gloria Mundi, Stones', Charles Ross, Alfriston, Cox's Orange Pippin, and Houblon; Mr. H. T. Mason, Hampton Hill, a close second; Horticultural College, Swanley, third.

The class for a dozen dishes of apples, half to be dessert and half to be culinary varieties was a good one, and there were five competitors. First prize was awarded to Mr. R. A. Whiting, Dargate, Faversham, who had beautiful specimens of Peasgood's Nonsuch, Lord Derby, Warner's King, Stone's, Ribston Pippin, Emperor Alexander, Cox's Pomona, Rival, King of the Pippins, Charles Ross, Cox's Orange Pippin, and Allington Pippin; Mr. A. E. Mason, Hampton Hill, a capital second; and Miss Courtauld, Knight's Farm, Colne Engaine, Essex, third.

ORCHARD HOUSE FRUIT.

Two fine exhibits were forthcoming in the class for a collection of orchard house fruit and trees, each arranged on tabling 24ft. by 6ft. Messrs. T. Rivers and Son, Sawbridgeworth, were awarded the first prize for a grand lot of finely-fruited trees and superb picked fruits. Buckingham, Melon and King of Tompkin's County apples, Beurre Bosc, Doyenne du Comice, Conference, and Pitmaston Duchess pears, and President plums were splendid as pot trees, while among the picked fruits a few of the best dishes were Ribston Pippin, Jas. Grieve, Peasgood's Nonsuch, Cox's Orange Pippin, Chas. Ross, and Cox's Pomona apples, Late Orange, Grand Duke, President, and Coe's Golden Drop plums, and Conference, Beurre Alexandre Lucas, Pitmaston Duchess, and Magnate pears. Messrs. G. Bunyard and Co., Maidstone, came second, and they also contributed a grand lot of picked fruits, though their pot trees were not quite up to previous exhibits.

COLLECTIONS OF APPLES AND PEARS.

In the class for two dozen dishes of apples, grown entirely out of doors by amateurs, eight of the dishes to be dessert varieties, there were four competitors, the premier award falling to Mr. J. Whittle, gardener to Lieut.-Colonel A. C. Borton, Cheveney, Hunton, Herts, for a fine, clean set of Emperor Alexander, Lord Derby, Bismarck, Mère de Ménage, Belle Dubois, Peasgood's Nonsuch, Bramley's Seedling, Warner's King, Lane's Prince Albert, Newton Wonder, Hambling's Seedling, Belle Pontoise, Annie Elizabeth, Gascoigne's Scarlet, The Queen, Stone's, King of the Pippins, Melon Apple, Cox's Orange Pippin, Ribston Pippin, The Rival, Wealthy, Chas. Ross, and Allington Pippin; second prize fell to Mr. A. Carlisle, gardener to C. Gurney, Esq., Biggleswade; and third to Mr. W. A. Cook, gardener to Sir Edmund Loder, Bart., Leonardslee, Horsham.

For a dozen dishes of cooking apples, and six dishes of dessert varieties, the leading award fell to Mr. T. G. Gerrish, gardener to J. G. Williams, Esq., Pendley Manor, Tring, for a clean, even set, in which the leading dishes were Tyler's Kernel, Cox's Orange Pippin, Chas. Ross, Rival, Warner's King, and Newton Wonder; Mr. G. H. Bacon, gardener to Sir Marcus Samuel, Bart., Mote Park, Maidstone, second; and Mr. T. Cornford, gardener to Major Powell Cotton, Quex Park, Thanet, third; four entries. Mr. A. Basile, Woburn Park Gardens, Weybridge, led for eight dishes of cooking, and four dishes of dessert apples, with a splendid set; Mr. E. Neal, second.

There were five entries in the class for six dishes of culinary apples, and here Mr. J. Whittle scored with very weighty clean fruits of Peasgood's Nonsuch, Lord Derby, Warner's King, Mère de Ménage, Lane's Prince Albert, and Bismarck; Mr. A. Carlisle, gardener to C. Gurney, Esq., Henlow Grange, Biggleswade, second. Mr. J. Whittle also scored for six dishes of dessert apples, his very even, bright set consisting of Wealthy, Allington Pippin, King of the Pippins, Christmas Pearmain, Cox's Orange Pippin, and Calville Rouge Precoce; Mr. A. Carlisle second; five entries.

Mr. W. H. Bacon won the Hogg Medal and first prize for the best collection of eighteen dishes of pears, scoring with a beautiful set of Conference, Marguerite Marillat, Beurre Baltet Père, Pitmaston Duchess, Marie Benoist, Beurre Bosc, Doyenne Boussoch, Durondeau, Triomphe de Vienne, Fondante du Thirriott, Directeur Hardy, Beurre Fouqueray, Doyenne du Comice, Marie Louise, Princess, Beurre Hardy, Beurre Superfin, and Louise Bonne of Jersey; Mr. W. J. Finch, gardener to F. A. White, Esq., East Grinstead, second, and Mr. J. Whittle third; five entries. Mr. Basile scored for a dozen dishes of pears, and he had noble specimens of Chas. Ernest, Durondeau, and Duchess d'Angoulême; Mr. F. Cornford, second; and Mr. G. Mackinlay, gardener to the American Ambassador, Wrest Park, Ampthill, Beds, third.

(Continued on page 837.)

PLANNING AND MAKING A HERBACEOUS BORDER.

Of the many phases of gardening none is of greater interest than a well-situated and properly-managed herbaceous border. For nine months of the year flowers are produced, affording much interest to lovers of hardy plants. It is a moot point among many persons as to what constitutes a herbaceous plant; sufficient for my purpose to say that "plants which make an annual growth from the base, flower, and die down," is not a bad definition.

In planning a border there is no reason why we should strictly adhere to any one idea. Grow what is the most suitable for the site, and for personal requirement and taste, is the advice I give. The most effective method of planning is that of a combination of hardy subjects—not shrubs—annuals, and half-hardy plants, as the latter should be added at any time to suit convenience and to fill gaps, thus obtaining a continuation of flowers, or a mass, at a particular season, as required. In fact, there seems to be no limit as to what can be grown in a herbaceous border when we remember how effective sweet peas, rambler roses, and Michaelmas daisies are when judiciously arranged, not to mention summer-flowering chrysanthemums, and the various dahlias, all, happily, improved in the matter of variety in each section.

THE HERBACEOUS BORDER AT SUTTON PLACE, GUILDFORD,
The residence of Lord and Lady Northcliffe.

The advantage of a good herbaceous border for providing quantities of flowers for room decoration is now so well understood that I do not intend taking up valuable space with this phase of the subject, but I would say, in passing, that much might yet be done to make the herbaceous border more interesting, showy, and useful during the earlier months of the year, before there are many of the regular occupants in flower, by the aid of bulbous plants, as narcissus and tulips. It is surprising how well bulbs succeed, even at the back of the border, giving quantities of flowers in April.

The most suitable site for a border must be decided on the spot, as so many considerations have to be thought of. Room on each side of a central path in the kitchen garden is often chosen. Wherever the border is to be, some consideration should be given to its width. Twelve feet wide affords much the best opportunity for effective planting; a border less than six feet wide does not convey a good idea of the true value of herbaceous plants, although, from a utilitarian point of view, such a border has its value. In any case, the site should be quite an open one, away from overhanging trees or tall hedges, as the former rob the plants of their due share of light, while the latter deprive the roots of nutriment.

Hedges, evergreen or otherwise, may provide a good background for the plants in flower, or give protection from winds, but it is surprising what a source of trouble the roots are as they ramble over much of the border in search of food. There are two remedies available for this encroachment: Repeated trenching of the border, thus severing all roots at a given distance from the hedge; and the other remedy is the making of a narrow concrete wall a little distance from the hedge in such a manner that the roots cannot go beyond it. In the arrangement of a site it sometimes happens that a hedge, or screen, is required at the back of the border. The most easily made hedge is one of rambler roses, mainly of the Wichuraiana type, but if other varieties are employed, such as Crimson Rambler, Félicité Perpétue, Euphrosyne, and Aglaia, for example, an earlier crop of flower is assured, and this before the ordinary occupants of the border are in blossom. The most simple supports for the roses are larch tops, eight feet long, cut with the spurs on where available. These, made fast in the ground, two feet apart, make a useful, as well as a rustic-looking, support for the roses.

The preparation of the border is an important item in its future success. No matter the kind of soil, deep digging or trenching is imperative, especially where the soil is of a heavy retentive nature with a waterlogged base. It should be trenched three feet deep, the bottom soil being left in its original position, but worked so as to assure the quick percolation of water away from the roots, and for the warming of the soil by the admission of air. Manure is an important item in the successful culture of herbaceous plants. Such subjects as helianthus, phloxes, and solidagos are gross feeders, and cannot make satisfactory growth without aid, and if stout shoots are not forthcoming full-sized blossoms cannot be expected. For stiff soil manure from the stable is the best, and, if somewhat long, it has the advantage of assisting the porosity of the soil, which is important. In trenching, manure should be added to every layer of soil, and in time, when the border requires replanting, as it will do, the soil, when turned over again, will be thoroughly incorporated with the manure. Where the soil is of a sandy character, it does not need trenching so deeply, but manure from the cow house, if possible, should be added freely. For all kinds of soil a compost of decayed vegetable refuse, leaf-mould, wood ashes, and old potting soil is an excellent addition. If a three-inch covering of this can be spread over the surface after trenching, and before planting, it will add considerably to the success of the plants, giving them a more rapid start.

The best time to plant is undoubtedly early in the autumn, choosing dry weather for the planting. The trenching should be done fully a month before, if possible, to allow the soil to settle down. Autumn planting in stiff soil may entail more attention to the plants during the winter, to prevent slug attacks, and nothing is so good a preventive as finely sifted coal ashes spread on the surface close about the plants.

The question of how to plant the herbaceous border needs much consideration. There is the time of year when the best display is required, such as during the shooting season, from September onwards. Then, again, there is the tendency of the present day to favour flowers of certain colours in special parts of the garden, as pink, blue, yellow, or white. Where broad and long borders are available the massing of several plants of one kind or variety produces much the best effect: for instance, the effect produced by Lychnis chalcedonica in a mass of at least a dozen plants, as compared with single plants dotted here and there over the same border, is wonderful. There is, however, an objection even to the massing principle, i.e., that of having bare places in the border over a long period after flowering is past. For this even there is a remedy in the hands of persons with unlimited scope and means, and it consists of providing material in pots to replace, temporarily, those past flowering, such as chrysanthemums, herbaceous lobelias, gladiolus, and so on.

There is another aspect to consider in planning. A person with a medium-sized border, who takes a deep personal interest in all subjects, and who wishes to see something fresh as he strolls along the border side discussing the various plants with visitors, must follow the mixed system of planning, as constant surprises are then forthcoming, whereas if massing is followed the various plants are so clearly seen from a distance that some of the interest is lost, although there is a gain in colour effect. Some persons, too, prefer quite an even sloping bank from the back to the front of the border. I prefer this plan to a certain extent, but not so rigorously as some. I plant single specimens, like the Hon. Edith Gibbs aster, three feet from the front here and there down the border, with an occasional summer-flowering subject, like Campanula bononiensis alba. Such plants break up the level surface, and do not interfere with the growth of other plants near, as long as their growth is confined to just a single stem or two. To all methods of planting objections can be raised, but the owner can arrange to suit his personal taste.

Staking the plants is an important item in the appearance of a herbaceous border; very often this is neglected too long, and the plants, for want of support, fall down, commence to grow upward at the ends, and when staked they are crooked, and have an unkempt appearance. Too often also the plants are drawn together in broom-like fashion, with a tie around the middle, and attached to one stake. This fashion prevents many of the plants showing their natural habit of growth. The side branches of many subjects, such as Michaelmas daisies, are the most beautiful portions of the plants, and this method of staking quite robs them of their natural beauty. It is also a mistake to allow too many stems to remain on a clump; phloxes and perennial asters grow weakly for want of space. To each clump of such subjects place several stakes, spreading outwards. In this way the plants grow naturally, developing their side shoots fully, and thus each clump becomes a specimen in itself.

Watering the plants when necessary during a spell of hot dry weather in June or July is time well spent. Phloxes, for example, cannot flourish if the leaves are continually flagging for want of moisture at the roots. A compost of leaves, decayed vegetable refuse, old potting soil, and wood ashes spread over the surface after watering will do much to arrest evaporation. The application of manure—which is perhaps, the best form of mulching, to the surface of the border—may be objected to an account of its appearance. If so, draw back the soil from the surface round such plants as phloxes and apply a two-inch covering of half-rotted manure, and return the soil over the manure; such aid as this will materially assist the development of the flower stems and blooms.

In the autumn a mulching three inches thick of a similar compost will be of great service, not only in protecting the plants from frost during the winter months, but in encouraging the growth of surface roots, and the production of sucker-like shoots in the spring from the base of the plants.

E. Molyneux.

Swanmore Park.

AN ORCHARD FOR A PRIVATE GARDEN.

At this season, when the planting of fruit trees occupies attention, those intending to form new plantations to meet the ever-increasing demand should lose no time in settling what is to be done. It is first of all necessary to get the soil thoroughly prepared, and everything, as far as possible, in readiness for the reception of the trees immediately they arrive from the nursery. In many gardens, owing to the introduction of hardy herbaceous plants, whole lengths of borders are now devoted to flower culture in the kitchen garden, and room for fruit trees is out of the question in this department. It is therefore necessary, to keep up a lengthy supply of choice apples, pears, plums, etc., that a new position outside must be provided, and of sufficient dimensions to meet the requirements of the establishment.

Some owners may desire orchards of standard trees, but there are others who may wish to form a fruit garden of bush trees only, and this, if properly prepared and suitable varieties are planted, will more than satisfy by a quick return of clean choice produce. Of course, a far greater number of trees are required than is the case for orchard standards on the same extent of ground, but the dwarfs are cheap, and commence fruiting in a comparatively short time, and astonish the inexperienced.

With the object of assisting anyone about to plant this autumn I would urge that when selecting a site preference should be given to a sunny, open position, with a gradual fall to the south. The land should be well drained, and thoroughly trenched from two to three feet deep, excepting parts where it is intended to have grass walks of a suitable width. Trenching the plot may at first appear to be a rather tedious and costly matter, but it will more than repay for the extra attention and labour bestowed on it. Remember that what is worth doing is worth doing well. If the soil is of the best character for fruit growing very little extra preparation will be needed, but if, on the contrary, it is poor and light, then add a good dressing of manure and some heavier loam, if procurable, so that the trees may have a good start. Heavy clayey soil can be greatly improved by a liberal dressing of grit, such as road scrapings free from tar.

There are different methods of laying out a private orchard, and each may have something to recommend it. I have seen capital mixed fruit bushes planted in squares divided by grass walks; in long parallel beds trenched seven or eight feet wide with four or five feet grass walks between, and in this way the trees can be easily attended and managed; in a large square, and the land between the bushes kept clean and free from weeds. Whichever way is adopted, the bushes ought to be set out from twelve to fourteen feet apart, so that they may have ample room for development.

It is very desirable when forming a new plantation of fruit trees, should the situation be exposed to the north and east winds, to plant a belt of damson trees to form a shelter to the more tender kinds. If planted six or nine feet apart they quickly form a capital screen, and one which is much needed in spring time. Gooseberries and currants may occupy a position between the apple bushes, etc., for a time. I am no advocate of planting for the sake of variety, but would choose good healthy young trees of sufficient varieties to produce fruits to last for several months without a break in the supply, and for this purpose there are numerous kinds to select from, many of which, if properly attended to, will be fit for use in August, while others keep sound till May and June.

A few dependable varieties of apples, pears, and plums are the following: Dessert Apples.—Beauty of Bath, Devonshire Quarrenden, Kerry Pippin, Worcester Pearmain, Ribston Pippin, Cox's Orange Pippin, Egremont Russet, Scarlet Nonpareil, Allington Pippin, Lord Hindlip, Duke of Devonshire, Lord Burghley, and Sturmer Pippin. Kitchen Apples.—Lord Grosvenor, Lord Derby, Lord Suffield, Bismarck, Warner's King, Stone Apple, Peasgood's Nonsuch, Lane's Prince Albert, Bramley's Seedling, Newton Wonder, Byford Wonder, Hawthornden, Wellington, and Alfriston. Pears.—Williams' Bon Chretien, Beurre d'Amanlis, Conference, Madame Treyve, Doyenne du Comice, Marie Louise, Marguerite Marillat, Pitmaston Duchess, Beurre Bosc, Durondeau, Beurre Alexander Lucas, Nouvelle Fulvie, and Josephine de Malines. Plums.—Rivers' Prolific, Victoria, Kirk's, Coe's Golden Drop, Jefferson's, Monarch, Sultan, Greengage, Oullin Golden Gage, Comte d'Althan's Gage, and Pond's Seedling. Damsons.—Bradley's King and Farleigh Prolific. Nuts.—Early Prolific, Kentish Filbert, Kentish Cob, and Pearson Prolific.

H. Markham.

Wrotham Park Gardens.

Cucumbers.—Plants that have commenced to bear fruit, and are intended to afford a winter supply, should be very lightly cropped, and have their growths well thinned, though not quite so closely stopped as is usually done in the case of summer-fruiting plants. The roots will be less active as the days shorten, and will require to be more carefully watered, but light top-dressings of loam, mixed with decomposed horse manure and flaky leaf-soil, should be added as they appear upon the surface. Carefully ventilate the pit when the weather is favourable, but avoid creating excessive atmospheric moisture, especially in dull or wet weather. The night temperature should range from 65 to 70 degrees, and that for the day be 10 degrees higher.—T. Coomber.

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RASPBERRIES AND BLACKBERRIES.

Few fruits, perhaps, are more highly esteemed in their respective seasons than raspberries and blackberries, especially the former, as in many high-class establishments a dish of raspberries for dessert is a daily need over as long a period as possible, while for kitchen and preserving purposes blackberries are invaluable, maturing, as they do, when other small fruits are past. Both, therefore, should be included in every well-ordered garden.

Raspberries.

Raspberries, like all other subjects, if worth growing at all are worth growing well, but we often see them in a neglected condition, and an inferior variety is grown, whereas great improvement might be made in each respect. To produce the best results it is important to thoroughly work the ground for planting, as no fruit pays better for good culture. The ground should be trenched not less than two and a-half feet, and plenty of manure incorporated as the work proceeds. Planting may be successfully undertaken any time during the autumn or winter, when the plants are in a dormant state.

If planting be carried out at an early date, and extra-strong canes are purchased, these may be expected to yield a small supply of fruit the first year under favourable conditions. An open position should, of course, be chosen for these, as it is impossible for the plants to thoroughly mature their growth and ripen fruit when densely shaded. An excellent plan, especially in small gardens, is to plant in single rows, but if more are grown together a distance of at least six feet should separate the rows, and two feet between the canes. Avoid planting too deeply. Make thoroughly firm, and shorten back the growth to within a couple of feet or so of the ground to induce the plant to throw a number of suckers for the following season's crops. Give a good mulching of well-decayed farmyard manure to the new plantation, and also to any established beds at this season of the year. Fruiting canes should be cut out as soon as the fruit has been gathered to allow the current season's growth to become thoroughly matured.

Of red varieties I know of no raspberry to equal Superlative, for cropping, size, and flavour of fruit; it is excellent both as a dessert variety and for preserving. The Guinea, as a yellow variety, is perhaps the best of its class, while Large White and Yellow Antwerp are each prolific and good.

Blackberries.

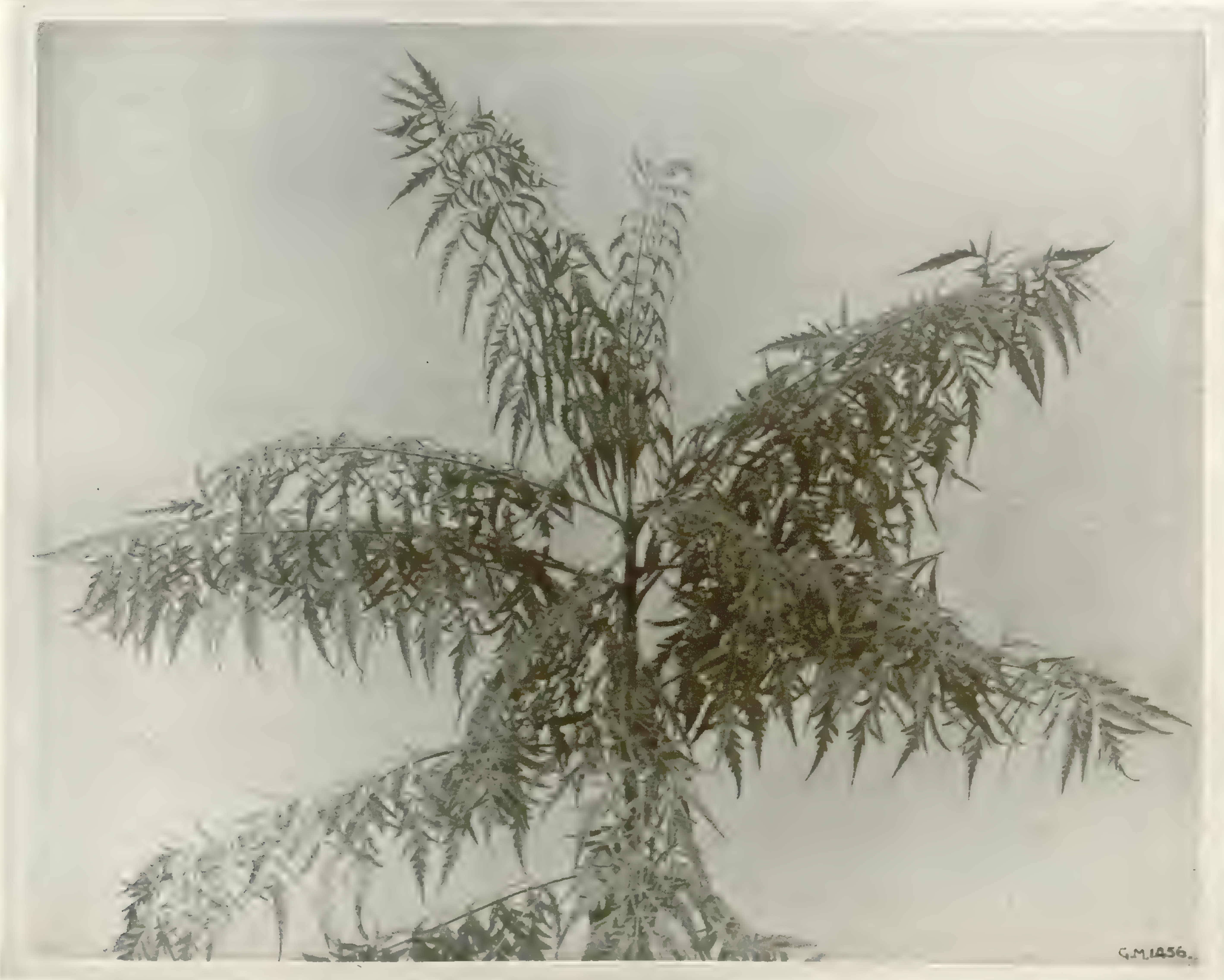
Though not perhaps generally treated the blackberries are worth a place in all gardens, and will be found to prove a remunerative crop. We have grown Rubus laciniatus here for upwards of twenty years, and it has never failed to produce a crop, and though it cannot be said to be quite so delicious in flavour as the wild blackberry, its freedom and larger berries amply recommend it. The plant is of remarkably easy culture, and produced either from seed or suckers. No attention is required beyond an annual top-dressing and keeping the beds free from weeds, thinning out the old growth in the winter, slightly reducing the length of the young canes, and thinning out completely where too thick. An ideal place for planting is on a sloping bank, with a path at top and bottom to allow of easy reach of the fruit. For trellises, too, the blackberry will be found useful, and treated in this way the fruits ripen to perfection. Curiously enough, blackberries have been immune from the attack of birds this season. There are several varieties of American origin, but I have found the above quite superior to any I know.

E. Beckett.

Aldenham House Gardens.

RHUS TYPHINA LACINIATA.

The merits of this elegant foliaged shrub are very high, for not only is the plant attractive all through the summer season, but during autumn its finely cut leafage assumes brilliant colouring, its crimson and gold shading then compelling attention. The variety has not long been in cultivation, but it has already secured for itself a position in all good collections of shrubs, and those who are planning schemes of planting for the present autumn should not omit it from their consideration. The long, deeply cut leaves are well shown in the accompanying illustration, while in general habit it otherwise resembles R. typhina. It has been exhibited frequently during the last year or two at meetings of the Royal Horticultural Society, especially by Messrs. J. Cheal and Sons, Crawley, and Messrs. Paul and Son, Cheshunt, and it is to the latter firm we are indebted for the opportunity of figuring this fine introduction.



RHUS TYPHINA LACINIATA.
A handsome shrub, the large and elegant leaves turning crimson and gold in autumn.

THE NEWER HELENIUMS.

Fair Helen, the wife of Menelaus of Sparta, who eloped with Paris, and is renowned in ancient history and fable, has given her name to the genus Helenium, although the old plant called after her was probably Inula helenium. However this may be, the genus which bears the name of this fair cause of strife is a valued and valuable one in our gardens, and it is to it that they owe much of their brightness in summer and autumn. Some of the species and their varieties are too well known to be embraced under the title of this article, but there are others which, if not absolutely new, are deserving of inclusion for the sake of those not well acquainted with the heleniums.

It is unnecessary to do more than refer to H. autumnale, one of the best known, but its variety pumilum magnificum is so worthy of cultivation that every grower of border flowers ought to cultivate it. It is finer than either H. autumnale or its variety pumilum, and grows to about three feet high, giving in autumn a long succession of large ornamental flowers of a bright yellow, with a disc which harmonises well with the brighter yellow of the ray florets. In the border it is bright and useful, while, when well arranged, it is delightful as a cut flower, and has done much yeoman service on the exhibition table. Thoroughly hardy, it is invaluable for lovers of late summer and autumn bloom.

Helenium Bigelovi, a useful species, is not much grown now, but deserves a little more consideration. Its deep yellow flowers, contrasted with the brown disc, and on a plant about two feet high, render this a useful border flower.

Many are well acquainted with the fine H. Bolanderi, a useful border plant, only a foot and a-half high, or little more, which affords us in autumn yellow flowers with a darker disc, but there is in addition a new variety, called Golden Gem, which has very deep golden flowers with tubular florets, and is about the same height as the typical plant. Its tubular florets and its colour constitute this one of the most interesting of the newer varieties.

Helenium Hoopesi, an early-blooming Rocky Mountain helenium, is now fairly well known, and is appreciated by those who grow it for its large deep yellow blooms of effective appearance. Its early flowering is also a feature which appeals to a number. It is some two and a-half feet high.

Some years ago there was introduced a fine helenium with flowers distinctly striped with yellow and brown. This was sent out as grandicephalum striatum, but it is now generally agreed that it is a variety of the variable North American H. nudiflorum. This is a valuable helenium on account of its colouring and its late blooming. It is some four feet or so high, and the varieties which are offered under various names, such as striatum, and cupreum, which is deeper in shade, and of almost self-copper colour, are all worth possessing for the border, cut flowers for the home, or exhibition.

Understood to have been derived from the foregoing, is a garden variety called Riverton Beauty, which promises to take a good place in the garden. It is only about three feet high, and gives us a supply of handsome brown and yellow flowers.

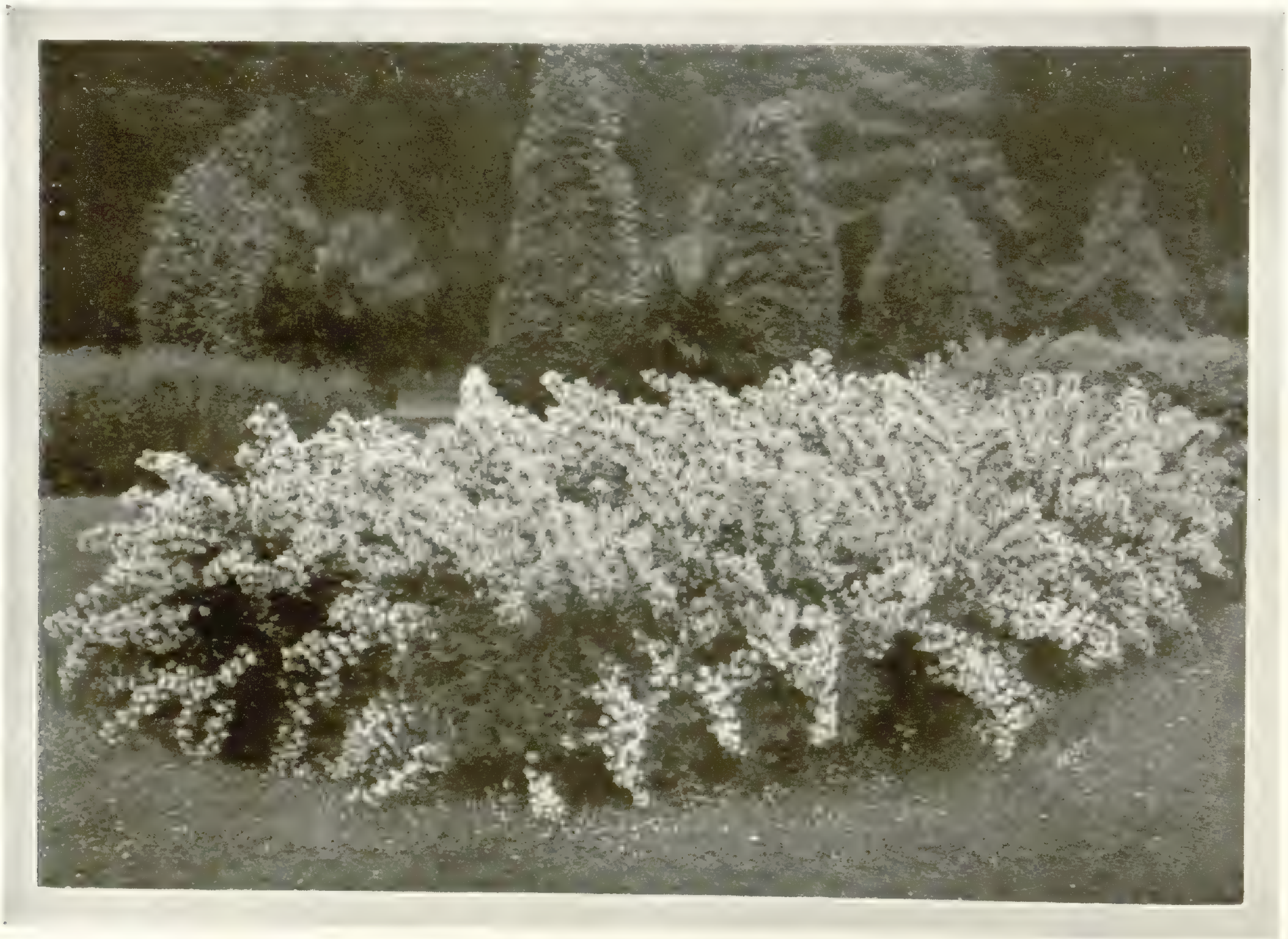
A sister flower is Riverton Gem, which is one of the most beautiful of all, and which is worthily named Riverton "Gem." About the same height as the preceding one, it is decidedly the best of the new varieties, and yields us, on stems about three feet high, lovely flowers of a fine crimson-brown. As a late border plant, especially where hardy flowers are set out in autumn-flowering borders, this choice plant is exquisite.

The cultivation of these heleniums is easy in the extreme, as they are hardy, and give good results on any good, well-manured soil. They can be divided in spring, and will flourish best in sun, although useful in semi-shade also.

S. ARNOTT.

THE MOCK ORANGES.

The Philadelphuses or Mock Oranges include several of our most popular garden shrubs, and it is probable that one or more kinds will be included in most collections of shrubs which are planted during the present season. With this in view, it may not be out of place to review the genus in order that attention may be directed to those kinds which are most worthy of cultivation, for there are several which are distinctly inferior to the remainder for general purposes. The common one, P. coronarius, requires no recommendation, for it is well known everywhere, and it is absent from very few gardens of note, while not a few suburban villa gardens include it amongst their few shrubs.



PHILADELPHUS LEMOINEI.
A well-furnished bed in the Royal Gardens, Kew.

The Philadelphuses, as a whole, may be easily cultivated, providing good soil is given in the first instance, and some attention is directed to feeding at a later date, for, though they will grow in comparatively poor soil, it is only in that of fairly good quality that the best results are obtained. For the strong growing kinds, if the soil is poor, holes 6ft. in diameter, and 1½ft. deep ought to be excavated and filled in with good loamy soil, while for the dwarf growing sorts it is advisable to prepare beds 10 to 15ft. in diameter, for they always look better as a mass than as isolated plants. Feeding should take the form of applying a top-dressing of well-rotted manure at least every second year, for the Mock Oranges are rank feeders, and quickly impoverish the soil.

The larger growing kinds require very little in the way of pruning, except it be that any of the wood is deteriorating, a condition which calls for a vigorous thinning out of old branches to make way for young wood. The dwarf-growing, hybrid kinds, on the other hand, call for rather severe pruning, if the best results are anticipated. This pruning, in all the sorts typified by P. Lemoinei, should take the form of cutting away all the old flowering wood in June, as soon as the flowers have fallen. The result will be the production of a new set of shoots from the root stock, which will have plenty of room for development and be able to obtain the maximum of air and light for ripening purposes. The wisdom of this will be seen the following year, for branches 2 to 2½ft. long will be clothed with flowers from end to end, while if an unpruned bush has been left for purposes of contrast, it will be found to have formed much shorter shoots and to have a less graceful appearance.

PHILADELPHUS GRANDIFLORUS FLORIBUNDUS.
A handsome variety of strong growth.

Propagation of all the species and hybrids is easy, for if cuttings of half-ripe wood are inserted in pots of sandy soil and placed in a close frame, or if similar cuttings are placed in sandy ground under a handlight, they root with ease. Cuttings of fully ripened wood may also be rooted if they are made in a similar manner to currant cuttings, and inserted in a shady border out of doors.

Of the taller growing species the following, in addition to P. coronarius, are worthy of more than passing attention:

P. grandiflorus—perhaps the strongest growing of all. It attains a height of 15ft. and upwards, while its spread is quite as great. The flowers are larger than those of the common Mock Orange, and have not the cream shade which attends them. They are fragrant and borne freely a week or two later than those of the commoner kind. It is a native of the United States, and has been cultivated in England for about a century. Of several well-marked varieties, those called floribundus and laxus are the best for general cultivation. The former, as the name implies, is remarkable for its free flowering propensities, while the latter has a somewhat looser habit, but is not a whit behind the other for free flowering qualities.

Another free flowering, tall growing species is P. Lewisi. This is a native of Western North America, and is distinguished from the last-named, and also from P. coronarius, by its smaller leaves and flowers. The blossoms are white in colour, and are borne in fairly large clusters. P. inodorus may find favour with some people, more especially those who do not like very fragrant flowers. The great point about the species is that its flowers are practically scentless. It also is a native of the United States, but is confined to the southern part.

Turning from the tall-growing species we find a very interesting and showy shrub in one of the smallest members of the family. This is P. microphyllus, a native of Colorado, which rarely grows more than 3ft. high, and is usually met with a foot lower. The leaves are very tiny, scarcely half an inch long, and greyish in colour by reason of a multitude of tiny silvery hairs which are present on both surfaces. The flowers are white, about three-quarters of an inch across and powerfully fragrant. It is a useful sort for planting in a bed where a dwarf, rather dense-growing shrub is required, while it may also be effectively placed in groups in the forepart of a shrubbery. Considerable interest attaches to it, inasmuch as it is one of the parents of the numerous hybrids which have arisen during the last twenty years, and for which M. Lemoine, of Nancy, is famous. P. coronarius, crossed with this species, resulted in a number of showy hybrids. Two of the first to be named were P. Lemoinei, and P. Lemoinei erectus, and these are still two of the best; in fact, the last-named may be considered as one of the twelve best flowering shrubs for general planting. Other kinds have, however, continued to appear, some with single, and others with double flowers. All are very floriferous, while some of the later kinds, such as Rosace, have very large flowers. Good hybrids are Boule d'Argent, Candelabra, Gerbe de Neige, Rosace, Avalanche, Pavillon Blanc, Manteau d'Hermine, and Mont Blanc.

A plant very similar in habit but different in the colour of the flowers, was introduced a few years ago under the name of P. purpureo-maculatus. It is distinguished by having a purple blotch at the base of each of the four petals which compose the flower. Allowed to grow naturally, many of these hybrids will, eventually, attain a height of four feet or more; but they are not, as a rule, so satisfactory under this condition as when pruned as previously recommended. Branches from pruned plants, especially from the double-flowered kinds, are excellent for cutting for decorative purposes, especially when mixed with some kind of light greenery.

The hybrid kinds may be utilised for forcing with fairly good results, though they will not stand excessive heat.

Kew. W. Dallimore.

GREENHOUSE MANAGEMENT.—The Amateur's Greenhouse, the popular book by T. W. Sanders, not only treats of the selection and cultivation of greenhouse plants and flowers, but gives full instructions how to build a greenhouse and how to heat it, as well as every detail as to the management of the plants and flowers grown in it. The price of this book of 416 pages is 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

THISTLES IN THE GARDEN.

No true gardener can tolerate a thistle in the garden if he knows there is one. But I know a gardener who had much trouble with them owing to the manure supply from a farm near by being the source of the introduction of many seeds every year. Also, when the corn was threshed and the wind in a certain direction, the thistle seeds blew into the kitchen garden—which was about six acres in extent—in showers resembling snow. This condition showed what kind of farming was done.

But I want to point out that soil in which thistles grow luxuriantly is invariably very good, and will, if well cultivated, grow nearly all kinds of crops well. I have heard of a blind farmer and his son who both went to inspect a farm with a view to becoming tenants. During a walk through the fields the son remarked, "I can't see a single thistle"; the father replied, "Let us go back home then, we won't take the farm." Personally, I know many farms where thistles grow freely, and are difficult to keep in check, and the land produces grand crops of grass and corn. It was the same in the case of the gardener who was so pestered with the thistle seeds in his manure, the soil would respond to good cultivation, and produced grand vegetable crops as well as thousands of young thistles. But has any reader of the Gardeners' Magazine ever succeeded in growing thistles in flower pots? The farm bailiff of one estate where I had charge of the gardens brought me some fine thistle seeds, asked me to sow them in pots, and try to raise some young plants. I did so, and treated them in several ways, in warm, cool, shaded, and fully exposed positions, but I could not get a single plant. The bailiff told me he had never heard of any being so raised, as all attempts had failed. He also asked me when was the best time to kill thistles in grass fields. I told him to cut them off deeply when the flowers commenced to open. This he did, and found the plan successful. In gardens, however, this should only be the course where there has been neglect, as good gardeners destroy them when in the seedling stage.

G. B.

CEANOTHUSES IN BEDS.

The species and varieties of Ceanothus are the most generally regarded as suitable subjects for training to the warmer aspects of walls, and for forming bold groups in the shrubbery border, and for these two purposes some of them are unquestionably of much value. But to confine all of them to sheltering walls is to greatly limit their usefulness as aids in beautifying the flower garden. As so well exemplified in the Royal Gardens, Kew, the later-flowering kinds are well adapted for cultivation in beds; and in these provided the conditions generally are favourable, they form fine masses of flowers and foliage, and present a highly attractive appearance from early in July until the end of September or even later when, as was the case this year, the weather is during the last-named month favourable to continued growth.

CEANOTHUS GLOIRE DE VERSAILLES.
An attractive bed of this fine blue-flowered form.

The later-flowering ceanothuses are useful in all gardens for furnishing beds that occupy positions where soft colouring will be in harmony with the surroundings; but they possess much value from the economic point of view for gardens where the family is not in residence until the summer is well advanced. They remain in a vigorous state for several years after they are planted, and as they require but little attention, a few beds will relieve the gardener of some of the work incidental to flower gardening, and at a time when he has much to engage his attention. The best of the ceanothuses for beds are the varieties that have originated from the inter-crossing of C. americanus and C. azureus, two attractive species, but not equal to their descendants for growing in beds. The best of these are Gloire de Versailles, an elegant variety bearing a profusion of light blue flowers; Albert Pittet, an excellent variety, with rose-lilac flowers; Bijou, deep-blue, the flowers borne in large trusses; Céres, bright rose, free and good; and Perle Rose, a very free blooming variety, that is dwarf and compact in growth and best suited for small beds.

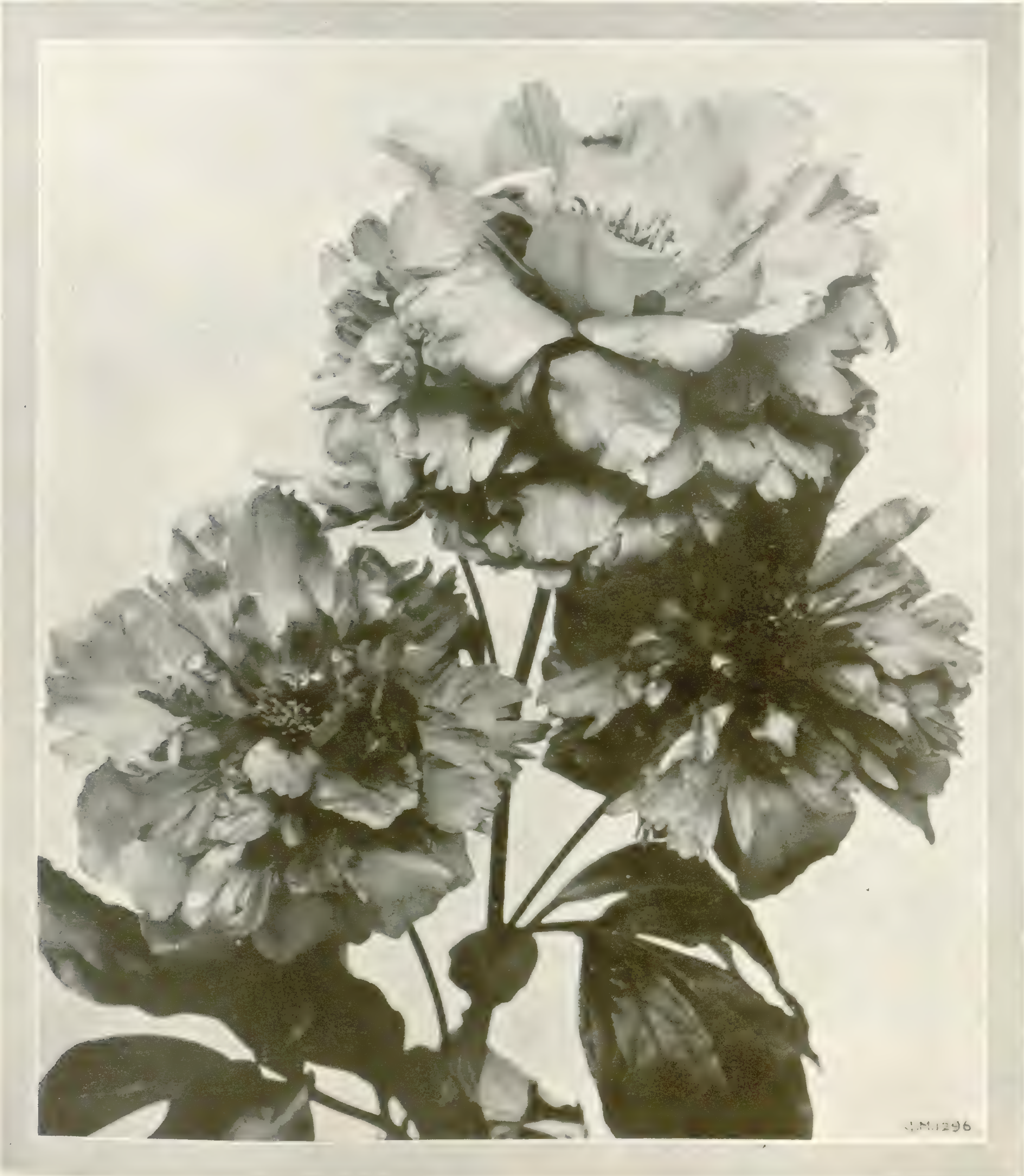
The cultural details are simple, and may be stated in a few words. The ceanothuses are less hardy than are the majority of the deciduous shrubs grown for their flowers, and should, as far as practicable, have a warm position. A well-drained and comparatively light soil is the most conducive to a vigorous growth and abundant flower production, and where the soil is heavy and tenacious in texture it should be improved by the addition of decayed vegetable matter, coarse grit, and other materials that will help to lighten it. The plants should be put from eighteen to twenty-four inches apart, according to the character of the growth, and only one variety should be planted in each bed, as the effect produced by a mixture of varieties is seldom satisfactory. One other detail of importance is the annual pruning, which should be done in February or early in March, and the best method of procedure is to cut the strong shoots back to about the sixth or seventh bud from the base and the less vigorous growths to the second bud.

R.

"CHRYSANTHEMUMS AND HOW TO GROW THEM FOR EXHIBITION," by J. B. Wroe.—Full details on timing and stopping for Northern, Southern, and Midland growers, selections of the best varieties, illustrated instructions on taking the buds, cuttings, staging, etc. Prices 1s. net, by post 1s. 2d.; cloth, 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

HERBACEOUS PÆONIES.

Pæonies are the most beautiful of all the showier hardy perennials, and should be in every garden, large or small; in beds, borders, shrubberies, or drives, in park, grass walk, or woodlands. Many of the new forms include very delicate tints, as well as the bolder colours. They should therefore be planted near at hand for close enjoyment of their beauty, as well as in masses for distinct colour effect; in lines, straight and curving, on the margins of shrubberies, and in groups between shrubs, in large and small beds in the midst of turf, and in mixed borders at frequent intervals.



NEW HERBACEOUS PÆONY, MISS COREY.

A remarkable distinct and handsome variety raised by Messrs. Kelway and Son; the flowers are large and of a rich crimson colour.

There is no other plant that will make such a magnificent display of colour, or give so much satisfaction in return for the trouble involved in its cultivation. Whether the old kinds or the lovely new varieties, like the one shown in the illustration, introduced by the Messrs. Kelway, are cultivated, they will thrive in practically any position, and there is hardly one in which they will not flourish to perfection. They are amenable to the simplest treatment in any soil, and so perfectly hardy they need not the slightest protection, for neither frost not biting wind does them any harm. They produce their flowers in great profusion, and in an almost endless variety of lovely tints, and in many cases with the fragrance of the tea rose. They are of extreme beauty for decoration, particularly in vases and bowls, and no flower is richer or more handsome, while for large decorations the blossoms are invaluable.

Another useful feature of the herbaceous pæony is its beautiful foliage, which causes it to be almost as attractive in its young growth, and when coloured in autumn, as when in flower. The vivid carmine colour of the stems and leaves as they push through the earth in early spring is delightful, and in autumn the colours are very beautiful, the tinted leaves being much in request for harvest festivals and other decorations.

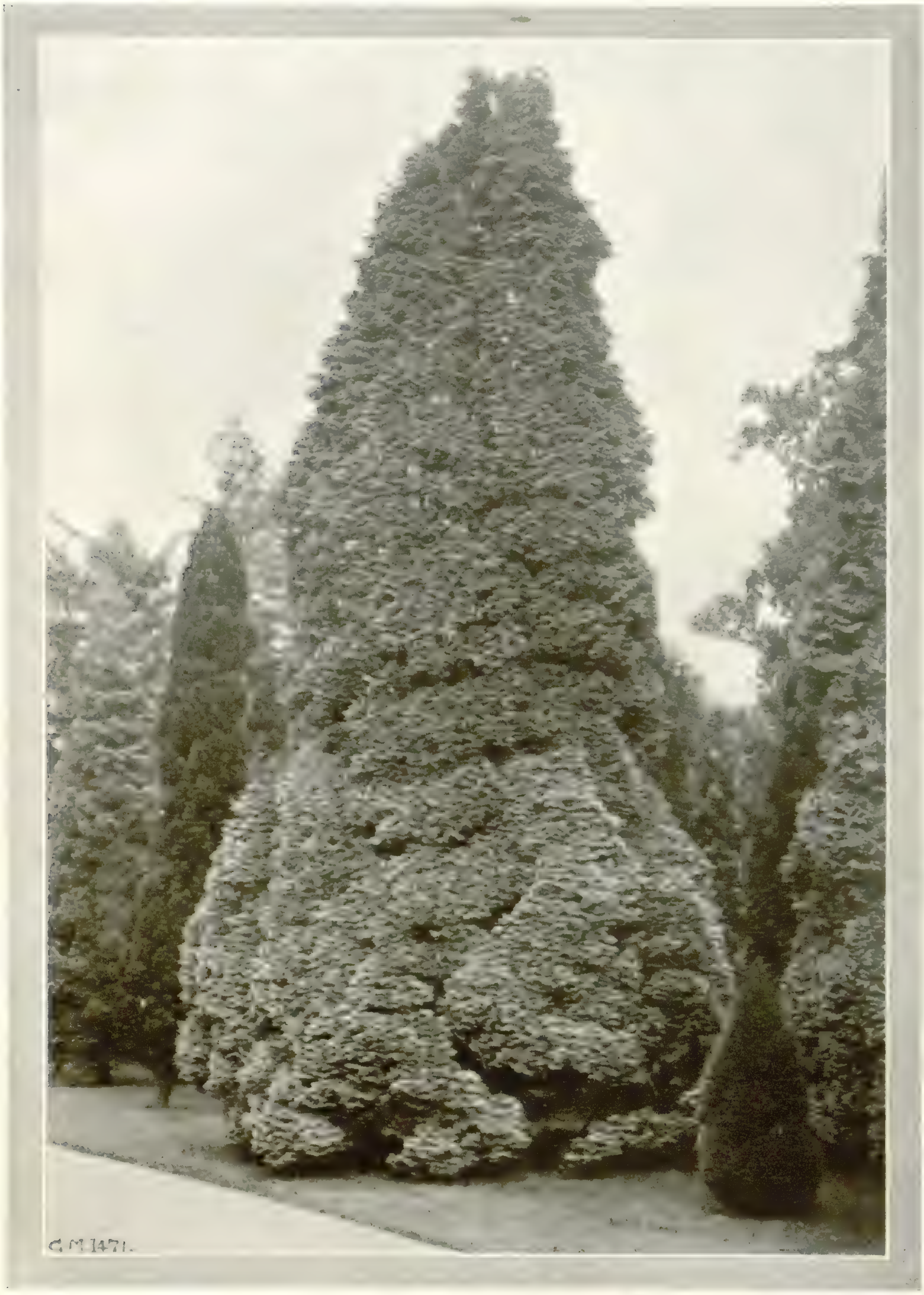
The herbaceous pæony can lay claim to the title of "Everybody's Flower," and, indeed, in one form, it actually is everyone's flower, for the old double crimson pæony (P. officinalis rubra-plena) gladdens with its glow every second garden one passes by, but the cottager is not aware of the more delicately tinted varieties of recent introduction which are so much more delightful in their sweet fragrance. The old red pæony is a charming subject in its proper place, but there is now a host of aristocratic relatives, which have become favourites, and are quite as easily grown.

Early autumn is the best time to plant, as the sooner they are planted the sooner will flowers be obtained from them; strong plants can easily be obtained from the nursery, which should ensure flowers next season. Planting may, however, be done in winter, or in spring, right up to April. Water them well and keep them moist in very dry weather. Where the plants have become well-established the flower stalks should be carefully staked before their own weight or summer rains bring them to the ground. At the same time, the stalks without flower buds should be cut away, and the superabundant foliage removed. When the plants are left in an untidy prostrate state many of the flower buds never open. As there is a tendency for the stalks to multiply at the crown of the roots, and so to spindle and become barren, I recommend that the plants be lifted and divided every five or six years, trenching the soil, and adding some turfy loam and half-decayed leaves before replanting. The strongest roots, with two or three eyes, should be replanted at once, and the weaker ones put in rows in the reserve ground, where, after a season or two, they will supply plants for further planting.

The following list contains twelve of the best and most useful varieties, all quite within the reach of those who love hardy flowers: Agenoria, white, sulphur centre, with red blotch, lasts in flower a long time; Alonzo, deep crimson; Cognita, tinged pink; Cyclops, purple-crimson; Don Juan, purple; General Bideau, fragrant; Gloire de Patrie, fragrant; Grant Allen, very beautiful; Hesperides, white; Lottie Collins, deep purple; Mrs. Chamberlain, rosy-pink; and Pearl, white, shaded flesh.

T. B. Field.

Ashwellthorpe Gardens.



CUPRESSUS LAWSONIANA GLAUCA.
A silvery-leaved form of this handsome cypress.

THE CYPRESSES.

Of the dozen or more species of cupressus in cultivation several of them are too tender to be thoroughly depended upon out of doors in all parts of the country. On the other hand, there are some on which our coldest winters have no effect whatever. The premier place as an ornamental subject must undoubtedly be given to Cupressus Lawsoniana, which is represented in our gardens by a great number of well-marked varieties, that differ from each other, and from the type, in habit, size, colour, and other particulars. They are all perfectly hardy, and among them selections may be made suitable for rockwork planting, for small geometrical gardens, for the pleasure grounds, or for the woodland. The ordinary form also bears cutting well, and it makes a fine quick-growing evergreen hedge.

In its native country, Northern California, Cupressus Lawsoniana is said to reach a height of 200 feet, but generally it is found to range from 120 to 150 feet. In many parts of Britain it is of fairly rapid growth, though as yet in no ways approaching the height attained in its North American home.

When the Conifer Conference was held at Chiswick, nineteen years ago, statistics were published of the largest conifers in the British Islands. At that time the tallest specimen of Cupressus Lawsoniana was one in the grounds of Dupplin Castle, Perth, whose height was then 55 feet, but, of course, by now it will be greatly exceeded in many parts of the country.

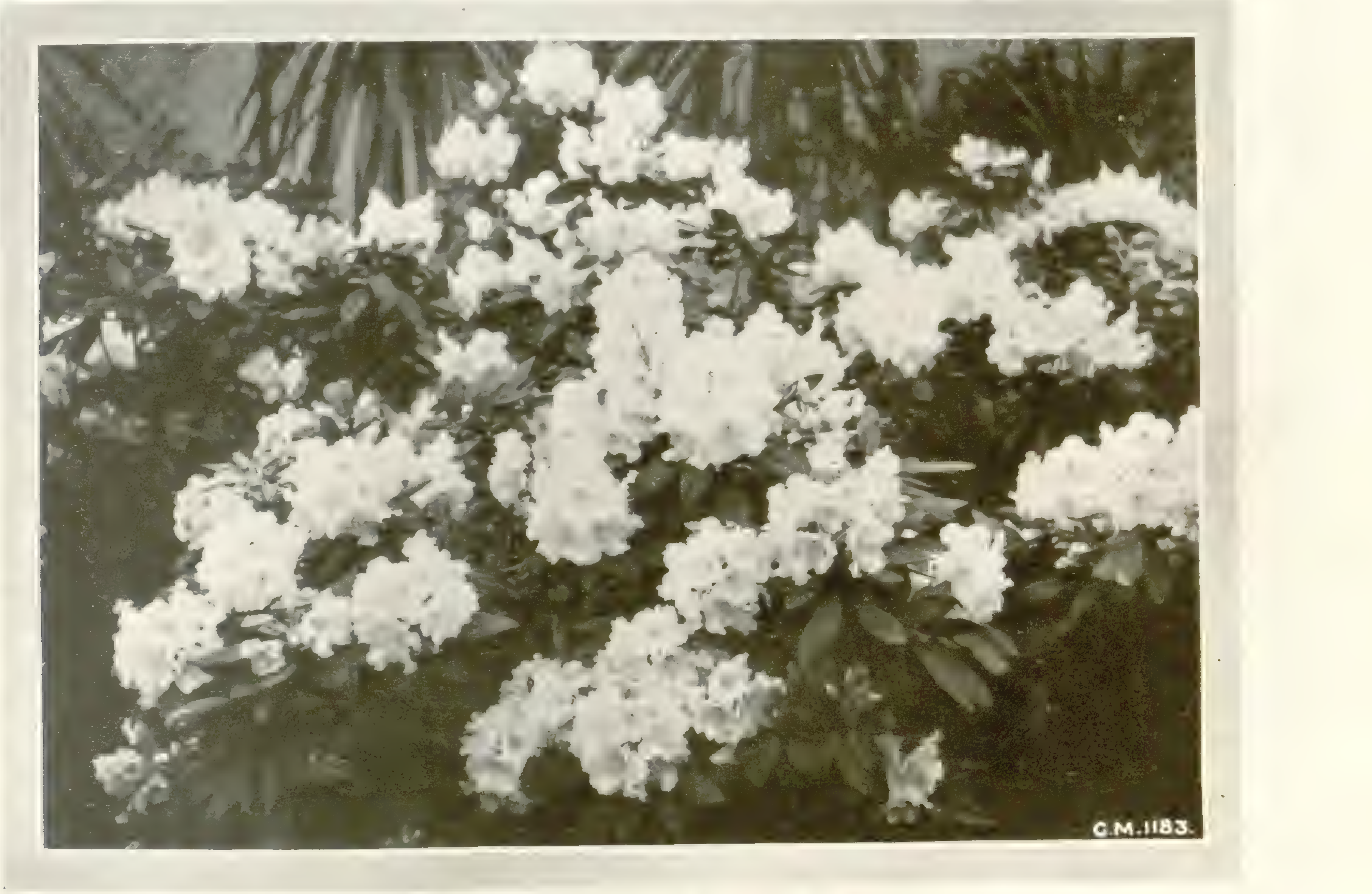
Turning from the typical form to the garden varieties, one is really confused with their numbers, and the difficulty of making a selection therefrom. An exceedingly handsome variety is glauca, which is herewith illustrated from a specimen at Kew. In this, instead of the leaves being of the normal green tint, they are of a markedly glaucous hue. Some individuals have this character more pronounced than others, one of the most noteworthy of them being Triomphe de Boskoop, perhaps the bluest of all. Other varieties are: alba spica, which has the tips of the young shoots quite white, but the second season they become of the normal green tint; Allumi, a dense columnar form, with short branches, and rigid erect branchlets clothed with peculiar steely-blue leaves; compacta, a dense compact form of the type; erecta viridis, an upright specimen with bright grass-green foliage; filifera, whose terminal shoots are very long, attenuated, and drooping; gracilis, from the pendulous character of the slender branchlets, this forms a very graceful specimen; gracilis aurea, a golden-tinted form of the preceding; intertexta, of a peculiarly coarse, loose habit of growth; lutea, a good golden-leaved form; nana, quite a diminutive shrub, of a deep green tint; nana glauca, a glaucous counterpart of the last; patula, the branches of which are spread out in a peculiar fan-like fashion; Smithi, a columnar growing plant of a glaucous-green hue; Wisseli, of a dense plumose habit, the branchlets being peculiarly tufted; and Westermanni, of graceful growth, tipped with yellow.

These are a few of the well-marked varieties, but Cupressus Lawsoniana is so variable that when raised in quantity from seed it is often quite possible to select some pretty and distinct forms.

Closely allied to Lawson's cypress is Cupressus nootkatensis, a native of British Columbia and adjacent regions. It forms a specimen of a broadly conical outline, and of a deep green colour. There are but few varieties, the principal being compacta, pendula, and lutea, whose prominent characteristics are indicated by their respective names. This cupressus is often met with in gardens under the name of Thuiopsis borealis.

Cupressus thuoides, the White Cedar, is not much planted, though perfectly hardy. In a native state it occurs principally in moist ground, being, in fact, often met with associated with the deciduous cypress (Taxodium distichum) in swampy districts. If the ground is at all dry the white cedar becomes bare and unhappy looking, for which reason it is not generally met with. There is a glaucous and a variegated variety, and a little upright form, generally grown as Retinospora leptoclada.

Cupressus sempervirens is the cypress of the poets and writers of all ages. It is said to have been introduced into England previous to 1548, in which year it was included by Turner in his "Names of Herbes." It is a native of the South of Europe and Asia Minor, and the fastigiate variety especially forms a very notable feature of the landscape, brought into particular prominence by reason of the striking contrast with the surroundings. There are two distinct types of this cypress, one with spreading branches, and the other of quite a columnar habit of growth. These have been by some writers regarded as two distinct species, but they are now considered to be varieties of one. There are many cypress trees on the southern portion of the continent of quite historic interest, but in this country it does not always succeed, an exceptionable winter being often too much for it



NEW HARDY RHODODENDRON PRINCESS JULIANA.

An extremely beautiful variety; the flowers white suffused rich pink. Gold Medal, Haarlem, 1910, as the best new plant in the Show. F.C.C., R.H.S., May 24, 1910. Messrs. J. Waterer and Sons, Bagshot.

Cupressus macrocarpa, often referred to as the Monterey cypress, is a native of California, and is in many parts of this country liable to be injured by very sèvere winters. These, however, as a rule, occur but seldom, and the tree grows so quickly that fine examples are to be met with all over the country. As a rule, it thrives best in parks and gardens near the sea, especially in the South and West. When in good condition it forms dense pyramidal or columnar specimens of the brightest green. There is a distinct golden-leaved variety of this cypress known as lutea. So quickly and so dense does C. macrocarpa grow that in some districts near the sea it is often employed as a hedge or shelter plant.

Other species of cupressus are C. arizonica, of quite recent introduction; C. Benthami, a little-known species; C. funebris, the most graceful of all, but too tender for general cultivation; C. Goveriana, but seldom met with; C. lusitanica, too tender for general planting; C. Macnabiana, of slow growth, and on this account rarely planted; C. thurifera, a tender species from Mexico; and C. torulosa, a Himalayan kind, that needs a particularly favoured district. A variety of this last, known as kashmiriana, whose long pendulous branchlets are clothed with glaucous green leaves, is even more tender than the type, but it forms a delightful and uncommon feature in the greenhouse.

This brings us to two Japanese species long grown in gardens as retinosporas, but they are now included in the genus Cupressus. The first, Cupressus (Retinospora) obtusa, though naturally a tree from 70 to 100 feet in height, is a great favourite with the Japanese for dwarfing purposes. A visit to the White City will show numerous examples of dwarf and contorted specimens of this cupressus, many of them being very old. Well-marked varieties, some of which used to be regarded as distinct species, are aurea, compacta, filicoides, lycopodioides, pendula, and pygmæa.

The other Japanese species is Cupressus (Retinospora) pisifera. It is, as a rule, a less ornamental tree than the preceding, but there are some pretty and distinct varieties. Like the forms of C. obtusa, some of these were at one time looked upon as separate species. The best are aurea, filifera, filifera aurea, plumosa, plumosa aurea, and squarrosa. For small or medium gardens these varieties are very desirable. W. Truelove.

A GOOD NEW RHODODENDRON.

A handsome new rhododendron that promises to be extremely popular in southern gardens is Princess Juliana. We saw this at the Jubilee Show at Haarlem in March last, when it was exhibited by Messrs. C. B. Van Nes and Sons, of Boskoop. It is somewhat similar in character to the magnificent and highly popular Pink Pearl, but differs from that variety in having its flowers finely frilled at the margin, and of a deep brilliant pink hue during the earlier stages of development. It is said to have originated as the result of a cross between Rhododendron Aucklandi and a hybrid. Princess Juliana was awarded the gold medal offered at Haarlem for the best new plant in the exhibition. When fully opened the flowers of this variety are quite white, and just before they fall they assume a blush tint. At the Temple Show held in May last Messrs. J. Waterer and Sons, Bagshot, exhibited a fine plant of Rhododendron Princess Juliana, and an Award of Merit was then made in its favour by the Royal Horticultural Society. The habit of the plant is good, the flowers of large size, and widely expanded, and the trusses are splendid.

CHOICE PLUMS AS BUSH TREES.

The desire of the man who grows plums for market is to get varieties which, under average conditions, will grow freely and bear heavily, and, consequently, there are plums which are prized in the private garden alone for the excellence of their flavour, and also appearance, that are never seen inside a market plantation. The conditions are different; the market man has one idea, i.e., profit, but in the private establishment plums are grown to eat, and the object of growing what are called choice varieties is to have fruit on the dessert table over as long a period as possible. Again, the market grower chooses the type of tree which is the most suited to him, namely, half standards, because they need less attention in the way of pruning, and the heads being well above the ground other crops can be grown beneath until the trees occupy the whole space above.

The bush type of tree, which does not in a general way commend itself to the market grower, is better adapted to the conditions of the private garden where a piece of ground can be devoted to plums, and the object is to grow a selection of dessert varieties to form a succession. Perhaps it would be well, in discussing bush plums, to consider dessert varieties first, to serve the purpose mentioned above.

Can Rivers' Early Prolific be classed as a choice dessert variety? Personally, I think it is quite good enough to make one of four for late July and early August, and for the rest we must fall back on the Gage type. Denniston's Superb is true to its name, its yellow fruits being of good flavour, while the tree is a prolific bearer. Early Transparent Gage is one of the best of the early garden dessert plums, and Oullin's Golden Gage is a very handsome fruit of good flavour. For early September picking Belgian Purple is well worth a place, and I am tempted to put it before the very handsome Kirke's Blue, as the latter is a shy bearer; but what man who likes plums would be without the old Greengage, the best and richest of them all, though not so prolific a bearer in its early years as some others. Jefferson is another September plum that is well known, and much too good to be overlooked. So much for the second four, and now we want a few late plums to make up the dozen. First I will mention Reine Claude de Bavay, a fine late gage, which extends the season of this class of plum, and the late Transparent Gage is another variety which crops well, and is of good flavour. Coe's Golden Drop must necessarily have a place amongst late plums, and it needs no description, but in some places it is necessary to pick its fruits and lay them out under glass to finish the ripening process. Lastly, there is the Golden Transparent, a handsome fruit of good flavour, and very late. This completes the dozen, and apologies are tendered to other good plums that are left out.

In considering the question of soil the nature of stone fruit prompts one to ask this question before any other: Is there any lime in it? If there is any doubt on the point lime should be applied before the planting is done, either by digging in some old mortar rubble or applying a dressing of ground lime at the rate of about half a ton per acre, and treating it in the same way. An ideal type of bush plum is one that has been furnished in the nursery with a compact and well-shaped head close to the ground, and the object to aim at is to grow the tree so that by the time it is well established it will be well supplied with fruiting wood, but make new growth enough each year for the purpose of extension. It does not necessarily follow that every variety must be treated alike, and the intelligent grower gets to know his fruits as he goes on, but, after planting in the late autumn, at, say, ten or twelve feet apart, the first pruning the following spring should consist of cutting back the strong growths to about half their length with the object of laying the foundation of the tree, and creating new branches for this purpose. H.

(To be continued.)

MOON DAISIES.

The handsome and useful Chrysanthemum maximum is a near relative of our wild English plant (C. leucanthemum) known as the Ox-eye or Moon Daisy, more commonly, perhaps, of recent years as the Marguerite, and it and its numerous varieties are often spoken of by the same names. It is supposed to be a variety of this which Luther Burbank claimed to have originated and so widely advertised as the Shasta Daisy, a name now often applied to the whole class. The species, a native of the Maritime Alps, is a plant growing about 2½ft. high, producing an abundance of large white flowers in July and August.

Moon daisies have only come into general use in comparatively recent years, and William Robinson, in the 1900 edition of his "English Flower Garden," says, in a spirit of very faint praise: "Varieties have been raised which have some value as border plants and for cutting." Many varieties have been introduced since then, and they are now recognised as most desirable plants in the herbaceous borders, coming into flower for the most part in June and July, and lasting for a couple of months, whilst rivalling some other members of the compositæ in the length of time they last in water when cut.

The uses of these plants in the border are too obvious to need enlarging upon to any extent. One of the prettiest ways of using them I ever saw was in mixture with Gypsophila paniculata, the latter being staked sufficiently to prevent them being smothered. The effect of the large white blossoms intermixed with the myriad little points of the gypsophila as a foil and a background was better than one would imagine who had not seen it. There was the further advantage that the plants were partially concealed when they began to get untidy. But one must beware of letting them be too much overgrown by other plants during the late summer and autumn as this is a frequent cause of their loss.

It is not necessary to grow many varieties as the general effect of all in the distance and in the mass is very similar. Those who want size will grow King Edward, with enormous flowers four or five inches across, which are borne on very rigid stems. Some will regard these as coarse, and will prefer smaller varieties, such as the Munstead, Prince Henry, or W. H. Gabb, the latter coming into flower rather earlier than most, though it is rather taller in growth, the flowers being borne on long single stems. The most distinct of all the varieties is William Robinson, the petals, or ray florets, of which are finely divided and waved, making it one of the most beautiful for table decoration. The species is also worth growing, but C. m. grandiflorum has larger flowers, and is more vigorous in its growth.

Alger Petts.

JAPANESE MAPLES.

Although considerable attention has been directed of late years to the Japanese maples, the all-important question of their value for garden decoration has not been discussed so fully as these charming shrubs deserve. In dealing briefly with the decorative character of the far-famed maples of Japan, I shall endeavour to leave the discussion of the varieties alone, and merely render a slight appreciation of their beauty.

It must be borne in mind that the acers, or maples, of Japan are not always a thorough success, and the sight of bushes covered with battered leafage as one ofttimes sees, is only another evidence of unsuitability of position. Now, I wish to press upon our garden lovers the idea of the splendour of Japanese maples in the rock garden. What are more effective during the autumn days than masses of bright red foliage, spreading forward over the dark weathered rocks? Masses of those sterling varieties of A. palmatum, such as sanguineum, Seigen, rubrifolium, Osakasuki, and Chiso, which form clouds of shining brilliancy against the dark-hued stones, are glorious indeed. Group them among the rock breaks, and let them crown some of the higher ledges, and you will have an autumn effect most pleasing to behold, and if you have the additional charm of pool or waterway at the base of the rocks, then the rich-hued scarlet maples, photographed, as it were, in the water, will give double beauty to the scene.

The Japanese, imbued with the love of those picture masses of maples in their native glory on the hillsides, have utilised them with fine effect in many of their garden schemes, and the richness of colouring and the grace of outline is certainly notable. Grouped in sunny spots on the banks of the wild garden the maples will contribute much to the beauty of the scene, and a free use of the better forms is to be warmly advocated. For forming lawn specimens, or for giving a touch of gaiety to the shrubbery, the maples are of the utmost value, while in many places they are grown in pots for conservatory decoration, a purpose they serve very well indeed.

Although I have noted the scarlet forms the reader will assuredly realise the decorative character of the whole group. The diverse form of the foliage of the many varietal forms of A. palmatum and A. japonicum, with the wondrous colour range, which embraces white, green, gold, pink, red, purple, and many intervening shades, will appeal to all lovers of the beautiful.

Rock crests and water margins, mossy banks and sloping dells, may be rendered the more charming by these maples of Japan. Glorious they are during the summertide, but it is in the autumn, when the floral year is waning, that the maples reach the zenith of their brilliancy. They are then exquisite, and the rocks seems to glow again with their burden of shining gold and fiery crimson.

Soil and situation have much to do with success in maple culture. Many growers make a practice of using peat for the maples, but good results may be obtained by planting them firmly in a mixture of fibrous loam and leaf-soil, which can be lightened by the addition of a little sand. For position, choose, if possible, one that is sheltered somewhat from north and east. Not because of any lack of hardiness in the maples, but for the reason that sometimes the keen winds and frosts of early spring may materially damage the foliage, and thus spoil the beauty of a whole season.

P. S. Hayward.

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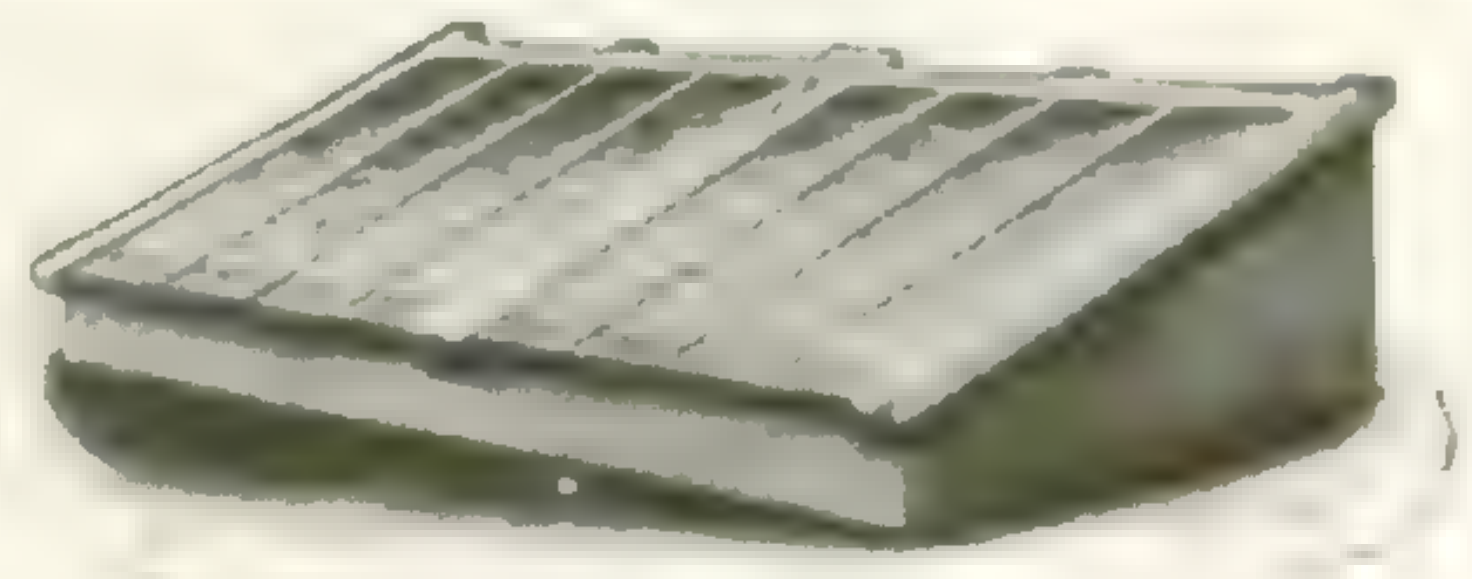

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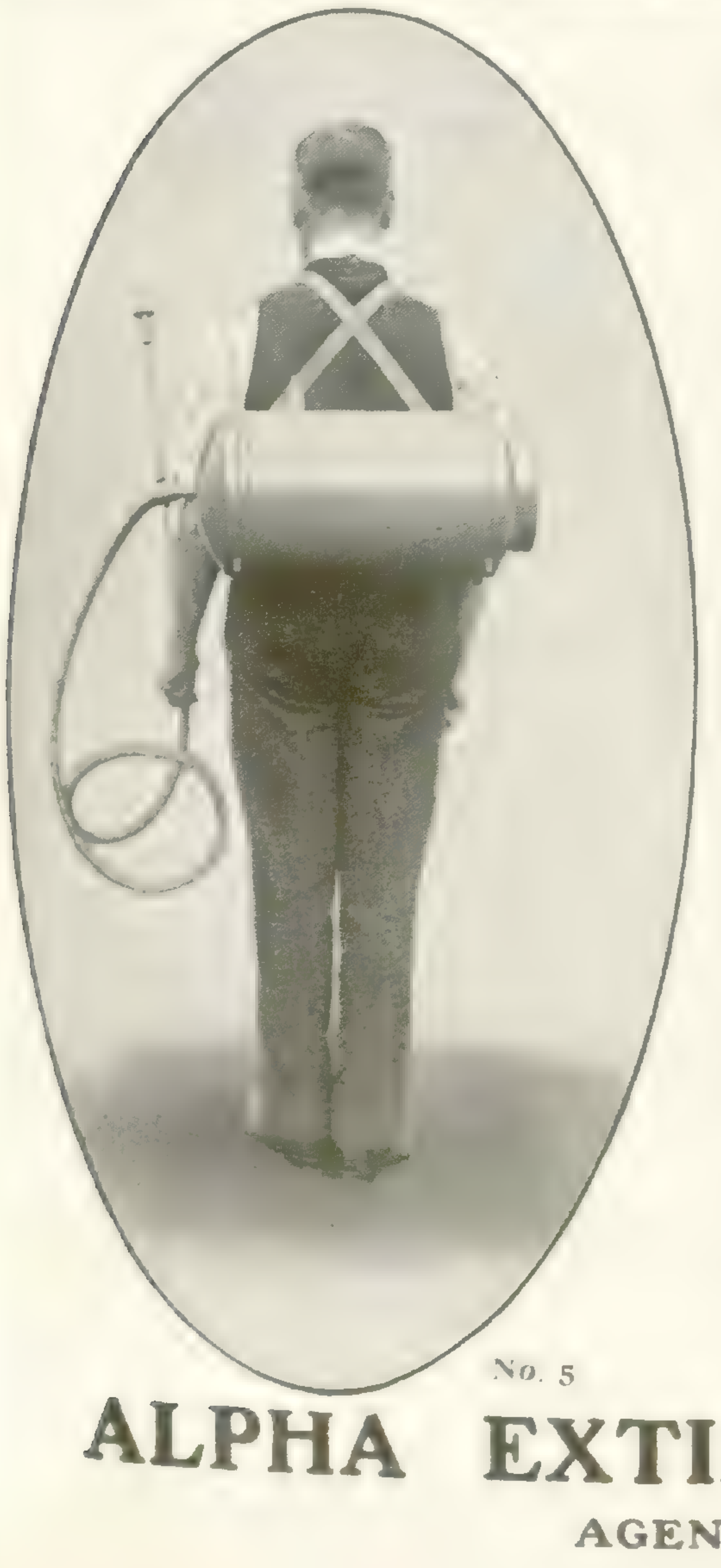

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APPLES AND PEARS IN POTS.

A great incentive has been given to the culture of apples and pears in pots by their exhibition at the summer and early autumn exhibitions, these fruits being staged finely by several firms, and from a few private gardens. It may be said, and perhaps rightly so, that apples and pears are given glass room only in the best-appointed gardens, where the luxury of having such out-of-season fruits is permitted or demanded. It is true that buildings inexpensive in their appointment will readily meet the requirements of orchard fruits. This is proved yearly by the great trade houses, who regularly appear at the leading shows with fruit-bearing trees in pots, and perhaps no name is more familiar in this phase of fruit culture than that of the Messrs. Rivers, of Sawbridgeworth, who have been engaged for so many years in pot-tree culture.

In the garden situated in a southern or other favoured locality, it may not be necessary to cultivate either apples or pears in pots, because from August onward there are four sheltering walls, and open air trees giving a succession consistent with the season and its demands. It is in districts where the sun has less power and the rainfall is considerable that the value of the orchard house is found, for here poor quality, deficiency of colour and size, to say nothing of uncertain crops, becomes often a disappointing experience. Those, therefore, who are victimised by climate derive the greater benefit from a system of pot culture.

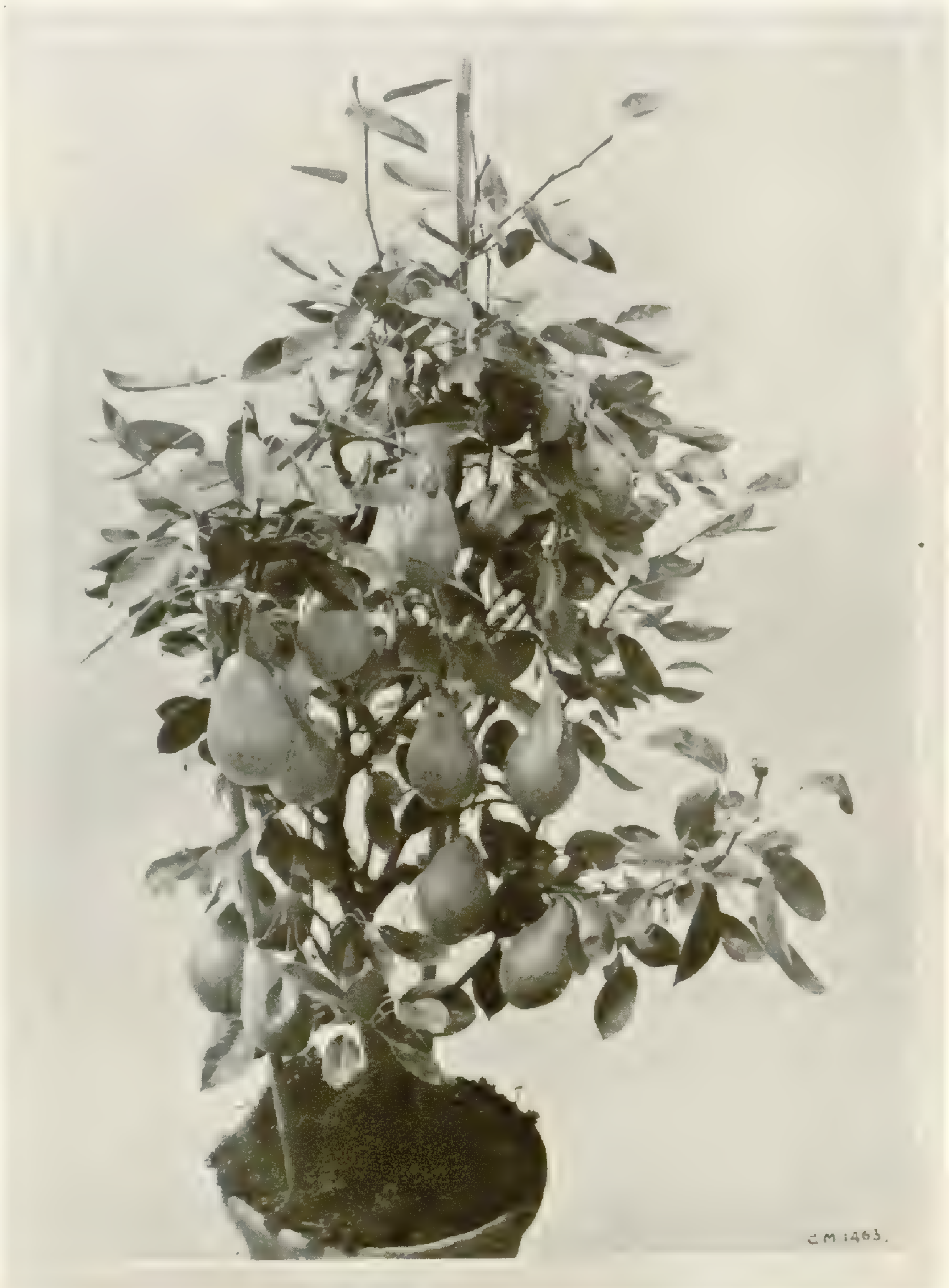
Only the best and most rational practices are likely to satisfy, and though these may be simple, close study and watchful application alone ensures success. It is truly remarkable what perfection of fruit follows skilful practice in pot culture. One has only to reflect for a moment on the large and grandly coloured apples and pears contributed by Messrs. Rivers, Bunyard, Veitch, or William Paul, at the shows of the Royal Horticultural Society, or those seen at summer exhibitions staged by the Messrs. Gibson, Barnes, and Goodacre.

Unlike the peach and nectarine, neither apples nor pears will respond to hard forcing, especially in the early stages of their spring growth. An attempt to force them into unduly early growth and flower will result in disappointment, therefore one may avoid excessive expenditure on fuel, and depend more largely on solar aids to progress. Trees well prepared in their early days, having their pots well filled with active roots, and their summer growth kept in subjection, are those best calculated to give a crop of fine fruits, either for home use or exhibition. Perfect maturity is an all-important necessity, but is one by no means difficult to bring about, because the influence of root restriction should be distinctly reflected in the summer shoots and leaves.

Great importance is attached to the ramming stick in the potting, or even top-dressing of pot-grown trees, as its use assists in the matters already reviewed. Willow-like shoots in summer are by no means the pride of the man in charge, for he knows only too well that it is a bad augury for the future. Potting and top-dressing is commonly advised in early autumn while there is yet foliage unmatured. So long as there is foliage there is a corresponding activity of roots, and the importance of healthy, active roots in late autumn cannot be overrated, as on these largely depend the extent and certainty of prospective crops. The month of October is claimed to be a most suitable period to repot, when this is necessary, or to pot up trees lifted from the open ground. As, however, trees established in pots are regarded as the best form of investment further remarks are unneeded.

When the home stock needs renovation experience demands a reduction of the soil ball by a careful combing out of the tangled roots, to an extent admitting of the return of the reduced ball to the same sized, or slightly larger, pot, as the case requires. Fibrous loam, with sparing additions of lime rubble, burnt refuse, and some form of concentrated artificial manure, will give the right kind of soil. The drainage must be ample, without in any sense inclining to excess. Too much stress cannot be laid on firmness in potting, assuming the compost to be in a good workable state. During the autumn the trees are best outside, with their pots plunged in ashes.

In regard to varieties much need not be written, because a long list is unnecessary, and the choice will naturally fall on those kinds that serve the particular purpose of the undertaking. In apples, Washington, Ribston Pippin, Cox's Orange Pippin, Peasgood's Nonsuch, Gascoigne's Scarlet, Bismarck, Emperor Alexander, and Tyler's Kernel may be mentioned as favourites, while in pears Clapp's Favourite, Souvenir du Congres, Triomphe de Vienne, Doyenne du Comice, Pitmaston Duchess, Conference, Beurre Diel, Charles Ernest, Marie Louise, and Beurre Hardy may be cited as good candidates among many others whose names are familiar.



POT TREE OF MARIE LOUISE PEAR.

A finely fruited specimen grown by Messrs. William Paul and Son, of Waltham Cross.

Feeding with liquid stimulants has a wonderful influence on the size of pot-grown fruits, the congested state of the rooting area calling for this support, but this must be withheld until the crop is safely set, and thinned to reasonable extent. Overcropping is a fatal policy; one fruit to the square foot is a useful guide in estimating quantities. W. **Strugnell.**

Rood Ashton Gardens, Wilts.

INDIAN AZALEAS IN OPEN BORDERS.

I recently visited a large garden in the New Forest, Hampshire. The carriage drive, leading from the highway to the mansion, is a long one with fairly high banks on both sides which are clothed with flowering shrubs chiefly. I was quite prepared to see some nice specimens, but not to see such grand ones of Azalea indica. Some of the latter measured five feet in diameter, were very robust and flowered freely. The rooting medium was composed of sandy soil, gravel and peat—the natural formation. On the lawn were other large beds entirely filled with azaleas in variety and all growing in the same kind of compost. For many years past these plants had been growing in the open borders without any protection, and had proved very satisfactory. Judging from what I have seen, I should quite expect Azalea indica to do remarkably well in open borders in many districts in the southern counties.

G. B.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CATTLEYA HOUSE.—There are several species and varieties among the cattleyas, lælias, and the bigeneric hybrids that are advancing their flower buds at this season of the year. Such plants should be liberally treated and placed in the best positions available to assist them in developing and expanding their flowers. Much depends upon the conditions under which the plants are cultivated; in some districts, where the light is obscured by impure atmospheric conditions outside, the plants should be placed in a position within a reasonable distance from the roof glass, so that they may have the full benefit of the available light until the flowers have become expanded. Plants that are still in an active state of growth should be placed at the warmest end of the house, where they may have the necessary assistance to enable them to mature their growths.

LÆLIA ANCEPS and its varietal forms will now be displaying their flower scapes. It is well to keep all flowering plants of this species together, and remove those which are not flowering and have completed their growth to a structure in which they will enjoy cooler conditions, unless it is desirable to repot at this season. The plants usually commence rooting as soon as growth is completed, and this is the stage at which to repot where they require it. It is not desirable to disturb L. anceps at the roots more frequently than is absolutely necessary. Indeed, unless they have outgrown their receptacles, or the potting compost is in an advanced state of decay, they should not be disturbed, and as they are about to enter upon a prolonged season of rest, top-dressing may be deferred until the spring. All flowering plants should now be exposed to the benefit of full sunlight and the necessary encouragement must be given to assist them to properly expand their flowers. It is quite soon enough to place the plants in their resting conditions after the flower scapes have been removed.

VANDA CÆRULEA.—It is a pity this lovely blue-flowered orchid cannot be induced to grow satisfactorily for many years after it has been imported, there are a few exceptions to the rule, but these exceptions are in cases where houses are set apart for their culture, and in which plants are grown successfully. There is no plant that I have had to deal with for which a pure atmosphere has greater benefits. In the neighbourhood of London, or even in its atmosphere for a few hours, the blue pigment becomes bleached out, and the flowers are practically white. This is what is generally contended with in unfavourable atmospheric conditions of other large towns. Where plants are developing their flower scapes, and expanding their flowers, they should be placed in a position where they may obtain full benefit of the available light, and ample moisture must be afforded.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

CUTTINGS of crotons, panax, coleus, panicum, etc., that were put in the propagating frame early in September should, after a little judicious airing, be ready for removal. The young crotons will be best placed on a shelf, where they will receive a maximum of light, but be well out of the draught from the ventilators. In this position they should keep sturdy, and of good colour, during the winter, but as they will only get syringed occasionally on the under part of the leaves, they should be taken down now and again and dipped, or syringed, with insecticide, to keep thrips or red spider in check. This applies to many classes of plants that may be on shelves during the winter, as the greater amount of fire heat and less syringing make them more liable to the attacks of insect pests.

YOUNG DRACÆNAS that may have been raised from "toes," several in a pot, should be potted off as quickly as possible into a very light compost of peat, leaf-soil, and sand, using very small pots for the purpose. These, with careful attention during the winter, should make nice stuff for potting quite early in the year, and thus provide good-sized table plants a month or two earlier than those raised in the spring.

PENTAS CARNEA.—This is another winter-flowering stove plant of bushy habit, which is well worth growing, especially where buttonhole bouquets are in demand, the flesh-coloured flowers being well adapted for the purpose. It has the very useful habit of continuing in bloom for several months; plants coming into bloom now should be given all the light possible.

RUELLIA MACRANTHA and varieties of justicia I have referred to in previous calendars, and if a house could be devoted to these and the other flowering plants that I have mentioned, they would be found to do well together, and would provide a much better show than when cultivated with other stove plants during the winter months, the heavy dampings and occasional syringings being very detrimental to plants that are opening their flowers.

BRIGHT DRACÆNAS.—Where a good batch of the highly-coloured dracænas are grown it may be wise to place them altogether on one side of the stove, and in a position where they will not be much syringed overhead, as the better coloured they are the more liable are the points of the leaves to turn brown through excess of moisture, so, instead of syringing them overhead, damp well beneath the pots, and give them an occasional sponging with well-diluted insecticide to keep them clean.—Thomas Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

PLANTING PEACHES AND NECTARINES.—Those who intend planting this season should no longer delay in ordering the trees, as the best time for planting is near. Good varieties to select from are plentiful, but as ordinary growers have not space at command for many, a comparatively short list only will be given, and this includes some of both new and old varieties. Peaches.—Amsden June, Hales' Early, Duke of York, Early Grosse Mignonne, Bellegarde, Royal George, Dymond, Peregrine, Noblesse, Violette Hative, Barrington, Raymackers, Princess of Wales, Thomas Rivers, and Late Devonian. Nectarines.—Cardinal, Early Rivers, Dryden, Violette Hative, Humboldt, and Pineapple. These varieties can be relied upon under glass. When young trees are received from a nursery they should be carefully unpacked, and have the jagged ends and other damaged portions of roots removed by a clean cut, and if the roots are dry plunge them for a short time in water. Then plant without delay, and in doing so take out a hole in the border (the making of which was dealt with in a recent calendar) of adequate dimensions, in which to regularly spread the roots in a horizontal position, and sufficiently deep to allow the stems being covered to the same depth as before the trees were lifted. When covering the roots place some of the finest of the compost in immediate contact with them, and make the whole of it quite firm. Finish the work by loosely securing the largest branches to the trellis, mulching the border with stable litter, and well watering it. It is an excellent practice, provided it can be sufficiently foreseen that they will be required, to plant and train trees upon an outside wall, and keep them root pruned for a year or more in readiness for planting under glass. By this means, if the planting is skilfully done and the trees are not early forced, there need be no loss of a crop of fruit. We usually adopt this practice, and are successful in moving large trees.

TOMATOES.—Keep the atmosphere of the house containing winter-fruiting plants circulating both by night and day, and keep it moderately dry and warm by the aid of artificial heat, thus preventing the fruit from splitting, and also assisting it to set. Secure the leading growths to the trellis, keep the laterals regularly removed, and the blossoms daily pollinated by the use of a rabbit's tail. Top dress the pots or ridges of compost when they become filled with roots with loam mixed with finely crushed mortar rubble and wood ashes, and when the plants develop and become heavily cropped with fruit give them an occasional top-dressing with bonemeal or a suitable artificial fertiliser. Regularly gather the fruit as it becomes ripe. If seeds have not been sown for raising plants for fruiting early in spring there should be no delay. Sow thinly in pans, pot the plants singly as they become fit, and keep them near the glass.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

THE FRAME YARD.—In all gardens there should be a portion of ground well sheltered from the north and east winds devoted to frames for gradually forcing a few vegetables of various kinds. It is here gentle hotbeds can be regularly made up, commencing now, as there is material in plenty in the way of fallen leaves, stable litter, and often late cuttings of aftermath from the orchard and other parts of the grounds. These, if judiciously mixed, form ideal beds of a lasting character. The beds that remain from last year will be found most useful for late plantings of parsley, lettuce, cauliflowers, and sowings of spinach, and other beds not required will form most excellent manure for kitchen garden plots as well as mulching and top-dressing. When the frames are brought into use on the newly-made beds, ventilate with freedom during all open weather to cause a free circulation of air among the occupants, thus assuring a strong and healthy growth.

CUCUMBERS.—Very much care, and suitable structures, will be necessary to maintain a regular supply during the winter months. The August-sown plants now coming into fruiting will need every care and encouragement to form stout growths before winter sets in. Do not overcrop the plants, but keep them perfectly clean. Keep up a steady heat and moist atmosphere according to external conditions, and top-dress very lightly with sweet loam and leaf-soil, with a little spent mushroom bed manure added. Cut the fruits as they are large enough. These will keep many days if the ends are placed in water in a dark and warm place.

RHUBARB.—The prepared stools of early varieties have ripened off completely during the late fine weather we have experienced, and these will make excellent material for forcing. It is a good plan to lift the stools entirely by working away all the soil from around them and leaving them exposed to the weather for a week or ten days; this will cause a complete rest, the results of which will be a more vigorous growth when planted in a genial temperature. Later on place the crowns at the warm end of the mushroom house, and keep the whole surroundings moist and dark.

SEAKALE.—This can be treated as advised for rhubarb, and if the crowns have been well grown and ripened it will be surprising what good dishes can be obtained by the middle of November. When taking up the crowns, if some of the leaves still remain, let them lay on the ground and wilt, after which they can be cut fairly close to the crown previous to placing them in the mushroom house or like structure. Later batches will be found to shed their leaves easily and freely.

RUNNER BEANS.—The late-sown batch is still producing very serviceable pods, and will continue should the weather remain fair. All pods when large enough should be gathered.—Geo. Ellwood, Swanmore Park Gardens.

GREAT EXHIBITION OF BRITISH-GROWN FRUIT.

(Continued from page 824.)

Mr. E. Neal was the only exhibitor of nine dishes of pears, and was awarded the first prize. Mr. J. E. Hathaway, gardener to J. Brennand, Esq., Baldersby Park, Thirsk, won the chief award for six dishes of pears with Chas. Ernest, Beurre Bachelier, Louise Bonne of Jersey, Durondeau, and Doyenne Boussoch; Mr. B. Craydon, East Street, Sittingbourne, second. Mr. B. Craydon had the best three dishes of pears, and showed General Todleben, Catillac, and Beurre Clairgeau; Mr. F. Cornford, second.

PEACHES AND PLUMS.

Mr. Brock, gardener to the Duke of Richmond, Goodwood, Chichester, led for a dish of outdoor peaches with grand examples of the handsome Salway; Mr. Markham, gardener to Viscount Enfield, Wrotham Park, Barnet, second with Princess of Wales; twelve entries. Mr. Mackinlay and Mr. Cornford, were first and second for nectarines with Victoria.

R.H.S. FRUIT SHOW—A TASTEFULLY ARRANGED COLLECTION OF HARDY FRUIT.
Exhibited by Messrs. Laxton Brothers.

Plums were fine. Mr. J. Vert, gardener to Lord Howard de Walden, Audley End, Saffron Walden, was first for three dishes of plums grown under glass, and his varieties were Coe's Golden Drop, Decaisne, and Coe's Violet; Mr. J. Hill, Kingston Lacy, second. For three dishes of outdoor-grown plums, Mr. Messenger, gardener to C. H. Berners, Esq., Wolverstone Park, Ipswich, led with Coe's Golden Drop, President, and Reine Claude de Bavay in fine condition; Mr. Vert second. Mr. Messenger was first, and Mr. Vert second for a dish of Coe's Golden Drop, out of twelve entries. For any other dessert plum, Mr. Seale, gardener to the Marquis of Northampton, Castle Ashby, Northampton, led with Late Transparent Gage Mr Messenger coming second with Reine Claude de Bavay.

For a dish of cooking plums Mr. Messenger scored with very magnificent examples of President Mr. Vert second with Monarch. Mr J Williams, Pendley Manor, Tring, was the only exhibitor of Morello cherries, and he was awarded first prize for plump fruits.

COUNTY CLASSES.

In the district county classes prizes are offered in each set for six dishes of apples (four cooking and two dessert), and six dishes of pears, distinct varieties in each case. In the apple classes the first prize was 20s., and single third-class rail fare from the exhibitor's nearest railway station to London, and the second prize 15s., and single rail fare. For the pears the cash prizes were 30s. and 20s. respectively, plus single rail fare, but in the event of a competitor winning prizes in his county class for both apples and pears only one railway fare is paid.

In the division for Kent growers Mr. J. Bond, gardener to W. E. S. Erle Drax, Esq., Wye, Kent, led for apples, and he had fine dishes of Peasgood's Nonsuch and Charles Ross; Mr. F. King, Wellington House, Westgate, second. For pears, Mr. Bond was a good first, and Mr. J. Shelton, Sevenoaks, second.

In the district including Surrey, Sussex, Hants, Dorset, Somerset, Devon, and Cornwall there were four entries of apples, and Mr. F. Brock, Goodwood, led with Warner's King, Peasgood's Nonsuch, Lane's Prince Albert, Lord Derby, Rival, and Cox's Orange Pippin; Mr. T. Turton second. In the pear section there were three entries, Mr. Turton coming first, and Mr. A. Tidy, gardener to C. H. Combe, Esq., Cobham Park, Cobham, Surrey, second.

The next division was open to growers in Wilts, Gloucester, Oxford, Bucks, Berks, Beds, Herts, and Middlesex, and here there were four sets of apples, Mr. A. R. Allan, Hillingdon Court, coming first with fine dishes of Peasgood's Nonsuch, Lord Derby, Emperor Alexander, Warner's King, Ribston Pippin, and Cox's Orange Pippin; Mr. C. Page, Dropmore, second. Mr. A. R. Allan scored also for pears, with Mr. H. Markham, Wrotham Park, Barnet, second, the latter having very highly coloured fruits.

There were two sets of apples in the division open to growers in Essex, Suffolk, Norfolk, Cambridge, Hunts, and Rutland, and here Mr. Davison, Westwick, Norwich, secured the chief award with a noble set of Bramley's Seedling, Mère de Ménage, Gascoigne's Scarlet, Stone's, Ribston Pippin, and Cox's Orange Pippin; Mr. W. A. Voss, Rayleigh, second. For pears Mr. Davison was a capital first with heavy dishes of Pitmaston Duchess, Durondeau, Conference, Doyenne du Comice, Triomphe de Vienne, and Marie Louise; Mr. W. Messenger, Wolverstone Park, Ipswich, second.

The counties of Lincoln, Northampton, Warwick, Leicester, Notts, Derby, Staffs, Shropshire, and Cheshire contributed two sets of apples, Mr. W. H. Divers, gardener to the Duke of Rutland, Belvoir Castle, Grantham, coming first, and Mr. John Lee, Higher Bebington, Cheshire, second. In the pear section premier award fell to Mr. James Gibson, Welbeck Abbey Gardens, for a fine set of Charles Ernest, Emile d'Heyst, Pitmaston Duchess, Marie Benoist, Beurre Diel, and Doyenne du Comice; Mr. J. Taylor, Hardwicke Grange, second.

Another division was open to growers in Worcester, Hereford, Monmouth, Glamorgan, Carmarthen, and Pembroke, and here Mr. Denis Best, Worcester, led for apples, followed by Mr. J. Rick, gardener to G. H. Hadfield, Esq., Moraston House, Ross. Mr. Rick was the only exhibitor of pears, and was awarded first prize.

All other counties of Wales were grouped to form a district, and here Mr. G. Aitkens, gardener to P. Yorke, Esq., Erddig Park, Wrexham, was first, and Mr. H. Forder, gardener to Colonel Cornwallis West, Denbighshire, second. The same competitors were similarly placed for pears.

The six northern counties presented two sets each of apples and pears. Mr. J. E. Hathaway, gardener to J. Brennand, Esq., Baldersby Park, Thirsk, was first for apples, and Mr. W. E. Hyde, Norwood Hall, Sheffield, second, the same competitors coming first and second respectively for pears.

From Scotland one set of apples was brought, and this, from Mr. J. Duff, gardener to Colonel Gordon, Threave, Castle Douglas, was given a first prize, and deservedly so, for his dishes of The Queen, Hawthornden, Peasgood's Nonsuch, Gascoigne's Scarlet, King of the Pippins, and Worcester Pearmain, were of good size and finely coloured.

Irish growers sent two sets of apples, Mr. Tomalin, gardener to the Earl of Bessborough, Piltown, Co. Kilkenny, scoring with fine fruits of Stone's, Peasgood's Nonsuch, Hambling's Seedling, Warner's King, Cox's Orange Pippin, and King of the Pippins; Mr. C. P. Broad, Aghern, Conna, Co. Cork, Ireland, second.

There were no competitors from the Channel Islands.

DESSERT APPLES—SINGLE DISHES.

We can only afford space for the first prize-winner in the single dish classes; two prizes were offered in each case, these being 7s. and 5s. respectively.

Adam's Pearmain, six entries; Mr. A. R. Allan, gardener to Lord Hillingdon, Hillingdon Court, Uxbridge. Allington Pippin, fourteen entries; Mr. T. Stevenson, Woburn Place Gardens, Addlestone. American Mother, six entries; Mr. A. R. Allan. Ballinora Pippin, one entry; Mr. J. Shelton. Belle de Boskoop, four entries; Mr. Barnes, Bearwood Gardens, Wokingham. Ben's Red, three entries; Mr. J. Bond, Wye, Kent. Blenheim Orange, ten entries; Mr. King, gardener to Rev. H. A. Bull, Wellington House, Westgate. Charles Ross, eight entries; Mr. G. Crayden, Sittingbourne. Christmas Pearmain, four entries; Mr. F. Brock, Goodwood Gardens. Claygate Pearmain, three entries; Mr. Edwards, gardener to C. A. Morris Field, Esq., Beechy Lees, Sevenoaks. Coronation, four entries; Mr. F. Brock. Cox's Orange Pippin, fifteen entries; Mr. Denis Best, Worcester. Duke of Devonshire, four entries; Mr. W. A. Voss, Rayleigh, Essex. Egremont Russet, seven entries; Mr. J. Bond, Wye. Fearn's Pippin, three entries; Mr. W. Barnes.

Golden Reinette, no entries. Houblon, one entry; Mr. G. Richardson, Newton Abbott. James Grieve, nine entries; Mr. Jas. Vert. King of Tompkin's County, three entries; Mr. Jas. Vert. Lord Hindlip, one entry; second prize to Mr. W. Paulley, Thornton Heath. Margil, four entries; Mr. J. Shelton. Ribston Pippin, thirteen entries; Mr. A. R. Allan. Rival, six entries; Mr. F. Brock. Scarlet Nonpareil, one entry; second prize to Mr. F. W. Herbert, Nutfield. St. Edmund's Pippin, five entries; Mr. F. Landsdell, Desford Industrial School, Leicester. Wealthy, eight entries; Mr. C. O. Walter, Ickleton House, Wantage. Any other variety, fit for use, fifteen entries; Mr. A. R. Allan, with King of the Pippins. Any other variety, for late use, ten entries; Mr. W. Barnes, with Cornish Gilliflower.

R.H.S. FRUIT SHOW—A FINE DISH OF APPLE MERE DE MENAGE,
Included in the first prize collection in the Affiliated Societies' class, which was exhibited by the East Anglian Horticultural Society.

COOKING APPLES—SINGLE DISHES.

Annie Elizabeth, eleven entries; Mr. H. Smith, gardener to B. Henderson, Esq., Little Berkhamsted. Beauty of Kent, four entries; Mr. J. B. Lowe, gardener to G. Lubbock, Esq., Broadoaks, Byfleet. Bismarck, six entries; Mr. Denis Best, Worcester. Bramley's Seedling, thirteen entries; Mr. J. C. Sutton, gardener to Earl Stanhope, Cheveney Park, Sevenoaks. Byford Wonder, two entries; Mr. R. Edwards, Beechy Lees, Sevenoaks. Dumelow's Seedling, five entries; Mr. A. Smith, Roehampton Lane, S.W. Ecklinville, five entries; Mr. T. Stevenson, gardener to E. G. Mocatta, Esq., Addlestone. Edward VII., one entry; Mr. F. Lansdell, Leicester. Emneth Early, no entry. Emperor Alexander, two entries; Mr. F. W. Herbert, Nutfield. Encore, one entry; Mr. R. M. Whiting, Credenhill, Hereford. Gascoigne's Scarlet, five entries; Mr. J. Bond, Wye. Golden Noble, five entries; Mr. Paulley, gardener to Dr. Jackson, Thornton Heath.

Grenadier, five entries; Mr. C. Page, Dropmore, Maidenhead. Hambling's Seedling, seven entries; Mr. G. Richardson, Newton Abbott. Lady Henniker, three entries; Mr. F. Brock, Goodwood. Lane's Prince Albert, twelve entries; Mr. Denis Best, Worcester. Lord Derby, twelve entries; Mr. Denis Best, Worcester, with a grand dish. Mère de Ménage, five entries; Mr. Davison, gardener to Colonel Petre, Westwick, Norwich. Newton Wonder, ten entries; Mr. W. Barnes, Wokingham. Norfolk Beauty, four entries; Mr. W. Allan (the raiser), gardener to Col. the Hon. C. Harbord, Gunton Park, Norwich. Peasgood's Nonsuch, ten entries; Mr. H. B. Davies, Ashford, Middlesex. Potts' Seedling, three entries; Mr. Turton, gardener to T. B. Wingfield, Esq., Sherborne Castle, Dorset. Rev. W. Wilks, no entry. Royal Jubilee, eight entries; Mr. F. Brock, Goodwood. Stirling Castle, four entries; Mr. Denis Best, Worcester. The Queen, eight entries; Mr. W. Voss, Rayleigh. Tower of Glamis, seven entries; Mr. T. A. Tomalin, gardener to the Earl of Bessborough, Piltown, Co. Kilkenny. Warner's King, thirteen entries; Mr. Denis Best, Worcester, with a very fine dish. Any other cooking variety, sixteen entries; Mr. A. Smith, Roehampton Lane, S.W., for a finely-coloured dish of Tyler's Kernel.

PEARS—SINGLE DISHES.

Beurre Alexander Lucas, two entries, Mr. T. Turton, Sherborne Castle. Beurre d'Amanlis, two entries; Mr. F. King, Westgate. Beurre d'Anjou, two entries; Mr. C. Page, Dropmore. Beurre d'Avalon, no entries. Beurre Bose, three entries; Mr. Jas. Vert. Beurre Dumont, Mr. J. Shelton. Beurre de Naghan, no entries. Beurre Hardy, three entries; Mr. A. R. Allan. Beurre Perran, no entries. Beurre Superfin, five entries; Mr. W. Messenger. Blickling, one entry; Mr. W. Allan, Gunton Park. Charles Ernest, four entries; Mr. James Gibson, Welbeck Gardens. Comte de Lamy, four entries; Mr. C. Page, Dropmore. Conference, seven entries. Mr. Davison, Westwick. Doyenne du Comice, twelve entries; Mr. Davison, Westwick; very fine. Durondeau, six entries; Mr. Davison, Westwick, with a grand dish.

Emile d'Heyst, two entries; Mr. W. Allan, Gunton Park. Fondante d'Automne, two entries; Mr. W. Allan, Gunton Park. Fondante de Thirriot, four entries; Mr. W. Messenger. Glou Morceau, two entries; Mr. G. Davison, Westwick. Josephine de Malines, six entries; Mr. T. Turton, Sherborne Castle. Le Lectier, four entries; Mr. James Vert, Saffron Walden. Louise Bonne of Jersey, three entries; Mr. J. Taylor, gardener to F. Bibby, Esq., Hardwick Grange, Shrewsbury. Marguerite Marillat, one entry, Mr. G. Davison, Westwick. Marie Benoist, one entry; Mr. T. Turton, Sherborne Castle. Marie Louise, three entries; Mr. G. Davison, Westwick. Nouvelle Fulvie, five entries; Mr. J. Hill, Wimborne, Dorset. Olivier des Serres, six entries; Mr. T. Turton, Sherborne. Pitmaston Duchess, nine entries; Mr. B. J. Mercer, gardener to H. G. Kleinwort, Esq., Wierton, Maidstone.

President Barabe, two entries; Mr. W. Allan, Gunton Park. Thompson, four entries; Mr. T. Turton, Sherborne. Triomphe de Vienne, three entries; Mr. A. R. Allan, Hillingdon. Winter Nelis, seven entries; Mr. J. Reynolds, gardener to R. F. Bristowe, Esq., Mildenhall. Any other early variety, four entries; Mr. W. A. Voss, Rayleigh, with a grand dish of Doyenne Boussoch. Any other late variety, ten entries; Mr. T. Turton, Sherborne, with Easter Beurre, and Mr. J. Hill, Wimborne, second, with a splendid dish of Beurre Diel.

AFFILIATED SOCIETIES' CLASS.

In the class open to affiliated societies there were four entries, and the silver cup and silver-gilt Knightian medal offered for the best set of six dishes each of dessert apples, cooking apples, and pears, were won by the East Anglian Horticultural Society, secretary, Mr. Wallis, Royal Arcade, Norwich, with a fine set of Warner's King Norfolk Beauty, Lane's Prince Albert, Mère de Ménage, Bramley's Seedling, Stone's, Worcester Pearmain, Allington Pippin, Tyler's Kernel, Adam's Pearmain, Cox's Orange Pippin, and Ribston Pippin apples and Marie Louise, Conference, Hacon's Incomparable, Doyenne du Comice, Durondeau, and Pitmaston Duchess pears; The Colchester and District Gardeners' Association were placed second, but it was difficult to understand how this set beat the one staged by the Addlestone, Chertsey, and Ottershaw Gardeners' Association.

Celeriac.—This crop should by now have completed its growth, and the roots should therefore be carefully lifted and the foliage trimmed, and then be stored away in finely sifted ashes or sand, and kept just free from frost.—George Ellwood.

Origanum Tourneforti.—A few of the dittanies, or origanums, are hardier than O. dictamnus, the dittany of Crete, and among them one of the best is sold in nurseries as O. Tourneforti, although it is just possible that the name may be erroneous, although the plant has come through a good source. It is an excellent flower for the rock garden, especially as it is one of the few autumn-flowering plants we have which are of real value for the rockery at this season. No one can call it showy, but it is distinctly interesting, and owns many points of quiet beauty, apart from the charm of comparative rarity. The sessile leaves are rather rounded in form, and the whorls of little flowers are in heads, resembling in general appearance those of the hop, the pink blossoms, which are small in size, emerging from the top of these. The whole aspect of the plant is quietly pretty. It is from six inches to a foot high, and seems to be a little more vigorous than O. hybridum, which is slightly better known. This origanum, which is sometimes called the dittany of Amorgos, from the place of its origin, is hardy as far north of the Tweed as Edinburgh, at least. It likes a sunny position and a sandy soil.—S. A.

CAMBRIDGESHIRE HORTICULTURAL SOCIETY
AUTUMN SHOW,
CORN EXCHANGE, CAMBRIDGE, Nov. 9 and 10.
Open Classes for Chrysanthemums and Vegetables.
For Schedules apply to F. E. FORDHAM, Asst. Secretary, 8, North Terrace, Cambridge.

KENT COUNTY CHRYSANTHEMUM SOCIETY.—The 23rd GRAND ANNUAL EXHIBITION will be held at the CONCERT HALL, BLACKHEATH, on WEDNESDAY and THURSDAY, November 2nd and 3rd, 1910. Schedules and all particulars of the Hon. Sec., F. FOX, The Gardens, The Cedars, Lee, S.E.

NATIONAL CHRYSANTHEMUM SOCIETY.
GREAT AUTUMN SHOW.
At the CRYSTAL PALACE,
On November 2nd, 3rd, and 4th, 1910.
Entries close October 26th. Write at once for Schedule (post free) to the Secretary, RICHARD A. WITTY, 72, Savernake Road, Gospel Oak, London, N.W.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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The Horticultural Club.

On Tuesday, the 11th inst., at the Hotel Windsor, the Horticultural Club commenced its winter series of monthly dinners, the chair being occupied by Mr. Peter Veitch, of Exeter, and a good number of members and guests being present. In accordance with the long-established custom of the club, the dinner was followed by the reading of a paper for discussion, and on this occasion Mr. George Bunyard, V.M.H., very kindly gave an account of his visit to Carnac, in Brittany, under the title of "Impressions of Carnac (Brittany), its Menhirs, Dolmons, and Alignments," illustrated by a considerable number of lantern slides, showing the remarkable number and arrangement of the large granite monoliths, which are there assembled. In opening this subject Mr. Bunyard, referring to the evolutionary side of human handwork, in the way of tools and architecture, of both which Carnac has supplied much material for study. He alluded to his near neighbour in Kent, Mr. Benjamin Harrison, of Ightham, who had been the pioneer in establishing the existence of far more primitive and more ancient tools than the so-called palæoliths, which had been previously assumed to be the oldest of all. Of these older and ruder implements Mr. Bunyard exhibited several specimens, a careful examination of which showed indubitably that they had been artificially chipped into certain forms which were practically impossible to impute to other than design, which, of course, means human design, no conceivable natural force of erosion or wearing being capable of producing them, especially as many hundreds of like forms have been found. Their immense antiquity, as compared with the more highly worked and symmetrical palæoliths had been established by their discovery in situ in gravels now forming the caps of the highest hills in the Weald of Kent, the presence of which gravels proved beyond cavil that these hill tops were at one time valley bottoms of a mountain range of considerable height, now utterly denudated. Following up the chain of evolution, Mr. Bunyard referred to the third stage of tool or weapon manufacture, viz., the neoliths which were highly finished, polished, and even artistically shaped, and were found under conditions which indicated their co-existence with bronze implements at a period when the metals began to figure as fitter materials than flint.

Turning now to Carnac, as presumably contemporary with this last period, since neoliths and bronze implements have been found during the excavations which have been made there, Mr. Bunyard showed on the screen and by photographs handed round, how the immense granite stones which appear to constitute the rocks of the locality generally, have been exhumed, transported, and arranged in such a way as to form mile-long avenues, as it were, the stones in the majority of cases being reared on end at fairly equal distances from each other, but in perfectly straight rows, while in other cases rude temples have been formed of them by using extra huge monoliths for the roof, with minor ones for the supporting walls, or in some instances, immense stones were shown nicely poised upon only two pointed supports, somewhat on Logan stone lines, but, in this case, obviously due to human agency.

Considerable speculation has arisen as to how these mighty masses were moved and handled. Mr. Bunyard suggested that the upper stones were raised by continued oscillatory tilting, and insertion of wooden supports at each stage, which were ultimately burnt away, but in the subsequent discussion it was suggested that earthen mounds were first made, up which the masses were dragged, the supporting stones being subsequently introduced beneath them, in the same way as buildings are underpinned, the soil being eventually dug out and distributed. As a rule, the stones are as rough as Nature made them, but in some cases their surfaces are elaborately sculptured, waving corn ears, suns, and carving resembling the grain of wood appearing on the most marked specimens. The object of all this gigantic work is not clear, being imputed to memorials of victories, or similar motives by some, and to sun worship by others who study the orientation of the alignment, and the ornamentation which is here and there in evidence.

An interesting discussion followed the lecture, and a very hearty vote of thanks was given in conclusion to Mr. Bunyard for his interesting address.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, October 11.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair), Dr. A. B. Rendle, F.R.S., Messrs. R. H. Curtis, J. Fraser, W. E. Ledger, A. Worsley, J. W. Odell, W. Hales, R. H. Pearson, G. Gordon, J. Douglas, W. C. Worsdell, W. Fawcett, and F. J. Chittenden (hon. secretary).

BUDS ON LEAVES.—Mr. W. C. Worsdell showed leaves of Verbascum nigrum affected by some disease which is being investigated, and which caused the production of numerous adventitious buds around the margins of the leaves. Masses of small buds had also been produced around the base of the stem.

LYCORIS AUREA, ETC.—Mr. A. Worsley showed a flowering spike of the Chinese Lycoris aurea, which he found succeeded and flowered well when planted out in a house. He also showed flowers of the South African Composite, Cryptostemma calendulaceum, which is very sensitive to frost, but which ripens seed early, and so succeeds in maintaining itself.

MODIFIED FLOWERS OF ERICA CINEREA.—Mr. Bowles showed on behalf of Mr. L. R. Russell, of Richmond, a form of Erica cinerea in which the flowers were replaced by deep red groups of closed, packed leaves arranged in fours, as in the flowers of normal plants, not in threes, as the foliage leaves are usually. The case was similar to that described and figured in the "Journal of Botany," 1909, pp. 437-9, by Dr. Rendle, from wild plants collected near Axminster, except that in that instance ordinary flowers were also produced. Although no stamens were produced, carpels and apparently good ovules were borne in the centre of the groups of leaves.

FASCIATION IN PYRETHRUM ULIGINOSUM.—Dr. D. H. Scott sent specimens of this plant with fasciated stems, in some cases separating before producing flower heads, and in others remaining fasciated until the flowering stage was reached, so that the head appeared as of two or three joined.

DOUBLE-FLOWERED TROPÆOLUMS.—Mr. J. L. Arkwright, of Lyonshall, Herefordshire, sent flowers of some double tropæolums which he had raised. One or two of the plants were climbers, and there were among the plants more than a dozen distinct variations in colours. The flowers were regular and had no stamens or carpels.

East Anglian Horticultural Society.

There was a full attendance of members at the October meeting of this society, held at the Boar's Head Hotel, Norwich. Mr. J. Clayton was elected to the chair. Mr. Edward Peake delivered a lantern lecture upon a holiday spent in France, and also displayed a series of pictures of local gardens and their gardeners, touching upon the speciality of each garden. This was most interesting, for one was able to see, as it were, his friend at work among his flowers. Mr. Peake is very good with the camera, and his pictures upon the screen were beautifully reproduced.

A hearty vote of thanks was accorded to him upon the motion of the President.

A fine feature of the exhibition tables was the display of beautifully coloured strawberries and extra large raspberries, shown by Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., Cringleford. This same gardener also won for the second time the Dawson Paul silver challenge bowl, with a splendid concluding exhibit of six varieties of fruit. Mr. F. Williams, gardener to Louis J. Tillett, Esq., Catton, had a grand plant of Cypripedium insigne carrying over twenty perfect flowers. The exhibit of apples was most creditable for so poor a season. Pot plants, flowers, and vegetables were also well staged. Messrs. Daniels Bros., Lim., Norwich, made a display of H.T. roses of the best pink kinds. Mr. Frank Neave, Lingwood, staged violets well, and Mr. T. Notley, Catton Hall Gardens, showed a fine improved Miss Willmott verbena.

It was announced during the meeting that the society had sent an exhibit for the British-grown Fruit Class, open to affiliated societies, in London, at the R.H.S. Many members had sent of their best, and the Selection Committee were able to send a grand lot. When it became known that the society had "won the cup" each wanted to shake his fellow member's hand, for in Norfolk they think it a great honour to be able with such an adverse season to win a cup open to the United Kingdom.

Reading Gardeners' Association.

The fortnightly meeting of this association was held in the Abbey Hall, on Monday, October 10, the president, Mr. Alderman Parfitt, being in the chair. There was again a very large attendance.

After the minutes of the last meeting had been read and a number of new members elected, the President informed those present that the Small Town Hall had been engaged for Wednesday, November 23, in view of the forthcoming exhibition, and he hoped that members would make such efforts as would ensure the show being even a greater success than last year. Mr. Parfitt also reminded the younger gardeners of the advantages which it would shortly be their privilege to enjoy in the educational class to be conducted by Mr. Drew, by arrangement with the University College authorities.

The lecturer for the evening was Mr. F. G. Drew, horticultural instructor at the college, and his subject, "Outside Peaches and Nectarines." In a very able and lucid paper which the lecturer explained he had endeavoured, for the benefit of the younger members, to put into as simple language as possible, Mr. Drew dealt most thoroughly with the treatment of peaches and nectarines as wall fruits. He remarked that failure was frequently associated with indifference on the part of the gardener to both tree and fruit, and said that if only a tithe of the trouble lavished on trees under glass was expended on those found on walls the result, in most cases, would be surprising.

Information with regard to walls, aspect, first and second year treatment, training, lifting, soil, manures, pests, diseases, systematic attention, etc., was most thoroughly and clearly given, and when Mr. Drew resumed his seat, having spoken an hour and a quarter, he was greeted with much applause. An excellent discussion followed the lecture.

Mr. F. Townsend, gardener to the vice-president, exhibited a very pretty group of Sutton's Miniature White nicotiana, which was greatly admired.

National Hardy Plant Society.

A meeting of the Provisional Committee of the National Hardy Plant Society was held at the Royal Horticultural Society's Hall, Vincent Square, on Thursday, October 13, Mr. Macself in the chair.

Rules and bye-laws were adopted subject to approval by a general meeting of the society which will be held on Thursday, November 3, at 3 p.m., at the Hotel Windsor, Victoria Street, Westminster, for this purpose, and for the election of officers and council for the ensuing year. Members, and anyone interested in hardy plants, desirous of joining the society are cordially invited to attend.

British Gardeners' Association.

The first monthly meeting of the winter session of the London Branch took place at Carr's Restaurant on Ocober 13. The chair was taken by Mr. North, and, after the general business had been dealt with, an address was delivered by Mr. E. Feltham on "The Policy of the B.G.A., and its Future Work." In dealing with the work of the branches of the association that have been formed at various centres, the speaker thought there was a great danger of the association developing into a mutual improvement society. He did not think this was fulfilling the purpose for which the B.G.A. was founded, and he suggested that a much broader policy should be adopted. For instance, they should combine with other societies, such as the London Trades' Union. They should also have a voice in such matters as The Sweated Labour Bill, the new land taxes, and the Town Planning Bill. These things should all be investigated with a view to ascertaining how far the gardening profession is likely to be affected by them. He said the land tax was having an adverse influence upon gardening because of the decrease in the amount of labour employed, therefore all the pressure possible should be brought to bear upon the Government to provide suitable work to compensate for the loss of employment in other directions. Several useful schemes might be started for this purpose, such as State afforestation, reclaiming waste and marsh lands, and converting them into small holdings on co-operative lines. Gardeners as a whole, continued the speaker, have been very reluctant to take any active part in politics, but it is well to remember the fact that, whether we feel disposed to interfere in politics or not, politics at times are bound to interfere with us, and sometimes they hit the gardener very hard. The best advice he could give the B.G.A. with regard to its future policy was to urge upon gardeners the necessity of combining for their common good, as it is only by this means that they will be enabled to effectively look after their own interests, and reap the benefits of co-operation enjoyed by men of other professions.

The address was followed by an animated discussion, and a good deal of opposition to Mr. Feltham's remarks was brought forward. The general views expressed were to the effect that gardeners are placed in very different circumstances to men employed in large industrial centres, and that, owing to the many difficulties in the way, a trades union for gardeners was out of the question for the present. Mr. Hawes pointed out that the association had already done a great deal of good work in a quiet way, and he urged upon members to be content for the present with a moderate policy. Mr. Feltham having made a suitable reply to his critics, the meeting terminated with a vote of thanks to the speaker.

Beckenham Horticultural Society.

The first lecture of the session, "Alpines," was given on Friday, the 14th inst., by Mr. E. H. Jenkins, of the Queen's Road Nursery, Hampton Hill. Canon Arnott, president of the society, occupied the chair, there being a full audience.

The lecturer opened his discourse by first asking, "What is an alpine?" and then went on to say that most people's idea of alpines was that they were a diminutive race of plants, but he pointed out that there were trees and shrubs of large dimensions that had claims to the title of alpines, though it was not of these he proposed to speak upon. A graphic account of alpines generally in their native habitat, and salient points in the propagation and culture of many of them were given. It was urged that quite the best method of increasing stock of many alpines was by sowing seed. Omphalodes lucida propagates freely by cuttings taken with a "heel." Manure is fatal, but very gritty soil essential.

For an hour and a half the lecturer held his audience, and then, before hurriedly leaving to catch his train, was heartily applauded.

From Kelsey Park Gardens (Mr. Mark Webster) came a fine dish of Pitmaston Duchess pears, the six fruits weighing in the aggregate 6lb. 1oz.; not less remarkable was the beautiful colouring of the vine leaves of Gros Maroc.

Dundee Horticultural Association.

The opening meeting of the session was held on the 13th inst., in the new Technical Institute, Bell Street. Mr. William Grant presided, and Mr. William Christeson gave his presidential address.

In a racy and interesting address, the President traced the history of gardening among the civilised nations of the world, and discussed popular phases and crazes, while many practical suggestions were made regarding the methods we employ and the use and abuse of modern gardening. The latest fad of French gardening would not make much progress in this country owing to various circumstances which he clearly defined. Flower shows and their management came in for scathing criticism. An animated discussion ensued, after which the President was cordially thanked for his address.

OBITUARY.

MR. P. H. NORMAND.

Scottish and other readers of this journal who were acquainted with him, will grieve to learn of the death of Mr. Patrick Hill Normand, of Aberdour, Fifeshire, which took place on Saturday, October 15, at his residence at Whitehill, Aberdour. Mr. Normand was for many years one of a band of Scottish amateur cultivators of alpine and other hardy flowers who were interested in these subjects long before they attained their present popularity, and he did much to promote and extend their cultivation by his readiness to assist beginners and others. The proximity to Edinburgh of Aberdour gave him frequent opportunities of keeping in touch with new plants introduced into the Edinburgh Botanic Gardens and nurseries, and his correspondence with private growers of similar tastes was productive of much pleasure to him in exchanging plants and information regarding their needs. Mr. Normand was most courteous, and his garden at Whitehill was frequently visited by cultivators of alpines, who always found some plants to interest them, either from the excellent culture they received or from their rarity. It is understood that Helianthemums Jubilee and Old Gold, two fine double varieties, originated at Whitehill, besides other good flowers.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

VIOLETS.—P. A. D., Haslemere: There is no evidence of disease in the specimen sent, and we suggest that the damage is due to red-spider, and to excessive fumigation to get rid of the latter.

MONTBRETIAS.—M. S., Derby: As soon as the growth has begun to die down, clear the bed of weeds, leaves, and decayed stems, and mulch all over with two or three inches of old, well-rotted manure, or a mixture of old manure and leaf soil.

INSECTS ON GRAPES.—J. G. W., Stoke: The grapes are suffering from an attack of mealy bug, and you can do little to clean the vines and house until the leaves have fallen, and the vines are at rest. Write us again, and, meantime, promptly burn the leaves as they fall.

ALLAMANDAS FOR ROOF OF STOVE.—F. E. H., Lyme Regis: The allamandas are very suitable subjects for training along the roof of a large stove as there are no more gorgeous plants than these, when grown under a rational course of treatment. To have them in perfection, plant in a moderate-sized bed of well-drained soil, and allow the growth to extend freely over the roof. When this cannot be done grow in well-drained pots, and train the shoots up the pillars or under the rafters of the plant stove. The growth should be thinned, if necessary, by the complete cutting away of the superfluous shoots, those remaining to be allowed to grow unchecked. The practice so frequently adopted of stopping the shoots at intervals during the spring and summer months cannot be too strongly condemned, for it renders the production of an abundance of blooms impossible. A thorough season of rest, a moderately rich soil, liberal supplies of water when in full growth, and a light position are the chief essentials. A. grandiflora, A. Hendersoni, A. magnifica, A. nobilis, and A. Schotti are all excellent kinds.

SWEET PEAS.—F. E. F., Bristol: Sow a few seeds of each variety, in pots, and place them under the shelter of a cold frame. Afford abundance of air; indeed the light need only be used to give protection from heavy rains, snow, and severe frost. Sweet peas are quite hardy, and sowing them in pots is but a means to secure early flowers and prevent loss from slugs, birds, and very wet weather, such as would be likely to occur if the seeds were sown in the open.

ACHIMENES.—R. P. S., Glastonbury: These useful plants are not so popular as they once were, but they are well worth cultivation. Their varied hues, comprising brilliant scarlet, bright blue, and rich purple and mauve, produce a tasteful effect, and are capable of contributing materially to the attractions of the conservatory and plant stove during the summer months. The several varieties may be successfully grown in pots, pans, and baskets, but the use of pans cannot be recommended unless exhibition specimens are required. When starting the corms early in the New Year prepare shallow pans or boxes by spreading a layer of drainage material over the bottom, covering with some loose material, and then filling to within an inch of the rim with a mixture of loam, leaf-mould, and sand; lay them rather close together, cover with half-an-inch of fine soil, and place in a structure in which a brisk temperature is maintained. Maintain the soil in a moderately moist state, and when the young plants are about two inches high transfer them to the pots or baskets in which they are to bloom. The receptacles must be well drained, and the

HORNE'S GREAT SALE.

CLIFFE, NR. ROCHESTER, KENT.

MESSRS. PROTHEROE and MORRIS are instructed to SELL BY AUCTION by Messrs. HORNE and SONS, at Perry Hill, Cliffe, near Rochester, Kent, on WEDNESDAY, NOVEMBER 9, 1910.

200,000 FRUIT TREES and BUSHES,

including several thousand **STANDARD APPLES AND PLUMS**; also a very Fine Lot of 40,000 Pyramid Apples, 1, 2, and 3 year, on English Paradise, about 50,000 Half-Standard and Bush Apples on Crab-stock; about 10,000 Black Currants, Gooseberries (including May Duke), Red and White Currants, several thousand Raspberries, several thousand Cabbage Plants.

Free Luncheon at 11 a.m. Sale at 11.30 a.m.

NOTICE.—The Auctioneers desire to call the attention of Fruit Growers, Market Gardeners, and intending Planters to this important Sale. Fourteen days will be allowed to clear and settle accounts. Messrs. Horne and Sons will lift and cart all lots and put them on rail after the Sale free of charge. Catalogues free of Messrs. HORNE and SONS, Cliffe, near Rochester; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

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SHOULD GROW MAORI BELLE, New Zealand's Premier Sweet Pea; purest Lavender yet offered: 40 per cent. fours; 10 seeds 1s. Cole's LORD ALTHORP, a refined and incomparable bloom with Earl Spencer-orange standard, orange-carmine wings WITHOUT THE GLARY CRIMSON of latter day favourites, 8 seeds 1s. Cole's MRS. W. S. BIRCH, a giant, but refined mauve-pink on yellow ground, A PERFECT NOVELTY, 10 seeds 1s. Cole's EARL SPENCER, without doubt the deepest orange self Sweet Pea on the market, 10 feet high in our trials, 9 seeds 1s.; 4 seeds 6d. List ready November-December—cannot get particulars before—*it will again be unique.* Every S. Pea of merit will be stocked.

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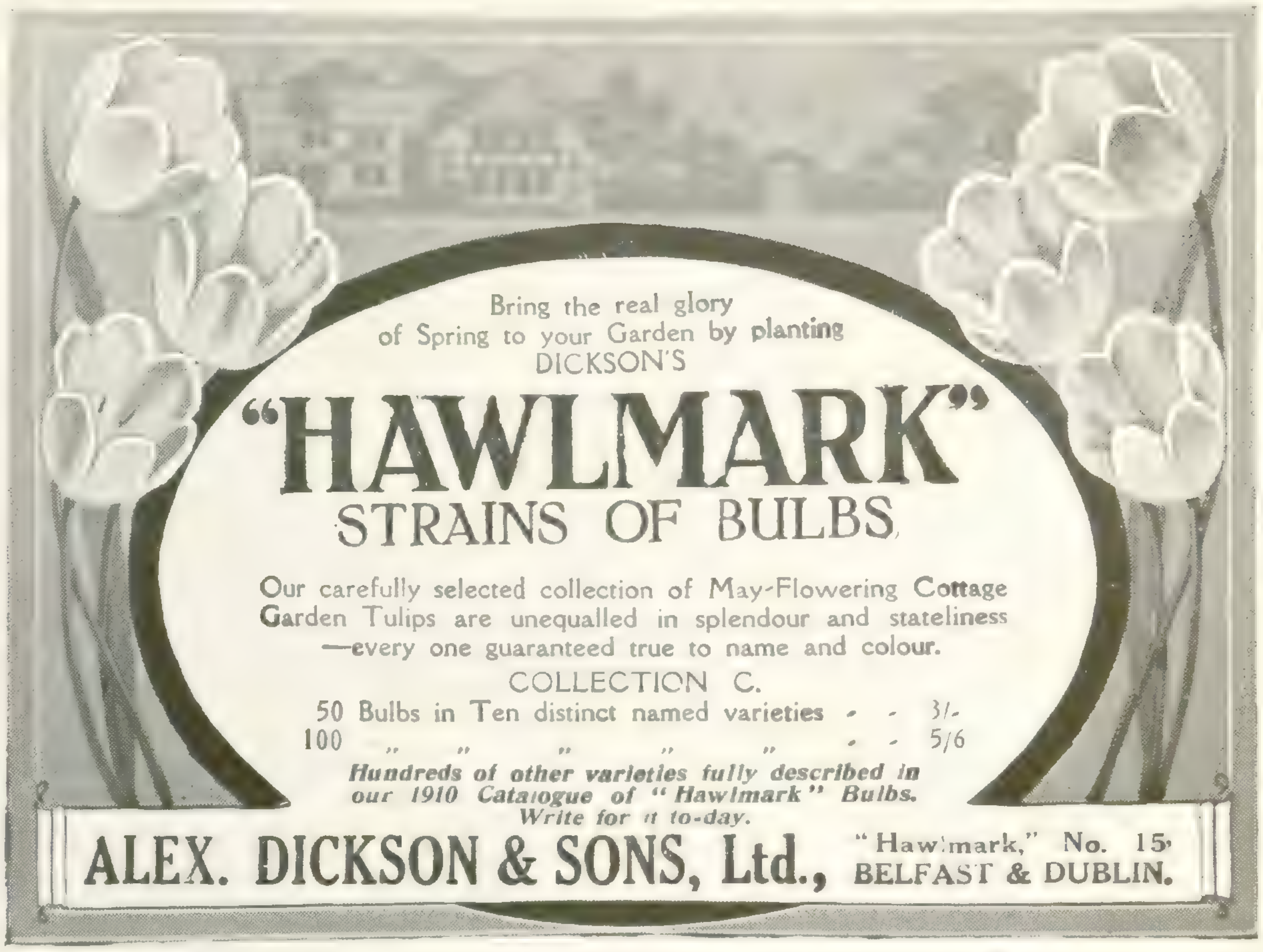

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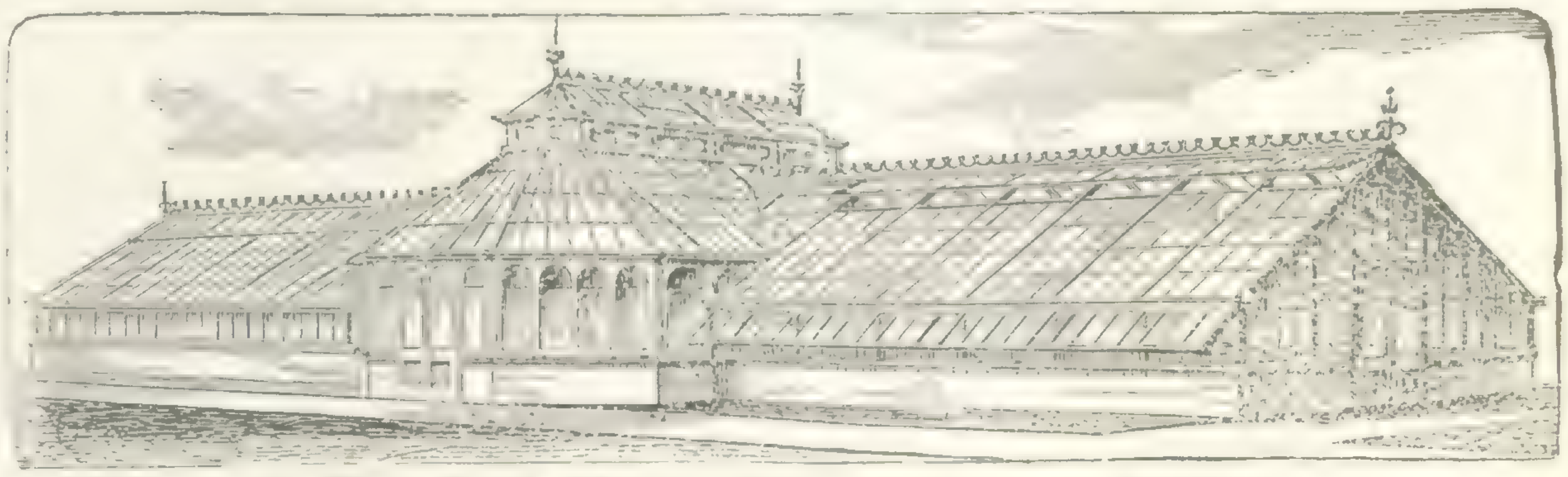

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compost should consist of fibrous loam four parts, and leaf-mould, powdery manure, and sand, one part each; dibble the plants over the surface at a distance of about two and a-half inches apart, and supply rather liberally with water after they have become established. They may be grown in the stove or in an intermediate house, but in either case they should have a position near the glass, and be shaded lightly in sunny weather. A good selection of varieties includes Ambrose Verschaffelt, Admiration, Azurea, Carl Wolfarth, Diadem, Firefly, Grandiflora, Longiflora alba, L. major, L. rosea, Margaretta, Madame Ambrose Verschaffelt, Mauve Perfection, Pink Perfection, and Rosea magnifica.

CINERARIAS FAILING.—G., Norton: Excess of moisture or a strong dose of liquid manure is answerable for the failure of the cinerarias; the crown or neck of the plant has suffered and begun to rot.

LEAN-TO HOUSE FOR TOMATOES.—W., Llanelly: Under the circumstances you had better make the house about 10ft. wide and about 10ft high where it reaches the wall. There should be 1½ft. or 2ft. of glass in front, and so arranged that front ventilation may be given freely, because with such an exposure as yours front ventilation will be a necessity for tomatoes. One 4in. flow and return pipe, running right round the house will provide sufficient heat, and you will probably find that for your purpose a boiler of the Loughborough type will be the most serviceable and convenient. Arrange for top ventilation, and have a door at each end of the house, as this will save a great deal of time and labour when soil is being carted in or out of the house.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

F. F. J., Oswestry.—1, Trachelium cœruleum; 2, Hibbertia dentata.

W. S. P., Englefield.—1, Symphoricarpus racemosus; 2, Ligustrum lucidum.

G. D., Newcastle.—1, Oncidium Marshallianum; 2, Cattleya labiata; 3, Cypripedium Actæus.

E. T. B., Moreton.—1, Bambusa palmata; 2, Leycesteria formosa; 3, Rodgersia podophylla; 4, Tiarella cordifolia.

NAMES OF FRUITS.

When sending fruits for naming will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, GARDENERS' MAGAZINE, as advised in the notice at the head of "Answers to Correspondents."

H. T. S., Godalming.—1, Alfriston; 2, Marie Louise; 3, Beurre Rance.

F. B. W., Lancaster.—1, Beurre Superfin; 2, Lord Suffield; 3, Fearn's Pippin; 4, Lane's Prince Albert.

D. J. S., Wantage.—1, Golden Noble; 2, Stone's; 3, Newton Wonder; 4, Dumelow's Seedling; 5, not recognised.

M. E. N., Bedford.—The specimen was not a good one; send a fair-sized characteristic specimen, and we will do our best to name it for you.

FORTHCOMING ENGAGEMENTS.

TUESDAY, October 25.—Royal Horticultural Society; committees meet at 12 o'clock; lecture at 3 p.m. on "Life—A Director of Force in Development and Evolution," by the Rev. Prof. G. Henslow, V.M.H. The society's Vegetable Exhibition will be held on this date.

WEDNESDAY, October 26.—Hereford Fruit and Chrysanthemum Show; two days.

Croydon Chrysanthemum Show; two days.

SATURDAY, October 29.—Brussels Flower Show; five days.

TUESDAY, November 1.—Brighton Chrysanthemum Show; two days.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Chrysanthemums, liliums, and carnations are the most popular subjects at present. Business is fairly good.

		s. d.		s. d.
Adiantum cuneatum	per doz. bun.	4 0	to	8 0
Asparagus	per bun	1 0		1 6
Asters	per doz. bun.	1 0		2 0
Carnations	per doz. blm.	2 0		3 0
,,	per doz. bun.	6 0		9 0
Cattleyas	per doz.	9 0		14 0
Chrysanthemums	per doz. bun.	3 0		3 6
,,	per doz. blms.	2 0		4 0
Croton leaves	per bun.	1 0		2 6
Dahlias	per doz. bun.	2 0		2 6
French fern	per doz. bun.	0 6		0 9
Gaillardias	per doz. bun.	1 6		2 0
Gardenias	per doz.	1 6		3 0
Gladiolus	per doz. bun.	2 0		4 0
Lapagerias	per doz.	1 6		2 0
Lilium auratum	per bun.	1 6		2 6
,, speciosum	per bun.	1 0		1 6
,, longiflorum	per bun.	1 0		2 0
Lily of the Valley	per doz. bun.	5 0		15 0
Marguerites	per doz. bun.	1 6		2 0
Mignonette	per doz. bun.	1 0		2 0
Odontoglossums	per doz. blms.	2 0		3 0
Pelargoniums	per doz bun.	2 0		4 0
Physalis	per doz. bun.	3 0		4 0

Fruits.

There is a keen demand and prices rule high.

		s. d.		s. d.
Apples, English	per bush.	4 0	to	12 0
,, American	per barrel	10 6		36 0
,, Californian	per box	9 0		11 0
,, Nova Scotian	per barrel	14 0		25 0
Bananas	per bun.	3 6		12 0
Blackberries	per peck	2 0		3 0
Cranberries	per case	8 0		10 6
Figs	per doz.	1 0		3 0
Grapes, English	per lb.	0 8		3 6
,, Guernsey	per lb.	0 6		1 3
,, Almeria	per barrel	8 0		12 0
Lemons	per case	20 0		40 0
Melons	each	1 0		4 0
Oranges	per case	12 0		25 0
Peaches, English	per doz.	3 0		15 0
Pears, French	per crate	4 6		10 0
,, English	per bush.	6 0		9 0
,, Californian	per case	5 0		30 0
Pineapples	each	2 0		4 6
Plums, Californian	per case	9 0		10 6
Quinces	per case	5 0		10 0

Vegetables.

Supplies are excellent and extensive; business continues brisk.

		s. d.		s. d.
Artichokes, Globe	per doz.	1 6	to	3 0
Beans, Runner	per bush.	2 0		3 0
Beet	per bush.	1 0		2 6
Brussels Sprouts	per ½-bush.	1 6		2 3
Cabbages	per tally	2 6		5 0
Carrots	per doz. bun.	0 9		1 3
Cauliflowers	per doz.	1 6		2 0
Celery	per doz.	8 0		12 0
Cucumbers	per flat	3 6		5 0
Endive	per doz.	0 6		0 9
Lettuce, Cos	per doz.	1 6		2 0
Mint	per doz. bun.	1 0		2 0
Mushrooms	per doz. lb.	7 6		12 0
Mustard and Cress	per doz. pun.	0 6		0 8
Onions	per bag	4 0		4 6
Radishes	per doz. bun.	1 0		1 6
Parsley	per ½-sieve	1 6		2 0
Spinach	per bush.	1 3		2 6
Tomatoes	per doz. lb.	2 3		3 0
,, Guernsey	per doz. lb.	2 0		2 6
Turnips	per doz. bun.	1 0		2 0
Watercress	per doz. bun.	0 3		0 6

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METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea level, 150 feet.

DATE. 1910. OCTOBER 9 TO OCTOBER 15.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Oct. 9—Sunday	—	53	53	59	52
,, 10—Monday	3 36	57	54	64	50
,, 11—Tuesday	0 48	59	57	65	52
,, 12—Wednesday	—	48	47	57	48
,, 13—Thursday	—	56	56	59	48
,, 14—Friday		49	46	52	54
,, 15—Saturday	1 42	49	45	55	43
Means	(total) 6 6	53	51	58	49

DATE. 1910. OCTOBER 9 TO OCTOBER 15.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Oct. 9—Sunday	—	56	56	56	50
,, 10—Monday	0·04	56	56	56	43
,, 11—Tuesday	0·58	56	56	55	40
,, 12—Wednesday	0·61	56	55	56	48
,, 13—Thursday	0·13	54	55	56	48
,, 14—Friday	0·02	53	54	56	45
,, 15—Saturday	—	51	53	56	39
Means ...	(total) 1·33	54	55	56	44

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Business is moderate and there are ample supplies to meet it.

		s. d.		s. d.
British Queen	per ton	60 0	to	70 0
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Epicure	per ton	50 0		60 0
May Queen	per ton	55 0		65 0
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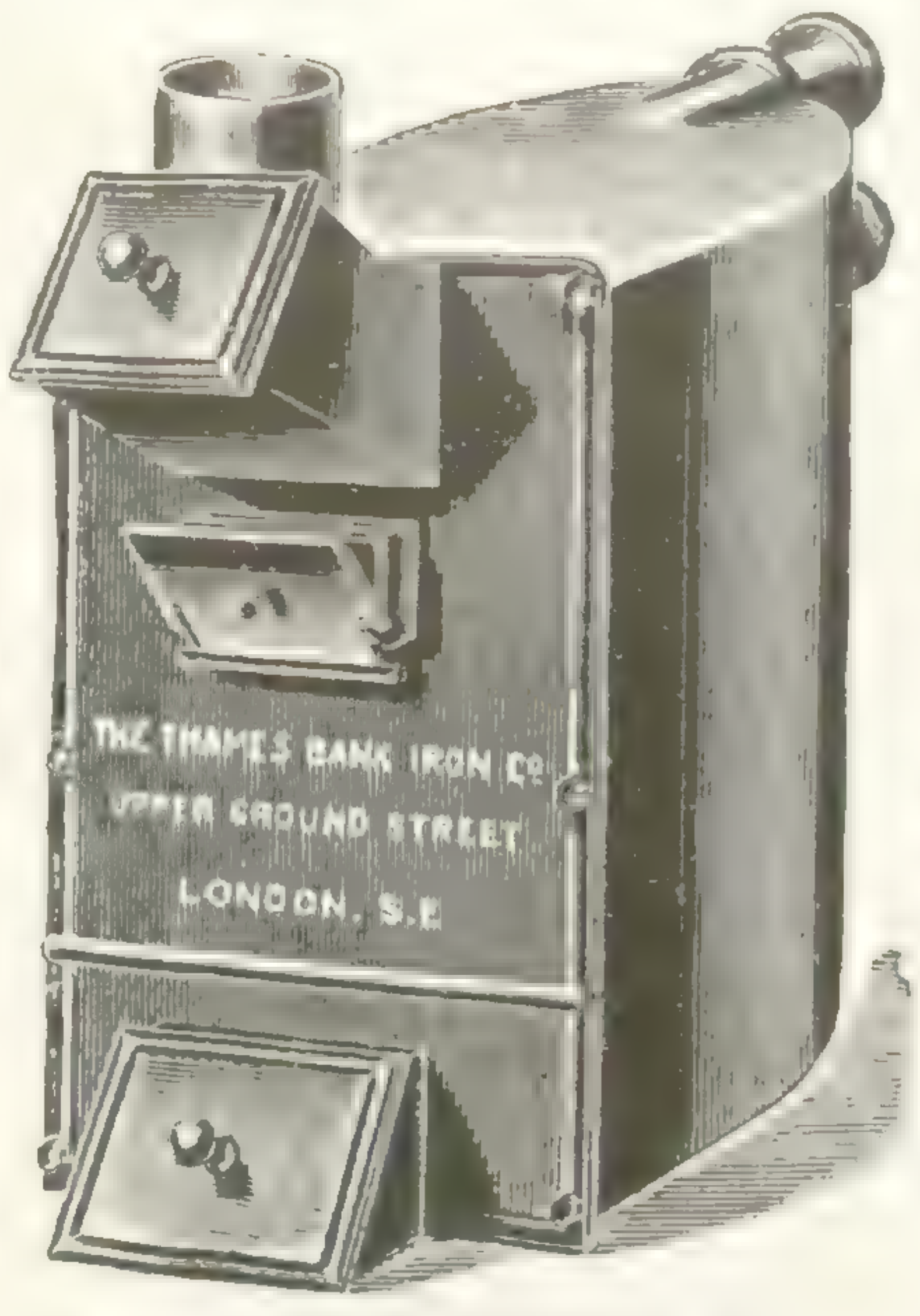

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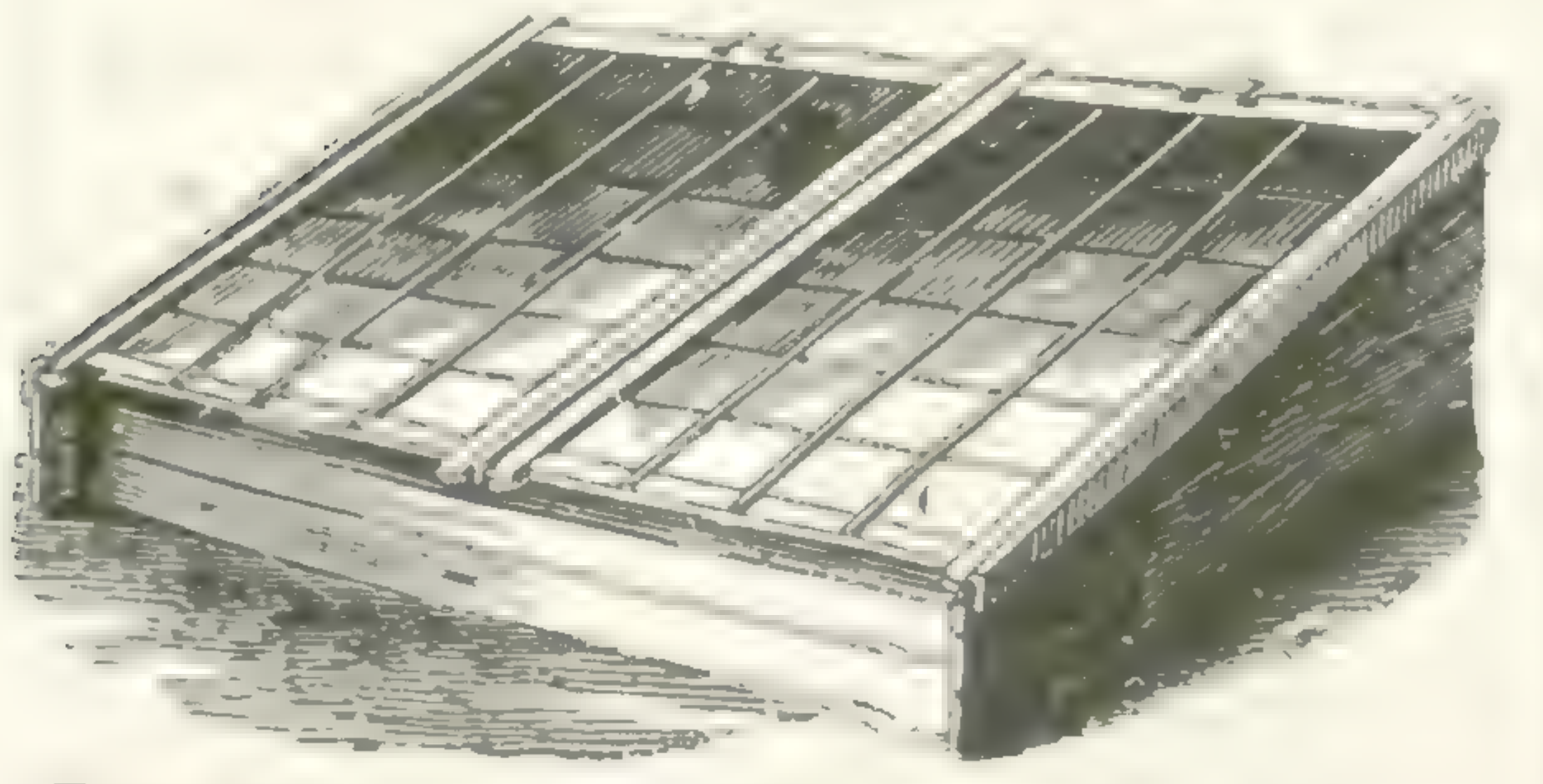

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4-light 16 ft. by 6 ft.		5	5	0
5-light 20 ft. by 6 ft.		6	7	6
6-light 24 ft. by 6 ft.		7	10	0

Larger sizes at proportionate prices.

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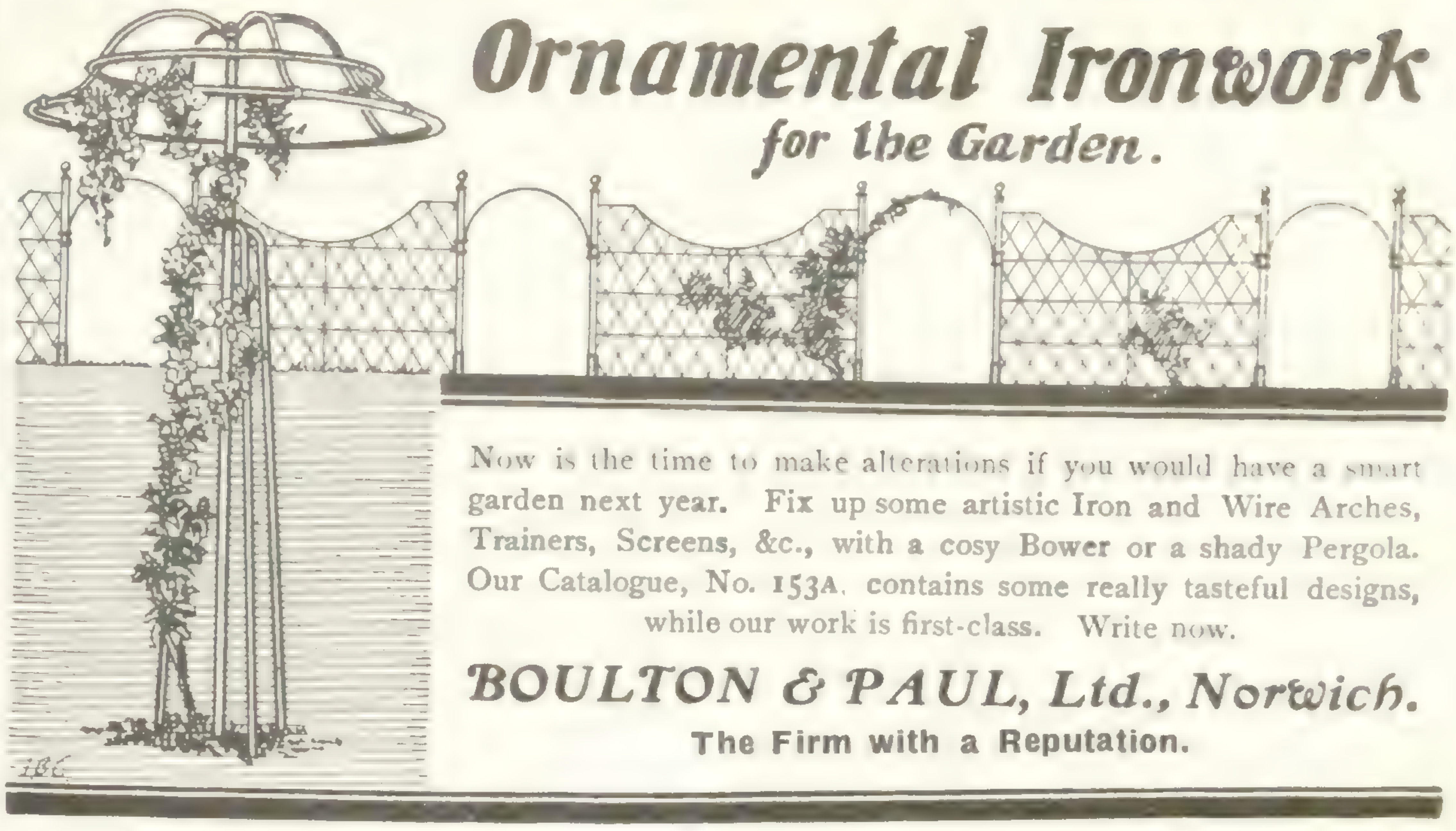
Ornamental Ironwork for the Garden.



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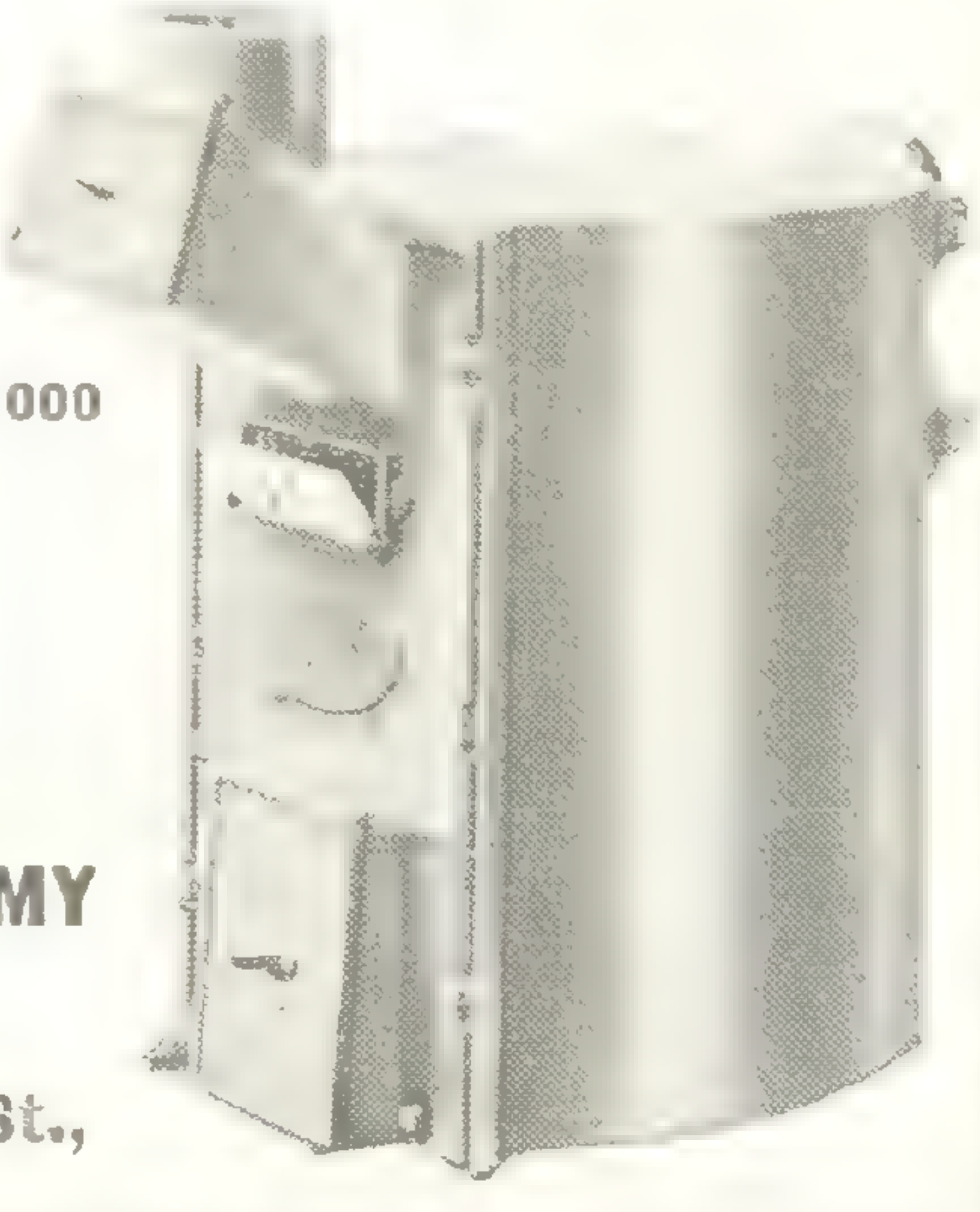

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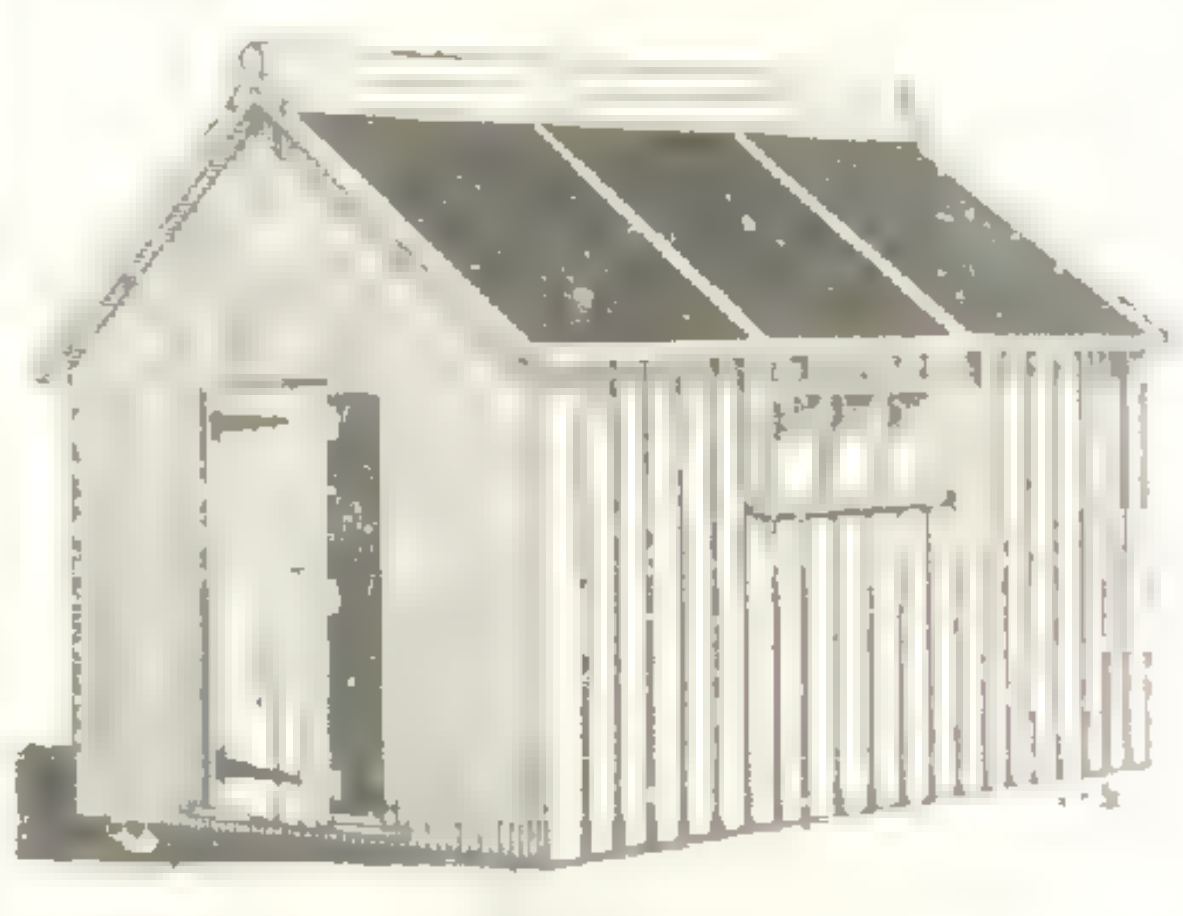

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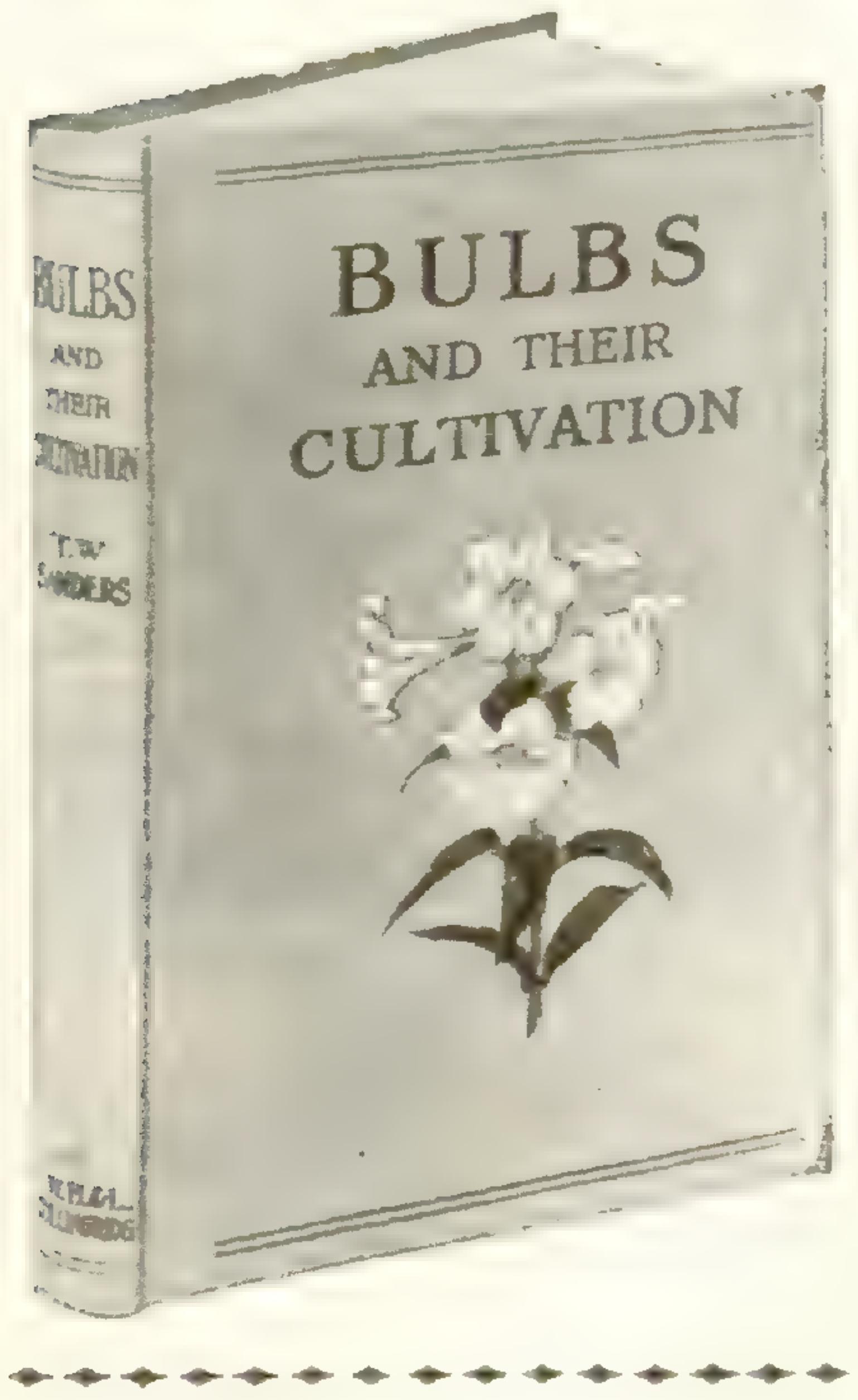

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Anemone, The Bride, pure white ...	1	2	10	0
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Crocus, 2nd size, in the finest mixture	0	8	5	10
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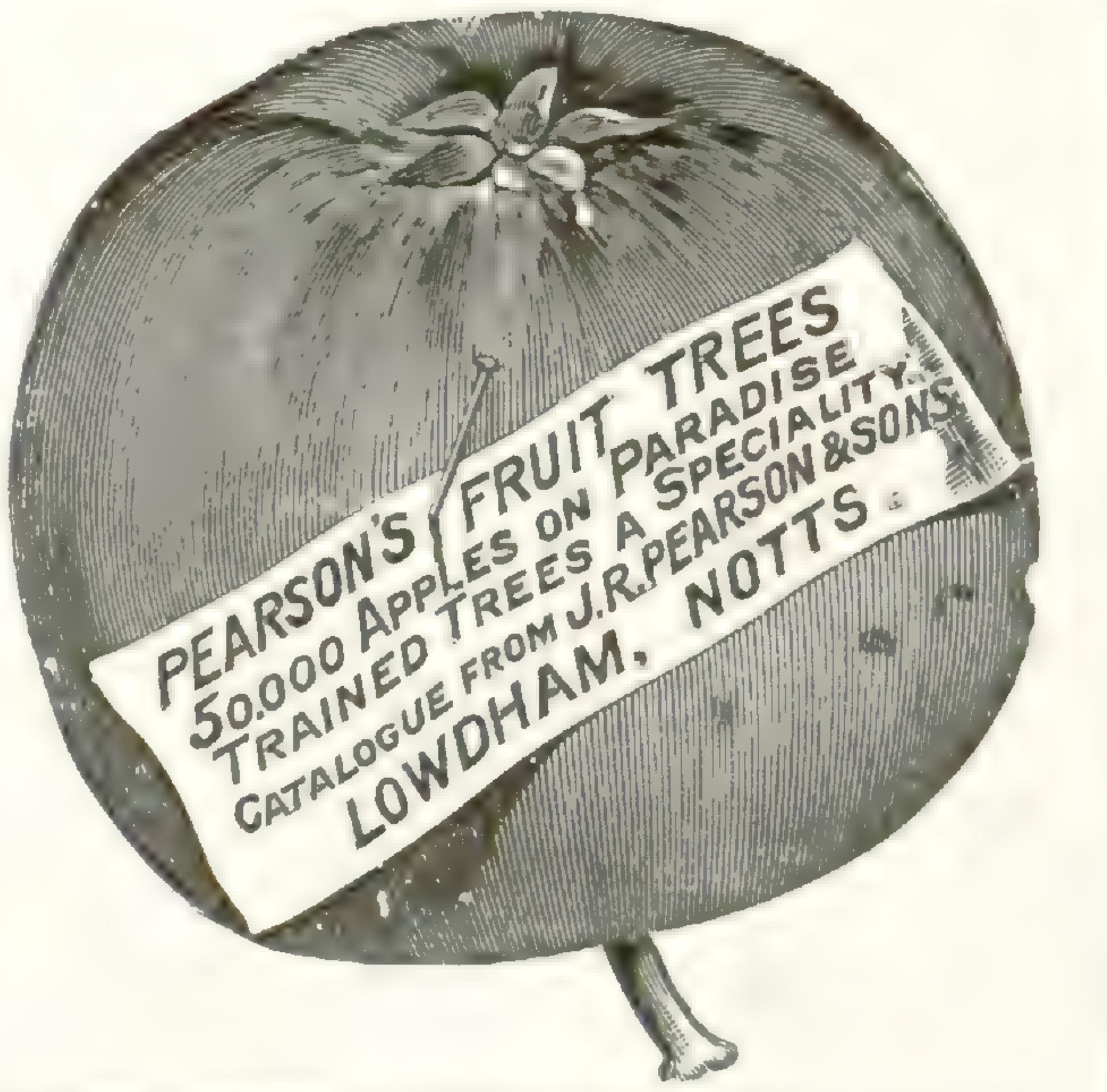
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INDEX and Title Page to Vol. LII. (comprising the weekly numbers from January to December, 1909), price 2d., by post 2½d.

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Free Luncheon at 11 a.m. Sale at 11.30 a.m.

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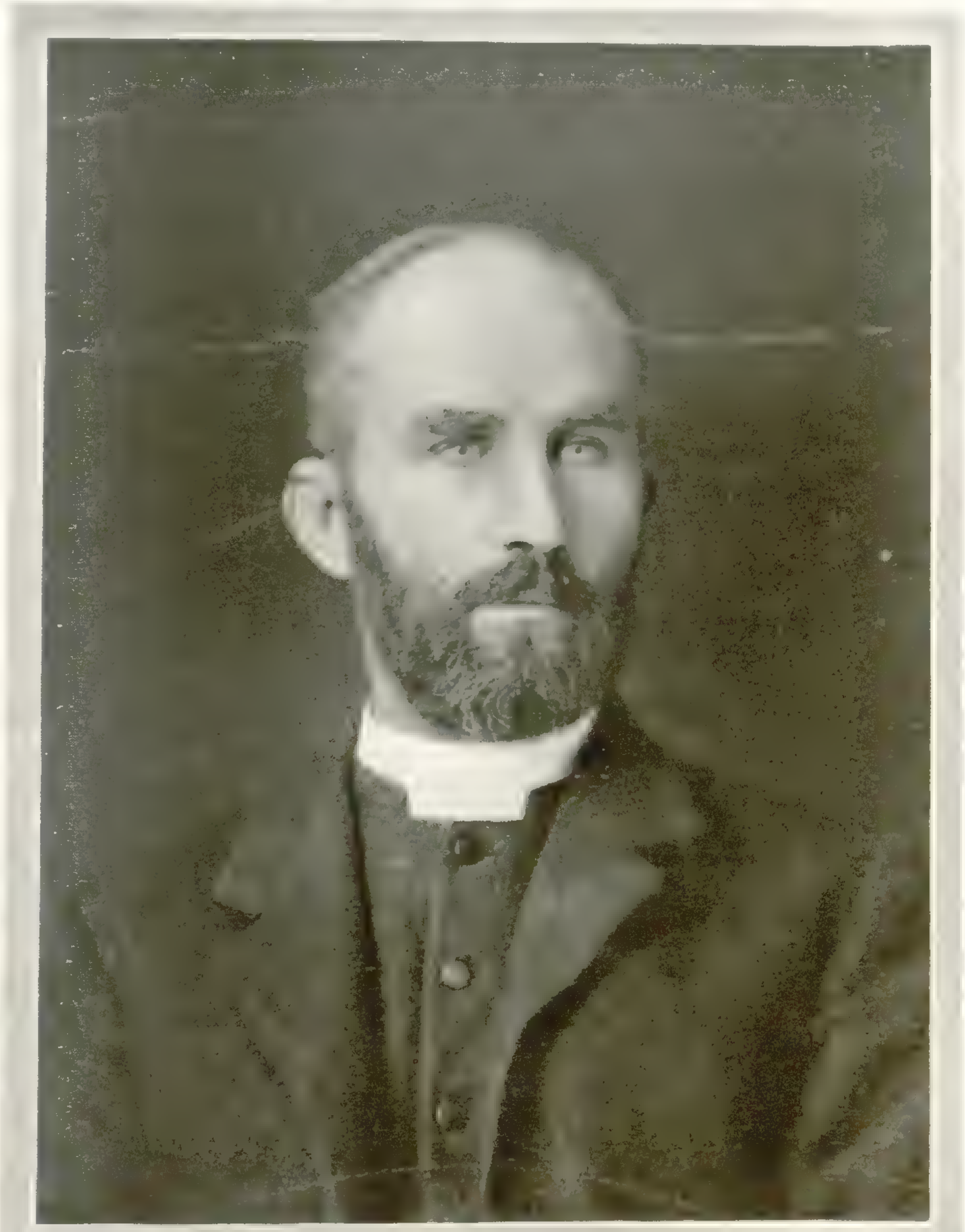
VOL. LIII.—No. 2,974. SATURDAY, OCTOBER 29, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

The Chrysanthemum.

Amongst all the multitude of beautiful, and even resplendent, flowers with which our eyes are regaled at the great floral shows of the present day, the chrysanthemum stands pre-eminently as the outcome of a normally insignificant flower, without the aid of admixture with a different species to induce, by crossing, that variability which is the outcome of hybridisation. In the begonias we see a marked example of this latter class, in which at first two comparatively small-flowering species of different makes and tints were successfully crossed, and so set the ball rolling for the selective cultivator's behoof, a third species, B. socotrana, eventually coming in as an adjunct to produce a different habit of growth, coupled with a different style of inflorescence, such as we see in the Gloire de Lorraine types. This, however, is but a matter of yesterday, so to speak, compared with the comparative antiquity of chrysanthemum selection, an antiquity which deprives us of exact knowledge of the genesis of the first sports, which were of Oriental origin. In any case, we know that even if more than one species were involved, they were so far akin as probably to be merely modifications of one and the same species, C. indicum, due to different climates and environment, and, in any case, presented no such structural differences as characterise the begonias in question. The original chrysanthemum resembles a Michaelmas daisy, about the size of a sixpence, as has more than once been evidenced by its exhibition by way of contrast at our horticultural shows, and hence it is difficult to credit that by mere high culture and constant selection of such variations as have presented themselves, such immense flowers can have been developed as at present exist, or that so many distinct forms and modes of petal arrangement, allied with such a wide range of brilliant colouring, could have been produced. In the direction of size, well over a foot in diameter, and many inches in depth to boot, as compared with a tiny bloom less than an inch across, and but a fraction of an inch in depth, the chrysanthemum must stand absolutely alone as an example of floral possibilities. It is true that these mammoth flowers may legitimately be regarded as due to the condensed vigour of many suppressed ones, since they are only arrived at by rigorous disbudding and high feeding, but we have only to see what a vigorously grown non-disbudded bush can produce in the way of smaller, but resplendent flowers, to appreciate the advance which the original "weed" form has made in response to man's persuasion concentrated upon its descendants for centuries. Originally a simple star, possessing, like its composite relations, a centre of inconspicuous fertile florets, surrounded by a close-set ring of more conspicuous barren ones to attract the insect world, we now see veritable balls of ringlets, snowy white, glowing crimson, brilliant gold, and all intermediate shades and combinations, as constituting but one type of many. The incurved, in which these petals are symmetrically imbricated, form balls of a different appearance altogether. In others, we see a partial reversion to the composite star, but with beautiful raised central florets fringed with more foliose ones on varied lines, and again of variedly brilliant hues. Even the surfaces of the petals have broken out into superficial adornments, as we see in the hairy section, and every now and again a "curio" turns up with thin spidery-looking blooms, or other oddities, indicating further possibilities if carefully followed up. Selection, too, of what may be termed constitutional differences, has so extended the time of flowering, that in case we needed chrysanthemums all the year round, the florist could certainly supply them, though, as naturally a late autumn bloomer, when summer flowers are on the wane, the chrysanthemum is mostly preferred at that season when it has fewer competitors, and is therefore the more esteemed. Whoever they were who in far distant days began to devote attention to the unpromising little wild flower, presumably owing to some attractive spontaneous sport, they could certainly have never conceived the idea that in the days to come that flower would attain to such magnificent proportions, and its culture become of such absorbing and widespread interest as to form, as it now does, the foundation of innumerable important societies all over the world, and become, as it undoubtedly has done, a very important item in the list of the world's commercial products, and that solely as a means of decoration minus a shadow of economic value in other directions.



THE REV. J. BERNARD HALL.

The Rev. J. Bernard Hall, whose portrait we have the pleasure of giving in this issue, displayed such remarkable judgment, energy, tact, and courtesy, in carrying out his duties as honorary secretary of the Northern Counties Fruit Congress, that he could hardly have failed in winning golden opinions from those who were present, and in a position to fully appreciate the immense amount of work involved in bringing a meeting of this kind to a successful conclusion. Mr. Bernard Hall is not an autocrat, but he fully understands the necessity of discipline, and recognises the desirability of all the arrangements being carried out in accordance with the programme; and possessing tact of high order, all who were associated with him in the management readily fell into line and gave close attention to the details entrusted to them. Accordingly the clearing of the hall of exhibitors, the work of judging, the affixing of prize cards, the opening proceedings, the conference meetings, and the musical entertainments, were commenced or accomplished as the case may have been at the proper time. The success achieved in carrying out the details is all the more remarkable from the fact that no such gathering had previously been held in the North of England, and neither the exhibitors nor the members of committee had had the advantage of previous experience. Mr. Bernard Hall was not only the honorary secretary, but he was the originator of the movement which resulted in the holding of the exhibition and congress. Residing at Dalston, Cumberland, he was not slow to recognise the possibilities of hardy fruit culture in his own and the three other northern counties of England, or to give expression to his views. Mr. Bernard Hall saw that while the hardier kinds of fruit might be grown with success, but little attention was being given to fruit production for home use or market supplies. He addressed the members of various gardeners' associations, and having created a considerable amount of interest in the subject, he proposed some months ago that a congress should be held at Hexham this autumn. The proposition was accepted, a scheme was formulated, prize and guarantee funds raised, and the congress held. The results are set forth in our report. A very pleasant episode occurred on the second day of the Congress. On the announcement of the awards made at the spraying demonstration, a member of one of the firms presented Mr. Bernard Hall, on behalf of himself and the other firms who had taken part in the demonstration, with a silver cigarette case, as a mark of their appreciation of his courtesy.

Chief Officer of the London Parks.—At the meeting of the London County Council on Tuesday next the appointment of the Chief Officer of the Parks under the control of the Council will be made. We understand that three names will be recommended to the Council by the General Purposes Committee, and that two of these are military officers and one an Indian forest official. It is surprising that the experienced officers in the Parks Department of the Council, and of the great provincial towns, who are candidates should have been passed over in favour of candidates who, by reason of the nature of their avocations, cannot have had a practical training in park management.

R.H.S. Exhibition at the Olympia.—We are informed that, owing to the grounds of Holland House being no longer available for the purpose, the summer exhibition of the Royal Horticultural Society will be held at Olympia, West Kensington. The dates of the exhibition are July 4, 5, and 6, and on the first two days it will remain open until 10 p.m.

Canadian Fruit Crops.—According to the report on the fruit crops that we have received from the Ontario Department of Agriculture, it has been a poor fruit season in Canada, more particularly in the case of desirable winter apples, and the quality of much of the fruit is not up to the standard. Wet and backward weather when the fruit was setting is given as the chief cause of the remarkably light yield. Plums have borne unevenly—from poor to good—according to the degree of spraying practised. Pears have been better than apples, although they have not given a full yield.

Nature Study and Photography.—During the few days we were at Hexham we had the pleasure of meeting Mr. Britton, of Langworthy, who is a gamekeeper, and a keen student of natural history. His knowledge of both plant and insect life is remarkable, and he has achieved much success in the photography and the making of lantern slides of natural history objects. The value of his skill as a maker of lantern slides was evidenced on the second day of the Northern Counties Fruit Congress, when Mr. Avery read his paper on bees in relation to fruit production. Mr. W. B. Little, who had taken a leading part in conducting the experiments on which the paper was based, had photographed some of the apple trees that had been utilised. A few hours before the meeting the negatives were shown Mr. Britton, and regret was expressed that lantern slides had not been made from them for illustrating the paper. With a remarkable fertility of resource Mr. Britton went into the town, purchased a box of plates and borrowed a camera, and a small wooden box, and long before they were required the slides were made, and bound up ready for use, and very fine slides they were.

American Gooseberry Mildew.—The Board of Agriculture has made orders under the Destructive Insects and Pests Acts regulating the removal of bushes in the Evesham and Spalding districts.

Floods and Lily Bulbs in Japan.—We gather from an American contemporary that, owing to the floods in the bulb districts in Japan, growers are predicting a large shortage in Lilium longiflorum, giganteum, and multiflorum bulbs this fall. In the Saitama district, where giganteums are grown, seventy persons were killed, 277 missing, 759 houses collapsed, and 41,261 were submerged. In the Gumma district, where multiflorum and giganteum are grown, 153 persons were killed, 50 injured, twenty-two missing, five houses destroyed, thirty-three washed away, 26,372 submerged, etc. Other districts have been affected in a similar way. It was reported on August 15 that the lily fields were still covered with water, and that thousands and thousands of bulbs have been annihilated in the fields. The damage to bulbs is still unknown, but will undoubtedly be heavy. The storms were severe, causing landslides everywhere, with much damage to crops of all kinds.

"**Kew Bulletin.**"—The most recent of the issues (No. 8) of this publication for the current year, contains an interesting account of the Arnold Arboretum, near Boston, U.S.A., from the pen of Mr. W. J. Bean, who visited America in June last. Mr. Bean describes the history and origin of this famous arboretum, and refers at some length to its characteristic features and the many fine trees that have found a home within its boundaries. Several excellent illustrations accompany the letterpress. Highly interesting also are the notes on the tomb in Kew Churchyard of William Aiton, who was in charge of the Royal Gardens from 1759 till his death in 1793.

Sweet Peas.—At the monthly meeting of the Dulwich Chrysanthemum and Horticultural Society, there was a large muster of members to hear a lecture on these flowers by Mr. T. Stevenson, so well known for the success he has achieved in their cultivation. It need hardly be said that the lecture was essentially practical, and that Mr. Stevenson dealt fully and clearly with the various details that require the attention of cultivators. Mr. Stevenson urged the importance of liberal manuring and deep digging, the raising of the plants in the autumn or early in the spring, and the removal of the flowers immediately they have lost their freshness and beauty.

Gift to Kew Gardens.—We are informed that the replica at the Japan-British Exhibition of Choku-shi-mon, "the Gate of the Imperial Messenger" at the Buddhist temple of Nishi Hongwanji, has been presented to the Royal Gardens, Kew, and will be erected there after the close of the exhibition.

An Old Horticultural Society.—The oldest Horticultural society in the world is probably the Royal Horticultural Society of Bruges, for according to "La Tribune Horticole," it was founded in the reign of Albert and Isabella when the art of gardening in Belgium was held in high estimation. From the interesting historical sketch of the society given by our excellent contemporary, we learn that the society owed its foundation and much of the success achieved in its earlier years to Mgr. Antoine Triest, who was for some years Bishop of Bruges, and subsequently Bishop of Ghent. He was an ardent amateur horticulturist, and cultivated with much success various plants and flowers in his beautiful gardens at Akkerghem.

Arboriculture in New Zealand.—The Department of Lands in New Zealand is responsible for the management of the State nurseries and plantations and for the operations connected with scenery preservation, for which separate reports for the year 1909-10 have been published. The output of five nurseries amounted, according to "Nature," to 12,000,000 young trees, of which 8,000,000 were planted, largely by prison labour, on seven plantations. It is surprising to find that nearly all of these are European trees, chiefly the larch, Pinus laricio, the spruce, and Pinus ponderosa; of the eucalypts, Eucalyptus Stuartiana has proved to be a fast grower and is being planted, while the only reference to indigenous conifers states that, owing to failures, it has been decided to discontinue raising plants of Podocarpus Tobira. It is also noted that deciduous trees and mixed plantations have for the most part proved unsuccessful. The report on scenery preservation indicates that additional areas amounting to 1,500 acres were reserved during the year.

Fine Trees and Shrubs at Cambridge.—In the annual report made by Mr. R. Irwin Lynch, M.A., curator of the Cambridge Botanic Gardens, on behalf of the Botanic Gardens Syndicate one section is of special interest, as it relates to the fine trees and shrubs in the famous gardens attached to Cambridge University. It is pointed out that the Botanic Garden has been established on its present site for 64 years, and during this time a number of the trees and shrubs have grown to a size that is unequalled elsewhere in Britain. A well-known authority on this group of plants, having seen the list, writes to the curator: "It is really a wonderful assemblage of trees and shrubs." The following are deserving of record, and all are apparently unequalled, with the exception of those marked with an asterisk: *Acer creticum, 16ft. high, 14ft. 6in. through; there is a larger specimen at Syon House, but it is not in good health. Asimina triloba (the North American Papaw), 14ft. 2in. high, 16½ft. through: of great interest and importance. *Betula papyrifera (the Paper Birch), 47ft. 6in. high. Biota pendula, 23ft. 6in. high. Cercis siliquastrum (Judas Tree), 27ft. 6in. high, 51ft. broad. *Crataegus tanacetifolia, 25ft. high. Ephedra nebrodensis, var. procera, 7ft. 8in. high, 19ft. 6in. through in one direction, and 15ft. through in another. Garrya elliptica, 11ft. 1in. high, 29ft. in width, and 18ft. through. Larix dahurica, var. pendula, 15ft. 6in. high, with spread of 43ft. in one direction. Pinus Gerardiana, 14ft. 2in. high; of great interest and importance. Pinus montana, var. uncinata, 41ft. 6in. high. *Pterocarya caucasica, 61ft. high, 41ft. through, with several stems from 4½ft. to 7ft. 4in. in circumference; one of the three finest specimens. Quercus obtusata, 39ft. high, 35ft. through. Rosa macrophylla, 16ft. 9in. high, 24ft. 2in. through. *Tilia petiolaris, 62ft. high, 40ft. through, circumference of stem 5ft. 5in. Juniperus excelsa, 32ft. 5in. high (recorded height 40ft.), and Xanthoceras sorbifolia, 21ft. 10in. high, stem 16½in. circumference 1ft. from ground. There are many other fine specimens, as, for instance, the Paulownia imperialis, 23ft. high, with a spread of 27ft., and Hippophaë angustifolia var., 42ft. 10in. high, 32ft. and 34ft. through.

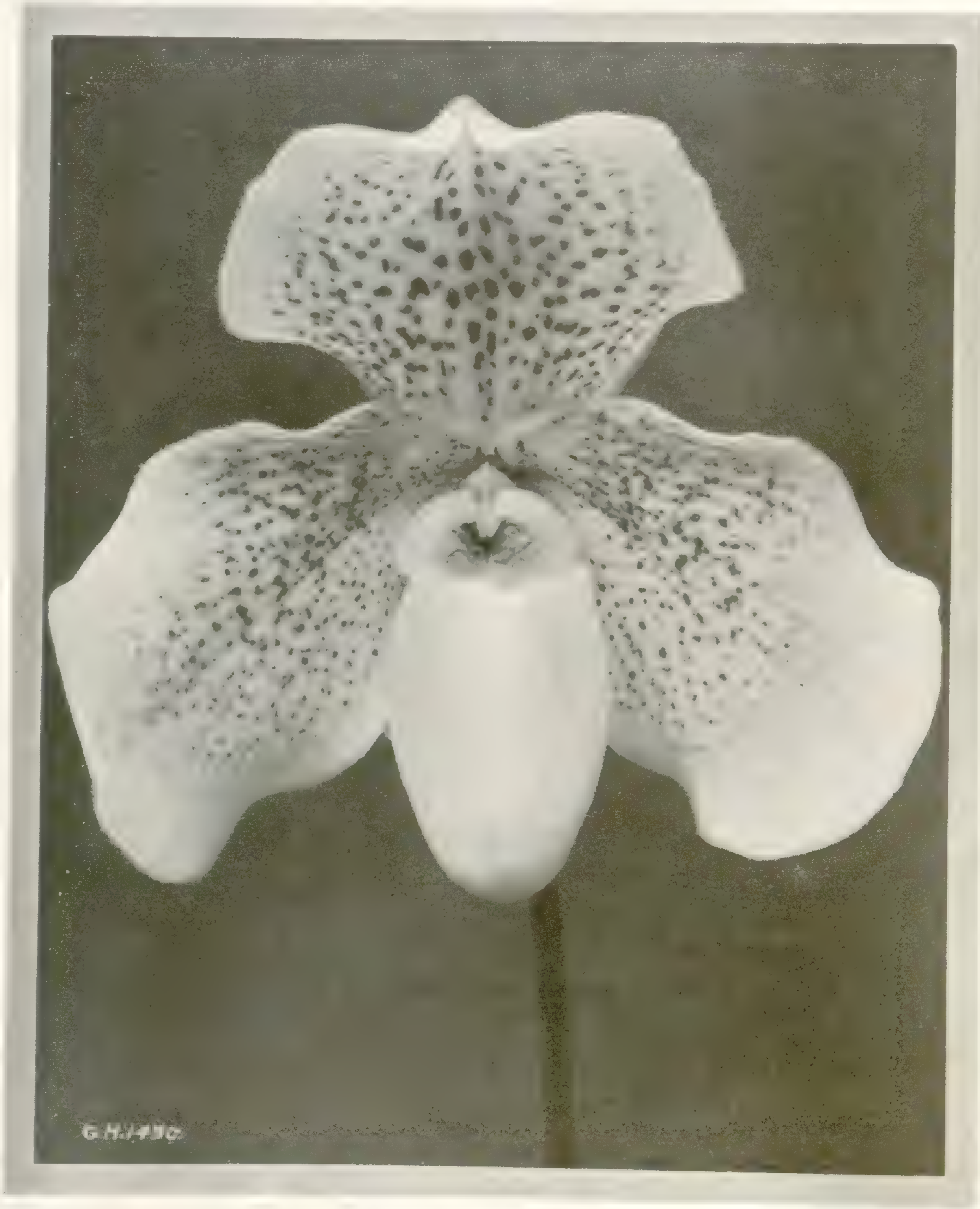
Injurious Fumes from Stokehole Chimneys.—In the "Commonplace Notes," in the new issue of the "R.H.S. Journal," the above subject is very rightly brought forward. It is stated that on several occasions during the past few years, the writers have seen bad results due to the stokehole chimney being erected too near glass structures. The fumes of sulphur dioxide and other gases penetrate into the houses and do much damage when the wind is blowing so as to drive them over the glass, particularly when the ventilators are a little open. Not long ago they saw both vines and peaches with severely scorched foliage and fruit partly scalded, the whole appearing as if the ventilation had been grossly mismanaged, while other houses under the same man's charge and only a short distance away were in excellent condition. On investigation it was found that the chimney was at the end of these damaged houses, and its top almost level with the ridge, and whenever there was a south or south-west wind the fumes were blown right in. In this case the evil was aggravated by the position of the chimney, as the weather was always warmer and ventilation necessary when the wind was in the directions mentioned. As it would have been very costly to have moved the stokehole and rearranged the heating apparatus, the chimney was raised twenty feet, with satisfactory results. An almost similar instance occurred with a range of plant houses where the chimney was at one end of the range, the damage always being worst in the winter, when extra firing was necessary and when flowers were most precious. In spite of well-glazed houses the fumes found an entrance when the wind was in a quarter that drove them over the glass. Raising the height of the chimney in this case improved matters, and only occasionally was any injury done. But all danger would be avoided if the chimneys were placed a little distance away and built sufficiently high to carry the fumes away and above the glass.

ROYAL HORTICULTURAL SOCIETY.

On Tuesday, October 25, there was a fine display at the Royal Horticultural Hall, Westminster, orchids, stove plants, dahlias, carnations, and vegetables being all greatly in evidence. There was a vegetable exhibition as part of the display, classes being provided and prizes offered. Some excellent material was forthcoming, but the competition was not especially keen. The trade displays of choice and well-grown vegetables were very good.

FLORAL COMMITTEE.

Right across the top end of the hall a magnificent group of stove foliage plants and orchids was finely arranged by Messrs. Jas. Veitch and Sons, Chelsea. In front of a background of palms were arranged finely-grown specimens of Dracæna Sanderiana, D. Godseffiana, D. Goldieana, Heliconia illustris rubricaulis, Filicium decipiens, Croton B. Comte, C. Thomsoni, C. Emperor Alexander III., C. Resplendent, C. Prince of Wales, Phyllotænium Lindeni, and numerous alocasias and marantas. Very prominent and finely grown were the nepenthes, notably N. Mastersiana, N. Dr. J. Macfarlane, N. mixta, N. ventricosa, N. Hookeri, N. nobilis, and N. Curtisi superba, very richly coloured. In the immediate foreground were groups of Oncidium oblongatum, Cypripedium insigne Sanderæ, Odontoglossum crispum, O. grande, Cattleya labiata, Cypripedium Charlesworthi, C. Fairrieanum, and C. Arthurianum. It was a grand exhibit.



CYPRIPEDIUM PRINCESS MARY.
Flowers silvery-white, with rose-purple markings. F.C.C., R.H.S., October 25; Messrs. Sander and Sons.

Chrysanthemums in pots, decorative plants, charmingly grown, were also displayed by the same firm; especially good were the freely and finely flowered examples of Caprice du Printemps, White Caprice, Purple Caprice, Greening's Caprice—beautiful plants with from fifteen to twenty good blooms from a 48-sized pot—and Kathleen Thompson. There were also large exhibition blooms of Mrs. David Syme, Alice Lemon, etc. Very bright also were the winter-flowering begonias from Chelsea, especially B. Mrs. Heal, B. Julius, and B. Elatior, the latter crowded with bright carmine flowers.

Mr. Frank Brazier, Caterham, filled one table with sheaves of Climax, Star Shower, White Diana, and other Michaelmas daisies, as well as fine stands of Miss Mary Pope, Ethel Blick, Mrs. A. Thompson, Perle Chatillonaise, J. Bannister, and other useful outdoor chrysanthemums. A large and bold group of late hardy flowers and shrubs, staged by Messrs. W. Cutbush and Son, Highgate, N., contained numerous Michaelmas daisies, notably Climax, Rapture, and Chastity; with Senecio glastifolia, pentstemons, Polygonum amplexicaule, and P. a. album, gladiolus, and a few outdoor chrysanthemums. The Messrs. Cutbush had also a charming lot of perpetual carnations, and here Miss Winnie Pryor, white splashed with red, was very good, as was the new crimson variety Lord Rothschild; besides the carnations there were a few greenhouse flowering plants.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, contributed winter-flowering begonias, and a bright and fragrant lot of perpetual carnations in considerable variety, including several of the newer introductions. Messrs. Barr and Sons, Covent Garden, contributed Lilium nepalense, Nerine flexuosa alba, autumn crocuses, various Michaelmas daisies, and kniphofias, physalis, hardy cyclamens, and other hardy flowers. Messrs. J. Cheal and Sons, Crawley, submitted a charming and bright set of single dahlias, the varieties Lady Bountiful, Glencoe, Stromboli, Miss Roberts, Columbine, and Peggy being very fine; Pæony-flowered varieties, and also good sets of pompon and pompon cactus varieties were also staged, but the singles were the feature.

Messrs. W. Wells and Co., Merstham, set up a large corner full of chrysanthemums, and made a handsome and imposing exhibit of single, decorative, outdoor, and exhibition varieties. Conspicuous were the single varieties Altrincham Yellow, Florrie Stevens, Bronze Pagram, J. H. Greswold Williams (yellow), Sylvia Slade, Mrs. Sam Nash (A.M.), Mary Richardson, Addie Mason, and Crimson Mary Richardson. Among exhibition varieties Mary Loomes, Wells' White, Leviathan, Henry Poulton, Mrs. Thorne, Mrs. G. C. Kelley (A.M.), and Splendour. Messrs. H. B. May and Sons, Edmonton, displayed veronicas of the Andersoni group, and a fine selection of gymnogrammas, davallias, nephrolepis, and winter-flowering begonias.

A fine specimen of the rare and very interesting Stapelia gigantea was shown by Mr. Reynolds, gardener to Leopold de Rothschild, Esq., Gunnersbury Park, Acton; this carried seven flowers, two of which were in perfect condition, one in bud, and the others just past their best. The big five-pointed tawny and hairy flowers were a source of great attraction.

Messrs. W. Crisp and Sons, West Bergholt, Colchester, brought up a few bunches of late rose blooms. Nerines were very well shown by Mr. Frank Lilley, Guernsey, the varieties named Herm, Pink Star, Purple King, Elegans, Bowdeni, Coruscans major, and Salmon Queen being very delightful.

Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham, put up a very large group of big ferns; the examples of Nephrolepis exaltata, Woodwardia radicans, Pteris Summersi, Asplenium caudatum, Polypodium Mayi, and P. Knighti being very good. Messrs. Bakers, Codsall, Wolverhampton, contributed a long table of pæony-flowered dahlias, showing varieties we have enumerated on previous occasions, the colours were brilliant, and the flowers were of good size for the end of the season. Messrs. J. Carter and Co., Holborn, showed a miniature cactus dahlia suitable for bedding or pot culture; this is about fifteen inches high, and has neat, soft scarlet flowers of true cactus shape. A brave show of perpetual carnations was made by Mr. C. Engelmann, Saffron Walden, and his deep crimson Carola was very prominent.

ORCHID COMMITTEE.

In the display made by Messrs. Sander and Sons, St. Albans, we were especially attracted by Cypripedium insigne Sanderæ, very fine, C. Britannia, with a very big dorsal sepal, Cattleya Black Prince, C. Fabia, Brasso-cattleya Thorntoni, the pretty little Phalænopsis Esmeralda, Cycnoches Chlorochilum, and Bulbophyllum Dearei. Messrs. Sander and Sons had also a beautiful cypripedium named C. Princess Mary (F.C.C.), a cross between C. niveum and C. Helen II., silvery-white, with rosy-purple spottings.

A very bright little group of orchids from Messrs. Mansell and Hatcher, Rawdon, Leeds, contained good plants of Odontoglossum grande, Cattleya Armstrongi superba, C. labiata varieties, C. Fabia, C. Mantini, C. Mrs. Pitt, Lælio-cattleya Luminosa, and the beautiful Brasso-cattleya Thorntoni and B.-c. Digbyana-Mendeli. Mr. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, showed Sophro-cattleya Veitchi var. Eros, with very brilliant crimson-scarlet flowers.

Messrs. Charlesworth and Co., Haywards Heath, put up a quite large group of orchids, and made a charming display with Oncidium tigrinum, O. oblongatum, Odontoglossum grande, O. Pescatorei, O. armainvilliersense, O. Wilckeanum, O. Circe (A.M.), a cross between O. Cervantes and O. Pescatorei, Vanda cærulea, a charming lot of Lælia præstans, and Cattleya Luegiæ. Messrs. Stanley and Co., Southgate, contributed good forms of Cattleya labiata and C. Fabia, as well as several cypripediums. Cypripedium Reginald Young (C. Elmireanum x C. insigne Harefield Hall), a bold flower, with heavily-spotted dorsal sepal, was shown by Mr. H. J. Bromilow, Rann Lea, Rainhill, Lancs.

Mr. Alexander, grower to Lieut.-Colonel Sir George Holford, Westonbirt, Gloucester, showed Odontioda Bradshawiæ Westonbirt var. (F.C.C.), a brilliant red and rose-coloured variety; and Lælio-cattleya Barbaressa superba. Mr. F. Wellesley (gardener, Mr. Hopkins), showed Cypripedium Germaine Opoix Imperalis -very pretty. Messrs. Stuart Low and Co., Bush Hill Park, Enfield, presented an attractive group of orchids, in which Oncidium varicosum, O. oblongatum, O. Forbesi, O. tigrinum, and O. undulatum figured largely. Other things staged were Cypripedium triumphans superbum, Odontioda Seymouri, Lælio-cattleya Ophir, Cattleya Miss Williams, C. Fabia, C. Dowiana aurea, and Miltonia vexillaria Leopoldi.

Mr. E. V. Low, Vale Bridge, Haywards Heath, showed such white varieties of Cattleya labiata as C. l. Vale Bridge var., C. l. Empress, C. l. Cooksoniæ, C. l. Amesiana, and other good things. Messrs. Armstrong and Brown, Tunbridge Wells, presented a magnificent form of Cypripedium insigne, Cattleya Armstrongæ, and C. Fabia. Mr. J. Gurney Fowler, Glebelands, South Woodford, sent Cypripedium Priscilla, and C. Troilus Gurney Fowler's var., the latter a fine thing, and well shown. Messrs. J. and A. McBean, Cooksbridge, showed Cattleya Dowiana aurea, and Miltonia vexillaria Leopoldi. Mr. Collier, gardener to Sir Jeremiah Colman, Bart., Reigate, contributed several very interesting orchids, including Calanthe densiflora (A.M.), with a dense head of yellowish flowers. Vanda Floyiæ, from Mr. H. A. Tracy, Twickenham, with white, purple-lipped flowers, is probably a natural hybrid with V. Roxburghi as one parent.

FRUIT AND VEGETABLE COMMITTEE.

From Mr. R. W. Green, Wisbech, came a good collection of potatoes, arranged in baskets. The tubers were clean and bright throughout. A few of the most prominent baskets were Highlander, Herd Lassie, King Edward VII., Dalmeny Beauty, Edgecote Purple, and Cigarette. A small collection of apples came from Mr. C. B. Broad, Aghern, Conna, Co. Cork, Ireland, and very good they were, too, both in size and colour; fine examples of Charles Ross, Emperor Alexander, Gascoyne's Scarlet Seedling, Peasgood's Nonsuch, and Worcester Pearmain.

From Messrs. Sutton and Sons, Reading, came a table of tomatoes grown in the open-air. The most striking were: Abundance, Magnum Bonum, Princess of Wales, Sutton's A1, and Winter Beauty; while the large collection that was arranged on the side of the hall was a veritable feast for vegetable lovers and growers. The celery, red cabbage, onions, and beet forming the background were simply wonderful, as were also the splendid examples of beet, tomatoes, onions, carrots, leeks, etc. All were up to the exhibition size and quality, while the extent of the exhibit and its arrangement could only call for the highest praise.

From Messrs. Jas. Veitch and Sons, Lim., Chelsea, came a fine display of vegetables, the collection of gourds being much admired; while the tomatoes, peas, cauliflowers, onions, and celery were all outstanding features. The arrangement was generally admired. Messrs. Dobbie and Co., Edinburgh, staged two large baskets of The Factor and Dobbie's Favourite potatoes, which were superb in shape and finish, while pots of Dobbie's Exhibition parsley lifted from the open ground formed a fine setting. Mrs. V. Banks, 102, Park Street, W., exhibited some fine examples of bottled fruits and vegetables, all of which were of good colour and in perfect condition.

CERTIFICATES AND AWARDS.

First-Class Certificate.—To Cypripedium Princess Mary, from Messrs. Sander and Sons, St. Albans; to Odontioda Bradshawiæ Westonbirt var., from Lieut.-Col. Sir George Holford (grower, Mr. Alexander), Westonbirt, Gloucester.

Award of Merit.—To Cypripedium Reginald Young, from Mr. H. J. Bromilow, Rann Lea, Rainhill; to Cypripedium Britannia, from Messrs. Sander and Sons, St. Albans; to Odontoglossum Circe, from Messrs. Charlesworth and Co., Bradford; to Calanthe densiflora, from Sir Jeremiah Colman, Bart. (gardener, Mr. Collier), Gatton Park, Reigate; to Chrysanthemums Mrs. G. C. Kelley, J. H. Greswolde Williams, and Mrs. Sam Nash, from Messrs. W. Wells and Co., Merstham; to Chrysanthemum Miss Mary Pope and Aster Novelty, from Mr. Frank Brazier, Caterham; to Chrysanthemum Joan Edwards, from Mr. Phillip Ladds, Swanley Junction; to Chrysanthemum Hilda Blick, from Mr. C. Blick, Hayes; to Croton Golden Ring, Lynwood var., from Mr. A. E. Bainbridge, Newcastle; to Nerine Mansell Seedling, from Mr. Frank Lilley, Guernsey; to Perpetual Carnation Regina, from Mr. C. Engelmann, Saffron Walden; and to Nepenthes nobilis, from Messrs. Jas. Veitch and Sons, Chelsea.

MEDALS.

Gold.—To Messrs. Jas. Veitch and Sons, for stove plants and nepenthes—this display was also recommended for the Lawrence Medal. To Messrs. Sutton and Sons, Reading, for vegetables.

Silver-Gilt Knightian. — To Messrs. Jas. Veitch and Sons, Chelsea, for vegetables.

Silver-Gilt Flora. — To Messrs. W. Cutbush and Son, Highgate, for hardy flowers and carnations; to Mr. Howe, gardener to Lady Tate, Park Hill, Streatham, for ferns.

Silver-Gilt Banksian. — To Messrs. W. Wells and Co., Merstham, for chrysanthemums.

Silver Knightian.—To Mr. Green, Wisbech, for potatoes.

Silver Flora.—To Messrs. Jas. Veitch and Sons, Chelsea, for begonias and chrysanthemums; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids.

Silver Banksian.—To Messrs. Armstrong and Brown, Tunbridge Wells, for orchids; to Messrs. Mansell and Hatcher, Rawdon, Leeds, for orchids; to Mr. E. V. Low, Haywards Heath, for orchids; to Messrs. J. and A. McBean, Cooksbridge, for orchids; to Messrs. Bakers, Wolverhampton, for dahlias; to Mr. Frank Brazier, Caterham, for hardy flowers; to Messrs. J. Cheal and Sons, Crawley, for dahlias; to Mr. C. Engelmann, Saffron Walden, for carnations; to Messrs. H. B. May and Sons, Edmonton, for ferns and begonias; to Mr. L. R. Russell, Richmond, for bertolonias and anæctochilus; to Mr. F. Lilley, Guernsey, for nerines; and to Mr. Broad, Conna, co. Cork, for apples.

Bronze Flora.—To Messrs. Stuart Low and Co., Enfield, for carnations, etc.

Bronze Banksian.—To Messrs. Barr and Sons, Covent Garden, for hardy flowers.

Cider Apples.—According to the monthly report of the Agricultural Instruction Committee of the Somerset County Council, 5,000 stocks were budded during the past summer at the National Fruit and Cider Institute, with about 100 varieties of cider apples. There was a good crop of apples in the old orchard, but in the plantations the crops were rather poor.

SOME IMPRESSIONS OF THE NEWER ROSES.

A very large number of rose novelties are introduced annually; many from the Continent and America, while in late years the number of really good roses from the British Isles has increased so rapidly that we now have quite a show of British-raised novelties, and these are generally of greater merit than those from foreign sources. One reason of the superiority of our home-raised varieties is doubtless the severe test they undergo before being awarded any recognition or award by the National Rose Society.

This year alone there were ten gold medals awarded, all, with one exception, to British-raised roses. There is no higher prize for a new rose than this coveted medal, which has now been awarded to seventy-four varieties, Souvenir de Pierre Notting and Rayon d'Or being the only two recipients not raised in Great Britain or Ireland. In addition, a large number have received other awards from the society.

My object is to give a few personal impressions of some varieties that have been with us long enough to show their characteristics and merits, and that are genuine improvements upon an already grand collection of roses.

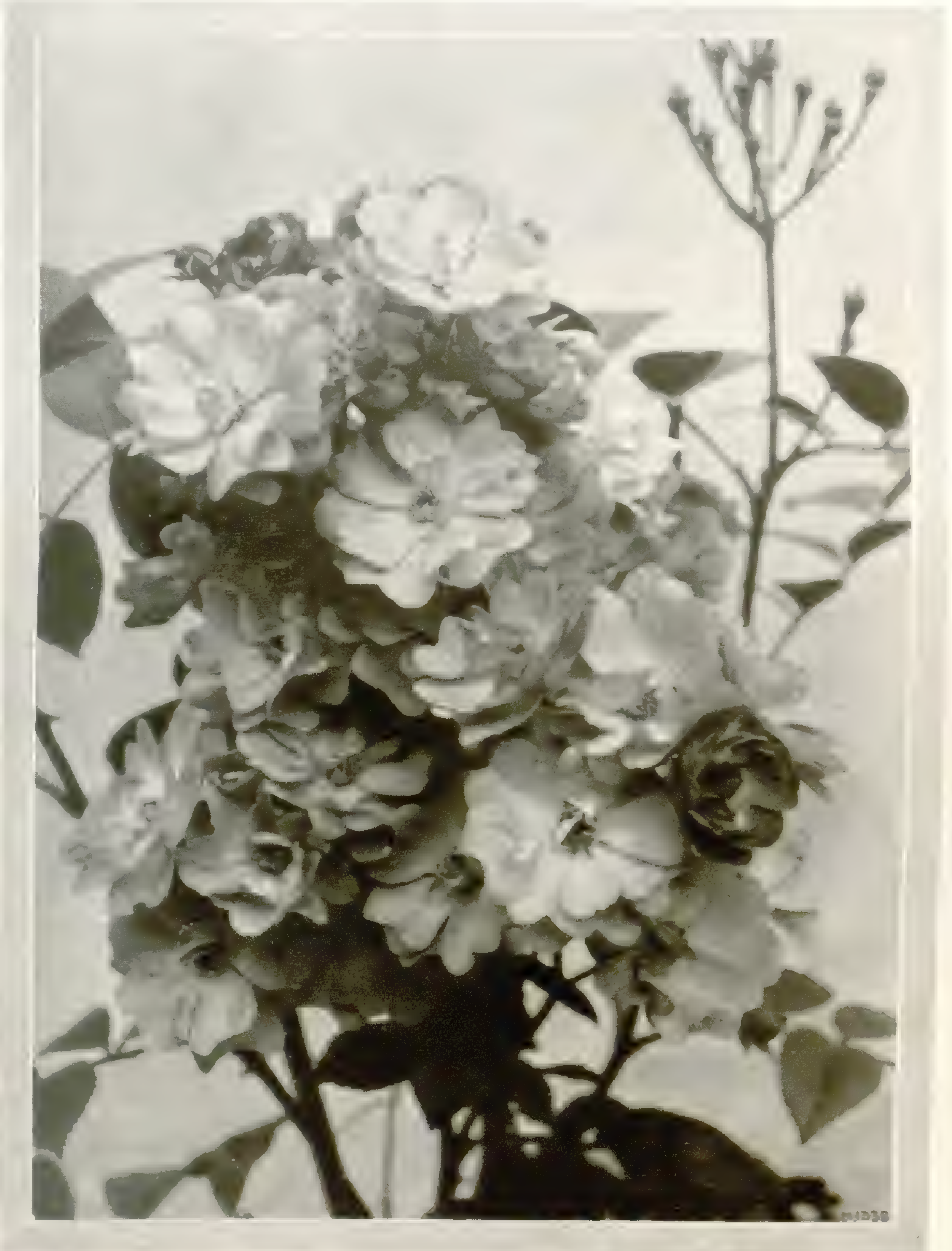
Among the Polyanthas or Fairy Roses we have Jessie, one of the brightest and best of its class. This is a clear cherry-crimson that never fades, and is in constant flower, both in the open and under glass. Jessie and Orleans Rose are decided acquisitions and worthy of all praise. The last-named is also serviceable for both purposes, and as a bedder. Orleans Rose is a clear geranium-red, with a lighter centre, clear at all times, and flowering in immense trusses.

Chateau de Clos Vougeot will prove one of the best dark crimsons. It is not a very vigorous grower as seen here, but is very free-flowering, and has the advantage of never fading or losing the intensity of its deep fiery red, with dark velvety scarlet shadings. It will make a good bedder, and is continuous. Commandant Jules Gravereaux may be described as a vivid scarlet form of Frau Karl Druschki, and all are aware how useful such a rose must be; it is also sweet-scented. George C. Waud is a sterling rose that is certain to be popular for a long time. It is a glowing orange-vermilion that does not fade; flowers large, well shaped, and very free. There is a slight tendency to drooping, and we have found it most effective in standard form. W. R. Smith is a grand creamy-white, with a flush of rosy-pink; will prove a good exhibition flower, and is also free enough for the garden. White Killarney stands up well, is a trifle more double than the pink variety, and is capital under glass for early forcing, as well as a bedder. Then we have a beautiful new yellow in Lady Hillingdon, with a long, well-formed flower, carried singly upon stout stems. This was a recognised market rose for some time before its introduction, so that we know much more of it than is the case with most roses during their first season. James Coey is another really good yellow, also carried well, and will make a useful bedder; deep yellow tinged with gold when young.

A very deep blood-red Tea rose is found in Friedrichruhe, which is large and free, quite an addition to our bedding teas. If Miss Alice de Rothschild fulfils its promise, we shall have the nearest approach to a dwarf Maréchal Neil up to the present. Mrs. Foley-Hobbs will be invaluable to the exhibitor, and is an ivory-white, with a slight flush on the edge of its petals. This rose had rather an unique experience during the last summer. It was only awarded a silver medal at the Royal Botanic exhibition of the National Rose Society, but on being staged later at the Westminster meeting, gained the much-desired gold medal.

Excelsa is about the best new Wichuaraiana that we can speak of with confidence. This is a very bright scarlet form of Dorothy Perkins, and sure to be appreciated.

Arthur R. Goodwin has been pretty, and is a distinct decorative variety; coppery-orange and yellow, veined with old gold, the back of the petals splashed with carmine; of branching habit and very free-flowering. Duchess of Wellington has long, pointed flowers of saffron-yellow, stained with lemon-yellow and crimson; altogether a most showy rose. His Majesty is not so satisfactory as I had expected. It is large and of good form and substance, but its deep crimson shadings do not stand a strong light sufficiently. A good garden rose not mentioned often enough is Jacques Vincent. The buds are long, coral-red, with a shade of deep yellow, not many petals, but very free in growth and flower. Madame Andre Porcher has been described as a deeper-coloured Mrs. W. J. Grant, but it is larger and more globular than that variety here. Another grand new rose of the Mrs. W. J. Grant type is Mrs. Philip le Cornu, a seedling from Mrs. W. J. Grant, and fully partaking of all the good qualities of that well-known rose. This is a deep and clear cerise, quite distinct, and a much better grower; certain to be in demand when better known. Miss Cynthia Forde is a brilliant rosy-pink, lighter on the reverse side of the petals, large, and of exquisite shape.



THE ORLEANS ROSE, A NEW POLYANTHA VARIETY.

This fine rose has been well shown by Messrs. Wm. Paul and Son. Flowers of good size and freely borne in large clusters; bright red, carmine, and white-centred.

One of the sweetest-scented roses we have is My Maryland, a large and well-shaped flower, carried nicely upright, and beautiful under glass. It also promises well as a bedder, being very free and yet even in growth, and the flowers carried well above handsome foliage. The colour is clear flesh, veined and splashed with bright carmine, altogether one of the best. Theresa is good, both in pots and as a bedder. Not much more than semi-double; a deep orange-apricot, splashed with carmine. Climbing Lady Ashtown is a great help among pillar roses, and appears to produce even better flowers than the type; its tendency to droop is an advantage rather than not when grown in climbing form, and I am much pleased with this rose. Goldfinch makes a very pretty yellow rambler, and is quite an improved Electra and much hardier; very free-flowering, and one of the first to open.

A very large number of others might be mentioned, and are really good, but the above have been tried, and are about the best of the recent introductions. One cannot speak with any confidence of a rose until trying it more than one season.

A. Piper.

NEGLECTED SPRING BEDDING PLANTS.

Spring is the season of the best beloved, if not of the fairest flowers; after winter's long, almost colourless reign, it is a joy indeed to see flaming tulips and crocuses, rainbow-tinted hyacinths, and golden daffodils decking the garden. No wonder that the vivid bulbous flowers are chiefly popular, yet it is a pity that better use is not made of the countless lovely spring-blossoming perennials for bedding.

Experiments were made last autumn with various herbaceous plants as bedding subjects, with wonderful success; they were put out in October where required to bloom in March, April, and May, and, after giving their harvest during those months, were removed to give place to the more fragile beauties of summer. Critics prophesied that good flowering could not be expected from October moved plants, also that the roots would suffer by being lifted in May; both predictions proved wrong. The perennials were rather more than a year old when used, and in the rich deep soil given them they produced sheaves of blossom. This autumn they are fine clumps, and no doubt will excel their former triumphs next spring.

There is a secret about removing plants of this size and kind. It is to water them the day before, and give afterwards a further soaking with weak liquid manure or soot water. If the spade cuts them out next morning, with a square of solid soil all round the roots, there will not be the slightest flagging. Needless to say the holes must be dug ready to receive them at once. Geum Heldreichi is a glorious subject, beginning in April in sunny gardens. A bed of this, planted alternately with Narcissus poeticus, and widely edged round by Myosotis alpestris Victoria, will give a copper-orange, white, and blue mass that will be regretfully remembered during summer. Another orange-scarlet Avens that will blossom early is Geum chiloense miniatum.

A bed of the Bleeding Heart Flower is beautiful indeed; the clumps can be removed to a semi-shady bit of reserve ground afterwards, and bedded out once more next winter. If desired, the small reddish-crimson Dicentra eximea can be used as a border to Dicentra spectabilis, or double arabis combines well with the latter. For a perfectly harmonious edging plant nothing can rival Aubrietia Leitchtlini. Double red daisies tone well with the pinks if preferred. A good display of auriculas is always admired, especially in a front garden, and experience shows that they can be lifted without injury. For a tall centre mass the common purple honesty is suitable, while the latter should be tried in a semi-shady bed by itself all but for a belt of Alyssum saxatile.

Uncommon but charming are the fumitories, Corydalis alba, and Corydalis lutea. No gardener would regret giving these a trial, perhaps around a centre mass of fine columbines. The white and yellow will tone with all the aquilegia colours, and, although the plants will begin in April, they will be still fair in June. If the columbines are replaced by heliotrope the corydalis will continue as a floral edging until September. The old-fashioned Double Yellow Rocket, Barbarea vulgaris plena, commences also in April, and the fragrant rich gold blooms arouse much interest, so completely has the plant died out of popularity. It has an exquisite effect if given a surrounding belt of the Pasque Flower, Anemone pulsatilla, another April bloomer. Aubrietia deltoidea Columnæ is an attractive lilac-mauve edging subject for this bed, or, if the Pasque Flower is not used, all the surrounding might well be of Alyssum saxatile citrinum, the lemon of which shows up the rich gold of the rocket. Then there is the Bugle, one of the familiar woodland spring flowers. Ajuga osmafera has evergreen foliage, a spreading habit, and such a hardy nature that it can do with light or heavy soil, sunshine or shadow, but in shade it grows tall. Many gardeners are confused between this plant and Ajuga reptans, but the latter creeps over the soil, and does not begin until May to give the blue blossoms, which, unlike those of the other, are flushed with rose. The variegated form is of considerable value also, but it reaches a foot high instead of the six inches of the green-leaved type. The mass of deep blue that Bugles offer is of real value in the spring lawn beds.

Alyssum Benthami is little known. The blossom is white, and has a much softer effect than that of the arabis, the height varying from nine to twelve inches. Achillea millefolium Cerise Queen, cherry-red, and often two feet high, is one of the perennials that may be used as a spring bedder, then removed to a sunny border to continue in bloom all the summer and autumn. Nepeta italica is a tall purple flower that attracts notice because it supplies a needed note of colour in the April garden. Dwarf yellow wallflowers could accompany this, and the edge might be of Lamium maculatum, also purple, whose white-striped dwarf foliage has a neat appearance.

M. H.

TRADE EXHIBIT
Stand 19
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MESSRS. T. RIVERS AND SON'S COLLECTION OF ORCHARD HOUSE FRUIT AT HEXHAM.
With outdoor fruit for comparison.

Alyssum spinosum. — The madworts, or alyssums, are generally associated in our minds with the possession of yellow flowers, although there are some with white blooms which are not so much appreciated as those with flowers of a brighter hue. Yet a few of the white alyssums are worthy of our consideration, and for the alpine garden probably the best of these is Alyssum spinosum, occasionally named by some Koeniga spinosa. Its main charm does not, however, lie in its flowers, but in its foliage, as it makes a charming bush of small silvery leaves which are covered with little hairs. In a good position it looks well indeed, but the flowering adds little to its attractions. It blooms very freely, however, when established, and well-nigh covers itself over with many small, rather dull white flowers. In young plants the reason for the name of spinosum is not apparent, but as they grow older little spines appear on the branches. The best position for this alyssum is well up on the rockwork, and in a place which is dry and fully exposed to the sun. In such a situation the leaves are more silvery than when in shade. A light, rather dry soil, is suitable for A. spinosum. Propagation is easily effected by cuttings or by seeds.—S. A.

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Do. larger fruiting	2/0 to 3/0	21/0 to 30/0
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Arabis, Double	12/0 100	0/3	2/0
Aubrietias, to name, in pots		0/4	3/6
Achillea, "The Pearl"		0/4	3/0
Aconitum		0/6	4/0
Aconitum Volubile, new, climbing		1/0	
Aconitum Wilsoni, new, pale blue ...		1/0	
Anchusa Italica, Dropmore variety, new		0/9	
Anchusa Italica, Opal (new)		1/0	
Anemone Japonica, good collection to name		0/6	4/0
Aquilegias, mixed hybrids, long spurred		0/4	3/0
Asters, "Michaelmas Daisies," our selection, in 30 sorts		0/4	3/0
Asters, "Michaelmas Daisies, "Beauty of Colwall," new double		2/0	
Artemisia Lactiflora (new), handsome autumn-flowering plant		0/9	
Bocconia Cordata, handsome foliage plant		0/6	4/0
Campanula, many vars., tall or dwarf ...		0/6	4/6
Calceolaria, Golden Queen (new), hardy shrubby variety		1/6	
Chelone Barbatus		0/6	4/0
Chrysanthemum Maximum		0/4	3/0
Chrysanthemum Maximum, Mrs. Chas. Lothian Bell (new), immense flowers		0/9	6/0
Chrysanthemum Maximum, Alaska (new)		0/9	6/0
Cimicifuga racemosa		0/9	6/0
Coreopsis Grandiflora		0/4	3/0
Delphiniums, mxd. hybrids from good strain		0/4	3/0
Delphiniums (new), 18 finest, up-to-date varieties for **18/-**. (For List and Description see Catalogue).			
Dielytra Spectabilis		0/6	5/0
Doronicum, "Harpur Crewe," earliest flowering Yellow Daisy		0/4	3/0
Eryngium (Sea Holly), beautiful Blue Thistle for winter decoration ...		0/6	4/0
Gaillardia Grandiflora		0/4	3/0
Gaillardia Grandiflora, finest named (see list).			
Cerbera Jamesoni, Orange-scarlet Daisy, very beautiful, requires a warm position		1/6	
Forget-me-nots (Myosotis)		0/2	1/6
Geum Coccineum		0/4	3/0
Geum, Mrs. Bradshaw (new), magnificent variety		1/6	15/0
Gypsophila Paniculata		0/4	3/0
Gypsophila Paniculata fl. pl. (new), fine double variety		0/9	7/6
Helianthus in variety		0/4	3/0
Heuchera sanguinea		0/6	4/6
Hollyhocks, mixed or to colour		0/6	4/6
Incarvillea Delavayi		0/6	4/6
Iris Germanica, named vars.		0/6	5/0
Lavender, good bushes		0/4	2/6
Lavender, dwarf variety		0/4	2/6
Lilium Candidum		0/4	2/6

(Continued on next column.)

(Continued from preceding column.)

	Each.	Doz.
Lupinus Arboreus, white or yellow	0/6	4/6
Lupinus Polyphyllus, blue or white ...	0/4	3/0
Lupinus Polyphyllus Roseus (new) ...	0/6	5/0
Lithospermum prostratum, Heavenly Blue (new), most beautiful new plant (A.M.)	1/6	15/0
Lychnis Chalcedonica	0/4	3/0
Monarda Didyma, Cambridge Scarlet (new)	0/6	4/6
Montbretias, good clumps	0/4	3/0
Œnothera, Evening Primrose, in variety	0/6	4/0
Ostrowskia Magnifica (new)	2/6	
Phlox, to name	0/6	4/6
Pæonies, Jap. vars., to name	1/0	10/0
Pæonies, old-fashioned crimson and pink	0/6	5/0
Pyrethrums, single and double	0/6	4/0
Pinks, named varieties, good clumps ...	0/4	2/6
Primroses, coloured hybrids	0/3	2/0
Primroses, new blue	0/4	3/0
Rudbeckias	0/6	3/0
Solidago, Aaron's Rod	0/4	3/0
Spiræa Aruncus	0/6	4/6
Statice, Sea Lavender	0/6	4/0
Tritomas	0/9	6/0
Veronicas, to name	0/6	4/0
Veronicas, shrubby New Zealand varieties	0/9	6/0
Veronica Hulkeana (new)	1/6	15/0
Sweet Williams	0/2	1/0
Stenanthemum Robustrum (new), magnificent new tuberous-rooted plant, 5—6 feet, feathery plumes of pure white	2/0	
Wallflowers, extra fine and bushy, Cloth of Gold, Blood Red, and Ruby Gem **1/-** doz., **6/0** 100.		
Vinca Elegantissima, extra fine	0/4	3/0
Violas Cornuta purpurea (new), nice clumps	0/4	3/0
Violas, named sorts, good clumps (see Special List)	0/3	2/6
Violets, prepared clumps for winter bloom	0/3	2/6

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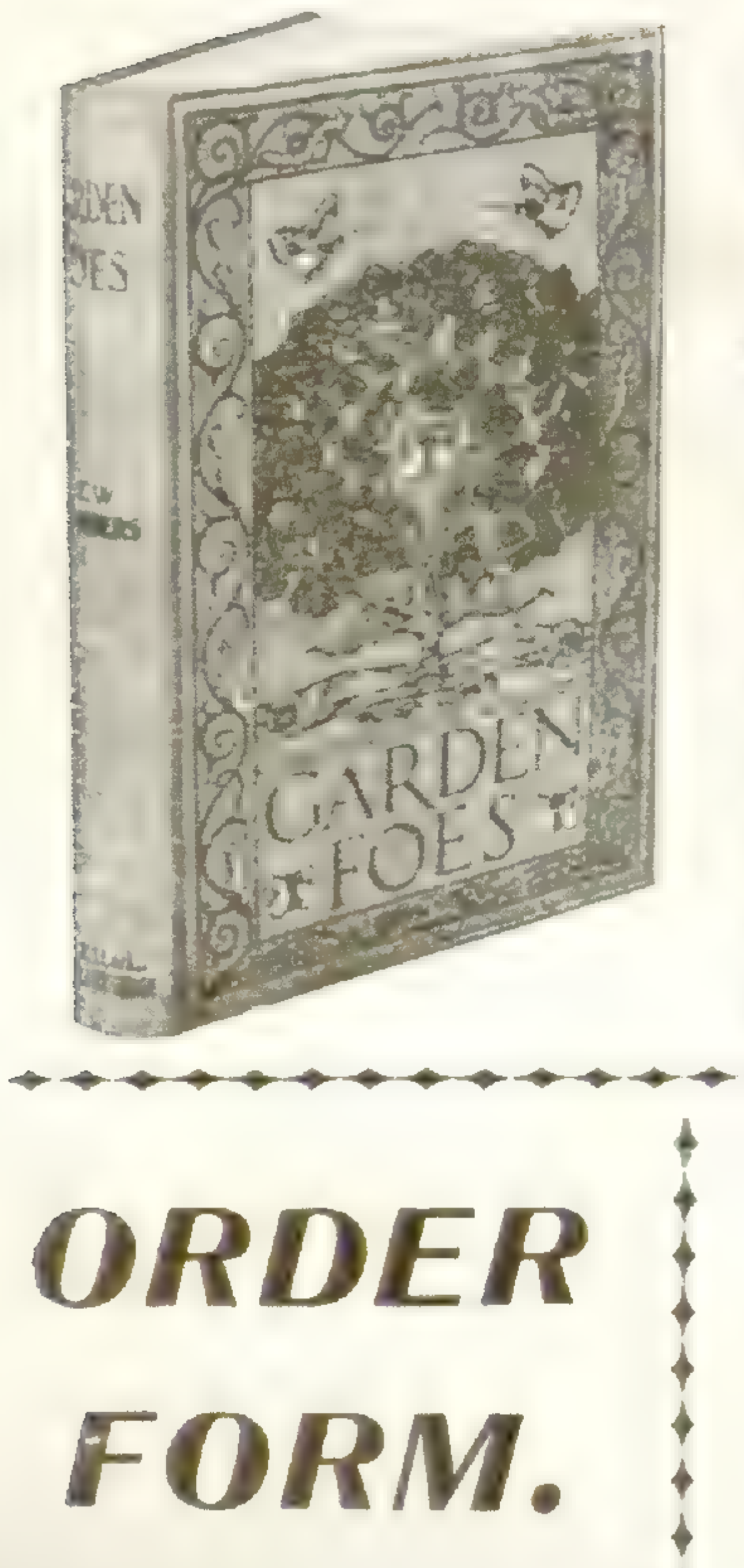

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Under whatever conditions however the outdoor culture of the peach is attempted, there is one thing connected with it in common to all cultivators, viz., the selection of varieties, and it is with a view to render assistance in this particular that this note is written. Though space at command is limited, the list will include enough varieties to produce ripe fruit during the most of the time that it can be obtained from outdoor trees.

G.M. 1490.

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Amsden June, originated in America, is the best of very early peaches, and has gained the R.H.S. First Class Certificate. Its fruit is handsome, above medium size, and possesses good flavour. The tree is a good grower and free cropper. Hales' Early, an early large-flowering variety, should be included in every collection. The fruit is round, above medium size, and brightly coloured on the exposed side. The flesh is juicy, richly flavoured, and readily parts from its stone. The tree grows freely, and is very hardy. This also has been awarded the R.H.S. First Class Certificate.

Early Grosse Mignonee has refreshing and richly flavoured fruits, above medium size, and beautifully coloured. It is one of the best second early varieties, and well deserves to be generally grown. Rivers' Early York, a second early variety, possesses a good constitution, and must not be confounded with Early York, which, in many respects, it much resembles. It is a richly flavoured, free bearing variety, that should find a place in all outdoor collections. Alexandra Noblesse is a highly flavoured, pale large round variety, of much value for midseason use. It has white flesh that easily separates from the stone. It was raised from Noblesse, to which it is in many respects similar, though it possesses a better constitution than the old favourite.

Crimson Galande has very highly coloured fruit, above average size, and of first-rate flavour. Its flesh is reddish, and quite distinct. It is a well known old variety, with small flowers that set freely, the fruit ripening at the middle of August. Belle de Doue is a midseason variety that deserves to be better known. The fruits are round, of medium size, with a crimson cheek next the sun. It has white, richly-flavoured flesh, and the tree is a good grower and free cropper. Royal George is a well known old variety that still deserves the high position it has held for many years. Its fruit is highly coloured, large, and round, ripens about the middle of August, and is of first-rate flavour. It sets its fruit well, as is the case with many other small-flowered varieties.

Grosse Mignonne, like the preceding, is an old and well-known variety, that ripens its fruit with it. The fruit is large, downy, and coloured red on its exposed side, with red-tinged, highly-flavoured flesh. Were I asked to name the best peach for outdoors it would be Bellegarde. It seldom, even in our low, moist position, fails to yield a full crop of excellent fruits, which are dark crimson, fairly large, and very richly flavoured. Dymond is another of our most highly-prized peaches, handsome in appearance, and deliciously flavoured. The tree is hardy, and grows freely, requiring in our case occasional root pruning. I would advise anyone forming even a small collection to include this variety.

Barrington, a well-known moderately late and free fruiting variety, has large, deep, finely flavoured fruits, which are nicely coloured on the exposed side. The tree is a strong grower and of good constitution. Here there is a tree of this variety in excellent condition that was planted upwards of forty-six years ago. Late Devonian is a free fruiting late peach of much merit. It has fairly large and handsome fruit, of good flavour, that lasts a long time in good condition. It has been awarded the R.H.S. First Class Certificate.

I had almost overlooked Violette Hative, though it is one of the best grown here. Its fruit is large and handsome, of good flavour, and ripens in September. The tree is hardy, and a good cropper. Exquisite is a late yellow-fleshed variety, valuable for its free bearing quality. Its fruits are large and handsome, crimson on the exposed cheek, bright yellow on the shaded side, and of moderately good flavour. The tree has an excellent constitution.

The Hendre Gardens. T. Coomber.

GRAPE ALNWICK SEEDLING.

The editorial footnote to Mr. Lintott's communication on Prince of Wales Grape (page 731), referring to the setting of the berries of that variety, induces me to briefly give my experience of the setting of the berries of Alnwick Seedling. Although I have not grown the variety Prince of Wales, my treatment of Alnwick Seedling may prove of interest to persons who are growing it. Having some difficulty in inducing the berries to set well, I wrote to Mr. William Taylor, then at Longleat, and asked his advice. He very kindly advised me to gently pass my hand over the bunches about nine o'clock every morning, thus removing the caps and the sticky substance which adhered like a minute dew-drop to the pistil. "At noon," said Mr. Taylor, "use the camel-hair brush when the pistil is quite dry and you will have a good set." I did follow this advice and with much success; bunches so treated were considered good enough for a silver medal award at an international exhibition at Earl's Court. I found that in the case of Alnwick Seedling the pistil did not become dry enough for fertilisation, except on very hot days, and then not until the afternoon; and midday I found to be the best time for the setting to be done.

I was pleased to see Mr. W. G. Pirie's favourable reference to Appley Towers. It is all he claims for it. I am growing the variety and intend to plant Lady Hutt also.

Geo. Garner.

GREASE BANDING OF FRUIT TREES.

In the "Journal" of the Board of Agriculture for October there appears an article from the pen of Professor F. V. Theobald, of Wye, upon this subject. The article is so remarkable in many respects, and few gardeners or fruit growers, I am afraid, see this publication, that I venture to call attention to a few of the most salient points for the benefit of the readers of the Gardeners' Magazine.

The article is based upon experiments and observations carried out during the last six years, though more particular reference is made to the last two seasons, 1908-09 and 1909-10.

The writer first details the insects it is expected will be caught on the grease bands, i.e., the moths with wingless females, and then goes on to give a list of those which were actually caught, month by month, on bands on three apple and three plum trees in 1908--1909, and three apples, three plums, and three nuts in 1909-1910.

Of these various wingless females that of the ordinary Winter Moth (Cheimatobia brumata), was caught in far the larger numbers. The Mottled Umber (Hybernia defoliaria), often called the Great Winter Moth, whose large size distinguishes it when on the bands from the ordinary one, was only found in very few cases. This moth goes up about the same time as the Winter Moth, principally in October and November.

Strange to say, the March Moth (Anisopteryx œscularia), about which so much has been heard, did not appear nearly as plentifully as the Early Moth (Hybernia rupicapraria) in 1908-1909, though much more numerous in 1909-1910, probably owing to some local influences. Both, however, occurred in sufficient numbers in January, February, and March to show that it is absolutely necessary to keep the grease bands "tacky" till quite the close of the latter month, if not well through April.

The principal interest though for the practical grower, centres in the experiments which were carried out to determine the proper height at which to place the bands, the minimum width they may be consistent with efficiency, and the best class of grease to use. If I mistake not, Professor Theobald has always been an advocate of low-placed bands on the ground that many of the moths laid their eggs on the trunk or stem of the tree beneath the band if the latter were placed high, and that there was a danger of these eggs hatching, and the larvæ reaching the top of the tree, presumably over the smooth dry band. He fully recognises this danger now, but it has given place to a greater, viz., that if the bands are placed too low (2ft. or under from the ground), it is possible for the winged male to carry the female this short distance, and deposit her upon the trunk of the tree, so that she evades the band. The fact that there was this danger was conclusively proved by experiments where trees were double banded, and several female moths were caught on the higher of the two bands.

Now this gives food for serious reflection to a good many of us growers, for far from being at 2ft. height, many of our bands are from 12in. to ground level on bush trees, and if 2ft. does not prove an efficient height, it seems quite probable that we are wasting our time and money in grease-banding bush trees, especially seeing that we have an absolutely certain remedy for all leaf-eating caterpillars in the arsenate of lead spray fluid. At any rate, since I have banded my bush trees now for the present season, I intend to keep a careful watch to see how many are caught and what damage results in the spring from the attack of Winter Moth larvæ.

Another disturbing factor is that a less width than 6in. failed to stop the moths, or, as the writer puts it, "formed an imperfect barrier"; presumably this also was proved by double banding, though the fact is not stated. "For good quality British and German greases, a 7in. band is undoubtedly wide enough, but the grease must cover most of the band. If the grease is a thin, inferior one, the band must be at least 10in., and a good 2in. of paper left below to catch the run of the grease."

Up to this year almost all the greases which I have used have been liable to run, but I have never used 10in. paper, probably nearer 7in., with 5in. of grease, and it is distinctly disturbing to read that this forms "an imperfect barrier." As I said just now, it is to be presumed that this fact has been proved by double banding, though it is rather strange that such a width of grease should be necessary, seeing that almost all the moths one finds on the bands are on the lower two inches, and very few, indeed scarcely any, on the top two inches.

It would be interesting if Professor Theobald, in his future experiments, would give us the numbers caught in this way, viz., on the lower two inches, the middle, and the top two inches. The idea in allowing a certain width of paper for the run of the grease has been, of course, to prevent it getting on to the bark of the tree, lest there should be any harmful ingredient in the grease which would injure the health of the tree. Even with the absence of any positively harmful ingredient, it is inadvisable to allow much grease to get on the bark, as the effect is often harmful in the extreme.

An interesting point was discovered in the trials with various thicknesses of paper, it being found that several greases lasted "tacky" much longer on special thick grease-proof papers than on the ordinary thin grease-proof. Another point which is also particularly interesting is that numerous Winter Moth larvæ were caught on these experimental grease bands. At the first sight this seems to point to something wrong with the banding, but it appears from the explanation that these bands put on to test various greases were applied very late in the season after a good many of the moths had gone up. It is explained that in all instances these larvæ were caught after a heavy storm of rain or wind, which had dashed them to the ground, and that they were caught in reascending the trunk. The author mentions it merely as an interesting fact and not as suggesting that banding should be used for this purpose, though he goes on to point out that not only are larvæ of these wingless female moths caught in this way, but larvæ of moths which, owing to their possessing wings cannot be dealt with by grease banding, such as the Tortrix and Clouded Drab Moths. It certainly seems a good point if we can get greases to keep moist during the months in question, May and June, even if the trees have to be artificially shaken or jarred in the absence of any storm sufficient to cause the fall of the larvæ.

Some tables are given, showing the behaviour of certain British and German greases, together with one American preparation, all with the exception cf the latter being represented by a letter and not by name. These tables are very interesting, showing as they do the condition of the bands, (1) at the end of October, November, and December for 1909-1910, and (2) at the end of January, February, March, and April, also for 1909-1910.

For the first three months most of the greases acquitted themselves well, being described as "moist" or "fairly moist," though some failed lamentably, and are classed as "dry" or "dry on wind-side." In the second case, for the last four months, however, the results prove the weakness of many of the greases. By the end of February almost all the British and German greases were out of action, only one section, the Raupenleims, being described as "moist."

The greatest success of all, and the one which the author uniformly praises in high terms, is the American Bird-lime grease "Tanglefoot." In a footnote it is stated that this grease was put direct on to the trees, and remained "tacky" for ten months, and in another instance for "over a year." For this "grease" bands 3in. wide are considered sufficient, as it does not run, and is absolutely unchanged with any change in the weather. It seems a great pity that this product is at present at such a price that prohibits its use to any great extent; at any rate, in commercial plantations. It is to be hoped that some of our enterprising horticultural chemists will take up the manufacture of this article, so that we may perhaps obtain it at more reasonable rates.

Since this substance is at present beyond the means of most of us, it is abundantly clear that any attempt at grease banding must be followed up during the winter and spring. The bands must be brushed up when they show signs of drying, so as to keep the grease "tacky" till the end of March, at any rate. It is the worst of folly to spend pounds upon grease, and then to have the moths cross the bands for the sake of a few shillings spent on labour for this purpose. I have always found it best to have the grease put on thickly in the first place, and, as far as possible, evenly, not one tree thick and another thin, otherwise one is compelled to examine nearly every tree to make sure that none of the bands are dry and inactive.

Such experiments as are detailed in this article are the sort which British fruit-growers need, practical and businesslike, and some little approach towards the sort of help which is given to the industry in Canada, Australia, and the United States, and which, up to the present, the authorities in the old country have been very backward in supplying. If we are to hold our own, the Board of Agriculture and the various County Councils concerned must do a great deal more along these lines to help in elucidating some of the very knotty points and difficulties with which modern fruit-growing is faced.

Fred W. Hammond.

Pilgrim's Hatch.

Tydæas and Gesneras.—These two closely allied flowering plants are very useful subjects when grown for winter flowering, many of them being equally beautiful either in or out of bloom, the foliage, in many instances, being particularly ornamental. A very high temperature is not really necessary for their cultivation, a warm pit during the summer being very suitable, but from now onwards they should be placed in a house with a temperature of from 55 to 60 degrees at night; they like a fairly cool, moist base to grow on, but the atmosphere of the house should be fairly dry, the foliage keeping in better condition, and the flowers lasting much better than when growing in a more humid atmosphere. Like the gloxinias, they prefer a very light rich compost to grow in, and when the pots become full of roots they will take any quantity of liquid manure, cow manure being probably what they most appreciate.—Thomas Stevenson.

CHOICE PLUMS AS BUSH FRUITS.

(Concluded from p. 834.)

Unlike the formal pyramid or the trained wall tree, the bush has no conformed shape; it is merely what it is a bush, and the branches should be so dispersed as to allow for the development of spurs and those short young shoots which bear fruit.

The object of the first pruning is to encourage the tree to commence its career in the garden by growing; but, unfortunately, some young plum trees have a tendency to make a superfluous quantity of wood the first few years after they are planted, but do very little in the way of fruiting. To merely cut back the shoots on such trees is only encouraging them to grow harder still, and it is the root action which needs checking. In short, there is only one course with an over-exuberant young plum tree, and that is to lift it after the leaves have fallen in the autumn, shorten back the strong roots, and replant it, but the desirability of this operation is only governed by the nature of the growth. By this I mean that in a collection there may be included varieties that show a tendency to run clean away to wood the first few years, and others which do not display half as much vigour. In fact, the latter may need some encouragement in the form of fertilisers to help them to make growth, whereas the former will probably require root pruning to check the excessive vigour of branch growth.

There is no one theory that will apply to the branch pruning of all varieties of plums, unless it is the first hard cut after planting for the purpose of forming and shaping the tree, and consequently hard and fast rules are not desirable. There is a good deal to be said in favour of doing most of the plum pruning at the end of the summer or early in the autumn, before the leaves fall, and where it is desirable side shoots may be shortened back with advantage at this season, but I think the cutting back of extension growths is best left till the spring. One point in favour of summer pruning is that the trees are not so apt to exude gum as when the whole of the pruning is done in the winter and early spring, though this trouble is, in some cases, directly due to a shortage of lime in the soil. In the matter of pruning, however, let me say that the true secret of bush plum culture is to get by careful manipulation and good judgment that even balance between roots and branches which does away with any necessity of severe pruning, because, after everything has been said, the old truth prevails that stone fruit does not appreciate too much knife.

Clean soil, a firm root run, and hoeing on the surface, sums up the cultivation of bush plums in a few words, and over-manuring is an evil. Lime, as I have said, is an essential quantity, and on land that is retentive slow phosphates, like basic slag and bonemeal, are beneficial, and on such soil potash is rarely required, but occasional dressings of soot are beneficial. The best form of applying phosphates to light soil, where lime is present, is in the shape of superphosphate, and, potash being wanted in such mediums, sulphate of potash may be given, but the provision of nitrogen should be entirely governed by the growth that the trees are making.

Bud-picking birds not infrequently play havoc amongst plums in the early spring, but trees of the bush type are easier to protect than standards, owing to their dwarf habit. Syringing with a solution of soap and quassia makes the buds distasteful to the birds, and if soot or dry lime can be dusted over the trees afterwards the remedy is even better. For the reason described above bush plums are more easily kept free of insect pests than is the case with trees of taller habit.

H.

THE KING'S ACRE NURSERIES, LIM., COLLECTION OF HARDY FRUIT AT HEXHAM.

THE PEARL BERRY.

Margyricarpus setosus is the name of a charming little evergreen of creeping growth, which is a general favourite among those who know it. Its neat little plants are very pretty when seen creeping over a stone, with their branches thickly set with shining deep green leaves, which are narrow and pointed. The flowers themselves are small, and not at all conspicuous, and the main charm of the Pearl Berry lies in the little fruits which give it the popular name. These are of a beautiful wax-like texture, and are of a pearly whiteness, looking like nothing so much as a large pearl. They last throughout most of the winter, and are at that season very pretty, the contrast between the pearly fruits and the deep green foliage being extremely fine.

It is by no means a difficult plant to grow, but it is not so absolutely hardy as we would like. Occasional propagation is therefore necessary with the margyricarpus, save in very mild places, so that a few plants can be produced from under glass should the old ones be destroyed by a severe winter. Some winters they stand, but in others the old plants succumb.

It is easy, however, to keep up a stock of young plants, as they can readily be raised from seeds, by sowing the seeds or berries in pots of light soil as soon as ripe, and pricking off the seedlings two or three inches apart when ready to handle. If put in thumb pots they can be transplanted more readily without disturbance, although young plants are not excessively difficult to establish without this precaution. Cuttings of the branches, with a heel, can be easily struck in sandy soil, putting them in pots, and keeping them close and shaded until rooted. Few plants are more readily struck from cuttings than the Pearl Berry.

I prefer a sandy soil and a sunny situation for the margyricarpus, which, although modest in its beauty, is yet a desirable little plant.

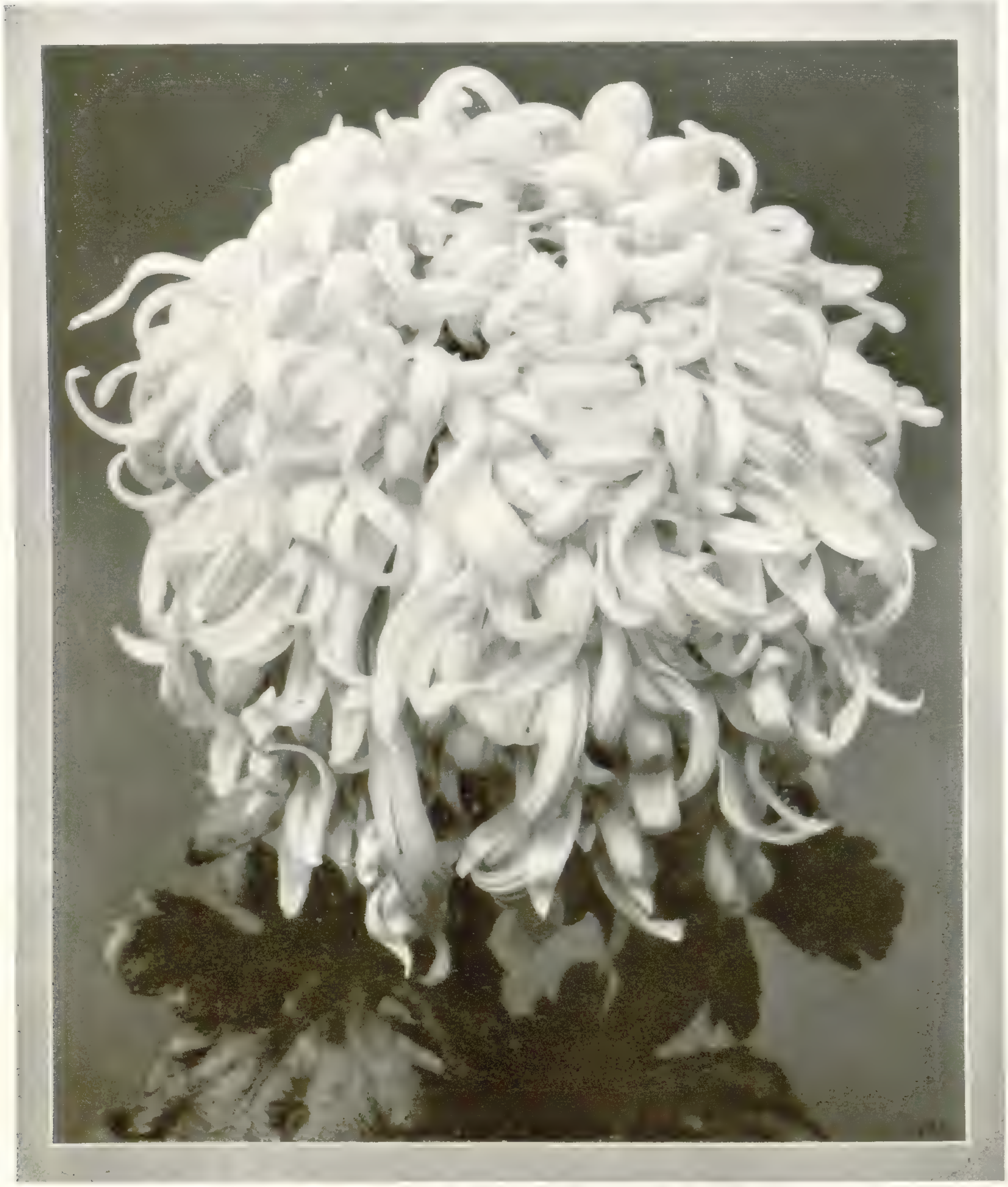
A. S.

GRAPES AND HOW TO GROW THEM. An illustrated guide to propagation, culture, and management in vineries, greenhouses, and in the open air. By J. Landell, F.R.H.S. Price 1s. net, by post 1s. 2d.; cloth, 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London

AMONG THE ALPINE FLOWERS IN OCTOBER.

> " . . . and now the power is felt
> Of melancholy, tenderer in its moods
> Than any joy indulgent summer dealt."
> Allingham.

Few of us look upon this month of October with feelings of ardent joy. It generally brings with it the passing of our favourite flowers for the time, and what pleasures it brings are chastened by the dread that ere long the winds from out the icy north will cut off the remaining treasures of our gardens with but few exceptions. Yet it is folly to dwell too much upon the thoughts of the drear future. Provided we take reasonable "thought for the morrow" in the way of timely precautions for the trying season, where such can be of service, we may dwell more upon the enjoyment of the present, although it is chastened by the more placid note of beauty given us by the flowers of the time.



CHRYSANTHEMUM MARY POULTON.
Flower much reduced, the colour silvery mauve-pink. A.M., R.H.S., October 11. Mr. H. Poulton, The Huntleys Gardens, Tunbridge Wells.

Forewords of Spring.

No longer is the rock garden full of brightness and glowing colours. Flowers there are, but many of these are fragments of those of an earlier season. Some are autumnal blossoms of spring flowers, which often give us blooms to bespeak for the full flourish of the vernal season a thought at the present.

Possibly they give us some cheer by the recollection that, though winter is at hand spring is not far distant, and that these plants, which now afford us but scant bloom will cover themselves with beauty as with a dazzling garment, and will gladden us with their brilliance. Such are some of the alyssums, such as A. rostratum, which gives us many of its small yellow flowers. Such, too, is the little Erysimum pulchellum, the Fairy Hedge Mustard, which, truth to tell, looks prettier in autumn than in spring, although at this time of the year its blooms are few, and do not cover the plant as in the latter season. Now the glossy mounds, only a few inches high, are spangled with little heads of golden flowers, just nestling in the green leaves instead of being lifted a few inches above them, as is the case in the vernal season.

Autumn Tints.

But the golden days of autumn linger with us still, and the mild weather has prolonged the bloom of many of their flowers, so that we are by no means bereft of our favourites. Still others there are whose due season is the present, so that we may yet cull a posy from the rock garden, as well as delight ourselves with the coloration of the autumn leaves of many of these.

The trees may be like "Indian princes" in their glorious tints, but the alpine plants which have put on their autumn garb are like sweet maidens clad in bright garments. We see among them saxifrages, clad in vivid green, never more beautiful than now. We observe flaming scarlets and deep crimsons, russet brown, creamy tints, golden yellows, bronzes, and plum colours as we glance among our plants to see what they present to our eyes. But the glory is still in the flowers in blow, and of some of these we may still speak as a record of a few of our favourites of the time.

Crocuses.

We have yet some few crocuses, and among them none more beautiful than C. iridiflorus, which began in September and has not yet fully run its course. Deep purple, with lilac inner segments shorter than the outer ones, and with white stigmata this flower is lovely indeed. Then we have still the magnificent C. speciosus, with its blue flowers deeply veined with purple, and its variety Aitchisoni, the Afghan representative of the species, and a very beautiful flower. C. pulchellus, too, continues to bestow a few of its pearly blossoms, so beautiful as the sun of the month, now growing fainter, beams upon its little flowers. Other crocuses there are, but these are among the choicest of the time, and are, besides, not so costly as to tax the financial abilities of the owner of the garden in which cost is a consideration.

Colchicums.

We have had to bid farewell for the season to the most of the Colchicums, or Meadow Saffrons, but there are still a few whose blooms we welcome as we pass through the garden. A neat double variety, called C. autumnale roseum plenum, is about the latest of that section with me, but C. giganteum yet affords us its purple blooms. For the autumn garden these flowers are of high value, and we may well appreciate their blossoms at this time.

Erica Maweana,

A very lovely, but rather scarce heath is that named Erica Maweana, whose origin appears to be unknown, but which is conjectured—and probably rightly—to be a hybrid. It is a remarkably pretty and showy heath, with its fine clusters of crimson-purple flowers on the semi-erect branched stems of deep green. It is after the fashion of E. ciliaris and E. Tetralix, and is one of the prettiest hardy heaths for autumn bloom in the alpine garden. It does not appear to be quite so hardy as some others, and last winter my best plant suffered considerably, although it has revived and is now as fine as before. A few others are yet in bloom, and E. hybrida and E. carnea and its variety alba are thickly set with buds for a successional bloom to the early autumnal species.

Other Flowers.

We have still flowers on Potentilla nepalensis, which, trailing over the stones, looks much better than on the level. Tunica saxifraga is yet giving its pretty pinkish elegant flowers. Erodiums, such as macradenum, hybridum, Sibthorpi, and others brighten their haunts with their gay flowers on their finely divided foliage. Some of the alpine pinks have still a few blooms upon their masses of foliage; sedums continue to afford us some flowers, S. spectabile, and its variety atropurpureum helping with their more abundant display. Helianthemum venustum plenum is gay indeed for the season, and two or three other sun roses yet adorn the rockwork. Violas, ever-blooming as some of them appear, give many blossoms; and the curiously pretty Origanum hybridum is yet attractive with its pink flowers from their hop-like heads. With these and other flowers we are passing reluctantly from the time of flowers to the season when these gems are well-nigh absent, and when we live in the remembrance of the past days of pleasure and in the hope of the reawakening of our alpine flowers.

S. Arnott.

DISBUDDING PERPETUAL CARNATIONS.

From the present time, right back as far as the historian can trace, the thinning out of some of the buds produced on the flowering growth of a carnation to assist the remaining buds to develop larger blooms has been practised, and undoubtedly the ancient gardener who discovered this method was a master of his craft.

While the knowledge of this practice is so common, and the operation simple, yet a strict attention to details is, however, vitally important, or the object in view is defeated.

Disbudding, in the case of the perpetual carnation, is a prime necessity, because it requires almost as much effort on the part of the plant to produce three blooms on one stem as it does to produce three blooms on three separate stems. It is not the stem, but the flower, which takes the vitality out of the plant. We can all remember how, a few years ago, when the great beauty of a perfect carnation flower on a long elegant stem was not appreciated to the extent that it is to-day, the practice of removing the crown bud and allowing several of the lateral buds to develop was quite common. Many market growers used to serve their plants this way, and sent quite short-stemmed blooms to market. At the present time such blooms would be almost an unsaleable commodity.

Too often the novice or over-anxious gardener, in his endeavour to procure very large flowers, errs on the severe rather than on the lenient side in disbudding. He removes the lateral buds as soon as they become visible, injuring the main stem and leaves in his over-eagerness. The buds at the base of the stem would perhaps do little harm when so removed, but those at the top, close to the crown bud, should be allowed to become an easy size to handle before removal.

On the other hand, if the lateral buds are allowed to remain until they become almost fully developed more plant tissue must be wasted, and a proportionate amount of energy also, thus defeating the object in view. This does not help, but rather checks the developing of the crown bud into a large perfect specimen.

If disbudding is to be done then it should be treated in a systematic way, the plants being examined each week, and only those buds removed which are of sufficient size to handle. As a rule, the lateral buds towards the base of the stem are fit to remove quite a week before the buds near the crown bud. It is a common practice in commercial establishments in the autumn, when the perpetual carnation naturally makes a short stem, to also remove one or two of the stem growths. This not only gives a longer stem to the flower, but helps to keep the plant's growth short and compact.

Montagu C. Allwood.

"CARNATIONS, PICOTEES, AND PINKS" will [illegible] how to propagate and grow these [illegible] flowers to perfection. The work is freely illustrated with [illegible] of leading varieties, and ex[illegible] [illegible] as to layering, taking cuttings [illegible] blooms, etc. Price 2s. 6d. net, by post, in 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

NOTES FROM KEW.

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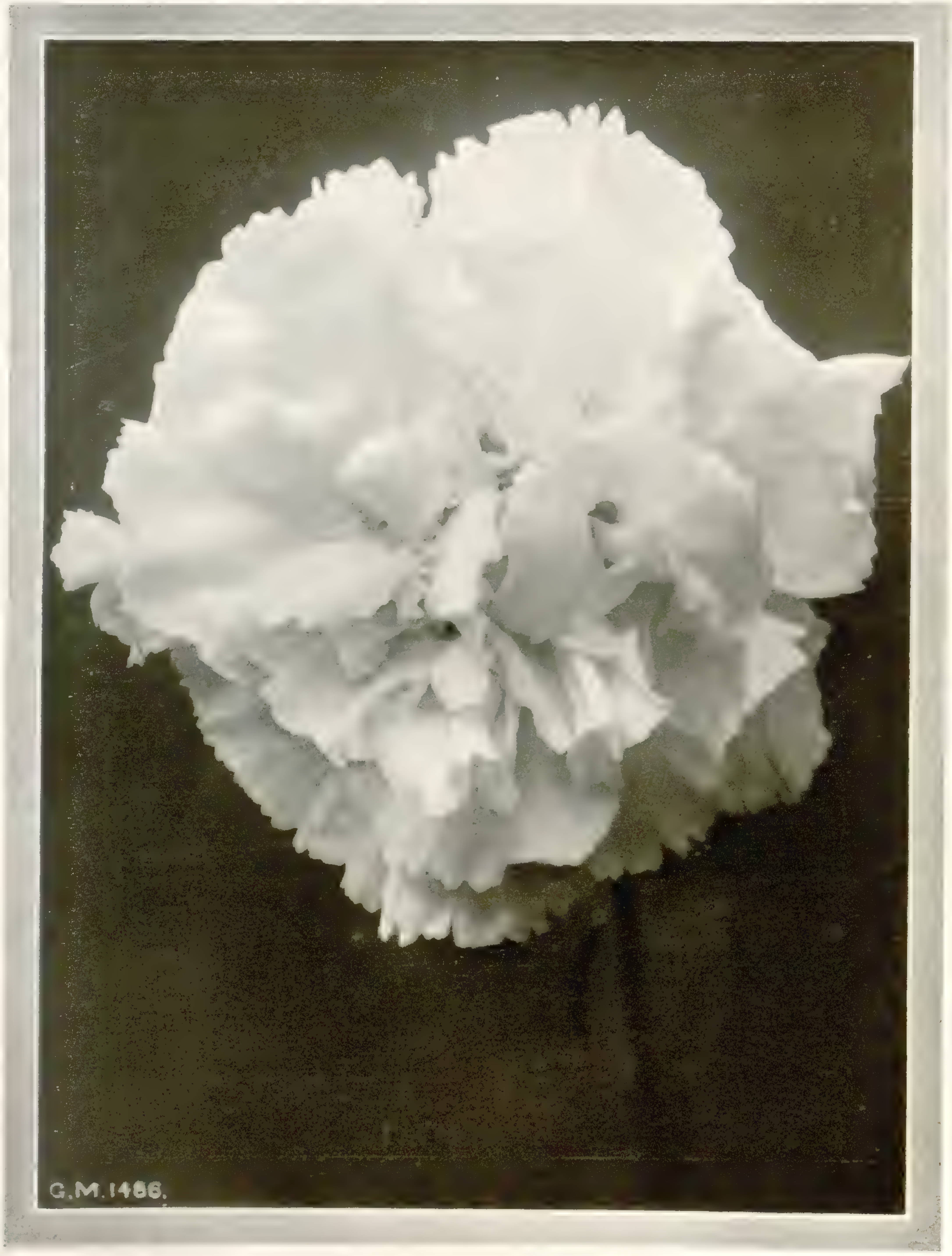
Greenhouse Heaths.

A considerable number of the South African heaths are just now contributing their share to the floral display in the greenhouse. Chief among them are Erica gracilis, represented not only by the ordinary purple-flowered form, but also the variety alba or nivalis, of which notable examples are being brought into Covent Garden Market. The white variety is of a much purer tint than it used to be. Erica caffra, with its myriads of tiny white flowers, is also very much in evidence, as also are Erica colorans, whose pure white flowers are of an uncommon shape; Erica hyemalis, not often seen thus early in the season; Erica melanthera, just beginning to unfold its earliest blossoms; Erica verticillata, a rather spare-growing plant, whose inflated tubular-shaped blossoms, a little more than half-an-inch long, are of a semi-transparent, bright red tint, and borne in distinct whorls; Erica cerinthoides coronata, with crimson-scarlet tubular flowers, produced in a terminal horizontal tier, and Erica conspicua, with lilac-coloured flowers.

Acanthaceous Plants.

The value of the different members of the order Acanthaceæ for flowering at this season is well shown in the intermediate portion of the T range, where a group of brightly coloured examples is brought together. Particularly noteworthy are Dædalacanthus Watti, which used to be known as D. parvus, a smaller-growing plant than the well-known Dædalacanthus (Eranthemum) pulchellus, which it somewhat resembles, but the flowers are of a metallic purple colour; Ruellia amœna, a rather upright-growing plant, about eighteen inches high, whose flowers, borne in great profusion, are of an inflated tubular shape, bright red in colour, and borne nearly throughout the year; Ruellia macrophylla, altogether a larger grower than the preceding, with longer flowers and a more uncommon plant; Ruellia Portellæ, a low-spreading plant, worth growing for its foliage alone, as the leaves, purple beneath, have pretty light markings on the upper surface. The flowers are comparatively large, curved in shape, and deep rose in colour.



CARNATION WHITE HOUSE.
Flowers pure white, clove scented. A.M., R.H.S., Oct. 11. Messrs. W. Wells and Co., Merstham.

Jacobinia chrysostephana is another striking plant, which, introduced 40 years ago, was nearly lost till within the last decade or so, it has become deservedly popular. The flowers, which are disposed in a large terminal crown, are orange-yellow in colour. Justicia (Schaurea) calycotricha, whose merits might be more often recognised, has rounded heads of light yellow flowers. Interspersed with the flowers are long, narrow bracts, which give to a head of bloom an uncommon fluffy appearance. Two very distinct species of Eranthemum are represented, namely Eranthemum albiflorum, with upright spikes of pure white flowers, suggesting those of the lilac, and Eranthemum seticalyx, with small flattened heads of blossoms, which in their marking bear a considerable resemblance to that pretty little South African bulbous plant known as Anomatheca cruenta. Aphelandra tetragona, the oldest and the largest growing of the aphelandras, has its three or four feet stems crowned with large heads of brilliant scarlet flowers. It is also known as Aphelandra cristata. Lastly, on a rafter close by, the pretty pure white Thunbergia fragrans is full of bloom. This climbing plant, which is of moderate vigour, is exceedingly floriferous, and though its merits are fully recognised at Kew, it is not often met with elsewhere.

Gesneras.

A group of hybrid gesneras in the T range serves to show the great variety and beauty both of flowers and foliage that exist among these several hybrid forms. The flowers, borne for the most part in pyramidal-shaped spikes, are of various shades of white, yellow, and red, some of them being very prettily marked. It is a matter for surprise that these gesneras are not more generally grown, as their value for autumn flowering is great. In proof of this one may point to the magnificent display of Gesnera Orange King, made by Adeline, Duchess of Bedford, at the meeting of the Royal Horticultural Society on October 11. The numerous plants shown formed one of the brightest features in the hall, and few exhibits attracted more attention.

Mesembryanthemums.

As a rule these pretty succulents are but little considered as flowering plants for the greenhouse, but a few species are just now so full of bloom and so attractive in the cool portion of the T range as to suggest that they might with advantage be more often grown. Especially noticeable are Mesembryanthemum micans, quite a bushy plant about eighteen inches high, thickly studded with rich purple blossoms; M. aureum, deep orange-yellow; M. roseum, rosy purple; M. lepidum, large white flowers; M. coccineum, scarlet, a pretty and distinct shade; M. violaceum, purple-violet; M. amœnum, nearly a couple of inches across, of a delightful shade of deep rose, a spreading plant; M. blandum, large flowers of a flesh-pink tint, and M. calycinum, satiny white, a freely branched dense-growing kind, very floriferous. Considering that these mesembryanthemums need only the protection of an ordinary greenhouse, and do well if stood outside during the summer, one might expect them to be more often grown than they are.

Lilium nepalense.

After Lilium speciosum is over the lilies that flower naturally are very few. One of the most prominent is Lilium nepalense, which, apart from its autumn-flowering qualities, is quite distinct from any other species. A group of this in the greenhouse is just now very striking. In height the plants vary from four feet to eight or nine feet. This tall habit of growth is in the case of L. nepalense a decided advantage, as the flower is naturally drooping, and the inside is by far the showiest portion. The upper half of the segments is of a yellow or yellowish green tint, and the lower portion a kind of chocolate-purple, thus, as it were, forming a purple centre to the flower. Both in the shades of yellow and purple there is a good deal of individual variation. Large importations of this lily have taken place within the last few years, the bulbs being sent from Burmah, where it grows in association with L. sulphureum, two or three examples of which are also flowering in the greenhouse. Though imported bulbs of L. nepalense flower freely the first season it is a difficult lily to permanently establish.

Salvias.

We have of late years had several varieties of Salvia splendens put into commerce. Two of them are just now very noticeable in the greenhouse, namely, pyramidalis, with particularly fine spikes of bloom, and Pride of Zurich, a dwarf form which may be had in flower early, and on that account it has become very popular for bedding. At Kew a pretty effect is made by associating large plants of Salvia splendens with well-flowered tuberoses, and smaller ones with dwarf specimens of the white variegated-leaved Abutilon Savitzi. Salvia azurea grandiflora, which used to be grown under the specific name of Pitcheri, forms a tall, slender plant, very effective by reason of the pleasing blue colour of its blossoms.

Chrysanthemum carinatum.

This annual chrysanthemum may often be met with flowering in the open border during the summer, and also grown in pots at that season, but as an autumn-flowering plant from late-sown seeds it might, judging by some specimens in the greenhouse, be more often employed than it is. Several forms are represented, but those with the bright coloured ring towards the centre of the flower are the most conspicuous.

Abutilons,

The garden varieties of abutilon are very showy, notably the yellow Golden Fleece, and the white Boule de Neige, but by far the most interesting abutilon in the greenhouse is a well-flowered specimen of the uncommon Abutilon insigne, trained up one of the rafters. This species, a native of Colombia, was at one time nearly lost to cultivation, but from a specimen in the old gardens of the Royal Horticultural Society at Chiswick many plants were distributed. From the other abutilons it differs in the large size and harsh rugose character of its heart-shaped leaves, and particularly in the flowers, which are far more open than those of the garden kinds, and in colour purplish crimson with blackish veins. There is also in cultivation a variegated form in which the leaves are marked in a tessellate fashion with pale yellow.

Solandra grandiflora.

This exceedingly vigorous-growing climber is flowering freely in the succulent house. Full exposure to light and sunshine, together with plenty of room to develop, are very essential matters towards the production of blossoms. The flowers, rather suggestive of those of the datura (a member of the same family), but shorter, are in colour greenish white, with at times a tinge of purple on the outside. It is a striking plant when flowering freely, but there are not many structures suitable for its requirements.

Bougainvilleas.

A form of Bougainvillea glabra, probably Sanderiana, is flowering profusely in the greenhouse. Despite this, and the fact that it may be often seen out of doors during the summer, there are many who will still persist in looking upon all bougainvilleas as stove plants. In the succulent house a specimen of B. glabra Cypheri is also in flower, but not with the same profusion as the other. Judging by appearance one would almost take Cypheri to be a hybrid between B. glabra and B. spectabilis, or speciosa as it is often called. In speaking of the flowering of bougainvilleas it must be borne in mind that it is the floral bracts which subtend the blossoms that form the conspicuous portion of the display, the flowers themselves being comparatively insignificant. K.

MOON DAISIES.

In continuation of my notes in the previous issue, I may say that the cultivation of Moon Daisies is simplicity itself, assuming the soil is ordinarily well cultivated and in pretty good heart, but there is one essential, and that is a sufficiency of moisture, and therefore it is not advisable to plant them in dry places, as in such circumstances they have a weedy appearance, and become untidy early in the summer. In favourable conditions they increase fairly rapidly, though varieties of C. maximum do not spread so as to become a nuisance, as does C. latifolium, which is sometimes grown in mistake. The former have lanceolate leaves, with toothed edges, and are not so tall nor so bushy as the latter. Though moon daisies like a damp soil, they sometimes die out after a year or two in a wet winter, and the young shoots from the crowns are often ravaged by slugs. It is therefore advisable to propagate them occasionally, and this may be done either in the rough-and-ready way of dividing the clumps in the autumn or spring, the latter by preference in wet soils, or by taking off shoots in the spring, with a little piece of root attached if possible, and growing them in a nursery bed during the summer ready to be planted in their flowering positions in the autumn. Good results may be obtained by sowing a packet of seed, when, if sown early enough in the spring, many seedlings will produce a few blooms the first year, and the better varieties can be retained to the exclusion of the others. But, with a view to getting good strong plants for the autumn, it is not advisable to let them flower the first year.

These bright daisy-like flowers serve to lighten up a border like the high lights of a painter's canvas, especially in the twilight of a summer evening, when, to some, the garden always seems to be at its best, and as this is the time when the man who does much of the work of his own garden has most leisure to contemplate and enjoy it, a good case can be made out for including some of these amongst the hardy plants of every garden. Alger Petts.

Tomatoes.—It is a custom to sow seeds at the present time when fruit is required from next April onwards. The seeds should be sown in well-prepared pots of sandy compost, and placed in a temperature of 55 deg. to 60 deg. on a shelf near the roof glass. Water must be very carefully applied, only keeping the resultant seedlings just moist, and, later, putting them into thumb pots, and placing back in the same position for the winter, with successional pottings as required. Plants that are fruiting well and in flower should be stopped, to throw all the energy into the fruits and late flowers: pollinate the latter. Maintain an intermediate temperature.—George Ellwood.

NEW PLANTS, ETC.

CYPRIPEDIUM KING GEORGE V.

This very fine cypripedium is of unrecorded parentage, but many experts ventured the opinion that C. Gaston Bulteel was probably one parent. The dorsal sepal is splendid, broad, flat, and rounded, white, with a green base, and with rosy shading on the lower part of the white area. The petals and lip are green, freely shaded with purplish-brown. F.C.C., R.H.S., October 11. Mr. E. V. Low, Vale Bridge, Haywards Heath.

LÆLIO-CATTLEYA ORTRUDE MAGNIFICA.

An attractive hybrid between Lælia anceps and Cattleya Dowiana aurea. The flowers are large, the sepals and petals being heavily shaded with rose-purple on a creamy ground. Lip broad, wavy, and of rich deep purple colour, veined with dull gold. In habit of growth and in the style of the spike this hybrid showed the influence of L. anceps. A.M., R.H.S., October 11. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

LÆLIO-CATTLEYA GOLDEN ORIOLE SUPERBA.

This is a particularly fine form of the beautiful golden-yellow hybrid derived from Lælio-cattleya Charlesworthi and Cattleya Dowiana aurea. In this form the lip is very finely coloured with crimson, orange, and gold. A.M., R.H.S., October 11. Lieut.-Colonel Sir George Holford, Westonbirt.

CATTLEYA BASIL.

This large and handsome hybrid is from C. Enid and C. Mantini; it has bright rosy-purple sepals and petals, and a crimson-purple lip, marked with old gold. A.M., R.H.S., October 11. Messrs. Charlesworth and Co., Haywards Heath.

CATASETUM FIMBRIATUM AUREUM.

An attractive and fragrant orchid, with greenish sepals and petals, and a large bright yellow area on the fringed lip. A.M., R.H.S., October 11. J. Gurney Fowler, Esq. (gardener, Mr. J. Davis), Glebelands, South Woodford.

CARNATIONS.

Shasta.—A pure white sweetly scented perpetual variety, with very fringed petals. A.M., R.H.S., October 11. Mr. G. Lange, Hampton.

White House.—A specially fine perpetual variety, pure white, clove scented, of large size, and with first rate non-splitting calyx. A.M., R.H.S., October 11. Messrs. W. Wells and Co., Merstham.

Scarlet Glow.—A very bright and rich scarlet perpetual variety. A.M., R.H.S., October 11. Mr. G. Lange, Hampton.

ASTER PERFECTION.

This is a very charming perennial aster of the ericoides type. It has very graceful growth, and is about 3½ft. high. The small flowers are pure white, and produced in immense numbers on elegant sprays. A.M., R.H.S., October 11. Hon. Vicary Gibbs (gardener, Mr. Edwin Beckett, V.M.H.), Aldenham House, Elstree.

CHRYSANTHEMUMS.

Cranfordia.—An effective early Japanese variety, of good form, and apparently of special value for market and decorative purposes. Colour, deep rich yellow. A.M., R.H.S., October 11. Mr. W. Roots, Holly Cottage, Cranford.

Miss F. Collier.—This is like the former in shape and size, but has pure white flowers. A.M., R.H.S., October 11. Mr. W. Roots.

Mary Poulton.—A very fine new Japanese variety, and of a size that will render it specially useful for exhibition purposes. The colour is silvery mauve-pink. A.M., R.H.S., October 11. Mr. H. Poulton, The Huntleys Gardens, Tunbridge Wells.

SYMPHORICARPUS MOLLIS.

A free-fruiting bushy species, that bears an abundance of white, rounded fruits in dense clusters towards the ends of the branches. It should prove a useful addition. A.M., R.H.S., October 11. Messrs. James Veitch and Sons, Chelsea.

GESNERA ORANGE KING.

This very useful gesnera was figured on p. 127, in our issue of February 12, 1910. It is the result of crossing G. cinnabarina with G. exoniensis. The handsome foliage is attractively mottled, and above the leafage rises a pyramid of brilliant orange-red flowers. The plants exhibited were remarkably well grown. A.M., R.H.S., October 11. Adeline, Duchess of Bedford (gardener, Mr. Dickson), Chenies.

ASTER ERICOIDES PERFECTION.
Flowers pure white. A.M., R.H.S., Oct. 11. Hon. Vicary Gibbs (gardener, Mr. Edwin Beckett), Aldenham House, Elstree.

LIGUSTRUM HENRYI.

In this distinct hardy privet the growths are very erect, and closely set with small ovate and deep green leaves. Possibly of dwarfer habit than most privets. A.M., R.H.S., October 11. Messrs. James Veitch and Sons, Chelsea.

APPLE HOUNSLOW WONDER.

A handsome yellow-skinned apple, flushed with red on the sunny side. It is a culinary variety, of good size, and keeps well until March. The flesh is firm and crisp. The tree is a free cropper and good grower. Dumelow's Seedling is given as one parent. A.M., R.H.S., October 13. Messrs. S. Spooner and Sons, Hounslow.

PEACH SALWEY.

This very handsome late peach has very deep yellow flesh that is very rich and juicy. The skin is of a deep orange-yellow hue, and as the fruits are of good size they are very attractive. Dr. Hogg records that this variety was raised by Colonel Salwey from a peach stone brought from Italy, and was introduced by Mr. Charles Turner, of Slough. A.M., R.H.S., October 13. The Duke of Richmond (gardener, Mr. Brock), Goodwood, Chichester.

SOME GOOD COOKING APPLES.

Stone's or Loddington Seedling is a fine large cooking apple, lemon-yellow, and slightly flushed with red on the sunny side. It is a great and constant bearer, and by no means erratic, as every year it has a crop. It is an excellent variety to grow as a bush. It is a fine fruit for baking and cooks quickly. I would recommend this variety to all growers, and especially to small growers. It is in season from now on to December.

Stirling Castle is also a fine apple, and one which bears regularly. It is large, highly coloured (yellow), a fine cooker, and is in season now. The birds are very partial to this fruit. The variety forms a fine bush, and a good pyramid or standard. We have just harvested a good crop.

Golden Spire is another good bearing variety, and is in season from October to Christmas. It is of medium size, pale yellow, and has a very pleasant acidity. It is very conspicuous when growing, and has borne heavy crops this year. Domino is a large, bluntly-conical fruit, good and early, greenish-yellow, a fine cooker, and therefore most excellent for tarts. It crops well and regularly, and is much better in every way than the old Keswick Codlin. We have had heavy crops this season.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

PLEIONES.—The late autumn and winter-flowering pleiones will now be showing their flower buds, and where the plants are grown several together in the same receptacle, it is generally found that the flower buds break away irregularly, and some of the buds may be distinctly seen before the others show any signs of moving from their bulb sheaths. Under such circumstances it is desirable to afford water with care, for the least excess of root moisture, or very moist atmospheric conditions, will excite the plants to produce their leaves, and frequently this is found to occur at the expense of the flowers. The two species most commonly grown are P. lagenaria and P. maculata; both of these flower about the month of November, and are most attractive when good specimen plants are in evidence. As soon as the flowers are expanded the plants may be removed to a reasonably dry atmosphere, where the flowers will last a considerable time in perfection. As soon as the flowering season has passed the plants should be again removed to an intermediate house temperature, where the foliage soon starts away. Any repotting necessary should be done at the advent of the new growths. We find that well-drained shallow pans suit their requirements best, the compost consisting of equal parts of fibrous peat, turfy loam, chopped sphagnum, and broken leaves, with sufficient sand added to render the compost porous. The pseudo-bulbs, being only of annual duration, should not be placed too far apart, and if mounded to the centre of the receptacle a better opportunity for the display of the flowers is afforded. Water as soon as repotting is completed, and afford every encouragement for the development of growth. A position within reasonable distance of the glass is desirable through the winter months.

EPIDENDRUM VITELLINUM MAJUS.—There is no orchid more deserving of attention where there is a demand for flowering plants at this season of the year than the autumn-flowering variety of this species. The charming orange-scarlet colour and gracefulness of the flower scapes, where the plants are well grown, renders them exceedingly useful for house decoration, as well as for exhibition purposes. There is no plant that I know that can be compared with it for the duration of its flowers. On the plants they last from three to four months in perfection, and as cut flowers they are nearly as durable. Easily grown under the same conditions as Odontoglossum crispum, they should be extensively cultivated where there is a demand for flowering plants in the autumn.

SOPHRONITIS GRANDIFLORA.—The examples of this species will now be producing their flowers from the centre of the expanding leaves. Considerable advantage will be obtained in the substance, size, and colour of the flowers if the plants are removed from the cool house into slightly warmer conditions as soon as the flowers are seen until the flowers are open; they may then be returned in the cool house, where they are more durable.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

HUMEA ELEGANS.—This graceful biennial is, as a rule, a favourite both for conservatory decoration and for use in the flower garden, and care should be always taken to have a good stock of plants. If seeds were sown in the early part of the season the plants should now be strong specimens in six-inch pots. The roots being fairly active all through the winter the plants must not be checked through remaining in a potbound condition, therefore it will be necessary to repot them without delay into eight or nine-inch pots. Use a potting compost consisting of good turfy loam, with leaf-soil added, some sand, and a six-inch potful of soot to every barrowload of soil. Make the soil rather firm. Afford the plants very little water through the winter, and grow in a cool atmosphere.

CAMPANULA PYRAMIDALIS. — Plants that have been growing out of doors during the summer must be now lifted and potted. Good turfy loam should be used in potting, and care should be taken when lifting not to break much soil away from the ball of roots. When potted stand in a cool peach house.

HYDRANGEAS.—Cuttings propagated in heat late in the summer, and potted on at once will by now have become quite established, and should be kept in a cool frame during the winter. Remove the lights on all favourable occasions. Where these are wanted to flower early in the season it is a good plan to place a small batch in heat at intervals. Those growing in small pots, and which are developing flower heads, will require weak liquid manure, and must not be allowed to become dry.

AZALEAS AND RHODODENDRONS.—The plants growing in pots or tubs, and that have been out of doors all the summer, will now have to be placed indoors. Liquid manure should be applied once or twice weekly to plump up the flower buds.

BLINDS AND SHADING.—All shading must now be dispensed with. Blinds should be taken down, dried, and stored in a place free from damp. Such material as summer-cloud, that has been painted on the glass, should be washed off, as the maximum amount of light will be required during the dull days of autumn and winter.—W. Staward, Preston Hall Gardens.

THE FLOWER GARDEN.

CLIMBING PLANTS of almost any description may now be planted with advantage. Many of these, owing to the luxuriant growth they make, quickly exhaust the soil in which they are growing, and unless this is renovated from time to time the plants soon assume a weakly and unhealthy appearance, and are not unfrequently destroyed because of the impression that they are dying and are of no further use. All this might be obviated by a judicious renewal of the soil, which does not mean replanting, or even a serious disturbance of the roots. A few inches of the surface soil should be removed, which need not, if carefully done, damage any of the surface roots: these should be laid bare, and as a substitute for the exhausted soil that has been taken away the bed or borders should be filled up with a mixture of rich turfy loam and well-decayed manure, making the whole fairly firm, and afterwards mulching the surface with a dressing of half-decayed manure. Frequent waterings during the growing season with well-diluted liquid manure will aid in keeping strong-growing climbers in a healthy condition, especially if these are growing on walls. Ivies and climbing roses quickly respond to this simple treatment.

THE SEA BUCKTHORN (Hippophæ rhamnoides) is making a very attractive display this autumn, its orange-red berries giving the plants a very ornamental appearance. The slender growths, with densely packed berries, are furnished with a few willow-like leaves of a pretty silvery hue. This plant is diœcious, that is to say, male and female flowers are produced on different plants, and the failure to secure a crop of berries is due to this fact being not generally known: it is therefore necessary that plants of both sexes should be grown in close proximity to each other, then failure is well nigh impossible. Although considered a sea coast plant, the Sea Buckthorn does remarkably well in some inland districts, and is well worthy of a trial where shrubs of this kind are considered desirable.

DAHLIA TUBERS may be lifted and stored in a frost-proof place for the winter months. These are usually left untouched until the growths are damaged by frost, and it is certain nothing is gained by lifting the roots too quickly, unless the situation or soil should happen to be unusually wet or cold. Cut the stems to within about six inches of the tubers, and place them in a dry airy place for a few days before storing them away. Where convenient the roots may be covered with dry soil or cocoanut-fibre refuse, as this prevents shrivelling, although many persons simply store them without any covering whatever, and, more often than not, they winter safely if frost is kept from them. Where special stock plants have been grown and kept in small pots for next spring's propagation, they may be kept in that condition undisturbed until they are required, a shift on into larger-sized pots being all that is needed to ensure a plentiful supply of cuttings for spring propagation.—W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

PREPARATIONS FOR PLANTING.—This work must be pushed on without delay, weather permitting. The heavy rains which we have experienced for the past few weeks have been detrimental to carrying out this work in a satisfactory manner, as it is not advisable to attempt digging and trenching where the soil is of a clayey and tenacious character until the surface has become fairly dry and workable. Where it is intended to plant fruit trees in a soil of this character plenty of road scrapings, old potting soil, and burnt garden refuse should be added, in fact, anything that has a tendency to bring the soil into a more open and friable condition, should be worked in as the digging and trenching proceeds. At the same time due consideration should be given to the advisability of adding plenty of old mortar rubbish to all classes of soil where stone fruits have to be grown. Where it is intended to plant standard orchard trees the soil should be well broken up in circular beds about six feet across, and from two to three feet in depth. With regard to the addition of farmyard manure before planting this should be carried out in a similar manner to that advised in the calendar of September 17.

PLANTING.—In most localities this operation will have to be deferred for a few weeks yet, owing to the leaves being still green and healthy upon the trees. Cultivated hardy fruits are mostly deciduous, and should not be planted until the leaves have fallen; where only a few leaves remain upon the tips of the shoots, these can be pruned off before planting operations commence.

STRAWBERRIES.—There is still time to make new plantations, but this work must be finished as soon as possible, or deferred till the early spring months. All leaves upon established plants which show signs of decay should be cut off and burnt. A light dressing of basic slag and fresh slacked lime will be beneficial to the plants if applied now, and the surface soil between the plants lightly dug over with a fork.

GENERAL WORK.—When dealing with trees in the fruit garden proper, the mulching and leaves have to be lightly dug in, trees should be raked off and immediately consigned to the fire heap, but where large plantations have to be dealt with this work is an expensive item, and one that can be seldom undertaken, owing to the expenditure thus incurred. On the other hand, where it is possible to carry out this work it is advisable to do so, otherwise the mulching and leaves have to be lightly dug in, and, consequently, the eggs of many destructive insect pests remain dormant in the soil until next spring, when they hatch out and cause much trouble. Trees which have borne heavy crops of fruit should receive frequent applications of farmyard manure, and provision should always be made for the urine from cow-sheds and the drainings from manure heaps to run into a cesspool for use in the gardens.

THE FRUIT ROOM.—Attend to the airing of the fruit room, keeping an even temperature; remove all specked and decayed fruits, but in so doing be careful not to handle or disturb the sound specimens more than is necessary.—Henry R. Farmer, Cardiff Castle Gardens.

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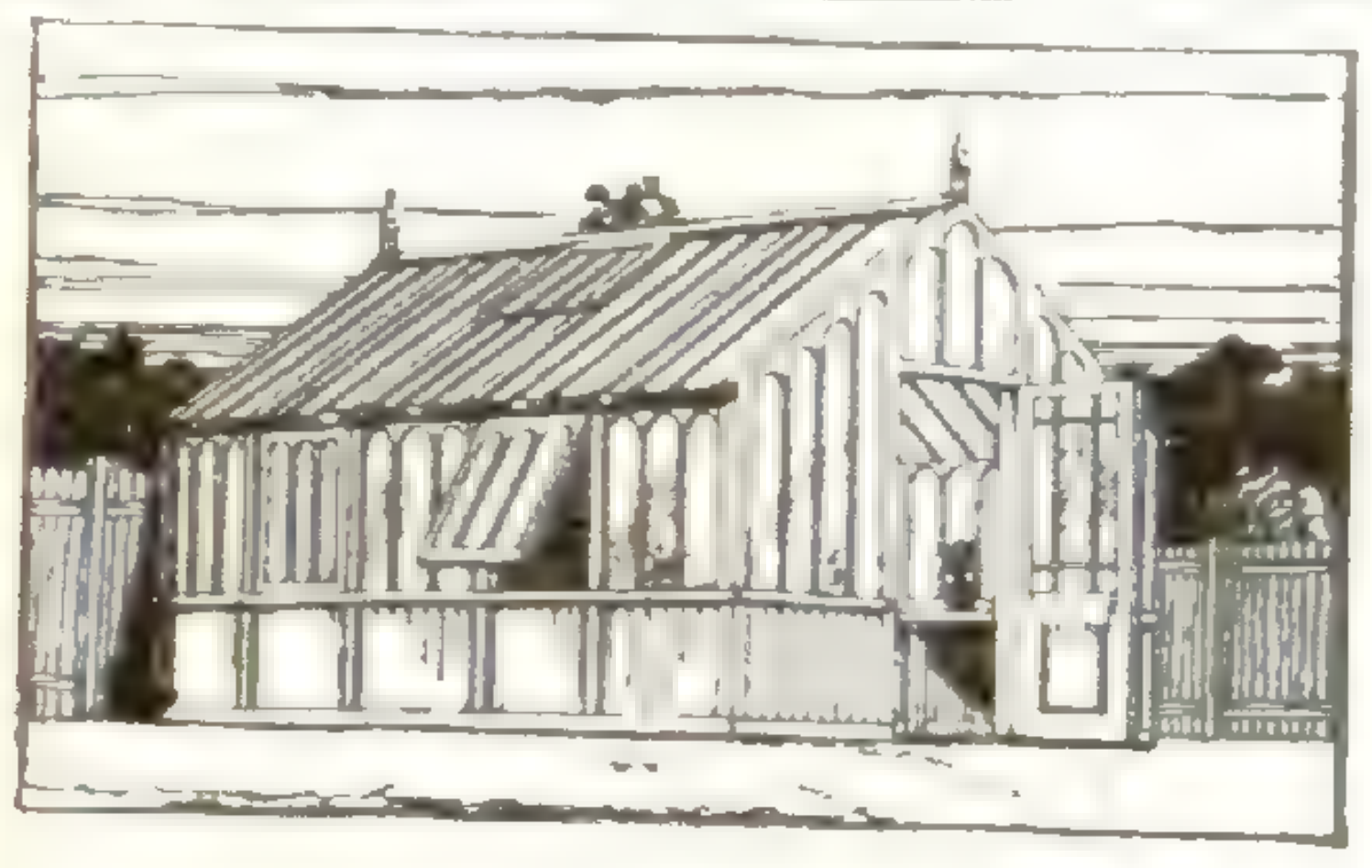

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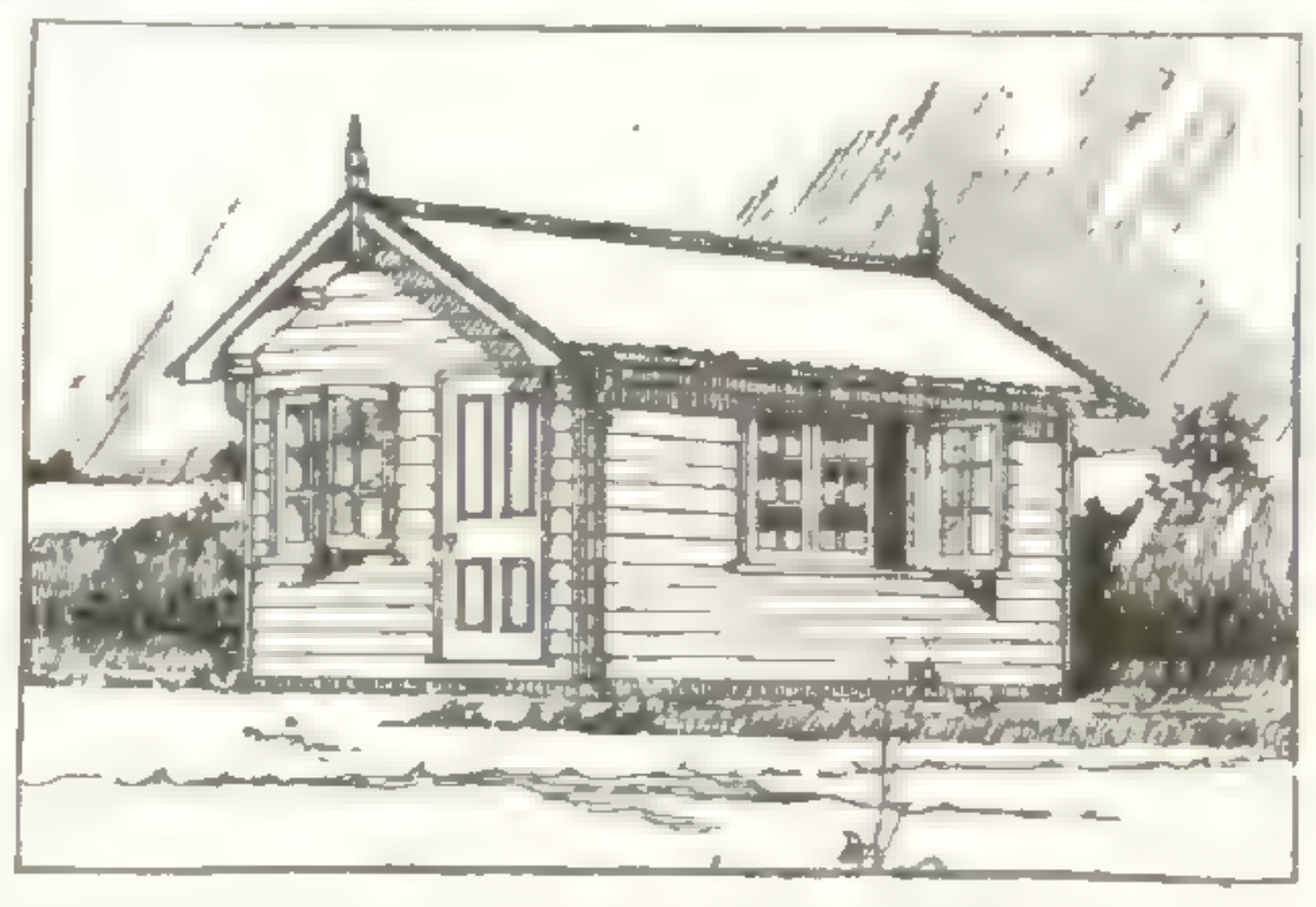

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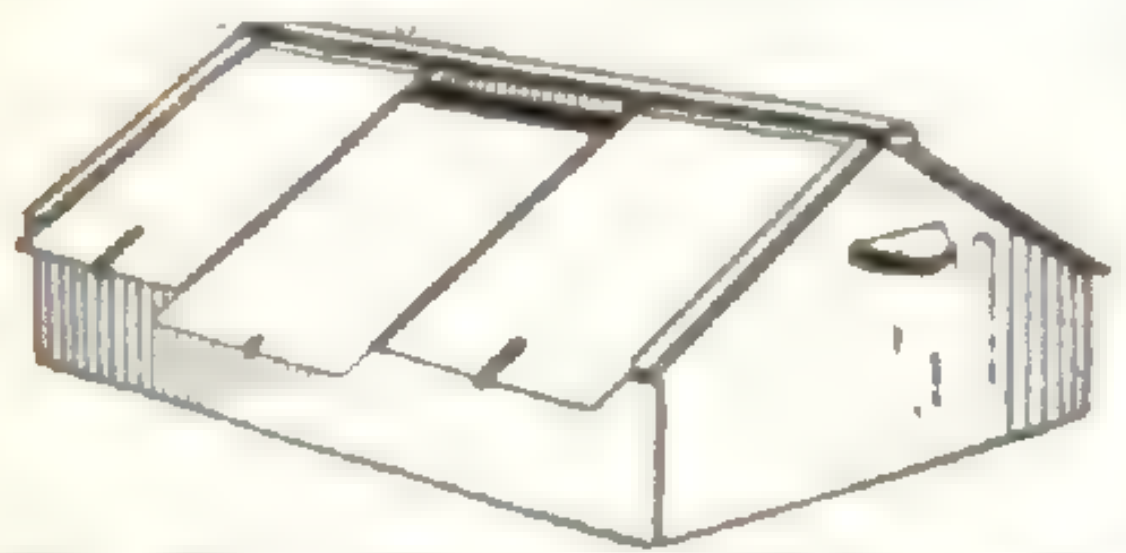

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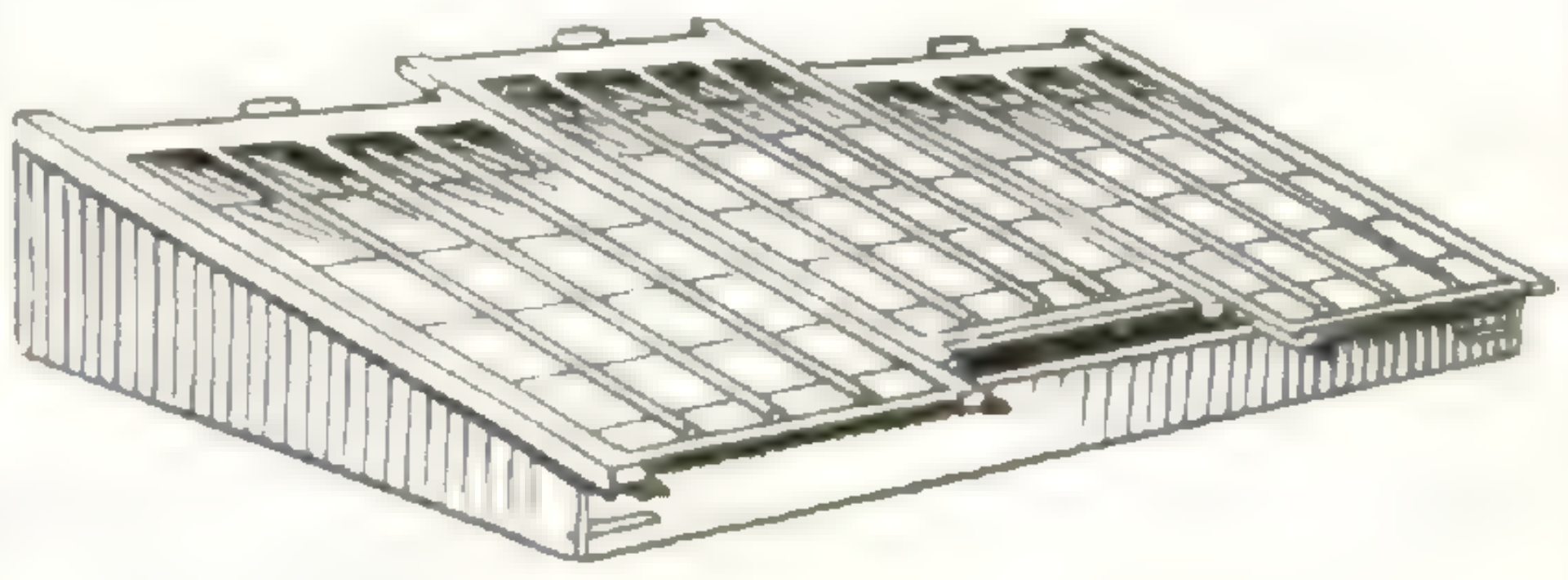

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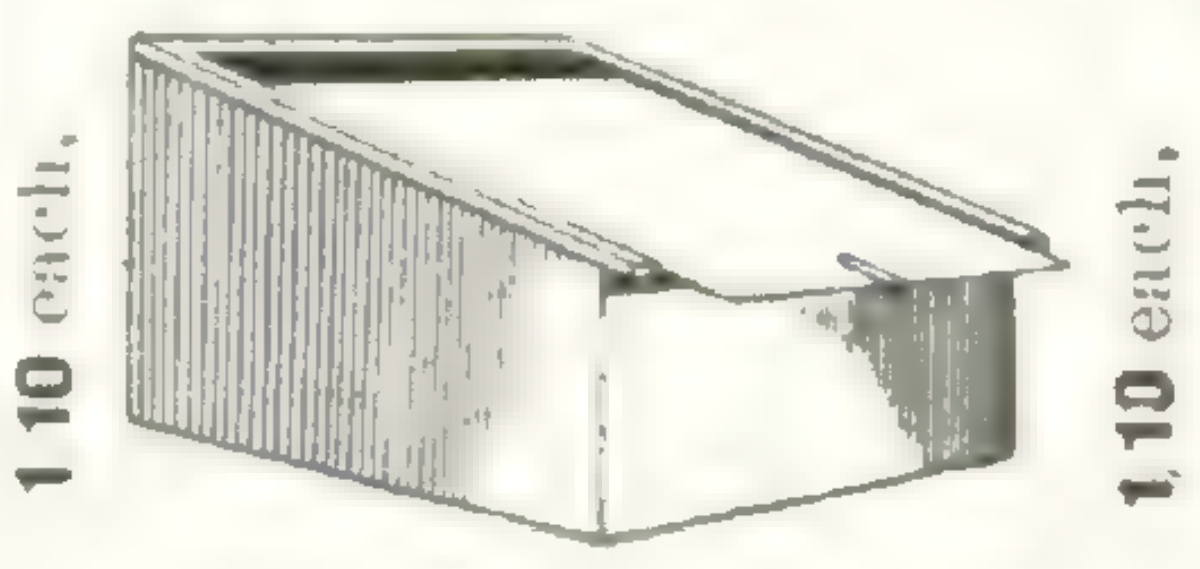
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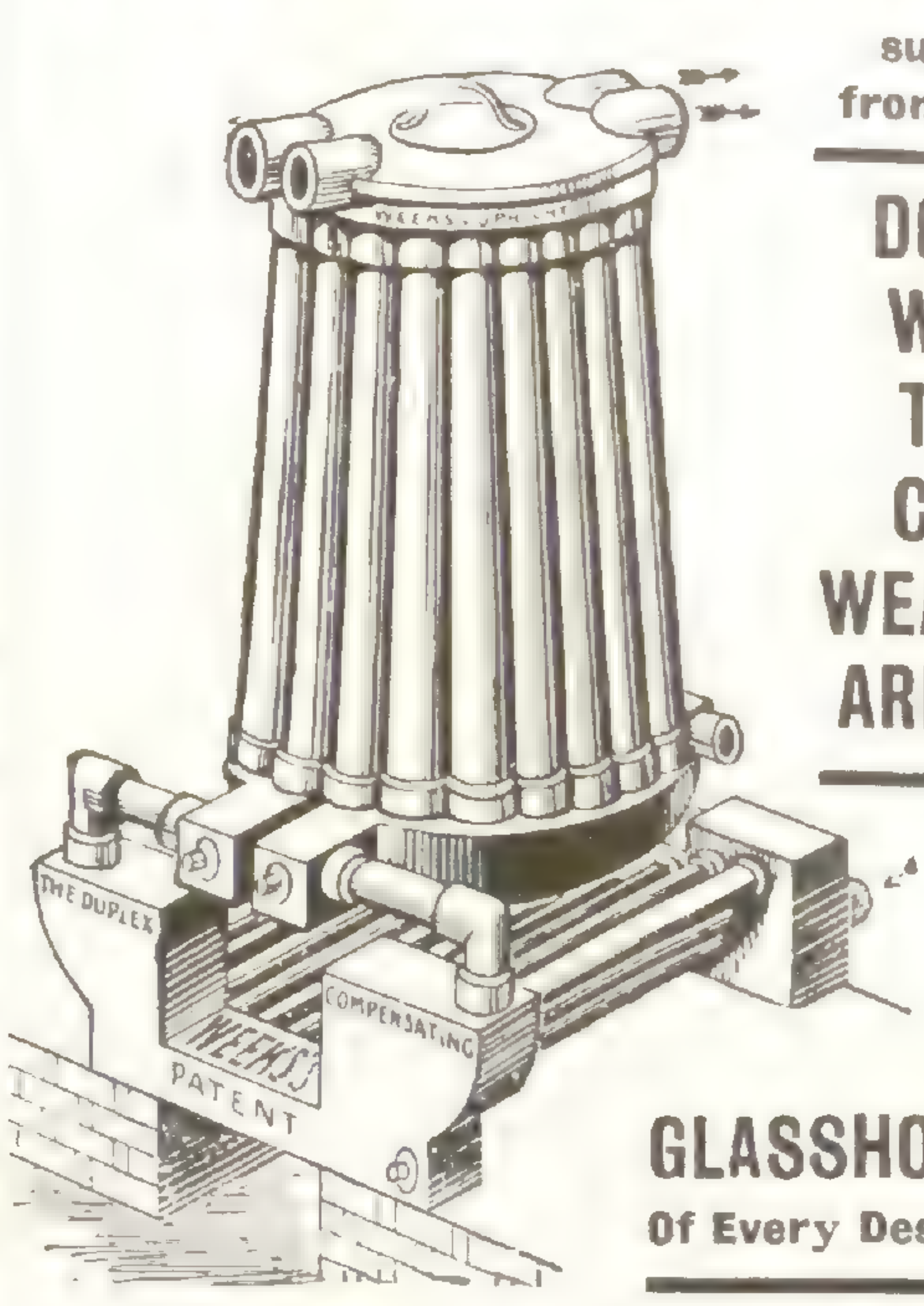

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EXHIBITIONS AND MEETINGS.

◆

Northern Counties Fruit Congress.

Hexham was, according to Roger North, "formerly the metropolis of a famous shire of that name," but it is now a quiet, pleasant, and interesting town of moderate dimensions, with a fine old abbey church, and surrounded by diversified scenery of much beauty. There can be no question as to Hexham having been of considerable importance in the distant past, or of it now being the most interesting of the towns on the Tyneside above Newcastle; but it is not a town in which one might have expected a congress on fruit culture of the first class to be held. Cumberland, Durham, Northumberland, and Westmoreland, which constitute the four northern counties of England, are not specially adapted to fruit culture, as evidenced by the fact that during the past twenty years the extension of fruit growing has been less in them than in any similar area in England. Moreover, Hexham does not occupy a position in the centre of a fruit growing district. There is much good fruit grown in the gardens around Hexham and in the Tyneside gardens, but the orchards are few and unimportant, and around Hexham the orchards of the Hazel pear, which at one time were a source of considerable profit, are falling into decay, for the venerable trees, many of them more than a hundred years old, are, by reason of their great age, dropping out slowly, but surely, and the youngest of them are rapidly falling away in productiveness. The congress, with its attendant exhibition, was not held for the purpose of demonstrating to the world what the fruit growers in the four counties had accomplished, but rather to call attention to their possibilities in relations to the fruit industry, and to direct attention to methods of procedure by which the most successful results can be obtained. Having so laudable an object, we have much satisfaction in recording the fact that it was a great success.

To the **Rev. J. Bernard Hall, of Dalston,** Cumberland, belongs the credit of having originated the gathering, which may, with perfect accuracy, be described as great, and to him belongs, in a large measure, the success that has been achieved. Imbued with a strong belief in the possibilities of fruit culture in the four counties, Mr. Bernard Hall has, during the past few years, done much excellent work, with a view to stimulate an interest in the matter by giving addresses at the meetings of the principal gardeners' associations; and early in the year he proposed that a fruit congress and show should be held at Hexham, the proposition was at once accepted, and the majority of those interested in fruit growing entered heartily into the work of preparing a scheme, and carrying it out. The scheme may not have been perfect in every detail, and it would have been unreasonable to have expected perfection in a first attempt, but the scheme was such as to evince judgment of the highest order on the part of those responsible for its preparation, and we are unable to call to mind any meeting of a similar character that was so remarkable for the completeness of the arrangements or for the strong sense of satisfaction that prevailed among those taking part in the proceedings, and the interest shown by visitors in the display of fruit, and the papers read. It might have been an advantage to have had a slight reduction in the number of meetings for discussion, and a smaller number of papers, but we are not prepared to express a very definite opinion upon this point, for each of the four meetings held on the first two days was crowded, and the audience gave evidence of a sustained interest throughout the three hours or so over which the proceedings at each meeting extended. The interest that has for some time past been taken in the congress has not been limited to the district round Hexham, or, indeed, to the four northern counties. On the contrary, it has extended over a large area of the United Kingdom, and was attended by many of the leading horticulturists from distant parts of the country. The Royal Horticultural Society sent a deputation, consisting of Mr. George Bunyard, V.M.H., Mr. J. Hudson, V.M.H., and Mr. A. H. Pearson, and contributed a number of medals, which were awarded by the deputation. The Royal Caledonian Horticultural Society was represented by Mr. Massie, one of its vice-presidents, and the Scottish Horticultural Association by Mr. J. Whytock, its president, and among the other horticulturists we noticed were Mr. H. Somers Rivers, Mr. G. B. Berry, Mr. R. H. Pearson, Mr. T. W. Sanders, Mr. Mason, Mr. Miskin, and Mr. George Gordon, V.M.H.

Hexham is fortunate in the possession of a fine block of buildings, and this was utilised to the full for the purpose of the conferences and the exhibition. The block comprises the Corn Exchange, a large hall, elegant in design, and well lighted, which was wholly devoted to the display of fruit; the Town Hall, hardly less spacious, which was in part devoted to exhibits, and in part to the concerts; and the Guardians' Hall, a spacious apartment in which two of the conferences were held. Adjoining is the Wesleyan schoolroom, which was pressed into service for the exhibition of spraying apparatus, insecticides, and orchard heaters. These several buildings not being sufficient for carrying out the programme, were supplemented by the large hall of the Abbey Hotel, which is not far distant, and this was used at the conference at which lectures illustrated by lantern slides were given.

EXHIBITION OF FRUIT.

This, as already intimated, was held in the Corn Exchange and the Town Hall, and as the fruit in competition was supplemented by several important collections from the more southern parts of England, the display was extensive, and highly attractive. Fruit grown in the four northern counties was alone eligible in the forty-eight classes provided in the schedule, a stipulation of some importance, inasmuch as the various contributions afforded visitors an opportunity of forming an opinion as to the possibilities of fruit culture in Cumberland, Durham, Northumberland, and Westmoreland. It was obvious in a careful examination of the exhibits that under a proper system of cultivation there is no difficulty in obtaining apples and pears of large size and high quality, although less highly coloured in the case of some varieties than fruits grown farther south.

The class provided for twelve dishes of hardy fruits, to comprise not less than four kinds and to include six varieties of apples, was a very interesting one, as the competition was open to horticultural societies. There was a very keen contest for the first place between the Hexham and Corbridge Societies, both staging well, and in the result the first-named society was successful in winning the silver cup and the cash prize offered as the premier award. In the first-prize collection we noticed excellent examples of Coe's Golden Drop plum, Marie Louise, Durondeau, and Belle de Bruxelles pears, and Allington Pippin, Lord Derby, King of the Pippins, Warner's King, Lane's Prince Albert, and Ribston Pippin apples. The Corbridge Gardeners' Society was second, staging apples and pears of excellent quality. In the market growers' class for twelve dishes of apples, Mr. J. Millican, Carlisle, was a capital first with finely-developed fruits of Golden Noble, King of Pippins, Peasgood's Nonsuch, Warner's King, Charles Ross, and Lord Derby. Mr. W. Alexander, Hexham, followed closely for second place. The last-named scored in the class for six dishes of apples suitable for commercial culture with Worcester Pearmain, Warner's King, Lord Derby, and Newton Wonder as his best; Mr. J. Millican was a good second. Mr. Alexander was first also in the class for six boxes of hardy fruit graded and packed for market. The fruits consisted wholly of apples, and these were properly graded and in boxes, and moreover were large in size and of the finest possible quality, but they could hardly be described as "packed for market," seeing that they were so loosely put in the boxes as to suggest that they would be badly bruised in the course of a short railway journey. The fruit staged by Mr. Millican for second place was, on the other hand, tightly packed, and could have been sent a long distance by rail without injury. Mr. Henderson, Falloden, had the best box of Worcester Pearmain, and Mr. Alexander the second best, and in both cases the packing had been skilfully done. Mr. Alexander contributed, not for competition, five baskets of apples, and was awarded the Royal Horticultural Society's silver Banksian Medal.

There was a good competition in the important class for eighteen dishes of hardy fruits, to include not more than twelve dishes of one kind, and at the head of the several competitors was Mr. Cocker, gardener to Mrs. Clayton, The Chesters, Hexham, with a remarkably fine collection, consisting of apples and pears. Specially noteworthy for their large size and fine finish were the fruits of James Grieve, Blenheim Pippin, Warner's King, Stirling Castle, Cellini, Peasgood's Nonsuch, Lord Suffield, Worcester Pearmain, Ribston Pippin apples, and Doyenne du Comice, Pitmaston Duchess, Beurre Diel, and Beurre Bachelier pears. Mr. G. Shotton, Prudhoe Hall, Stocksfield, followed closely for second place with highly-finished fruits of the best-known apples and pears, Castle Major and Mère de Menage being of special Merit. Mr. J. Robson, Beacon Grange, Hexham, was third with meritorious fruit.

The prizes offered for six dishes of hardy fruit, comprising not less than four kinds, brought out a spirited contest, and the most successful of the several competitors was Mr. J. M. Robson, Beacon Grange, Hexham, who had an excellent collection in which were fine dishes of Belle de Bruxelles pear and Magnum Bonum and Warner's King apples.

In competition for the prizes for six dishes of dessert fruit, Mr. J. Cocker occupied the first place with a well-ripened melon, good apples and pears, and a fine dish of Coe's Golden Drop plums. The competition was exceptionally strong in the open class for six dishes of cooking apples, the entries being numerous and the fruit of high quality. Mr. J. H. Stewart, Holm Hill, Dilston, Northumberland, was successful in winning the first prize, and in his set were large, finely-finished dishes of Blenheim Pippin, Gloria Mundi, Peasgood's Nonsuch, and Golden Noble. Mr. J. Waugh, Stocksfield, secured the second place with fruits of full size, but somewhat less highly finished. Mr. J. Farquharson, Heyton Gardens, Carlisle, was a close third. In the corresponding class for six dishes of dessert apples, Mr. F. Fixten, Brackenburgh Towers, Carlisle, won with fine fruits of Cox's Orange Pippin, Allington Pippin, Blenheim Pippin, Charles Ross, and Ribston Pippin. Mr. G. Dunn, Whitfield Hall, was a good second with fruit not remarkable for size but splendidly coloured and highly finished, Lady Sudeley being especially noteworthy; Mr. Bewley, Causa Grange, was third with excellent fruit. For six dishes of pears Mr. Dixon, Holeyn Hall, Wylam, was a capital first with finely developed fruits of Beurre Superfin, Pitmaston Duchess, Durondeau and Doyenne du Comice. In the class for three dishes Mr. W. H. Lambert, Howick Hall, Northumberland, was first with Durondeau, Pitmaston Duchess, and Hacon's Incomparable, and Mr. Dixon second. For a single dish of pears Mr. Waugh obtained premier honours with large fruits of Pitmaston Duchess. Mr. Chalmers, Haggerston Castle, Beal, second with the same variety.

There was a good competition in the open classes for single dishes of apples, and Mr. Fixten and Mr. Hedley, who were first and second for James Grieve, staged medium sized fruits of excellent quality. Allington Pippin, for which Messrs. G. Bunyard and Co. offered special prizes, was especially well shown by Mr. J. Waugh. Mr. Farquharson, and Mr. F. Fixten, who were the winners in the order of their names. There were about twenty entries in the class for any other dessert variety, and Mr. F. Fixten succeeded in winning with Blenheim Pippin of high quality; Mr. J. Henderson, Work-on-Tyne, was second. There were about ten entries in the class for a dish of Stirling Castle, and Mr. Shotton won with fruit that represented the variety at its best. Mr. J. Henderson had the best dish of Ecklinville Seedling, and Mr. J. T. Stewart was a close second. In competition for the prizes for Lord Derby, Mr. Shotton scored with fine examples; Bismarck was well shown, and Mr. Waugh was a capital first, the specimens being of full size and splendidly coloured; Mr. J. T. Stewart followed with fruit of high quality and colour. Especially well represented was that fine late apple Lane's Prince Albert, and of quite exceptional excellence was the dish of fruit staged by Mr. Bewley, Causa Grange, Thursby, Carlisle; Mr. J. Hunter, Riding, who was second, also had a fine dish. The best of the several dishes of Newton Wonder, for which the prizes were provided by Messrs. J. R. Pearson and Sons, was contributed by Mr. J. Tait, Tynehow, Carlisle. Bramley's Seedling was strongly represented, and the first and second prize winners were Mr. Weighton, Eslington Park, Alnwick, and Mr. J. Hunter.

For three dishes of dessert apples Mr. D. Mackie, Eshott Hall, Felton, was first, with excellent examples of Ribston Pippin, Cox's Orange Pippin, and Allington Pippin; Mr. J. Waugh, Whellbank, Stocksfield, was a capital second, his Ribston Pippins being particularly good. In the corresponding class for culinary apples, Mr. Waugh was first with a fine set, in which Cox's Pomona, Lord Derby, and Peasgood's Nonsuch were especially well represented. Mr. Waugh also occupied the place of honour in the class for three dishes of orchard-house grown pears, and set up in capital style dishes of Rivers' Magnate, Rivers' Princess, and Doyenne du Comice; Mr. G. Shotton, Prudhoe Hall, Prudhoe, was a close second, with a capital set in which Conference was especially meritorious.

NON-COMPETITIVE.

To the non-competitive class Messrs. G. Bunyard and Co., Maidstone, contributed a large and attractively arranged collection of apples and pears, which was throughout remarkable for the high quality of the fruit. Especially noteworthy were the splendidly developed examples of Cox's Orange Pippin, Wealthy, James Grieve, Lane's Prince Albert, Bramley's Seedling, Blenheim Pippin, and Norfolk Beauty apples; and Conference, Emile d'Heyst, Duchesse d'Angoulême, Marie Benoist, and Doyenne du Comice pears. The King's Acrè Nurseries, Lim., Hereford, exhibited a collection of upwards of one hundred dishes of apples and pears, and the arrangement was bold and tasteful; conspicuous in the collection were fine baskets of Lord Grosvenor, Maltster, Belle Pontoise, Washington, King of the Pippins, Mère de Menage, Worcester Pearmain, James Grieve, Warner's King, and Rival apples, and Durondeau, Beurre Bachelier, Pitmaston Duchess, Doyenne du Comice, and Emile d'Heyst pears. The R.H.S. silver-gilt Knightian medal was awarded to each of the two firms.

Messrs. T. Rivers and Son, Sawbridgeworth, exhibited a large number of dishes of apples and pears from orchard-house trees, and the same number of dishes of the same varieties from trees growing in the open, to show the difference in appearance and size of the fruit produced by the two classes of tree. Unfortunately the position assigned the fruit was rather badly lighted, and the contrast reduced; and, moreover, the two dishes of the same variety were placed rather too far apart. The collection, it need hardly be said, was of much interest, and a magnificent demonstration of the possibilities of the cultivation of hardy fruits under glass. Highly attractive were the fine specimens of King of Tomkin's County, Thomas Rivers, Washington, Cox's Pomona, James Grieve, and Cox's Orange apples, and Conference, Pitmaston, and several other well-known pears. The award of the Hogg silver medal was made to the firm for their fine exhibit.

Other miscellaneous contributions included an attractive collection of fruit and ornamental plants from Messrs. W. Fell and Co., Hexham; a collection of hardy fruits and a table of shrubs from Messrs. J. Robson and Co., Hexham; flowers and fruit in quantity from Messrs. Michie and Co., Alnwick; chrysanthemums from Messrs. E. F. Fairbairn and Sons, Carlisle; fruit, etc., from Messrs. G. Fairbairn and Sons, Carlisle; and flowers, fruits, and vegetables from the Chadwick Memorial School, Carlisle; fruit from Messrs. W. Lawrenson and Co., Newcastle.

Mr. W. B. Little, horticultural instructor for the counties of Cumberland and Westmoreland, exhibited a large collection of finely grown apples from the experimental plots in the two counties, with bottled fruits, cases of injurious insects, specimens of manures used in teaching, and other objects of interest.

R.H.S. MEDALS.

The following is a complete list of the medals awarded by the deputation from the Royal Horticultural Society:

Silver-gilt Knightian.—Messrs. G. Bunyard and Co.; The King's Acre Nurseries, Lim.

Hogg Silver.—Messrs. T. Rivers and Son.

Silver Knightian.—Messrs. A. Michie and Co.; Messrs. Clark Bros. and Co., Carlisle; Messrs. W. Fell and Co.

Silver-gilt Banksian.—Messrs. J. Robson and Co.; Mr. J. Millican.

Silver Banksian.—Messrs. W. Lawrenson and Co.; Chadwick Memorial School; Mr. W. Alexander; Mr. J. Cocker.

Bronze Banksian.—Mr. J. Waugh; Mr. J. H. Stewart; Mr. F. Fixten; Mr. M. Dixon.

THE CONFERENCE MEETINGS.

There were five meetings for the reading of papers and for lectures, and the first of these was held in the Guardians' Hall during the afternoon of the 20th inst. Dr. D. Stewart, chairman of the committee, presided over an audience that filled the hall to its utmost capacity. The Chairman having briefly referred to the importance of such gatherings as a means of stimulating an interest in fruit culture, and disseminating information relating thereto, called upon Mr. G. P. Berry, horticultural instructor to the Edinburgh and East of Scotland College of Agriculture, to address the meeting on "Fruit Storage and the Bottling of Fruit."

Mr. Berry, in his opening remarks, directed attention to the importance of obtaining fruit that is really worthy of being stored, and strongly advised rather severe thinning in seasons of plenty. Not only, he said, was thinning necessary to secure fruit of full size, but it was essential to prevent the tree having its energies so heavily taxed as to prevent the proper development of the flower buds necessary for the production of the following year's crop. Storage was, in his opinion, seldom satisfactory owing to the conditions that obtain in the majority of fruit houses being distinctly unfavourable to the keeping of hardy fruits in the best possible condition over the longest possible period. The elaborate structures that were met with in so many gardens were altogether unsuitable for the keeping of apples. In them the temperature was as a rule far too high, and the degree of atmospheric moisture decidedly too low. A temperature between 38 and 45 degrees was an ideal one, and it was essential to success that there should be a considerable amount of moisture in the atmosphere, but the moisture should not be stagnant. When a special store has to be erected, it should be wholly or partly underground to ensure an equability of temperature. There should be no woodwork because of the flavour of the fruit being impaired by the odour arising from the wood. He advised that the walls and the supports of the shelves should be of concrete, and that the latter should be formed with slabs of Welsh slate. In some places a thin layer of burnt clay spread over the shelves was used for the purpose of preventing the fruit coming into contact with the material with which they have been constructed, and had given good results. Mr. Berry expressed the hope that at no distant date County Councils would establish properly constructed fruit stores for the purpose of demonstrating their value to fruit growers. He then proceeded to deal with the bottling of the various kinds of fruit amenable to that means of preservation, and gave much excellent advice relating thereto.

Mr. W. B. Little followed with an excellent paper on the bottling of fruit and the storage of such kinds as can be kept in good condition for a considerable period in a properly constructed fruit room. He dealt with his subject in considerable detail, and gave much useful information both on bottling soft fruits in summer, and the storage of apples for winter and spring supplies.

The evening meeting on the 20th inst. was held in the Guardians' Hall, and Mr. Alderman Carrick presided over a large audience. The proceedings were commenced by the reading of a highly interesting paper by Mr. H. Somers Rivers on "Stocks for Fruit Trees Historically Considered."

Mr. Rivers said that, although he entered on his task of preparing the paper with some hesitation, he had derived much interest and entertainment from the ancient books it had been necessary to consult. He had found many quaint ideas quaintly expressed, and he had found, also, that many of the worthy writers had freely borrowed from the writings of their predecessors, and had taken many strange statements as matters of fact. Early in the eighteenth century there was a fashion, as in the case of medical works, of going back to the ancient classics for information relating to gardening. Everything was accepted without hesitation; and however wild the statement may have been, it was sufficient that they were under the ægis of antiquity, and therefore credible. Myths of Roman writers were cited in good faith, and all sorts of impossible graft combinations gravely set forth.

For example, Virgil relates that nuts were grafted on the arbutus; apples on nuts and maple bushes, on planes and pears; pears on the ash, etc. Many of the authors were poets, and therefore had poetic licence. Most of these fairy tales are to be found in "The Vineyard" (2nd edition, 1732), which may be consulted by those who wish to have an excellent résumé of them. It is evident that prior to the 16th century fruit culture was in a very primitive state in England. In the "Fruiterer's Secrets," by N. F., 1604, we read, "I thing meete to acquaint thee from whence our great plentie of fruit came. One Richard Harris, of London, borne in Ireland, Fruiterer to King Henry the Eighth (1509—1547), fetched out of France great store of grafts, especially pippins, before which time there was no right pippins in England. He fetched also out of the Lowe Countries cherrie grafts, and pear grafts, of divers sorts." "The Country Man's New Art of Planting and Grafting," by Leonard Mascall, 1652, gives directions "For to make young trees of the Pepins of apples, pears, plums, and services . . . . take of the Pepins or Pomes of the said fruit and the first pressing out of the liquor before the kernels be marred or bruised [and plant them]. When those wild cions shall be great as of the growth of one year, ye must then pluck them up all in the winter following . . . . and make of them a wild orchard. Set your wild trees as far one from the another as ye think meet to grafte. In what part soever ye do set your trees you must cut off the great master root within a foot of the stock, and all other big roots. . . . Then after five or six years' growth, when they be as big as your finger or thereabouts, ye may remove any of them, whereas you will

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have them grow and remain. About two or three years after their removal ye shall graffe them." Another paragraph is headed, "Of Negligence and Forgetfulness," and therein the author states that "If peradventure ye forget, and have let small cions two or three years grow about the roots of your stocks, ye may well pluck them up and set them in ranks as the other of the Pepins." This, Mr. Rivers considers, points to the origin of the dwarfing stocks for apples.

Mascall mentions that "if the Pepins be sowed of the Pomes of pears and good apples. . . . we shall find that some of them do love the trees whereof they came. . . If ye will augment trees of themselves, ye must take graffes and so graffe them." In the chapter on the "Setting of trees of nuts" the reader is told that peaches, almonds, and apricots "do love the trees they came of," and presumably were not propagated in any other way than by seed. It is further observed "Sower cherries. . . will grow of stones, but better it shall be to take of the small cions which do come from the roots then plant them." "Great cherries" were to be grafted "on their own seedlings or on trees of sower fruit." The reader is further advised, "Ye must have respect unto the Healine cherry which is graft on the wild Gornire" (Gean), which is another kind of great cherry, and "whether you do prune them or not, it is not natural, for they dure a long time." Plums and damsons were propagated by suckers or "if your plum tree be graft already and have the like fruit that ye desire ye may take your graffes thereof and graffe them on your plum tree." Thus far Mascall is reasonable, but as he proceeds he lapses into extravagant statements.

R. A. Austin in his "Treatise of Fruit Trees," 1653, recommends seedling stocks as being far better than suckers, and mentions different stocks by name. He is evidently under no illusions, for he writes: "The plants you intend to inoculate must be like (as to generall kinds) with the buds that you intend to set on, as apricot buds and other plum buds on plum stocks that are wild stocks: the white plum stock is accounted the best to inoculate apricot buds on, or other choice plums. As for stocks fit for apple graffes, I account crab trees better than sweeter apple trees to graft, because they are usually free from canker, and I conceive will last longer than stocks of sweeter apple trees. The best kind of stocks to graft pear grafts upon are such as come of the seeds or kernels of pears. I know no difference amongst these, but all are good to graft upon, and I utterly dislike these fruits upon white thorn, or upon any kinde of stocks beside pear stocks. The fruits are naught (having a hard and strong core) if grafted upon a thorne tree." Several other quotations were given from this book by Mr. Rivers, and these showed that if the author was not always correct in his views he did not indulge in any that could well be regarded as absurdities. Among other matters Austin recommends the "inoculation" of the Roman nectarine upon the branch of an apricot tree that had been "inoculated" upon a plum stock, and this Mr. Rivers stated was the first mention he had found of double grafting.

Mention was made of the fact that the use of the quince as a stock was referred to by Bacon in his "Natural History, 1658." Bacon writes, "If we graft upon a stock that naturally bears a sower, harsh fruit the fruit of the graft will not be altogether so pleasant as if it were grafted upon a stock that bears naturally sweet and pleasant fruit; and it is that pears grafted upon quince stocks will be more delicate than upon pear stocks. The quince stock gives an excellent taste to it, but these trees upon quinces will never attain to any bigness." William Lawson was briefly cited as having referred in his work entitled, "A new Orchard or Garden," to the grafting of apple and pear trees, and he would appear to have taken a common-sense view of the operation, although he may not have carried it out in accordance with the present-day practice.

The grafting of fruit trees received a full share of attention from John Evelyn, and in his "Pomona," 1678, he states, "We shall find the wilding to be the hardiest and most proper stock for the most delicate fruit. However they do in Herefordshire, both in practice and opinion, limit this rule, and to preserve the gust of any delicate apple rather graft upon a Gennet Moyle than a crab stock, but then, indeed, they conclude the tree lasts not so long. The Gennet-Moyle is commonly propagated by cutting off the branch a little below a bur knot and setting it without any more ceremony."

According to Kock in "Die Deutschen Obstgehobre," 1876, the French Paradise was known in France as far back as the beginning of the 15th century, the first published account of the fruit appearing in Jean de Ruelle's "Di Natura Stirpum," and was considered as one of the most highly-flavoured then grown. This, as Mr. Rivers suggests, is evidently not the apple which is used as the stock so accurately and succinctly described by Parkinson in his "Paradisus Terrestris," 1629, as follows: The Paradise apple is a faire goodly yellow apple, but light and spongy and of a bitterish-sweet taste, not to be commended. John Reid is, Mr. Rivers stated, the first British author with whose works he is acquainted to mention the Paradise stock and its object. In the "Scot's Gardener," 1683, he remarks: "To make dwarfe aples, greff or bud on the Paradise, or any that hath burry knots, Codlings, Redstreaks, etc. Dwarf pears on the quince, but no pear holds on it (that I have tryed) save Red Pear, Achans, and Lonquils, but you may regraft for varieties. Dwarfe Cherries on the morello or on the common Cherrie, or on that Red Gean, which is more dwarfish than the black.

Horticulture in France was earlier developed than in this country, as evidenced by the instructions given in the "Fruiterer's Secrets." The training of fruit trees in various shapes was something of a fine art, and stocks from them received therefore closer attention. "The Compleat Gardener," by the famous De la Quintinye, chief director of all the gardens of Louis XIV. from 1643 to 1715, was made English by John Evelyn in 1693, and no doubt gave a great impetus to fruit growers in this country. He mentions special quince stocks "such as are very sound and produce large leaves and fine shoots, and have a shining blackish back." Apples upon paradise stocks "with this difference only, which seems surprising, between the quince and paradise stocks, that the paradise stocks being anything large are extraordinary good graffed in the cleft, and seldom succeed graffed with a sautcheon (i.e., budded); whereas it is the clean contrary with quince stocks. Apple trees graffed upon the paradise stocks quickly bear fruit and shoot but little wood"; while "those graffed upon apple wildings producing nothing but a vast quantity of wood."

In his "Clergyman's Recreations," 1714, John Lawrence deals with grafting and budding, and refers to "the pear-plum, muscle or Magnum Bonum plum which have been found by long experience to do better and more lasting than any other stocks for peaches and apricots." He did not favour the quince stock, and observes, "many recommend grafting the pear on a quince stock . . . but they are not long lived, do not bear such fair large fruit, nor make such handsome regular trees as those grafted on a pear stock." Batty Langley, on the other hand, evidently had a high estimate of dwarfing stocks, for with reference to apples he says in his "Pomona," 1729, "Apples are grafted on crab stocks raised from the kernels of the crab, as also on stocks raised from the kernels of apples, of which that called the paradise is the best to graft on, to make trees of small growth and produce fruits in great plenty very early."

Other gardening books published during the 18th century contain much relating to grafting and budding, the best kind of stocks, etc.; and from a note in Miller's "Gardener's Dictionary," it would appear that there were in his day more than one kind of paradise stock, and that he had not a very high opinion of dwarfing stocks so far as the apple was concerned.

After passing under review the opinions of many other writers on fruit culture, Mr. Rivers referred to what had been accomplished by his grandfather, the late Thomas Rivers, at Sawbridgeworth, in connection with the introduction and use of the paradise and other dwarfing stocks. This famous pomologist as well known to those who have paid close attention to stocks for fruit trees raised the two paradise stocks which are now generally recognised as the best. One of these is the Nonsuch which was raised at Sawbridgeworth from that old apple the Nonsuch of Queen Bess's time; and the broad-leaved Paradise, which was selected from a large batch of seedlings raised at Sawbridgeworth about the year 1820.

A brisk and interesting discussion followed, in which Mr. A. H. Pearson and other fruit growers took part. He said they had in one of their nurseries apple trees on the Paradise stock that he had known for over forty years; they were trees of considerable size when he first knew them, and were still vigorous.

Mr. Chisholm, horticultural instructor for Northumberland, followed with a good practical paper on the "Best Varieties of Apples and other fruits for Northumberland." He dealt concisely with the conditions that obtain, and the peculiarities of varieties, but it must suffice to state that for heavy soils he recommended Lord Grosvenor, Bismarck, Bramley's Seedling, and Lane's Prince Albert, Allington Pippin, Beauty of Bath, and Gladstone, which also does well on light soils; Worcester Pearmain, Domino, and Early Spire. Lane's Prince Albert, he said, was especially popular in the county, and Bramley's Seedling was found to thrive and bear well in damp situations. The best pears for Northumberland are Doyenne du Comice, Pitmaston Duchess, Williams' Bon Chretien, and Conference.

Mr. W. B. Little next read a paper on the "Best Varieties of Apples for Cumberland and Westmoreland," which was full of information of value to those resident in these two counties. The following apples, it was stated, had given the best results: Lane's Prince Albert, Domino, Bismarck, Golden Spire, Scotch Bridget, Royal Jubilee, Bramley's Seedling, Newton Wonder, Grenadier, Yorkshire Beauty, Worcester Pearmain, Allington Pippin, The Queen, Mr. Gladstone, Early Victoria, and Liddle's Seedling.

Under the heading of "Manners and Customs of Fruit Trees," Mr. George Bunyard dealt with some of the more important points raised by the readers of papers in an address not less remarkable for its interest than for its usefulness.

Mr. J. W. Robson occupied the chair at the afternoon meeting, held in the large hall of the Abbey Hotel, on Friday, the 21st inst., when there were six speakers. The proceedings were commenced with a lantern lecture on "Fruit Pests and their Treatment," by Mr. F. V. Theobald, who is well known as an authority on economic entomology, and especially on the branch that is concerned with insects injurious to plant life. Mr. H. Hogbin followed with an address on "Smudge Fires or Orchard Heating," in which the audience was much interested. Mr. S. T. Parkinson read an interesting paper on "An Enquiry into Damage done to Fruit Trees by Late Frosts," which we hope to refer to at an early date. Mr. R. A. H. Gray, of Newcastle; Mr. F. J. Chittenden; and Mr. Emptage gave the remaining addresses.

The evening meeting, over which Dr. Stewart presided, was opened by the Rev. H. Puretoy Fitzgerald, with a paper on "French Gardening," from which we gathered that the author is of the opinion that a capital of £1,000 per acre is necessary, and that given the necessary skill and untiring energy, those who embark in the undertaking may, at the end of three years, begin to obtain some return for their outlay and labour. Mr. G. W. Avery next followed with a paper on "Bees as Aids to Fruit Culture," which would have been greatly improved had it been reduced by at least one-half its length. The paper dealt with some experiments that had been conducted with a view to determine the aid rendered by bees in the pollination of fruit trees, and conclusive evidence was obtained as to the aid rendered being of immense value. Mr. E. S. Salmon, at the close of the last-named paper, gave a lantern lecture on "Fungus Diseases of Fruit and their Remedies." The fungoid pests dealt with in the course of the lecture included American gooseberry mildew, apple scab or black spot, pear scab, and the brown rot of the apple, and the lecture created much interest. The meeting was brought to a close with a paper by Mr. Cecil H. Hooper on "Small Holdings." The meeting on Saturday morning, over which Mr. W. Alexander presided, was devoted to a discussion of the question of "Co-operation in the Marketing of Produce," and "Packing and Grading."

SPRAYERS, SPRAYING, ETC.

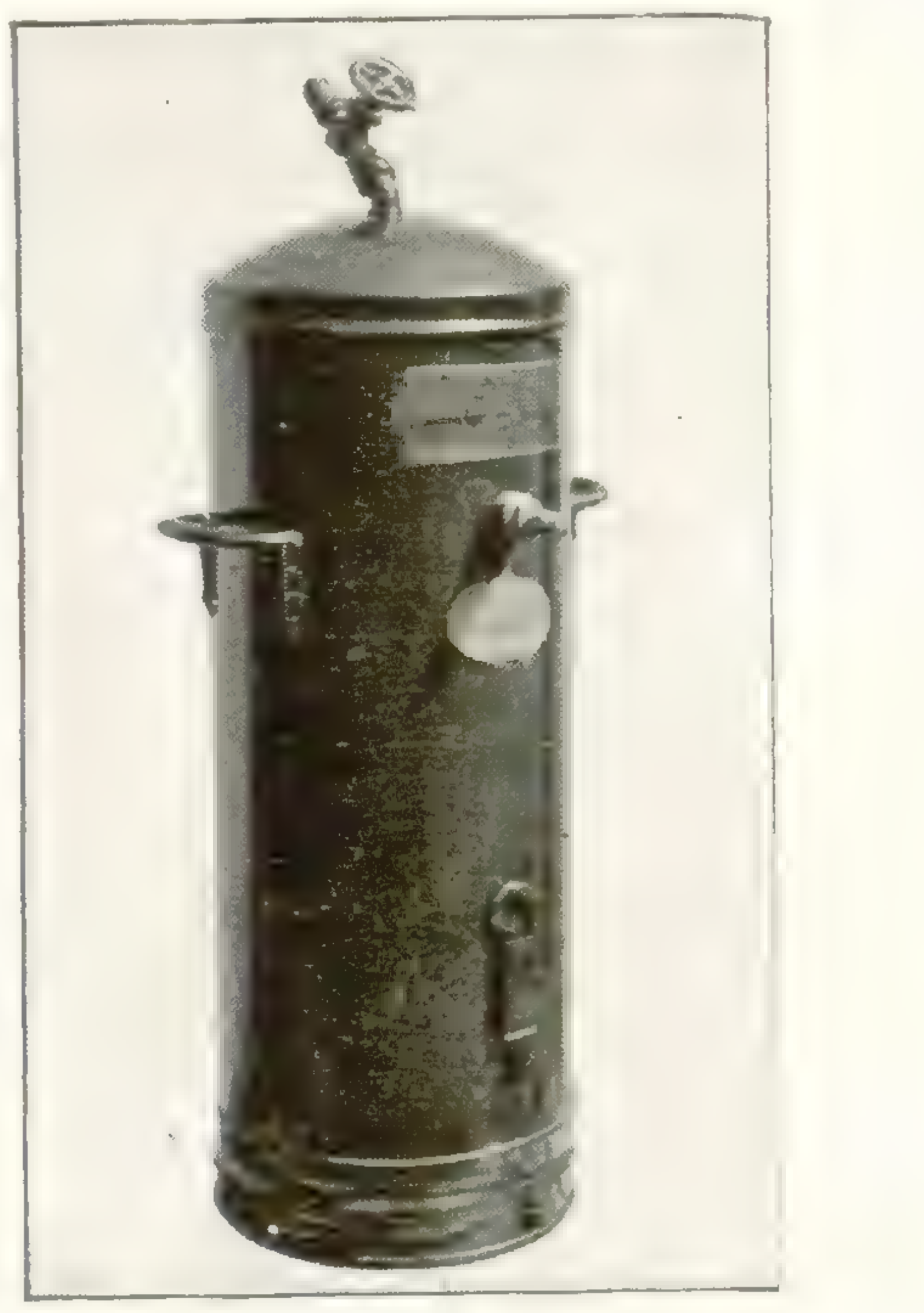
The exhibition of spraying machines, materials for the preparation of spraying mixtures, orchard heaters, etc., was of large extent, and sufficed to fill the Wesleyan School-room, which adjoins the Town Hall, and to attract much attention.

The Alpha Extinguisher, Lim., Ross, Hereford, had on their stand a large number of their spraying machines, ranging from the orchid sprayer with a capacity of one quart to the powerful portable sprayer with a capacity of five gallons. They are all made on the same principle, and they are admirably adapted to the purposes for which they have been designed, the smaller sizes being of much value for the spraying of individual plants under glass, rose trees in the open, etc. while the larger sizes possess a high degree of utility for the spraying of fruit trees and bushes, the lime washing of walls, sheds, etc. They are equally remarkable for their efficiency and simplicity in design, and derive their force from compressed air with which they are charged by means of a foot pump.

The Four Oaks Company, Birmingham, exhibited a range of knapsack and hand-power sprayers, and a large number of their spraying and other syringes, which are widely known and largely used. The hand-power sprayers comprised machines of various sizes on wheels, some being sufficiently powerful to use four nozzles simultaneously, and all are equal to the work for which they are specially made.

Messrs. Cooper, Sons, and Nephew, Berkhamsted, Herts, had on their stand samples of the various preparations for the eradication of insect and fungoid pests, with which the name of the firm is closely identified. They had in addition a number of glass cases in which were displayed the various stages through which various insect pests pass in the course of their life history. Messrs. W. Voss and Co., Millwall, London, exhibited in an attractive manner a large number of different materials that are used in the prevention and eradication of the various enemies that prey upon fruit trees.

The Colorado Heater Company, Hounslow, exhibited a number of the orchard heaters they have introduced for the purpose of preventing injury to the blossom during the flowering season from late frosts, and, indeed, to the young fruits for some time subsequently. Messrs. Burland and Son, Wigan, and Messrs. Crosier, Stephens, and Co., Newcastle, exhibited sprayers of an efficient character.


ALPHA PORTABLE SPRAYER.

On the twenty-first there was a trial and demonstration of knapsack and hand-power sprayers in the tennis court contiguous to the Town Hall, and in this demonstrative test the Four Oaks Company, the Alpha Company, Messrs. R. Burland and Co., and Messrs. Crosier, Stephens, and Co. took part. The first-named firm demonstrated with two or three knapsack sprayers and two of their larger sprayers on wheels, and all the machines did excellent work. The Alpha Company used their knapsack sprayer that has a capacity of 3½ gallons; and Messrs. Burland and Co. used their knapsack sprayer. Messrs. W. Voss and Co. used their sprayer on wheels. The Four Oaks Company also submitted for trial their undentable syringe fitted with sprayer. All the machines were in their several classes carefully tested on systematic lines by the judges, the demonstrations occupying several hours.

The following is the report of the judges:

Class I.—Knapsack Sprayers.—Having inspected the various models of Knapsack sprayers submitted by the Four Oaks Company, Messrs. Burland and Son, and the Alpha Company, on the lines of power, nozzle tests, lime washing, durability, access to parts, and general construction, the judges give their awards as follows: The Alpha Company, gold medal; Four Oaks Company, silver medal; Messrs. Burland and Son, bronze medal. The judges consider that the Knapsack sprayer submitted by the Alpha Company (which is of the pneumatic type), is a considerable advance on previous designs. The construction is simple, reliable, and effective, there being no working parts to get out of order. The Four Oaks Knapsack was found to be a considerable improvement on the older forms of knapsack sprayers, inasmuch as the fittings are external to the reservoir, and therefore not in contact with the liquid. A great improvement was also noted in the fittings of the extension rods, the inlet having been removed from the bottom to the side. The harness and socket for holding the extension rods are also favourably commented on. The Burland knapsack was similar in some respects. The working parts are outside and easily ascessible, a special feature being its adaptability for working with either hand.

Class II.—Hand-power Spraying Machines.—The competition between hand-power spraying machines was keen, and after exhaustive tests, and taking into consideration the mechanism, portability, and cost, the judges came to the following conclusions, viz.: Messrs. Burland and Four Oaks Company, silver medals; Messrs. W. Voss and Co., bronze medal.

Class III.—Spraying Syringes.—The Four Oaks Undentable spraying syringe, with adjustable nozzle, was considered worthy of a gold medal, and such award was accordingly made.

The following awards were made to the exhibitors in this section: The Four Oaks Company, gold medal; Messrs. Burland and Sons, silver gilt medal; Messrs. W. Voss and Company, silver gilt medal, with special reference to their "dry sprayer"; the Alpha Company, silver gilt medal; Colorado Heater Company, silver medal; Mr. M. Herrod, silver medal; Messrs. Crozier, Stephens, and Co., award of merit; Mr. D. Wilson, award of merit; Messrs. Cooper, Son, and Nephews, award of merit as an educational exhibit; Messrs. Morris Little and Son, award of merit.

Royal Horticultural Society's Vegetable Show.

The premier class in the schedule was for twelve kinds, distinct, to be selected from the list given in the schedule. Strange to say, there was but two competitors. The Sutton Challenge Cup was won by Mr. E. Beckett, gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, who put up a splendid collection, which was almost faultless. The varieties were: Celery, Superb Pink; leek, Prizetaker; cauliflower, Autumn Mammoth; parsnip, Tender and True; onion, Ailsa Craig; beet, Black; turnip, Early Snowball; carrot, New Red Intermediate; potato, Superlative; Brussels sprouts, Dwarf Gem; cucumber, Matchless; turnip, Early Snowball; and tomato, Perfection. Mr. W. Gaiger, gardener to H. T. Tatham, Esq., Kendall Hall, Elstree, was a capital second, though his dishes of tomatoes, turnips, and carrots were weaker. The best kinds were leek, Prizetaker; onion, Ailsa Craig; and beet, Cheltenham Greentop.

In the smaller class for nine kinds, distinct, there were but three exhibits. Mr. James Gibson, gardener to the Duke of Portland, Welbeck Abbey, Worksop, securing premier award (the R.H.S. Silver Challenge Cup) with a superb display. The celery was Superb Pink, splendid heads; leeks, Prizetaker; cauliflower, Autumn Mammoth; carrot, New Red Intermediate; beet, Black; onion, Ailsa Craig; pea, Superlative (very fine); potato, Superlative; and tomato, Princess of Wales. Mr. G. Ellwood, gardener to W. H. Myers, Esq., Swanmore Park, Bishops Waltham, was second, having the following as his best efforts: Leek, Prizetaker; onion, Ailsa Craig; potato, Ideal; and beet, Blood Red.

For six kinds, Mr. A. R. Searle, gardener to the Marquis of Northampton, Castle Ashby, Northampton, won well

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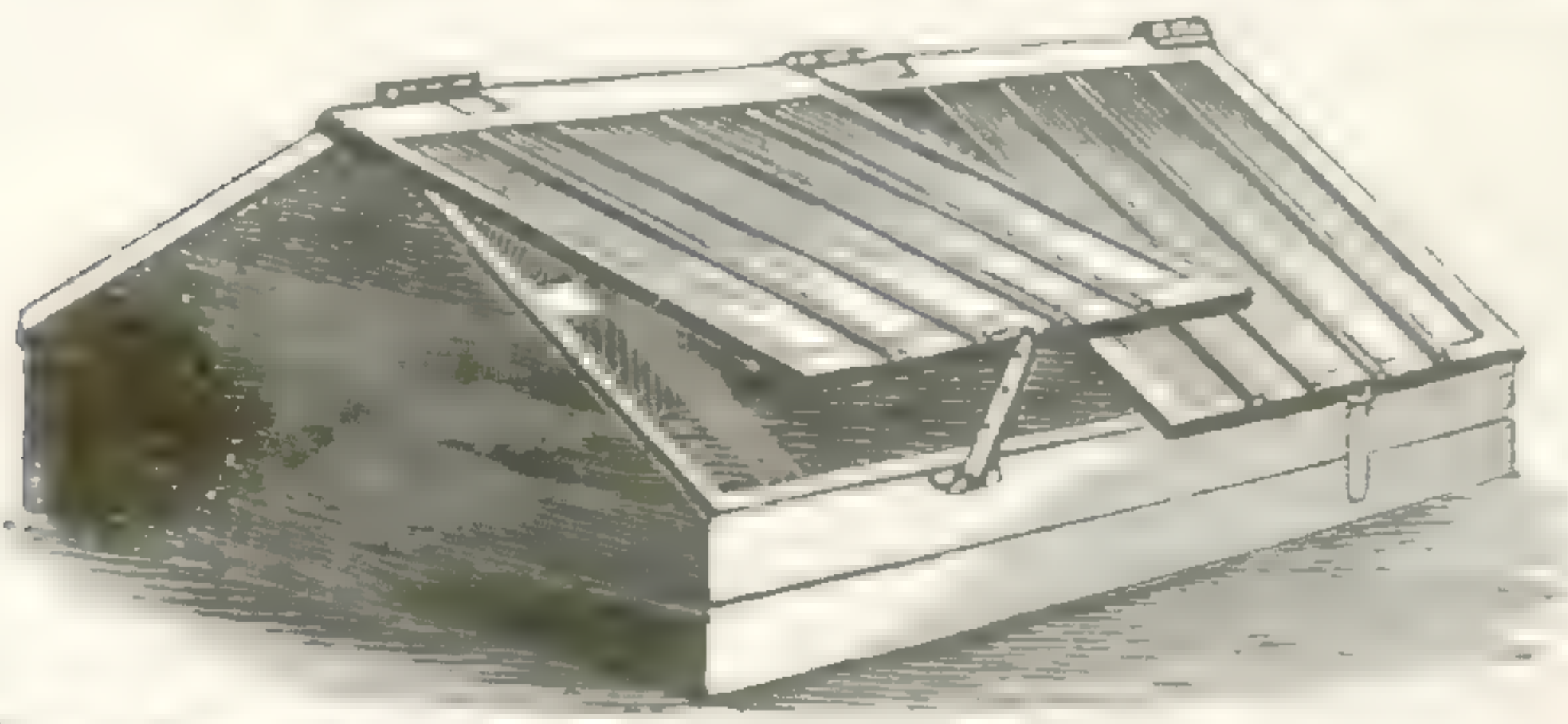

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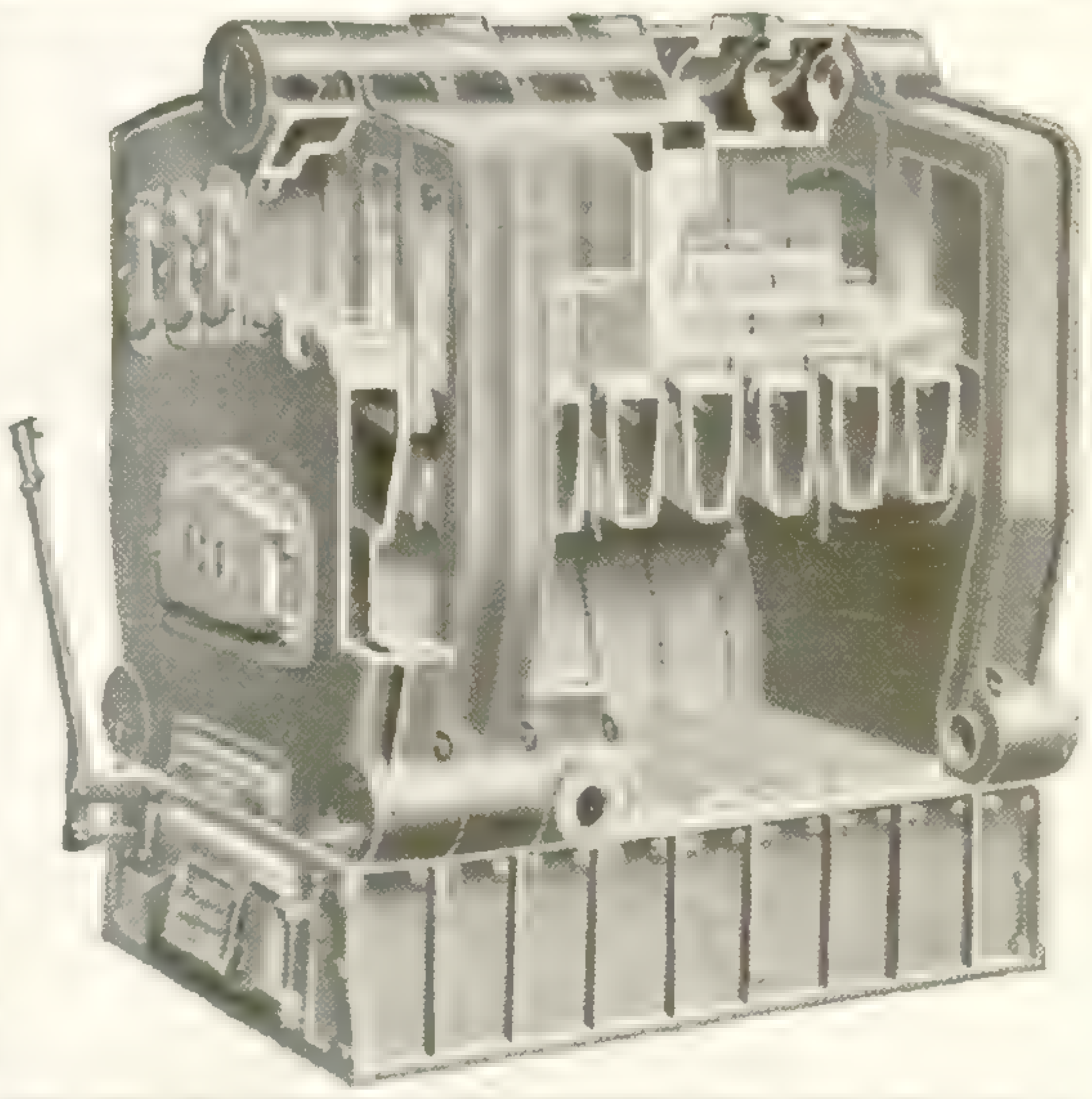

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with a nicely staged exhibit. The following varieties were represented: Celery, Giant White; cauliflower, Autumn Mammoth; potato, King Edward; onions, Ailsa Craig; carrots, Prizewinner (really fine); and tomato, Emperor.

There were but two competitors in the class for twelve dishes of potatoes, distinct, but both were really good. Mr. J. Gibson won first prize for a very level collection. The varieties were Superlative, Ideal, Abundance, White City, Climax, Windsor Castle, King Edward, Sutton's Seedling, Mr. Breese, Satisfaction, Gladiator, and Supreme. Mr. R. Staward, gardener to the Countess Cowper, Panshanger, Hertford, was second, having Purple Eyes, Progress, Industry, Express, and Record as the best examples. Mr. A. G. Gentle, gardener to Mrs. Denison, Little Gaddesden, Berkhamsted, was the only exhibitor for a collection of six varieties, and was awarded first prize for good dishes of The Factor, Goldfinder, Surprise, Sir J. Llewelyn, Royalty, and Windsor Castle.

For six varieties of onions there were again but three competitors, Mr. James Gibson romping home easily for first place with some gigantic bulbs. The varieties were The Sutton Globe, Ailsa Craig, Perfection, Improved Reading, Crimson Globe, and A1 (particularly fine). Mr. G. Ellwood was second with smaller examples, though with superb finish.

The collections of salads attracted much attention, though there were but two entries for nine kinds, the first prize being awarded Mr. E. Beckett for a splendid display, the arrangement leaving nothing to be desired. The dishes were Solid White celery; lettuce, Matchless; endive, Batavian; beet, Blood Red; chicory, Christmas Salad; tomato, A1; cucumber, Delicacy, with mounds of mustard and cress. Mr. W. Gaiger was a good second, his cucumbers, beet, endive, and tomatoes being the best features. For six kinds there were three entries, Mr. J. Gibson scoring well with Green Curled endive, Golden Ball lettuce, Superb Pink celery, Epicure cucumber, Blood Red beet, and Eclipse tomato. Mr. G. Ellwood was second with fine heads of Batavian endive, Favourite beet, and Perfection tomato.

Class nine was for six kinds of minor vegetables, selected from the schedule, but Mr. E. Beckett was the only competitor, and was deservedly awarded the first prize. His dishes were celeriac, very good; Earliest Purple kohl rabi, Long Red capsicum, scorzenera, salsafy, and Stachys tuberifera—a very interesting exhibit.

Mr. James Gibson was placed first for a dish of runner beans with Best of All; Mr. A. R. Searle was second with Webbs' Exhibition; there were four entries. Mr. J. Gibson was first for a dish of French climbing beans, and Mr. R. Staward second. For a dish of dwarf beans Mr. J. Gibson was first with Canadian Wonder, and Mr. A. R. Searle second.

For nine beet, any one type, there were but five exhibits, Mr. A. G. Gentle, gardener to Mrs. Denison, Little Gaddesden, Berkhamsted, winning well with Perfection; Mr. James Gibson second with good examples of Black beet. Mr. E. Beckett was first for a dish of Brussels sprouts, staging Dwarf Gem; Mr. M. Webster, gardener to E. J. Preston, Esq., Kelsey Park, Beckenham, second with a good dish of Solidity.

For three heads of Brussels sprouts Mr. E. Beckett won first place with three fine heads of Dwarf Gem; Mr. M. Webster following with good typical examples; there were four entries. The competition for three cabbages was keen; Mr. H. C. Gardner, gardener to Lord Foley, Ruxley Lodge, Claygate, won well with Sugarloaf, and Mr. Silas Cole was second with Emperor. There were eight entries for three savoys, Mr. J. Gibson winning well with fine examples of Perfection; Mr. M. Webster being second with Early Dwarf Ulm. Mr. E. Beckett led with cauliflowers, staging fine examples of Autumn Mammoth, Mr. J. Gibson being second with the same variety.

Mr. E. Beckett was awarded first prize for six heads of white celery, staging fine sticks of Solid White; Mr. S. Cole was second with Giant White. The same exhibitors won the prizes for six heads of red celery in the same order. There were but four entries for a brace of cucumbers, Mr. E. Beckett winning with Delicacy, and Mr. J. Gibson being second with Epicure—rather an easy competition. For twelve leeks Mr. J. Gibson won well with fine examples of Prizetaker, Mr. R. Staward being second with examples that lacked colour.

Mr. H. C. Gardner was the first-prize winner for three marrows, staging Long Green; Mr. R. Staward was placed second with Large Cream. Mr. A. G. Gentle secured the first prize for mushrooms. For twelve round or globular onions the competition was fairly good, Mr. A. G. Gentle securing first with fine bulbs of Ailsa Craig, and Mr. G. Ellwood second with the same variety. For twelve parsnips Mr. S. Cole gained first place with Webbs' Marrowfat, long, clean roots; Mr. J. Gibson second. Mr. J. Gibson led for twelve long carrots with grand examples of New Red Intermediate; Mr. S. Cole was second. There were five entries for stump-rooted carrots, Mr. E. Beckett winning well with Favourite; Mr. S. Cole second with New Standard.

Mr. J. Gibson was well ahead for a dish of peas, staging clean, handsome pods of Superlative; Mr. E. Beckett was second. For twelve turnips, white fleshed, Mr. J. Gibson won first prize with clean examples of Snowball, Mr. A. G. Gentle being placed second with Jersey Lily. For a dish of parti-coloured varieties, Mr. J. Gibson still further added to his successes by winning first prize with good typical examples of Purple Top, Mr. E. Beckett taking second place with Green Top Stone. Mr. E. Beckett was placed first for a dish of yellow-fleshed turnips, having good examples of Orange Jelly; Mr. A. G. Gentle was second.

There were only three exhibits for white potatoes, Mr. J. Gibson leading with splendid examples of Superlative, and Mr. S. Cole following with New Guardian. The coloured dishes only numbered three, Mr. J. Gibson leading with fine examples of Mr. Breese, and Mr. A. G. Gentle coming second with good tubers of Exhibition Red. Mr. James Gibson secured first prize for three plants of dwarf kale with fine examples, Mr. M. Webster being second. Mr. James Gibson was equally successful with the tall variety, Mr. R. Staward second.

Mr. J. Gibson was most successful for a dish of red tomatoes with fine examples of Princess of Wales; Mr. E. Beckett must have been a desperately close second with his Perfection. The yellow varieties were disappointing, only three dishes being staged, Mr. E. Beckett winning first prize with well-coloured Golden Perfection; and Mr. J. Gibson second. The class for any other vegetable brought out six entries, Mr. J. Gibson securing first prize with some fine globe artichokes, Mr. E. Beckett being second with really fine corn cobs.

National Chrysanthemum Society.

There was a well-attended meeting of the Floral Committee at Essex Hall, on Monday, October 24, and on this occasion there was also a capital display, and a large number of first-rate flowers.

Mr. H. W. Thorpe, Worthing, has a fine thing under the name of Evangeline. Messrs. W. Wells and Co., Merstham, contributed several fine flowers, and Wells' White (provisional name only) was greatly admired. Mr. T. Ward, The Graperies, Bishop's Stortford, sent a fine yellow sport from the single Bronze Pagram, and named it Mrs. Tresham Gilby. Mr. Martin Silsbury, Shanklin, Isle of Wight, sent the brilliant Red Chief, a fine Japanese variety. Mr. G. Mileham was an exhibitor, as also was Mr. Higgs. Messrs. Cragg, Harrison, and Cragg had splendid vases of fine flowers of the golden bronze single variety named Mrs. W. G. Patching, as well as of a very bright form of Bronze Pagram, and a vase of the incurved H. W. Thorpe. Mr. P. Ladds, Swanley Junction, showed a pretty soft yellow sport from Felton's Favourite, named Nora Reilly, and a deep rose-pink single named Joan Edwards. Mr. W. Jinks, Thames Ditton, sent a brilliant Japanese variety named Mrs. George Hartman, and Messrs. Stredwick and Son, St. Leonards, staged Clara Stredwick, a deep amaranth Japanese variety. Mr. Norman Davis submitted the silvery-pink Mary Poulton (see figure in present issue), the stock of which is in the hands of the Framfield expert; Mr. Davis also showed the brilliant crimson Henry Poulton, the bonny Framfield Bronze, a decorative variety, and the creamy-coloured Mrs. A. Herbert.

First-Class Certificate.—To Japanese Chrysanthemum Evangeline, from Mr. H. W. Thorpe, Worthing; to Mrs. G. C. Kelly, a big rosy-crimson incurving Japanese variety, from Messrs. W. Wells and Co.; to Mrs. Tresham Gilby, a yellow sport from Bronze Pagram, from Mr. T. Ward, Bishop's Stortford; to Red Chief, a chestnut-red and buff Japanese variety, from Mr. Martin Silsbury, Shanklin; to Mrs. W. G. Patching, a golden-bronze single variety, from Messrs. Cragg, Harrison, and Cragg, Heston; to Joan Edwards, a rose-pink single variety, from Mr. P. Ladds, Swanley; to Nora Reilly, a yellow sport from Felton's Favourite, from Mr. P. Ladds; to Henry Poulton, a crimson Japanese variety; Mary Poulton, described and figured in this issue, and Framfield Bronze, a decorative variety—all from Mr. Norman Davis, Framfield, Sussex.

Commendation.—To Marie Loomes, Belle Mauve, and Wells' Crimson, from Messrs. W. Wells and Co., Merstham; to Countess of Granard and Mrs. A. Herbert, from Mr. Norman Davis.

International Horticultural Exhibition.

A meeting of the General Committee of the International Horticultural Exhibition of 1912 was held at the Hotel Windsor, Victoria Street, Westminster, on Tuesday, October 25. Mr. J. Gurney Fowler, chairman of the Executive Committee, presided, and those present included Sir Albert Rollit, Dr. Van Rhin (of the Dutch Embassy), Dr. Keeble, Rev. J. H. Pemberton, Rev. A. T. Boscawen, Rev. J. Jacob, and Messrs. H. J. Veitch, V.M.H., A. W. Sutton, V.M.H., A. Dean, V.M.H., Jas. Hudson, V.M.H., F. Sander, V.M.H., E. Molyneux, V.M.H., C. T. Druery, V.M.H., G. Gordon, V.M.H., Edwin Beckett, V.M.H., R. I. Lynch, M.A., V.M.H., G. Monro, V.M.H., Jas. O'Brien, V.M.H., Owen Thomas, V.M.H., George Paul, V.M.H., W. Crump, V.M.H., T. Challis, V.M.H., G. Massee, V.M.H., Joseph Cheal, W. A. Bilney, E. White (hon. secretary), J. Skelton, W. Cuthbertson, J. Green, Spencer Pickering, Peter Veitch, J. Charlesworth, J. Cypher, A. W. Paul, A. Turner, H. Mount, W. Watson, W. J. Bean, C. Foster, C. Jefferies, C. Page, N. F. Barnes, P. Blair, J. Whitton, T. H. Cook, Jas. Gibson, W. Jennings, J. Jacques, W. H. Divers, C. Fielder, W. Fyfe, L. Sutton, R. H. Pearson, W. B. Hemsley, J. Hobday, J. Vert, J. McLeod, W. Poupart, W. W. Pettigrew, C. Harman Payne, W. Swan, T. W. Sanders, G. Waterer, F. Chittenden, A. Hales, E. Laxton, P. R. Barr, G. Schneider, A. W. Hill, Bunyard, jun., Clapham, Farrar, S. Low, D. McDonald, A. Bull, A. S. Rivers, G. J. Ingram, H. J. Wright, Chas. H. Curtis, W. P. Wright, W. P. Thompson, F. W. Harvey, E. G. Quick, P. Anderson Grahame, J. Harrison Dick, E. F. Hawes, C. Engelmann, Baker, J. Strange, R. C. Notcutt, W. Goaring, and C. G. Nix.

Luncheon was served at one o'clock, and immediately at its conclusion the Chairman proceeded to set forth what the Executive Committee had done, provisionally, towards the arrangement for the exhibition. He pointed out that the Executive Committee, with the sanction of the Board of Trade, proposed to at once register themselves as a limited liability company, with a capital of £1,000, so that those immediately responsible would not suffer beyond the amount of their shares (a few pounds), in case of financial loss attending the exhibition. The executive would not receive any dividends, nor would they receive any directors' fees or other special remuneration, and the formation of the company was only for the purpose of putting matters on a business-like footing. The company would be registered in a few days if the present meeting approved of the arrangements.

The Chairman stated that Royal patronage had been graciously bestowed upon the undertaking, and a large number of the nobility of the land had become vice-presidents. Local committees had been formed in almost all the counties of the kingdom for the purpose of furthering the work and awakening interest. An Empire List of Honour had been formed, and on this were to be found the names of those closely associated with horticulture and agriculture in the Colonies. On the Foreign List, all the gentlemen invited had accepted invitations. The Finance Committee had been exceptionally busy, and Sir Jeremiah Colman was the hon. treasurer. The exhibition of 1866 cost £12,500, and there was a profit of £3,500. The forthcoming exhibition would cost a great deal, but he hoped the profits would be at least as good as those of 1866, and such profits, if any, would be devoted to horticultural charitable, or educational or kindred purposes. The Royal Horticultural Society had given £1,000 towards the preliminary expenses, and was prepared to guarantee up to £4,000, in proportion to the amount otherwise guaranteed, and would forego its Temple Show of 1912. It was proposed that guarantors of £100 should have a free pass to the exhibition, and available every day; of £50, one transferable ticket available for the opening or any one day, and so on in proportion. Subscribers to the funds would receive tickets to the value of 20 per cent. above the amount subscribed. It was hoped that the exhibition would be of horticultural, scientific, and educational value. The Schedule Committee, under the chairmanship of Mr. Harry J. Veitch, had had many meetings, and in a fortnight or so the preliminary schedule showing the nature of the exhibits desired, and their size or quantity, would be issued, but there would be no intimation of the prizes to be awarded, as this was a matter for further consideration. At present the Executive body had not decided whether to grant cash awards or only cups, medals, works of art, etc., as prizes, and on that subject desired enlightenment from the General Committee. An opinion had been expressed, said the Chairman, that the exhibition might resolve itself into a glorified Temple Show, but he assured them that the Executive Committee had in view an International Horticultural Exhibition of the highest possible standard. Referring to the Show and Sites Sub-Committee, Mr. Fowler remarked that the grounds attached to the Royal Hospital, Chelsea, had been secured, and 16½ acres were at their disposal, as against the four acres of the 1866 exhibition. It was the largest convenient site available, and was only five minutes' walk from Sloan Square Station. Ample time would be allowed for preparing and removing the exhibition. The sum of £500 would be paid to the hospital authorities, and the date fixed for the exhibition was May 22 to May 30, 1912, a period in the middle of the London season. The Reception and Entertainment Sub-Committee had not yet commenced its duties, but it was hoped by then that the Royal Horticultural Society would place its hall and rooms at the disposal of the committee for entertainments and other meetings. Mr. J. Hassall had been requested to design a suitable poster for the exhibition, and this would be reproduced in various sizes, and quantities would be distributed in the form of stamps. Already about 400,000 slips referring to the exhibition had been distributed by nurserymen and seedsmen in their catalogues. Mr. R. H. Pearson was Press representative, and they

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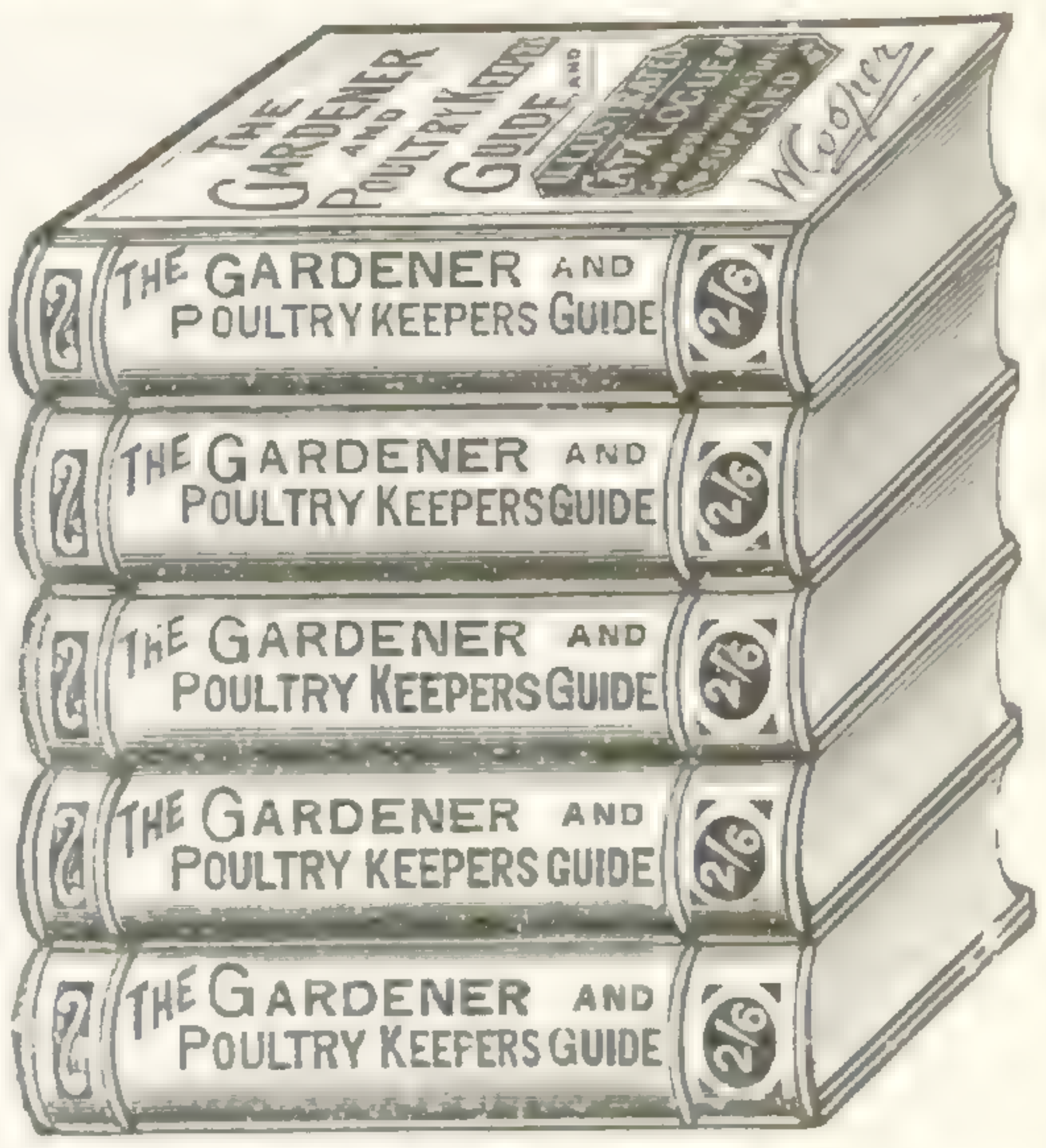
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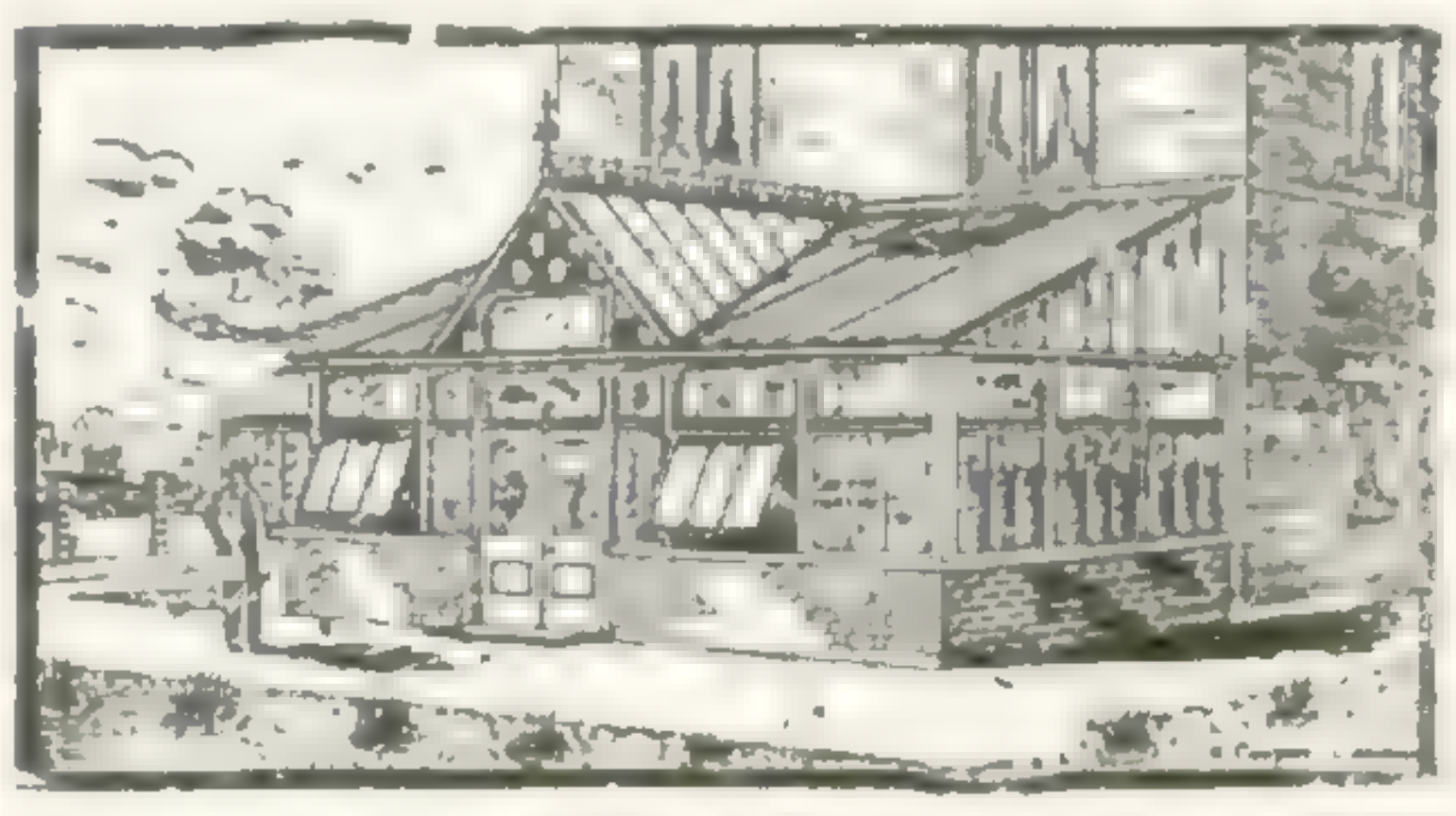
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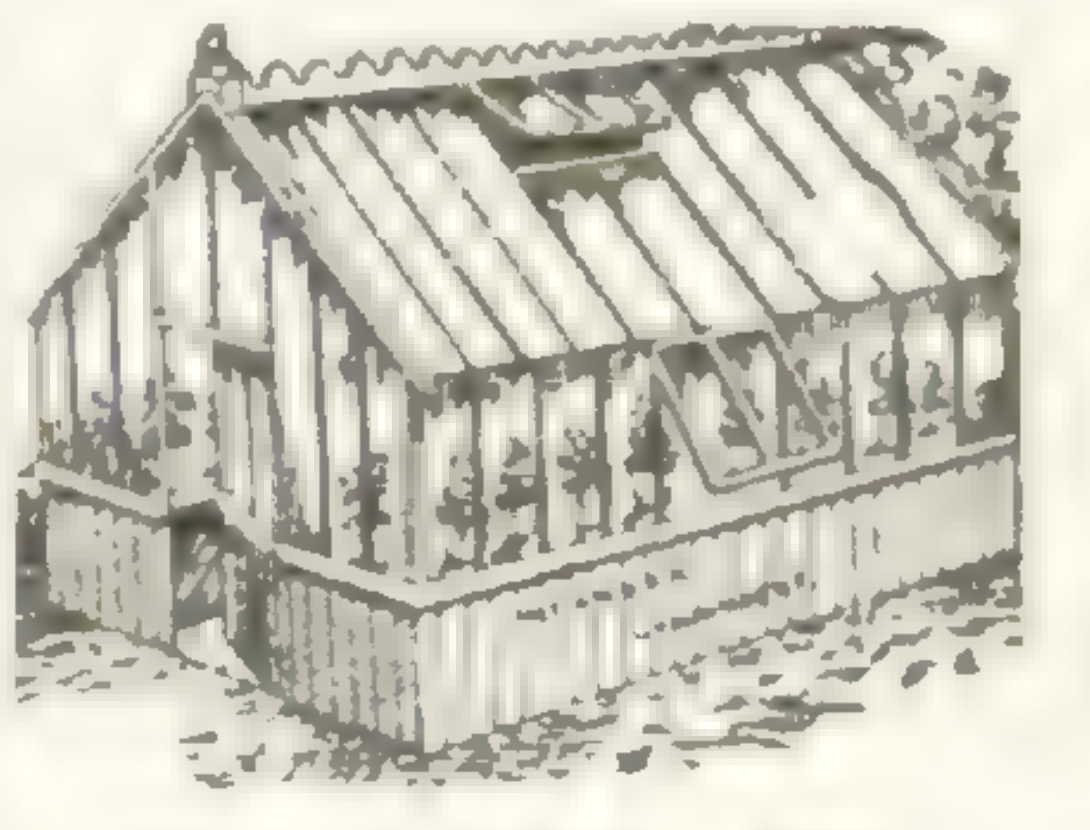
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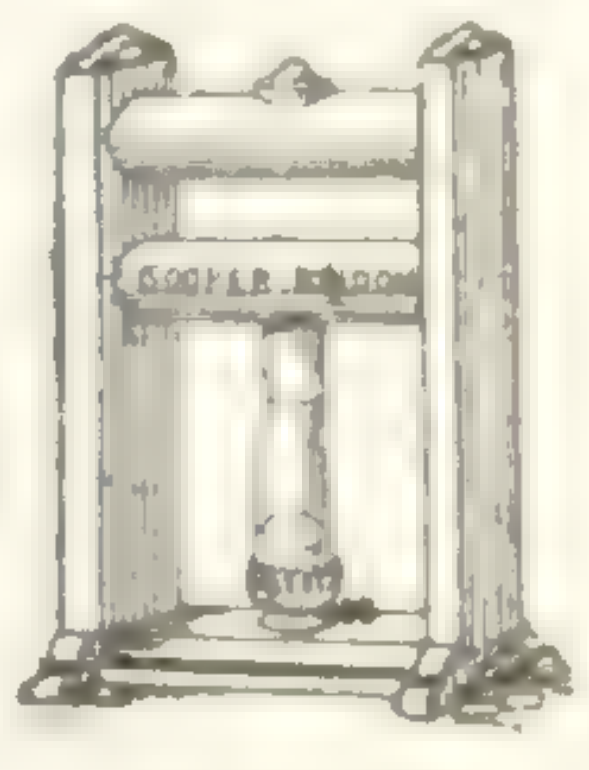
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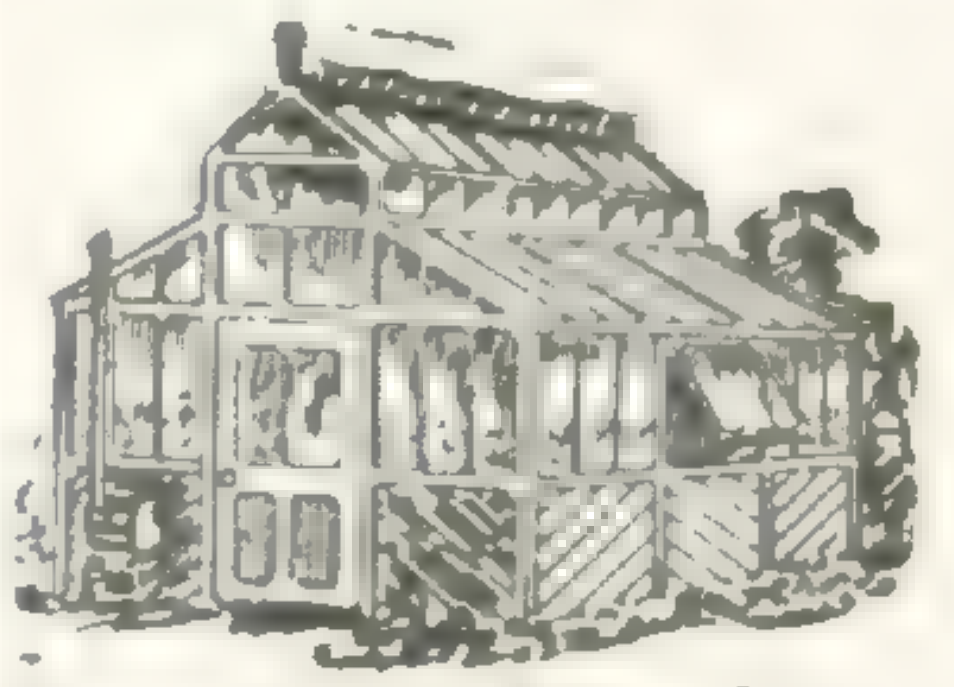
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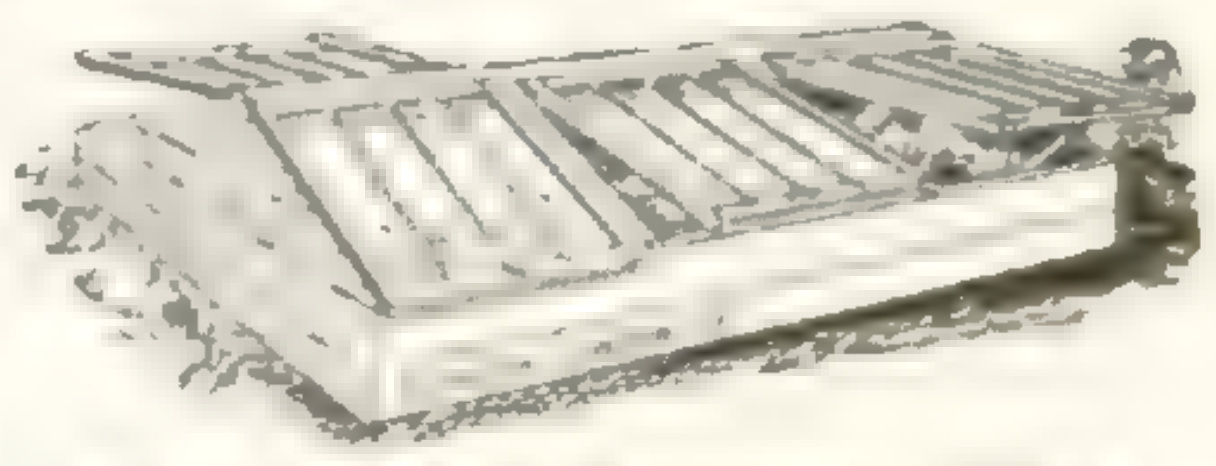
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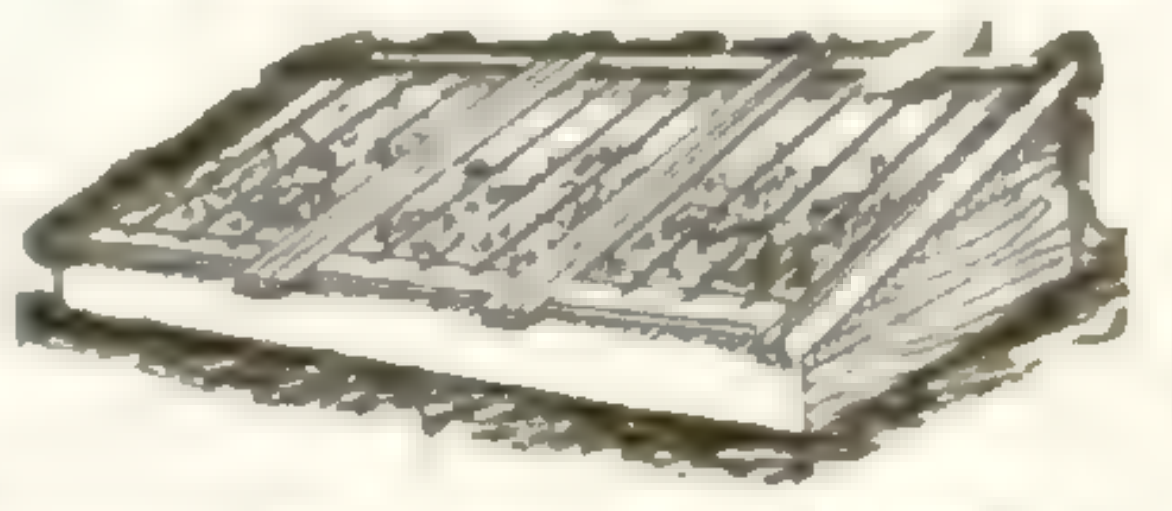
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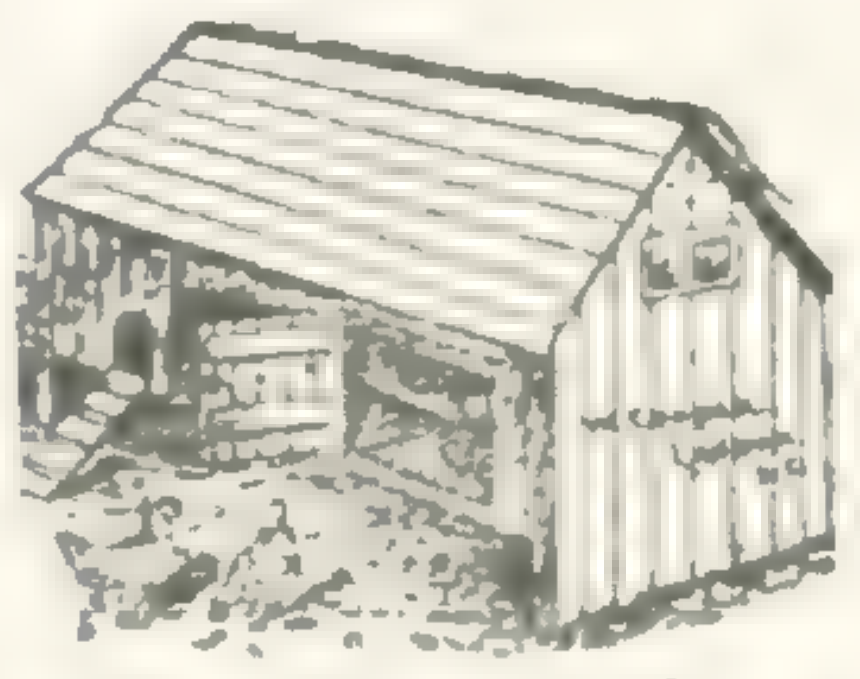
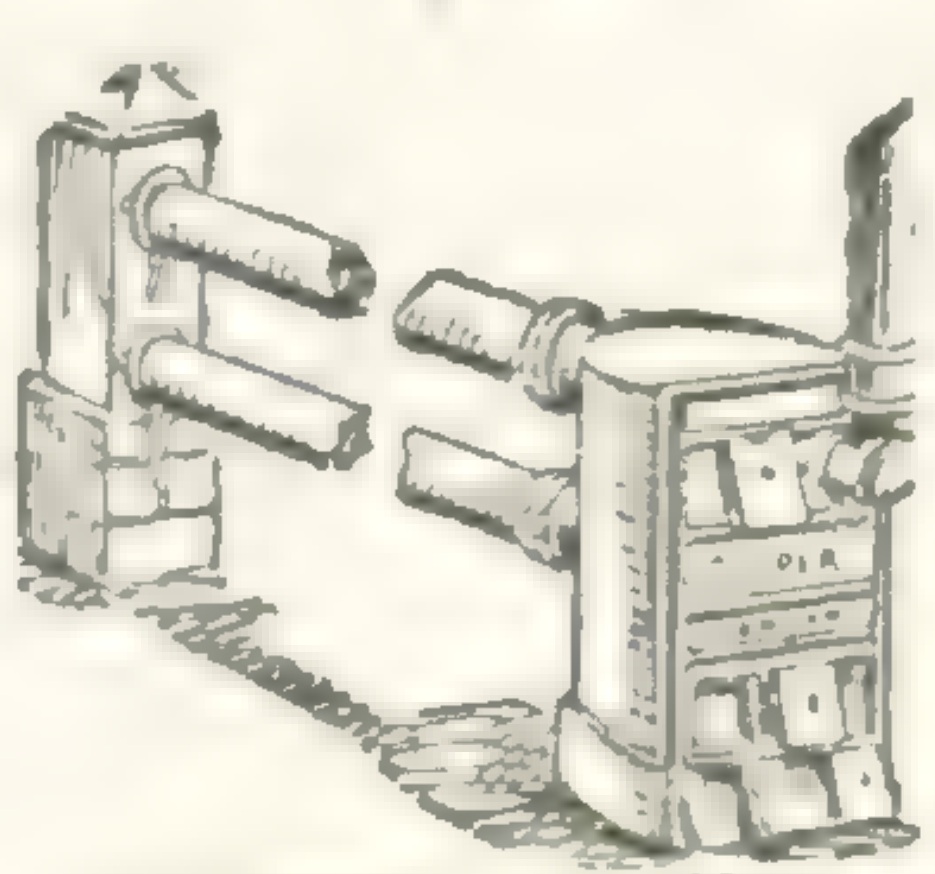

Poultry Houses, from 12s. 6d.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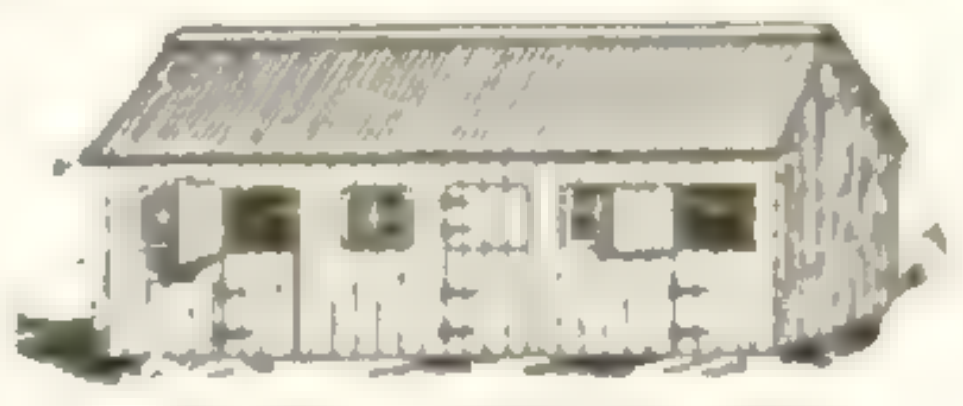
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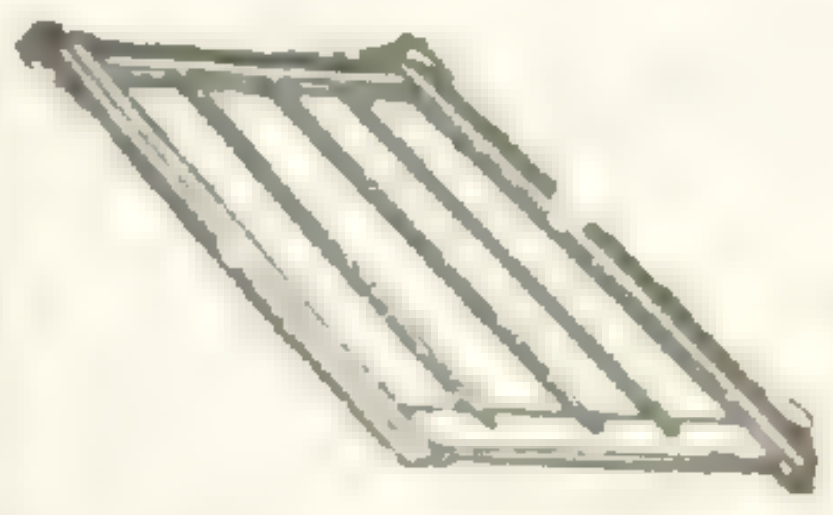
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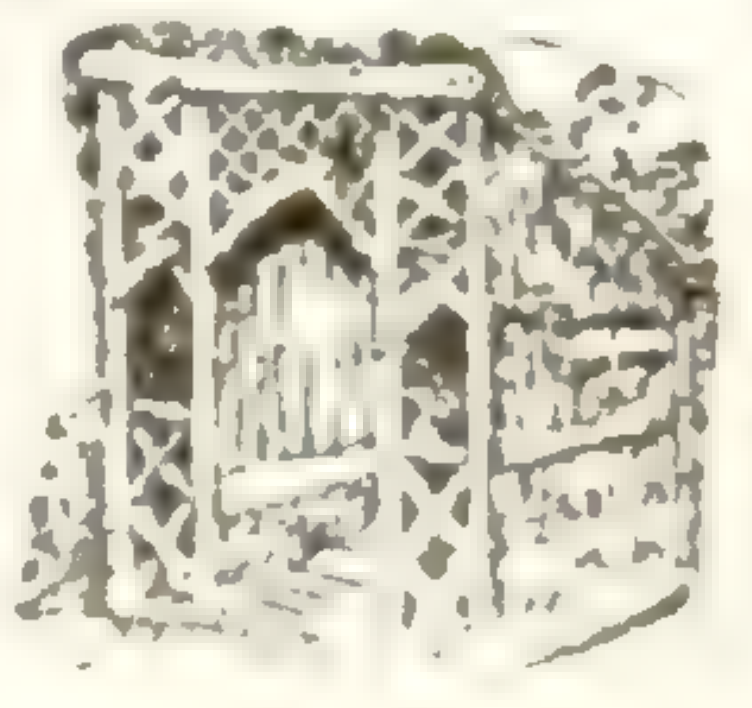
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had been extremely fortunate in securing Mr. E. White as hon. secretary.

Sir Albert Rollit, in an eloquent and humorous speech, proposed: "That this general meeting approves of the proposals for the International Horticultural Exhibition of 1912, in accordance with the explanations and programme laid down by the chairman, and promises to render all possible support to achieve the end in view." Sir Albert appealed to the patriotism of the members, and pointed out that such a gathering as that proposed tended towards the peace of the world. Mr. P. Anderson Grahame seconded the motion, and suggested the inclusion of one or more foreign members on the Executive, and also an exhibition of insect and fungus pests, showing their life history and the best means of combating them. Mr. J. O'Brien hoped due arrangements would be made for receiving and unpacking exhibits, but thought the display of insects was hardly necessary. Mr. Alex. Dean referred to the subject of guarantees, and further asked if the standing committees of the R.H.S. would be utilised for the purpose of making awards to new plants, flowers, fruits, and vegetables at the exhibition. He suggested special days for gardeners and for traders, and suitable entertainments, and also asked what compensation Fellows of the R.H.S. would receive in the form of tickets, in lieu of the loss of a Temple Show, in 1912. Mr. Fowler said that the Executive would rely very largely upon those present, and members of the committees, with prominent foreign horticulturists for judges at the exhibition.

Dr. Van Rhin, of the Dutch Embassy, urged the formation of national committees for the purpose of securing the co-operation of horticulturists in the various Continental and other countries, and he suggested that the various governments should be approached in connection with such committees. He expressed his pleasure in being invited to take part in the proceedings, and he would do all he could to help. Both Mr. N. F. Barnes and Mr. J. Cheal asked if the schedule to be issued would be a rough draft and open to consideration, both as to classes and prizes, and said that the question of cash prizes could not well be considered until the schedule was received. Mr. Fowler said the schedule would be chiefly for the purpose of indicating the kinds of plants and flowers, etc., to be shown, and so enabling exhibitors to make their plans well in advance. Mr. Farrer and Mr. S. Pickering also spoke, the latter urging an educational sectional exhibition of insect and fungus pests.

The resolution was then put, and carried unanimously, and a vote of thanks to the chairman, moved by Mr. A. W. Sutton and Mr. J. Green, was carried.

FORTHCOMING ENGAGEMENTS.

TUESDAY, November 1.—Scottish Horticultural Association.
Bournemouth Chrysanthemum Show; two days.
Brighton Chrysanthemum Show; two days.
WEDNESDAY, November 2.—Kent County Chrysanthemum Show; two days.
Southend Chrysanthemum Show; two days.
National Chrysanthemum Society, Crystal Palace; three days.
Cardiff Chrysanthemum Show.
THURSDAY, November 3.—Torquay Chrysanthemum Show.
SATURDAY, November 5.—French Horticultural Society of London.
TUESDAY, November 8.—Birmingham Chrysanthemum Show; three days.
Royal Horticultural Society; committees meet at 12 o'clock; lecture at 3 p.m. on "Observations on the Blossoming of Hardy Cultivated Fruits," by Mr. Cecil H. Hooper; Scientific Committee at 4 o'clock.
Ulster Chrysanthemum Show; two days.
Southampton Chrysanthemum Show; two days.
Oxford Chrysanthemum Show.
WEDNESDAY, November 9.—Northampton Chrysanthemum Show; two days.
Bath Gardeners' Chrysanthemum Show; two days.
Liverpool Chrysanthemum Show; two days.
Cambridge Chrysanthemum Show; two days.
THURSDAY, November 10.—Wandsworth Chrysanthemum Society; two days.
East Cowes Chrysanthemum Society; two days.
Weston-super-Mare Chrysanthemum Society.
British Gardeners' Association, London Branch.
FRIDAY, November 11.—Sheffield Chrysanthemum Society; two days.

ANSWERS TO CORRESPONDENTS.

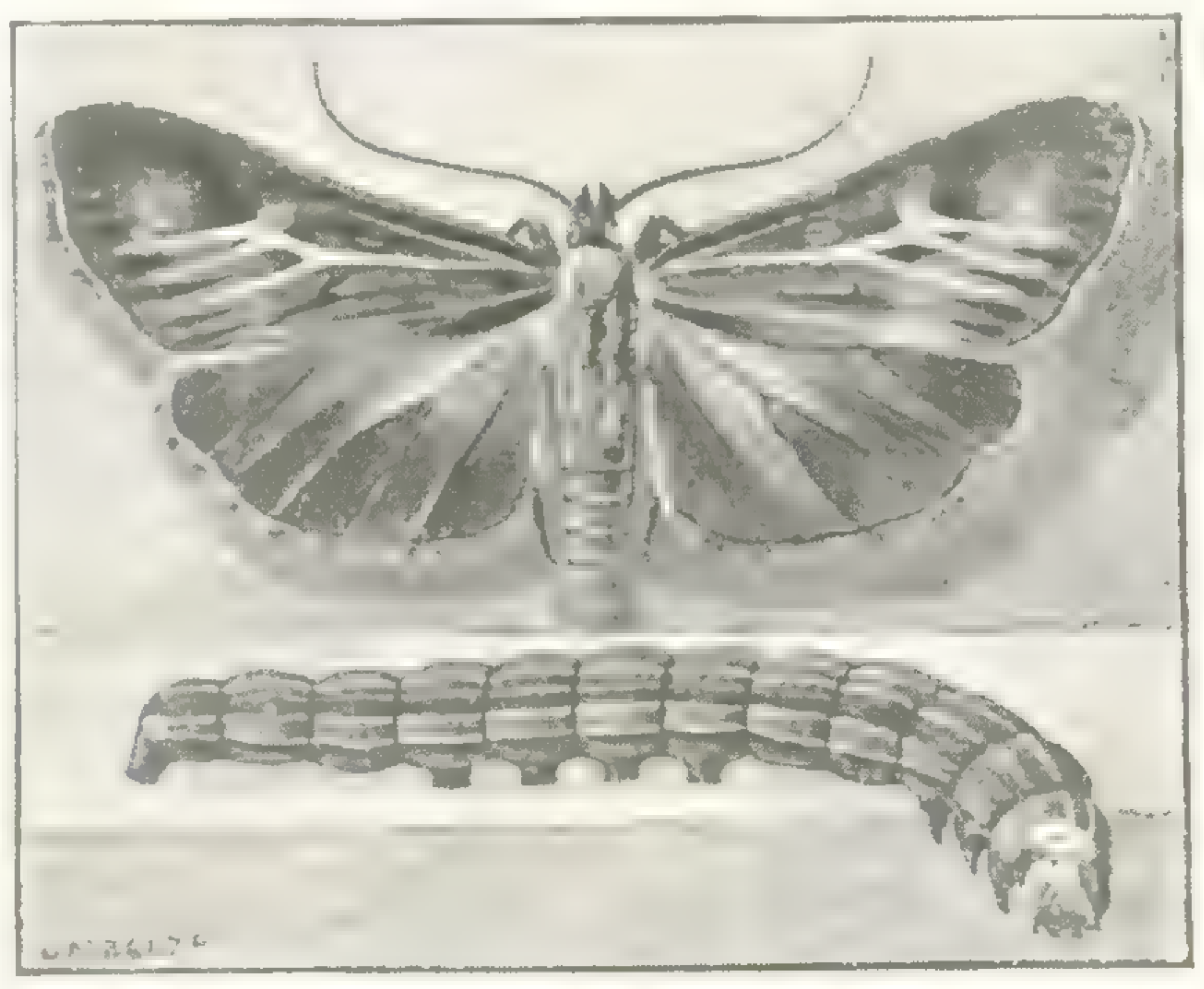
YELLOW DISEASE IN ROSES.—H. H., Wilts: In the absence of specimens we are afraid there is little chance of rendering you real assistance.

CODE OF JUDGING.—A. B., Neyland: You may obtain the "Rules for Judging, with Suggestions to Schedule Makers and Exhibitors," from the Secretary of the Royal Horticultural Society, Vincent Square, Westminster, post free, for 1s. 6d.

GARDEN CACTUS DAHLIAS.—H. T. H., Heytesbury: We hope to discuss this matter before long, but, as new varieties are not distributed until the spring, there is no need for dealing with the subject immediately. Further, we can assist you better this way than in a brief reply.

LOSS OF FLOWERS AND FOLIAGE IN CONSERVATORY.—H. J. B., Norwood: Lack of light will account, in some measure, for the loss of flowers and foliage; if the roof is of thick, ribbed glass, and you have an eucalyptus trained under it, then little light can reach the plants beneath. Have you no means of heating the conservatory, and do any of the living rooms open into the structure?

CATERPILLARS ON LAWN.—G. K. S., Reigate: In all probability the trouble has been caused by the Antler Moth (Charæas graminis), which should, as far as practicable, be kept in check, for, when the caterpillars are present in large numbers they do a great deal of damage to lawns. The moth is brownish, marked with white, and it lays its eggs during July and August on the lower portions of the stems, and on the roots of the grasses. In about three weeks they hatch out and the caterpillars commence their attack on the grasses. They feed at night only, and eat the stems and leaves near the ground level. Passing a heavy roller over lawns that are much infested at night during the autumn might destroy some of the caterpillars; but catching the moths when in flight by some of the devices adopted for capturing moths is, perhaps, the most effectual method of keeping the pest under.


ANTLER MOTH AND CATERPILLAR.

HYDRANGEAS IN TUBS.—T. W. R., Aberdare: Large examples of hydrangeas are particularly effective when placed in suitable positions on terrace and other walks and on the lawn, and they are by no means difficult to produce. The commencement should be made as in the case of the small plants, but, instead of the shoots being reduced to one, the plants should the first year be cut back, and all the shoots be allowed to remain, except, it may be, one or two that are very weakly. The attention necessary subsequent to the first year will be to repot annually, early in the spring, previous to the commencement of the new growth, and to thin out the weakly shoots and slightly shorten those remaining. When they have reached the largest-sized pot or tub in which it is intended to grow them, they can be kept in excellent condition for two or three years with rich top-dressings and liquid manure. When repotting becomes necessary, reduce the ball of soil by about one-third, and return to pots or tubs of the same size. They can be wintered in the greenhouse or in a shed.

NAMES OF PLANTS.

B. K., Matlock.—Abutilon megapotamicum.

S. A., Hertford.—1, Phrynium variegatum; 2, Helenium autumnale.

S. S., Guernsey.—1, Pittosporum Tobira; 2, Fuchsia fulgens; 3, Galax aphylla.

T. W. J., Exeter.—1, Eucalyptus globulus; 2, Punica granatum; 3, Selaginella hæmatodes; 4, S. Mertensi.

L. T. Y., Worcester.—1, Euonymus radicans variegata; 2, Cratægus Lelandi; 3, Laurus nobilis; 4, Cupressus Lawsoniana Allumi; 5, Rivina humilis.

NAMES OF FRUITS.

C. C., Yeovil.—1, Bramley's Seedling; 2, Lord Derby.

L. D., Durham.—1, Newton Wonder; 2, Golden Noble; 3, not recognised.

H. E. W., Horsham.—1, Dumelow's Seedling; 2, Margil; 3, Cox's Pomona; 4, not in character.

K. J. F., Merstham.—1, Ribston Pippin; 2, Ecklinville; 3, Beurre Diel; 4, Catillac; 5, Beurre Bosc.

A. N. W., Kildare.—1, Worcester Pearmain; 2, Lane's Prince Albert; 3, Blenheim Pippin; 4, Smart's Prince Arthur; 5, Belle Dubois; 6, probably London Pippin.

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GARDENER (Head).—R. ROBERTSON, gardener to the Rt. Hon. Lord Kinnoull, desires engagement with lady or gentleman, where several are kept; 19 years' practical experience in all branches of gardening; age 34; married and well recommended. Address Balhousie Castle Gardens, Perth, N.B.

HEAD GARDENER, The Hall, Harbury, Leamington, highly recommends YOUNG MAN, 18, under good Gardener; 3½ years here; excellent worker; Bothy preferred. F. FIELD, as above.

W. LAMBERT seeks SITUATION as HEAD WORKING GARDENER where several are kept; life experience in growing Grapes, Peaches, Melons, Stove and Greenhouse Plants, Orchids, Carnations, Kitchen and Flower Garden, and Hardy Fruit; good reference; married; one daughter, age 10. W. LAMBERT, The Common, Kenilworth, Warwickshire.

GARDENER (Head Working).—Mr. WATSON can highly recommend C. WALLIS, where two or three are kept; been here 5½ years as Second of five; age 30; married, one child. The Gardens, Bushey Down, Tooting Common.

GARDENER (Head Working), late of Hungerford Park; well up in all branches, Inside and Out; excellent references; 4 years in last place; married; age 41; abstainer. F. EARL, c/o W. Irving, 2, Kent Villa, Stanwell Road, Ashford, Middlesex.

GARDENER (Head Working); life good practical experience in all branches, Inside and Out, Early and Late Forcing; excellent references. H. TURNER, 62, Star Road, Peterborough.

GARDENER (Head Working); 24 years' practical experience in the cultivation of Flowers, Fruit, and Vegetables Inside and Out; good conception in the alteration and improvement of Gardens and Pleasure Grounds; six years' excellent character; married; age 39. SQUELCH, Keston, Hayes S.O., Kent.

GARDENER (Head Working where one or two more are kept, or good Single-handed); experienced Inside and Out; good references, and recommended; age 27; married when suited. W. CROUCHER, 11, North Terrace, Hythe, Kent.

GARDENER (Head Working), age 45; married, no family; experienced in all branches (Inside and Out); excellent testimonials. WM. SMITH, care of Mrs. Clibury, Weather Lane, Astley, Stourport.

GARDENER (Head Working); active, thoroughly experienced in all branches of Gardening; [illegible] years in present situation; 17 previous as head; married; two children, youngest boy 13. J. EGGLETON, The Lodge, Brazier's End, Tring. No circulars.

GARDENER (Head, where three or four are kept); 20 years' practical experience in all branches; 6 years last situation; age 38; can be highly recommended. C. GARNER, Devonshire Cottage, Banstead, Surrey.

GARDENER (Head Working), requires SITUATION; experienced in Vines, Peaches, Melons, Cucumbers, Stove and Greenhouse Plants; Flower and Kitchen Garden, Hardy Fruit, etc.; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working), age 33; can be highly recommended, thorough experience in all branches, fruit, flowers, and vegetables; Inside and Out; excellent references. WICKS, The Gardens, Halstead Place, near Sevenoaks.

GARDENER (Head Working), age 38, married, practical, all-round life experience in all branches, desires situation where energetic, trustworthy man is required; has had experience in alterations and remodelling neglected gardens; excellent references. GARDENER, Heathfield, Chislehurst Kent.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; leaving own request; no young children, youngest 11. W. BLOOMFIELD, Staplehurst, Kent.

GARDENER (Head Working, where two or more are kept); good all round; can be well recommended; married when suited; age 36. PEARCE, 10, Roxwell Road, Shepherd's Bush.

GENTLEMAN recommends GARDENER (Head of two or three); life experience in all branches; understands formation of new or renovating old gardens; married, one boy 10 years, age 45. PENNELLS, Phœnix Green, Winchfield, Hants.

GARDENER (Single-handed or otherwise), good all-round, under glass; grapes, etc.; married; age 40; one child; good references; suburbs. QUARTERMAIN, 15, Collins Street, Blackheath Village, S.E.

GARDENER (Single-handed), age 25; thoroughly experienced in all branches; last situation seven years; left through death; Milk if preferred; married when suited. GEORGE HUBREN, care of Mr. Bramwell, Crabb's Hill, Hatfield Peverel, Essex.

GARDENER (Single-handed or otherwise); good all-round man in all branches, or handy man on gentleman's estate; good at either; willing to be useful; active and reliable; good character; age 45; married, one child. OSBORNE, 48, Bradshaw Road, Watford.

FOREMAN or SECOND, Inside or Inside and Out; experience in all branches, Fruit and Plant Houses; well recommended from present and previous places; one year and nine months here as Foreman; age 27, married, one child. SHILL, The Gardens, The Lilies, Aylesbury, Bucks.

M. MEREDITH BROWN, Esq., strongly recommends young man as JOURNEYMAN (Second, Inside); 3½ years present place; age 20. F. GEE, Westbrook, Bromham, Chippenham.

MR. LOVETT, Gardener to Sir Harold Harmsworth, Bart., can highly recommend YOUNG MAN as SECOND; good references; all-round experience. Mr. LOVETT, Horsey Hall, Great Yarmouth.

JOURNEYMAN or UNDER-GARDENER, Inside and Out; 2½ years present, 3½ previous; age 22; good references. C. G. STEVENS, 10, Clinton Road, Leatherhead.

JOURNEYMAN (Second, Inside or Inside and Out) seeks SITUATION; age 21; four years' experience; excellent references. DREW, 24, Market Place, King's Lynn, Norfolk.

MR. NEIGHBOUR, Orsett Hall Gardens, Grays, Essex, wishes to highly recommend YOUNG MAN, age 23 as JOURNEYMAN; Inside preferred; 4 years present place, Inside and Out; excellent character.

JOURNEYMAN (Inside and Out); life experience; good reference; age 21. PINK, Chevering Lane, Knockholt, Sevenoaks.

MR. JORDAN, Lofts Hall, Saffron Walden, would be pleased to recommend YOUNG MAN as JOURNEYMAN, Inside and Out; age 23. Apply as above.

MR. T. CORNISH, Mymwood House Gardens, Hatfield, Herts, can highly recommend WILLIAM EBBS as JOURNEYMAN; Inside; 3½ years' experience with me; age 19; 5ft. 10in. in height; bothy preferred.

GENTLEMAN recommends YOUNG MAN, age 22, as second of four or five; Inside and Out; 7 years' experience; good reference. Apply T. ROGERS, Michelmersh, Romsey, Hants.

ESTATE JOINER requires SITUATION; can undertake to keep Property in thorough repair and to collect rents if required; best references. W. E. S., 18, Carrs Hill, Gateshead-on-Tyne.

GARDENER or CARETAKER; married; long personal references. Address, WRIGHT, Gate Lodge, Caenwood Towers, Highgate.

IMPROVER (Inside and Out), age 17; height 5ft. 10in.; well recommended; Bothy preferred. Apply H. HASTINGS, Park Road, Little Packington, Meriden.

IMPROVER, 18 (Inside).—W. BROWN, Stockwood House Gardens, Keynsham, Somerset, recommends Young Man; four years' experience; strong and willing; Bothy preferred.

IMPROVER (Inside and Out).—Young Man seeks EMPLOYMENT in Garden; age 19; five years' good reference. L. TYLER, Great Dalby, near Melton Mowbray.

SITUATION required to look after Pony and Trap, help in Garden, and generally useful; good references; age 21. E. WEBB, Crowsley Park Lodge, Harpsden, Henley-on-Thames.

YOUNG MAN, age 21, seeks SITUATION in large Garden; 6 years' experience; excellent references; in or near London preferred. Apply G. CHANDLER, The Gardens, Stud House, Hampton Court, Middlesex.

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YOUNG MAN seeks SITUATION Inside as bulb forcer, bedding grower; also knowledge of ferns; 9 years' experience; good refs. Apply REGINALD, c/o Mrs. Chaffey, Challis House, Langport, Somerset.

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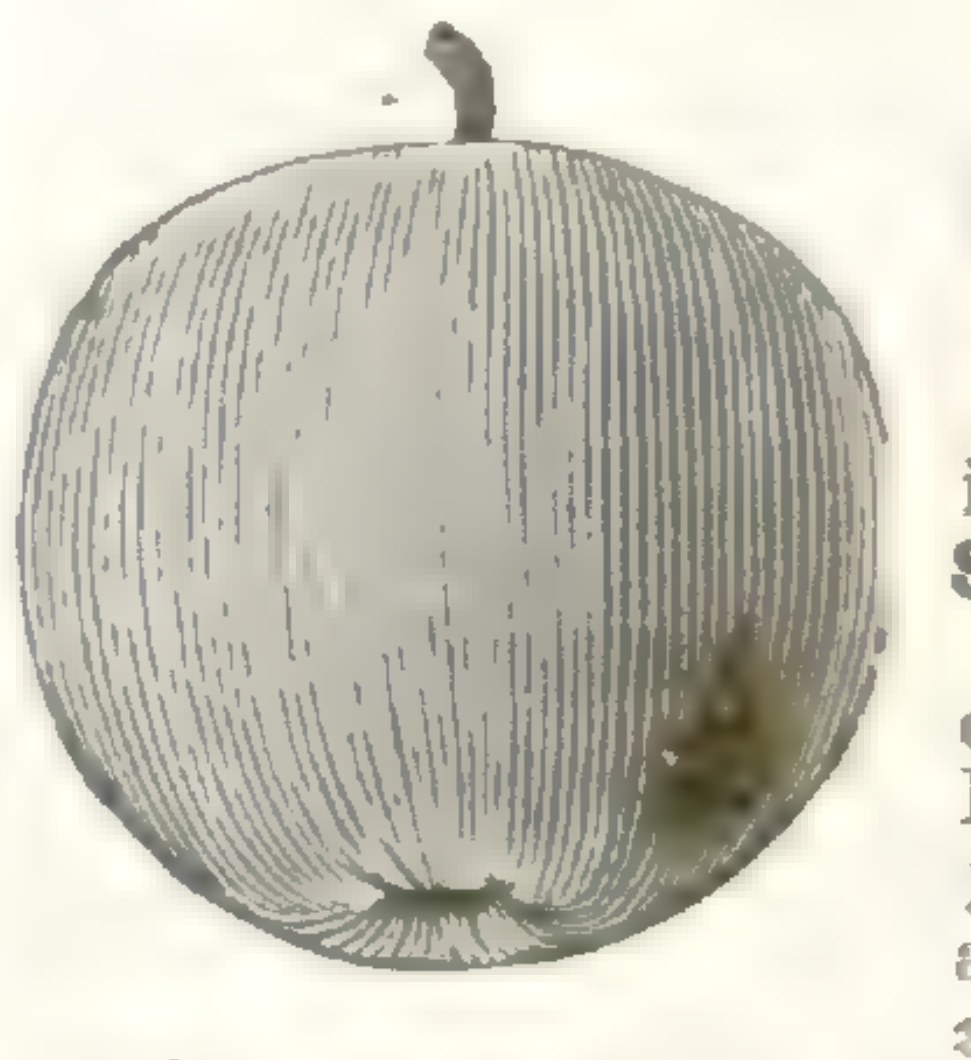

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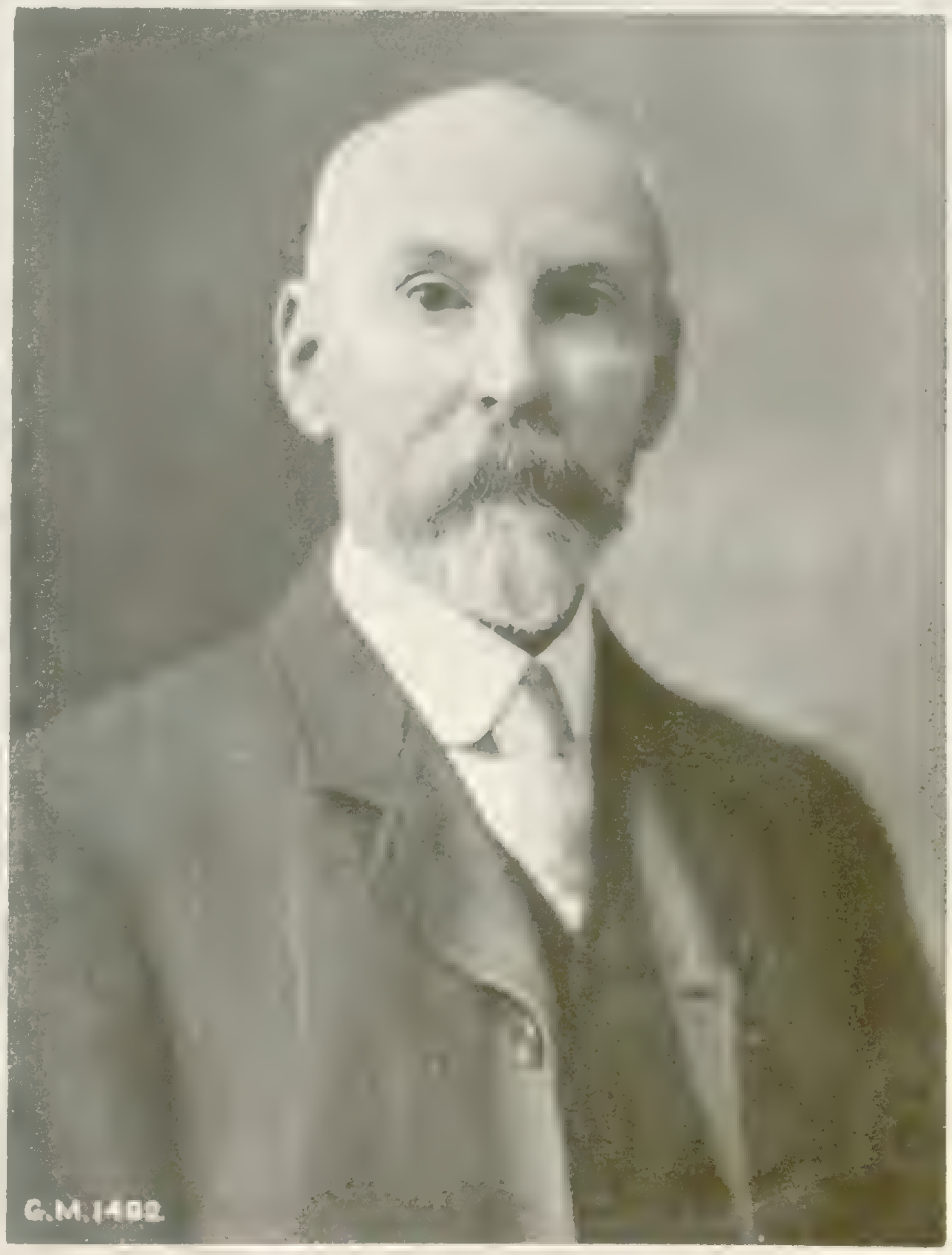
VOL. LIII.--No. 2,975. SATURDAY, NOVEMBER 5, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

International Horticultural Exhibition, 1912.

The meeting of the General Committee of the International Exhibition, to be held in London in 1912, of which a report appeared in our issue of the 29th ult., was of considerable importance and much interest. It was the first meeting which gave the Executive Committee an opportunity of stating publicly, or what was akin thereto, what had been accomplished during the six months that had elapsed since the meeting was held at which it was decided to hold an exhibition of an international character in the year mentioned. The meeting also afforded an excellent opportunity for obtaining an idea of the interest that is being taken in the proposed exhibition by the general body of horticulturists in the United Kingdom. We certainly regard the meeting as a safe base on which to form an opinion upon the latter point, and the presence of about one hundred and fifty of the leading horticulturists, many of whom had travelled long distances, should be an ample proof that the interest is widespread, and that there is a strong desire to assist in making the exhibition a brilliant success, and in every way worthy of a great country, world renowned for both the practical and scientific aspects of its horticulture. Mr. Gurney Fowler, who is the chairman of the Executive Committee, presided at the meeting in question, and gave a somewhat lengthy, but by no means too long, statement of the steps that had been taken in various directions since the last-named body had been formed. He stated at the commencement of his remarks that at the meeting held in April, when the exhibition was decided upon, a Provisional Committee was appointed to take the preliminary steps, and that this Provisional Committee had a meeting, and invited other gentlemen to assist in forming an Executive Committee. The first matter to receive attention on the last-named committee having been constituted was finance. It was at once recognised that the carrying out of the exhibition on the scale contemplated would necessitate a large expenditure, and it was also recognised that in the event of a loss the members of the Executive Committee would have to bear it. After a full consideration of this all-important question it was decided, as recorded in the report of the meeting which appeared in our issue of the 29th ult., to form a limited liability company. The next step was to form a General Committee, and to prepare a scheme for local committees, and to appoint secretaries of such bodies. A meeting of the latter was held previous to luncheon, as will be seen on reference to the report which appears in another part of this issue. Forty attended, and certain resolutions were passed. The probable cost of the exhibition was dealt with, and the privileges of subscribers and guarantors mentioned by the chairman. The preparation of the schedule, the selection of a site, and some other matters were referred to, and, as far as it went, the statement was satisfactory, but it hardly went far enough. The members of the General Committee were told that it had been said by some of the critics that the exhibition in 1912 would be a glorified Temple Show, and that the Executive Committee intended to hold a real international exhibition. We shall hope, and, indeed, expect, that the exhibition will be of a quite different character to the beautiful shows that have for upwards of twenty years been held in the gardens of the Inner Temple. The fact that the Schedule Committee has been engaged for several months in the preparation of the schedule should be a proof that the show will be of a different character. We have no doubt that cultivators will have such encouragement as will induce them to contribute of their best, and that there will be a large display of such subjects as are available for exhibition in the month of May. We have no apprehension as to the extent of the exhibition or of the quality of the plants, flowers, fruits, and other products; but we should like to know something about the manner in which they are to be displayed. Are they to be arranged in tents, such as have been in use at flower shows held in this country from time well-nigh immemorial? Or will exhibition houses be provided that are large enough for the artistic arrangement of the various objects, and are light and elegant in design, such as those at the international exhibitions at Ghent, Haarlem, Hamburgh, and other of the Continental centres? These are important questions, and unless the second of the two is answered in the affirmative the exhibition will fall short of what it should be. As yet nothing has been said with regard to the educational side of the exhibition, which should be on a considerable scale; or to the holding of a congress for the purpose of discussing matters of importance to horticulturists at home and abroad. It is most desirable that advantage should be taken of the opportunity the exhibition will afford for learning the views of our foreign friends upon the difficulties that have been placed in the way of British horticulturists in sending plants, etc., to a considerable number of European countries. It is advisable that countries should do what is necessary to prevent the introduction of



MR. PETER BLAIR.

insect pests and fungoid diseases, but the regulation should not be so drafted as to practically exclude stock that is perfectly clean, and may not be liable to infection. The formation of the Executive Committee into a limited liability company is not a matter to which objection need be taken, more especially as it places the committee in a better position to deal with those with whom they have to enter into business relations. We attach but little importance to its protective side because we are fully assured that when the full scheme is made public, provided it is commensurate with the character and the importance of the occasion, and an estimate given of the probable cost, the necessary funds will be forthcoming, and the sooner this is done the better. We are, indeed, of the opinion that it would have been an immense advantage had a broad outline of the scheme been published within a reasonable time of the formation of the Executive Committee.

Mr. Peter Blair, whose portrait we have the pleasure of giving in this issue, has so long occupied a prominent position among British horticulturists by reason of his remarkable ability that there is no occasion to make otherwise than the briefest reference to the excellent work he has accomplished. It is now many years since Mr. Blair was appointed to the charge of the Trentham Hall gardens, so long famous for fruits and flowering plants, and those who visited them in the days when the bedding system was in vogue will well remember the success achieved in the arrangement of the various classes of tender plants utilised in the production of summer effects. They will remember also the many valuable object-lessons that were to be obtained in the quarters devoted to fruits, and in the various fruit houses which have long constituted a great feature at Trentham. Mr. Blair has shown his administrative ability in other directions, and nowhere has it been more conspicuous than in the carrying out of the arrangements of the horticultural exhibitions held in conjunction with the shows of the Royal Agricultural Society and the Yorkshire Agricultural Society. The exhibitions held at Liverpool and Leeds during the past summer under Mr. Blair's superintendence were so remarkable for the completeness of the arrangements, as to afford examples that many secretaries of societies may follow with advantage.

Mr. Leonard G. Sutton was unanimously elected president of the Berks and Oxon Chamber of Agriculture for the ensuing year, at the annual general meeting, which was held at Reading on the 29th ult.

Election of Chief Officer of London Parks.—At the meeting of the London County Council, on Tuesday, the election of a Chief Officer of the London parks under the control of that body was proceeded with, and, as we stated in our issue of last week, the General Purposes Committee recommended the appointment of a military officer to the post. There were 145 candidates for the post, and from these sixteen had an interview with a sub-committee of the General Purposes Committee, and from these six were selected to meet the latter body. These were Mr. A. D. Blascheck and Mr. A. M. Caccia, of the Indian Forest Service; Mr. W. H. Morter, superintendent of the Birmingham Parks and Gardens; Mr. J. Weathers, horticultural instructor, Middlesex County Council; Major P. Maud, R.E., of the General Army Staff; and Major C. B. Winter, of the Indian Army. The General Purposes Committee selected Mr. Blascheck, Major Maud, and Major Winter, and recommended that Major Maud be appointed. Mr E. Gray, the chairman of the General Purposes Committee, in bringing up the recommendation, contended that the Council did not want "a Chief Gardener," but the "Head of a department," which was absurd, seeing that in this case administrative ability should be combined with technical knowledge of a high order. Strenuous endeavour was made by several members to have the recommendation referred back, but, on a division, the amendment was lost by 69 to 47. The recommendation was then agreed to, and Major Maud was introduced, and informed of his appointment.

Flowering of Fruit Trees.—At the general meeting of the Royal Horticultural Society on Tuesday next Mr. C. H. Hooper will give a lecture on "The Blossoming of Our Hardy Cultivated Fruits."

Orchids at Manchester.—A most interesting group of orchids was exhibited by Mr. E. Rogers, gardener to O. O. Wrigley, Esq., Bridge Hall, Bury, at the recent meeting of the Manchester and North of England Orchid Society, at the Coal Exchange, Manchester. The group extended to two-thirds the length of the centre tabling, and made a most remarkable display. The most prominent features were the finely grown examples of Vanda cærulea. Not only had these remarkable spikes of flowers, but the colour and substance of the flowers left nothing to be desired, which is the more noteworthy when it is considered that the plants have been grown under the smoky conditions of this particular neighbourhood. These remarks may also be applied to the large quantity of Dendrobium phalænopsis Schroderæ shown, which included a remarkably well-flowered plant of the rare D. p. hololeucum. Clusters of Epidendrum vitellinum, Cypripedium Fairreanum, C. Maudiæ, Odontoglossum grande, etc., were also included. Mr. Rogers was deservedly awarded the society's gold medal for high culture.

The Winter Moth and the destructive effects of its larvæ, was dealt with in an interesting and instructive paper by Mr. A. J. C. Biss, read at the fortnightly meeting of the Bath Gardeners' Debating Society. Mr. Biss described the life history of the moth, and the best means of preventing and checking the ravages of the caterpillars.

R.H.S. Trial of Peas at Wisley.—The Rev. W. Wilks writes: At a meeting of the Council of the Royal Horticultural Society on October 25, a letter was read from one of the leading seed firms, pointing out that it was not quite fair in the trial of peas at Wisley to compare, and to adjudicate on the merits of, varieties sown on different dates; and urging that all peas sent for trial ought to be sown on one and the same day. The Council quite saw the point, but felt, on the other hand, that it would not be quite fair to an admittedly late pea to sow it on the same day as an admittedly early one. After consideration it was decided for 1911, and in future, to ask for one pint (instead of half-pint) of seed peas, and divide it into three parts and make sowings of all varieties on three different dates, suiting early, mid-season, and late peas, as in this way only could the two difficulties mentioned be overcome. It is desired therefore to correct the list of trials which appeared in these columns a fortnight ago, by substituting one pint for half-pint of pea seed required to be sent to Wisley.

Lecturer in Horticulture for Fife.—At a recent meeting of the Education Committee of the Fife County Council Mr. George E. Greenhow, assistant lecturer in horticulture to the Edinburgh and East of Scotland College of Agriculture, was appointed resident lecturer in horticulture for Fifeshire, at a salary of £150, rising to a maximum of £250. Mr. Greenhow is a native of Cumberland, and began his career in the gardens of Hatton-in-the-Forest, Cumberland, the seat of Sir Henry Vane, Bart. After serving for several years as journeyman and foreman in the private gardens at Greystoke Castle and Styford Hall, he was engaged for a year with the Northumberland County Council as gardener at Cockle Park, Morpeth. He had charge of the fruit plots throughout the county, and he had also the supervision of the forestry section.

R.H.S. Awards to Fruits. A special sub-committee of the Fruit Committee of the Royal Horticultural Society visited Wisley on October 13, and recommended Awards of Merit to the following, which were confirmed by the council at its meeting on Tuesday, October 25: Apple, Hounslow Wonder, Messrs. Spooner, Hounslow; peach, Salwey, the Duke of Richmond, Goodwood.

Yorkshire Horticultural Society.—This is the title of the new horticultural society which it was decided to found at a well-attended and enthusiastic meeting held in the Town Hall, Leeds, on Tuesday, October 25, under the presidency of the Lord Mayor. The hope was expressed at the meeting that everyone resident in the northern counties of England would support the society, but as yet the northern counties have not been approached in the matter. It was resolved that the minimum subscription for honorary members be one guinea, and for amateur and professional gardeners five shillings. A strong committee has been formed, and if the enthusiasm shown at the meeting be expressive of the feeling that obtains in Yorkshire with regard to the desirability of forming the society, there is full justification for anticipating that the society will assume large proportions and do splendid work in the advancement of horticulture in the Northern Counties. There is ample room for a strong horticultural society in the North of England, and we trust the new society may achieve a high degree of success. It appears highly desirable that other of the great centres in Yorkshire should co-operate with the horticulturists of Leeds in this important undertaking. The secretary is Mr. P. Clapham, Calverley, Leeds, and Mr. H. J. Clayton, Ulleskelf, is the treasurer.

Dahlia Brentwood Yellow. Concurrently with the opening of the chrysanthemum season we received from Mr. J. T. West, Tower Hill, Brentwood, a box of blooms of his new decorative dahlia Brentwood Yellow, which he introduced to public notice for the first time at the exhibitions held during the past season. Mr. West has sent us a dozen or so growths, and the majority of these bear two well-developed blooms and buds. The blooms are large, full, of fine form judged from the decorative point of view, and borne on stiff, erect stems, of a sufficient length to carry them well above the foliage. The height of the plant ranges from 30in. to 36in., in height, and it is not difficult to imagine the fine effect produced by masses of the rich golden flowers.

NATIONAL CHRYSANTHEMUM SOCIETY'S SHOW.

The exhibition held at the Crystal Palace on November 2, 3, and 4, by the National Chrysanthemum Society, was one of the finest held by this body for many years past. The great building presented a fine sight, the flowers and groups, etc., filling the whole of its immense length with brilliant colouring and rare beauty. Big exhibition blooms were especially fine, and the competition was unusually close, suggesting that "big blooms" are taking a new lease of life. Non-competitive exhibits were superb, and it is doubtful whether at any show hitherto held in November, either in London or the provinces, so many remarkably fine trade displays have been brought together. In every way, attendance included, the show was a great success.

NATIONAL CHRYSANTHEMUM SOCIETY'S SHOW.
Mr. T. Stevenson's First Prize forty-eight Japanese blooms in the Holmes' Memorial Cup Class.

GREAT VASE CLASS.

There were four competitors in the great vase class, and every exhibitor had to stage a dozen vases of three blooms each, the flowers to have not less than six inches of stem rising above the vase. The premier award of £9 was won by Mr. W. Iggulden, Lock's Hill Nurseries, Frome, with a fine set of blooms of F. S. Vallis, Francis Jolliffe, Mrs. R. H. Marsham, Mdme. G. Rivol, Reginald Vallis, Mrs. W. Iggulden, Mdme. P. Radaelli, White Queen, Lady Talbot, Master James, Hon. Mrs. Lopes, and Algernon Davis. Second prize, £6, fell to Mr. T. Waller, gardener to A. C. Hammersley, Esq., Abney House, Bourne End, who had Lady Talbot, Reg. Vallis, and F. S. Vallis in grand form. Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead, came third, and Mr. W. Mease, Downside, Leatherhead, was not placed.

HOLMES' CUP CLASSES.

The Holmes' Memorial Cup, offered as first prize for three dozen incurved blooms, distinct, was won by Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, who had a fine set of flowers that included Clara Wells, Romance, Marjorie Shields, Mrs. G. Denyer, Buttercup, H. W. Thorp, Embleme Poitevine, C. H. Curtis, and W. Biddle as especially good. Mr. G. J. Hunt, gardener to Pantia Ralli, Esq., Ashstead Park, Epsom, was a good second; and Mr. T. J. Broom, gardener to Miss Langworthy, Gays House, Holyport, third. This year, after winning the cup annually over a long series of years, Mr. W. Higgs has now retired from this particular competition.

There was a grand competition for the Holmes' Memorial Cup, offered for the best forty-eight Japanese blooms, distinct, no fewer than seven competitors coming forward. Premier place fell to Mr. Thomas Stevenson, gardener to E. Mocatta, Esq., Woburn Place, Addlestone, with a splendid set of even, full-sized, and bright blooms. The varieties were F. S. Vallis, W. Gee, Duchess of Sutherland, Rose Pockett, Master David, Miss A. Nicholl, Valerie Greenham, Chrysanthemiste Montigny, O. H. Broomhead, Willie Rawlins, G. Hemming, Mrs. A. T. Bott, Mrs. R. H. Marsham, W. A. Etherington, Pockett's Surprise, Sir F. Crisp, Algernon Davis, Mrs. C. Beckett, W. Iggulden, Buchan Keeling, Mdme. G. Rivol, J. Peed, Evangeline, Master James, Superbe, Mrs. C. Penford, Lady Francis Ryder, Mdme. Paolo Radaelli, H. Wood, Seedling, Mr. F. Thorne, Mrs. Robt. Holmes, Splendour, Walter Jinks, Mrs. W. Knox, Frank Payne, Shanklin, W. Mease, J. Lock, Marquis of Northampton, Mrs. Norman Davis, Mrs. G. Mileham, Purity, Lady Crisp, J. H. Silsbury, Lady Talbot, Reg. Vallis, and Hon. Mrs. Lopes. Mr. T. Waller, Abney House, Bourne End, a fine second; Mr. G. Hall, gardener to the exors. of the late Lady Ashburton, Melchet Court, Romsey, third; and Mr. C. Moore, gardener to Mrs. G. Clark, Frensham Place, Farnham, fourth.

DISPLAYS.

In a class for a display of chrysanthemums and suitable foliage plants in pots, with cut blooms and foliage as an additional feature, arranged on a floor-space of 200 super. feet, there were some attractive entries. Trade exhibitors were excluded. Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham Common, was victor, his exhibit being arranged in the form of a circular mound, with a good palm as the crowning piece, and tall crotons at intervals between bold specimens of good Japanese varieties of chrysanthemums, and a number of well-flowered singles to serve as a setting. Crested nephrolepis, adiantums, etc., finished off the group.

Mr. R. B. Leech, gardener to J. C. Eno Esq., Wood Hall, Dulwich, S.E., was second with a rather thin group, in which, however, some very good blooms were included. Third prize went to Mr. P. Wilkinson, gardener to Sir D. F. Gooch, Bart., Hyland's Park, Chelmsford, his group being almost entirely composed of singles, the yellows among which were distinctly good.

Messrs. Butler Brothers, Bexley Heath, won the Dean Memorial Gold Medal, and also a small gold medal, with a group of fifty pot plants of chrysanthemums as grown for market, with marvellously beautiful plants carrying a dozen to twenty flowers, in forty-eight sized pots. Madame Lacroix, Butler, Caprice, Caprice du Printemps, H. W. Thorp, and Source d'Or were all varieties finely represented.

The East Dulwich Horticultural Society won the Challenge Trophy in the Affiliated Societies' Class, with a fine table of Japanese, incurved, and single varieties, of high merit, well arranged with suitable foliage. The Reigate Horticultural Society won second prize.

In a class for a decorative display of various sections of chrysanthemums, tastefully arranged, small blooms being especially asked for, there were two competitors. Sir Albert Rollit, Mr. Robt. Sydenham, and Mr. J. Williams provided the prizes, and Mr. Gooding, Four Elms, Edenbridge, led with a pretty display of small yellow, bronze, and pink flowers in rustic flower stands; Mrs. F. Brewster, Canterbury, a good second.

CUT BLOOMS.

There were four competitors in the class for twelve varieties of incurved blooms, three of each, staged in vases, and the winner was Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead. Daisy Southam, Mrs. G. Denyer, and Clara Wells were among his finest blooms. Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, came second; and Mr. C. J. Hunt, gardener to Pantia Ralli, Esq., Ashtead Park, Epsom, third. Mr. T. Stevenson won the special prize offered by Mr. W. J. Godfrey for a vase of Reginald Godfrey.

A silver cup was offered by Sir Albert Rollit, LL.D., D.C.L., as first prize for twenty-four blooms of Japanese varieties, and five strong entries were forthcoming, Mr. T. Stevenson repeating his success by scoring with a capital set. Algernon Davis, F. S. Vallis, and Purity were fine blooms. Mr. A. Smith, gardener to Mdme. Stuart, Convent Gardens, Roehampton, received second award with slightly inferior flowers; Mr. W. Rigby, gardener to Rev. A. E. Cooper Marsden, Borstaldene, Bickley, third. Twelve Japanese blooms made a very big class, quality being well up to standard. Twelve exhibitors pressed each other closely for the coveted positions, and Mr. T. Stevenson was once again successful with a fine dozen, using varieties we have already mentioned in his various stands. Mr. C. Moore made a good second; Mr. G. Mileham, third; and Mr. W. Mease, fourth.

Mr. W. Mease scored in the Ichthemic Guano Company's class for twelve incurved, putting up Mrs. J. Wynne, Buttercup, Mrs. G. Denyer, and other good varieties. He was followed by Mr. G. J. Hunt, Mr. Mileham bringing up the rear. The best six blooms came from Mr. T. J. Broom, gardener to Miss Langworthy, Holyport, Mr. Hunt and Mr. Mileham again following.

The class for a dozen bunches, disbudded blooms, in yellow and bronze varieties, made a bright dash of colour, Mr. R. d'Eyncourt Day, The Nursery, Sutton Scotney, Hants, scoring; Lizzie Adcock and Nagoya were the varieties. In a similar class, from which, however, yellows and bronzes were excluded, Mr. H. W. Page, Broadway Nurseries, Bexley Heath, led with Felton's Favourite, Mrs. Humphries, and others; second prize going to Mr. R. d'Eyncourt Day. Mr. T. J. Brown was awarded first prize for twelve reflexed (large flowered) varieties, being apparently the only exhibitor in the class. For twelve large-flowered anemone type there was but a single entry, and here Mr. A. E. Horton received first prize.

A very attractive display was made by the tables of singles, seven in number, among which the exhibit of Mr. Norman Davis was adjudged winner. The flowers on this stand were distinctly fine, and the arrangement of the blooms with appropriate foliage showed great taste. Mr. T. Stevenson had beautiful blooms on his second-prize table, the losing point being lack of sufficient ornamental foliage. Third prize went to Mr. P. Wilkinson, gardener to Sir D. F. Gooch, Bart., Chelmsford.

Mr. C. Moore scored for a vase of fine blooms of a yellow Japanese variety with magnificent flowers of Hon. Mrs. Lopes; Mr. W. Iggulden second, with the same variety; and Mr. H. J. Hedges third, with Mrs. W. Knox. For a vase of five white Japanese blooms Mr. C. Moore scored with Mrs. A. T. Miller; Mr. W. Newton, gardener to Mrs. McDowel Nathan, Little Heath Wood, Potters Bar, second, with the same variety; and Mr. G. Mileham, Emlyn House, Leatherhead, third; six entries. Mr. Iggulden led for five flowers of any other colour with Madame Paolo Radaelli in good style; Mr. D. H. Fairweather, gardener to R. H. B. Marsham, Esq., Bifrons, Canterbury, second, with Mrs. C. H. Totty; and Mr. G. Mileham third, with Reginald Vallis.

FLORAL DECORATIONS.

There were ten competitors in the class for a table decoration in bronze and yellow chrysanthemums, and here first prize was won by Mr. T. W. Stevens, gardener to H. W. Stone, Esq., Donnington, Laurie Park, Sydenham, with a very pretty and light arrangement of medium-sized flowers; Mrs. A. Robinson, Norhyrst, Park Hill, Carshalton, second; and Miss Varley, St. Albans Road, Kingston, and Mrs. Brewster, St. Peter's, Canterbury, equal thirds. There were nine competitors in the class for a table decoration of other than yellow and bronze flowers, and here Mrs. A. Robinson led with single and double flowers of a deep rose-pink shade, associated with pale croton leaves; Mr. T. W. Stevens, second; and Mrs. Maslin, Ongar Hill Cottage, Addlestone, third, with blush-pink single varieties.

Mrs. Maslin led for a vase of single varieties with a pretty exhibit of Mary Richardson, and creamy-white varieties; Mrs. J. L. Lawrence, Shoreham, near Sevenoaks, second; and Mr. P. Wilkinson, gardener to Sir D. F. Gooch, Hylands Park, Chelmsford, third; eight entries. Mr. F. Fitzwater, Bushey Lodge, Teddington, scored for a pair of bunches of pompon varieties. Mrs. Maslin was placed first for a basket of autumn foliage and berries with a bold arrangement of acer sprays, pernettyas, cotoneasters, clematis fruits, and berberis sprays; Mrs. F. Brewster, second; and Mr. L. Lawrence, third. In the ladies' class Mrs. G. Davies, Crystal Palace Station Road, led with a fine exhibit of bronze and yellow flowers; Miss J. Martin, Warminster Road, Norwood, second; and Mrs. F. Brewster third.

NON-COMPETITIVE.

Mr. Philip Ladds, Swanley Junction, put up a large and finely-arranged group of chrysanthemums, foliage plants, and heaths. The blooms were of fine size and well set up in stands and vases at varying heights. The groundwork was of well-grown bush plants and vases of single varieties, set amid ferns and margined with Erica hyemalis. A few pretty baskets of chrysanthemums gave distinction to the foreground. The whole group served to still further enhance Mr. Ladds' reputation as a market grower of the first class. The new yellow market variety Nora Reilly, a soft yellow sport from Felton's Favourite, was conspicuously beautiful amid a host of fine varieties. A beautiful exhibit was arranged in front of the orchestra by Mr. H. J. Jones, Ryecroft Nursery, Lewisham. It was a fine effort, and once again Mr. Jones' ability as a grower and exhibitor was demonstrated. The fine flowers, chiefly of Japanese varieties, were set up in big stands and vases of one variety, and in a few cases the blooms were a trifle crowded. These vases were arranged over a groundwork of crotons and other foliage plants, in which low bowls of single and decorative varieties were set, while along the front line were a few specimen blooms of new varieties, set in maidenhair ferns.

Mr. H. W. Thorp, Durrington, Worthing, presented a bold bank of cut flowers, staging Japenese, incurved, and decorative varieties, in a setting of maidenhair ferns. The big incurving yellow variety named Mauretania was prominent, but the most striking feature was the new and huge incurved variety named Ethel Thorp, probably the largest incurved variety yet seen; it is of silvery-pink hue, and ought to become very popular. Messrs. H. Cannell and Sons, Swanley, had a background of beech sprays with their brilliant autumn-tinted foliage, and against this they set up a brilliant lot of zonal pelargonium blooms, in fine bunches, and also a collection of single chrysanthemums, these being set up in large triangular bunches. They showed in a marked manner the wonderful range of size, form, and colour now to be obtained in this useful and beautiful section. Among the pelargoniums a few that were of outstanding merit were New York, London, Lucania, Bombay, Naples, crimson, with flowers 3½ inches across; Queen of Italy, Sydney, pink; Frogmore and Venus, white. Messrs. W. Wells and Co., Merstham, put up an enormous exhibit that constituted no mean exhibition in itself; it was 75ft. long, and about 10ft. deep, and consisted of tall stands of decorative and single varieties, vases of the newer big Japanese varieties, and bowls of decorative varieties in the foreground. At either end was a sloping bank of pot plants of single and decorative varieties, while a few Michaelmas daisies and pentstemons were used to lighten up the heavier masses of colour. Among the newer Japanese varieties we noted Marie Loomes, Wells' White—a graceful white seedling, Mrs. R. A. Witty, crimson, and Mrs. G. C. Kelley. Very fine also was the vase of a new scarlet single named Cedy Mason. This was a wonderful exhibit from one firm, but a better finish to the front line would have been a great improvement.

Mr. Norman Davis, Framfield, exhibited a glorious lot of finely-grown Japanese and single chrysanthemums, the former being remarkably well shown in large vases and stands, set in a groundwork of crotons, ferns, and palms. George Hemming, J. Lock, G. F. Bruzard, Henry Poulton, Leviathan, Mrs. W. H. Lewis, and David Ingamells were striking Japanese varieties in this grand display. The position occupied by Mr. Davis was right opposite the orchestra, quite apart from the other big exhibits, and he had one of the finest of the Framfield efforts, both as regards quality and arrangement.

Messrs. J. Peed and Son, West Norwood, staged a huge circular and central exhibit of chrysanthemums, setting up varieties of all sections in a most attractive manner. The same firm filled a large table with a fine collection of apples. Messrs. Austin and Son, South Darenth, showed a collection of apples in market boxes and baskets. Messrs. Cannell and Sons also contributed a splendid collection of brilliantly-coloured and clean apples, their finest dishes being of Newton Wonder, Cox's Orange Pippin, Emperor Alexander, King of the Pippins, Gascoigne's Scarlet, Cox's Pomona, Bismarck, and Allington Pippin.

Messrs. Hobbies, Lim., Dereham, contributed a large collection of pæony-flowered dahlias and late roses, these showing in a marked manner the late and open season. The pompon, miniature cactus, and pæony-flowered dahlias from Messrs. J. Cheal and Sons, Crawley, were a fine feature for early November, the flowers being all so clean and bright. Mr. Spencer Murrin, Whiteladies Road, Bristol, showed floral designs that were rather more novel than beautiful. Mr. W. J. Godfrey, Exmouth, filled a large table with bright chrysanthemums and zonal pelargoniums. Among the former Pockett's Crimson, Laura Hill, and Eva Smith were striking among the big blooms, while among singles Mr. Godfrey had Mrs. F. C. Hunter, Star of Devon, and Countess of Egmont, all three sterling varieties of yellow, crimson, and bronze colouring respectively. Mr. Williams, Oxford Road, Ealing, set up a pretty set of table decorations, and at the top end of the building Mr. Caselton, gardener to the Crystal Palace Company, arranged a very attractive exhibit of Begonia Gloire de Lorraine, ferns, pandanus, and crotons. Mr. F. Brazier, Caterham, had an interesting exhibit of shrubs and Michaelmas daisies. Mr. D. Russell, Brentwood, showed a big group of ornamental shrubs. Messrs. W. Voss and Co., Millwall, contributed a large stand of spraying machines and sundries, and from the Gardeners' Magazine Office, 148-149, Aldersgate Street, came an array of useful horticultural publications.

MEDALS.

Special Gold Medal.—The gold medal offered by Messrs. Clay and Sons for the best non-competitive exhibit was awarded to Mr. Norman Davis, Framfield.

Large Gold.—Mr. Norman Davis, Framfield, for chrysanthemums; Mr. H. J. Jones, Lewisham for chrysanthemums; Messrs. W. Wells and Co., Merstham, for chrysanthemums; Mr. P. Ladds, Swanley Junction, for chrysanthemums; Messrs. H. Cannell and Sons, Swanley, for fruit, pelargoniums, and chrysanthemums; Messrs. J. Peed and Son, West Norwood, for chrysanthemums and fruits.

Silver Gilt.—Messrs. Hobbies, Dereham, for dahlias and roses; Agent-General for British Columbia, for apples; Mr. H. W. Thorpe, Worthing, for chrysanthemums; Mrs. Harriett Scott, for rustic arches, etc.; Mr. G. Caselton, Crystal Palace, for begonias and foliage plants.

Large Silver.—Mr. F. Brazier, Caterham, for shrubs and asters; Mr. D. Russell, Brentwood, for shrubs; Mr. Murrin, for floral designs; Messrs. J. Cheal and Sons, Crawley, for dahlias.

Silver.—Messrs. Austin and Son, Darenth, for fruit; Mr. J. Williams, Ealing, for floral decorations.

THE NERINES.

The nerines are among the showiest of all greenhouse bulbs that flower during the autumn months. They are all natives of South Africa, and one of them—Nerine sarniensis (the Guernsey Lily) is supposed to have been introduced as long ago as 1680.

The species in general cultivation number somewhere about a score, but there are also a great many garden forms. Several raised by Mr. H. J. Elwes, V.M.H., of Colesborne, Cheltenham, have within the last few years been given awards of merit by the Royal Horticultural Society's Floral Committee.

Botanically the nerines are divided into two groups, firstly, those in which the segments of the flower are nearly, if not quite, equidistant from each other, thus forming a regular bloom; and, secondly, those in which most of the segments curve to the upper half, the lower ones in some cases at a little distance suggesting a lip to the flower. To the first group, that is those with regular flowers, belong by far the brightest coloured kinds, most of them having flowers of some shade of scarlet, while in the second group they are mostly of a pink or rose tint.

In the first group the best known and most generally cultivated are—Nerine curvifolia, which is now regarded as the correct name of that so long grown in gardens as Nerine Fothergilli. There is a certain amount of individual variation, and to some of the forms varietal names have been applied. That known as Nerine Fothergilli major is one of the best. The flowers of this are of a brilliant scarlet colour. Nerine corusca is as a rule of a somewhat lighter scarlet than the last, but in a good form it is, I think, even more dazzling. The specific name of corusca is derived from the glittering coruscations which overspread the segments and give them the appearance of being frosted. This feature occurs in many other nerines, but in none to the same extent as in a good form of Nerine corusca.

The popular Nerine sarniensis, with deep rose coloured flowers also belongs to this group. It is largely grown in the Channel Islands, the bulbs being disposed of just as the flower stems make their appearance. In this state they may be readily sent some distance without injury, that is if they are carefully lifted from the beds in which they have been grown, and if potted directly on receipt, placed in the greenhouse, and watered, the flowers will open without check.

Of the second group the best known is Nerine flexuosa, a vigorous-growing kind with particularly crisped segments of a pink colour. There is a variety—N. flexuosa alba, with pure white flowers, and very pretty it is, affording as it does a direct contrast to the many brilliantly coloured forms. N. humilis is one of the dwarfest of all, the flowers being of a deep rose colour sometimes overspread with a slaty tint. One of the latest flowers is Nerine crispa or undulata, a small growing species with narrow grass-like leaves which are well overtopped by the umbels of delicate blossoms. The segments are exceedingly narrow, much undulated, and in colour white flushed with pink. This is one of the latest flowering species, as the blooms are often in good condition till Christmas. The most recent species is Nerine Bowdeni, introduced about half-a-dozen years ago. It was first shown under the name of Nerine excellens tardiflora, and as such it was given an award of merit in October, 1904. A prominent feature of N. Bowdeni is the very large size of the individual blooms, which are in colour deep rose-pink, with a darker line down each segment. Of the various hybrids or garden forms some of the best are unobtainable from the ordinary trade sources, in fact with few exceptions the different kinds are but little grown. The following are all good—amabilis, bright pink segments much undulated; atrorubens, coral red; excellens, bright rose; ingens, very large carmine flowers; Novelty, brilliant carmine red, and Manselli, the latter having flowers of a distinct shade of lilac-rose, and remarkable from the fact that it is exceedingly late in flowering.

CHRYSANTHEMUM HILDA BLICK.
A beautiful new, pure white decorative variety. A.M., R.H.S., October 25. Mr. C. Blick, Hayes, Kent.

As might be expected from plants that are natives of South Africa, they do not at any time require more heat than the temperature of a greenhouse. When the roots are in good condition they may be allowed to remain undisturbed for years, indeed, they will flower better when the bulbs are closely packed together than when they have unrestricted room. Such being the case it is evident that the potting compost must be of a lasting nature, and should consist principally of good fibrous loam lightened by a fair sprinkling of rough silver sand. The yellowish loam of a fairly heavy consistency, such as is so much used, particularly in the home counties, will suit nerines well. If of too heavy a nature a litle leaf mould may with advantage be mixed with it.

In the culture of nerines it is very essential to remember that they make their growth during the autumn, winter, and early spring months, hence after flowering they should be given a good light position in the greenhouse, and be regularly watered. The leaves will, sometime in the spring, turn yellow, which is a sign that the plants are then ready for a season of rest. They must then be fully exposed to the sun and kept quite dry. As at that time they are somewhat unsightly if kept in the greenhouse, the best place for them is in a frame in full sunshine. The lights may be tilted to allow of a free circulation of air, but the rain must be kept from them. Under these conditions they may be allowed to stand till the flower spikes make their appearance, which will be as a rule towards the end of the summer or early in autumn. Then the plants should be taken into the greenhouse and watered, when the flower spikes, and afterwards the leaves, will develop. This applies to the first section, that is the one to which N. Fothergilli and N. corusca belong.

The members of the second group in some cases at least push up their leaves and flower stems at the same time. W. T.

NEW PLANTS, ETC.

CYPRIPEDIUM PRINCESS MARY.

This beautiful cypripedium, figured in our previous issue, has been raised by crossing C. niveum and C. Helen II. The flower is bold and of good shape, pure glistening white, with spottings of deep rose-purple, these markings being most conspicuous on the dorsal sepal and base of the petals. F.C.C., R.H.S., Oct. 25. Messrs. Sander and Sons, St. Albans.

ODONTIODA BRADSHAWIÆ WESTONBIRT VAR.

A magnificent orchid with a fine spike of large rounded flowers that are of good size. The colouring is very beautiful, being bright red, with broad creamy margin round each segment, this in turn being very prettily shaded with bright rose-pink. F.C.C., R.H.S., October 25. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

CALANTHE DENSIFLORA.

An attractive species with long plicate leaves, and stout spikes of yellowish flowers borne in a dense apical cluster. A.M., R.H.S., October 25. Sir Jeremiah Colman, Bart. (gardener, Mr. Collier), Gatton Park, Reigate.

ODONTOGLOSSUM CIRCE.

A very distinct, new, and pretty hybrid between O. Cervantesi and O. Pescatorei. It is of dwarf habit, and shows the characters of O. Cervantesi in a marked manner. The round flowers are white with red-purple markings. A.M., R.H.S., October 25. Messrs. Charlesworth and Co., Haywards Heath.

CYPRIPEDIUM BRITANNIA.

A bold and handsome hybrid of unknown parentage. The broad and rounded dorsal sepal is white, with a large green base and a few lines of purple spots. The lip and petals are light greenish yellow shaded with purple-brown. A.M., R.H.S., October 25. Messrs. Sander and Sons, St. Albans.

CYPRIPEDIUM REGINALD YOUNG.

A fine cypripedium, showing in a marked manner the influence of C. insigne Harefield Hall; the other parent is C. Elmireana var. Hitchinsiæ. The flower is greenish-yellow, with a white apex and heavy spots of purple on the dorsal sepal. A.M., R.H.S., Ocober 25. Mr. H. J. Bromilow, Rann Lea, Rainhill.

CARNATION REGINA.

A handsome perpetual variety, bearing large salmon-pink flowers on long stems. The calyx is entire, and the petals are fringed. A.M., R.H.S., October 25. Mr. C. Engelmann, Saffron Walden.

NEPENTHES NOBILIS.

A very fine nepenthes derived from N. sanguinea and N. Curtisi superba. The pitchers are of large size, some measuring fourteen inches in length. The basal colour is green, but this is gradually obliterated by the crimson shading, which deepens towards the broad, handsome, and burnished rim. The specimen shown carried ten splendid pitchers. A.M., R.H.S., October 25. Messrs. Jas. Veitch and Sons, Chelsea.

ASTER NOVELTY.

A small-flowered variety of the ericoides class; it is very free, and has blush-coloured or pink flowers carried on gracefully pendulous branches. A.M., R.H.S., October 25; Mr. Frank Brazier, Caterham.

CROTON GOLDEN RING LYNWOOD VAR.

This is a very beautiful form of a very popular variety; it has narrower leaves than the type, and these are drooping, and spirally twisted. The colouring is gold, brown, and green. A.M., R.H.S., October 25. Mr. A. E. Bainbridge (gardener, Mr. Thos. Bell), Lynwood, Jesmond Park, Newcastle.

NERINE MANSELL SEEDLING.

A striking variety with large heads of brilliant rosy-cerise flowers, that are as large as those of the finest type of N. Fothergilli. A.M., R.H.S., October 25. Mr. Frank Lilley, Guernsey.

CHRYSANTHEMUMS.

Evangeline. — A beautiful pure white Japanese variety with very elegant drooping florets. F.C.C., N.C.S., October 24. Mr. H. W. Thorpe, Worthing.

Marie Loomes. — A very large but somewhat flat Japanese variety with incurved tips to the florets. The colour is rosy-crimson, with buff reverse. Commendation, N.C.S., October 24. Messrs. W. Wells and Co., Merstham.

Mrs. G. C. Kelley.—A very large incurving Japanese variety, which shows a great deal of the silvery reverse side of the broad florets, but not very much of the rosy amaranth of the upper surface. F.C.C., N.C.S., October 24; A.M., R.H.S., October 25. Messrs. W. Wells and Co.

Wells' Crimson.—A very free flowering and attractive border variety with a profusion of neat chestnut-crimson flowers with gold tipped florets. Commendation, N.C.S., October 24. Messrs. W. Wells and Co.

Belle Mauve.—A beautiful and useful late border variety carrying flowers of good size and form, and of a beautiful lilac-pink shade, with paler centre. Produces fine sprays of flowers. Commendation, N.C.S., October 24. Messrs. W. Wells and Co.

Mrs. Tresham Gilby.—A fine large single variety of rich yellow colouring; a grand sport from Bronze Pagram. F.C.C., N.C.S., October 24; A.M., R.H.S., October 25. Mr. T. Ward, Bishops Stortford.

Red Chief. — A very showy Japanese variety with loosely drooping florets. The colour is chestnut-red, with old gold mottlings and bright buff reverse. F.C.C., N.C.S., October 24. Mr. Martin Silsbury, Shanklin, Isle of Wight.

Mrs. W. G. Patching.—A very large and handsome single variety, with broad, substantial florets. The big blooms are of a rich golden bronze shade that is very attractive. F.C.C., October 24. Messrs. Cragg, Harrison, and Cragg, Heston, Hounslow.

Joan Edwards.—A splendid large single variety with finely rounded blooms of deep and brilliant rose-pink colour. F.C.C., N.C.S., October 24; A.M., R.H.S., October 25. Mr. Phillip Ladds, Swanley Junction.

Nora Reilly.—A splendid addition to the Japanese market varieties, as it is a clear bright primrose-yellow sport from Felton's Favourite. F.C.C., N.C.S., October 24. Mr. P. Ladds.

Mrs. George Hartman.—A large Japanese variety, with narrow and sometimes divided florets, that droop prettily. Colour, deep crimson, with buff reverse. F.C.C., N.C.S., October 24. Mr. W. Jinks.

Mrs. F. C. Stoop.—A graceful and full-sized Japanese variety, reminiscent of the old Belle Paul, but more refined and beautiful. Cream suffused and edged with rose. F.C.C., N.C.S., October 24. Mr. Norman Davis.

Framfield Bronze.—A decorative variety of good substance; the colour is a combination of deep chestnut-red and dull gold, giving a bright bronzy effect. F.C.C., N.C.S., October 24. Mr. Norman Davis, Framfield.

Mary Poulton.—An effective silvery-pink Japanese variety, figured in our issue of October 29, p. 852. F.C.C., N.C.S., October 24. Mr. Norman Davis.

Henry Poulton.—An intense crimson almost blood-red Japanese variety, with buff reverse. A striking variety of rich colour and good size. F.C.C., N.C.S., October 24. Mr. Norman Davis.

Mrs. A. Herbert.—A large and attractive creamy-white Japanese variety with deeper centre. Commendation, N.C.S., October 24. Mr. Norman Davis.

Countess of Granard.—A graceful Japanese variety of good size; yellow with deeper centre. Commendation, N.C.S., October 24. Mr. Norman Davis.

Mrs. Sam Nash.—A charming single variety of free growth and fairly large size. The colour is an exquisite shade of clear pink. Commendation for colour, N.C.S., October 24; A.M., R.H.S., October 25. Messrs. W. Wells and Co.

J. H. Greswolde Williams.—A large and attractive yellow single variety. A.M., R.H.S., October 25. Messrs. W. Wells and Co.

Miss Mary Pope.—A large-flowered single variety with pleasing bright blush-pink flowers, rather deeper in colour at the tips. A.M., R.H.S., October 25. Mr. Frank Brazier, Caterham.

Hilda Blick.—A decorative variety of the utmost grace and refinement. The flowers are of good size, purest white, and carried on stiff stems. A fine acquisition. A.M., R.H.S., October 25. Mr. C. Blick, Hayes, Kent.

SOLDANELLAS IN WINTER.

Few who own the charming little alpine Moonworts, or Soldanellas, will venture to assert that they are free flowerers in our climate, but will agree in stating that they are shy bloomers in our gardens. This is probably due to the absence of the covering of snow which protects them at home, and which is but poorly supplied in this uncertain climate of ours. Whether this be the case or not, it is a fact that the soldanellas generally grow well enough, so far as regards leaves, making neat little plants with thickish orbicular leaves, but, to our regret, yielding us few of their lovely little purple or blue bells. The best of the soldanellas to bloom with us are S. Clusi and one called in gardens S. pyrolæfolia, neither of which names, by the way, are recognised by the "Index Kewensis," but are well enough known in nurseries. They seem to represent forms of S. alpina.

These and the other soldanellas are more satisfactory if they are afforded the slight shelter from winter rains supplied by a sheet of glass elevated some four or six inches above the plants, and fixed in position by a wire or other support.

This evidently induces them to flower more freely, and those who have experimented with this contrivance have generally been well satisfied with the results. It is a simple contrivance, and I have found that from early in October until about the beginning of April will be a sufficient period for supplying this protection. With some other plants a slate held above them in the same manner is as efficient, but not having tested this in the case of soldanellas I dare not venture to give any assurance that this will serve the purpose equally well. Those who have not tried a sheet of glass over the soldanellas will be well advised to do so at once.

S. Arnott.

Queen Pineapples.—The plants intended for fruiting next summer should by the beginning of this month have been brought to a resting state, and from that date until the temperature is raised, with a view to cause them to push fruits, the night temperature should range from 55 to 60 degrees, that for the day being five higher, with a bottom heat of from 75 to 80 degrees. These conditions, accompanied by less atmospheric and root moisture—only enough of each being given to prevent the plants from suffering—will keep the stock through the winter in a healthy state of rest, so that, later on, when excited by higher temperature, they will readily respond, and without fail push their fruits. Young plants raised this autumn from suckers should receive similar treatment, but, owing to the comparatively small size of their pots, they may require closer attention to root moisture.—T. Coomber, The Hendre Gardens.

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All Good Flowering Bulbs; Worth Double.

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100	Emperor	3/0
100	Empress	3/0
100	Henry Irving ...	3/0
100	Golden Spur ...	3/0
100	Horsfieldii	3/0
100	Victoria	3/0
100	Obvallaris	3/0
100	Grandis	3/0
100	Sir Watkin	3/0
100	Stella	1/6
100	Princeps	2/6
100	Ornatus	2/6
100	Double Daffs ...	4/0
100	Dbl. White Narcis.	2/6
100	Pheasant Eyes	2/6
100	Frank Miles ...	1/6

TULIPS

100	La Reine	3/0
100	Cottage Maid...	3/0
100	Chrysolora	3/0
100	D. de Parma ...	3/0
100	Keizerkroon ...	4/0
100	Golden Crown...	3/0
100	Picotee	4/0
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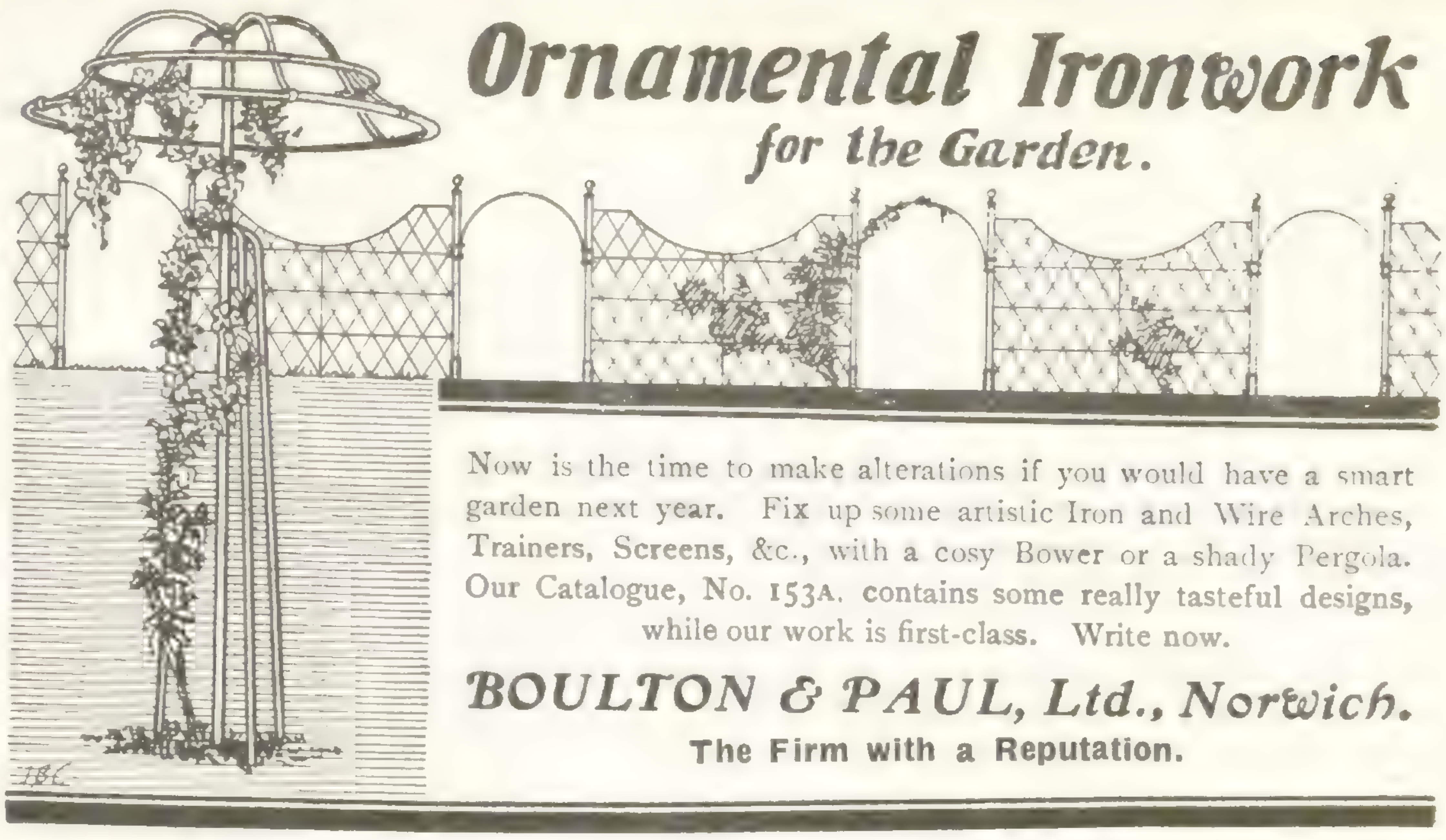

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MAY-FLOWERING TULIPS.

These are usually divided into two great classes, but where one begins and the other ends is, speaking from the amateur's point of view, scarcely clearer than the line of demarcation between the pansy and the viola. One of these great classes is the Cottage group, so called because many, perhaps most, of its members have been gradually collected from old cottage gardens, mainly in this country, where they have been flowering for many years, in some cases for generations, unknown to florists, even if they were interested in them. Some of them are relics of bygone times, when tulips were fashionable flowers, a craze, in fact, the change in garden practice leading to their exclusion from the gardens of the well-to-do, when they found refuge, so to speak, in cottage gardens, in which they are now being sought out by the modern connoisseur. The other great group of May-flowering tulips is known as the Darwin group, the members of which are very strong growing, often two feet or more in height, the blooms having the leaves of the perianth, or petals, very rounded at the top, the prevailing colours being rose, crimson, maroon, and various shades of purple and lilac; yellow, which is such a characteristic colour of the Cottage tulips, either wholly or in part, being represented in very few varieties of the Darwin class. The following notes will deal mainly with the cultivation and uses of the Cottage tulips in all their wonderful variety.

With bulbs generally there is no doubt about the advantages possessed by the owners of a light soil, but these Cottage tulips are perfectly at home in a clay soil, often producing their finest blossoms when the bulbs are six or eight inches deep in a rich old garden soil with a clay basis. When planted in mixed borders in such a soil they need no animal manure, but basic slag applied in the autumn will add to their health and vigour. In a light soil they will be improved by the application of cow manure, dug deeply into the soil before planting, and an annual dressing of superphosphate in the early spring, lightly hoed in or worked in with a small hand-fork. If the ground they occupy is wanted in the summer-time they may be taken up soon after flowering is over and replanted, or heeled in in the kitchen-garden quarters to mature, the flower stems being at the same time cut off. They should be taken up when the leaves are dry and slowly harvested—not laid out in the June sun to bake—and the sooner they are replanted after September the better. Where they are planted permanently in mixed borders, as distinct from annual planting, the clumps should be taken up when it is seen they are getting crowded and the blossoms becoming smaller, deferring the operation, when it can be managed conveniently, till the foliage is turning yellow, and either replanting at once or in the autumn.

Beds of tulips, planted in rows with bare ground between, are, in the writer's opinion, crude in the extreme, like "Rule Britannia with variations" to a musically-educated man, and though we may admire the gorgeous effects of wide stretches of them at Haarlem and elsewhere, in the garden we do not want the bang in the eye which they give us. Such beds are bad in two ways—the rows, and the bareness of the soil between, for in neither direction do we ever see anything like it in nature. There are so many plants that can be used for covering the ground, such as myosotis, double arabis, Limnanthes Douglasi, silene, alyssum, aubrietia, primroses, polyanthuses, London pride, etc., which are not only pretty in themselves, but help to set off the beauty of the tulips, either by harmony or contrast of colour effect, the surfacing plant always being chosen with reference to the colour of the tulip with which the bed is planted. To give the surfacing plants a chance the bulbs must not be planted so closely together as they would be otherwise, or the foliage of the latter will smother them. But better than rows are clumps of six to a dozen with a space of one to two feet between the clumps. This is some little approach to the method of Nature, who does not have bare ground round her bulbs, unless it is covered with a thick carpet of dead leaves. When this system is adopted the relative importance of the groundwork is increased, as well as the scope for varied effect, till we get comparatively tall plants like the shorter doronicums, e.g., D. austriacum and D. caucasicum, amongst the clumps, producing a very gorgeous effect.

After all, the most fitting place for the Cottage tulips is the permanent hardy flower border, where they may stand undisturbed amongst the perennials for several years, forming clumps producing a dozen or more blooms, as they will do in a soil which is not too stiff, the flowers being of varying heights and sizes, owing to the congested state of some of the bulbs, and producing the effect of a natural pyramid of blossom. The most effective use of these tulips I have ever seen is along the border of a nut walk, where there is a three-feet gravel path, and then about two feet of soil each side between the edge of the path and the nut-stubs, these borders being filled with spring flowers of all sorts covering the ground in a semi-natural struggle for existence, little being done save weeding, and amongst all these things are large clumps of golden Cottage Tulips—Golden Crown mostly—giving one the impression that is the way they grow in nature. There is nothing elaborate about it, and anyone with the space at command could produce a similar effect in a couple of years.

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Naturalised in grass and wild gardens, too, excellent effects may be obtained, that just described being, in fact, an example. For growing in pots and tubs the tallest varieties should be avoided, but even when growing those which attain no greater height than eighteen inches it is necessary to use large pots to produce a good effect, a forty-eight pot containing three, or even four bulbs, being much too small in proportion to the height of the plants. Twenty-fours are the smallest size which should be used, and eighteens are better, but they take a good many bulbs.

Little need be said about varieties, for they are as varied as people's tastes. Generally speaking those that flower in the first half of May are more satisfactory than those that flower towards the end, as they are not so likely to suffer from unseasonable heat. Those who are partial to Tennyson's

"Deep tulips dashed with fiery dew,"

will like Billietiana, yellow, margined scarlet at the base; Bouton d'Or, deep golden (syn. Golden Beauty); Golden Crown (sometimes erroneously called Golden Eagle), and Royal Crown, scarlet, margined yellow. These flower in the first-half of the month in a normal season and are not too tall.

A great advantage of these tulips is that almost any situation suits them, even a north aspect, where they last in flower longer and retain their colour better than anywhere during one of those untimely bursts of heat we sometimes get in the middle of May. On the other hand, in such a situation the bulbs may deteriorate after a year or two, unless the soil is very favourable.

Alger Petts.

THE DEVELOPMENT OF THE ROCK GARDEN.

Few aspects of the garden are so brimful of interest at all seasons as the rock garden, and certainly little apology is needed for referring to its development.

Those garden lovers who are old enough to remember garden adornment during the sixties and early seventies will recollect the hideous masses of burr-bricks, clinkers, shells, cement work, etc., which, in many cases, had to do duty as rockeries and hardy ferneries. Fortunately such atrocities are rare nowadays, thanks to the prevailing good taste of garden lovers, and the progress made in natural gardening and in the study of high mountain and other plants.

Travel has done much to forward the cult of alpine plants, and the collector has found the need of a suitable home for his collection, thus helping to usher in the reign of the rock garden.

It is not altogether my province to discuss the relative value of various typical gardens, but rather to advance the whole idea of rock gardening. Experience has led me to find in the furnished rock garden a multitude of charming effects, an everchanging colour display, a veritable mine of floral interests.

A natural rock garden is the ideal. A garden where one has rugged broken banks and braes, with outcropping rocks, heavy boulders, and weatherworn gorges and waterways. A bit of pleasant scenery, combining light and shade, rock, water, and woodland effects, which Nature has been at work upon for ages. This is the ideal, the truly natural rock garden, where by the judicious felling of a tree or two, the clearing of certain overrunning bushes, the partial uncovering of nearly hidden rocks, one can find himself in possession of as charming a scenic rock garden as was ever devised by the cleverest constructor. This, however, is not general. As a rule, the rock garden has to be formed by manual labour and thought. In this one is often greatly aided by the site available, for one can often select a position where banks and slopes, hillocks and valleyed depressions, are already in existence. If this is so, and a sufficiency of suitable stone is available, then the task is a pleasant one.

He has the natural "run" of the ground before his eye, suggesting further improvements in the shaping of the ground, by the emphasis of the good points, and making good deficiencies. For instance, a bank abutting a little further than its fellows will suggest the placing of a bold bluff of rocks which will perhaps prove the key of the whole scheme. A low depression between two banks may be extended and turned into a rock-girt valley, or a traversing route for stepping stones, or a mountain streamlet; one could multiply suggestions, but space forbids, so that I must leave the idea with my readers. It is astonishing, too, how a good background helps one. A broken belt of shapely pines, a few well-placed symmetrical forest trees, a dominating oak or beech, or even a coppice of hazel and birch crowning a ridge, will work wonders in creating an effect, restful to the eye, and a finish to a well-arranged foreground. But to lack all these things! Picture, if you will, the difference of making a rock garden where the ground level is flat and uninteresting, where the soil is a stiff unkindly clay, where the rocks are difficult to obtain, and many of them unsuitable, and, worst of all, where there is "no background," nothing except perhaps a hideous fence, a clipped hedge, or a few wildling bushes.

At the present time, when the love of garden beauty is becoming so extended, and so virile a part of English life, it is unnecessary to laud the pleasure of a rock garden, but yet there are associated thoughts which will have their way, and show themselves definitely.

For instance, the question of domination calls persistently. Certain subjects should dominate certain points, being more effective than a misty mass of indescribable subjects. The Japanese have made a fine point of this, excelling by far the average ideas of English planters. It may be a dark-hued pine, a mass of glowing azaleas, a bold grouping of lilies or iris, or a serried wealth of lowlier beauties; there is certainly always something to give the "keynote" at each point of vantage. Even in the rock plants themselves this idea is applicable, and that is why colonies of certain subjects are so favoured.

I have noted spots where the blue of aubrietias and the gold of alyssums have provided the principal note of colour in spring. Saxifrages in starry sheets, alpine phloxes massed with their varied degrees of colouring, the sun-borrowed brilliance of helianthemums, the telling blues of muscaris, lithospermums, and gentians, the rich velvety butterfly grace of Viola gracilis, the snowy pictures created by arabis and iberis, cerastium, and anemones, are but typical features of many rock gardens, yet they are sufficient to impel admiration from all who see them during the flowering season. To the planter I would tender the advice to "plant tellingly." Group your best subjects upon the vantage points. Let them dominate the garden in their respective seasons of beauty. Put the glowing colour of Japanese azaleas, of alpine rhododendrons, of Berberis Thunbergi, against the grim dark outline of the rocks.

Plant not as if you were making an annual display, but rather for the garden beauty of a generation or more. If possible utilise the idea of the twofold planting. Early-flowering bulbous subjects among the later-flowering rock plants. Anemones, scillas, galanthus, etc., among the hardy ferns, dwarf peat-loving subjects amongst the azaleas and rhododendrons, or breadths of ericas among sparsely-set dwarf pines, Azalea pontica, and Daphne mezereum.

When planted and established the rock garden requires constant attention. Some specimens will need thinning, others replanting. Excessive growth of certain plants must be restricted in order to give a chance to weaker-growing subjects. Division and top-dressings, weeding and occasional watering, will, of course, call for attention.

In the selection of plants one must, of course, follow their own desires, as everyone must necessarily have some ideas of their own in the matter of arrangement, and in the planting of various subjects. One rock garden of recent date has by direction of the owner been planted largely with a varied collection of British plants, with the object of naturalising many of our rarer "natives," and as the garden in question combines sunny exposures and shady nooks, pools and bog beds, and high rocky ridges, one may realise the possibilities of a good collection amid such surroundings.

With the increasing love of alpine and rock plants, and a more real appreciation of natural surroundings for plant life, one may be assured that rock gardening art will be carried to a higher degree in the near future than ever before. A sign of the times is the way in which nurserymen and florists are taking advantage of the boom in rock gardening. The boom is good for trade certainly, a good thing for all concerned, but better still is the awakened interest, the kindled enthusiasm, and the appreciation of the garden-loving public for the gems of high mountain floras.

P. S. Hayward.

THE AMERICAN WITCH HAZEL.

Hamamelis virginica, or the American Witch Hazel, is grown in English gardens fairly commonly, but is lost sight of to a great extent except for a few weeks in autumn, when the yellow flowers, with their curiously twisted petals appear, and when the leaves take on their brilliant golden colouring preparatory to falling. There is, however, another use to which it is put that is less familiar to many people, for it is used largely as a stock on which to graft the more showy Chinese and Japanese kinds which brighten up our gardens during January. Plants for this purpose are grown in pots, and grafting is carried on indoors during early spring. Stocks are generally raised from imported seeds, though a considerable number of seeds are sometimes matured in this country.

The people of America have long found another use for the shrub, for they collect the bark from the smaller branches, and from it an astringent extract is obtained, which is used in the preparation of cooling ointments and for other purposes. The leaves formerly had a place in the pharmacopœia, though they appear to be of far less importance than the bark at the present time. Hamamelis virginica requires no special cultivation, and may be expected to grow under similar conditions to the common Guelder Rose; therefore, it might well be planted in positions that are not quite good enough for the showier kinds, such as H. mollis and H. arborea.

Kew. W. Dallimore.

Hippeastrum reticulatum.

The "Dictionary of Gardening" gives the date of the introduction of this Brazilian species of hippeastrum as 1677. It must, therefore, be regarded as the oldest of the hippeastrums, and also one of the most distinct. At the same time its comparative scarcity is no doubt owing to the fact that it is less vigorous in constitution than many of the others, and, flowering as it does at the end of the season, it has not been much employed by the hybridist. This hippeastrum is practically an evergreen, the strap-shaped leaves being of a dark green colour, with an ivory-white midrib. The flowers are of a pretty shade of pink, with darker veinings.—W. T.

THE POTATO CROP IN SCOTLAND.

The fine, dry weather that has been experienced generally over the greater part of Scotland for the past two months, has produced an excellent effect upon horticultural and agricultural matters. In regard to the latter, it enabled the corn harvest, which was comparatively early, notwithstanding the untoward weather conditions at certain periods during the summer, to be cut and garnered without much delay, and this in turn had its action upon the potato crop, which at the present date—October 25—is practically raised and stored, even in the latest districts. The work, too, has been accomplished under very favourable circumstances, the tubers being clean and dry, thus enabling close inspection to be made for any trace of disease.

Being now so near the close of the month, and with every indication of a continuance of dry weather, it may confidently be predicted that in the South-West of Scotland the total rainfall for the month will not reach to one-third the amount that fell in October last year, which, at this station, was upwards of seven inches, and was immediately succeeded by frost of unusual severity for so early in the season. This resulted in large areas under crop having the tubers damaged to such an extent that they became unsaleable, and in some instances were rendered useless for any purpose. In the district referred to the present crop is considered, as raised from the soil, one of the heaviest on record, and prices are correspondingly low, and altogether in favour of the purchaser. This somewhat unsatisfactory state is accentuated by the anxiety of growers to dispose of their stock offhand, owing to the prevalence of disease. The excessive rainfall and accompanying atmospheric dullness in the closing days of July and throughout August was very propitious to the spread of the fungus, and this alone tends to very considerably reduce the value of the bountiful crop.

The potato boom, and the fabulous prices for seed tubers, are both things of the past, and whether the former did any real good is perhaps questionable, but certainly there are numerous varieties at the present day, though none as yet disease proof, that are a great advance in regard to quality and productiveness on those cultivated thirty or more years ago.

The one-time famous Up-to-Date has apparently lost its high reputation as a standard maincrop variety, it having in recent years greatly deteriorated as a heavy cropper, and is now no more immune from disease than are many others. Of some twenty of the best known and most reliable varieties, collected in bulk, that recently came under my notice, not one among them could justly claim any specific advantage as being disease resisting, though with some of them the taint was very slight, yet it existed, and in all probability would develop rapidly, once the tubers were stored or clamped, and covered. As already stated, the crops have been raised under the best possible conditions, and the tubers are free of soil, dry, and bright in appearance; had the reverse of this been the case, the losses through the winter, owing to the spread of the disease and the infection caused thereby, would have been greater than is now probable.

James Day.

Galloway House, Wigtownshire.

APPLES IN 1910.

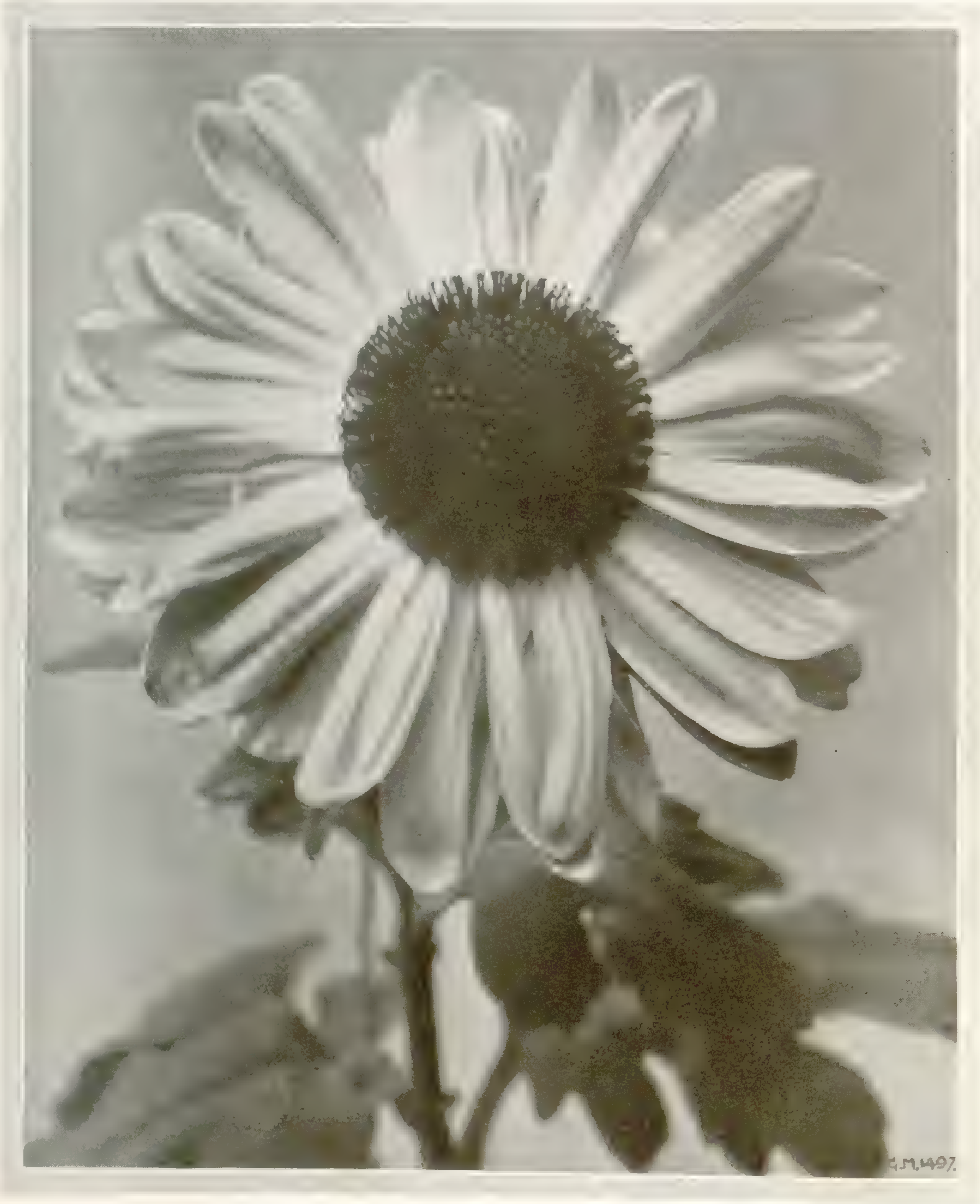
The apple crop of this season while generally light is also remarkable for the variation in the cropping of some varieties, and, although there is a scarcity of apples in most gardens, there are a few in which a fair crop has been gathered in. It is well known to fruit growers that many apples are what may be described as biennial croppers. These, all other things being favourable for a crop, bear a crop every second year. While taking into consideration this peculiarity of some varieties, it is still somewhat puzzling to account for the cropping and non-cropping of many apples this season, the trees of which have been growing side by side. If it is the maturity of the wood or any of the other essentials we are told are so necessary for the production of fruit, how is it that one row of trees is laden with fruit and the next row fruitless? I have seen many instances of that this season.

Again, I have had trees under my notice where one side has cropped well and the other side had scarcely a fruit on, and these much smaller than on the side of the tree which carried a crop. Judging, however, from the appearance of the leaves this may have been caused by cold blasts from the north-east in the early summer or late spring.

Of the several varieties which this season have carried a good crop, Worcester Pearmain appears the most prolific, in fact, it might be called a "Worcester year," and the most fruitful kind of tree this season has been the bush tree. Tom Putt has carried good crops, also Court Pendu Plat, Bramley's Seedling, Lady Henniker, Barnack Beauty, Royal Somerset, Brabant Bellefleur (but it may have been the year for this variety, as I have found it a variable cropper); New Northern Greening, a promising apple, far superior to the old variety in appearance, and Sleeping Beauty, an October cooking apple.

In one garden or orchard which came under my notice, the two varieties which were carrying fruit were Lane's Prince Albert and Bismarck, and these were cropped heavily. Despite the scarcity of apples and pears in many districts this season, there was in most classes a very creditable display at the R.H.S. show of British fruits, and, although we have been bewailing the uncongenial season, there were many dishes that apparently had been basking in the sunshine, perhaps they had forestalled the "Daylight Bill." It is evidence of the skilful cultivator who takes advantage of every ray of sunshine, and all the little details which lead to success, and who shows what may be accomplished in an almost sunless summer.

T. H. Slade.

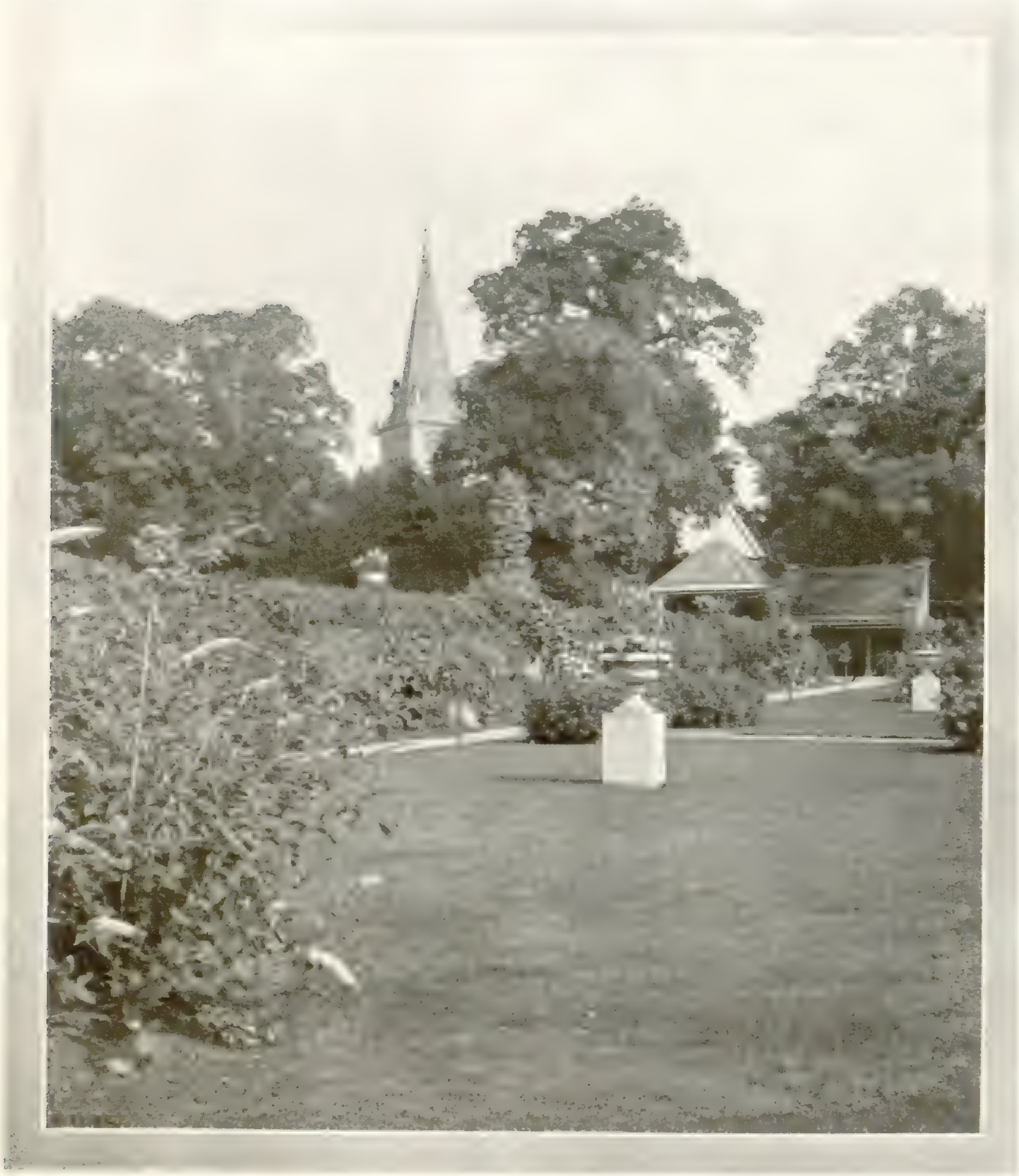


CHRYSANTHEMUM JOAN EDWARDS.

A fine rose-pink single variety of excellent size and form. F.C.C., N.C.S., October 24; A.M., R.H.S., October 25. Mr. Phillip Ladds, Swanley Junction.

GARDEN TEA HOUSES.

Many changes have been made in the garden and its accessories within recent years, and one of the most noteworthy of these has been in relation to the structures provided for the purpose of rest and refreshment. For a long period it was the custom to have in the garden a house of a rustic character, built it may be of reeds and wood, or with branches and boards of oak and lined with match boarding, and very comfortable some of these were. But for a long period it was the practice to build them without doors or windows, and it is surprising that this practice should have continued until a decade or so ago. Buildings of this description had two objections, the occupants were exposed at certain times to cold draughts, and generally the light was not sufficient to enable them to read or do fancy work. In some designs provision was made for openings at the side for the purpose of admitting more light to interior than could enter through the doorway, but these openings admitted air as well as light, and frequently the draught was so keen that if not positively dangerous it was decidedly unpleasant. Of late years the more expensively designed summer houses of a rustic nature have been provided with windows and doors, and where plain glass has been used the light has been ample.



AN ELEGANT GARDEN TEA HOUSE
In the gardens of Elvetham Park, Winchfield.

A rustic structure was almost invariably regarded as essential whether the garden was English or Italian in design; but that was not perhaps so important a matter as may at first sight appear, as a secluded spot was generally selected for the site. It is not at the present time easy to understand why garden architects in bygone days should have shown such remarkable unanimity in selecting sites where the houses could not be seen, and their occupants could see but little, unless it was that they considered every form of structure, excepting the mansion, an eyesore.

Now the structures required for rest and refreshment are regarded as an essential part of the garden, and sites are selected for them where they will have some prominence, and where also those who resort to them for rest or retirement can enjoy the charms of one of the most noteworthy of the beauty spots within the boundaries of the garden. They also show a great diversity in design, but they all agree in being properly lighted and ventilated. The structures of rustic wood work and of reeds have not disappeared from the garden, and no one could wish public taste in relation to them to undergo so great a change as this would imply. A rustic house with thatched roof is herewith illustrated, and is so arranged that tea can be taken inside the building or on the lawn, as may be desired, and both lighting and ventilation are perfect. This structure is in the gardens of The Pleasaunce, Overstrand, the marine residence of Lady Battersea, and it has the further advantage, as will be readily seen, of occupying a site in an extremely beautiful part of these delightful gardens. The other structure illustrated is of a quite different design, and is in the gardens of Elvetham Park, Winchfield, the seat of Lord Calthorpe. As in the case of the thatched summer house at The Pleasaunce, it is admirably adapted to its purpose, and commands a view of a beautiful part of the grounds.

HINTS ON SPRING BEDDING.

As the season is such a late and open one it may not be out of place to note that the employment of spring-flowering plants, such as myosotis, wallflowers, arabis, primrose, polyanthus, etc., in company with bulbous subjects, has been a gradual business, but it is now fully recognised and acted upon. The association brings about vastly more artistic and picturesque effects than when these are arranged independently of each other. Until recent years certain beds and stretches of border were allocated to shrubs of dwarf, compact habit, spring-flowering plants, and bulbous plants respectively, and under these conditions a very considerable expanse of soil was bare and innocent of vegetation or greenery over many months. We may be reminded that such portions were covered with a thick layer of bright and cleanly cocoa-nut fibre refuse, but even this does, or did, little to compensate for the absence of life in the scene. Happily this is all changed, and as far as the decorative portion of the garden is concerned, Mother Earth wears a perpetual, if ever-changing robe.

It is interesting to note that early-flowering deciduous shrubs, or trees in shrub form, now play a part in the decorative scheme, and it may be said they are a decided acquisition. The double cherries contribute a great wealth of florescence, and the same applies to the flowering peaches, double form, and Pyrus malus floribunda. I noted a large bed last spring filled with crimson wallflowers, and between them bushy specimens of double cherry about three feet in height were literally smothered with bloom, while a wide belt of myosotis Royal Blue formed a splendid framework. Very soft and pleasing was a combination of Dicentra spectabilis and Arabis albida flore pleno, the last named acting as a carpet, and being carried to the grass verge.

An irregular-shaped bed with raised mounds of various sizes and shapes planted with hyacinths and tulips in shades of purple, with a dense carpet of Silene pendula compacta, attracted my attention, and I commend this informal fashion to planters generally. Many admirers were found around a bed in one of the London parks, containing Proserpine and white Joost Van Vondel tulips, with a mass of the old typical Myosotis dissitiflora underneath, and what a very fine combination it was! Scarcely less effective, with delicious fragrance added, were deep golden wallflowers with blue and red hyacinths between them. It was very clear that geometrical precision was out of the question when the hyacinths were planted, and they were evidently thrown down in careless fashion and planted where they fell.

Crimson tulips do much to enhance the beauty of light-coloured primroses and polyanthuses, and for associating with those of crimson hue, pure white, or golden yellow tulips are to be recommended. It is difficult to explain why violas are not more exclusively employed as carpet plants, seeing that they bloom profusely in spring, and may be allowed to act in the same capacity in the summer arrangement of bedding plants. Walter H. Aggett.

GRAFTING ROSES.

Grafting is a very important method of increasing any variety of rose, and is much more adopted now than formerly. In the case of many teas and their hybrids, also the polyanthas of dwarf and compact growth, it is not easy to obtain the required number of buds during summer; but the plants frequently produce wood suitable for grafting, and so this method of increase is selected.

I have already referred to two methods of propagation, viz., budding and cuttings, and a few weeks ago an article appeared upon the various stocks for roses and the most practical way of securing the same. It may appear full early to treat on grafting, but as the stocks need attention at once I am induced to send some notes now.

Stocks are many. Both the seedling and cutting briar, and the manetti, may be lifted and potted at once. Personally, I much prefer seedling to cutting briar stocks for grafting, because the former have less pith, and are sounder throughout, resulting in a better union of rose and stock. Do not use a larger pot than will accommodate the roots fairly comfortably, or much space will be taken up in the propagating case. Even if only three parts of the roots are in the potting compost it will answer our purpose. Deep potting does not allow of the graft being worked so closely upon the roots as is desirable, and it is the same here as with the budded stocks, we need to get as close to the crown of roots as possible, so as to avoid future suckers from the stock. As we plunge the potted stock at once there is no distress resulting from the roots not being quite covered with potting soil.

A HANDSOME GARDEN TEA HOUSE WITH THATCHED ROOF
In the Gardens of The Pleasaunce, Overstrand.

Plunge the stocks in a pit or cold frame and shade for a time, to prevent shrivelling. Very soon the roots will commence new growth, and directly this takes place is the best time to graft. If you have no rooted or seedling stocks in a suitable condition pieces of briar root can be used, but they are not so good as a stock. Let there be as much fibre as possible upon the roots, I am aware that many thousands of briar stocks especially seedlings are grafted before being potted, but where a few only are wanted it is certainly preferable to have the roots partially established, and I also find it best for the stock to be a little in advance of the scion or graft.

The graft, or scion, can be of two distinct stages of growth, and I will discuss the ripe or dormant wood first. By far the best grafts are obtained from wood grown under glass or upon a wall. Any wood that has been frosted should be avoided as much as possible, because a considerable quantity of this dies when introduced to artificial heat, and is not so satisfactory as the smaller and riper wood from pot plants. Last season's wood is the best. Let the scion have more than one eye, if practicable, and endeavour to have the bottom eye quite at the lower end of the graft. The short lateral growths of teas and hybrid teas, also the shoulders from which these spring, make excellent grafting wood.

Then we have what may be called a green graft, i.e., wood about half-ripened and carrying healthy and fully-developed foliage.

We will suppose the stocks are ready. Lift, and shake away the plunging material so as to leave the crown of the stock clear. Cut off the top of the stock so as to leave only two or three inches above the crown, letting the cut be slightly slanting rather than level. Upon the longest side or upper part of this cut is the place to fix the graft. By placing it on this side we avoid damp running down between the graft and stock, and a certain amount of moisture is sure to accumulate on the top of the stock while in the propagating case. The amount of wood to be pared away from the stock depends entirely upon the thickness of the scion, but endeavour to have these fit in due proportion.

Cut the scion in a slanting direction, letting the cut be of the same length as that upon the stock, and, as nearly as possible, at the same angle. Always see that the bottom of the graft is well down to the lower part of the cut upon the stock. It is here that the first union generally takes place, and the lower eyes of the graft are often the most important part of the future plant. Tie the whole firmly together. Formerly moss, clay, and grafting wax was used to keep the air from the cuts, but this is seldom made use of nowadays in up-to-date propagating.

Place the grafted stocks in a close propagating case, but if this does not exist a box can be used, covered over with glass to keep the whole close. The box may be plunged in some cocoanut-fibre upon a warm bench, and this will generally answer the purpose. Keep dark until the callus forms; in fact, close and dark conditions, without stale moisture in the atmosphere, is the ideal. Wipe the glass early in the morning, or sometimes twice a day, to remove condensed moisture. Do not water over the graft at any time until the union is quite perfect. If the roots are dry water the soil only. One is sure to find a number of suckers no matter how carefully the work may have been done, and, needless to say, these should be removed at once. As the plants show signs of growth gradually inure them to light and air. One is not likely to get all of them in one stage at first, and selection should be made for removal into less close quarters as they advance in growth. It only remains to pot on, and treat in the ordinary way, but the potting should be deep enough to cover the union of scion and stock.

For green grafting we need the stock a little further advanced in growth. Cut off as usual, but instead of making a cut by paring away a part of the stock, make a clean cut with the point of the knife from the crown to the top of the stock. Cut the scion with a thinner and much slighter base than in the case of a ripe graft, and slip it under the bark, so that the bottom reaches the lower end of the cut made in the stock. Now tie, and treat the same as in the other system. Rosarian.

HARDY FRUITS FOR CUMBERLAND AND WESTMORLAND.

The following instructive paper was contributed to the Northern Counties Fruit Congress by Mr. W. B. Little, F.R.H.S., instructor to Armstrong College and C.C. horticultural instructor:

The Cumberland County Council have had established for some seven or nine years three experimental fruit plots situated in various parts of the county, and they vary from a quarter to one-third of an acre in extent. The Westmorland County Council have one plot, situated at Lyth, near Kendal. At each station about forty varieties of apples have been planted, some of the trees have been duplicated, whilst others have not. The types of trees grown are bush and half-standards. The former are on free and paradise stocks, and the latter on free stocks.

Apples.

At Abbeytown, which is some six miles from the Solway Firth, the undermentioned varieties have given the best results: Lane's Prince Albert, Domino, Bismarck, Golden Spire, Scotch Bridget, Royal Jubilee, Bramley's Seedling, Newton Wonder, Grenadier, Yorkshire Beauty, Worcester Pearmain, Allington Pippin, Mr. Gladstone, and Maltster. The following have borne well for a few years, but the trees are now severely attacked with canker, in fact many have been cut down: Cellini Pippin, King of Pippins, Northern Dumpling, Warner's King, Blenheim Pippin, Ecklinville Seedling, Lord Grosvenor, Stirling Castle, and Lord Suffield. The undermentioned have never given satisfaction: Court Pendu Plat, Lady Henniker, Belle du Pontoise, King of Tomkins County, and New Hawthornden.

At Newton Rigg County Council Farm School, the plot stands very much exposed, and is 560 feet above sea level. The varieties which have given the best results here are included in the list of those doing well at Abbeytown, with the following in addition: The Queen, Early Victoria, and Liddle's Seedling. All that have succumbed to canker at Abbeytown have met the same fate at Newton Rigg, and the undermentioned in addition: Lady Sudeley, Gloria Mundi, Norfolk Beefing, Potts' Seedling, Ringer, Hambling's Seedling, Beauty of Kent, Dumelow's Seedling, Hoary Morning, Lord Derby, Early Red Margaret, Schoolmaster, Cox's Pomona, and James Grieve.

At Brampton, nine miles north of Carlisle, a station was formed in a corner of the allotments. The soil is heavy and cold. The varieties which are doing well at Abbeytown and Newton Rigg are doing well here, and vice versa, with the exception of King of the Pippins, which so far is healthy, and this year carrying a good crop, but whether it will remain so much longer or not is doubtful. I might mention that this was the last-formed plot in Cumberland. The most interesting point in connection with this plot is that up to the present year the trees have borne very little fruit. In weighing this matter over, I noticed that the branches were inclining to the north-east, thus showing that the prevailing wind was from the south-west. On this side no bees are kept within a considerable distance, and I thought it probable that the bees on the north-east side, about half a mile away, when leaving their hives in the early spring, would not rise and fly against the wind. I then decided to seek the aid of Mr. Avery, expert to the Cumberland Beekeepers' Association, and he brought to the plot two hives of bees. Afterwards, observations were kept in various ways, which will, I expect, be dealt with by Mr. Avery in his paper. Briefly, however, the net result was a splendid set of fruit on nearly all the varieties, including pears. I have recently been carrying out an election of the best varieties of fruit trees growing in Cumberland and Westmorland, but I would not say that the results are conclusive, because all the varieties I have previously mentioned are not known to many of the electors.

Pears.

I do not think it worth while devoting much ground to the cultivation of these fruits unless it be in very favoured localities or on walls. There are only a few pears that do really well in the North, and the demand for them is not great unless they are of first-rate quality. Where bush trees are grown on the pear stock frequent root prunings are necessary to induce the formation of fruit spurs. On walls I have noticed the following varieties doing well: Jargonelle, Beurre Diel, William's Bon Chrètien, Marguerite Marillat, Souv. du Congrès, and Easter Beurre.

As bush trees the undermentioned are perhaps the best: Pitmaston Duchess, Doyenne du Comice, Emile d'Heyst, Marie Louise, Fertility, Beurre Giffard, and Hessle.

Pears on the quince stock only flourish in favoured localities.

Plums.

These I consider to be a profitable crop. Great difficulty, however, is often experienced in getting the trees thoroughly established in the ground, as so many flourishing specimens totally collapse, and die in a very short time. Personally, I am inclined to believe, and my observations so far have given me the impression, that trees which suffer this fate have been worked on myrobalan stocks. Whether these on other stocks are liable to perish the same or not I am not prepared to say, but I should like other observers' opinion on the matter. In all our experimental plots this trouble has been met with, and many growers have also complained. I have recently planted some trees which have been worked on mussel stocks, and others, e.g., Abricote de Bounneau on their own roots, so as to note the result. The varieties which succeed best are Rivers' Early Prolific, The Czar, Victoria, Red Magnum Bonum, Greengage (in a few favoured districts), Jefferson, and Pond's Seedling.

In the Lyth and Crook districts of Westmorland very large quantities of damsons are grown by the farmers. The districts named are on the limestone, and this undoubtedly accounts chiefly for their success. In the hedgerows and along the stone walls bordering the fields and roads, trees have been planted at intervals of from 18 to 30 feet, and after becoming established no further care has been meted out to them. The trees thrive and the crops vary according to the season. During 1909 very heavy crops were carried, and the wholesale prices were anything from 8d. to 1s. 6d. a score, e.g., 20lb. During the present year the crops have been good, and high prices, 4s. to 4s. 6d. per score, have been obtained. I am told that some of the farmers will gather during a good season anything from one to three thousand score.

Black Currants.

These I consider to be one of the best paying crops, provided good varieties are grown, and the bushes properly treated. Plenty of young wood should be encouraged by annually cutting out the old. All young bushes should be cut hard back for three years in succession. This treatment will result in the production of fine, healthy bushes. The variety, Carter's Champion I find to give splendid crops of good-sized berries, and also produce abundant young wood. Victoria and Boskoop Giant are also good. By planting black currants amongst the apple trees a shelter is obtained in which they delight. I might here make an observation on the "mite." It is spreading rapidly, and many people are loath to destroy the bushes or attempt any remedy. Under these circumstances I should like to see it scheduled as a notifiable pest.

Gooseberries.

For these berries there will always be a great demand, and as they are admirable fruits for bottling, this means of preserving can be adopted whenever there is a glut of fruit on the market. A too severe system of pruning induces each year the formation of excessive growth. A good plan to adopt with the upright growers is to prune fairly hard until well-shaped bushes are formed; then for one season almost refrain from using the knife, with the exception of thinning out undesirable shoots. This will result in a check to wood formation, and the development of numerous fruit buds. There are many varieties which are succeeding well in the fruit plots and elsewhere, notably: Whinham's Industry, Lancashire Lad, Keepsake, Whitesmith, Leader, and Early Sulphur.

Raspberries.

These, if grown well, will never fail to give good returns, and there is always a good demand for the fruit. Some people with whom I am acquainted make at home a large number of pots of jam annually, and readily find a market at the grocers for them. The variety Superlative has done remarkably well at Newton Rigg, but not so at Brampton and Abbeytown. I have noticed in many gardens that the buds on many canes of this variety remain dormant during spring, the canes eventually dying. A gardener I was speaking to one day told me that his were so badly affected in this respect that he intended to give up growing Superlative. I have not yet arrived at a decision as to the cause of this dying back. It may be the result of frost, but, on the other hand, why canes in some exposed gardens should not suffer is a mystery. Northumberland Fillbasket and Baumforth's Seedling flourish, and do not seem to be troubled the same way.

OUTDOOR PEACHES.

At Aldenham, on a west wall, the outdoor peach crop has been an exceptionally good one this season. Looking at the trees one does not wonder at the result; they receive all they need from a cultural point of view, and in their training, which is the most important point of all, and also adequate protection while in flower. There, too, the ground in front at a reasonable distance from the base is occupied with low-growing subjects yearly, as strawberries, lettuce, pentstemons or anything of a low-growing nature that cannot deprive the trees of sunlight. There are some persons who grow tall herbaceous plants within two feet of the trees, and then lament that peach trees out of doors will not flourish!

Instead of lifting the trees as noted by Mr. Slade (p. 788) to check their exuberant growth, the late Mr. Wildsmith, when at Heckfield, where some of the finest out-of-door peaches were grown, used to deeply trench the border in front of the trees to within three feet of the wall annually, and thus cut off any roots that got beyond that space. The consequence was his trees were always furnished with fibrous roots and never made extra strong growth, but always such as ripened thoroughly, by the aid of thin training, proper watering when required, especially after the fruit was gathered in September, or later, as circumstances needed. This detail quite escapes many gardeners, who never think about the requirements of the trees after the fruit is gathered until they are looking for a crop again!

E. Molyneux.

GREENHOUSE MANAGEMENT.—The Amateur's Greenhouse, the popular book by T. W. Sanders, not only treats of the selection and cultivation of greenhouse plants and flowers, but gives full instructions how to build a greenhouse and how to heat it, as well as every detail as to the management of the plants and flowers grown in it. The price of this book of 416 pages is 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

THE LADY FERN.

The Lady Fern (Athyrium filix fœmina) undoubtedly ranks as the most beautiful of our native deciduous species, assuming, if we except the Bracken and Osmunda regalis, the largest size, and, without these exceptions, the finest cuttings in its wild state. It is essentially a lover of damp, shady habitats, and is found in its greatest beauty in sheltered glens or woods in the vicinity of water. Under such circumstances we have seen grand bush-like specimens five feet in height, and as much through, the fronds springing from great masses of rootstock consisting of numerous projecting crowns.

It is thoroughly deciduous, the fronds, even under glass, dying quite down late in the autumn, and rising again in April. Incidentally, it may be remarked that though deciduous ferns present a disadvantage in being practically invisible in winter, this is largely compensated for by the fact that when they rise in the spring they are unassociated with possibly shabby, yet green, fronds, which surround the new growths of the evergreen species, and somewhat detract from the beauty of the plant until they die off, and can be safely removed. The dead fronds, too, being removed, do not harbour vermin, as do, too often, the persistent fronds of evergreens: the plant, in short, starts clean of everything.

Even in the wild state the Lady Fern is so liable to minor variation that it is often difficult, in a ditch lined with innumerable specimens, to find two which exactly match each other in habit and cutting. Marked varieties, that is, such as the connoisseur considers worthy of collection, are numerically rare, but, nevertheless, thanks to the perseverance of fern hunters, such a number of these have been accumulated that the Lady Fern ranks, not only among the most variable species in the world, but has been found to assume a number of varietal forms which have no parallels in other species. Like the ladies of the human race, the Lady Fern has been endowed by Nature, not merely with a wonderful charm of her own, but in some occult way has designed fashions for herself in styles, sometimes, it is true, more curious than beautiful, but more often on the chastest and most delicate lines.

As a matter of fact, however, the sexual distinction which the old botanists have established between the Lady Fern and the Male Fern, Athyrium filix fœmina and Lastrea filix mas, due to the greater softness and delicacy of the former, as compared with the coarser foliage of the latter, is entirely imaginary. Both species are alike in bearing spores, which produce young ferns by the union of two parental potencies, and thus each fern is innately bi-sexual.

To deal with the varieties of the Lady Fern exhaustively would need a volume, since the recognised distinct wild finds run into hundreds, while selective culture has given us a large number in addition. Undoubtedly the prettiest forms are those in which the normal delicate division of the fronds into pinnæ and pinnules is carried further by the division of the pinnules into pinnulets, constituting dissected and plumose varieties, and next to these rank such as have produced tassels at the extremities of fronds and subdivisions on very varied lines, flat and fan-shaped, bunched or corymbiferous, merely forked many times, or with the forkings redivided tassel fashion, producing bunches of small tassels. My own find, A. ff. cristatum Kilrushiense, the finest crested form found wild, does this to such an extent that it is quite impossible to count the number of subdivisions in the long pendulous tassels it produces. The finest wild plumosums are the Axminster, Horsfall, Wills, and divaricatum forms. The Horsfall is especially slender, graceful; but the Axminster has excelled all others in its progeny by producing first the more finely cut plumosum elegans Parsons, and then from this, in two generations, the really marvellous crested and uncrested sections of the "superbum" strain, which I was fortunate enough to obtain by selective sowing, and constitutes one of the three most developed sections, not merely in our British ferns, but in the ferns of all the world, since even the wonderful plumose strains of Nephrolepis exaltata have not varied into associated tasselled forms as well.

The Lady Fern known as A. ff. Victoriæ, found in a lane at Drymen, in Scotland, is absolutely unique, and is so far a ne plus ultra in varietal eccentricity, combined with added beauty. In this each side division is in duplicate, the pairs being set on at about right angles, the result being a series of crosses formed with the opposite pairs. These divisions are very slender, and the subdivisions they bear are also twinned on like lines, forming smaller crosses. The frond itself is narrow, and tapers gradually and gracefully. Nature, however, has not been content with this, but has decorated each tip, both of frond and subdivision, with long slender tassels, divided again and again on the lines of A. ff. cristatum Kilrushiense above described, the total result being an extremely beautiful form. Its spores reproduce all the characters truly, with, however, occasional slight modifications as regards small details; and, curiously enough, while the original plant produces fronds about four feet in length, we have never seen one of its offspring exceed two and a-half, even when sown directly from the original find.

In the Frizelliæ section the side divisions are reduced to round knobs; in Pritchardi we find the frond built up of untasselled crosses, somewhat confusedly associated. These forms have been presumably crossed with tasselled forms, since there is quite a number of raised varieties so characterised on varied lines. A. ff. conioides and Verroniæ have the pinnæ shortened and widened on somewhat crispy lines with pretty effect. A. ff. congestum minus is a little gem five or six inches high, and may be obtained plain or crested to various degrees.

Space, however, precludes reference to a tithe of the charming forms of this species, and the writer can only suggest a reference to the trade catalogues, which the renewed popularity of our native ferns has brought into existence, concluding his notes with the remark that the Lady Fern is perfectly hardy, of the easiest possible cultivation, provided it is not allowed to suffer from drought, and, as regards soil, will thrive even in ordinary garden mould, though in pots it is as well to provide it with the proper compost of loam, leaf-mould, and sand.

CHAS. T. DRUERY, V.M.H., F.L.S.

Apple Golden Spire.—For the person with limited space, and who is desirous of having an annual crop of good fruit for cooking, I would strongly recommend Golden Spire apple. It is quite one of the earliest kinds to provide fruit of a cooking size, and, being of upright growth and especially short-jointed, it requires but a minimum of space. At the end of July it is ready, and will keep until the end of October if necessary. A medium-sized fruit, of conical shape, and of the Codlin type.—E. M.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

SEEDLING CYPRIPEDIUMS.—There is generally found a period of growth at which the seedling cypripediums appear to remain practically at a standstill, but it will usually be found that at this particular period the plants produce their roots, and are actively rooting into the potting compost. At such a stage the opportunity is given to attend to repotting. As in the case of other genera, seedling orchids should not be allowed to become root bound in their pots before transferring them to larger ones, or should the compost about the roots be disturbed more than is absolutely necessary; any excessive growth of sphagnum moss and decaying matter about the surface of the compost should be removed, and the plants may be put into suitable sized pots, according to their vigour, and rooting characteristics. We cannot hope to have every plant in the perfect condition we would desire, for every member of the same family does not possess equal vigour, and in the case of all seedling orchids that I have ever had to do with, we find a few that grow away quickly, and appear never to look back, while others struggle for a long time. So with these facts before us, we can only deal with the individual as we consider its necessities demand.

POTS AND COMPOST.—It is always desirable to see that the pots are thoroughly clean for seedling orchids, as this enables the plants to be more readily turned out at the time of repotting, without disturbing the ball of potting compost more than is absolutely necessary. The pots should also have ample clean drainage. The compost we find most suitable is about one part finely chopped turfy loam and two parts good fibrous peat, with some finely chopped sphagnum moss, and sufficient sand and finely broken crocks intermixed to render the whole porous. This compost may be graded according to the size of pot used. In the small sizes naturally the compost will require to be much finer than would be the case to meet the requirements of the more advanced and vigorous plants. Where plants have practically reached the flowering stage, and their pots have become filled with roots, there is generally a great temptation to give them a shift on. It is far better to wait and see what developments are likely to take place. If a plant is potted under such circumstances there is an inducement for it to produce growth, but as we want them to flower as soon as possible it is well to be satisfied on the point of need before repotting is done. Repotted seedlings should be well watered as soon as repotting is completed, thoroughly wetting the compost; after this they should be very carefully attended to until the roots are running freely in the fresh compost.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

BOUVARDIAS.—Batches of plants that have been lifted and treated as advised in a previous calender should by now be nicely established in pots, and on fine days may be given a little air, but do not overdo this, as they may still have a tendency to flag should the sun be bright. With the shortening days reduce the syringing, especially in the afternoon, in fact a damping beneath the pots should be all that is required at this date. Give an occasional fumigation to keep down green-fly and thrips, and provide an even temperature of about 55 degrees at night. The plants cultivated in pots will be of a harder nature, and if not required in bloom may be subjected to 5 degrees lower temperature, but less than this will not do for them.

GARDENIAS. — Some of the older-established plants will, in all probability be swelling up their flower buds, and whether planted out or in pots a little weak liquid manure may benefit them, but at this season it must not be of too forcing a nature. If in pots they should be placed at the warm end of the stove, giving them all the light possible. Be careful with the watering, and if found necessary to use an insecticide to keep the plants clean let it be used fairly weak, as during these short days the plants, if given even the slightest check, are very apt to drop their flower buds. Those that are permanently located in pits must not be neglected at this season; they often require more water at the roots now that more fire heat is necessary for them. Also take care that there is no undue fall in the temperature, as frost and cold winds act very quickly on frames or pits that have only a small cubic area, and good coverings should be at hand to use whenever there is any danger of sharp frosts.

BEGONIA GLOIRE DE LORRAINE.—The early batches of this begonia should now be well in bloom, and to maintain them in good condition over a lengthy period less moisture will be needed, and a few degrees lower temperature may be given them. Later batches must still be kept growing, and if in small pots may be fed pretty liberally. It is a very common fault to find batches of these beautiful flowering plants lacking colour in the flowers, and this is often due to their being opened in too high a temperature and the withholding of liquid manure too soon.

BROWALLIA SPECIOSA is a very useful winter-flowering plant, and may also be relied upon to give a good display for many months during the summer. An ordinary greenhouse temperature will suit it well, but it should be accorded a temperature of from 55 to 60 degrees during the winter months, and, given a light position, it will keep short-jointed, and go on flowering all the winter through. As a plant for the warm conservatory or winter garden it is quite the best of its colour that I know.—T. Stevenson, Woburn Place Gardens.

FRUITS UNDER CLASS.

EARLY-FORCED POT VINES.—In cases where fresh ripe grapes are wanted as early as possible next year, pot vines should already have been placed in the forcing pit, and forcing should now be commenced. Success will depend greatly upon the vines having been properly prepared and the way they are managed during their early stages of growth, and unless these matters have been, and are, skilfully attended to, it will be futile to force vines at this early season. The best means of affording bottom heat is to plunge the pots, with their bases resting upon brick columns, in a carefully prepared bed of tree leaves and stable manure, the temperature of which, until the vines burst their buds, should range between 65 and 70 degrees. With a view to assist the buds to break regularly, secure the rods in a horizontal position, and in doing so see that the rows of buds point sideways rather than one row upwards and the other downwards. When starting the vines keep a night temperature of 50 degrees, with a day rise of 5 degrees from artificial means, and safely encourage their growth by economising the sun's warmth. Promote a moist atmosphere by occasionally damping available surfaces, and spray the vines with tepid water several times daily.

EARLY VINES IN BORDERS.—Where permanently planted vines are depended upon to produce ripe fruit in May the house should now be closed. Directions have been given in former calendars for pruning, and otherwise preparing, vines that were early forced last season, and I have previously remarked that vines with their roots confined to inside borders are more suitable for early forcing than are those having roots in outside borders; but where the roots are outside, the borders should be well clothed with tree leaves mixed with stable litter, which should be protected from rain and snow by glass lights, or any other suitable covering. Inside borders should be tested, and if they require water, enough (after being heated to a temperature of about 85 degrees) to moisten the border through should be given. In other matters the treatment recommended for pot vines should be followed.

EARLY-FORCED FIGS.—To have figs ripe in April pot trees of easily-forced varieties, such as Angelique, Early Violet, St. John's, Pingo de Mel, or Black or White Ischias, that were forced early last season should now be prepared for starting into growth. In the first place, thoroughly cleanse the house and wash the trees with a warm weak solution of soft soap and water, which, if scale is present on the trees, should be strengthened with the addition of an insecticide, and applied in order to remove the scale, with the assistance of a small stiff brush. For the first fortnight or three weeks commence forcing by standing the trees upon a bed placed in a house having a temperature of 50 degrees, and subsequently plunge the pots in a bed of fermenting material after the manner advised in the case of early forced pot vines. Syringe with tepid water in the morning and early in the afternoon, and promote atmospheric moisture by damping their surroundings. As soon as the buds burst increase the atmospheric night temperature by 5 degrees, and that for the day 5 to 10 degrees more, admit a little air on sunny days, and water the trees sufficiently to keep the soil moist. Pay close attention to the plunging material, and thus endeavour to maintain its temperature at about 70 degrees.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

ASPARAGUS.—The growth of this important vegetable will now be quite ripe enough to cut down. This work should be done with a pair of sharp shears, and the cut be made close to the surface of the soil. Following this, remove all weeds and rubbish from the beds, and then lightly prick up the surface with a fork to aerate the crowns and sweeten the soil. Over this a good dressing of burnt garden refuse should be strewn, as well as soot. After a few days of such airing a dressing of decayed farmyard manure should be placed over the bed for the winter rains to wash and carry down to the roots. On light, and, therefore, naturally drained soils this is very advantageous, but wherever the soil is wet and retentive it is the better plan to take out alleys by the sides of the beds to provide for winter drainage.

FORCING ASPARAGUS.—Asparagus is one of the easiest of vegetables to force where there is a good supply of crowns, and nothing is more appreciated than a good dish of this vegetable. It lends itself to easy forcing from November onwards, in either a warm house or pits, or over mild hotbeds. No doubt a house is most suitable at this season. A fair bottom heat is necessary, and a light position fairly near the glass. When beds are ready lift and plant with the least possible delay, as the roots suffer quickly if much exposure is permitted to reach it. A mild bed should consist of leaves and stable manure in equal parts; over this place four or five inches of light fine soil, placing the crowns three inches deep. Give the bed a good watering, and syringe when required.

BROCCOLI.—Certain varieties will be "turning in," and should therefore be examined three times a week to protect them from frost; it is necessary to tie those up that are showing their curds, using leaves from the cut plants, and tying the outer leaves together over them. Even in favoured counties, where the ground is heavy, broccoli suffers much injury in sharp winters, and to prevent this it appears to me that it should be a universal plan to layer the whole batch during the early part of November. This is accomplished by taking out a spit of soil on the northern side of each plant and gradually bending it down towards the north, the soil being placed firmly around and over each stem. Carry this work out carefully, and one will see an improvement in the plants. The partial check thus given will harden them up immensely, and under this treatment 90 per cent. will pass safely through the winter. A few winters back I saw, in a large garden even as far south as this, where the whole crop was ruined because it had not been heeled over.

TOMATOES.—Those raised early in October will require potting into thumb pots, using a sandy compost. Place them on shelves near the glass in a temperature from 55 to 60 degrees, and be very careful not to over-water them at any time during the next three months.

TARRAGON.—To maintain a regular supply a few roots should be placed in the forcing pit at intervals. The bed in the open should be forked over, and all the surface soil taken away, and in its place put a mixture of loam and wood ashes, placing over this a good dressing of cinder ashes to make it comfortable for the winter. Many herbs can now be cut and dried where there is a demand for them. Mint and chives must be placed in heat at intervals, and regular sowings of mustard and cress be kept up.

RUNNER BEANS.—Many fine pods that have ripened will now be ready for removal. It is a good plan to select those that are finely formed, so as to keep up a fine standard for future use. Rigid selection should be the order in all seed saving, choosing perfect forms rather than large and coarse examples.

LEEKS.—Carry out the final blanching as soon as possible before severe weather sets in. Celery should be treated likewise, using some fresh slaked lime as the work proceeds to ward off slugs.—G. Ellwood, Swanmore Park Gardens.

GLADIOLUS BRENCHLEYENSIS.

This variety makes a grand display in the garden during the early autumn days, and should be more extensively grown than at the present time. My main reason for writing this note, however, is to draw attention to the hardiness of the corms. In a low-lying part of a large kitchen garden that I had charge of a number of years since, I had about twelve rows of plants growing two feet apart. In due time the tops faded and were cleared away and I quite forgot to have the corms lifted at a certain time; so I allowed them to remain undisturbed in the ground throughout the winter months. The following year the increase in the number of flower stems was astonishing, and they were of good substance. From that time I left the corms in the soil, and at the end of ten years one could not distinguish the rows as the whole of the plot was occupied by the gladiolus. Then I found it advisable to lift them, trench the ground and replant. The whole of the plot was filled with corms closely packed together, many only just covered with soil; none, however, were ever damaged by frost, and the annual crop of flower spikes was a great one. G. B.

Salvia splendens.—Time was when this bright-coloured salvia was regarded solely as a plant for the embellishment of the greenhouse during the autumn. Now there are dwarfer forms, which flower earlier, the result being that this salvia has become one of the most desirable of subjects for summer bedding. Perhaps the best of all is one known as Pride of Zurich. Where these salvias are bedded out they may be carefully lifted in the autumn and potted. Then, if wintered in the greenhouse, and placed in a little additional heat in spring, they will quickly push out new shoots, which, if taken off and inserted as cuttings, will quickly root, and if potted off singly will form neat little plants by bedding-out time.—W. T.

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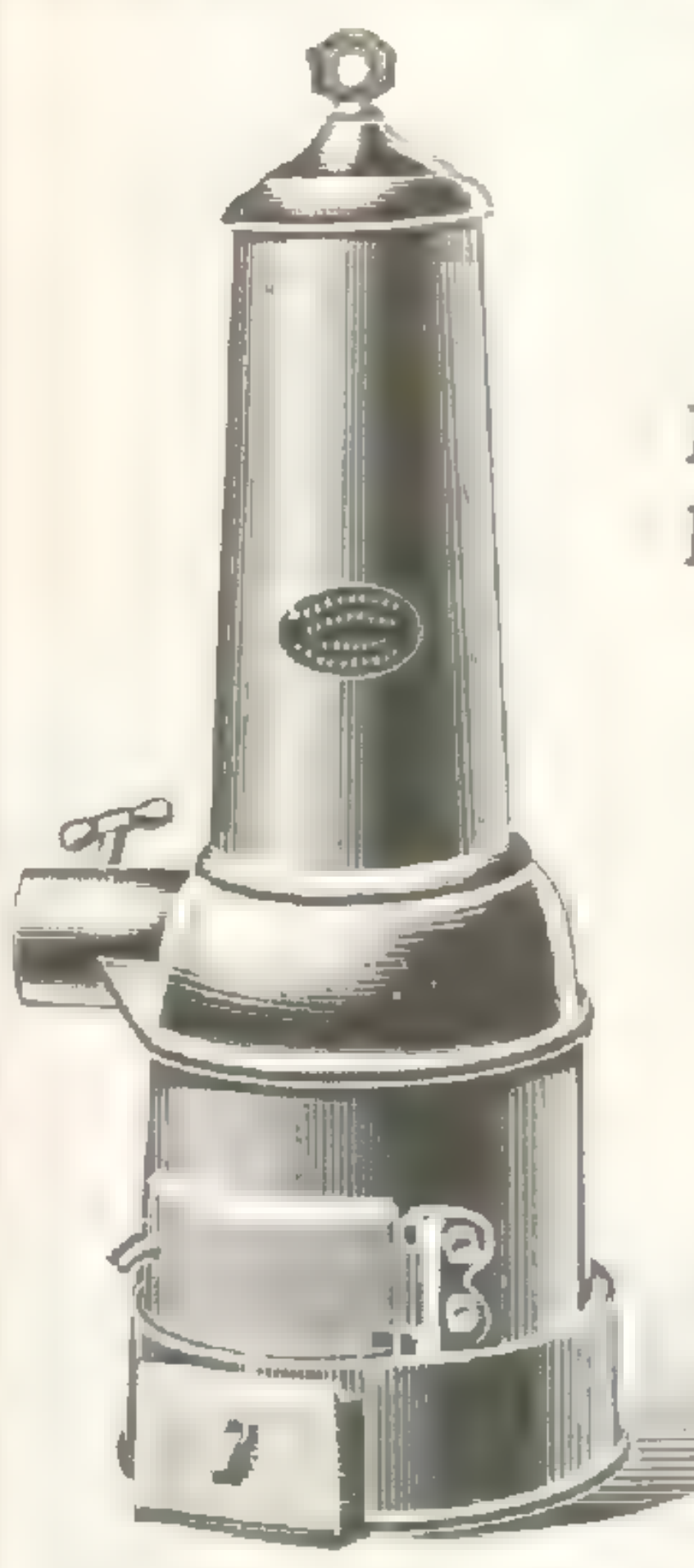

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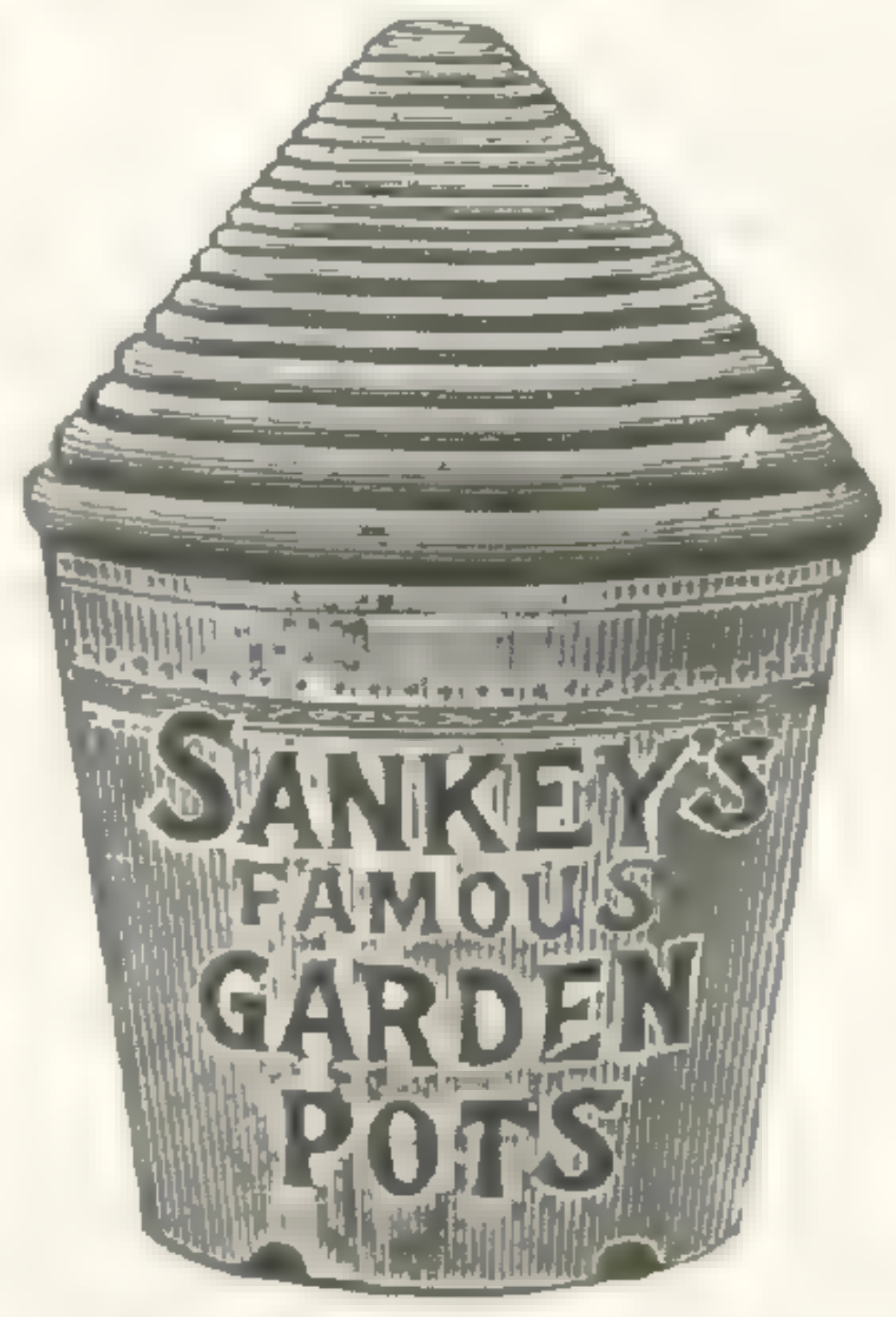

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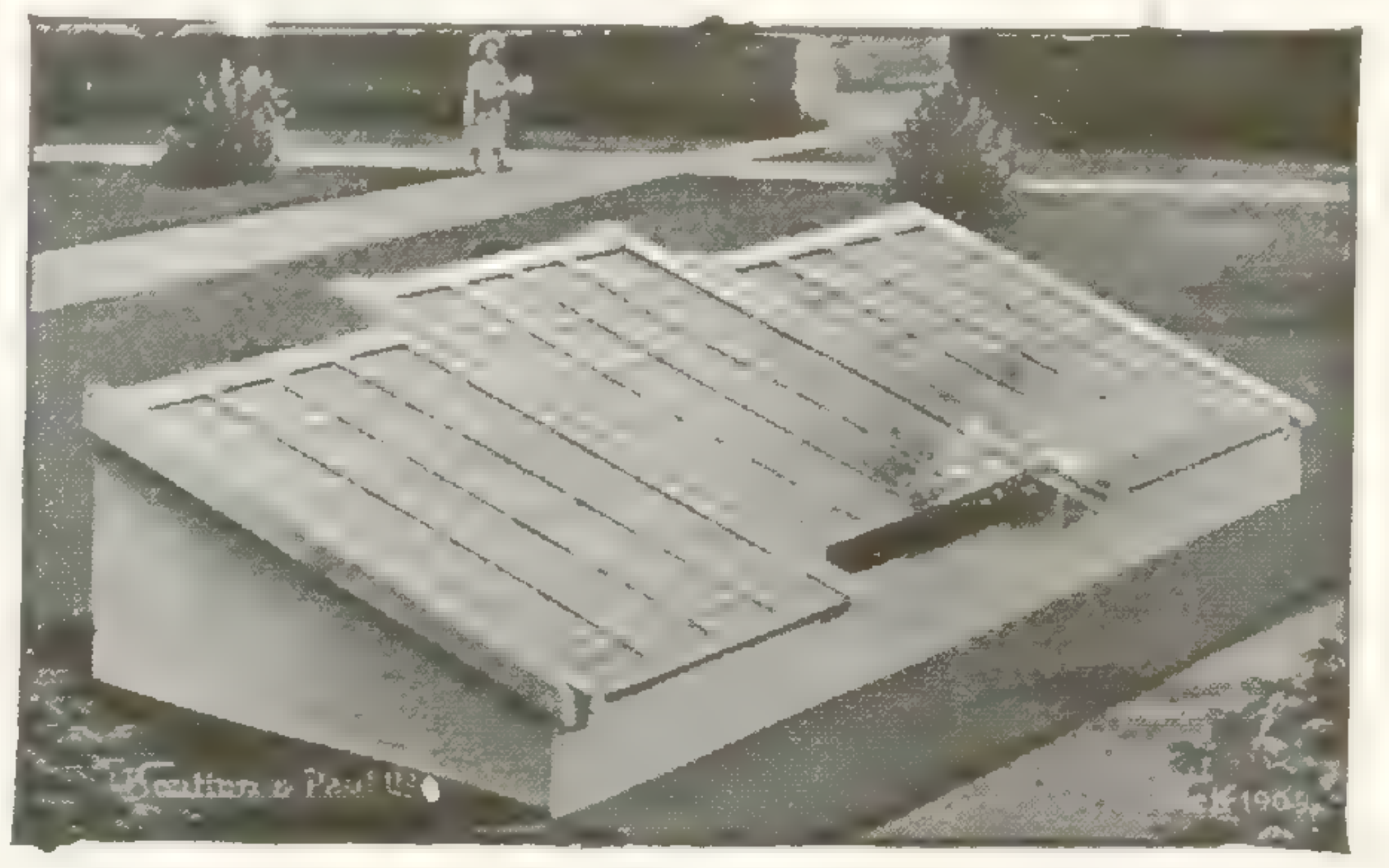

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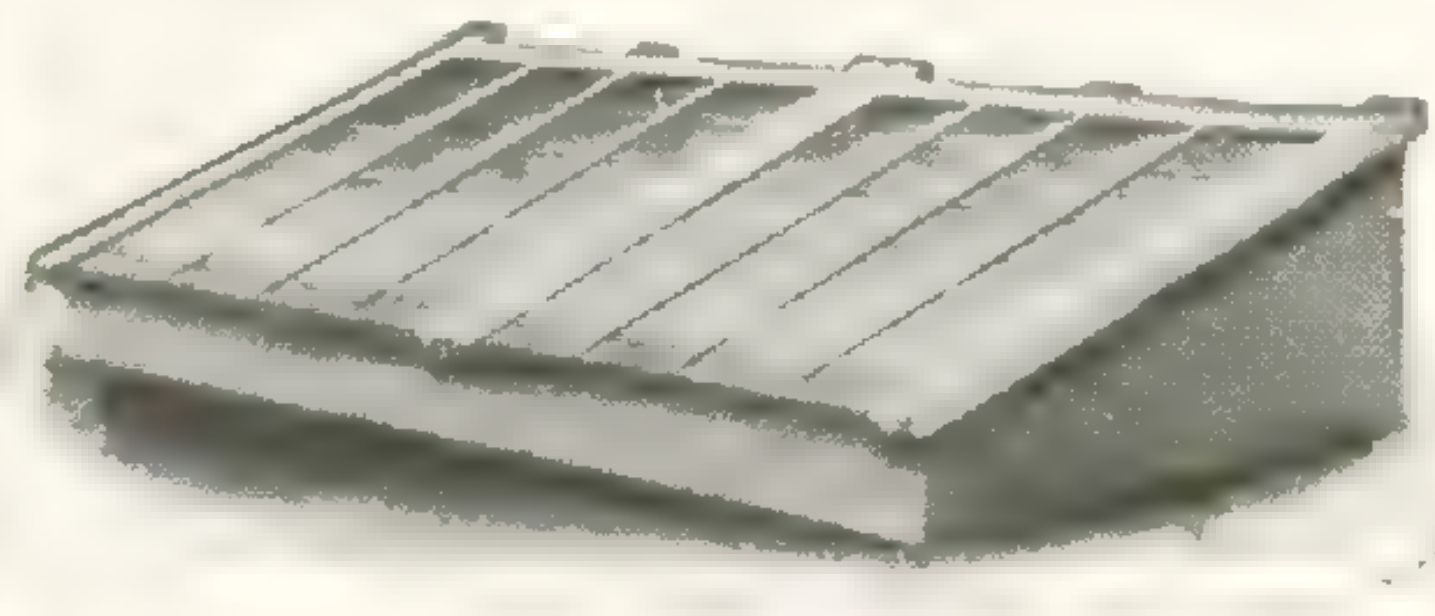

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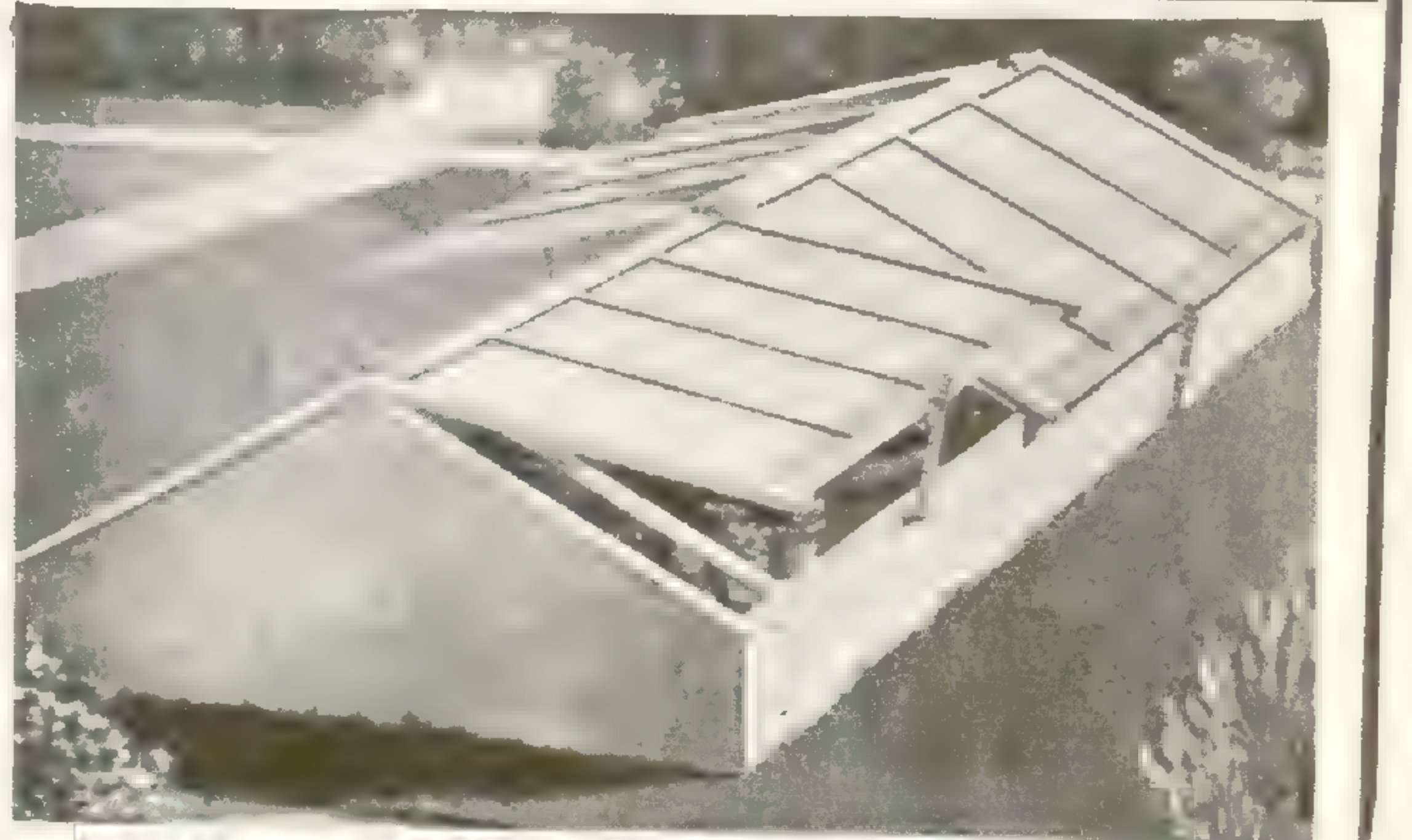

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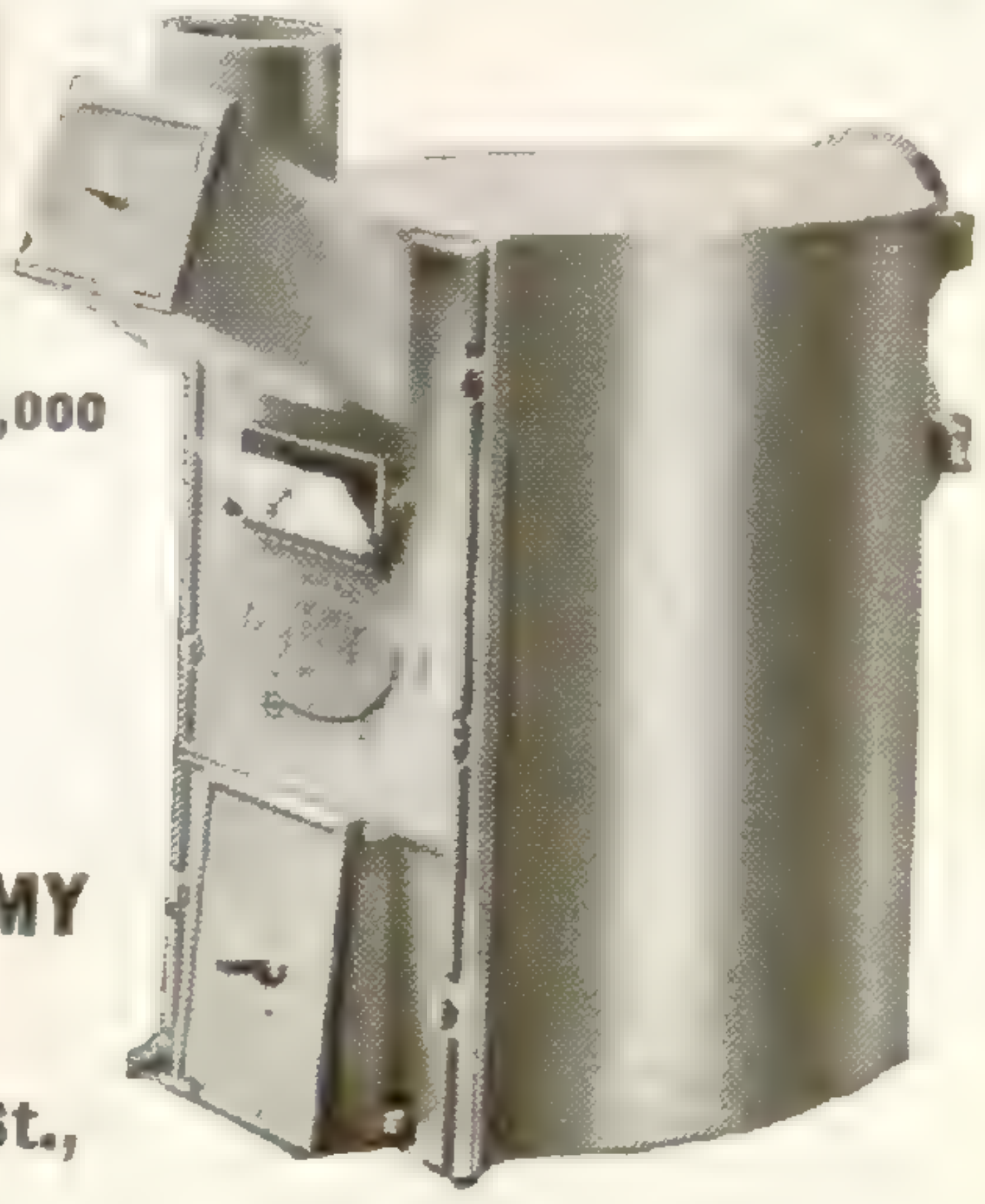

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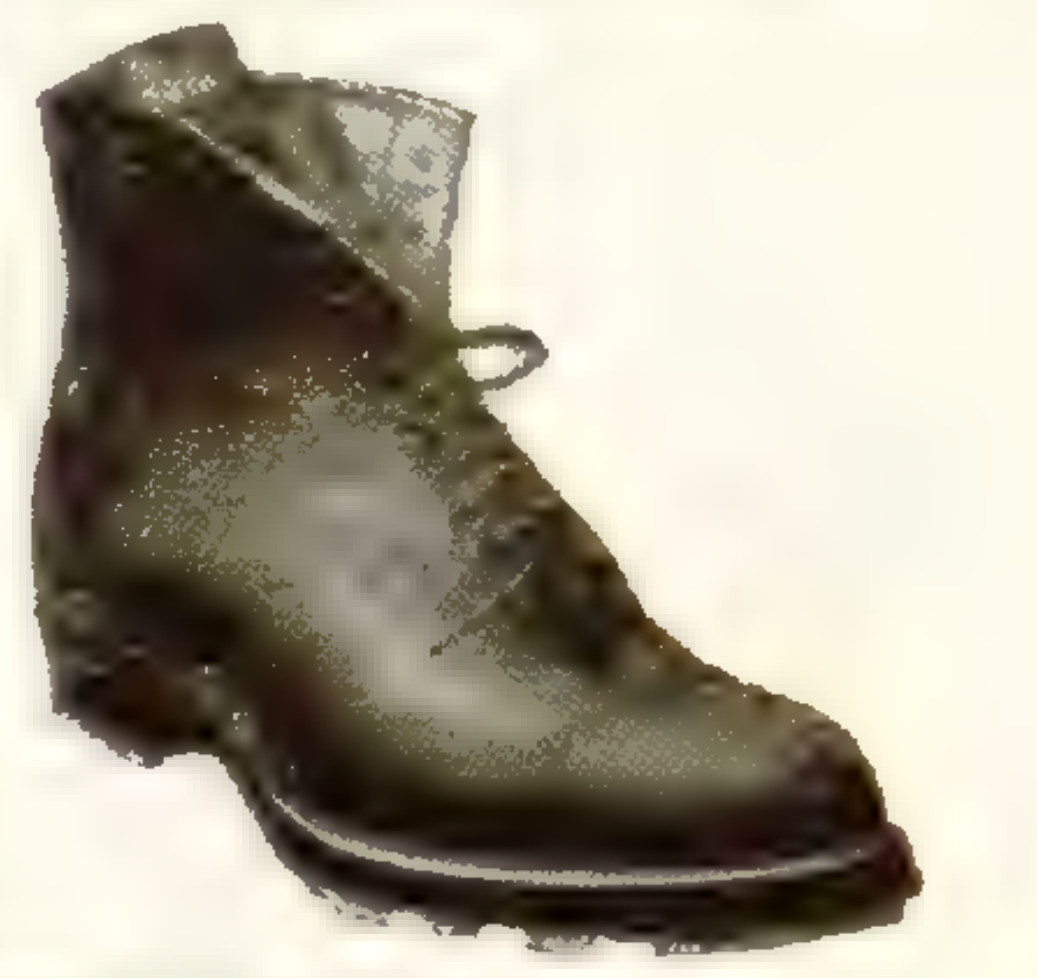

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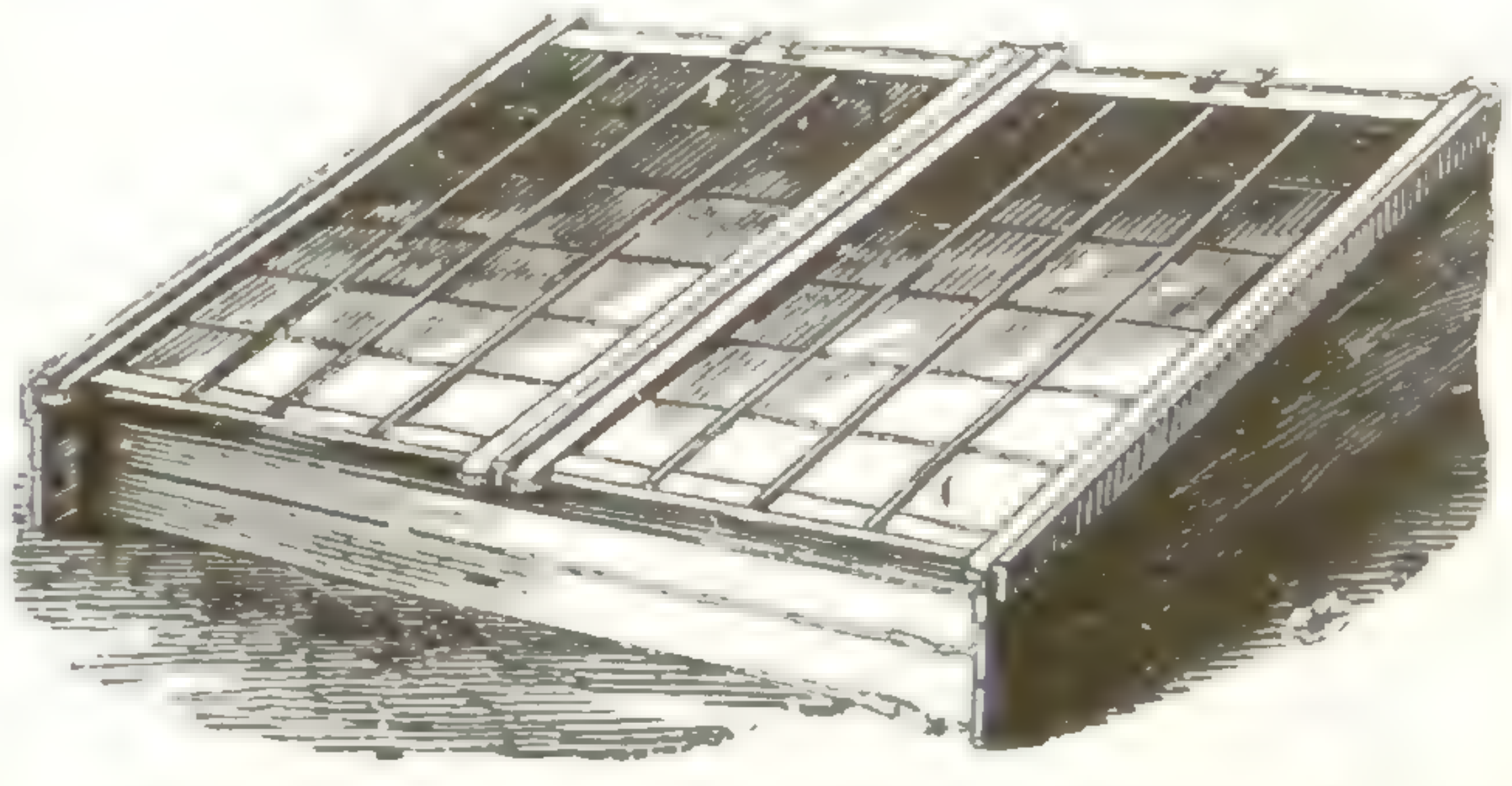

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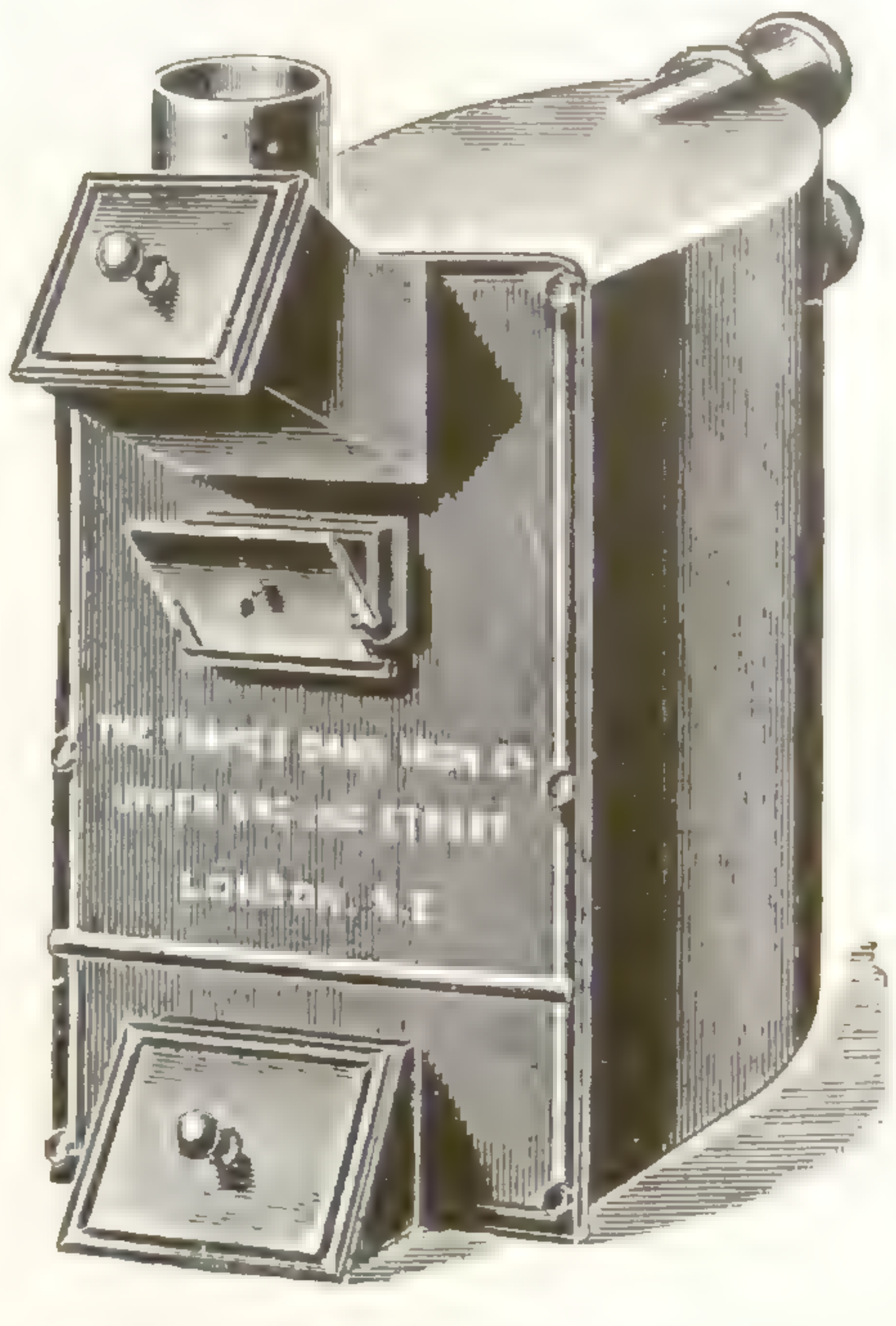
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EXHIBITIONS AND MEETINGS.

◆

Croydon.

The Croydon Chrysanthemum Society held its exhibition on October 27 in the Adult School Hall, Park Lane. There was a pleasing display, but, apart from the two leading cut flower classes, the exhibition flowers were not of a very high order. Singles were good, and plants, fruits, and vegetables were well represented, and the effect, as a whole, was good. None of the flowers were on boards.

CUT FLOWERS.

In the leading class, which is for thirty Japanese blooms, distinct varieties, set up in vases, there were but two competitors, and, therefore, the first prize win on the occasion is not to be counted as one score towards holding the cup outright, as there must be three entries at least if the win is to count as one of the three times necessary (in five years) to secure the fine challenge cup. The prizewinner was Mr. T. Beeson, gardener to J. Newton Mappin, Esq., Headley Park, Epsom, who was first in 1907 and 1908, but he will now only hold the cup for the ensuing year, and must win it in 1911 in a competition of not less than three entries if the cup is to stay at Headley Park for good. He had big bright flowers of Mrs. R. H. B. Marsham, Mrs. Norman Davis, Mrs. A. T. Miller, Miss E. Smith, Madame P. Radaelli, Miss Hilda Rowley, Mrs. G. Mileham, J. Peed, Walter Jinks, Miss Elsie Green, Mrs. C. H. Totty, Hon. Mrs. Lopes, Mrs. R. H. Pearson, Algernon Davis, Bessie Godfrey, George Terry, Pockett's Crimson, Reginald Vallis (premier Japanese bloom), Sir Frank Crisp, Master James, Madame G. Rivol, Rose Pockett, Lady Talbot, Mary Inglis, Splendour, Valerie Greenham, F. S. Vallis, Mrs. [illegible] Thorn, Mrs. W. Knox, and George Mileham. Mr. G. Hall, gardener to the exors. of the late Lady Ashburnham, Melchet Court, Romsey, was a good second.

Mr. Beeson was also first in the class for fifteen Japanese blooms, in three varieties, winning with well-developed specimens of Lady Talbot, Reginald Vallis, and Mrs. A. T. Miller; Mr. Hall second, with Lady Talbot, Thrumpton Pride, and Edith Smith; Mr. C. Lane, gardener to E. H. Coles, Esq., Burntwood, Caterham, third. Mr. G. Hall was to the front for five incurved blooms, in vases, with Romance, W. Biddle (premier incurved), Mrs. C. Crooks, Triomphe de Mont-[illegible], and Romance; Mr T. Beeson second, and Mr. C. Lane third.

In the Borough Class for fifteen Japanese blooms, in vases, three varieties, Mr. G. Edwards, Windmill Cottage, Shirley, led with [illegible] specimens of F. S. Vallis, Mrs. A. T. Miller, and F. S. Vallis; Mr. L. Gooch, gardener to T. Wickham Jones, Esq., Frocester Lodge, South Norwood, second. Mr. Edwards holds the president's cup for the year only.

For ten Japanese blooms, one or more varieties, Mr. E. Croft, gardener to B. F. Smith, Esq., Leigham Court Road, S.W., was an easy winner, and he had fine flowers of Madame G. Rivol and Mrs. A. T. Miller; Mr. G. Edwards, second; and Mr. F. J. Hainge, gardener to H. Hales, Esq., Kenley, third. In the local class for five Japanese blooms Mr. T. Finch, gardener to G. H. Fisher, Esq., Godstone Road, was a good first among five competitors; Mr. G. W. Bentley, gardener to L. French, Esq., West View, Wallington, second; and Mr. A. J. Hart, gardener to Mrs. Thrale, Coombe Road, Croydon, third. Mr. E. Croft scored for five incurved blooms, and was followed by Mr. G. Lewry, gardener to Mrs. Williams and Miss [illegible], Duppas Hill Terrace; and Mr. G. Edwards.

Mr. E. H. Mills, gardener to Frank Lloyd, Esq., Coombe House, Croydon, was a splendid first for three vases of singles, with very [illegible] arrangements of fine flowers, set up with suitable foliage; Mr. C. H. Hunt, Stroud Road, Woodside, second; and Mr. Tyrrell, gardener to A. E. Crook, Esq., Selborne Road, third.

In the amateur section the chief prizes for cut flowers fell to Mr. H. E. Marden, Sunnyside, Godstone Road; Mr. W. Philpot, 57, Church Road; Mr C. R. Clark, 23, Neville Road; Mr. G. W. Beard, Sunny Bank, South Norwood; Mr. F. A. Beadle, Neward Road, Croydon; and Mr. C. H. Hunt, Stroud Road.

GROUPS AND PLANTS.

Groups were not a great success; for chrysanthemums only Mr. W. Tyrrell, gardener to A. E. Crook, Esq., Selborne Road, was first prize winner, with fair-sized flowers; Mr. A. Dyer, gardener to E. Wood, Esq., Church Road, Upper Norwood, second. For a group of miscellaneous plants Mr. G. Lewry was easily first with an arrangement of begonias, salvias, cyclamens, Cypripedium insigne, and Cattleya labiata; Mr. F. W. Hart second, and Mr. F. J. Hainge, third.

Mr. Finch, gardener to G. H. Fisher, Esq., Godstone Road, led for three plants of single-flowering varieties with tall specimens of May Richardson; Mr. A. Dyer second, and Mr. F. J. Hainge third. Mr. Mills was a comfortable first for half-a-dozen winter-flowering begonias, with freely-flowered flattish pyramids of B. Gloire de Lorraine; Mr. T. Beeson second; and Mr. F. W. Hart, gardener to Sydney Smith, Esq., Werndee Hall, South Norwood, third. Mr. Lintott secured the chief award for nine table plants with very clean and elegant specimens; Mr. C. Lane, Burntwood, Caterham, second. Mr. Finch was first, and Mr. A. J. Hart second for six table plants.

FRUIT AND VEGETABLES.

There were four competitors in the class for a pair of bunches of grapes, and here, as usual, Mr. Lintott came first, winning with finely finished specimens of Alicante; Mr. T. Beeson second, with the same variety; and Mr. B. T. Kingsley third. In the open class for nine dishes of apples Mr. W. Paulley, gardener to Dr. Jackson, Thornton Heath, scored with Lord Derby, Golden Noble, Peasgood's Nonsuch, Wellington, Gascoigne's Scarlet, Warner's King, Charles Ross, Ribston Pippin, and Wealthy; Mr. W. Lintott, gardener to Sir Walpole Greenwell, Bart., Marden Park, second; and Mr. B. T. Kingsley, Holmwood Park Gardens, third.

Mr. Lintott was first also for six dishes of pears, with Pitmaston Duchess, Beurre Diel, Conference, Beurre Bachelier, Doyenne du Comice, and Marie Louise; Mr. Paulley second. In the local classes for apples and pears Mr. Paulley; Mr. O. Jeal, gardener to N. Waterall, Esq., Waddon Lodge, Croydon; Mr. Johnson, gardener to Mrs. A. Crawley, Bramley Oaks, Croydon; and Mr. G. Lewry were the most successful competitors.

Mr. Lintott scored for a collection of nine kinds of vegetables with a very fair set of cauliflowers, celery, tomatoes, potatoes,

AN EFFECTIVELY ARRANGED VASE OF SINGLE CHRYSANTHEMUMS.
One of the three vases for which Mr. G. Miles was awarded the First Prize at the Croydon Show.

parsnips, peas (Gladstone), onions, runner beans, and carrots; Mr. B. T. Kingsley, Holmwood Park Gardens, second; and Mr. H. J. Hainge, gardener to H. Hales, Esq., Elmwood, Kenley, third; there was a fine competition. Mr. T. Finch, gardener to G. H. Fisher, Esq., Downsview, Purley, was first prize winner in another class for six kinds of vegetables, and Mr. H. Stone, Kenley, was first in yet another class for a collection, while in the potato classes, where there were some splendid tubers, Mr. F. Oxtoby, gardener to J. J. Reid, Esq., Coombe Road, was first, and Mr. Jeal second. Mr. A. Dennis, Godstone Road, Kenley, had the best nine onions, and Mr. F. J. Davis, Bynes Road, South Croydon, led for leeks.

MISCELLANEOUS.

Messrs. J. Peed and Son, West Norwood, put up a very bright group of chrysanthemums of various types and varieties. Messrs. W. Wells and Co., Merstham, showed chrysanthemums largely, and included their new Mrs. Luxford, Mary Loomes, and Mrs. Kelley. Mr. Thomas Butcher, 35, George Street, decorated the platform and set up some attractive floral designs. Messrs. E. W. and S. Rogers, 280, London Road, contributed a collection of vegetables, and Mr. G. T. Allan, Coombe Cliffe, Croydon, staged a small group of cattleyas, cypripediums, and begonias.

Croydon Gardeners' Society.

There was a big attendance at the Sunflower Temperance Hotel, George Street, recently, when Mr. Jos. Cheal, F.R.H.S., Crawley, who is well known in horticultural circles as a successful landscape gardener and observant traveller, gave a lecture on "Old Gardens of Italy," illustrated by lantern slides made from views he took when touring in Italy a few years ago. The Italian love of gardening, he said, dated from an early period, and with horticulture the Italians combine a style of architecture perhaps somewhat heavy in appearance, but nevertheless making up grand pictures which are copied in our own isles by enthusiasts of this style. The climate being so clear and genial allows the cultivation of tropical plants and these luxuriate in the open, and the lecturer remarked that in walking through some of the gardens the perfumes from the flowers are almost overpowering. Statuary, urns, and stone vases abound freely in making up the gardens, and in the latter the orange and lemon trees grow in splendour, with a profusion of fruit hanging on their branches. Lakes, cascades, and fountains are brought into use to beautify the scenes and afford cool retreats in the hottest weather. Stone pergolas are much used, and are clad with roses, vines, and other flowering and fruiting climbers, which are a feast to the eye and the palate. Lengthy terraces with parterres form a conspicuous part of the gardens, and oftentimes the terraces leading from the villas to the gardens below are long tessellated slopes which are laid in beautiful mosaic instead of being formed into steps. The Vatican gardens are a source of admiration. The whole parterre is divided into compartments, with straight walks bounded by box edging and rows of orange and lemon trees in Roman pots. Successive Popes have tried to immortalise their names by designing their Papal arms in neatly trimmed box. Italian cypresses growing to a good height and narrow in their structure lend gracefulness to the surroundings, and are much cultivated. Another feature of note, observed by the lecturer, was the geometrical designs in some of the gardens, laid out with different coloured granites, these taking the place of bedding plants, and bounded by box closely clipped.

Evidently from the pictures shown and the descriptions given by Mr. Cheal the amount spent in laying out the various gardens was fabulous. In one instance alone a barren rock had been laid out in almost inconceivable style, making it a picture never to be effaced from one's mind when once seen.

The views taken by Mr. Cheal were so clear, and his word descriptions of the landscapes and scenic beauty so good, that, as one member very aptly put it when proposing the society's best thanks to him, it was almost sharing the journey with Mr. Cheal without the expense and trouble.

Some good exhibits were staged by the members, and proved very interesting. Mr. W. Paulley brought a good dish of apples, Cellini Pippin; Mr. O. Jeal, a dish each of Bramley's Seedling and Cox's Orange Pippin apples and Pitmaston Duchess pears; Mr. A. C. Whipps, two vases of pompon dahlias, a dish of peaches, "Salway"; and Mr. M. Tyrrell, fifteen vases of the newer kinds of cactus dahlias. A vote of thanks to the exhibitors terminated a very enjoyable evening.

Bournemouth Gardeners' Association.

On October 18 a social evening, given in aid of the Royal Gardeners' Orphan Fund, proved a very great success. Every year at this season an entertainment is given in aid of this very deserving institution, which does so much to allay the anxieties of gardeners' widows left with young children unprovided for.

Mr. G. Barge, Summerfield Gardens, Bournemouth, is the secretary for Bournemouth and district. J. H. Ralph Smythe, Esq., J.P., is the worthy president of the Bournemouth and District Gardeners' Association, and he took the chair at the concert here referred to. During the interval the chairman made some very appropriate references to the Royal Gardeners' Orphan Fund, explaining how the fund was managed and the money used in deserving cases, and warmly appealed for help. A collection was then taken, and the sum collected amounted to £2 16s.

The weather during the day and evening was most unpropitious, and, no doubt, was the cause of some persons not coming to the concert. Taking this into consideration, the sum collected was a very handsome one. At the close of the meeting all the ladies and gentlemen who kindly assisted in the rendering of the programme were warmly thanked for their services.

Birmingham Gardeners' Association.

The autumn session for 1910 was inaugurated at the Athletic Institute, the vice-chairman, Mr. C. H. Herbert, presiding over a good attendance. The subject for the evening was an address by Mr. Walter E. Collinge, M.Sc., F.L.S., entitled "Economic Biology and Horticulture."

In his prefatory remarks Mr. Collinge expressed the great pleasure he had experienced during his former connection with the association as its president.

The subjoined is a summary of Mr. Collinge's lucid observations on the subject in question, viz., "The Biology of the Soil: A New Era in Agriculture." After dealing with the recent demands of horticulture, plant breeding, and variation, animal and plant parasites, the essayist drew attention to the recent developments in soil biology. The subject was by no means new, excepting in this country, owing to our being considerably behind the times. Recently, however, some valuable investigations had been made at Rothamsted on soil fertility and soil bacteriology. In the past we had spoken of the soil as a chemical laboratory, but it was something more, it was a medium teeming with bacteria, fungi, and minute animal life, the interrelations of which are, as yet, only very imperfectly understood. In the case of the Rothamsted work it had been shown that various unicellular animals were inimical to the multiplication of nitrate-forming bacteria. Only so long as these were kept in check could the bacteria increase and act upon the nitrogenous compounds, converting them into ammonia, thus increasing the fertility of the soil. Apart from being detrimental to the increase of bacteria, Mr. Collinge pointed out that there were protozoa in the soil; which were distinctly injurious to growing crops, and a better knowledge of these minute forms of animal life would undoubtedly open a new era for all cultivators of the soil.

But who is ready to do for agriculture and horticulture what Sir Patrick Mansen and Professor Ronald Ross have done for tropical medicine? At the present moment our Universities are not doing this work, and have neither the men nor means to carry it out. The Rothamsted Experiment Station is the only place he knew of where really valuable work is being done. From childhood we have been taught that the man who can make two blades of grass grow where previously there was only one is a benefactor to the human race. How generously we treated such benefactors would not bear telling. In the Midland counties, at the present moment, apart from elementary agricultural teaching, practically nothing was being done for agricultural research. Here, in the heart of agricultural England, it was impossible to find a man or men sufficiently generous to bring work and prosperity to thousands.

The lecturer concluded by drawing attention to the progressive activity taking place in all branches of human endeavour, and if that knowledge which the successful agriculturist demands is not forthcoming, we shall risk the prosperity and wealth of our country.

The lecture was followed by an expression of much appreciation, in which several of the members took part.

Reading Gardeners' Association.

At the meeting held on Monday, October 17, the chairman, Mr. T. Judd, presided over what must have been almost a record attendance. The minutes of the last meeting were read and confirmed, and two new members elected.

The Chairman drew attention to a large poster announcing the exhibition to be held in the Town Hall on Wednesday, November 23, and informed members that tickets were now at their disposal. Mr. Drew's lectures to young gardeners were announced to commence at the college on Friday, and a large number of members gave in their names.

The lecturer for the evening was Mr. F. Townsend, head gardener to the vice-president, Hillside, Reading, and the subject "Annuals Suitable for Growing in Pots, and Half-hardy Annuals for Beds and Borders." The paper was illustrated by a very fine collection of lantern slides, many of them beautifully coloured, which the lecturer had prepared in conjunction with Mr. H. G. Cox, and the display of these splendid pictures greatly added to the enjoyment of the large audience. As is well known, Mr. Townsend is "facile princeps" in the cultivation of annuals, and his remarks and advice were received with profound attention. Dealing, at the outset, with annuals grown in pots, Mr. Townsend reminded his audience of the beautiful Firefly and other clarkias, which many of them no doubt saw at the last Temple Show, and enumerated and displayed on the screen many other delightful subjects which might be treated in an equally successful manner.

Next, referring to half-hardy annuals raised under glass for summer bedding, he said that nearly all those present had seen in the gardens at Hillside what could be done in this direction, and could form their own opinion as to their beauty and usefulness. In conclusion Mr. Townsend gave ample instructions as to sowing, the compost to be used, and the after treatment of annuals, and in the discussion which followed the paper Mr. Townsend was able to give questioners the benefit of his wide experience as a cultivator of these delightful flowers.

The lecturer also gave evidence of his versatility as a gardener by staging an exhibit of beautifully grown apples and pears, which were much admired. Mr. G. Carter, gardener to S. Griffiths, Esq., exhibited an uncommon bulb in bloom, Eucomis punctata.

BRADFORD CHRYSANTHEMUM EXHIBITION in ST. GEORGE'S HALL, on FRIDAY and SATURDAY, November 11th and 12th.
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BROMLEY AND DISTRICT CHRYSANTHEMUM SOCIETY.
THE 29th ANNUAL EXHIBITION
Will be held in the
DRILL HALL, BROMLEY,
On WEDNESDAY and THURSDAY, Nov. 9th and 10th, 1910.
Entries close November 5th.
R. S. PATTERSON, Hon. Sec.,
The Gardens,
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BUXTON AND DISTRICT CHRYSANTHEMUM SHOW,
WEDNESDAY, November 16th, 1910.
For Schedule and List of Prizes, address—
S. SHUFFLEBOTHAM, Secretary, 12, Eagle Parade, Buxton.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

Brighton.

The nineteenth annual exhibition of chrysanthemums, etc., held by the Brighton and Sussex Horticultural Society, took place on November 1 and 2 in The Dome and Corn Exchange. There was a marked improvement in the cut flower sections from Japanese varieties to single ones, but there was a great falling off in the group classes. Plants were better than usual, fruits were good, but the collections of vegetables were not up to Brighton high-water mark. The new secretary, Mr. A. J. Gaston, fulfilled his duties admirably, and the committee, as usual, took their share in the work of the show; while the president, Mr. Alderman Jeremiah Colman, J.P., takes, as ever, a very close and keen interest in the society's work, and once again, at the close of the tedious work of arranging and judging the show, he entertained the officers, committee, pressmen, and local celebrities at luncheon, and on this occasion the Mayor and Mayor-elect of Brighton, the Mayor-elect of Hove, and the two members of Parliament for the district were present at this function.

GROUPS.

Chrysanthemum groups, which were once such a splendid feature at the Brighton shows, showed an enormous falling off this year. In the class for a group arranged in a circle 11ft. in diameter, there was only one exhibit, and this was from Mr. A. J. Jones, gardener to Mr. Alderman E. M. Marx, Hanover House, Hanover Crescent, Brighton, who had some good blooms, but had not arranged his plants to advantage, nor had he been at any trouble to provide dwarf plants to hide the boxes on which the plants were raised. The dry moss strewn around the pots in the front effect was by no means pretty, and served only to accentuate the failing already referred to. A second prize only was awarded.

For a circular group of chrysanthemums, arranged in a circle 8ft. 6in. in diameter, ferns and foliage plants allowed, there was again but one exhibitor, who had a very crowded centre, but had finished off the circumference with maidenhair ferns and nephrolepis. Japanese, single, and incurved varieties were used in this exhibit, which was staged by Mr. G. Chandler, gardener to S. C. Witting, Esq., Hollingbury Copse, Patcham, who, however, was only awarded a second prize.

Mr. G. Tunnell secured the first prize for a group of chrysanthemums arranged on a semicircle 10ft. by 5ft. This was in the amateurs' section, and the win was a good one. In a smaller amateurs' class, Mr. E. [illegible], Whippingham Road, Brighton, was to the front with Mr. Arthur Franks, Roe[illegible] Road, Brighton, second. There were [illegible] tables of chrysanthemums and foliage plants, and the prettiest of these was the one arranged by Mr. George Chandler, which secured the first prize: yellow decorative and single bronze chrysanthemums were pleasingly associated with ferns and grasses; Mr. F. Simmonds second; and Mr. W. Hill third.

PLANTS.

Bush plants were arranged in front of the orchestra in the dome, and premier award for a dozen pompon specimens was won by Mr. G. Lambert, 17, Bognor Road, Chichester, with freely-flowered examples of Bob, Mr. Astie, Sœur Melanie, etc.; second prize fell to Mr. G. H. Bennett, gardener to P. Bayer, Esq., Hatch Beauchamp, Withdean, Brighton. First prize for half a dozen bush plants was won by Mr. G. Lambert with good specimens of Lady Hanham, Sir E. Clement, W. Duckham, Miss A. Byron, Lady Conyer, and Mrs. A. H. Lees; Mr. Bennett was second, and Mr. A. Sayers, gardener to S. Copestake, Esq., Adelaide Crescent, Hove, third.

Mr. Lambert scored for two pompons, with Mr. Reuben Moore, 28, New Road, Lewes, second, and Mr. G. H. Bennett third. Mr. Bennett was a capital first for six bush plants of single varieties; his Mary Richardson, Mary Anderson, and F. W. Smith were very fine, but Mr. Bennett had not labelled any of his plants; Mr. S. Watkins, gardener to C. A. Wood, Esq., Maidencombe, Harrington Road, Preston, second; and Mr. Eastwood, gardener to Dr. Bryant, Tongdean, Dyke Road Avenue, third.

Mr. W. Hill, gardener to G. W. Ryder, Esq., Broadhill, Keymer, was the only exhibitor of a collection of orchids, and gained first prize with a pretty table of Calanthe Veitchi, Odontoglossum grande, Cattleya labiata, pleiones, and cypripediums. Mr. J. E. Hickson was a capital first for a dozen begonias, and he showed a fine form of Gloire de Lorraine, well grown and freely-flowered; Mr. A. Bish, gardener to Miss E. Fitz Hugh, North Acres, Stread, Hassocks, second; and Mr. F. Simmonds, gardener to Sidney Howard, Esq., Moulscombe Place, Brighton, third. Mr. Brackley was first for six begonias.

Mr. J. Harris scored for a dozen table plants with a pleasing set of crotons, aralias, and pandanus. Mr. W. Lintott, gardener to Sir Walpole Greenwell, Bart., Marden Park, Caterham, was easily first for six table plants, with Mr. C. Earl, gardener to O. E. Avigdor Goldsmid, Esq., Somerhill, Tonbridge, second. For single primulas, a dozen plants, Mr. F. Simmonds led the way with a good set; Mr. Eastwood second, and Mr. C. Moppett, gardener to A. Carey, Esq., Downside, Roedean, Brighton, third. Mr. H. Murrell, gardener to Mrs. Darby, Knowls Tooth, Hurstpierpoint, led for solanums, but we have seen these better represented at Brighton.

First prize for a table decoration of chrysanthemums was won by Mrs. Cooper, 26, The Warren, Broadwater, with a pretty design in rose-pink single flowers; Mr. H. J. Brill, Southdown Avenue, Brighton, second with yellow Source d'Or; and Miss S. Cheesman, Islingwood Road, Brighton, third with yellow and bronze Source d'Or flowers.

CUT FLOWERS.

The leading class for cut flowers was one for thirty-six Japanese blooms in not less than two dozen varieties. The chief award was a silver bowl, presented by Mr. Jeremiah Colman, and £3, and this was won by Mr. M. Sargent, gardener to G. L. Wigg, Esq., Rockshaw, Merstham, with bright, clean, fair-sized examples of Lady Talbot, Jumbo, W. Mease, J. Lock, A. T. Miller, C. H. Totty, Beecham Keeling, Master James, Mrs. Thorn, Leslie Morrison, Master David, Reginald Vallis, Mrs. C. Penford, Lady Crisp, Superb, Elsie Miller, Mr. R. B. Marsham, Rose Pockett, J. Peed, Mdme. Rivol, Sir Frank Crisp, Mary Inglis, and Mrs. R. H. Pearson. There were eight competitors, and the class was a difficult one to judge. Second prize fell to Mr. J. Harris gardener to Colonel Henty, Avisford, Arundel; third to Messrs. James Stredwick and Son, Silverhill, St. Leonards; and fourth to Mr. J. E. Hickson, gardener to Rev. F. S. Slater, Newick Park, Lewes.

The silver medal and 40s. offered as first prize for twenty-five Japanese blooms, arranged in vases, was won by Messrs. James Stredwick and Son, St. Leonards, their best blooms being Francis Joliffe, Olympic, Mdme. Rivol, and Master James; Mr. J. E. Hickson came second, and Mr. G. Best, gardener to H. S. Johnson, Esq., Seldenville, Worthing, third. Mr. Sargent was the only exhibitor of a dozen blooms of incurved varieties, and he was awarded first prize; his best flowers were Edwin Thorp, W. Biddle, Daisy Southam, Clara Wells, and Frank Tristram. Mr. Harris beat Mr. Best for six incurved blooms, and both showed fairly well. For six incurved blooms of one variety Mr. A. H. Geall, gardener to Miss Smith, Mirimachi, Withdean, led with good flowers of Buttercup; Mr. J. C. Reeves, gardener to Captain H. Acton Blake, Puck's Croft, Rusper, second with H. W. Thorp, and Mr. A. Sayers third with Emperor. For six Japanese, distinct, Mr. W. J. Finch, gardener to F. A. White, Esq., J.P., Oakleigh, East Grinstead, was first with H. Poulton, Mrs. A. T. Miller, Reg. Vallis, Lady Talbot, Sir Frank Crisp, and Mrs. R. C. Felton; Mr. W. Humphrey, gardener to F. W. Franks, Esq., Loampits, Tonbridge, second; and Mr. M. Sargent, third; seven entries. Mr. M. Sargent led for six Japanese blooms of one variety, with Lady Talbot in fine condition; Mr. A. H. Geall, second with F. S. Vallis, very bright; Mr. G. Best, third.

There was a splendid competition in the class for three vases of single varieties, no fewer than a dozen competitors coming forward; premier award fell to Mr. T. Brackley, gardener to Mrs. Brigden, Oaklands, Hassocks, for a beautiful lot of Pagram and other large varieties; Mr. T. Eastwood, second; Mr. G. Funnell, third; and Mr. W. G. Pelley, Ada Vale, Chesswood Road, Worthing, fourth.

In the single-handed gardeners' class Mr. J. C. Reeves led for a dozen Japanese blooms, in vases, followed by Mr. A. E. Clarke, gardener to Dr. Rouse, Worthing. Mr. Brackley scored for six blooms, with Mr. J. C. Reeves second. In the amateurs' division Mr. E. Farrell, Mr. E. J. Brooker, Sillwood House, Southwick; Mr. C. Fox, Richmond Lodge, Eridge Road, Tunbridge Wells; and Mr. A. Jeal, Montreal Road, Brighton; were the leading prizewinners for cut flowers.

FRUITS AND VEGETABLES.

Mr. C. Earl scored for three bunches of white grapes with Muscat of Alexandria, followed in order by Mr. A. H. Geall and Mr. W. Lintott. The latter led for black grapes with Alicante, followed by Mr. A. H. Geall and Mr. C. Earl. Mr. A. H. Parsons, Malling Street, Lewes, led for four dishes of culinary apples in a close competition, with Warner's King, Hollandbury, Peasgood's Nonsuch, and The Queen; Mr. T. A. Sandalls, gardener to G. Mason, Esq., Rottingdean, second. Mr. Sandalls scored for four dishes of dessert varieties with Cox's Orange Pippin, Blenheim Pippin, Baumann's Reinette, and Ribston Pippin; Mr. J. E. Hickson second, and Mr. W. Humphrey third. Mr. Hickson scored for two dishes of stewing pears. Mr. W. H. White had the best dish of dessert pears, Pitmaston Duchess in fine form. For four dishes of dessert pears Mr. W. F. Finch led with Doyenne du Comice, Pitmaston Duchess, Beurre Diel, and Durondeau; Mr. J. E. Hickson second. Mr. W. Cornish, Grovelands, Burgess Hill, had the best single dish of culinary apples, and showed Peasgood's Nonsuch finely; Mr. J. Harris second with the same variety.

In the open class for a collection of eight kinds of vegetables, Mr. W. J. Finch, Oakleigh, East Grinstead, secured the first prize; Prizetaker leeks, Michaelmas White broccoli, and Sulham Prize celery were the best sets staged. Mr. W. Manton, gardener to Mrs. Mashiter, The Grange, Hurstpierpoint, a good second, and Mr. T. Brackley third. Mr. J. Durrant, Pakyn's Lane, Hurstpierpoint, led in the class for a collection of vegetables, prizes provided by Messrs. Tilley Brothers. In another class Messrs. J. Davis and Sons gave the prizes, and here Mr. W. J. Finch was to the front.

Mr. Earl scored for tomatoes, and Mr. W. J. Finch was a capital first for four dishes of potatoes, winning with King Edward VII., White City, Superlative, and Duchess of Conrwall; Mr. H. Murrell second; and Mr. C. Short, Chestham Park, Henfield, third. Mr. Finch scored for six onions with a very heavy set of Ailsa Craig; Mr. A. H. Parsons, Lewes, second; eleven entries. In another class for onions Mr. H. Norman was first among eight competitors.

NON-COMPETITIVE.

Unusually attractive for the time of year was the big exhibit of pæony-flowered dahlias from Messrs. Bakers, Wolverhampton; the big blooms and brilliant colouring of the varieties were very striking, and attracted a great deal of attention. Mr. Jas. H. Hill, Burgess Hill, Sussex, contributed a small group of varieties of Cattleya labiata, Odontoglossum grande, and cypripediums. Mr. F. Woollard, Lewes Road, Brighton, staged a collection of apples, together with chrysanthemums and branches of autumn-tinted foliage. Messrs. J. Cheal and Sons, Crawley, put up a charming lot of single and miniature cactus dahlias, as well as a collection of well-grown and highly-coloured apples.

Messrs. Balchin and Sons, Brighton, put up a delightful exhibit of brilliant crotons and dracænas, flanked with beautifully-grown pot plants of decorative chrysanthemums, and backed by tall palms and dracænas. The margin of the exhibit consisted of Begonia Gloire de Lorraine and rosy-pink varieties of Primula obconica.

Messrs. Toogood and Sons, Southampton, put up a fine collection of vegetables, the whole of their specimens being tastefully set on new lawn grass, grown in boxes for the purpose. Onions, sprouts, cauliflowers, turnips, and Globe artichokes were the leading features. Messrs. W. Wells and Co., Merstham, sent new Japanese and single chrysanthemums. Messrs. G. Bunyard and Co., Maidstone, put up a very fine display of apples and pears, and Mr. Coleman, The Vineries, Burgess Hill, sent fruiting vines and grapes; while Messrs. Tilley Brothers, 133, London Road, staged bulbs, flower pots, and sundries.

Broughty Ferry Horticultural Association.

The ordinary monthly meeting was held under the presidency of Mr. James Bethel, on the evening of the 18th ult. Mr. George Masson, Ayestree Gardens, was the essayist, and his subject was "Notes on a Few Greenhouse Flowering Shrubs." The essayist deplored the disrepute into which this class of plants had fallen in late years, and, as a sequel, young gardeners were not acquainted with their habits and requirements. Mr. Masson took up five genera, viz., azalea, erica, genista, habrothamnus, and luculia. These were described, and cultural details enlarged upon; the best and most accommodating species and varieties were mentioned, and the general remarks made applicable to a wider range of greenhouse flowering shrubs

A good discussion followed, when many of the members eulogised the essay, and referred to it as "of high practical worth and a first-class literary production."

The exhibits consisted of thirty-six varieties of sweet peas, and twelve varieties of single outdoor chrysanthemums, from Mr. William Grant, Fernhall Gardens. The president showed a miscellaneous collection of blooms from greenhouse shrubs to illustrate the subject for the evening. A competition for six onions and six leeks brought forward six competitors, and the judge, Mr. James Kinnear, Fernbrae Gardens, Dundee, had no little difficulty in placing the awards: 1st, Mr. John Campbell, Forbes Court Gardens; 2nd, Mr. William Moir, Chellwood, Monifieth; 3rd, Mr. James Bethel, The Grange Gardens, Monifieth.

Herefordshire Fruit Society.

This society held its nineteenth annual show on October 26 and 27 in the Shire Hall, Hereford, where apples and pears in particular were staged of remarkably good quality, and the many classes devoted to them were well filled; in fact there was no falling off in the quantity and quality of these fruits from that staged in the best of previous years, though, owing to the trying character of the season, it was generally feared there would be. To give anything approaching a full description of the produce staged in the 123 classes provided would take much more space than can be spared, and our remarks must therefore be confined to leading features.

In the class for fifty dishes of apples, arranged with foliage decorations, on 70 square feet, there were five lots staged, the leading one coming from the King's Acre Nurseries, Lim., Hereford, who had a fine display of clean, bright, and large fruits of choice varieties, arranged with excellent taste; notable varieties were Newton Wonder, Lane's Prince Albert, Coronation, Lawrie's Cornish Giant, King Edward VII., Hector McDonald, Tyler's Kernel, James Grieve, Werder's Golden Reinette, Rival, Allington Pippin, Cox's Orange Pippin, and Lord Hindlip; the second prize was taken by Mr. Caddick, of Caradoc, Ross, with a collection but slightly inferior to the leading one, his weak points being found among his front dishes. Mr. W. Jones, gardener to Mrs. Hill, Moreton Court, was placed third. For thirty dishes, the class attracted only one exhibitor, viz., Mr. Taylor, gardener to J. Riley, Esq., who staged a good assortment of leading varieties, including amongst his best, Ross Nonpareil, Christmas Pearmain, King of the Pippins, Worcester Pearmain, James Grieve, Newton Wonder, Emperor Alexander, Blenheim Pippin, Beauty of Kent, and Annie Elizabeth. Seven exhibitors staged eight dishes of dessert apples, and in this class Mr. Kelly, gardener to Messrs. Getting and Newton, Glewstone Court, Ross, was first with good clean fruits of American Mother, Blenheim Pippin, Ribston Pippin, Cox's Orange Pippin, Wealthy, Charles Ross, Worcester Pearmain, and Washington; Mrs. Bashill, Bridge Sallars, second, with an almost equal production; Mr. J. Sykes, gardener to Colonel Henry, third. For a dozen varieties of culinary apples. Mr. Kelly again took the lead, and staged fine examples of Emperor Alexander, Newton Wonder, Lord Derby, Lane's Prince Albert, Warner's King, Peasgood's, Bismarck, Scarlet Custard, and Stirling Castle; Mr. C. Thomas, gardener to Captain W. S. C. Cox, and the Rev. G. H. Devonport, followed closely in the order named.

Single dish classes were confined to twenty-four varieties of apples. Beginning with Cox's Orange Pippin apple, Mr. Webb, Glewstone, Ross, was first; for Blenheim Pippin, Mr. Caddick led; Mr. C. Thomas was first for King of the Pippins; and Mr. Kelly first with Ribston Pippin; for Warner's King Mr. Thomas was to the front; Mr. Thomas was first for Bramley's Seedling; and also for Lane's Prince Albert; and for Dumelow's Seedling Mr. A. G. Burney led; for Gascoigne's Seedling Mr. Caddick led, as he also did for Peasgood's Nonsuch and Newton Wonder; Mr. J. Ridley was first for Annie Elizabeth, and Mr. Caddick for Lord Derby; Colonel Henry was first for Allington Pippin, and Mr. R. M. Whiting first with Encore for any new variety. For any other mid-season kitchen variety Mr. Morland Hall led with Stirling Castle, and for any other late variety Mr. Thomas was first with Bismarck; for any other mid-season dessert variety Mr. Burney was first with Charles Ross, and for any other late dessert kind Mr. Whiting was first with King of Tomkins County.

Special classes included one for eight dishes of kitchen apples and four of dessert varieties; here Mr. C. W. Powell led with a fine collection; Mr. J. Bott second amongst four exhibitors. In a class for six recently introduced apples, Mr. Powell was the only exhibitor, and had Charles Ross, Rival, James Grieve, King Edward VII., Coronation, and Lord Hindlip. Six kinds of dessert and twelve of kitchen apples brought out five competitors, Mr. Thomas being first with good fruits of leading varieties; Mr. Kelly second; and Mr. A. Perry, Palmer's Court, third. For eight dishes of culinary apples Mr. Thomas was again placed first and Mr. Kelly second. In a class for eight dishes of dessert varieties, Mr. Kelly took the lead, staging nice fruits of Margil, Adams' Pearmain, Rival, Ribston Pippin, Worcester Pearmain, Cox's Orange Pippin, Lady Sudeley, and Wealthy; Mr. A. S. Burney second.

For the best dish of dessert apples Mr. Thomas scored with one of Cox's Orange Pippin, and he also won with Lane's Prince Albert for the best dish of culinary apples. Mr. Wooton, Byford, had the best dish of pears, Doyenne du Comice, and with a fine bunch of Muscat of Alexandria the Rev. C. H. Devonport scored for the best bunch of grapes.

There were five exhibits for twelve varieties of pears, and the Rev. G. H. Devonport, Foxley, was placed first, having meritorious dishes of Doyenne du Comice, Pitmaston Duchess, Beurre Diel, Easter Beurre, Nouvelle Fulvie, Beurre Rance, Marie Louise, Durondeau, Duchess d'Angoulême, Emile d'Heyst, and Le Lectier; Mr. Parrott, gardener to A. W. Foster, Esq., Brockhampton Court, second. For eight dishes, Mr. C. Liddle, gardener to Sir J. Cotterell, Garnous, led with fine fruits of Easter Beurre, Pitmaston Duchess, Doyenne du Comice, Durondeau, Nouvelle Fulvie, Josephine de Malines, Marie Louise, and Beurre Superfin; Mr. Whiting, Credenhill, second.

The best dish of Marie Louise and of Doyenne du Comice came from the Rev. G. H. Devonport; of Pitmaston Duchess, from Mr. Parrott; and for any other dessert kind, Mr. J. Morgan led with Beurre Diel; and for any stewing kind, the Hon. Mrs. R. Wilmot was first with Catillac.

For a decorative group of fruit, fresh or preserved, arranged on fifty square feet, there were three exhibits staged, the King's Acre Nurseries, Lim., taking chief honours with a splendid stand, having a background of fruit trees in pots, with a frontage of a collection of apples, pears, etc., arranged in boxes, and dishes, flanked with groups of bottled fruit; Mr. Caddick followed, having a fine collection of apples, ornamented with decorative plants as his chief subjects; Messrs. Pewtress Bros., Tillington Nurseries, third, with a similar stand.

Only one class was provided for a collection of miscellaneous fruits, but five collections were staged, Mr. Liddle taking the lead with Gros Maroc and Muscat of Alexandria grapes, Doyenne du Comice pears, James Grieve apples, Emerald melon, and Coe's Golden Drop plums; Mr. Sykes second with an almost identical collection; and Mr. W. E. Hyde, Norwood Hall, third.

The best Muscat of Alexandria grapes came from the Rev. G. H. Devonport, who had fairly good examples. Gros Colmar made a good class, Mr. Liddle and Mr. Sykes being placed first and second in the order named, with capital bunches. Mr. Liddle again took the lead for any other black variety with splendid examples of Mrs. Pince, followed by Mrs. Woodhouse with Alicante.

Many classes were provided for cider and perry fruits, and for cottagers as well as for agricultural roots, grain, hops, etc. Vegetables were good, and for these Messrs. Sutton and Sons, Reading; Messrs. Webb and Son, Stourbridge: the King's Acre Nurseries, Lim.; and Mr. Wilson, Commercial Street, Hereford, offered prizes, the exhibits making an interesting addition to the show.

The classes devoted to chrysanthemums were for cut blooms arranged in vases, the chief prize winners being Mr. Parrott, gardener to A. W. Foster, Esq., Brockhampton Court, Ross; C. J. Holford, Esq., and T. W. G. Williams, Esq.

Non-competitive exhibits were not numerous. Messrs. Young and Co., Cheltenham, had a fine stand of leading varieties of carnations; The King's Acre Nurseries, Lim., set up a large collection of apples, pears, floral designs, etc.; and Mr. J. Wilson, Hereford, sent bouquets, wreaths, fruit, and lily of the valley.

International Horticultural Exhibition, 1912.

On Tuesday, October 25, a meeting of secretaries as representing counties in England and Scotland, Ireland, and Wales was held in the Hotel Windsor, Victoria Street, Westminster, to consider certain details regarding the projected International Exhibition for 1912. Mr. Gurney Fowler, chairman of the Executive Committee, presided, and the attendance numbered between 40 and 50 representative officials.

Opening the proceedings, the Chairman thanked the representatives for attending in such large numbers, and said that the business before them was to consider the resolutions passed by the Executive Committee at a meeting held on Tuesday, June 14, and to make recommendations thereon. These resolutions were

NATIONAL CHRYSANTHEMUM SOCIETY'S SHOW.
Mr. W. Iggulden's First Prize twelve vases of Japanese blooms in the Great Vase Class.

(1) The country be divided into Territorial District Committees, making individual counties into separate districts where their importance justifies it.

(2) Presidents and hon. secretaries be appointed. The hon. secretaries to be consulted as to the appointment of local committees proposed to consist of about ten members. The list of names on the local committees to be submitted to the Executive Committee for approval, and names to be added by the Executive where desirable.

(3) The duties which local committees shall be invited to undertake shall be clearly defined, viz., getting exhibitors, guarantors, and subscribers, and making known in their respective districts that an international exhibition will be held in London in 1912; also that local committees shall be invited to make recommendations to suit local conditions.

(4) That every president and secretary of a local committee should have a ticket for the opening two-guinea day; that members and local committees should have one ticket each.

(5) That the local hon. secretaries should be invited to London to meet the Executive Committee to consider and discuss a common course of action. The third-class railway fares to be paid if requested.

(6) That Scotland, Ireland, and Wales should have a committee each to organise their respective countries.

(7) That members of the general committee be appointed members of the local committees of their respective districts. At a later meeting, it was resolved that each hon. secretary should be styled the local representative of the Executive Committee.

The earnest wish of the Executive Committee, the Chairman said, was to carry the provinces with them, and make this exhibition an exhibition for the whole of the United Kingdom, and in which everyone connected with horticulture might personally feel interested. On the question of making the exhibition known, he mentioned that posters were being prepared to be exhibited at local shows, and local secretaries were to be asked to have paragraphs and similar announcements inserted from time to time in newspapers circulating in their respective districts. Then the question of the tickets of admission was one on which the Executive desired the opinion of the local secretaries. As far as the disbursements were concerned, the Exhibition Committee would be willing to pay all proper disbursements of the local secretaries and certain other items authorised at headquarters.

A desultory conversation followed the programme laid down by the chairman. Ultimately, Mr. Molyneux proposed that there should be a committee for each county, and with regard to the chairman or president of each particular committee, that the name proposed should be submitted to the Executive before appointment.

Mr. Hudson seconded, and this was carried unanimously.

The Chairman said that it had been suggested that the chairman and secretary should send a list of names to be formed as a local committee, not necessarily ten, which was a tentative number; and with reference to Scotland, that that country be divided into two districts.

Mr. Whitton said it had been suggested that in Scotland a public meeting should be held in Glasgow, at which the chairman of this meeting or some other representative should attend, and that would incite very considerable interest in the exhibition.

The Chairman thought this a valuable suggestion, and one that should be acted upon.

The Chairman intimated that the opinions expressed would be submitted to and considered by the Executive Committee, The meeting then adjourned.

Bristol District Gardeners' Association.

The first meeting of the winter session was held on October 13, at St. John's Parish Rooms, when Mr. Hayball presided over a large attendance. Mr. Townsend, representative of the Reading Society, gave an interesting paper on "Annuals." A large number of slides were used by way of illustration, and the lantern was efficiently manipulated by Mr. Hunking, ably assisted by Mr. Cox, also of Reading. Annuals for pots, and half-hardy annuals for borders, were the two headings under which Mr. Townsend dealt with annuals, and he included in the former myosotis, mignonette, rehmannia, schizanthus, clarkia, godetia, larkspur, Gypsophila elegans, celsia, rhodanthe, nemesia, and salvia. These, he said, if grown under cool conditions, make good subjects for pots. For borders the lecturer recommended as annuals, or to be grown as annuals, hollyhocks, marguerite carnations, dianthus, verbena, antirrhinums, pentstemons, petunias, cosmos, anchusa, arctotis, statice, salpiglossis, and scabious. These, if sown early in the year, would make a good display in the borders.

The members greatly appreciated the lecture and slides, and hearty votes of thanks were given to Messrs. Townsend and Cox, and to Mr. Hunking.

For three bunches of early chrysanthemums Messrs. Springham and Woodward won as placed, and the same two members were awarded four points each, the former for a dish of green peas, the latter for orchids.

A largely attended meeting was held on October 27, at St. John's Parish Rooms, Dr. Shingleton Smith in the chair. The indoor and outdoor culture of sweet peas was dealt with in papers read by Messrs. Garnish and Harford. Mr. Garnish opened with a short paper upon indoor culture for market. In his practice the seeds are placed in saucers for a few days and kept moist till germinated, when they are sown in trays. The young plants are transferred to pots when two inches high, one plant being put in each. The borders in the house are dug two spits deep, and animal manure, bonemeal, and soot added. When the plants are ready they are put out in rows three feet apart across the house. Strings are used in place of sticks for support. Several applications of nitrate of soda are made and watered in. Mr. Garnish said this liberal treatment made them grow so luxuriantly that they had to be taken down and layered, but the result was quite satisfactory. Mr. Harford followed with the system he has adopted for outdoor culture of sweet peas. This system includes a good open position, sheltered from west winds, thorough trenching, not too much manure, planting out from pots firmly, and thinning to three strong growths. For a collection of vegetables, Mr. Binfield was first, Mr. Springham second, Mr. Young third. A certificate was awarded to Mr. Garnish for several vases of chrysanthemums. Mr. Woodward was given four points for a dish of apples Charles Ross.

Beckenham Horticultural Society.

On Friday, the 28th ult., Mr. M. E. Mills, of Coombe House Gardens, Croydon, lectured to a good audience (which included several ladies) on "Some Pretty Gardens and Flowers," illustrated with lantern slides. Councillor W. J. Norris occupied the chair. Some views of Kew Gardens, both glasshouses and the rockery, were first shown and briefly dealt with by the lecturer. These were followed by some views of the Royal Horticultural Society's Gardens at Wisley. The water lily ponds shown were surrounded by trees and shrubs, and to the falling and decaying leaves of these in the water the lecturer attributed the vigour of the water lilies. Then followed views of some small gardens in the neighbourhood of Croydon, all noted for some special feature, either of landscape or culture, one especially for forced strawberry culture; but as the lecturer failed to have the "secrets" of success in this particular instance confided to him, it did not transpire how the very remarkable crops mentioned were produced. Lastly, some beautiful slides from the gardens of Coombe House were shown. The very fine Cedrus Libania, of which there are several; the rockery and its occupants were well treated on, and afforded much pleasure. A question was put to Mr. Mills respecting Begonia Lloydi raised by him, and as to its culture. It wants growing in full sunshine, no shade, and can be raised easily from cuttings. A good discussion followed. Mr. Francis Hooper, an architect, of Beckenham, spoke at some length, and urged for a greater individuality in gardens. Hearty thanks were accorded both lecturer and chairman. Mr. Abrahams exhibited tomatoes.

Blackheath Horticultural Society.

A meeting was held on October 28 at the Church Street Schools, Lee, when a lecture was given by Mr. T. W. Sanders, F.R.H.S., on "Diseases and Enemies of Plants." The meeting was well attended, and the audience was amply rewarded by the lecture on this interesting subject. The diseases and enemies dealt with by the lecturer were very numerous and varied. One thing in particular he wished to impress on his hearers, and that was the necessity for using a soil fumigant to kill the larvæ of many of the plant parasites. This, he said, would prevent their development in the spring, and was a much better way than letting the larvæ pass through their several stages and produce more enemies of their kind to work havoc amongst the trees and plants. Several methods of making insecticides and fungicides were described. A hearty vote of thanks was accorded Mr. Sanders for his able lecture. The next lecture will be given by Mr. W. P. Bound, F.R.H.S., on November 25, and the subject will be "Present Day Orchid Culture."

ANSWERS TO CORRESPONDENTS.

CARNATIONS.—J. B., Haywards Heath: We are glad to hear from you, and to know that the articles have been so useful. You will have seen that others have appeared recently, and we hope these will prove equally useful to yourself and friends.

DISEASED VIOLAS.—W. H. E., Sheffield: The specimens sent were totally insufficient for a proper investigation. It would appear that the trouble is due to the biting action of some mite or larger insect, possibly earwigs, and the irritation thus set up has resulted in the swollen and compressed tips of growth. Red spider was present, and this would also affect growth, but is, in your case, a contributory cause rather than the real cause of the trouble. See that the plants do not lack moisture; top-dress them with a light mixture of leaf-soil and manure, and dust the points of growth with tobacco powder.

HORTICULTURAL STUDY.—A. R., Middlesborough: A few books that would be of special value to you in connection with the points raised include "The Chemistry of the Garden," Macmillan and Co., 1s.; "Pictorial Practical Gardening," Cassell and Co., 1s.; "The School Garden," Blackie and Co., 1s.; "Primer of Horticulture," Macmillan and Co., 1s.; "The Soil," John Murray, 3s. 6d.

APPLES AT COVENT GARDEN.—J. G., Suffolk: You could make purchases through a commission agent, but the price you would have to pay would be the current rate per bushel or half-sieve, plus the agent's commission and the carriage of the fruit to your house from the market. It is very probable that you would be able to purchase locally at a cheaper rate, or at a market near at hand; at least, this is a matter you should consider, as the cost of carriage from London is considerable. If you wish to purchase at Covent Garden, write to the Market Superintendent, Covent Garden, W.C., who will give you names of agents who buy and sell on commission.

THE NEW WINTER WASH.—G. C. W., Lincoln: The new winter wash for fruit trees, to which we have previously referred, is an improvemnt upon the old one, and is the result of experiments made by Mr. Spencer A. Pickering, director of the Woburn Experimental Fruit Farm. The formula is as follows: Iron sulphate, $\frac{1}{2}$lb.; lime, $\frac{1}{4}$lb.; caustic soda, 2lb.; paraffin (solar distillate), 5 pints; and water to make 10 gallons. In order to prepare the wash the iron sulphate should be dissolved in about nine gallons of water. The lime should then be slaked in a little water and be well stirred, a little more water being added to make a "milk." The "milk" of lime should next be run into the iron sulphate solution through a piece of sacking or a fine sieve to remove grit or coarse particles. The paraffin should then be added and the mixture churned thoroughly. Just before using, the caustic soda, in the powdered form, should be added to complete the "wash." This wash, which has both a cleansing property and an insecticidal value, is recommended for application while the trees are dormant, and certainly before the buds have burst. Perhaps the greatest advantage would result from such a wash if applied about the beginning of February.

LAWN BEDS FOR ROSES.—W. W. B., Towcester: Many kinds of roses are admirably suited for beds on lawns, but the size and form of the bed should be adapted to space and environment, and also to the kind or style of roses to be used. The beds should not be over large, or fanciful in design, the latter being objectionable because of the difficulty in using the mowing machine on their margin. As a rule, circular and oblong beds are preferable, and, as indicating the most suitable dimensions, it may be mentioned that circular beds, ranging from four to five feet, and oblongs from three and a-half to four feet wide, and from four to six feet long are the most convenient. As a deeply-stirred and liberally enriched soil gives the best results in the culture of roses in beds, as elsewhere, a thorough preparation of the beds is necessary. This will consist in dressing them with sufficient manure from an old hotbed, the farmyard, or stable, to form a layer of six to eight inches in thickness, and then breaking up the soil to a depth of thirty inches or three feet, and well incorporating the manure with the soil throughout its whole depth. If the good soil is too shallow to admit of the deep stirring here suggested, the top spit should be thrown out, and twelve or eighteen inches of the subsoil be removed and taken to some other part of the garden. Then replace with the manure and good loam or soil from the surface of the kitchen garden. Old soil in which chrysanthemums or strawberries have been grown will be most useful in the preparation of rose beds, as also will decayed vegetable refuse, which may be used in liberal proportions. The beds should be prepared, when practicable, a few weeks before planting, so that the soil may become somewhat consolidated. The planting may be successfully carried out from the end of October until the beginning of March, provided the weather is open, and the soil is neither frozen nor too wet to be worked without being converted into a more or less pasty condition.

INSECTS ON THORNS.—H. S., Barnsley: The tips of growth were infested with thrips and red spider, themselves evidence of dry conditions in atmosphere and soil. Gather up and burn the fallen leaves, prune the trees lightly during the winter, mulch the roots freely with half-decayed manure, and, next year, see that the roots do not lack moisture. Next spring spray the tree occasionally with a weak nicotine solution, and repeat the operation during the summer if it appears necessary.

RICHARDIA LITTLE GEM.—"W. T." writes: Some few weeks ago there was an Editorial note in the Gardeners' Magazine asking the best way to flower this richardia. I have not seen that any correspondent has given the result of his experience, hence my note. I am somewhat diffident in giving my experience, as I have not grown the variety now for several years, but when I did so it used to flower freely. When attention was first directed towards it we were led to expect pots full of its pretty litle flowers, as it produces offsets so freely. In practice, however, flowers were not to be obtained in this way, and, after several experiments I found it was necessary to take off all the suckers in order to obtain a satisfactory display of bloom. After that I grew my plants singly in four-inch pots, taking care when potting that every offset, however tiny, was removed. Grown in this way the plants were very useful for dropping into small vases, or for the edging of groups, while larger specimens could be made up if desired. It may interest your correspondent to know that the golden rule is to keep the plant clear of offsets, at least it used to be. As my experience is not a recent one, I had hoped that someone more up-to-date would have answered the query.

NAMES OF PLANTS.

S. G., Chesham.—The specimens were very poor ones; No. 2 is probably Begonia fuchsioides.

B. H., Bexley.—1, Cotoneaster frigida; 2, Diplopappus chrysophylla; 3, Stachys lanata; 4, Rhus cotinus.

P. L. E., Manchester.—1, Justicia calycotricha; 2, Grevillea robusta; 3, Saxifraga Fortunei; 4, Berberis Darwini.

M. S., Leicester.—1, Pelargonium quercifolium; 2, P. capitata; 3, Cypripedium Actæus; 4, C. insigne, a good variety.

L. B., Towcester.—1, Diosma ericoides; 2, Lespedezia bicolor; 3, Helenium pumilum magnificum; 4, Cymbidium eburneum.

T. H. I., Byfleet.—1, Cattleya Loddigesi; 2, not recognised; 3, Epidendrum variegatum; 4, very shrivelled, probably Læli Perrini; 5, Cypripedium barbatum. The aster is evidently A. diffusus.

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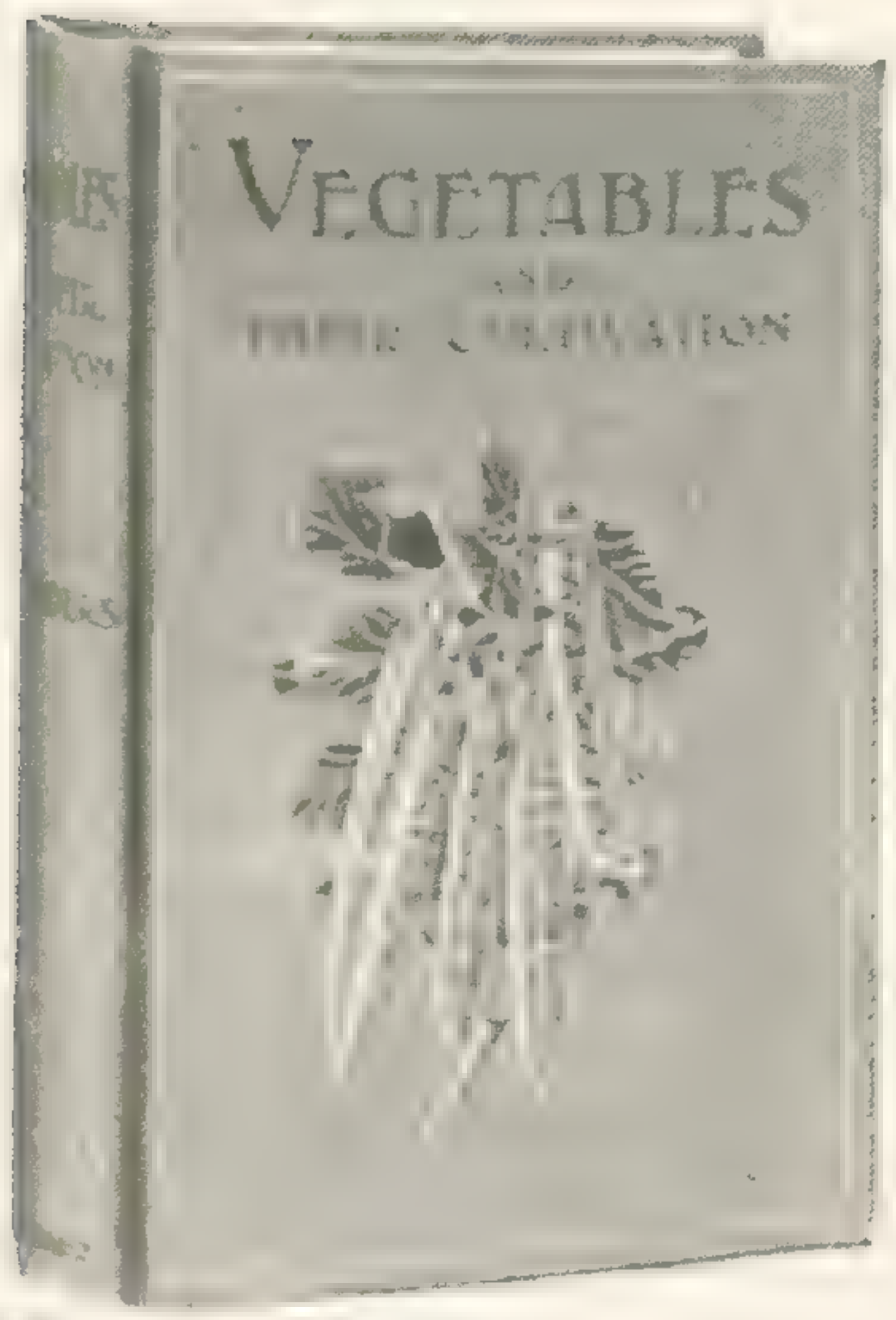

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A. A. L., Swindon.—1, Dracæna Goldieana; 2, D. congesta; 3, Cupressus macrocarpa lutea; 4, Cryptomeria elegans; 5, Nothoclæna sinuata.

NAMES OF FRUITS.

H. T., Cheltenham.—1, Golden Spire; 2, Alfriston; 3, Ribston Pippin.

L. D. A., Horsham.—1, Beurre Diel; 2, Beurre Rance; 3, Catillac.

J. G. B., Tooting.—1, Lord Derby; 2, King of the Pippins; 3, Worcester Pearmain.

F. C. W., Burton.—1, Annie Elizabeth; 2, Adam's Pearmain; 3, Dumelow's Seedling; 4, Lane's Prince Albert.

C. T., Southampton.—Appeared to be Beurre Diel, but went bad so quickly that it cannot be that variety; could you send another specimen.

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FORTHCOMING ENGAGEMENTS.

TUESDAY, November 8.—Birmingham Chrysanthemum Show; three days.
Royal Horticultural Society; committees meet at 12 o'clock; lecture at 3 p.m. on "Observations on the Blossoming of Hardy Cultivated Fruits," by Mr. Cecil H. Hooper; Scientific Committee at 4 o'clock.
Ulster Chrysanthemum Show; two days.
Southampton Chrysanthemum Show; two days.
Oxford Chrysanthemum Show.
WEDNESDAY, November 9.—Northampton Chrysanthemum Show; two days.
Bath Gardeners' Chrysanthemum Show; two days.
Liverpool Chrysanthemum Show; two days.
Cambridge Chrysanthemum Show; two days.
THURSDAY, November 10.—Wandsworth Chrysanthemum Society; two days.
East Cowes Chrysanthemum Society; two days.
Weston-super-Mare Chrysanthemum Society.
British Gardeners' Association, London Branch.
FRIDAY, November 11.—Sheffield Chrysanthemum Society; two days.

MARKETS.

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COVENT GARDEN.

Flowers.

There is an excellent supply of chrysanthemums and carnations, and the demand is good.

		s. d.		s. d.
Adiantum cuneatum	per doz. bun.	4 0	to	8 0
Asparagus	per bun	1 0		1 6
Asters	per doz. bun.	1 0		2 0
Bouvardia	per doz. bun.	4 0		5 0
Cattleyas	per doz.	9 0		12 0
,,	per doz. bun.	6 0		9 0
Cattleyas	per doz.	9 0		14 0
Chrysanthemums	per doz. bun.	3 0		4 0
,,	per doz. blms.	2 0		4 0
Croton leaves	per bun.	1 0		2 6
French fern	per doz. bun.	0 6		0 9
Gardenias	per doz.	1 6		3 0
Lapagerias	per doz.	1 6		2 6
Lilium auratum	per bun.	1 6		2 6
,, speciosum	per bun.	1 0		1 6
,, longiflorum	per bun.	1 0		2 0
Lily of the Valley	per doz. bun.	5 0		15 0
Marguerites	per doz. bun	1 6		2 0
Mignonette	per doz. bun.	1 0		2 0
Odontoglossums	per doz. blms.	2 0		3 6
Pelargoniums	per doz bun.	2 0		4 0
Physalis	per doz. bun.	3 0		4 0
Roses	per doz.	0 6		2 0
Smilax	per doz. trails	2 0		3 0
Statice	per doz. bun.	3 0		4 0

Fruits.

Supplies are good and the demand excellent all round.

		s. d.		s. d.
Apples, English	per bush.	4 0	to	10 0
,, American	per barrel	14 0		24 0
,, Californian	per box	9 0		10 0
,, Nova Scotian	per barrel	14 0		30 0
Bananas	per bun.	3 6		12 0
Blackberries	per peck	2 0		3 0
Cranberries	per case	8 0		10 6
Figs	per doz.	1 0		3 0
Grapes, English	per lb.	0 9		3 6
,, Guernsey	per lb.	0 5		1 3
,, Almeria	per barrel	8 0		13 0
Lemons	per case	16 0		36 0
Melons	each	0 9		3 0
Oranges, Jamaica	per case	10 0		12 6
,, Naples	per case	12 0		16 0
,, Valencia	per case	9 0		12 6
Peaches, English	per doz.	3 0		15 0
Pears, French	per crate	6 0		10 6
,, English	per bush.	6 0		9 0
,, Californian	per case	5 0		30 0
Pineapples	each	2 0		5 0
Quinces	per case	5 0		10 0

Vegetables.

Greenstuffs are in fine condition, the supply is good, and business steady.

		s. d.		s. d.
Artichokes, Globe	per doz.	1 6	to	3 0
Beet	per bush.	1 0		2 6
Brussels Sprouts	per ½-bush.	1 6		2 3
Cabbages	per tally	2 6		5 0
Carrots	per doz. bun.	0 9		1 3
Cauliflowers	per doz.	1 6		2 0
Celery	per doz.	8 0		12 0
Cucumbers	per flat	4 0		6 0
Endive	per doz.	0 9		1 6
Lettuce, Cos	per doz.	1 6		2 0
Mint	per doz. bun.	1 0		2 0
Mushrooms	per doz. lb.	7 6		12 0
Mustard and Cress	per doz. pun.	0 6		0 8
Onions	per bag	4 0		4 6
Parsnips	per bag	2 0		3 0
Radishes	per doz. bun.	1 0		1 6
Parsley	per ½-sieve	1 6		2 0
Spinach	per bush.	1 3		2 0
Tomatoes	per doz. lb.	2 0		3 6
,, Guernsey	per doz. lb.	2 0		3 0
Turnips	per doz. bun.	1 0		2 0
Watercress	per doz. bun.	0 3		0 6

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METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea level, 150 feet.

Date. 1910. October 23 to October 29.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Oct. 23—Sunday	1 12	45	46	53	40
,, 24—Monday	4 0	50	48	53	44
,, 25—Tuesday	—	50	50	55	46
,, 26—Wednesday	5 6	54	52	60	49
,, 27—Thursday	—	53	51	55	51
,, 28—Friday	4 0	50	50	61	49
,, 29—Saturday	—	48	48	53	43
Means	(total) 14 18	50	49	55	46

Date. 1910. October 23 to October 29.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Oct. 23—Sunday	—	49	51	54	36
,, 24—Monday	—	49	51	54	35
,, 25—Tuesday	0·01	50	51	54	41
,, 26—Wednesday	—	51	51	54	45
,, 27—Thursday	0·39	51	51	53	46
,, 28—Friday		51	51	53	4[illegible]
,, 29—Saturday	—	51	52	53	39
Means	(total) 0·40	50	51	53	41

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SEED TRADE.—Young Man requires SITUATION as Counter Hand or General Assistant; 12 years' experience; excellent references. C., 42, Market Hill, Maldon, Essex.

SITUATION required to look after Pony and Trap, help in Garden, and generally useful; good references; age 21. E. WEBB, Crowsley Park Lodge, Harpsden, Henley-on-Thames.

YOUNG MAN, age 21, seeks SITUATION in large garden (Inside or Out), Kitchen Garden or Pleasure Grounds; 8 years' general experience; excellent references; Bothy preferred. Write GARDENER, c/o Wardley's Stationery, Mill Street, Guernsey.

YOUNG MAN seeks SITUATION Inside as bulb forcer, bedding grower; also knowledge of ferns; 9 years' experience; good refs. Apply REGINALD, c/o Mrs. Chaffey, Challis House, Langport, Somerset.

YOUNG MAN (22) seeks SITUATION to help in Kitchen Garden and Pleasure Grounds; strong and willing; good references. Apply, H. WEEKES, Merther Lane, Probus, Cornwall.

YOUNG MAN, experienced in Ferns, Bedding Plants, Tomatoes, Soft-wood, Climbers, Shrubs in Pots Wreaths, etc.; can manage glass of small Nursery.—BARTLETT, 3, Eastcote Road, Harrow.

YOUNG MAN, age 21, seeks SITUATION in good garden; 6 years' experience; excellent references; can be highly recommended by Mr. A. COLLINS, Stud House Gardens, Hampton Court, as a good and willing worker; in or near London preferred. G. CHANDLER, 58, Westland Terrace, Queen's Road, Alton, Hants.

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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

HEAD GARDENER, The Hall, Harbury, Leamington, highly recommends YOUNG MAN, 18, under good Gardener; 3½ years here; excellent worker; Bothy preferred. F. FIELD, as above.

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MR. E. R. BEVAN highly recommends his late HEAD GARDENER; 13 years in his service; life experience in all branches; most capable and trustworthy; 39; married, one child. H. KING, Rempstone, Corfe Castle.

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GARDENER (Head Working), late of Hungerford Park; well up in all branches, Inside and Out; excellent references; 4 years in last place; married; age 41; abstainer. F. EARL, c/o W. Irving, 2, Kent Villa, Stanwell Road, Ashford, Middlesex.

GARDENER (Head Working); life good practical experience in all branches, Inside and Out; Early and Late Forcing; excellent references. H. TURNER, 62, Star Road, Peterborough.

GARDENER (Head Working); 24 years' practical experience in the cultivation of Flowers, Fruit, and Vegetables Inside and Out; good [illegible] in the alteration and improvement of Gardens and Pleasure Grounds; six years' excellent character; married; age 39. SQUELCH, Keston, Hayes S.O., Kent.

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GARDENER (Head Working), age 45; married, no family; experienced in all branches (Inside and Out); excellent testimonials. WM. SMITH, care of Mrs. Clibury, Weather Lane, Astley, Stourport.

GARDENER (Head Working); active, thoroughly experienced in all branches of Gardening; 3¼ years in present situation; 17 previous as [illegible]; married, two children, youngest boy 13. [illegible]GGLETON, The Lodge, Brazier's End, Tring. (No circulars.)

GARDENER (Head Working), requires SITUATION; experienced in Vines, Peaches, [illegible] Cucumbers, Stove and Greenhouse Plants; [illegible] Kitchen Garden, Hardy Fruit, etc.; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working), age 33; can be highly recommended; thorough experience in all branches, fruit, flowers, and vegetables; Inside and Out; excellent references. WICKS, The Gardens, Halstead Place, near Sevenoaks.

GARDENER (Head Working) requires SITUATION; experienced Vines, Peaches, Melons, Fruit, Flowers, Vegetables; 5 years' good character; married. C. N., Clarence Cottage, Broadbridge Heath, Horsham.

GARDENER (Head Working), age 38, married, practical, all-round life experience in all branches, desires situation where energetic, trustworthy man is required; has had experience in alterations and remodelling neglected gardens; excellent references. GARDENER, Heathfield, Chielehurst Kent.

GARDENER (Head Working where one or more are kept); thoroughly experienced in all branches, Inside and Out; age 36; married; good references. EVANS, Dinmore Hill Leominster.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; leaving own request; no young children, youngest 14. W. BLOOMFIELD, Staplehurst, Kent.

GARDENER (Head Working, where one or more are kept, or good Single-handed); experienced Inside and Out; good references: abstainer; married; age 29. W. S., Office of this Paper.

GARDENER (Head Working, where two or more are kept); good all round; can be well recommended; married when suited; age 36. PEARCE, 10, Roxwell Road, Shepherd's Bush.

WANTED, SITUATION as HEAD WORKING GARDENER, where two or more are kept; lifelong experience in all branches, inside and out; also landscape work; Churchman; abstainer; excellent references; married: one child; North of England preferred; age 30. Apply GARDENER, care of Hy. Wardhaugh, Shotley Bridge, Durham.

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M. MEREDITH BROWN, Esq., strongly recommends young man as JOURNEYMAN (Second, Inside); 3½ years present place; age 20. F. GEE, Westbrook, Bromham, Chippenham.

JOURNEYMAN seeks SITUATION, Inside or Inside and Out; with good references. H. BARTLETT, High Street, Banbury, Oxon.

JOURNEYMAN or UNDER-GARDENER. Inside and Out; 2½ years present, 3½ previous; age 22; good references. C. G. STEVENS, 10, Clinton Road, Leatherhead.

JOURNEYMAN (Inside and Out); life experience; good reference; age 21. PINK, Chevering Lane, Knockholt, Sevenoaks.

MR. JORDAN, Lofts Hall, Saffron Walden, would be pleased to recommend YOUNG MAN as JOURNEYMAN, Inside and Out; age 23, Apply as above.

MR. T. CORNISH, Mymwood House Gardens, Hatfield, Herts, can highly recommend WILLIAM EBBS as JOURNEYMAN; Inside; 3½ years' experience with me; age 19; 5ft. 10in. in height; bothy preferred.

MR. NEIGHBOUR, Orsett Hall Gardens, Grays, Essex, wishes to highly recommend YOUNG MAN, age 23, as JOURNEYMAN; Inside preferred; 4 years present place, Inside and Out; excellent character.

GENTLEMAN recommends YOUNG MAN, age 22, as Second of four or five; Inside and Out; 7 years' experience; good reference. Apply T. ROGERS, Michelmersh, Romsey, Hants.

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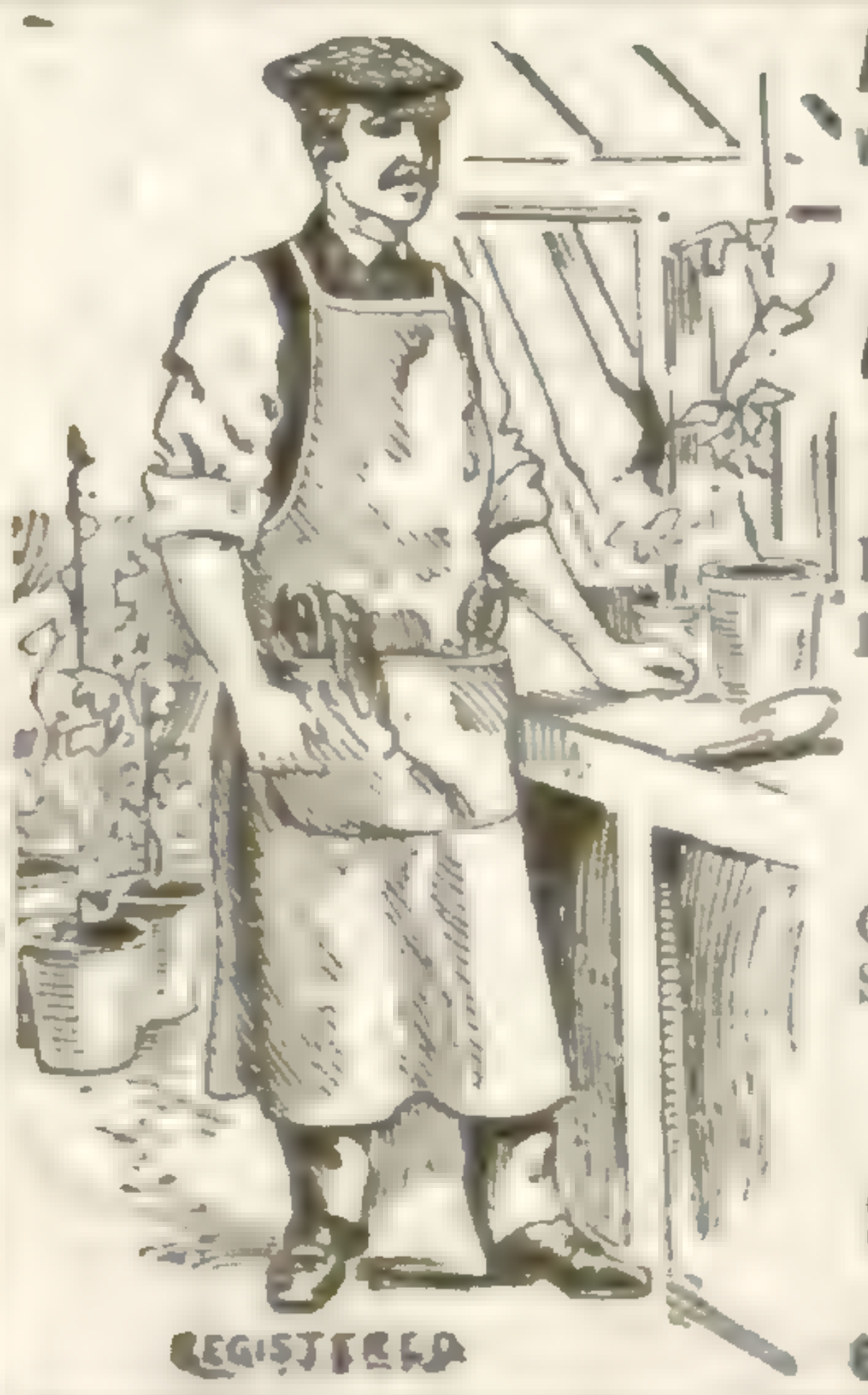

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VOL. LIII.—No. 2,976. SATURDAY, NOVEMBER 12, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

The Origin of Soils.

This is a fascinating subject, and one we bring at intervals and in various ways before our readers, especially for the benefit of young gardeners and students of horticulture. Practically all good cultivatable soils may be regarded as consisting mainly of the débris of rocks, which have been reduced to small dimensions by the action of water, frost, and mutual attrition induced during the conveyance of larger masses from high levels to lower ones. During this process this débris becomes mingled with that of dead vegetation, and in this way an admixture is obtained which is generally admirably fitted for new plant life, containing as it does both earthy salts and humus in a form easily penetrable by roots. It is to this class that the soils termed alluvial all belong, and these are universally recognised as the most fertile. They are found distributed as dead beds along the courses of rivers, particularly where these have ceased their primary tumultuous and more precipitous transit through the gorges and ravines in the hills and mountain ranges which constitute their birthplace, and have reached the plains which they have contributed to form. Water in rapid transit permits of little deposition; on the contrary, it is the active wearing agency, not merely of the rocks over which it passes, but of those which environ it; hence in periods of storm and spate it becomes laden with the detritus it thus forms; but no sooner does it reach more level conditions than settlement occurs, and, as at such times its normal banks are overflowed, and the adjacent land submerged by a comparatively motionless flood, the effluent water leaves nearly all its solid contents behind, and an additional layer of alluvium is thus deposited. It is in this way that vast alluvial plains are formed in many parts of the world, and smaller ones everywhere fill up the spaces between the actual stream and its more or less distant confining walls. On such plains the river's course is usually a very devious one, and is constantly changing, since at every curve the flood is washing away the bank against which it impinges and depositing fresh material where the current is slackened. Thus, in course of time under natural conditions, the stream not merely adds layer after layer of sediment to the plain wherever submerged, but actually traverses the entire area like a slow-moving serpent. Non-alluvial soil we find formed in abundance in mountain regions by the simple weathering down of even the hardest rocks, the materials of which are mingled, as with alluvium proper, with the débris of the local vegetation, which in the case of many plants, forms in itself a disintegrating factor, the roots penetrating fissures, and eventually enlarging them with almost as irresistible a force as frost itself as such roots increase in size. Such soil is usually very open, consisting mainly of the rock itself in larger or smaller dimensions. Even here, however, alluvium proper starts its course towards the fertile plains below, and we have only to glance at a mountain side to see how it is seamed with glens and gullies which eventually are bound to bring this raw material within the clutch of their streams, and so convey it downward. Even our densest clays, too dense and tenacious to encourage plant growth until opened up and rendered friable by artificial admixtures, are of similar origin, but differently deposited. Given a deep lake, whose waters are devoid of obvious currents, though ever on the move, as the numerous streams which feed it find an outlet at, may be, a far distant end, all the finely triturated rock these streams bring down is gradually deposited age after age at the bottom as a dense clay, which, as we see beneath our feet in London, may eventually accumulate until the lake depression is entirely filled up and a city, mainly built of the clay in question, occupies its site. Another class of soil is different entirely, being exclusively vegetable, such as peat deposits, produced by the long-continued growth of bog plants age after age, which are not so fertile as alluvial soils, owing to the lack of mineral matter essential for most vegetation. In the brown coal formations of Germany we may see such deposits hundreds of feet thick and of enormous extent, and practically not a soil proper at all. Peat, in fact, generally, though we have classed it as a soil, and though many plants have been evolved to fit it, is mainly valuable as a contribution of humus to other soils proper which may require it.

MR. J. T. WEST.

Mr. J. T. West has for more than a quarter of a century occupied a commanding position as a cultivator and raiser of dahlias, but his interest in these flowers might, we have no doubt, be traced back a further ten years or so. The exact date on which Mr. West began to grow dahlias, or, indeed, that on which the first of his seedlings flowered, may not be a matter of special importance; but it is of interest to know that he was one of the original members of the National Dahlia Society, and that he has, from the second year in its history, been a member of committee; and a valuable member of that body he has proved. Mr. West has decided ideas with regard to the lines that should be followed for the purpose of giving encouragement to growers and raisers, and he has the courage of his opinions, which is an excellent quality in those engaged in public work. Mr. West possesses a remarkable breadth of view in connection with dahlias, and has raised many fine varieties in each of the several sections. For some years he devoted unremitting attention to show dahlias and raised varieties of such exceptional excellence as to give rise to the idea that he was essentially a "show" fancier. Nothing could well have been farther from the fact, for he has raised many beautiful pompons and a goodly number of cactus varieties of high merit; and he has entered on the improvement of the pæony-flowered varieties with so much zest that he has added a considerable number of beautiful forms to the list. Not the least noteworthy of his successes has been the decorative variety Brentwood Yellow, to which we recently referred. That Mr. West's abilities are highly appreciated by his neighbours, as well as by those of his friends who are specially interested in the cult of the dahlia, is proved to demonstration by the fact that he is a member of the Brentwood District Council and the Billericay Board of Guardians, positions that he has occupied for some years past.

Arbor Day at Eynsford.—There were great doings at Eynsford on Saturday, November 5, when Sir J. Alexander Cockburn, late Premier of South Australia, was crowned "King of Arbor" in the presence of a brilliant company. Tree-planting was carried out near the station, and the initial letters of the names of the trees planted made up the quotation: "Who keeps one end in view makes all things serve." There was a fine show of chrysanthemums and fruits in the Drill Hall, and among notable visitors were Mr. and Mrs. Henniker Heaton; while the veteran Mr. Henry Cannell, V.M.H., was present, and Mr. E. D. Till was, as usual, the moving spirit of the whole of the proceedings.

New Rose Trials at Bagatelle.—We are informed by M. Forestier that trials of new roses will be conducted at Bagatelle during the years 1911 and 1912, and he asks us to inform the raisers of roses in the United Kingdom that he will be pleased to include in the trials any of their productions they may wish to send. Not less than five plants of each variety should be sent. They should, if possible, be in pots, and they must reach the Rosery at Bagatelle before April 15, 1911. It is necessary they should be accompanied by particulars of their origin, parentage, etc. The roses will be planted in the open beds at Bagatelle, and remain undisturbed until the month of October of the second year, to enable the members of the jury to study their growth and flower production during the two years. The packages must be addressed as follows: "Monsieur le Conservateur des Promenades, Roseraie de Bagatelle, Bois de Boulogne, par Neuilly-sur-Seine, en gare de Neuilly, Port Maillot, France."

October in the North.—It is seldom, indeed, we are vouchsafed so fine an October in the North, writes our Aberdeen correspondent, as has been experienced this year. It is the month in which we, as a rule, have most rain, August coming close upon it. But this year August has been much the wetter of the two. The rainfall for October this year is a little over 2in., whereas the average for the month for the last 40 years is about 3½in. The first fortnight of the month was remarkably fine and sunny, but a change came over the scene on the 19th, the wind setting in from the north, while dense masses of globular-headed clouds—what our meteorologists term "cumuli"—turned up along the northern and north-eastern horizon. These clouds are invariably the precursors of some days of rough weather, and the 20th was squally, cold, and rainy. But we have had no very severe gale this October; the only occasions when the wind was at all strong were on the 20th and on the 31st, when we had a good breeze from south and south-west. In short, the atmosphere was quieter than it usually is during this month, having been generally under the influence of an anticyclone or region of high pressure. As is generally the experience of the month, temperature has been rather variable, with no snow or severe frost on the seaboard. In the uplands, however, some snow fell. The sky has been often cloudy, but there has been more sunshine than is usually the case in October. A most remarkable fall in the barometer occurred on the 31st, amounting to about an inch and a quarter, under the influence of the strong breeze from the south-west. At the beginning of the month the stubble land was too hard and dry for the plough, but since then it has come into capital order, and a large breadth of it has been turned over. The turnip crop is doing splendidly. The turnip, with its large green blades, is a thirsty plant in the autumn, but the cool, cloudy, and rather drizzly climate of this district suits it admirably. Here mildew, so common farther south, is rarely felt, which makes the turnip crop of the north the finest that can be produced. It is a wet summer that plays the mischief with the turnip crop, by starting the dreaded yet curious finger-and-toe disease. The potato crop is also turning out uncommonly well, and the fine weather experienced for lifting and pitting should be conducive to good returns to the growers. The absence of severe drought and of strong continuous sunshine keeps our pasture generally green, so that, with our grass in summer and turnips and straw in winter, the husbandman has at his command food for his stock all the year round.

An Interesting Fodder Plant. Dr. A. Voelcker recently showed the basal part of a plant used in Mexico as food for cattle, before the Royal Horticultural Society. The portion shown consisted of the over-lapping basal portions of the leaves, their upper parts having been removed, and the axis from which they sprung. The mass measured about 12 inches in diameter and about 10 inches deep. The leaves are exceedingly glossy and hard. The mass is broken up with a chopper and fed to cattle, which devour it greedily. It contains about 2 per cent. of cane sugar. It is apparently from a species of Hechtia and belongs to the Bromeliaceæ.

Christmas Bank Holiday.—His Majesty the King has appointed "Tuesday, the twenty-seventh day of December next, as a special day to be observed as a Bank Holiday throughout England and Wales and Ireland."

"**The Botanical Journal,**" the new official organ of the Royal Botanic Society, has made its appearance, and, judging from the first part, it should prove an interesting addition to periodic scientific literature, and prove of service in giving publicity to the operations of the society. The number opens with an article dealing with the Royal Botanic Society, and in this is given a sketch of the history of the society during the seventy-one years that have elapsed since it was granted a Royal Charter, and the formation of the gardens commenced. There are also contributions relating to the Victoria regia, the flora of Victoria, the making of lawns, and the Melbourne Botanic Gardens. There is an article on "Artificial Fertilisers versus Manure," which is not easy to understand. In the first paragraph the writer states that "there exist agriculturists (so-called) who have no belief in the value of artificial fertilisers. They maintain that stable manure was good enough for their fathers and their fathers' fathers, and so it must be good enough for them." This may be true of thirty or forty years ago, but the agriculturist who does not use artificial fertilisers is somewhat of a rarity at the present time. Then, farther on, the writer observes: "It is not generally remembered that plants feed on the soluble constituents of the soil and added manure only." It is quite true that plants derive their food from the soluble constituents of the soil and manure incorporated therewith, but the author is careful to differentiate between artificial fertilisers and manure, and as he states that the latter is dear at a gift, the passage is difficult to understand. The journal is illustrated with four reproductions in colours, two of which are from photographs taken by Mr. E. T. Butler, with his new camera, by means of which three negatives can be obtained.

Accident to Mr. E. H. Wilson.—We regret to learn that the famous plant collector, Mr. E. H. Wilson, who is on an expedition to Western China, has met with a serious accident. Mr. Wilson, while returning from Sung P'an, was overtaken by a landslip, and struck by a boulder, which resulted in a broken leg. The accident occurred some three days' journey from Chentu, where medical assistance was obtained. We have much satisfaction in stating that, according to the most recent report, Mr. Wilson is making satisfactory progress towards recovery from his unfortunate accident.

Extension of Wimbledon Common.—A recommendation to contribute £5,000 towards the acquisition of certain lands at Kingston Vale for the purpose of extending Wimbledon Common, and thereby increasing its value and that of Richmond Park as a great open space, was made at the meeting of the Surrey County Council, held on Tuesday, November 8, but it was defeated by 38 votes to 28.

Gardeners' Royal Benevolent Institution.—We are requested to state that the offices of this institution have been removed to 92, Victoria Street, Westminster, S.W.

Fruit Growers' Conference at Wye.—A meeting of the governors of the South-Eastern Agricultural College, Wye, was held on Monday at Caxton House, Westminster, with Lord Ashcombe in the chair. The principal, Mr. M. J. R. Dunstan, reported that there were 130 students in residence, and that immediate additional accommodation was required, and it was decided to erect temporary buildings for lecture rooms, etc. He also reported that a fruit-growers' conference, in conjunction with the National Fruit Growers' Federation, had been arranged to be held at the college on Friday, December 2, for which invitations would shortly be issued and a programme published. The governors resolved to apply to the Treasury for a development grant in aid of the investigations and teaching work carried on by the college.

Agave americana in Bloom at the Zoo. At present a huge specimen of Agave americana is flowering in the Reptile House at the gardens of the Zoological Society, Regent's Park. These giant succulents always attract attention when flowering, though those in charge do not look so pleasantly upon the incident as do the public, because the plant dies after flowering, and thus a fine decorative specimen is lost.

New Park for Kilburn.—The Hampstead Borough Council has unanimously decided to offer £10,000 towards the purchase of land on the Grange Estate, Kilburn, for the purpose of a public park, but this offer was made on the understanding that Hampstead should contribute £4,000.

BIRMINGHAM CHRYSANTHEMUM SHOW.

Those who have of late entertained fear that the chrysanthemum, as an exhibition flower, is on the wane, received a pleasant surprise at the most important show in the Midlands, which was held on November 8, 9, and 10. Bingley Hall on this occasion presented as bright and cheerful an aspect as in the best days of the reign of the Autumn Queen, and the show may well be voted an advance upon those of the past few years. There was, of course, a marked difference in the general character of the display from those of past years, because, in addition to an abundance of big specimen blooms, there were the smaller decorative and single types that add so much to the artistic effect. Perpetual carnations were another modern introduction, and still further variety and interest were added by the fruit, vegetables, shrubs, and miscellaneous exhibits.

CUT BLOOMS.

A class that proved to be one of exceptional interest was that for six vases, each containing three blooms of Japanese, all distinct varieties. Five competitors were forthcoming, and not often have better and cleaner flowers been staged. Mr. E. J. Brooks, gardener to Lieut.-Colonel Beech, Brandon, Coventry, took the lead, staging glorious blooms of Purity, Mdme. G. Rivol, Valerie Greenham, Hon. Mrs. Loftus, C. H. Broomhead, Bessie G. Payne, F. S. Vallis, Master James, Lady Crisp, Marquise de Venosta, Alg. Davis, Mdme. P. Ralli, Mrs. C. Penford, Wm. Mease, Reg. Vallis, Lady Talbot, John Peed, and President Viger. Mr. W. Iggulden, Lock's Hill Nurseries, Frome, was a good second, although in a few varieties his flowers were not up to the great size of the winner's. Mr. J. R. Tooley, gardener to Hugh Andrews, Esq., Toddington, Winchcombe, third; Mr. G. W. Drake, Cardiff, fourth.

Another class in similar style, but for four vases in four varieties, mustered eight entries, among which Mr. E. J. Brooks again led. The blooms of F. S. Vallis in this exhibit were simply wonderful, but every vase was a picture. Second prize went to Mr. W. H. Westbury, gardener to J. W. Wheatley, Esq., Berkswell Hall, Coventry, with another beautiful set. Mr. J. Deacon, gardener to Right Hon. Joseph Chamberlain, M.P., Highbury, came third; Mr. H. S. Foster, gardener to F. E. Muntz, Esq., Umberslade, and Mr. Silas Cole, gardener to Earl Spencer, Althorp Park, Northampton, were awarded equal fourth. For one vase of three blooms, any pink variety, eight competitors entered, Mr. E. J. Brooks scoring with Reg. Vallis, Mr. Silas Cole following with Mdme. Paolo Radaelli; Mr. J. R. Tooley, third with Reg. Vallis. Six entries made up the class for three of any crimson variety, and here Mr. W. Iggulden scored with Master David, Mr. H. S. Foster coming second with the same variety, and Mr. Tooley third with Master James. The whites brought eight entries, Mr. E. J. Brooks again proving invincible with his wonderful flowers of Purity; Mr. Deacon and Mr. G. W. Drake second and third respectively. Mr. W. H. Westbury and Mr. E. J. Brooks fought hard for honour in the yellow class, both staging marvellous blooms of F. S. Vallis. The cards were placed in the order named, with Mr. J. R. Tooley as runner-up.

One of the prettiest classes was for a dozen Japanese blooms, shown on a table in separate vases, with suitable plants and foliage as setting. There were seven good entries, and in each case crotons, ferns, and grasses were well used. The competitors ran each other extremely close, and really there was little to choose. Mr. Deacon was eventually accounted winner, and Mr. H. S. Foster second, the balancing point being the decoration. Mr. J. R. Tooley was a good third, and Mr. A. W. Young, gardener to Mr. Richard Peyton, Edgbaston, fourth. For twelve blooms, distinct, arranged in four vases, Mr. Rayner Bullock, gardener to T. W. Piggott, Esq., The Leons, Park Hill, Moseley, scored, showing Buttercup, Mdme. Ferlat, Louise Giles, and others of fine quality; Mr. T. W. Davis, gardener to H. F. Keep, Esq., The Grange, Edgbaston, second; and Mr. J. Deacon, third. Seven entries for two vases in two varieties made a good class, Mr. Rayner Bullock scoring with Mrs. G. Denyer and Buttercup; Mr. James Shuter, Smallheath, took second place; and Mr. T. W. Davis third. Mr. Jas. Udale offered prizes in a special class for a dozen incurved, grown within four miles of the centre of Birmingham, and entries were strong. Mr. G. W. Drake led, with Mr. Deacon and Mr. Wm. Teal as second and third.

Two vases, distinct varieties (Birmingham district), had eight entries, Mr. J. Deacon again taking premier position with Mr. A. W. Young and Mr. Rayner Bullock as followers. In a similar class for incurved, Mr. G. Bolt, Ward End, scored; Mr. Charles Judge, Hobmoor Road, Smallheath, being second; and Mr. Mark Chalfield, gardener to Jas. Archdale, Esq., The Yews, Harborne, third. Mr. Mark Chalfield led in the class for two vases Japanese, confined to employers of not more than two regular gardeners, and in the amateurs' class, where employers of a permanent gardener were excluded, the prizes went to Mr. W. J. Wakefield, Northwood Road, Harborne; Mr. Jas. Shuter, Smallheath; and Mr. E. Darby, Aldridge.

Quite a distinct feature of the show was provided by the perpetual carnations, of which there were three splendid collections. Mr. W. H. Lancashire, Victoria Vineries, Guernsey, was awarded first prize, his flowers having been artistically arranged in quite a new style by Mr. R. F. Felton, who, as everybody knows, is a pastmaster in the art of floral decoration. Mr. C. F. Waters, Balcombe, Sussex, was a capital second, and staged some blooms of superb quality. Mr. S. Mortimer, Farnham, came third.

PLANTS.

Two competitors staged six specimen plants of Japanese chrysanthemums; Mr. Alfred Cryer, gardener to J. Arthur Kenrick, Esq., Berrow Court, Edgbaston, scored. He had shapeley, dwarf, and well-flowered plants of Mrs. W. Knox, Chas. Davis, Vivian Morel, J. H. Silsbury, Mrs. J. Ritson, and Mrs. J. Hadaway. Second prize went to Mr. O. Brazier, gardener to E. Martineau, Esq., Edgbaston. For six plants, excluding Japanese, Mr. Brasier led with some very nice incurved, Mr. A. Cryer being second. Mr. Brasier also led for three Japanese, and was again followed by Mr. A. Cryer, the same exhibitors maintaining this order for three singles, which was reversed in the single specimen classes for both Japanese and incurved.

Two entries for groups of pot-grown chrysanthemums, arranged for effect, with foliage plants, on a space 20ft. by 12ft., made not a large, but a most interesting and attractive class. The interest was enhanced by the fact that the two exhibitors staged in totally

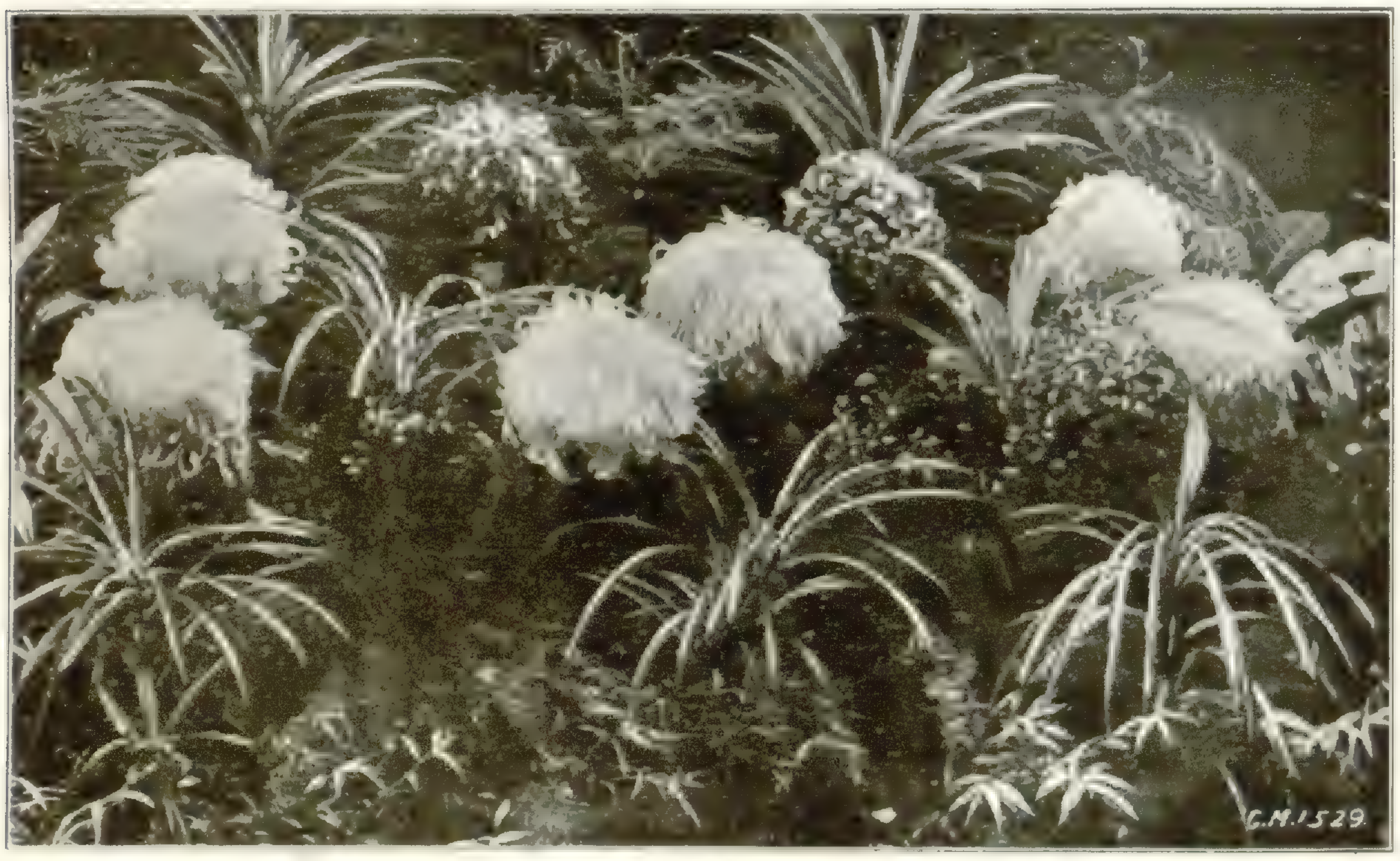
A TASTEFULLY ARRANGED BASKET OF CHRYSANTHEMUMS.

Exhibited at Birmingham Chrysanthemum Show by Messrs. Gunn and Sons, Olton, Warwickshire.

different character, Mr. Alfred Cryer, gardener to J. Arthur Kenrick, Esq., Edgbaston, practically confining himself to large-flowered Japanese, whilst Mr. J. V. Macdonald, gardener to Sir George H. Kenrick, Whetstone, Edgbaston, showed all decorative and single varieties. Each group was remarkably fine, both in point of quality and tasteful arrangement. The prizes were awarded in the order in which the exhibitors' names are mentioned. In a smaller group class, 14ft. by 10ft., there were three entries. Mr. G. Corbett, gardener to Hume C. Pinsent, Esq., Lord Wood, Harborne, winning first, and Mr. R. Bullock second. In a decorative group class Mr. C. H. Herbert, Hazelwood Nurseries, Acock's Green, scored with a tasteful arrangement of naturally-grown singles and small-flowered types. Mr. A. Cryer was second in this class, his group falling away somewhat in the foreground.

FRUIT.

Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, had things his own way in the class for a collection of British-grown fruit, staging grand grapes, pears, apples, melons, pines, strawberries, and figs. Three tables of British-grown hardy fruits contained some really splendid dishes, the winner being Mr. G. R. Morris, gardener to Mr. Hearne, Hanbury, Droitwich. Pitmaston Duchess, Conseiller de la Cour, Beurre Diel, and other pears were accompanied by perfectly-grown apples of the leading sorts. The Caradoc Fruit Plantation, Ross, Herefordshire, were a very close second, their apples being of remarkably good colour for the season. Caradoc Scarlet was a very handsome scarlet culinary apple of good keeping quality. A few walnuts and pears accompanied the apples, which, however, were the great feature. Messrs. Pewtress Bros., Tillington, Hereford, were third. For six bunches of grapes, there were four competitors, the winner being Mr. J. R. Tooley, who put up Muscat and Black Alicante in good style. Mr. J. Jones, gardener to Mrs. F. Need, York House, Malvern, had the same varieties on his second prize stand, as also had the third prizewinner, Mr. J. H. Goodacre.



FIRST PRIZE COLLECTION OF TWELVE JAPANESE CHRYSANTHEMUMS.
Arranged with plants and foliage, at Birmingham, by Mr. J. Deacon, gardener to the Rt. Hon. Joseph Chamberlain, M.P., Highbury, Birmingham.

VEGETABLES.

These are always an important feature of this show, Messrs. R. Sydenham, Lim., Messrs. Sutton, Webb, Dickson and Robinson, and other seed firms, offering liberal prizes for exhibits of the produce of their seeds. Messrs. Sydenham's classes extended to twenty-six and the total number of entries exceeded 200, about double the previous record. The principal winners were Mr. T. Jones, Ruabon; Mr. J. White, Bampton; Mr. W. Folkes, Ampthill; and Mr. Edward Deakin, Mr. A. Cryer, and Mr. Whitbread, the latter three in the local classes being particularly successful.

In Messrs. Sutton's class for a collection Mr. Edward Beckett was victor over three other competitors, each of his nine dishes being about as good as one could wish to see. Mrs. Davis, Ruabon, was second with smaller, but choice dishes, Mr. George Neal, Bampton, Oxon, being third. Mr. Beckett also scored for nine onions, and in several other classes.

In Messrs. Webb's collections, eight in number, the fortunate winner was Mr. John Hudson, Leicester. He had a splendid lot of stuff. Mr. Silas Cole, gardener to Earl Spencer, was a very good second, and Mr. F. Barrett third.

Mr. T. Jones was very successful in Messrs. Dickson and Robinson's classes, scoring for onions, leeks, tomatoes, and carrots.

NON-COMPETITIVE EXHIBITS.

The trade always patronise Birmingham in a whole-hearted manner, bringing of their best, and staging in capital style. This year's non-competitive section, far from being an exception to the rule, was, if anything, even finer than usual, most of the best-known exhibitors putting in an appearance, and creating a display of floral beauty and high-class fruit and vegetables that was a delight to the eye, and an education to all who were privileged to inspect it. One of the first exhibits to attract attention on entering the hall was an extensive and remarkable collection of rare, or little-known vegetables, staged in a most artistic manner by Messrs. Sutton and Sons, Reading.

Beautiful, in a totally different manner, were the immense, but perfectly-formed chrysanthemums, staged in great profusion by that well-known specialist Mr. W. J. Godfrey, of Exmouth, who never comes from home without something really choice. The Japanese and incurved flowers were well supported by a variety of useful and decorative singles, among which the golden flowers of Reginald Godfrey were conspicuous. Messrs. Gunn and Sons, Olton, Warwickshire, arranged a very artistic rockery, upon which a number of choice alpines, dwarf phloxes, and other floral subjects were interspersed with dwarf shrubs. The same firm had a very elaborate exhibit of choice floral designs.

A collection of well-grown conifers came from Messrs. Bakers, Wolverhampton, and very choice they were. Cryptomeria elegans, Abies Hookeriana, Osmanthus illicifolia, and a number of fine cupressus were included in the group. Another excellent exhibit was that from Messrs. John Waterer and Sons, Lim., Bagshot, whose chief feature was some remarkably good standard hollies. Mr. H. N. Ellison, West Bromwich, brought a lovely lot of crested nephrolepis, adiantums, Polypodium glaucum crispum, and other ferns. Mr. Ellison also showed some particularly fine hybrid gerberas, which embraced a wonderful range of most delightful colours; these were the latest developments of M. R. Adnet, who has become famous for his successful efforts with this plant.

The circular stage erected for Messrs. E. Webb and Sons, Wordsley, Stourbridge, was tastefully furnished with a splendid lot of tomatoes, onions, potatoes, and, in fact, a comprehensive collection of vegetables. Celosias, and Begonia Gloire de Lorraine formed a bright centrepiece, and tall stands at intervals, some filled with chrysanthemums and others with melons, added beauty to the display. The Government of British Columbia sent a big exhibit of apples packed in boxes, the fruit being particularly even in grade, and of brilliant colour. An exhibit of fruit that was of great extent and superb quality, was staged by the King's Acre Nurseries, Lim., Hereford.

A capital exhibit of vegetables came from Messrs. Yates and Sons, Birmingham. Giant leeks, onions, pumpkins, and potatoes were staged in great quantity. Messrs. W. H. Simpson and Sons, Birmingham, were also exhibitors of good types of vegetables, and a very prettily-arranged collection came from Messrs. Toogood and Sons, Southampton. A new open air tomato of first-rate quality was shown by Messrs. Robert Sydenham, Lim., Birmingham. It was "Holmes' Early Open Air," and in shape, evenness, and quality was equal to the best of indoor varieties. Messrs. Young and Co., Hatherley, Cheltenham, put up a good group of perpetual-flowering carnations, representing the best varieties in well-formed blooms. About sixty dishes of good potatoes, and about as many dishes of miscellaneous vegetables were put up by Messrs. Thomson and Co., High Street, Birmingham. A very beautiful exhibit of cut chrysanthemums was staged by Messrs. Clibrans, Altrincham. Big blooms of Hon. Mrs. Lopes, J. W. Molyneux, W. Mease, and other fine Japanese, were intermixed with decorative singles of dainty form and colours. Messrs. W. Wells and Co., Merstham, Surrey, brought a choice lot of chrysanthemums, and also some lovely flowers of their new carnation "White House." A big group of conifers and shrubs of decorative character, was put up by Messrs. Hewitt and Co., Solihull.

Flower pots scarcely appeal to one's imagination as subjects for an artistic exhibit, but Messrs. R. Sankey and Son, Lim., Bulwell, Notts, succeeded in making their stand very attractive. Flower pots and bulb bowls, in great diversity of size and shape, were arranged with ferns, grasses, etc., to act as a set-off. Some of the small pedestal pots, and fancy bowls were distinctly pleasing, and are fashioned with an eye to utility as well as appearance. All manner of garden sundries were exhibited by Messrs. Wm. Wood and Son, Lim., Wood Green, N., and Mr. G. H. Richards, Borough, London, made a good display of XL All specialities.

MEDALS AND AWARDS.

Large Gold. — Messrs. Gunn and Sons, Olton; Messrs. John Waterer and Son, Lim., Bagshot; King's Acre Nurseries, Lim., Hereford; Messrs. Webb and Sons, Wordsley; Messrs. Sutton and Sons, Reading; Messrs. Yates and Sons, Birmingham; Messrs. Thomson and Co., Birmingham.

Small Gold.—Messrs. Clibrans, Manchester; Mr. H. Woolman, Shirley; Mr. W. J. Godfrey, Exmouth; the Government of British Columbia; Messrs. Toogood and Sons, Southampton; Mr. Powell, Hereford; and Messrs. Bakers, Wolverhampton.

Silver-Gilt.—Messrs. Hewitt and Co., Solihull; Mr. H. N. Ellison, West Bromwich; Messrs. Young and Co., Hatherley, Cheltenham; and Messrs. W. Wells and Co., Lim., Merstham.

Silver.—Messrs. W. H. Simpson and Son, Birmingham; and Messrs. Pewtress Bros., Hereford.

ACACIAS.

The hardiest and easiest cultivated of greenhouse plants, the various species of acacia take a foremost place in the conservatory and greenhouse. They enjoy a greater measure of popularity than one might be led to suspect, for the " mimosa " of Covent Garden is none other than the flowering sprays of Acacia dealbata of gardens. In its season the flowering sprays are plentiful in the flower markets, so that it is practically familiar to the majority of English people. The species are of immense value to gardeners, yielding unlimited quantities of first-class material for cutting, while the majority lend themselves to pot culture, forming elegant and shapely specimens, which are doubly effective in that they retain their beauty for many weeks, and are valuable for indoor decoration. Not all of them bloom at the same time, but rather form a natural succession, while by gentle forwarding in heat, or retarding under the coolest conditions, a much longer period of flowering is secured.

Their cultivation presents no difficulty inasmuch as their propagation is readily carried out either by seed or cuttings; the former is best sown as soon as ripe, and the subsequent seedlings potted on until they attain flowering size, which, in the majority of instances, is at a comparatively early stage. Cuttings of the half-ripened shoots root readily under handlights, or on a mild bottom heat in a propagator, a high temperature being at all times inimical to success with acacias.

The best results obtained with acacias are under conditions where the plants secure unlimited root room; this is particularly apparent where the genial climate of certain Continental districts favour their development to a marked degree, so much so that they constitute an integral and characteristic feature in the landscape, and so almost appear as if indigenous. In a lesser degree, and possibly more restricted in variety, those favoured counties in the South-West of England offer many opportunities for the culture of acacias in the open, particularly when ample shelter can be provided. It may occasionally happen that some severe winters may prove fatal to them, but with a stock of young plants in reserve such losses may readily be made good, and as they are rapid growers, they very speedily become reinvested with the old charm. In northern latitudes the acacias are best suited for greenhouse and conservatory, and where the facilities are present they prove most valuable when planted out, as it then supplies the best material for cutting, as the removal of large branches from the trees when in full flower only anticipates by a few days the pruning that is generally practised whenever the flowers fade. The following possess much merit.

Acacia dealbata, sometimes called the "Silver Wattle," from the characteristic grey-white colour of the underleaves; the flowers are yellow, disposed in broad, spreading racemes along the branches; the leaves are compound, with many pairs of linear, pubescent leaflets.

A. cultriformis has intense grey leaves, which terminate in a curious hooked point; the flowers are orange-yellow, ball-like, and are disposed in racemes.

A. Drummondi is a particularly good and well known species, having pinnate leaves; the flowers are pale lemon, borne in cylindrical spikes.

A. verticillata produces solitary pale yellow flowers, oblong in form; the leaves are like fine needles, and are borne in whorls; it is one of the best and most distinct.

A. trinervis has narrow leaves some four inches in length, and conspicuous, solitary, deep lemon-coloured flowers, some one and a-half inches long.

A. Barkeriana produces miniature ball-like sulphur-yellow flowers; the young shoots are bright purple; the mature leaves are narrow and willow-like.

A. retinodes (floribunda) is a species having long linear lanceolate leaves; the flowers are in branching racemes, each branch having from fifteen to twenty flowers.

A. Baileyana has intense grey leaves resembling A. dealbata; the flowers are in globular heads, the racemes being erect.

A. Riceana produces its globular yellow flowers on long slender branches; the flower panicles are wide-spreading, making it a most effective subject when trained from the roof; the flowers are cream-white, while the leaves are small and needle-like.

A. lophantha is probably best known as a summer bedding subject; the foliage is extremely graceful, the flowers being greenish-yellow.

A. pubescens is a free-flowering species, with elegant compound leaves; the globular yellow flowers are disposed in racemes along the axillary peduncles.

A. affinis, A. armata, A. hastulata (cordata of gardens), and A. grandis are species in commerce, and more or less common to gardens. Cordata is very desirable, if only for the distinct character of the leaves, and grandis is one of the most desirable in flower.

T. S.

APPLE MILLER'S RED VICTORIA.

This apple has been before the public for a considerable time now, and for a number of years past it has been exhibited annually before the Royal Horticultural Society. It is a handsome apple, of good size and shape, most brilliantly coloured with rich crimson. It appears to be a free cropper and regular bearer and should certainly prove a most useful market variety by reason of its attractive form and colouring. Mr. G. W. Miller, of Clarkson's Nursery, Wisbech, who has shown this apple so frequently, and is distributing it, has great faith in the variety. He has exhibited it in bulk each autumn, and on September 13 last the Fruit and Vegetable Committee of the Royal Horticultural Society granted a First Class Certificate in its favour. Miller's Red Victoria is a culinary apple that comes into use early in the autumn. Its colouring is more than skin deep, as in most of the specimens the vivid crimson enters the flesh, staining it conspicuously.

APPLE MILLER'S RED VICTORIA.
A brilliant crimson culinary apple. F.C.C., R.H.S., September 13. Mr. G. W. Miller, Clarkson's Nursery, Wisbech.

Aster Climax.—One more season has proved this variety to be quite the finest of the large-flowered type of Michaelmas daisies belonging to the Novi Belgi section. Given an Award of Merit by the R.H.S. in 1908, it has since verified the award. Of vigorous growth, it reaches six feet in height, has extra large leaves, throws up shoots freely, and gives abundance of blossoms which are fully two inches in diameter, quite meriting its name. The colour cannot fail to please, being an attractive clear light blue, and it is quite the best in the section that Mr. Beckett, or anyone else, has raised.—E. M.

NOTES FROM KEW.

◆

Chrysanthemums.

As might be expected at this season, chrysanthemums contribute largely to the embellishment of the greenhouse, the different sections being well represented. The major portion are grown in a natural bush form, and disbudding has been comparatively little carried out. A few plants have been treated for the production of large blooms, sufficient, in fact, to show their capabilities in that respect, but most of them are carrying masses of effective flowers on bushes of proportionate height. In the Temperate House an exceedingly pretty effect is produced by groups disposed here and there among the foliage plants which occupy the greater part of that structure. Each group consists of one variety grown in the shape of good-sized bushes, most of which carry a number of finely developed flowers. In this way chrysanthemums are certainly seen at their very best as decorative plants. The varieties mainly consist of Japanese kinds that lend themselves to such a mode of treatment, particularly noticeable among them being Source d'Or, rich orange, and its crimson sport; Lady Selborne, white; Lady Hanham, cerise and gold; Niveus, white; Tokio, perhaps the nearest approach to a scarlet; Viviand Morel, pink; Market Red, rich velvety red; Ball of Gold, yellow, large flowers; Charles Davis, yellowish-bronze; Miss Byron, white, large; J. E. Lager, a beautiful golden yellow flower; Nelly Pockett, white; and N. Boddie, rosy-purple. Beside these garden forms of chrysanthemum there are some effective little bushes of the typical tiny-flowered Chrysanthemum sinense, and a form thereof with yellow flowers about three inches across. Chrysanthemum nipponicum is also very noticeable. The foliage suggests that of C. maximum, and the plants are about eighteen inches high. The flowers, three inches in diameter, have a large central disc of a greenish tint, while the florets are white. Though less showy than some of the others this at once arrests attention by reason of its uncommon appearance.

Mutisia Clematis.

This climbing member of the Composite family is just now flowering freely in the cool portion of the Temperate House. It is trained to wires carried from one of the pillars supporting the structure to another at a considerable height from the ground, so that the slender shoots hang down for a considerable distance, and thus form a living fringe. This fringe is studded with numerous blossoms of a strictly pendulous character, while there is also a large number of unopened buds. The flowers are about three inches in length, the greater part consisting of large bracts, while the petals which spread out horizontally, or nearly so, are of a kind of reddish-scarlet tint. They hang suspended by very long stalks, and are thus particularly noticeable. The leaves are pinnate, each terminating in branching tendrils, while the leaflets are downy on the undersides. Apart from the blossom, the general appearance of the plant suggests a member of the pea family. My first acquaintance with this mutisia was at Pendell Court, about 20 years ago, the plant then flowering freely under the care of Mr. Ross. It is a native of the elevated regions of New Grenada, Ecuador, and Peru, and is said to have been introduced in 1859, but it has always been a rare plant. A second species now seldom met with is Mutisia decurrens, with large orange-yellow flowers. This was introduced by Richard Pearce when travelling in Peru, and first flowered in this country in 1861.

Luculia gratissima.

A specimen of this about 12ft. high, planted out in one of the beds of the Temperate House, is absolutely laden with its hydrangea-like heads of fragrant blossoms. They are of a delightful shade of rose-pink, a colour pleasing to all. This native of the temperate Himalayas was introduced nearly 90 years ago, but even now well-flowered examples are by no means frequent.

Cestrum Smithi.

This is a garden variety of cestrum or habrothamnus, as it is more generally termed. It was distributed by the late Mr. William Bull, of Chelsea, about a dozen years ago, at which time there was a considerable demand for it. From the better-known Cestrum elegans and fasiculatus it differs in the flowers being pink, and also in the fact that it flowers freely in quite a small state as may be seen in the Temperate House. In the same structure the orange coloured Cestrum aurantiacum shows its value for clothing large pillars, though the blossoms are now somewhat past their best.

Ruellia macrantha.

When my last notes on acanthaceous plants in general were taken at Kew this Ruellia was not then represented by flowering examples. Now, in the intermediate portion of the T range, it is in full bloom. This Ruellia is pretty well known in gardens, therefore it will suffice to say that the funnel-shaped flowers are the largest in the genus. They are from three to four inches long, and nearly as much across the expanded mouth, the colour being a deep rose, with a suspicion of purple, and veined in the throat with a deeper tint.

Clerodendron squamatum.

In the early part of August this clerodendron, which in its scarlet flowers and general aspect bears a considerable resemblance to the better-known C. fallax was in full flower. These flowers were in turn succeeded by berries, which, being now ripe, arrest attention by reason of their peculiar colouring. Borne in roundish heads they are green at first, but change to an almost indescribable tint, perhaps a kind of peacock blue with a metallic suffusion being as near the mark as possible.

Nepenthes.

When one remembers as I do the time when the collection of nepenthes consisted of a few by no means flourishing examples in the tropical fernery, the difference now is most marked. The present Nepenthes House, in which the plants are grown in suspended baskets over an undergrowth of tropical vegetation, has proved a decided success, and a fine collection is there represented by characteristic specimens. As an instance of the up-to-date character of the collection, it may be mentioned that Nepenthes nobilis, a hybrid between N. sanguinea and N. Curtisi superba, which was given an award of merit by the Royal Horticultural Society as recently as October 25, is included, while noteworthy examples are to be seen of Nepenthes bicalcarata remarkable for its two curious spurs which project downwards from the base of the lip; Nepenthes ventricosa, whose pitchers are curiously contracted in the middle; and Nepenthes Sir W. T. Thiselton-Dyer, with very large pitchers freely blotched with brownish-crimson on a green ground.

Diospyros Kaki.

A specimen of the Japanese date plum, which has been for some years planted out in the Succulent House, where it fruits annually, is this season bearing an unusual crop of its bright golden yellow, orange-like fruits, and in this stage it forms a highly-ornamental feature. There is, I should say, about a hundred fruits on this one particular plant.

Aralia Sieboldi syn. Fatsia japonica.

As this fine foliage plant is in a small state so much used for indoor decoration, there is a widespread idea that it is tender, which is by no means the case; indeed, it can be safely included among hardy shrubs. In the collection of shrubby araliads there are several freely-branched examples in perfect leafage. Every branch is terminated by a panicle made up of globular-shaped heads of whitish flowers. In this condition they are very ornamental, for which reason this aralia is at the present time entitled to rank among the most attractive of flowering shrubs. At Battersea Park, it is also in good condition. The close resemblance between the arrangement of the heads of flower of this aralia and those of the ivy (both members of the same order) is very interesting.

Cotoneaster rotundifolia.

A great number of cotoneasters have been introduced within recent years, but it is questionable if any will, from an ornamental standpoint, prove to be the equal of this. In the collection of cotoneasters a group of this species is absolutely laden with bright-coloured berries. It forms a freely-branched, spreading shrub of four feet high or thereabouts, whose branches are clothed with small dark green roundish leaves, most of which are retained throughout the winter unless the weather is particularly severe. The berries, which are about the size of small peas, are of a bright scarlet colour. A form of C. buxifolia, with crimson fruits, may sometimes be seen doing duty for C. rotundifolia, but it is far less effective than C. rotundifolia itself.

K.

MICHOMELES FOLGNERI.

This interesting Chinese tree is one of a large number of showy subjects which have recently been distributed by the Messrs. Veitch, of Chelsea, who received it through Mr. E. H. Wilson, when collecting for the firm in Western China a few years ago. It is closely allied to Pyrus, and has somewhat the appearance of a light-habited member of the genus. In general appearance it is of peculiarly graceful outline, for the secondary branches are of a somewhat pendulous character, while the main stem is sturdy. The leaves are from 4 to 6 inches long, and about 1 inch wide, more or less acuminate at both ends. The margins are serrate, and somewhat revolute, while the under-surface is of a lovely silver colour; the upper surface being green.

It has the appearance of being a useful autumn tree, for the leaves of young specimens turn scarlet and bronze. The flowers are white and borne freely in flattened heads in May, whilst during autumn the small, oblong, orange-scarlet fruits ripen. From what can be seen of it up to the present, it is likely to grow quite as well as, and give no more trouble than, any of the ornamental crabs, while its habit is superior to that of many of the species. One item in its favour is the first-rate manner in which the majority of the plants from the same part of China have taken to British conditions, for a great many of them, though introduced but a few years ago, have already formed large specimens, and are growing as well as our common British shrubs.

D.

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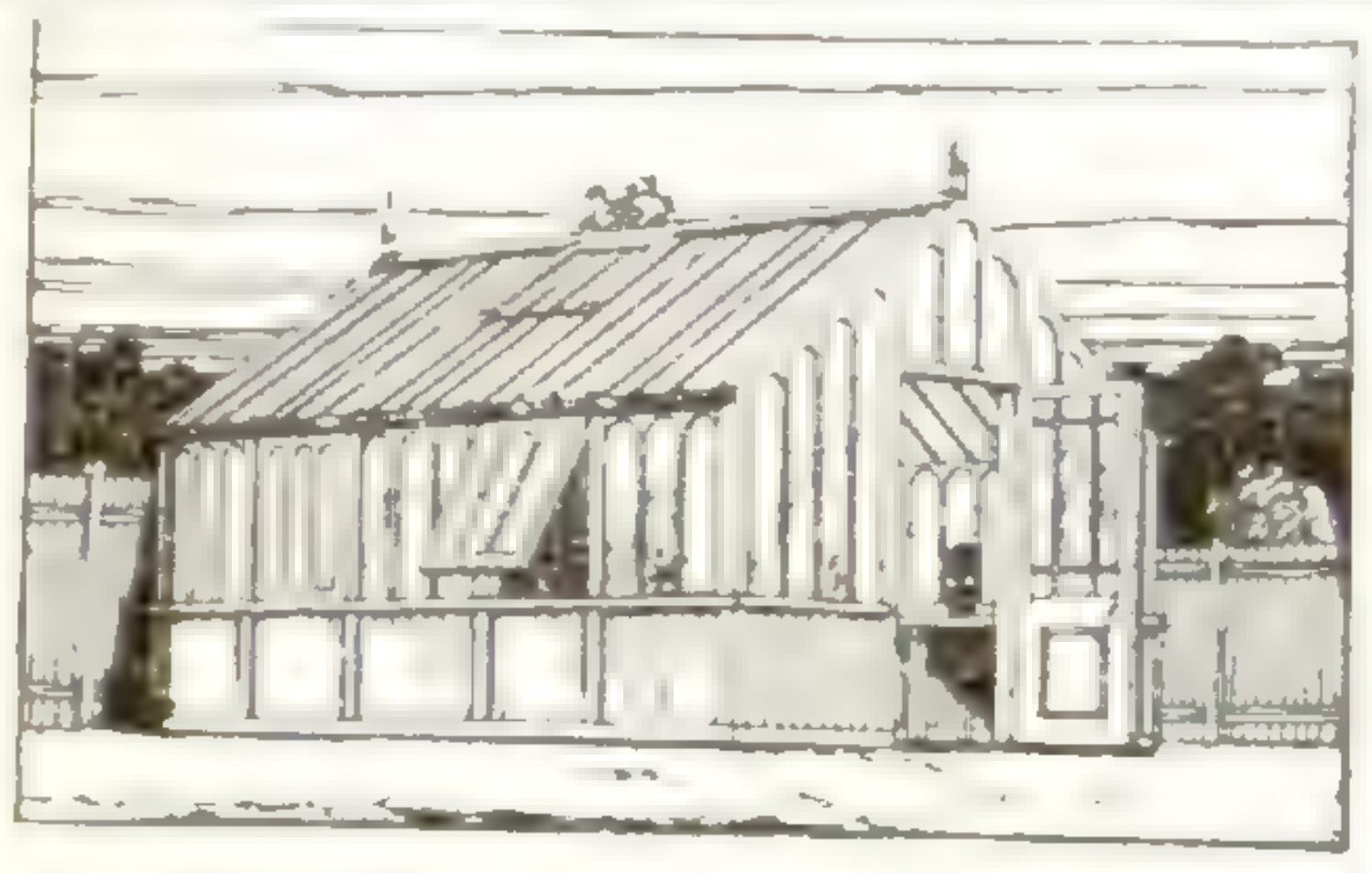

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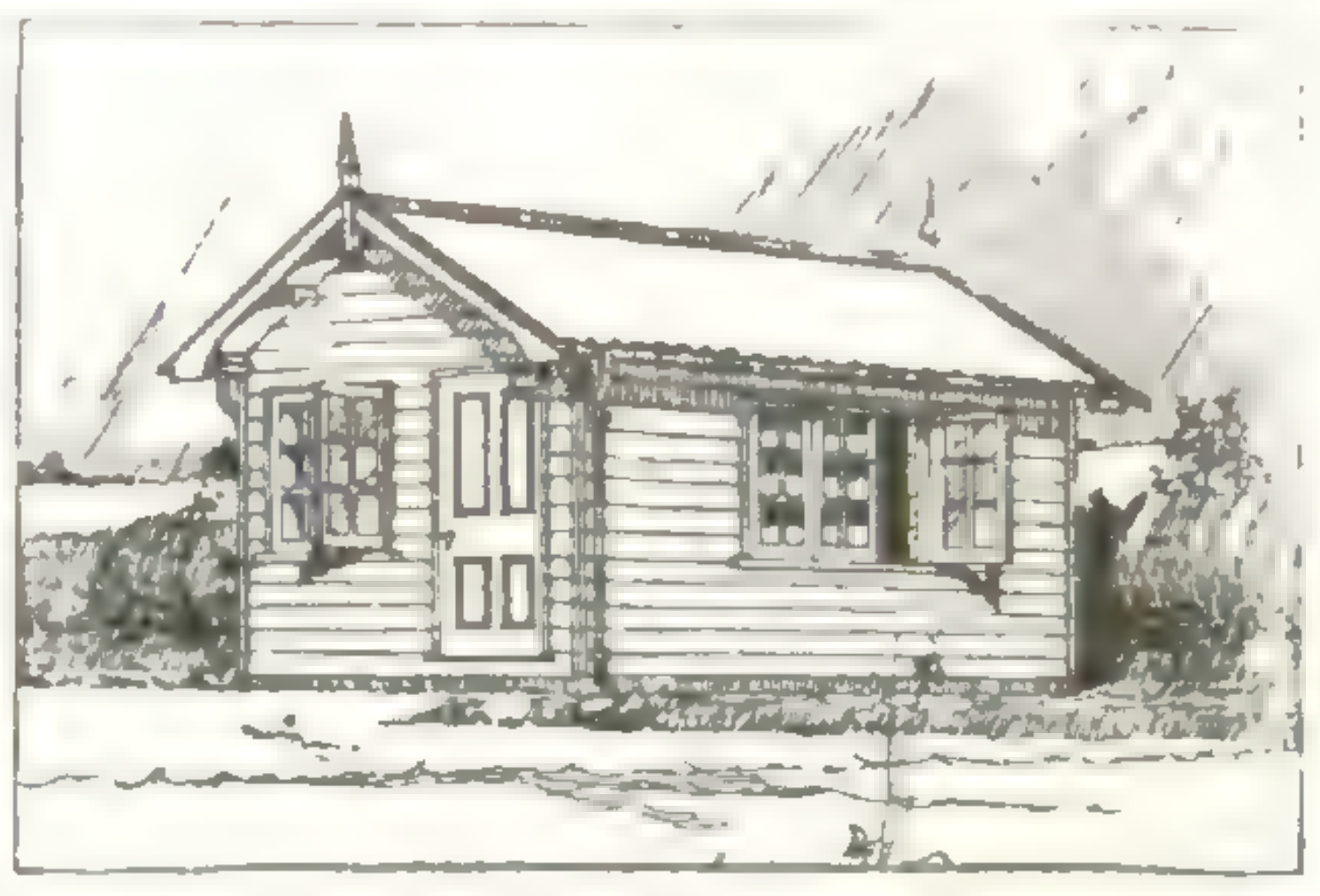

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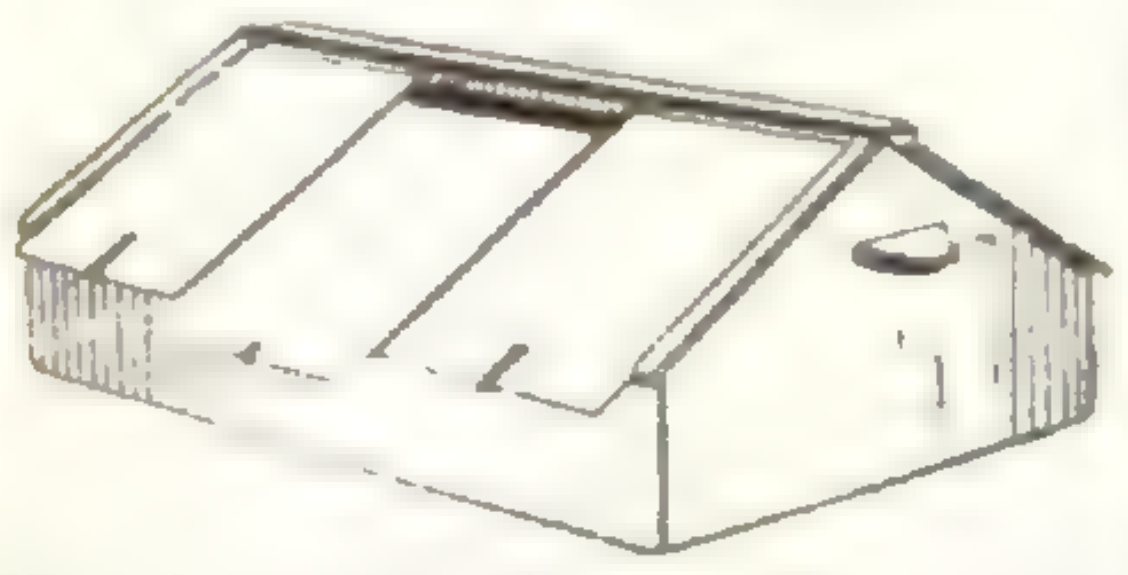

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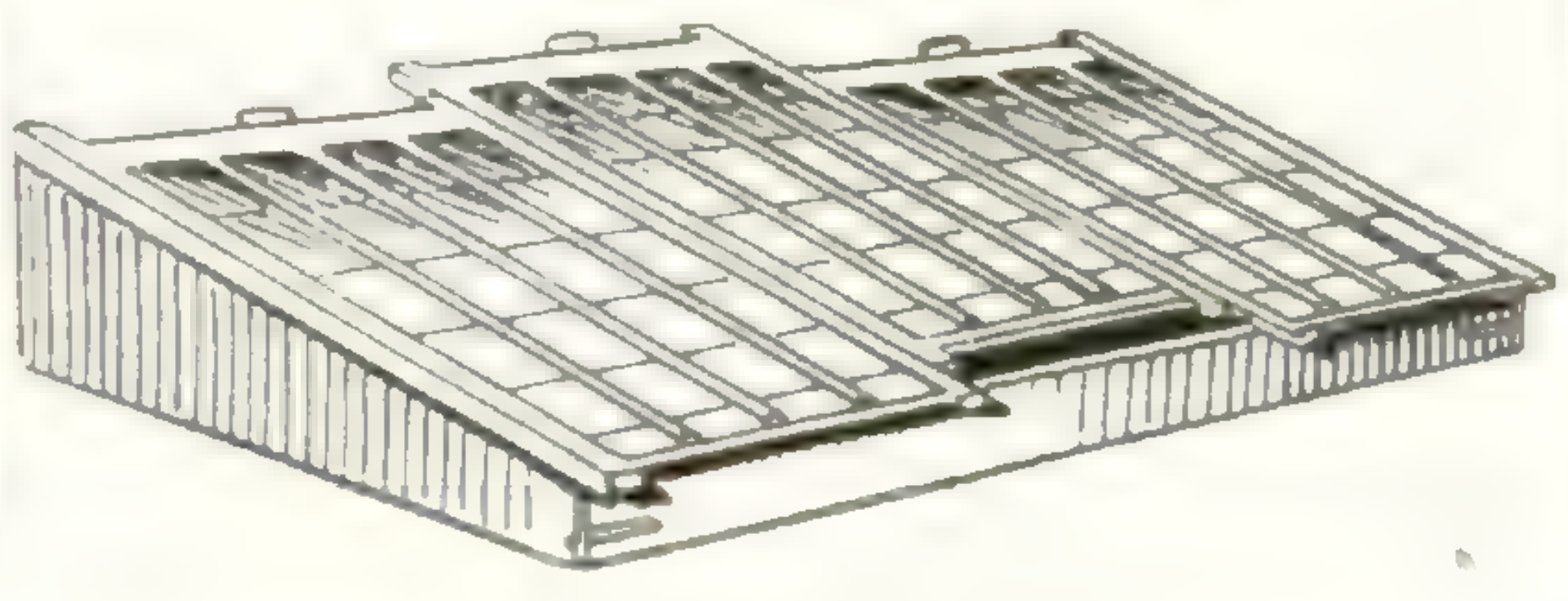

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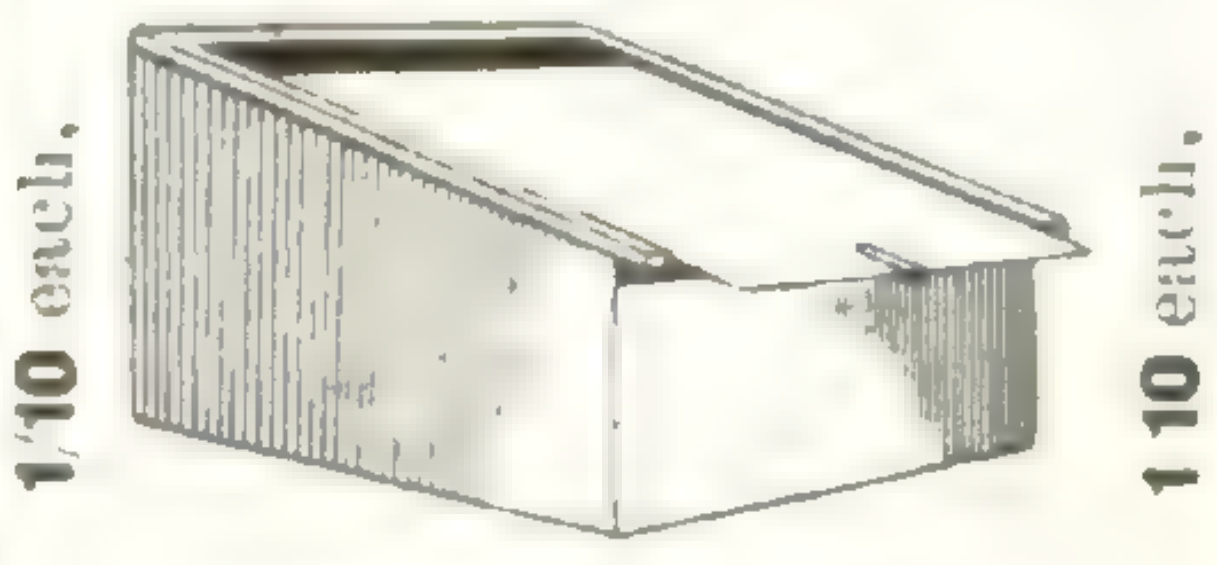
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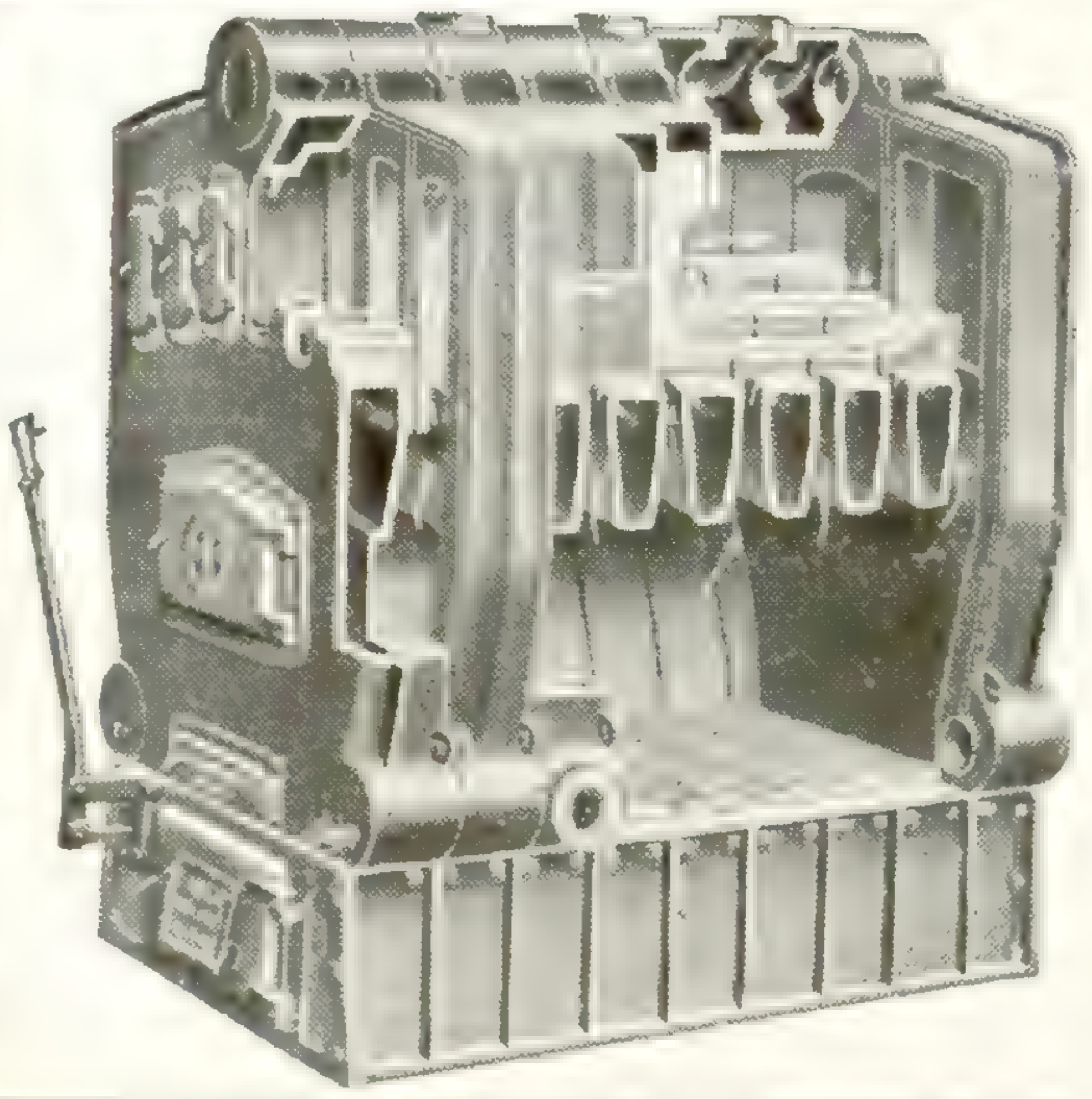

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SUMMER FLOWER SHOWS OF 1910.

The summer of 1910 has passed, and another flower show season has come to an end. Some folk complain that we had precious little summer; but, at any rate, we have had plenty of shows, and what has impressed me most is that in spite of all the bad weather we have heard so much about, the shows have been well up to the average in point of quantity and quality of exhibits, and we have read from time to time of certain shows being the best ever held by this or that society. The logical conclusion is that either there has been a lot of unnecessary grumbling, or that exhibitors have devised ways and means of defying the fury of storms and making up for a lack of sunlight and warmth by some artificial means. Well, I have seen and endured enough of the weather up and down the country to venture the opinion that my latter suggestion comes near the truth; and indeed it has needed but half an eye to see that a great deal of the products exhibited this year has been treated to something more than slight protection from heavy rain. There can be no objection against a grower taking steps to preserve choice flowers or produce from damage by wind or rain, for we do not go to a flower show to see weather-beaten exhibits that bespeak a lack of care and attention. I do, however, strongly object to the practice, all too frequent, of forcing under totally unnatural conditions subjects that should be grown and shown as hardy plants. How often do we see in classes provided for hardy flowers various things staged that could not possibly be had in bloom in the open at the time of the show! It is about time judges ceased to give prizes to such exhibits. Some exhibitors will quibble as to whether a certain thing is truly herbaceous, and yet will stage things that have been literally forced into bloom. There is a good deal of truth in remarks we have heard about sweet peas developing into exotics instead of hardy annuals. What then shall we say of dahlias and phloxes exhibited at the Temple Show in May?

Of course, I am here treading on tender ground, for the commercial exhibitor will maintain that he must show what will pay him. Well, I am criticising, and no doubt the Editor will afford space for our good friends "The Trade" to take up the pen in self-defence. But I must have just another fling. It seems to me that some nurserymen are of the opinion that there is only one point that counts for merit, and that is the extent of an exhibit. If they can measure their space by the thousand feet, and fill it, they are proud of the achievement; but woe betide the judge who dares to deem the display worthy of anything less than a large gold medal! If things progress much further in this direction a few firms will soon require tents entirely to themselves. I am not thinking of a certain firm which, at Holland Park, did actually monopolise a whole tent for a remarkably fine display of delphiniums, for there was great merit and novelty in that exhibit; but what I am driving at is that there is a tendency nowadays to put bulk before quality, and that is wrong.

I do not intend in this article to deal with the big London shows. That would necessitate much more space than I dare hope the Editor would give me, so I will get away into the country. I have met a good many old friends and some new ones at the various shows. Some I used to meet have, alas, attended their last show, and are sadly missed. Some who were in the fray at the beginning of this season have not lived to see its end, and for them, too, we mourn. There is some gratification in the fact that new exhibitors are entering the arena, and we have met some this year who have acquitted themselves well. I suppose I may say the provincial summer shows opened with York Gala, and it was a good opening. This society seems to have taken on a new lease of life since it passed its half-century, and this year's show was every bit as good as the jubilee show of 1908. The class for a rock and water garden has taken on well, and was a fine feature this year. The one weak point in that class is the background. Nobody seems able to make a pleasing background on the space allowed, and it would be a good move if the exhibits could be built with a double front and arranged right across the centre of the tent. Wolverhampton followed the lead of York, and had a fine series of rockwork exhibits. Other provincial societies would do well to copy. To my mind Wolverhampton sets a pattern to the country for organisation and perfect arrangement. With a set of the finest marquees in the country, and a band of business-like workers, this show is the one that I should say comes nearest to Shrewsbury which, as everybody knows, is our grandest provincial show. Roses are always good at Wolverhampton, and, in spite of a wet time, the growers came up strong again this year. I am not going to say much about the grumbles against judges, which, of course, were to be heard; but there did seem a good deal of surprise over the placing of the cards in one or two of the vegetable classes. I think the time cannot be far distant when societies will have to appoint specialist judges for each section of the show, and when one man, or one party of judges will judge in one section only.

Shrewsbury this year was as grand as ever, and the weather was capital. The big fruit classes were again a sight to see, the groups of plants were excellent, and, indeed, have been good throughout the season. Our old friends the Cyphers have had a remarkable run, beating all comers, I believe, every time out. The new group class at Shrewsbury, which admitted cut flowers, was good, but I confess it did not turn out exactly as I anticipated. I thought it would be a group in which hardy plants predominated, but it was the reverse. Hardy cut flowers were strong again, but, for goodness sake, let us see no more of the densely packed, flat-surfaced banks, which are about as heavy and inartistic as exhibits of hardy flowers could possibly be. Surely the merit of a collection of beautiful things does not rest in the number of blooms that can be crammed into a given space!

Just a word in the ear of those who exhibit floral designs. When exhibiting a "basket of flowers for the hand," would it not be as well to keep within a size and weight that a lady could reasonably be expected to carry? Some of the baskets were so large that one would have to hold them at arm's length to avoid crushing the flowers, and were of a weight that would make one glad to enlist the services of a porter. I want to see ornamental trees and shrubs a feature at Shrewsbury. Fruit trees in pots are well shown now, and, with ornamental trees and shrubs added, there will be little room for any fault-finding here. One of the most unfortunate shows in point of weather was Hanley. It rained, and rained, and kept on raining, and, of course, the attendance was wretched. I was very sorry, for if anyone wants to meet a secretary who is a real good fellow, and a committee who will do anything they possibly can to make exhibitors and visitors happy, they will be satisfied at Hanley. Dundee is another show that suffered terribly from boisterous weather, but it was a good show. Hawick held their diamond jubilee show this year, and from all appearances the society is still hale and hearty. Edinburgh was very good, and quite a lot of Southerners put in an appearance. It would be a big thing to say that grapes had never been finer here, but I'll warrant a good many shows would be proud to have half such a show of grapes. I missed the big banks of hardy flowers at Edinburgh, and the little mounds on round tables seem to me a poor substitute. Glasgow had a nice show, but until they can get some more convenient place than the St. Andrew's Halls the society will always be severely handicapped. On the other hand, Carlisle has about the finest building for a flower show to be met with. The Market Hall is roomy, well lighted and ventilated, and was well filled with exhibits. Amateurs and allotment holders are particularly strong here, and, judging by the enthusiasm of the school children who visited the show, and were treated to an instructive lecture by Mr. W. B. Little, County Council Instructor in Horticulture, there is another generation of keen gardeners coming along.

There is every prospect that the horticultural shows held in conjunction with agricultural shows will ere long rank among the foremost events of the summer season. Mr. Peter Blair ably managed a remarkably fine exhibition in connection with "The Royal" Show at Liverpool, and he had a good display for a first venture at Leeds, under the Yorkshire Agricultural Society. The trade like these shows, and if the committees will only extend their schedules of competitive classes they will come right to the front. Another young show, which, if I am not mistaken, will soon leave a good many older ones behind, is Leamington. It was but their second show, and they mustered six big tents well filled with really good exhibits. Five twenty-five guinea cups drew exhibitors from all parts, and made one of the best shows of the season. One little dig I must have at the powers that be. They were terribly late in getting through with the judging, and at Northampton they were very late. A little smarter in getting the tents cleared and the cards up next time, please. Cardiff and Leicester are still flourishing. At the latter Mr. Frank Bouskell, an amateur, staged a non-competitive group of hardy flowers in a very natural manner on the ground. This is a step in the right direction, and I hope a good many societies will soon add such a class to their schedules. Sandy is still to be reckoned as one of the best shows confined to one day, but this year Taunton abandoned its second day, and reverted to its original one-day show. The display was very fine, especially strong in vegetables, but it seems a pity that such a capital lot of exhibits should be got together for just about six hours. Cardiff improves year by year in size and quality, and its arrangements are A1. A nice little show was held at Birmingham, and it is said the City Council are interesting themselves in it with a view to developing a big show that shall place Birmingham in the running with Wolverhampton, Hanley, Leicester, and other big municipal exhibitions. It is high time Birmingham should bestir herself, for it is a reproach that no good summer show is held in Birmingham. Why, even its own suburb of Handsworth beats it. The show at Handsworth was very good, but I hear some cantankerous folk round about have been spreading the wet blanket over the whole affair with carping criticism, and complaints that it is more of a fair than a show. Well, truth to tell, I don't myself care to see roundabouts and peep-shows at a horticultural exhibition; but no doubt if the committee can obtain necessary funds without these counter-attractions they will revise their methods; so let those who complain put their hands in their pockets and supply the cash to run the show on more approved lines. There are a good many shows I have not mentioned, but—enough.

L. I. Atris.

Pear Durondeau.—Cordons of this variety bear splendid fruits. I planted some cordon trees near brick buttresses supporting a very high wall, and trained them up the face of the brickwork so that both the wood and the fruits borne on it had the full benefit of wind and sunshine. The trees were planted in very hard ground, they did not make gross growth, but ripened their wood and buds thoroughly, and rarely failed to bear good average crops of fruit, while other trees, trained on walls in the recesses, did sometimes fail. I am quite sure that there is ample space on walls in many gardens for the accommodation of cordon fruit trees that has been, and is now, wasted.—Geo. Garner.

COMMERCIAL METHODS AND PRIVATE WAYS.

One cannot help thinking that in these days a good many private gardeners are in a similar position to that occupied by the venerable Mr. Pickwick, when he was likened to a shuttlecock by Sam Weller, of immortal fame. In other words they are targets for a host of people to shoot at, and their work is held up for comparison in a manner that is not always complimentary to themselves. I do not say that gardeners are altogether above criticism; in a good many cases they are not, and the blame is probably due to the slipshod method of making gardeners, by which men answer to the name, but have no right to, and by some means or other obtain situations for which they are not qualified. But after allowing all this, there is still a tendency on the part of both employers and others to criticise gardeners unfairly, to expect too much from them and withhold a good deal of the credit which is justly theirs.

A FINE LYCASTE SKINNERI, CARRYING THIRTY FLOWERS.

British horticulture is made up of two sections, commercial and private, both of which have advanced in recent years, but the former by leaps and bounds. There is no getting away from the fact that the commercial gardener is master of his business, and in nurseries and market gardens plants of every description are grown as well as it is possible to do it. It is not unusual for employers to see splendidly grown stuff in a nursery, and compare it with similar material in their own gardens, and, as a rule, it is the private gardener who suffers by the comparison, because dissatisfied employers are not so ready to see the different conditions under which the gardener and the nurserymen work. One is used to hearing the expressions of admiration that are made, by ladies in particular, at say, the Temple Show, at which nursery specialists exhibit their very best productions; and sometimes you also hear the question "Why doesn't our gardener grow them like this?" Probably the gardener could tell you the reason, which would be that he has not the proper conveniences and facilities, but if he urges these facts too much they are not infrequently taken as excuses for incompetence.

While giving every credit to the nurseryman and market grower for their skill as cultivators, let us remember that they have the machinery to work with. In the glasshouses that are used for commercial horticulture there is nothing in the way of elaborate design, and no attempt at outside adornment. On the other hand they are often run up cheaply, and at the lowest possible cost, but they are properly heated and ventilated, and in every way adapted for the class of plants that is grown inside them. In short, the commercial glasshouse is a money-making concern, and if it is unadapted for the purpose for which it is intended, it is swept away, whereas hundreds of old greenhouses in private gardens, that never were adapted for modern requirements, are sacred institutions, prized like heirlooms, and the gardener has no alternative but to do the best he can with them. Again, the commercial grower in producing a batch of plants devotes a house to them, and every specimen is grown under the same correct conditions, whereas the same class of plants in the private establishment are, through force of necessity, housed along with half-a-dozen other subjects, each one of which requires different treatment.

In criticising many of the old-fashioned conservatories, and other glass structures, it must be remembered that a number of them were built to fit in certain places, and were intended to house plants rather than grow them, for those were the days of big palms, oranges, camellias, trained azaleas, and other specimen plants; besides which the exterior of glasshouses was part of the ornamentation of the garden. The above particular period in plant culture has passed away, but the unfortunate gardener in many places still finds himself with the old time structures, lofty, draughty, badly ventilated, and inadequately heated, and in them he is supposed to grow the class of plants that is required to-day. The marvel of it is that many succeed as well as they do.

Fashion is largely the ruling spirit now as to what shall be grown in the way of plants, and at the present time it is the correct thing to have carnations. No word can be urged against this, even if one desired such a thing, but all the leading carnation growers have houses for them. This is not the case, however, in all the places where carnations are grown, and it is not unusual for a lady or gentleman who sees a fine lot of carnations at some other establishment, or at a show, to buy a number of plants to form a collection of their own. But do these good people always consider whether they have the proper convenience for growing carnations? Alas, no, and the gardener anxious to do his best, makes room for them amongst the other plants in one of his antiquated structures, and then, poor fellow, if he fails, as he inevitably must, to grow carnations as good as everybody else, he runs the risk of being considered incompetent. "Why can't we have them?" is the petulant question of unreasonable employers when tradesmen exhibit their wares grown to the pink of perfection; but they know all the time why they can't have them, if they would only admit it, and listen to the explanation of the gardener.

Commercial methods have opened up many fresh ideas in the way of gardening which were unknown to the old school of practitioners, and, still chained and bound down to the appliances of other days, the private gardener stands at a disadvantage. Take grape growing for instance. The orthodox garden vinery is a house leaning against a wall, and not infrequently fitted up with a stage inside on which to grow plants as well. In not a few cases the vines are as old as the houses, and they are a mixture of varieties that were never intended to be grown together. Perhaps the gardener would like to alter things, and he may be allowed to do it, but, on the other hand, he may not, for both vines and vinery are institutions, and he will be told that they have served very well for so long, and it is he that is at fault, not the conditions. What does the market man do who sets out to grow grapes? He wants no lean-to house against a wall, but erects a light airy span-roofed structure with as little heavy timber as possible to obstruct the light, and planting vines on both sides he soon gets the house filled with grapes. He crops heavily and grows good grapes, but has no need to look far into the future, for he has no use for old vines, and instead of lifting and adopting those methods of renovation which are well-known to private gardeners he promptly clears out the vines that are unsatisfactory, and plants young canes.

The widely published reports on the experiments in fruit culture at Woburn go to show that the best crops are obtained where the pruning knife is withheld, or only lightly used, and the figures simply substantiate what the market grower has known for some time, that in order to get the best returns from his trees he must not cut them back, but let them grow more naturally. Too often, I think, the private gardener is held up as being the champion of severe pruning, and his critics go out of their way to show that he is wrong, ridiculing at the same time the closely cut and artificial-looking trees in the private garden. This is all very well so far as it goes, but the critics of the private gardener should remember that the latter is not a hard pruner from inclination or choice, but simply because he has to do it. By right of custom pyramids, bush trees, and espaliers are planted in kitchen gardens, but it is on the understanding that they must only occupy so much space, because the kitchen garden has to supply the establishment with vegetables as well. What is the gardener to do if he does not prune hard? If he could have his way he would certainly grow his fruit in a plantation after the manner of the market man, and keep his kitchen garden for vegetables; but there, he cannot have his way, so he does the best under the circumstances. He prunes hard because he has no choice in the matter, but he brings common sense and judgment to bear, for he adopts methods of summer pruning and root pruning which the market man has no need to trouble about, and as the result of his methods he fills the shelves in his fruit room.

But one could go on enumerating the instances in which the private gardener has to work under conditions which are peculiar to his vocation, but not always favourable for securing the best results, and it is obviously unfair to make comparisons between private and commercial horticulture that are unfavourable to the gardener. H.

LYCASTE SKINNERI.

Lycaste Skinneri is an orchid that has long been in collections, and one that has shown itself very tractable under cultivation. Those who have an ordinary greenhouse may grow this and some other cool orchids, and find a vast amount of pleasure in so doing. There is nothing new to be written about the treatment of Lycaste Skinneri beyond what has been stated in these columns from time to time. An amateur who has never handled an orchid may well take up Lycaste Skinneri and the cool cypripediums, and, with reasonable care, hope to be successful with them. The accompanying illustration shows a specimen of Skinner's lycaste carrying thirty of its fine, substantial, and long-lasting flowers. This was grown by Mr. W. Mosson, 9, Hermitage Villas, Child's Hill, London, N.W., who cultivates it with a miscellaneous collection of plants in a cool greenhouse, and secures a wealth of bloom annually.

BULBS.—A practical treatise on the cultivation of hardy, hothouse and greenhouse bulbous and tuberous rooted plants is "BULBS AND THEIR CULTIVATION," by T. W. Sanders, price 2s. 6d. net, or by post 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

CLOTHING BARE SPACES UNDER TREES.

The planting of bare spaces under the wide-spreading branches of specimen trees in such manner as to produce a carpet hardly less attractive than green, velvety turf is by no means free from difficulty, but this is not so great that it cannot be surmounted. There are plants of lowly growth that will thrive in positions where the supplies of food and water are scanty and where the amount of light is reduced to a minimum, but they are few in number. The lists of plants usually given as suitable for growing under the shade of trees are of but little service to the inexperienced, for they appear to have been prepared not so much for clothing the bare spaces immediately around large trees occupying prominent positions in the pleasure grounds, as the planting of shady yet open areas in woods and plantations contiguous to the garden. We find in these lists such things as pontic rhododendrons, Berberis aquifolium, the common holly, and the common laurel, which will grow freely enough in comparatively open spaces in the plantation or woodland, but are quite unsuitable for planting around large evergreen oaks, conifers that have lost their lower branches, and other trees that might be mentioned. We, of course, find plants in the published lists that will thrive in such positions, but as they are not specially distinguished, those who require help are greatly perplexed when they turn to them for guidance, and, as often as not, make an unsuitable selection. It is reasonable to assume this is the case from the many failures that have been met with.

A CHARMING ARRANGEMENT OF ROCK PLANTS.
Under a venerable cedar in the Woodside Gardens, Chenies.

In the planting of bare spaces that are within the influence of the roots and branches of specimen trees, the endeavour should be to make a carpet rather than form a shrubbery. Probably there is nothing to surpass certain of the green-leaved ivies for this purpose. The common ivy will soon make a good carpet, but the leaves are a little too sombre in tone. The Irish ivy is vigorous in growth, and the colour of the leaves is bright and pleasing. It is, indeed, so well adapted for the carpeting of large areas that were it not for the existence of an ivy known as Emerald Green one would be justified in saying that nothing better could be desired. The last-named is free in growth, and has leaves that are hardly so large as those of the Irish ivy, but are of a more vivid green. Both for clothing bare spaces and walls it has no superior. Ivies appreciate proper attention, and during the earlier stages they should have the assistance necessary to enable them to become established quickly. The soil around the trees will have long since become exhausted, and the first step should be to spread a good layer of well-rotted manure over the surface, and fork it in to a depth of five or six inches provided the roots will allow. In all cases the dressing of manure should be applied and worked in with a fork. The distance at which the plants should be put must be determined by their size, and the best advice that can be given is to put them far enough apart to thinly cover the surface.

The St. John's Worts are also most useful for the purpose, and the best of them is perhaps Hypericum calycinum. This attains a height of ten or twelve inches, is dense and uniform in growth, and produces rather large yellow flowers with some freedom for a considerable period during the summer months. Not less valuable are the periwinkles, and the best of those with green leaves is Vinca major, which has its attractions enhanced by pleasing blue flowers. V. minor is also of much merit for carpeting purposes, and, as in the case of the larger-growing species, bears blue flowers. There is also a form with white flowers, and one with double blue flowers. The green-leaved forms are the best for spaces around trees with wide-spreading branches, but for planting around trees of erect growth the variegated form of V. major is of special value. It soon forms a dense mass, and its rich golden variegation is highly effective. Both the St. John's Worts and the periwinkles should have the soil prepared for them in much the same manner as advised for the ivies.

At Woodside, Chenies, the residence of Adeline Duchess of Bedford, a quite distinct method of clothing bare spaces has been adopted. Closely adjoining the rock garden, which forms so delightful a feature, is an ancient Cedar of Lebanon, with branches that extend over a wide area. Around the trunk of this venerable tree a low rockery was formed and planted with such hardy subjects as are known to thrive in comparatively shady positions, and not to require very large supplies of water. The accompanying illustration shows the arrangement so clearly that there is no occasion to describe it in detail. The photograph was taken early in the spring, and affords proof that the plants blooming at that season produce flowers in plenty.

G.

ILEX PERNYI.

This interesting holly, which has recently been distributed by the Messrs. Veitch, of Chelsea, is a Chinese species, bearing the name of the French missionary, Paul Perny, who was attached to the French mission in Kuichou from 1850 to 1860. Like several of his brother missionaries he had a great love for natural history, and he added considerably to the European knowledge of the flora of Western China by his collections. He is said to have been the first botanical and zoological explorer of the province of Kuichou, and his first entrance into the province was made in the disguise of a Chinese beggar. Among shrubby plants, one of his discoveries was the holly under notice, and this was described upwards of twenty years ago by M. Franchet, from dried specimens. Seeds were sent home, in the first instance, by Mr. E. H. Wilson, when collecting for Messrs. Veitch, and plants from two to three feet high may now be obtained.

Mature examples are said to attain a height of 12 or 15 feet under ordinary conditions, but when placed under very favourable circumstances specimens 30 feet high have been noted by Dr. Henry. The leaves are deep green, glossy, and thick in texture, and have usually five or seven spines on the margins. In many respects they resemble those of I. cornuta, but are smaller; those of typical examples being from 1 to 1½ inches long. The fruits are small and red, and they appear in axillary clusters. Bushes are well furnished with branches, and grow into a good shape with a little attention to pruning. It appears to thrive under conditions which suit the common holly, and this, together with its ornamental character and distinct appearance, ought to make it a popular garden evergreen. Some variation is noticeable amongst seedling plants, a certain number having leaves much larger than those of the type. One or two of the most distinct will no doubt receive varietal names.

W. D.

CHRYSANTHEMUMS.—For full instructions on the Culture of Early-flowering Chrysanthemums in beds or borders for garden or greenhouse decoration, read the Second Edition of CHRYSANTHEMUMS FOR GARDEN AND GREENHOUSE, by D. B. Crane, price 2s. 6d. net; or by post, 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

GENERAL REMARKS.—With the return of November the work in the orchid houses will be more or less confined to the cleaning of the plants, and placing those that have matured their growth under suitable conditions. The resting of plants in Nature is a very different thing to that of resting them under artificial conditions. In my early experience of growing orchids it was thought that what took place under natural conditions must, of necessity, be copied as closely as possible in their cultivation under glass. Collectors would give the information that not a drop of rain fell for so many months, that the plants must be kept absolutely dry for the periods named, etc. I never remembered one of them to have mentioned the heavy dews, which would have soaked them to the skin in a few minutes had they attempted to start their journeys before sunrise, such dews being characteristic of all tropical climates where vegetation freely abounds. Yet the instructions given, or sent home with the plants, were accepted with simple faith, and rigidly practised, although the shrivelling of the pseudo-bulbs and the small growths usually produced should have set growers thinking. Perhaps this may be more marked in the treatment given to the raising and cultivation of seedlings, than in the treatment of the imported plants. It was thought that a resting season was essential to the cultivation of seedlings, and as the result small progress was made, and many years elapsed before it was considered possible for cattleyas and some other kinds to reach a flowering state. The more rational treatment within recent years must have convinced the most ardent believer in the antiquated methods that there is a vast difference between artificial and natural conditions. If we consider that, after all, orchids are only plants, and if treated as such, and not as a something that needs to be grown in glass cases, we soon find that no particular structures are necessary to meet their requirements, and that they are far more easily grown than some other classes. Certainly, less labour is necessary, and practically all the most desirable kinds in cultivation may be procured for a moderate outlay. Although I have wandered from the beaten path of cultural matters in this note, I trust it may be seen clearly that even at a resting season it is essential to retain the growths and pseudo-bulbs in a normal state, if we are to produce future satisfactory conditions in our plants.—H, J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

TREE CARNATIONS.—The cuttings that were rooted early in the spring have grown into strong plants, and are now on the point of flowering. They require a temperature of 55 degrees at night, with a rise of five degrees or more during the day, according to the conditions out of doors. The plants from which the early supplies of blooms will be obtained must not be coddled at this stage of their growth. Advantage must be taken of every favourable opportunity to ventilate the structure in which they are growing. On dull days a little fire heat is necessary to dispel the superfluous moisture, and to render the air buoyant, and on these occasions the leeward ventilators should be opened to ensure that there is a free circulation of air amongst the plants. Timely attention must be paid to disbudding. Occasional supplies of weak liquid manure should be given to all the forward plants.

PRIMULA OBCONICA.—The plants that are on the point of flowering must be given a good position in a light house in which a temperature ranging from 45 degrees to 50 degrees is maintained. They should be given some stimulant to assist them to produce a succession of flowers. A late batch should be shifted into larger pots, and grown on, pinching all flowers off for some time hence.

CHRYSANTHEMUMS. — Large blooms will now be rapidly developing, and liquid manure should be applied regularly. Maintain a free circulation of air by the liberal use of top and bottom ventilators; a little fire heat will benefit the plants by drying up superfluous moisture. Plants that have passed out of flower may be cut back to within a foot of the base, and placed in a house where plenty of sunlight is available, and watered with care.

LILIUM SPECIOSUM.—Examples of this lily that are now passing out of flower should be kept rather on the dry side, and when all the foliage has fallen the stems may be cut down to the level of the soil. Then place the pots containing the bulbs in a perfectly cool and dry place where they can remain until early in the spring, when it will be necessary to shake them from the old soil, and repot. In some gardens the ordinary soil or loam is not suitable for this lily, and, in such cases, where there is plenty of leaf-mould at command, this may be used instead, with some fine sand mixed with it. Other lilies that are passing out of flower may be treated in the same way.

CYCLAMEN.—Plants raised from seed sown as advised in a previous calender will now be ready for pricking off into small thumb pots, or boxes, filled with rich soil. Early batches will now be requiring attention as to feeding. Sheep or cow manure is an ideal stimulant for use during the development of the flowers,

SCHIZANTHUSES.—Plants intended for spring flowering will now require a shift into larger pots. On no account coddle them, but grow on a shelf near the glass with a cool temperature. The potting compost should be made rather sandy, as schizanthuses grow freely in porous soil.

RICHARDIAS that are intended for early flowering should be given a position in a low-roofed structure, with plenty of light, and an atmospheric temperature of 60 degrees. Those which have been kept in pots during the summer months are more suitable for early flowering than are those which have been recently lifted from trenches. These latter may, for the present, be kept in unheated frames or pits from which frost is excluded; when the soil about them has become filled with their roots give copious supplies of liquid manure.

BULBS, such as tulips and hyacinths, that were potted early and placed in ashes should be examined, and if the growth be long enough remove to frames or a suitable house, where a low temperature is maintained. A good soaking of water when they are taken from the ashes will benefit them.—W. Staward, Preston Hall Gardens.

THE FLOWER GARDEN.

PELARGONIUMS and similar bedding plants, now placed in their winter quarters, must be kept on the dry side as to the supply of moisture at the roots, and the atmosphere as dry and buoyant as possible, otherwise losses will occur. With specially constructed houses there is no difficulty in wintering the plants well. More often than not one has to make use of fruit houses, vineries, etc., in which case the trees permanently occupying the houses must be the chief study, consequently such subjects as bedding plants have to take their chance, but, with a certain amount of care and judgment in watering, these generally come through the winter fairly well. Lobelia cardinalis, Salvia patens, and such-like plants, unlike dahlias, usually winter best in pits or frames, where plenty of light can be given them Extreme frost only need be kept from the roots, for if given cool treatment these subjects will retain their robustness, and start freely into growth with the return of spring weather. Whereas if heat is given during the dull days of winter they start prematurely into growth, and are often ruined by the time the bedding-out season comes round again. All tender bedding plants must, of course, receive more careful treatment, and if placed on the shelves near the glass in a warm or intermediate house, will come through the winter season well, if sparingly watered.

CALCEOLARIAS, PENTSTEMONS, VERBENAS, VIOLAS, and suchlike hardier plants, should be freely exposed during warm or fine days, and the plants occasionally looked over, removing all damp or decaying leaves, and flower stems.

PLANTING the flower beds and borders with spring-flowering plants and bulbs will, in most instances, have been completed. If by any chance such work has been delayed it should be completed as quickly as possible, for at this season of the year the weather is very uncertain, and frost may set in at any moment.

OUTDOOR CHRYSANTHEMUMS that have ceased flowering may now be cut down, and the roots lifted and placed indoors for the production of cuttings and plants for next season's supply. Care should be exercised in seeing that these are carefully labelled true to name, or confusion will result later on.

JAPANESE MAPLES have made a bold show of colour this autumn, and the present is a good time to make note of these and other autumn foliage plants, if additions are considered desirable for another season. These trees are of slow growth, and the dwarfer kinds may be very suitably used as permanent subjects for beds in the pleasure grounds and gardens. With us they survive the severest winter unprotected, which is more than can be said of many so-called hardy subjects.

PLANTING, ETC.—During open weather the transplanting of trees and shrubs may be continued, and although this kind of work may be proceeded with for some time to come during open weather, results always show in favour of autumn planting. During unfavourable weather other work, such as draining, road making or mending, trimming verges, hedges, etc., might be undertaken, and where gravel is obtainable on the estate such quantities as may be required later on should be dug and graded ready for use. Standard roses in exposed situations should be securely staked and tied, for, with the advent of rough winds these may be blown about and suffer damage, especially if the trees have made excessive growths; in most instances these may be shortened back at once, in order to minimise the risk.—W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

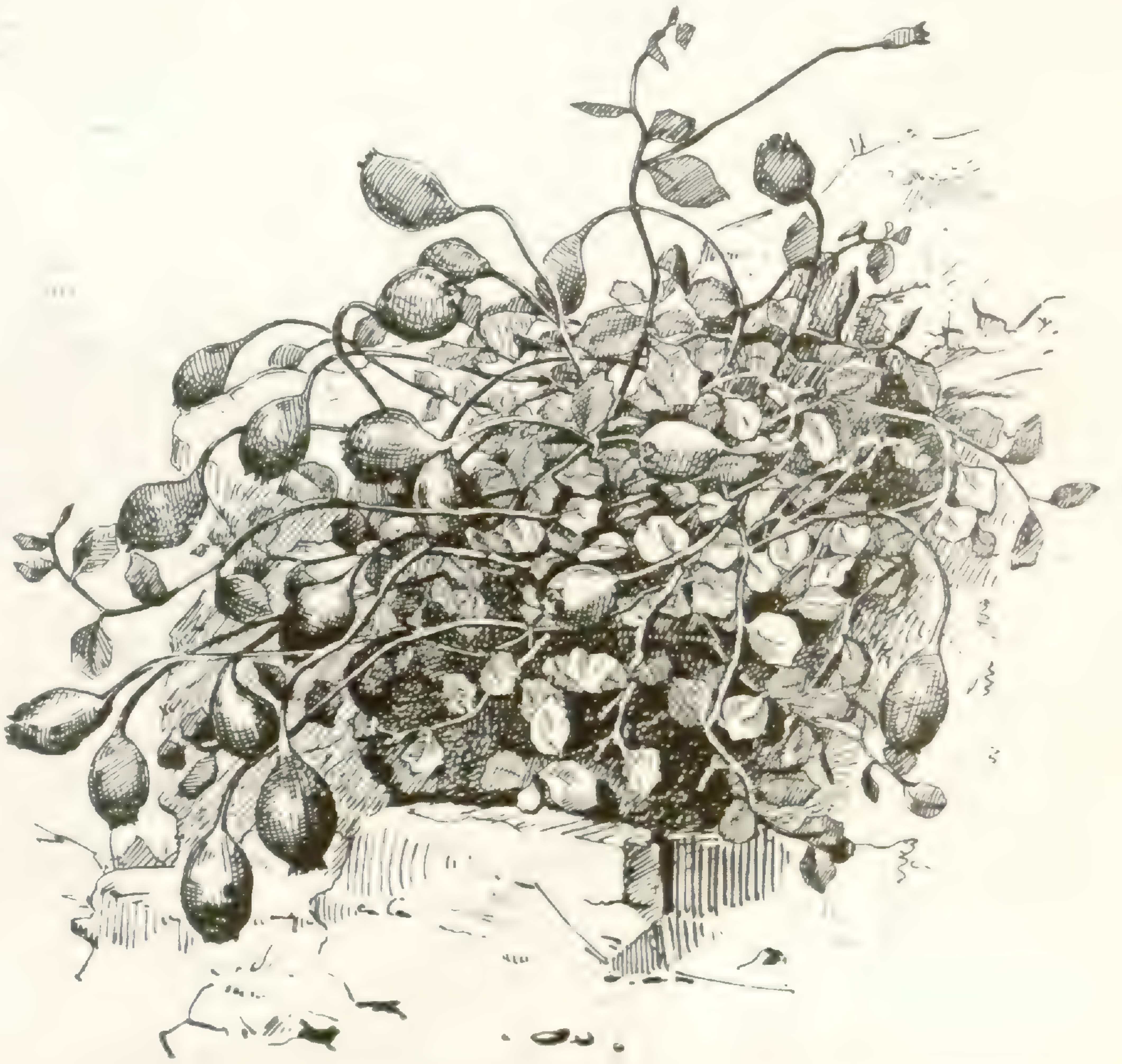
PLANTING.—Where the preparation of the soil is completed for planting fruit trees this operation should be taken in hand immediately the leaves have fallen, provided the soil is in a good condition. Before commencing to plant the distance apart for each individual tree or bush should be determined upon, taking out good-sized holes with the spade, allowing sufficient room to lay out the roots in a proper manner. If the trees have been sent from a nursery a long distance away, and the roots have become dry, they should be plunged into a tank of water, and allowed to remain there for a few hours prior to planting. The roots should then be carefully examined, and all that are bruised or broken should be cut off with a sharp knife. Care must be exercised not to plant too deep, but, at the same time, it should be borne in mind that apples upon the paradise stock, and pears upon the quince stock, should be planted deep enough so that the union is from two to three inches below the surface of the soil. Spread out the roots, and work the soil well among them with the hands, afterwards, when the filling operation is finished, the whole should be made firm, and a good mulching of strawy litter spread over the surface as far as the roots extend. If the trees are planted in exposed positions they should be staked and carefully tied. We have found it a good plan, when planting standard trees, to drive strong stakes into the ground before planting; this not only determines the exact position of the trees, but the tree can be planted to the stakes, and, consequently, no roots are damaged by supports being driven into the soil after planting is finished.

DISTANCE TO PLANT.—Usually fruit trees grown in the open quarters in the fruit garden proper partake of the two forms of either bush or pyramid trained. Apples upon the paradise stock, and pears upon the quince stock, should be planted as permanent trees from ten to twelve feet apart; if, on the other hand, they are worked upon the free stock, a distance of from twelve to eighteen feet should be given. Plums and cherries should be given a distance of twelve feet apart. Gooseberries and currants should be planted from six to eight feet apart each way. Raspberries should be planted in rows five feet apart and two feet from plant to plant; loganberries and blackberries, if grown in rows to wires, should be given a distance of twelve feet apart, and six feet from row to row. Standard-grown trees of apples, pears, cherries, plums, and damsons should be planted from thirty to thirty-five feet apart each way.

WALL TREES.—Where horizontal or fan-trained trees of peaches, nectarines, apricots, plums, cherries, and pears are to be planted to walls, a distance of from eighteen to twenty feet should be allowed. Figs should be planted from twelve to fifteen feet apart. Gooseberries and other fruit trees trained double upright cordon or gridiron form should be given from four to six feet apart, but where the single trained cordon trees are to be planted, from eighteen inches to two feet apart will be ample. When planting wall trees the same care must be exercised as that recommended for the planting of trees in the open quarters, and the base of the trees must be kept at least six inches away from the wall, or otherwise, when growing they will press against it.—Henry R. Farmer, Cardiff Castle Gardens.

PRATIA ANGULATA.

A lowly plant of creeping habit that is by no means sufficiently well-known to lovers of rock gardens is the New Zealand Pratia angulata, also known as Lobelia littoralis. It belongs to the lobelia section of the large Natural Order Campanulaceæ, and its long-stemmed white flowers are very like those of a lobelia in shape. The slender, trailing stems carry small leaves that are somewhat angular in outline, though the form varies a good deal. The flowers are borne freely in late spring and early summer, and these are followed in due course by oval berries of a deep purplish-red hue. This little trailing plant is always interesting, and is also beautiful over a long period. For the lower part of the rock garden where it can trail over and among small stones it is especially adapted. It certainly seems to appreciate a warm position where, at the same time, its roots do not lack moisture. Plants may be divided in the spring when increase of stock is desirable, but propagation may be also effected by means of seeds sown in a cold frame as soon as ripe, or in gentle heat in the spring; in either case the young seedlings should be hardened off ready for planting out of doors at the end of May or early in June.



PRATIA ANGULATA.

A lowly, trailing rock plant, with white lobelia-like flowers, that are followed by purplish-red berries.

Wet Summers and the Fruit Crops.—We have now had two wet summers consecutively, and I notice that in some districts, where the soil is naturally clayey, the new shoots on fruit trees are very strong, and not too well matured. In sandy, gravelly districts the current year's shoots are not very strong, and the wood appears to be fairly well ripened. Furthermore, I have observed that the trees bore a fair quantity of fruit, especially the apples. Very strong shoots did not grow on trees planted in poor soils, and, consequently, they matured well last autumn.—G. B.

EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

At the exhibition held in the Royal Horticultural Hall on November 8 there was a considerable falling off in the extent of the display, as compared with the shows held recently. The frosts and gales of the previous week had put an end to outdoor flowers, consequently the chief attractions were chrysanthemums, winter-flowering begonias, a splendid lot of orchids from various sources, and a magnificent lot of exotic ferns.

FLORAL COMMITTEE.

Across the top of the hall Messrs. J. Hill and Son, Edmonton, displayed a magnificent collection of finely-grown ferns. They had huge plants of a great majority of the subjects, and these represented culture of the highest order. Towering above the other things were tall specimens of Dicksonia squarrosa, Cibotium Scheidei, and Hemitelia Smithi. Beneath these the leading specimens were of Davallia fijiensis robusta, D. epiphylla, D. Mooreana, D. tenuifolia Veitchi, D. pentaphylla, D. polyantha, Adiantum O'Brieni, A. Birkenheadi, A. peruviana, A. digitatum, Nephrolepis Scotti, N. todeaoides, N. Amerpohli, N. Scholzeli, Asplenium nidus avis, Polypodium irioides ramo-cristatum, P. aureum, P. giganteum, P. Schneideri, Brainea insignis, Dicksonia Barometz, Platycerium Hilli, Lygodium scandens, Gymnogramma elegantissima, G. grandiceps superba, G. Alstoni, and many other fine things.

Messrs. James Veitch and Sons, Chelsea, submitted a grand group of pot-grown chrysanthemums, all neat bush plants, admirably grown, and carrying a fine lot of flowers. The plants were in 48-sized pots, and furnished to the rim with foliage. Among the decorative varieties the most conspicuous were Hortus Toulousaine, Hutching's Pink, Soleil d'Octobre, John Shrimpton, and M. Jules Valet, while among single varieties that appear to be especially suitable for this mode of culture we noted Exmouth Yellow, Sylvia Slade, J. H. Greswold Williams, Metta, Cinnamon, Mary Anderson, E. Nottell, and Miss Mary Pope. On another table the Chelsea firm staged batches of freely-flowered plants of their handsome winter-flowering begonias, Ideala, Success, Ensign, Elatior—very fine, Julius, and Mrs. Heal, the latter with large carmine flowers. Jacobinia chrysostephana and hybrid gerberas were also contributed.

Messrs. W. Wells and Co., Merstham, showed a few of the newer chrysanthemums, and some quaint single varieties imported recently from Japan. Among large Japanese varieties they showed Wells' White, C. H. Totty, W. Mease, Leonard Johnson, Mrs. R. Witty, and Mrs. W. Wincott, the last-named a promising market variety.

Messrs. G. Williams and Sons, Cardiff, contributed a fairly large group of chrysanthemums, showing single, Japanese, and decorative varieties in considerable variety: Novelty, White Pagram, Sylvia Slade, Manor House Beauty, Mr. Frank Hill (A.M.), Charles Greaves, and Crown Jewel were among the best of the single varieties.

Messrs. Stuart Low and Co., Enfield, presented cyclamens in variety, the fragrant Daphne indica, and a set of perpetual-flowering carnations, the leading varieties here being Britannia, Mrs. T. W. Lawson, Lady Alington, Royal Purple, and J. W. Riley, a new American variety of sulphur-yellow colour.

Messrs. H. B. May and Sons, Upper Edmonton, occupied an entire table with hardy ferns and begonias. The former included fine groups of Polypodium vulgare grandiceps Foxæ, P. v. c. Prestoni, P. v. g. Forsteri, P. v. cristatum, and P. v. cambricum. Needless to add, all were in perfect condition. The begonias included Gloire de Lorraine, Turnford Hall, Mrs. L. de Rothschild, and Masterpiece.

From Messrs. W. Cutbush and Son, Highgate, came a table of miscellaneous plants, which included groups of Skimmia japonica beautifully berried, Erica gracilis, Spiræa Peach Blossom, and S. astilboides (retarded), Lilium lancifolium rubrum, and L. longiflorum, Dracæna Bruanti variegata in fine colour, while the centre was occupied with well-fruited plants of Citrus sinensis. The Highgate firm also had a large display of autumn flowers, such as Chrysanthemum R. Felton, Schizostylis coccinea, Senecio pulcher, and Tussilago fragrans. The berried plants included a good collection of pernettyas and a nice cluster of Euonymus europæus; they also had an excellent exhibit of carnations in which were fine vases of Victory, Countess of Bradford, Beacon, Lady Elphinstone, Lord Rothschild, and Lady Coventry.

From Messrs. H. Cannell and Sons, Swanley, came a salmon zonal pelargonium named Salmon Paul Crampel, which had undoubtedly a good salmon flower, and the true foliage of Paul Crampel. Mr. G. Lange, Hanworth Road, Hampton, staged a few new varieties of perpetual flowering carnations, in which we noted James Witcomb Riley, which still remains a pale sulphur-yellow in this country; Scarlet Glow, a splendid red; May Day, Admiration, Bay State, and Ruby. Mr. G. Reuthe, Keston, Kent, had an exhibit of nerines in variety, with pernettyas, and a few rare alpines. From Messrs. Price and Fyfe, Grove Park Nursery, Lee, S.E., came a small exhibit of single chrysanthemums in sixty-sized pots.

Messrs. J. Peed and Son, West Norwood, presented a big group of chrysanthemums, which included specimen blooms of the Japanese section, with singles in pots. The foreground being composed of specimen flowers. In the latter section were noted fine flowers of W. Mease, Leigh Park Wonder, Mrs. Charles Penford, Splendour, and Lady Crisp. The group was tastefully built up in a setting of adiantums.

Mr. F. Galsworthy, Green Lane Farm, Chertsey, exhibited a collection of water-colour paintings of flowers, which excited much admiration, the daffodils being especially life-like, as were also the tulips, pyrus, and wallflowers.

ORCHID COMMITTEE.

Messrs. Stuart Low and Co., Enfield, contributed a very bright group of orchids, in which oncidiums were well represented along the back line. Good things in the body of the group were Cattleya Mantini, C. labiata, C. l. Cooksoni, Bulbophyllum grandiflorum, Odontoglossum grande, Miltonia vexillaria Leopoldi, and the self yellow Oncidium varicosum concolor. Messrs. Sander and Sons, St. Albans, put up a bold group of very interesting orchids that included Odontoglossum bellatulum, O. crispum, O. eximium, O. amabile, Odontioda St. Fuscien ignea, O. Groganiæ, Lælio-cattleya Lady Rothschild, L.-c. Walter Gott, Cattleya Aliceæ, the fine C. Fabia, Brasso-cattleya Maronæ, Cypripedium Actæus, C. Minos, C. Leeanum Clinkaberryanum, C. Dreadnought—very fine, C. insigne Harefield Hall, and some fine spikes of Vanda cærulea. In addition there were a few miniature orchids of botanical interest.

Messrs. Charlesworth and Co., Haywards Heath, had a very handsome group of orchids, and showed fine plants of Odontoglossum armainvilliersense, O. ardentissimum, O. Pescatorei, O. amabile, Oncidium Forbesi, O. tigrinum, O. Lindeni, Cattleya labiata alba, C. Venus, C. Rhoda, the curious Chondroshyncha Chestertoni, Odontioda Bradshawiæ, Cypripedium Rosetti, C. Reginald Young, a large plant of the brown Oncidium prætextum, and the fragrant Zygopetalum Binoti. Messrs. J. and A. McBean, Cooksbridge, showed Cypripedium insigne Harefield Hall, C. insigne Sanderæ, and Cattleya Portia superba. M. Maurice Mertens, Mont St. Amand, Ghent, submitted a few very fine odontoglossums, all unnamed. From R. G. Thwaites, Esq., Christchurch Road, Streatham, came good plants of Odontioda Charlesworthi, O. Bradshawiæ, O. Seymouri, Sophro-cattleya Wellesleyæ perfecta, and Cattleya Maggie Raphael alba.

Messrs. J. Cypher and Sons, Cheltenham, presented a very interesting and attractive group of cypripediums, in which the leading kinds were C. Leeanum Corona, C. Baron Schröder, C. Niobe superba, C. Fulshawense, C. Mrs. F. Sander, C. Actæus superba, C. Thalia gigantea, C. Maudiæ, C. insigne Harefield Hall, and C. i. Sanderæ. Mr. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Reigate, showed Liparis longipes bearing a crowd of spikes of pale creamy-green flowers, Bulbophyllum Ericsoni, Phaio-calanthe Colmani, Dendrobium Cœlogyne, D. epidendropsi, etc. Mr. H. J. Chapman, gardener to Mrs. Cookson, Oakwood, Wylam-on-Tyne, sent up Calanthe Cooksoniæ gigantea (A.M.), and Cypripedium Oakwoodiense, the latter somewhat like C. Mrs. F. Sander.

From the Westonbirt collection Mr. H. Alexander, orchid grower to Lieut.-Colonel Sir G. Holford, brought up a fine plant of Lælio-cattleya Arethusa carrying eight flowers; L.-c. Barbarossa, L.-c. Olivia (A.M.), a handsome cross between L. Jongheana and C. Schroderæ; and Cattleya Portia gigantea, with a grand spike of eight flowers. Mr. Walter Cobb, Normanhurst, Horsham, Sussex, brought up Sophro-cattleya Doris Cobb's var. (F.C.C.), a fine flower of rich orange-scarlet hue, and finer than the type. Messrs. Stanley and Co., Southgate, sent a few plants of Cattleya Fabia, C. labiata virginalis, C. labiata, and C. Heloise.

From Messrs. Armstrong and Brown, Tunbridge Wells, came a pretty little display, in which were Cymbidium Lady Colman, Brasso-cattleya Thorntoni var. Boydæ, Odontioda Thwaitesi, Cattleya Fabia, Cypripedium insigne var.—an enormous flower, Dendrobium Cœlogyne, Cypripedium Niobe Westonbirt var., C. Germaine Opoix, C. insigne Sanderæ, and Cattleya Armstrongæ. Mr. Hopkins, gardener to Francis Wellesley, Esq., showed Lælio-cattleya Ville de Bruselles, a fine cross between L.-c. callistoglossa and L.-c. Clive; and Sophro-lælio-cattleya Thalia, a brilliant little orchid, with vivid orange flowers. Mr. A. Young, gardener to C. R. Ashton, Esq., Camden Park, Tunbridge Wells, showed some good orchids, notably Cattleya Luigæ Broadlands var., C. Fabia, C. Armstrongæ, C. Miss Williams, C. Phrygia, Brasso-cattleya Thorntoni, and L.-c. Phœbus, the latter a cross between L. Cappei and L.-c. Iris, and Cattleya Russelliana. Mr. Hale, gardener to S. Larkin, Esq., Ridgeways, Haslemere, sent flowering plants of Cattleya Mantini nobilior, L.-c. eximia, etc. Messrs. W. B. Hartland and Co., Ardcairn, Cork, displayed a considerable group or orchids, and the leading features were Cattleya Brownæ, C. Mantini, C. Paripiti, C. labiata, Cypripedium insigne Sanderæ, C. i. Harefield Hall, C. i. Mrs. F. W. Moore, Cattleya Suavior delicata, Brasso-cattleya Digbyano-Schroderæ, and Odontoglossum Groganiæ.

FRUIT AND VEGETABLE COMMITTEE.

This body had very little work to do, but it evidently found the new apple, Ardcairn Pippin, to its liking, as there were no specimens left a few minutes after the committee had risen.

Mr. F. W. Seabrook, Romsey Abbey, Hants, staged some large heads of Celery Clayworth Pink, which were unbleached and very rough. Messrs. W. B. Hartland and Co., Ardcairn, Cork, submitted apple Ardcairn Pippin (A.M.).

CERTIFICATES AND AWARDS.

First Class Certificate.—To Sophro-cattleya Doris Cobb's variety, from Walter Cobb, Esq. (gardener, Mr. C. J. Salter), Normanhurst, Rusper, Horsham.

Award of Merit.—To Calanthe Cooksoniæ gigantea, from Mrs. Norman Cookson (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne; to Lælio-cattleya Olivia, from Lieut.-Colonel Sir G. Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester; to perpetual carnation Mrs. C. W. Ward, from Mr. G. Lange, Hampton; to Japanese chrysanthemum Victorian, from Messrs. J. Stredwick and Son, St. Leonards; to single chrysanthemum Mr. Frank Hill, from Messrs. G. Williams and Sons, Cardiff.

MEDALS.

Gold.—To Messrs. J. Hill and Son, Edmonton, for exotic ferns.

Silver-Gilt Flora.—To Messrs. Jas. Veitch and Sons, Chelsea, for begonias and chrysanthemums.

Silver-Gilt Banksian. To Messrs. H. B. May and Sons, Edmonton, for ferns and begonias.

Silver Flora. — To Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. W. B. Hartland and Co., Cork, for orchids; to Messrs. Carter Page and Co., London Wall, for chrysanthemums.

Silver Banksian.—To Messrs. J. Peed and Sons, West Norwood, for chrysanthemums; to Messrs. Armstrong and Brown, Tunbridge Wells, for orchids; to R. G. Thwaites, Esq., Streatham Hill, for orchids; to Messrs. J. Cypher and Sons, Cheltenham, for orchids; to Mr. Galsworthy, Chertsey, for paintings; to Mr. L. R. Russell, Richmond, for shrubs.

Bronze Flora.—To Messrs. S. Low and Co., Enfield, for carnations and chrysanthemums.

SCIENTIFIC COMMITTEE.

OCTOBER 25.

Present: Rev. Professor Henslow, M.A., V.M.H. (in the chair), Messrs. W. Cuthbertson, C. T. Druery, A. W. Hill, A. Worsley, W. Hales, R. H. Pearson, J. T. Bennett-Poë, E. A. Bowles, Drs. A. Voelcker and F. W. Keeble, and F. J. Chittenden (hon. secretary).

MALFORMED ORCHIDS.—Mr. E. A. Bowles showed two malformed orchids, a dendrobium and a cattleya, both showing doubling of some of their parts. They were referred to Mr. Lionel Crawshay for examination and report.

FERTILITY OF "GREEN" WALLFLOWER.—Professor Henslow said that he found the fruits of this plant to contain numerous fertile seeds, but he had not been able to satisfy himself that the supernumerary carpels formed in place of stamens produced good seed.

FASCIATION IN ROSE.—Mr. W. Patterson sent a fasciated branch of rose from St. Vincent, W.I. He remarked that it had been taken from a bush which had been severely cut back previously. He thought fasciation was somewhat rare in roses, as compared with many other plants.

PEAR WITH LATERAL PROLIFERATION.—Mr. Rogers, of Falmouth, sent a pear which had produced a bud upon its side. This malformation is rather common, and is due to the fact that the fleshy part of the pear is a stem structure.

MACARANGA SACCIFERA. — Messrs. Veitch exhibited, on behalf of M. Louis Gentil, a plant of Macaranga saccifera, a native of the Congo district, belonging to the Euphorbiaceæ, and possessing very curious saccate growths of the nature of stipules, a pair at the base of each leaf. The committee, on the proposal of Mr. Bowles, seconded by Mr. Hales, unanimously recommended the award of a Botanical Certificate.

PLANT BREEDING, ETC.—The Rev. Professor Henslow made some remarks upon the Mendelian phenomenon of segregation. He first drew attention to the fact that dissociation of the characters of the parent plants crossed—when the dominant offspring (F1) was self-fertilised and bore offsprings usually like each parent (F2)—often appeared in the first cross, so that this (F1) was intermediate in characters, as of that of Primula sinensis "Crimson King," with a white (Star) "Lady" variety (Bateson's "Mendel's Principles of Heredity," pl. vi.). Mendel's dissociations appear to be a previously unknown instance. Professor Henslow gave as examples among hybrids the two species of petunia with a purple or violet and white flower respectively, the offspring of which are mostly striped. Cytisus Adami is another case. Of crosses with floral or fruit dissociations he mentioned Azalea indica, the York and Lancaster rose, sweet williams, chrysanthemums, orchids, etc., and the fruit of red and white currants. Another cause of dissociation arose when naturally compound colours, as orange and purple, are crossed with a white variety. Thus the orange Abutilon Darwini and Rhododendron javanicum have supplied reds and yellows. Now the question arises—When one parent is quite divisible and recessive in F1, why is the other dominant? Judging from the examples given in Mr. Bateson's work, the answer is that the dominant characters are mostly, if not always, those of the parent which has the greater geneologicæ, i.e., as representing the original specific type. Thus tallness of stems, round and yellow peas, are dominant in the kitchen pea. The purple and flat standard of the sweet pea are specific and dominant. In fruits, the normal and prickly form of Ranunculus arvensis and of datura are dominant. If, therefore, the species be known as the earliest varieties, such may be expected to supply the dominant characters.

He then read the following note on the influence of starvation on Sex. In the note on this subject, read September 30, it was mentioned that in one of the three-inch pots there were 73 seedlings of Mercurialis annua. Of these, 39 proved to be males and 10 females on August 20. All these were removed. Of the 24 left, 14 bore female flowers by September 23. Of the remaining 10, seven more proved to be also females by October 30. The three remaining died. Hence the 24, when not crowded, developed only female flowers. In another experiment with a six-inch pot there were 45 seedlings. Of these, 27 were males and 18 females, i.e., in the proportion of three to two. These plants grew much taller than in the smaller pots, the males being from 9 inches to 12 inches high, the females from 4 inches to 6 inches, whereas in the three-inch pot they flowered when only about 4 inches.

Cardiff, NOVEMBER 2 and 3.

The twenty-fourth autumn show was held in the Park Hall, an admirable building for the purpose, with the exception that it was too small, and was an admirable display. No other society that we know of offers so many challenge cups for the encouragement of their exhibitors as this; no fewer than fourteen valuable prizes in this form are included in the generally comprehensive prize list. Twenty-nine classes were provided for cut blooms, and amateurs and cottagers here receive much encouragement. This is fully appreciated, and at few shows do the latter stage such high-class produce as here, really remarkable are the cut blooms staged by the latter, and they are bona fide cottagers, and include policemen, masons, painters, and engine tenters. The management is always of the best; the enthusiastic committee, ably led by Mr. Mountney, secretary, work in harmony together.

CUT BLOOMS.

These formed a distinct and attractive feature, the leading class being for eight vases of Japanese, distinct, three blooms of each. A challenge cup, value seven guineas, with a cash prize, was offered. Six competed, making a fine display. Mr. G. W. Drake, 44, Cathays Terrace, Cardiff, was distinctly ahead with huge high quality blooms of the Hon. Mrs. Lopes, fully ten inches in diameter; Reginald Vallis, rich in colour; F. S. Vallis, Master James, very fine white; W. Jinks, Lady Talbot, nine inches across, the premier bloom in the show; and Lady Letchworth Mr. J. Duff, gardener to Mr. F. G. Williams, Bryn Glas, Newport, was a good second with blooms a trifle smaller, but richly coloured; Mrs. A. T. Miller and F. S. Vallis were very fine. Mr. R. Farmer, gardener to the Marquis of Bute, Cardiff Castle, third; and an extra prize was awarded to Mr. W. Young, gardener to Lord Ninian Stuart, Falkland Palace, Fife. For twenty-four incurved, not less than twelve varieties, the Mrs. Courtis challenge cup and a cash prize was offered, and here again Mr. Drake was the most successful, with medium-sized well-finished blossoms, of which the following were the most noteworthy: Godfrey's Eclipse, Harold Wells, Nellie Threlfall, Boccace, Romance, Mrs. F. Judson, Mrs. J. Wynne, Mrs. G. Denyer, Duchess of Fife, C. H. Curtis, W. Biddle, and G. F. Evans. Mr. Farmer was second, with some far larger blooms, but not so well finished. Mr. F. Bible, gardener to Prince Hadzfelt, Draycot Park, Chippenham, was third.

Japanese, in twelve distinct varieties, made a bold display, so good were the blooms staged. Mr. Drake followed up his previous successes by securing the premier award with heavy specimens of Lady Talbot, R. Vallis, Bessie Godfrey, Hon. Mrs. Lopes, and Master James. Mr. A. A. Joy, Cardiff, was second; and Mr. G. H. Brown, gardener to L. E. Treherne, Esq., Coldinglass Park, third.

In the section for amateurs and gentlemen's gardeners the leading class was for twenty-four Japanese, in not less than eighteen varieties. There were five entrants, and the Courtis Challenge Cup was awarded to Mr. Farmer for an exceptionally level set of blooms, of which F. S. Vallis, Hon. Mrs. Lopes, Frank Payne, and Mrs. Faith Moore were the most noticeable. Mr. C. Cook, gardener to H. Cornelius, Esq., Ashcombe Road, Weston-super-Mare, was a good second. The class for twelve Japanese, distinct, was a strong one, so fine were the blooms. Mr. H. H. Allen, Penarth, was the most successful with high-class examples of popular varieties, among which Mrs. R. H. Marsham, pure white, was prominent; Mr. H. Atkins, 154, Llandaff Road, Cardiff, second. Mr. Farmer, with a dozen especially neat examples, won the premier award for incurved. To this exhibit was given the N.C.S. silver medal as the best exhibit in certain classes. Mr. F. Judson, Duchess of Fife, Emblème Poitevine, Buttercup, Mrs. G. Denyer, Mrs. J. Wynne, and Madame Vrembley were the best. For six blooms of any one white variety of Japanese Mr C. Cook was first with Mrs. A. T. Miller, securing the leading position; Mr. S. J. T. Grinter, 1, Penlynch Street, Cardiff, was second, with smaller blooms of the same variety.

Single-flowered varieties receive much encouragement at Cardiff, and for six vases, distinct, Mr. T. Bindon, gardener to — Wallace, Esq., Newport Road, Cardiff, was first with exceptionally good blooms of Altrincham Yellow, Meta, Felix, Edith Pagram, and Captain Allsopp; Mr. H. Matthews, Victoria Road, Penarth, second.

For the best-arranged vase of singles, with not more than three varieties, Mr. Grinton was distinctly first with fine blooms, effectively displayed; Mr. E. H. Elsworth, Llandough Castle, Cowbridge, second.

Classes were provided for the best seedling and for the best chrysanthemum sport, the award being the society's certificate. Many so-called new or improved varieties were submitted, but only one received a certificate. This was the single variety Caledonia.

PLANTS.

For a group of chrysanthemums, arranged with foliage plants, there were but two competitors. An area of 60 square feet is really too small for the production of a good effect. Messrs. G. Williams and Son, Manor House, Cardiff, was first; and Mr. W. Treseder, Cardiff, second. In the division open to amateurs and gentlemen's gardeners there was keen competition in the group classes. For the Thomas Andrews Challenge Cup for chrysanthemums only there were three competitors, and Mr. A. Brown, gardener to the executors of the late James Howell, Esq., Grove House, Cardiff, was first, with dwarf plants, well furnished with foliage, and carrying good blooms; Mr. W. Hatherdale, 53, Shakespeare Street, Cardiff, second.

Floral work is really well done at this show. The best wreath of chrysanthemums, with any foliage, was a magnificent arrangement of pink blossoms on a white base, with suitable greenery and croton leaves. This was shown by Mr. W. Treseder, Cardiff, who also won the premier position for a bouquet of chrysanthemums, a tasteful arrangement of yellow and red, with highly-coloured trails of Ampelopsis Veitchi. An exquisite mass of Odontoglossum Alexandræ, with white heather, also secured for Mr. W. Treseder the leading award in the bridal bouquet class. Mr. P. Thomas, 35, Albany Road, Cardiff, had the best cross, a huge mass of specimen blooms of Elsie Fulton at the base, with a column of small white blossoms.

NON-COMPETITIVE.

Non-competitive exhibits were not numerous, but they were attractive. Messrs. J. Cypher, Cheltenham, had orchids in variety. Vanda cærulea, Cypripedium insigne Harefield Hall variety, C. Sanderæ, C. Fairrieanum, Odontoglossum crispum, Cattleya Bowringeana, and C. Labeady were the more noticeable (gold medal). Mr. J. Basham, Fairoak Nurseries, Bassaleg, sent a most interesting collection of apples and pears in the leading varieties (gold medal). Mr. W. Treseder arranged a remarkable collection of cactus dahlias, quite an interesting and rare exhibit for the time of year (gold medal). Messrs. Clibran, Altrincham, sent a collection of chrysanthemums, including various sections (silver medal).

Bournemouth.

The twenty-fourth annual autumn exhibition of chrysanthemums, fruit, and vegetables was held in the beautiful Winter Gardens, on November 1 and 2. Cut blooms on boards were not quite so numerous as in previous years, but they were of very high quality indeed. The cut blooms, on long stems, arranged in threes, in vases, were splendid, some very massive specimens being staged by Mr. Thomas Stevenson, gardener to E. G. Mocatta, Esq., of Addlestone, Surrey. This class provided for nine varieties, distinct, and Mr. Stevenson proved the winner. Both fruit and vegetables were well staged, and made a fine display. The grapes, apples, and pears being of high quality.

CUT BLOOMS.

For thirty-six blooms, Japanese, not more than two of any variety, Mr. A. E. Usher, gardener to Sir Randolph Baker, Bart., M.P., Blandford, was the winner. He had the following varieties: The Hon. Mrs. Lopes (2), very fine; Reginald Vallis (2), Mrs. R. H. B. Marsham, J. Lock (2), Master James (2), Lady Talbot (2), grand; Eclipse (2), Mrs. A. T. Miller (2), very fine; F. S. Vallis, Rose Pockett (2), Valerie Greenham (2), Master David (2), very fine blooms; Mrs. Norman Davis (2), Bessie Godfrey (2), President Viger (2), J. Peed (2), Sir Frank Crisp, Pockett's Crimson, and Leslie Morrison. Mr. T. Stevenson also staged a fine lot of blooms, fresh and highly coloured, and won second honours, Splendour, Lady Crisp, F. S. Vallis, W. Gee, Lady Talbot, Reginald Vallis, and Walter Jinks being the best blooms in his collection, and very massive they were.

Mr. Stevenson won first award, silver challenge cup, given by the president, in the class for nine vases, three blooms in a vase, distinct. The following are the names of the sorts, and there was not a weak flower; James Lock, Master James, Hon. Mrs. Lopes, F. S. Vallis, Mrs. R. H. B. Marsham, Miss A. Nickol, Mrs. L. Thorn, Walter Jinks, and Willie Rawlins. Mr. Usher was a good second with fine blooms; and third prize was won by Mr. Slark, gardener to G. J. Fenwick, Esq.

Mr. Tompkins, gardener to the Dowager Lady Miller, won the challenge cup presented by Mrs. Telter, for two vases of nine blooms, staging grand examples of Reginald Vallis and Mrs. A. T. Miller. Mr. Tompkins also won first position for six blooms of any white variety, staged on boards, with Mrs. A. T. Miller. For six vases of blooms, three in a vase, Mr. Tompkins also scored with very good specimens. Mr. Barge, gardener to Rev. C. H. Burrows, came in a close second. Mr. E. Cox, gardener to G. S. Duberly, scored for twelve Japanese cut blooms, Mr. Slark being second.

Singles were grandly shown, Mr. Barge winning first honours with a lovely lot of blooms. Mr. Foskett, gardener to Mrs. Ubsdell, and Mr. Barge won first and second prizes respectively for twelve Japanese blooms, staged on boards.

GROUPS AND SPECIMEN PLANTS.

Mr. F. W. Welch, Park Nurseries, Bournemouth, secured the silver challenge cup presented by the chairman of the committee, G. H. Rolls, Esq., J.P., for a group of miscellaneous plants and cut flowers. In this group Coleus Cordelia was a conspicuous feature, as also were begonias, liliums, and orchids. Mr. F. Squire, Lougham, won second place, his group being too crowded. Mr. Slark won for a group of decorative chrysanthemums, Mr. C. Pearce, gardener to Mrs. Ormond, being second.

For three bush plants Mr. Slark was the winner, and also in the local division for three specimens. Mr. Barrett, gardener to E. Howard May, Esq., had the best single specimen. In keen competition Mr. C. Ball, Bournemouth, won with a charming table decoration. Mr. Geo. Garner won first honours for three shoulder sprays in a keen competition, while Mrs. Heath had the best sprays in another division, and also won for a bouquet. Mrs. Shave won in the class for a basket of chrysanthemums. Mr. Heath had the best nine zonal pelargoniums, Mr. Garner being second.

FRUIT.

In the open class for three bunches of grapes, distinct varieties, Mr. G. Garner won first place, Mr. Usher and Mr. C. Barrett coming second and third respectively. In the open class for two bunches of black grapes, Mr. Garner again scored with large compact bunches and berries of Alicante, well finished. Mr. Barrett was second with Gros Colmar, and Messrs. Foster and Stuart third with Alicante. Mr. Pope, gardener to G. L. Pike, Esq., Wareham, scored in both classes for white grapes, staging perfect examples of Muscat of Alexandria. Mr. Barrett was first for two bunches of black grapes in the local division.

Mr. Stevenson had the best four dishes of cooking apples, staging Warner's King, Peasgood's Nonsuch, Bramley's Seedling, and Lane's Prince Albert. Mr. Stevenson also scored in the class for four dishes of dessert apples, and Mr. Usher was first for four dishes of pears.

NON-COMPETITIVE.

Messrs. Cypher and Sons, Cheltenham, for orchids; Mr. Robert Chamberlain, Bournemouth, for floral designs; and the Somerford Nurseries, for carnations, were all awarded gold medals. Silver medals were awarded to Messrs. Charlesworth and Co., for orchids; Messrs. Thurston and Prichard, for miscellaneous plants; Mr. Vincent Slade, Taunton, for zonal pelargoniums; Mr. C. Fay, Southampton, for carnations; and G. H. Rolls, Esq., J.P., for orchids.

Mr. Stevenson exhibited two extremely fine varieties of single chrysanthemums named Radium, deep rich rose; and Beauty, pale lilac and rose. These have a good future, as they are perfect blooms for exhibition or decoration.

National Chrysanthemum Society.

The following notes were unavoidably held over from our previous issue:

AMATEURS.

In the amateurs' section Mr. B. E. Davies, Biddenden, led for a dozen Japanese, distinct, with a fine set, in which the Hon. Mrs. Lopes was prominent; Mr. J. King, East View, Harlow, second. Mr. King was also first for a dozen incurved, in six varieties, and Mr. W. Gooding, Four Elms, Edenbridge, came a good second. The best vase of five blooms of any Japanese variety was a fine set of Mrs. W. Knox, staged by Mr. W. Rigby; Mr. W. M. Heath, Fir Tree House, Woodford, second; and Mr. G. Bowyer, Maybourne, Sydenham, third.

Mr. W. Rigby, gardener to the Rev. A. C. Cooper Marsden, Borstaldene, Bickley, scored for a dozen Japanese in a special class, with handsome flowers of Bessie Godfrey, Rose Pockett, etc.; Mr. C. H. Martin, Raymead, Hendon, second; and Mr. T. W. Stevens, gardener to W. H. Stone, Esq., Laurie Park, Sydenham, third.

Mr. J. W. Harrison scored for a vase of decorative chrysanthemums, and was followed in order by Mr. G. Bowyer and Miss Martin, all of whom showed well. Mr. King and Mr. Bowyer were also first and second respectively for a vase of single varieties.

In the smaller amateurs' division Mr. L. Gooch scored for six Japanese blooms of one variety with noble flowers of F. S. Vallis, Mr. T. W. Stevens and Mr. C. H. Martin following. Mr. Rigby had the best six Japanese blooms, distinct. Other leading exhibitors were Mr. H. W. Edwards, Hackbridge Lodge, Carshalton; Mr. W. H. Hunt, Mr. A. M. Falkner, East Dulwich; Mr. G. Moorman, Hampton Court Palace, and Mr. J. King.

FRUITS AND VEGETABLES.

Mr. A. C. Horton, gardener to T. L. Boyd, Esq., North Frith, Tonbridge, led for three bunches of Gros Colmar grapes, and was followed in order by Mr. W. Lintott and Mr. W. Howe. For three bunches of any black grapes Mr. W. Lintott, gardener to Sir Walpole Greenwell, Marden Park, Caterham, scored with Alicante, finely coloured; Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham, second; and Mr. A. C. Horton third. For white grapes Mr. Lintott was first, and Mr. P. Wilkinson second, the former showing Muscat of Alexandria. Mr. A. Basile, Woburn Park Gardens, Weybridge, scored for six dishes of culinary apples, Mr. A. C. Horton coming second, and Mr. W. Lintott third. Mr. Basile was also first for six dishes of dessert apples with fine dishes of popular varieties; Mr. J. W. Harrison, gardener to R. Girvin, Esq., Ashbourne, Sydenham, second; and Mr. W. Lintott, third. For pears, six dishes, Mr. A. Basile was once more to the front, and here he showed Pitmaston Duchess, Durondeau, Marie Louise, Beurre Baltet Pere, Duchess d'Angoulême, and Chas. Ernest in fine form; Mr. Lintott second, and Mr. A. C. Horton third.

Mr. A. Basile was the only exhibitor of a collection of vegetables, and he showed a grand lot of produce, thereby winning the premier award provided by Messrs. Webb and Sons.

Birmingham Gardeners' Association.

"Herbaceous Plants: Some Principles of Planting Etc.," was the subject expounded by Mr. E. H. Jenkins, Hampton Hill, president of the Kingston Gardeners' Association, on October 31. Mr. C. H. Herbert presided over a full attendance of the members, including the two recently-enrolled lady gardeners. Undoubtedly Mr. Jenkins's fame as a writer on herbaceous and allied plants greatly conduced to the large assemblage.

The lecturer, instead of adopting the ordinary course almost generally pursued by exponents of the cultivation of the subjects in question, elected to propound, specifically, the cultivation of certain plants requiring seasonable treatment to ensure the best success. By way of illustration, he selected the Christmas Rose (Helleborus niger), herbaceous pæony, flag iris, Lilium candidum, Anemone pulsatilla, herbaceous phlox, delphinium, pyrethrum, perennial sunflower (helianthus), and œnothera, plants requiring for their successful cultivation a due observance of their respective root actions, whether in the spring or autumn season.

Mr. Jenkins also drew attention to the great importance of horticultural societies accurately differentiating between "kinds" and "varieties," either of flowers, fruits, or vegetables, in their flower show schedules, for the guidance of exhibitors.

At the conclusion an animated discussion took place, in which several pertinent questions were put, and suitably answered by Mr. Jenkins, and to whom a hearty vote of thanks was then accorded.

Cambridge,

NOVEMBER 9 and 10.

The fame which the Cambridge Horticultural Society has so long enjoyed for the great excellence of its autumn exhibitions was fully maintained by the magnificent display produced on this occasion. The Corn Exchange was taxed to its utmost capacity for the accommodation of the exhibits in competition, the merit was high throughout, and the arrangements were remarkable for their completeness, and reflected much credit upon Mr. A. Matthew, the hon. secretary, Mr. F. E. Fordham, the assistant secretary, and the members of the committee.

FIRST PRIZE VASES OF JAPANESE CHRYSANTHEMUMS AT CAMBRIDGE.
Exhibited by Mr. G. Barker.

CUT BLOOMS.

Japanese varieties were so large and finely shown as to constitute a glorious feature. In the great open class for twenty-four blooms, distinct, there was a strong competition, and Mr. J. Vert, gardener to Lord Howard de Walden, Audley End, Saffron Walden, occupied the post of honour with one of the finest sets of blooms ever placed upon the exhibition stage. The blooms were of the largest size, and superbly coloured and finished, and so uniform that there was not a second-rate example in the set. The varieties were: Lady Talbot, Splendour, Mdme. P. Radaeli, J. H. Silsbury, Mrs. A. T. Miller, Marquis of Northampton, F. S. Vallis, Mary Poulton, Mdme. G. Rivol, Reginald Vallis, Chrys. Montigny, Lilian Hall, Hon. Mrs. Lopes, Rose Pockett, George Mileham, J. Lock, Fred Duck, Francis Joliffe, John Peed, Mrs. E. Crossley, George Hemming, Bessie Godfrey, and W. Gee. Mr. G. Barker, gardener to Miss M. W. Gibson, was a capital second, with blooms of large size, and otherwise highly meritorious. Mr. R. Smith, gardener to G. R. C. Foster, was third with a fine set of blooms. Equally keen was the competition for eighteen blooms of Japanese varieties, and Mr. R. Smith scored with splendidly developed blooms of Mrs. A. T. Miller, Marquis de Venosta, Mme. Carnot. Mme. G. Rivol, Edith Smith, Mrs. F. W. Vallis, Norfolk Blush, Reginald Vallis, and other of the leading varieties. Mr. G. Barker followed a mark or so behind for second place, and Mr. T. Todd, gardener to W. A. Briscoe, Esq., was third with a good set of blooms.

The premier box of twelve Japanese varieties was shown by Mr. R. Smith, whose blooms were characterised by large size, rich colour, and high finish. Mr. E. Dyson, gardener to W. P. Neal, Esq., and Mr. W. Hall, gardener to Sir John Briscoe who were second and third respectively, also staged blooms of much merit. Mr. W. Hall staged finely developed blooms in his first-prize six Japanese, those of G. Mileham 1908, and F. S. Vallis being especially good. Mr. E. Dyson was a capital second, and Mr. J. Wright, gardener to Arthur Matthew, Esq., followed closely for second place, with finely-developed blooms. The best three Japanese blooms were those shown by Mr. W. Hall; and Mr. J. Wright, and Mr. R. Smith were second and third, the blooms throughout being of much merit.

As is customary at Cambridge, incurved varieties were strongly represented, the number of blooms staged being large, and the quality exceptionally high Mr. G. Barker scored in the open class for twenty-four varieties with full-sized blooms remarkable for their high finish. The varieties represented in the set were Duchess of Fife, Romance. Frank Trestan, Godfrey's Eclipse, Mrs. B. Hankey, Miss Nellie Hall, Mrs. G. Denyer, Mme. Malliance. Miss A. H. Hall, Calypso, Miss W. Threfall. Louis Giles, Mrs. Cora Stoop, Daisy Southam, Edwin Thorpe, Godfrey's Reliance, Mrs. J. Wynn, and Clara Wells. Mr. T. Todd was second with good blooms. Mr. G. Barker also obtained premier honours for twelve incurved, with fine blooms of well-known varieties. Mr. T. Todd, a close second. Mr. E. Dyson scored for six, and Mr. T. W. Birkenshaw obtained first place for three.

The competition in the several vase classes was very keen, and the numerous contributions formed an immensely attractive feature. The class for six vases of Japanese, three blooms in each, was a very strong one, and Mr. G. Barker, gardener to Miss M. W. Gibson, occupied the first place with finely-developed blooms of Mme. G. Rivol, Mrs. J. Neild, Rose Pockett, Hon. Mrs. Lopes, Mrs. A. Debono, and Reginald Vallis. Mr. R. Smith, gardener to G. R. C. Foster, Esq., was second with blooms in a high state of development, and Mr. A. W. Taylor, gardener to Sir J. Mackay, was third, with good blooms. In competition for the prizes for six vases of incurved, three blooms in each, premier honours were obtained by Mr. T. Todd, gardener to W. A. Briscoe, Esq., for large, finely-developed blooms, none of which were named. Mr. G. Barker followed very closely for second place. There was a very strong competition in the class for six vases of decorative varieties, and at the head of the large number of competitors was Mr. John Hall, who staged graceful sprays in a high state of development. Mr. A. Pepper, gardener to A. Hurrell, Esq., was second, and Mr. J. Hutchinson third. W. Dobbs, Esq., was again successful in obtaining premier honours in the class for six vases of singles; the vases were tastefully filled with blooms of high quality. Mr. Smith was second wth excellent vases. and Mr. A. Pepper third. Pompons in vases were rather disappointing, and it will suffice to say that Mr. W. Hall was first.

FIRST PRIZE VASES OF INCURVED CHRYSANTHEMUMS AT CAMBRIDGE.
Exhibited by Mr. T. Todd.

PLANTS.

Classes were provided for groups arranged for effect. for specimen chrysanthemums, for salvias, and for begonias and salvias. The last-named were shown in considerable numbers, and in splendid condition, and the large array of specimens produced a highly effective display of colour. The majority of the collections in competition consisted of Salvia splendens, whch has long been in cultivation, and held in high esteem; but one of the collections was formed with the comparatively new Glory of Zurich, which is compact in growth, and, as stated in these pages on several occasions, is exceptionally free in blooming. The specimens staged were well-nigh solid with the brilliant scarlet flowers, and the collection obtained for the exhibitor premier honours. There were seven or eight entries in the class for six begonias, and, as the whole of the plants consisted of Gloire de Lorraine, and were well flowered, they produced a very pleasing effect. Mr. R. Smith scored with medium-sized plants that were well bloomed, and the colour of the flowers highly developed. Mr. T. W. Birkenshaw followed closely for second place, with examples of good size, and very freely flowered, but the flowers, which were above the average in size, were rather pale in colour. Mr. T. Todd, who was third, had medium-sized and freely-bloomed examples.

Specimen plants were mostly bush grown, and of a size suitable for conservatory decoration. They were all remarkable for both leaf and flower development, and did much credit to the cultural skill of the respective exhibitors. Especially noteworthy was the specimen of a single-flowered variety, staged by W. Dobbs, Esq., who has for some years past made a special feature of the elegant singles. The groups arranged for effect were more numerous and of a much higher order of merit than we have seen them at Cambridge for some years past. They were all arranged in a half-circle measuring 10ft. by 5ft., and some degree of formality is inseparable from groups of this character. The formality in this case was in no way objectionable, and the first-prize group was remarkable for the high quality of the individual blooms and for the taste evinced in the arrangement of the marginal belt of fine foliage plants. The plants used in the second prize group had blooms large in size, and high in quality, and the arrangement of the chrysanthemums was a little lighter, but the marginal belt of fine foliage plants were rather weak. The successful exhibitors in the group class were Mr. G. Dyson, Mr. J. Wright, and Mr. F. J. Cook.

FRUITS AND VEGETABLES.

Both fruits and vegetables were so extensively shown as to constitute features of much interest. There was a brisk contest in the grape classes, and many finely-developed clusters were contributed. In the competition for the prizes for Muscat of Alexandria, Mr. T. W. Birkenshaw obtained first with clusters of large size and finely coloured, and Mr. W. Hall was a good second. The successful exhibitors of Alicante were Mr. R. Smith, Mr. Kirkpatrick, gardener to P. L. Hudson, Esq., and in the class for black grapes other than Alicante, Mr. A. W. Taylor was first, and Mr. F. J. Cook, gardener to the Hon. Mrs. K. Thornton, second, both staging Gros Colmar of much merit.

AN EFFECTIVE GROUP OF SINGLE CHRYSANTHEMUMS.
Exhibited by Mr. J. H. Kefford, gardener to Mrs. Joseph Smith, Newstead, Wavertree.

Notwithstanding the unfavourable character of the past season, apples and pears were staged in sufficient quantities to fill a broad table extending nearly the whole length of the spacious Corn Exchange. The chief of the classes provided for apples and pears was for twelve dishes, to comprise both culinary and dessert varieties. The most important of the several collections was that for twelve dishes, and in this Mr. T. Todd obtained premier honours with fine dishes of Warner's King, Loddington, Bismarck, Lord Derby, Lane's Prince Albert, Ribston Pippin, King of the Pippins, Blenheim Pippin, and Washington. Mr. J. H. Ridgwell, Histon, Cambridge, was a close second with fruit that was a size smaller, but highly-coloured and splendidly finished. Mr. Alderman Stephenson third. For six dishes comprising culinary and dessert varieties in equal numbers, the exhibitor last named occupied the post of honour with a collection of great excellence. Mr. A. Lelliott was a capital second. Mr. W. Dunn scored for three dishes of dessert apples with Cox's, Allington, and Blenheim Pippins at their best. Mr. Todd was first in the corresponding class for culinary varieties.

Mr. Todd was successful in obtaining premier honours in the class for six dishes of pears, with excellent examples of Pitmaston Duchess, Beurre Bachelier, Beurre Bosc, Duchesse d'Angoulême, and Doyenne du Comice. Mr. T. W. Birkenshaw second. There were numerous other well-filled classes for pears.

The numerous collections of vegetables made a brave display, and were of much interest as evidence of the success obtained in the cultivation of esculents by growers resident in the district, of which Cambridge is the centre. Mr. E. Pepper was successful in winning the first prize in the class for six distinct kinds, in which the prizes were provided by Messrs. Webb and Sons. He was successful also in obtaining premier honours in Messrs. Sutton and Sons' class for a similar number of kinds. Mr. Kirkpatrick was second in the first of these two classes, and in the second a similar position was occupied by Mr. J. H. Ridgwell. The last-named was at the head of the competitors in the society's class for ten kinds, and Mr. F. J. Cook was a good second. Mr. Todd was first for twelve dishes of potatoes, and Mr. A. W. Taylor was at the head of the competitors in the class for six dishes.

Liverpool.

The thirty-first annual chrysanthemum show, under the auspices of the Liverpool Horticultural Society, was held in the Corn Market on Wednesday and Thursday, November 9 and 10. This society maintains an interesting series of shows during the year, which, although not of great extent, are fairly representative of the more important phases of British horticulture. One sometimes wonders why it is that Liverpool shows have not developed to a greater extent, but it seems that of the city's vast population only a very small proportion are sufficiently enthusiastic to support flower shows, and without a full measure of public support a society cannot run very big shows. However, this year's event was a good one, and congratulations are due to Mr. Harold Sadler, the secretary, and his committee, on a satisfactory outcome of their labours.

CUT FLOWERS.

The most important class was the Challenge Cup class for thirty-six blooms, half of which must be Japanese and the other half incurves. Four very strong entries were forthcoming, and required extremely careful judging. The cup was eventually awarded to Mr. Geo. Haigh, gardener to Sir Wm. H. Tate, Bart., Highfield, Woolton, who staged Lady Talbot, Hon. Mrs. Lopes, White Queen, Master James, Mrs. R. H. B. Marsham, and other good Japanese, with Buttercup, Miss Cora Stoop, Souv. de Wm. Clibran, and other good incurves. Second prize fell to Mr. Jos. Stoney, gardener to Lieut.-Colonel Gaskell, J.P., Roseleigh, Woolton, who also had fine blooms of the varieties already named, F. S. Vallis and Miss Hilda Rowley being other specially fine flowers; third prize was given to Mr. C. Goves, gardener to Sir Gilbert Greenall, Bart., Walton Hall, Warrington.

Eighteen incurves made a good class, although a few of the blooms lacked that depth and globular finish so highly prized in this type. Mr. J. Nisbet, gardener to Miss Robinson, Holmfield, Aigburth, took foremost place, showing Romance, Mr. Barnard Hankey, and Mr. J. P. Bryce among other favourites; Mr. Charles Osborne, gardener to A. Cook, Esq., Holmfield House, Mossley Hill; and Mr. John George, gardener to Thomas Henshaw, Esq., Whitfield House, Roby, were the other winners. In the eighteen Japanese Mr. John George scored in a close contest with three other exhibitors, his flowers being shapely, bright, and clean. Mr. George Haigh was a capital second, and Mr. C. Goves third with a set that just lost a trifle in freshness.

Four nice stands of a dozen incurves found their best exhibitor in Mr. Jas. Clark, gardener to Thos. Clarke, Esq., Allerton Hall, Woolton, and a very neat stand he staged; second place was taken by Mr. Thos. Bailey, gardener to Mrs. E. C. Leventon, Oakfield, Roby; Mr. J. H. Kefford third. Mr. Clark again led for a dozen Japanese, showing very well; Mr. D. McKelvie, gardener to John Stone, Esq., Blacklow, Roby, second. Half a dozen entries for six incurves were a good entry, and here Mr. E. Wharton, gardener to John Findlay, Esq., Maviscourt, Sefton Park, was victor, his blooms of Lady Isabel, Clara Wells, Buttercup, J. P. Bryce, Romance, and Mrs. F. Ashworth being all good; Mr. J. Armitstead, gardener to Mrs. T. A. Vlasto Bonnevaine, Sefton Park, secured second, and Mr. Geo. Osborne third. There were seven entries for six Japanese, Mr. J. Taylor, gardener to F. Bibby, Esq., Hardwicke Grange, near Shrewsbury, scoring; Mr. P. Caunce, gardener to G. Nicholson, Esq., Parkside, Princes Park, Liverpool, coming second; and Mr. Chas. Taylor, gardener to R. D. Holt, Esq., M.P., Sefton Park, third.

For two vases, each containing three blooms of Japanese, all distinct varieties, Mr. William Aindow, Altcar Road, Formby, led with some elegant flowers; Mr. Fred Geary, 20, Breck Road, Anfield, came second; and Mr. William Farmer, 9, Houghton Street, Prescot, third. Mr. Loo Thomson, Ailsa Craig, Formby, had the best three
]

vases of singles, among five entries; Edith Pagram, Metta, and Bronze Pagram were Mr. Thomson's set. John Macfarlane, Esq., Victoria Mount, Oxton, received second; and Mr. G. A. Turner, 29, Alexander Road, Great Crosby, third. Six vases of single chrysanthemums, not less than three varieties, and not more than twelve flowers in a vase, proved to be one of the most popular classes, there being no fewer than seven entries of a high order of merit. The winner was Mr. J. Williams, gardener to C. J. Proctor, Esq., J.P., Boscobel, Oxton, whose flowers were of good size, and choice variety, but a trifle aged and thin in appearance. Mr. J. Nisbet came second with flowers of great size, and Mr. P. Caunce third with a particularly well-staged lot of choice blooms.

Six blooms of any distinct varieties, shown in two vases, made a nice display, entries coming up well. Mr. William Aindow led off with a set of really good quality, all Japs. Mr. Fred Geary following up with three each of Japs and incurves; Mr. William Farmer's third prize lot were all Japs. Mr. Aindow also had the best single vase of three distinct blooms. Three exhibitors staged six vases, each containing three blooms of a Japanese variety, and here Mr. E. Wharton took pride of place, and was followed by Mr. Charles Taylor and Mr. R. Willacy, gardener to F. W. P. Rutter, Esq., Windyknowe, Blundellsands.

PLANTS.

Liverpool has for years been famous for trained specimen chrysanthemums, and this year some very good specimens were exhibited, although not in great numbers. For three specimens, large-flowered, Mr. Thomas Hitchman, gardener to Arthur Earle, Esq., J.P., Childwall Lodge, Wavertree, claimed first prize with three evenly-balanced plants that were models of good culture and training: Mrs. C. Beckett, Hon. Mrs. A. Ackland, and Mrs. J. B. Bryce were his varieties; second prize went to Mr. W. Wilson, gardener to W. Cunningham, Esq., Gorsey Cop, Gateacre. Mr. Hitchman led for one large-flowered specimen, using one of the most perfect specimens we have seen of Mrs. B. Bryce, and also for three staked plants, and again for three trained singles, his plants in this class being as even as could be wished.

Six single chrysanthemums, staked, brought out some well-grown plants, the winner being Mr. E. R. Finch, gardener to W. J. Lockett, Esq., Grassendale House, Grassendale; second prize going to Mr. Geo. Osborne, gardener to Drs. Tisdall and Ingall, Pinbrook Villa, Pinbrook. Mr. J. H. Kefford, gardener to Mrs. Joseph Smith, Newstead, Wavertree, had the best single plant of trained pompon, second prize going to Mr. W. Wilson, gardener to Walter Cunningham, Esq., Gateacre; third, Mr. F. Atkin, gardener to T. W. Wright, Esq., Mossley Vale House, Mossley Hill, Liverpool. There were five capital groups of single chrysanthemums, arranged on sixty square feet of space, and a very effective class they made. The winner was Mr. P. Caunce, gardener to J. Nicholson, Esq., Parkside, Princes Park, Liverpool. His arrangement was excellent the blending and breaking up of bright colours being tastefully carried out. Mr. J. H. Kefford received second prize, his blooms being decidedly finer, but scarcely so many reds and bright shades were used. Third prize went to Mr. George Osborne.

Miscellaneous plants were catered for in classes for winter-flowering begonias, cyclamen, primulas, poinsettias, etc., and a goodly number of exhibits were staged. There were also a number of entries for fruit, including a few good grapes and pears.

NON-COMPETITIVE.

A distinct and most attractive feature of the show was an excellent group of orchids, staged by Messrs. Mansell and Hatcher, Lim., Rawdon, Leeds. Many charming odontoglossums, cattleyas, and oncidiums were included in the group, among which several distinct and pretty hybrid odontoglots were prominent. Well-flowered examples of Odontoglossum grande, and some fine flowers of Cypripedium Sanderæ, with oncidiums and vandas, were also staged. Messrs. Clibrans, Altrincham, put up a splendid lot of vegetables, among which celery, leeks, kohl rabi, gourds, and potatoes were principal items. Fruit of handsome appearance was shown by the Government of British Columbia, the faultless packing of which was, as usual, very noticeable.

Messrs. Dicksons, Lim., Chester, brought a beautiful selection of single chrysanthemums, embracing a great range of cheery colours. About thirty dishes of both culinary and dessert apples were also staged, the quality being of a high standard. Potatoes were the principal feature of the exhibit put up by Messrs. Thos. Davies and Co., Wavertree, such sorts as River's Early Ashleaf, The Factor, Schoolmaster, Evergood, and Sir John Llewelyn being well shown. A bright, well-flowered group of cyclamen was arranged by Messrs. R. P. Ker and Sons, Aigburth Nurseries, Liverpool. The pure whites, salmon shades, and deep crimsons were beautiful in colour and form. A neat batch of extra dwarf chrysanthemums in small pots was staged by Messrs. Middlehurst, 11, Manchester Street, Liverpool, who also brought about thirty dishes of various potatoes.

Apples, packed in boxes, and also on dishes, came from Mr. J. Lee, King's Croft, Bebington; Cox's Orange Pippin, Byford Wonder, Lane's Prince Albert, and other equally popular varieties were shown in excellent form, some handsome fruits of Custard Scarlet being particularly noticeable. Choice pears were also staged in nice variety. An exhibit of splendid chrysanthemums came from Messrs. Wells and Co., Lim., Merstham; Mrs. G. C. Kelly, a new Jap. of delightful colour, described as rosy-amaranth with silvery reverse; Mrs. Richd. A. Witty, a rich bronze, and some other good seedlings were capital.

The Liverpool Orchid Company (Cowan's), Lim., put up a nice table of orchids, the blooms being strikingly fresh and clean. Some massive Japanese and beautiful decorative chrysanthemums were staged by Mr. Norman Davis, Framfield, Sussex. The huge golden flowers of the new Countess of Granard, and the creamy-white Mrs. A. Herbert attracted great attention. Mr. William Rowlands, Childwall Nursery, Wavertree, put up a bank of Begonia Gloire de Lorraine and Turnford Hall. The plants were well grown and very freely flowered.

MEDAL AWARDS.

Gold.—Messrs. Wells and Co., Merstham; Mr. Norman Davis, Framfield; Messrs. R. P. Ker and Sons, Aigburth, Liverpool; Messrs. Mansell and Hatcher, Lim., Rawdon, Leeds; Messrs. Clibrans, Altrincham; and Mr. John Lee, Higher Bebington.

Silver.—Mr. Rowlands, Childwall Nursery, Liverpool; Mr. Middlehurst, Liverpool; The Liverpool Orchid Company; and Messrs. Dicksons, Lim., Chester.

A BEAUTIFUL VASE OF CHRYSANTHEMUM EUREKA (SINGLE WHITE).
Exhibited by Mr. Jos. Stoney, gardener to Lt.-Col. Gaskell, J.P., Roseleigh, Woolton, Liverpool.

Leicester Gardeners' Association.

At the Vaughan Working Men's College, Leicester, the first of a short series of lectures on the potato was given recently by Mr. E. Miles. The attendance was good, and keen interest was shown throughout. The chairman, Mr. George Underwood, spoke in warm terms of the close application and unostentatious work accomplished by the lecturer during twenty-five years of experiments in cross-fertilising, which would one day vindicate themselves. A rapid review of the chief popular varieties during sixty years aroused pleasant memories, and was much enjoyed. The "old stagers" present evidently felt special interest in the promising offspring of the old Red Regent, Early Shaw, Lapstone Kidney, Victoria, etc. A few of these old-time favourites had been purposely grown for the hybridiser in the United States, to rejuvenate them. Some reference to the recent "boom" was inevitable, and certain varieties, as well as boom methods, came in for scathing criticism.

National Hardy Plant Society.

The first general meeting of this society was held at the Hotel Windsor on Thursday, November 3, Mr. A. J. Macself in the chair. The Chairman presented the report of the Provisional Committee appointed at Shrewsbury, which dealt with the Edinburgh meeting, and submitted draft rules and bye-laws which the secretary had prepared, and were recommended by the committee to adoption. After several minor amendments, on the motion of Mr. John Collingridge, seconded by Mr. Went, the rules and bye-laws were adopted. The following officers were then elected: Chairman of Council, Mr. A. J. Macself; vice-chairman, Mr. Went; treasurer, Mr. Brunton; secretary, Mr. F. Bouskell. A representative council of forty-eight was then elected. An invitation was received from Sir Frank Crisp for the society to visit Friar Park during next summer. The invitation was accepted, and a hearty vote of thanks accorded to Sir Frank Crisp for his kindness. The Secretary announced that the Earl of Onslow, K.C.M.G., and Mr. John Collingridge had accepted office as vice-presidents. It was desired that members should bring the objects of the society before their friends, and that anyone interested in hardy flowers would communicate with the secretary, Mr. F. Bouskell, Market Bosworth, Nuneaton. It was resolved that a vote of thanks be accorded to the officers and Provisional Committee for their preliminary work in connection with the formation of the society.

Bath Gardeners' Society.

Mr. A. E. Marshall presided over a good attendance of members at the fortnightly meeting of this society, which, as usual, was held in the Oddfellows' Hall. After the usual preliminaries Mr. W. Clark read an instructive paper on "Salads."

Mr. Clark, at the outset of his paper, alluded to the increasing demand for salads, but intimated that he would confine his remarks to the culture of green salads all the year round. The lettuces, of course, held premier place as a salad, and to grow them crisp and succulent it was necessary to prepare the ground well by digging and manuring some time previous to sowing the seed. There were different textures of soil, and the quality of the lettuce depended, to a great extent, upon the quality of the soil. The position for an early crop should be that of a south border, and a place sheltered from the east and north was one of the best positions for an early crop in spring. The ground should be lightly forked over, and a few handfuls of lime added. The ground was then ready for drilling, and the spaces between the rows naturally varied according to the variety of lettuce sown. Seeds should be sown rather thinly, as overcrowding meant weak plants. When the seedlings were strong enough to handle they should be thinned out about nine inches apart. Of course, gardeners were dependent, to a great extent, upon the nature of the seasons, but much could be done by transplanting. If, however, they wished for a good crop of lettuce all the year round it was necessary to sow at least once a fortnight. With regards to the autumn and winter supplies more forethought was required, and for the former crop he generally commenced on July 28. Plenty of fresh air was necessary if damping was to be prevented; at no time throughout the seasons should lettuce be allowed to become dry at the roots. They should be watered in the morning, as evening watering often attracted the cold during the night, but when the nights became warmer evening watering was desirable, as it assisted the growth. For the winter supply he would sow about August 12, and when the plants were strong enough to handle they should be lifted out of the ground and transplanted into cold frames about eight or nine inches apart. Seedlings during the winter months were very liable to damp and rot in soft soil. This crop would carry them well on into the winter, and planting, of course, should be done according to requirements. Yet another sowing should be done on September 1. This time seedlings did not grow so fast, and probably would not be strong enough to handle until the middle of October. When that time arrived they should be thinned out, and sufficient left in the beds to stand over the winter. The others should be transplanted into firm soil in cold frames four or five inches apart. They should be protected from heavy rains, but they should have plenty of fresh air. If there was a break in the supply, a crop of seedlings could be advanced in cold frames fixed in an empty pit. The next salad in importance was the endive, which he always saved for the winter; but as long as lettuce, the queen of salads, could be supplied there would not be much demand for the endive. In his opinion the broad-leaved variety was the best for a continuous supply. Before concluding, Mr. Clark commented briefly upon the cultivation of several other salads, including sorrel, watercress, and lamb's lettuce. A short discussion followed.

Points for exhibits were awarded as follows: Mr. W. C. Evans, vegetables 6, fruit 6, cut flowers 4, pot plants 4; Mr. W. Griffen, six pot plants 6; Mr. W. Clark, salads 6, and grapes 6. This competition is for the silver and bronze metal.

Haywards Heath Horticultural Society.

This society held its fourteenth annual chrysanthemum show at the Public Hall on November 1 and 2. The entries in the fifty-one classes exceeded 200, and the quality of the exhibits left nothing to be desired.

There was a keen fight for the handsome challenge cup, presented by the President of the society for the best group of chrysanthemum plants arranged for quality and effect. Mr. W. Evans, gardener to Mrs. Stewart Mackenzie, Warninglid, was placed first for a fine, well-built group; Mr. E. W. Haywood, gardener to Lord Denman, Balcombe, second. In the class for a miscellaneous group, Mr. W. F. Elvy, gardener to R. Foster, Esq., Summer Hill, Lindfield, was first with a tasteful display, and Mr. E. W. Haywood came second. In the single-handed gardeners' class for a group of chrysanthemums, Mr. Hatfield was first, Mr. C. Ford second, and Mr. W. Fox third.

In the class for six winter-flowering begonias, there was only one exhibitor, this being Mr. W. F. Elvy, who had a fine half-dozen Gloire de Lorraine, which measured about 3½ feet through, and the same in height, and were well flowered from top to base. They were given the first prize, which they thoroughly deserved.

The ladies' table decorations were very pretty, and a fresh feature in the show was a collection of wild fruits, named, shown by children.

The collections of vegetables were good. Mr. T. Cottington, gardener to Mrs. R. Wyatt, was first; Mr. Shirley, gardener to Rev. T. Wyatt, second; and Mr. J. Mitchell, gardener to Miss Maberly, third.

The chief prizewinners in other classes were: Messrs. W. Evans, E. Haywood, W. F. Elvy, J. Shirley, R. Hamper, J. Perrett, G. Smith, J. Cottingham, C. Harris, J. Sands, J. Sinnock, etc. Among non-competitive exhibitors, Mr. J. Box, Lindfield, put up an attractive group of cut chrysanthemums and plants, and was awarded a Certificate of Merit. Messrs. J. Cheal and Sons, Crawley, filled a table with a good display of fruits and single dahlias.

GARDENING APPOINTMENTS.

Mr. J. J. Thompson, of Holker Gardens, Cark-in-Cartmel, has been appointed head gardener to his Grace the Duke of Devonshire, at Compton Place, Eastbourne, and enters upon his new duties on January 1, 1911.

Mr. G. Wareham has been appointed head gardener to F. H. T. Jervoise, Esq., at Herriard Park, near Basingstoke.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advice us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention correspondents are requested to distinctly mark the paragraph.

BASIC SLAG.—K. G., Grantham: Apply basic slag at the rate of four ounces per square yard as the work progresses.

MANAGEMENT OF TENNIS LAWN.—G. K. B., West Bromwich: A handy book that will give you the information you need is "Lawns and Greens," to be obtained, post free, for 1s. 2d. from the GARDENERS MAGAZINE office, 148, 149, Aldersgate Street, E.C.

NERINES.—S. G. A., Leamington: Your query came too late for us to deal with it in our issue of November 5, but as in that issue, page 869, we published an article on Nerines, we refer you to it for the needed information.

NATIONAL SWEET PEA SOCIETY'S CHALLENGE CUPS.—S. W. T., Exeter.: We understand that the challenge cups offered for competition by the National Sweet Pea Society are held by the winners for one year, a guarantee for their safety during that period being given by the holders. In the event of either of the challenge cups being won by a professional gardener the trophy will be held for the year by his employer. In those cases where a gold or silver medal accompanies the trophy the medal will become the absolute property of the gardener, provided he himself is a member of the National Sweet Pea Society.

VARIEGATED CHRYSANTHEMUM.—T. M., Halesowen: The variegation has proved persistent, and has not deteriorated since last you sent specimens. The flowers are fairly attractive, but the merit of the plant lies in its variegation. Of course, a variegated-leaved chrysanthemum is not new, but yours is especially good in this direction. The plant is not particularly valuable, considered financially, but no doubt some nurseryman would be glad to purchase and distribute the stock, but you must have it in first-rate condition before offering it.

WOODEN LABELS.—A. R., Tiverton: When the labels have been cut into sizes, and properly shaped and smoothed, give them a complete coat of white paint, and allow this to dry quite hard. Afterwards put a thin coat of paint on the part of the label that is to carry the plant name, and then write the name clearly and boldly with a garden pencil. This entails rather more labour than the usual practice, but the name is more legible, and the labels last far longer than when only the writing surface is painted.

FOLIAGE PLANTS FOR A COLD CONSERVATORY.—R. T., Redhill: There is a large range of subjects to select from for the purpose of making even a cold conservatory bright during the winter months. The whole of the evergreen hardy ornamental shrubs may be laid under tribute, but in making a selection some consideraton must be paid to the district, and to the amount of light the plants will receive. In dull smoky districts and under grimy glass coniferous shrubs would not be a success, but if the light and air are good then small plants of golden and silver variegated cupressus should be chosen, as well as coloured yews and hollies, all these being carefully lifted

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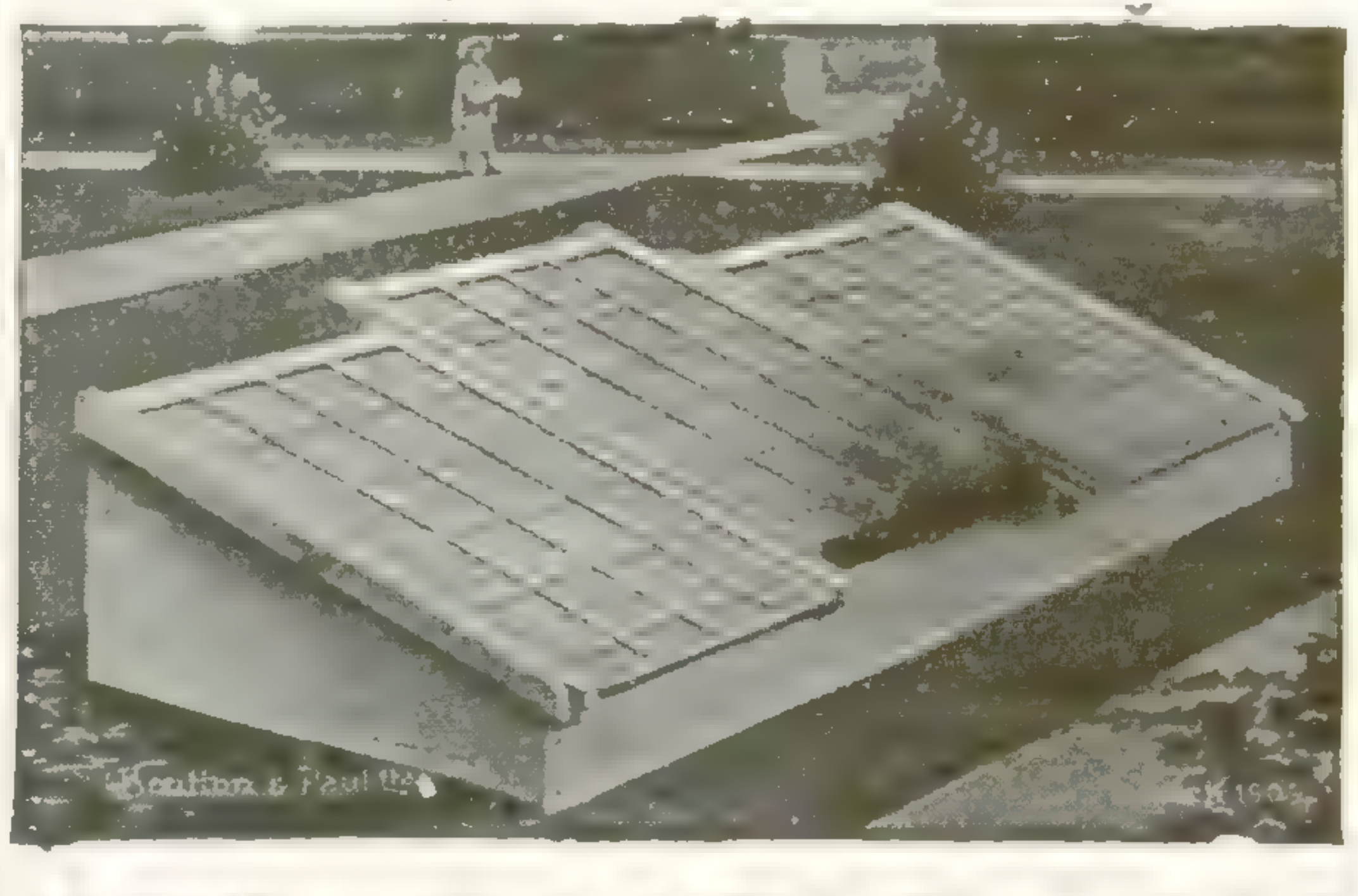

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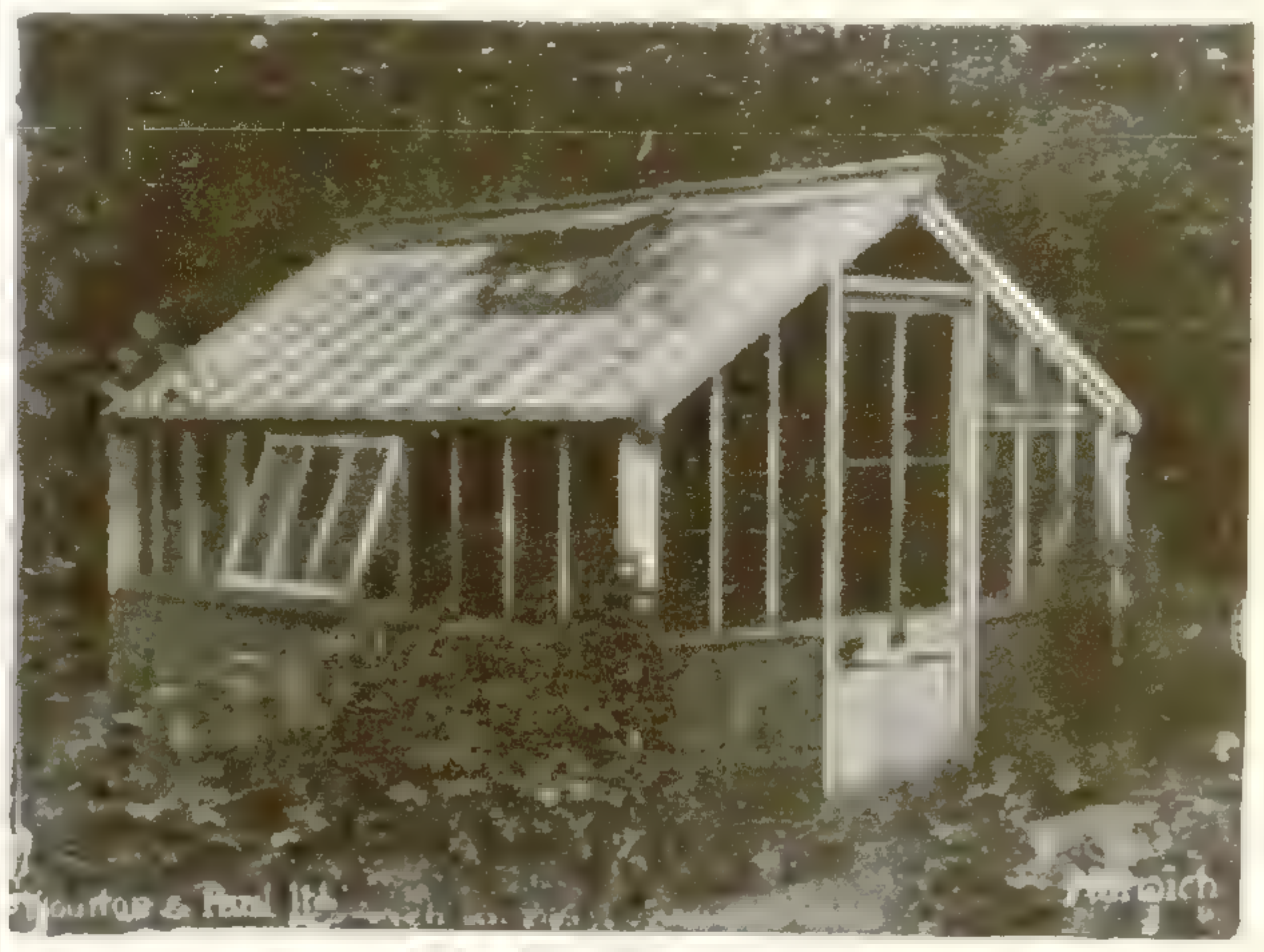

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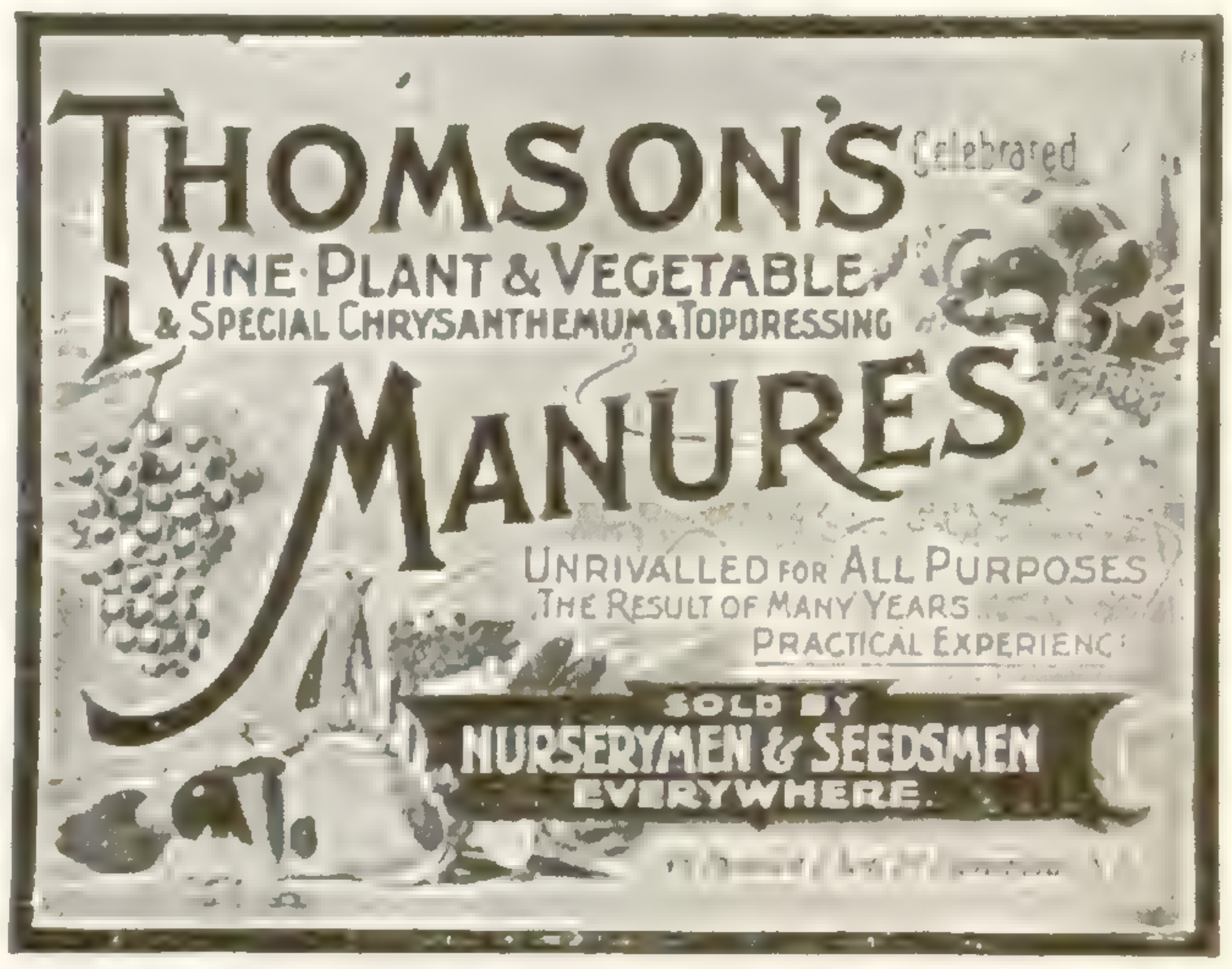

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and placed in pots or tubs. Many of the hardy bamboos could be pressed into service, as well as the variegated New Zealand Flax (Phormium tenax variegata). Euonymuses in variety, Veronica Andersoni variegata, Fatsia (Aralia) Sieboldi, bright-leaved eleagnuses, and the many beautiful tree ivies in bush or standard form, may all be used. One palm, Trachycarpus excelsa, may be utilised, and the hardiest of the evergreen ferns would also serve.

LORD SUFFIELD APPLES.—R. E., Finchley: There appears to be no cause for the decline of the Lord Suffield apples other than that of natural decay. The variety is an early one, and unless there are very special means for keeping the fruits these speedily decay if kept long.

DAMAGE TO PRIVET.—C. L., Staines: The damage is entirely due to the burning action of the hot fermenting manure while in contact with the privets. Some boards or a piece of sheet iron should have been placed in front of the hedge to shield the plants from the newly-carted manure. If the injured plants are cut down close to the ground they will throw up new growths next year, provided they have not been too badly treated, but probably the best plan will be to lift out the injured specimens and plant other good ones in their places at once.

NAMES OF FRUITS.

J. P., Whittlery.—Gravenstein.

G. A., Bicester.—1, Annie Elizabeth; 2, Cox's Pomona.

W. N., Bude.—1, Cox's Pomona; 2, King of the Pippins.

W. N. G., Chislehurst.—1, Warner's King; 2, Golden Noble.

J. H. C., Plymstock.—Not recognised; an apple of no value as submitted.

R. H. D., Sutton.—1, Peasgood's Nonsuch; 2, Lane's Prince Albert; 3, Court Pendu Plat.

F. E. J., Oxford.—1. Gascoigne's Scarlet; 2, Tower of Glamis; 3, Chelmsford Wonder; 4, Hollandbury.

D. L. R., Hastings.—1, Allen's Everlasting; 2, King of the Pippins; 3, Newton Wonder; 4, Wealthy.

G. M. S., Beccles.—1, Waltham Abbey Seedling; 2, Stone's; 3, not recognised, poor specimen; 4, Beurre Diel.

L. S. O., Shrewsbury.—1, Claygate Pearmain; 2, Fearn's Pippin; 3, not recognised; 4, Probably a small example of Lord Derby; 5, Beurre Bosc.

NAMES OF PLANTS.

I. W., Aylesbury.—Vaccinum Vitis-Idæa.

H. B., Southminster.—Leycesteria formosa.

S. E., Lewes.—1, Caryopteris mastacanthus; 2, Restrepia antennifera.

A. M. T., Derby.—1, Symphoricarpus racemosus; 2, Mackaya bella; 3, Maranta zebrina.

G. P., Hull.—We do not recognise the variety as sent; send specimens rather earlier next year.

N. C. A., Netherbury.—1, Plumbago capensis; 2, Cypripedium insigne; 3, Odontoglossum ardentissimum.

A. P. R., Rochester.—1, Cotoneaster rotundifolia; 2, Berberis Darwini; 3, Diplopappus chrysophyllus; 4, Olearia Haasti; 5, Ligustrum lucidum; 6, Pernettya mucronata.

CATALOGUES RECEIVED.

MANSELL AND HATCHER, RAWDON, YORKS.—An illustrated catalogue of orchids with cultural hints. The list is specially prepared for amateurs commencing to cultivate orchids.

M. VIGNERON, OLIVET, ORLEANS, FRANCE.—A small catalogue of the newer roses. Mr. E. Schneider, Ifield Road, Fulham Road, S.W., is the British agent for the firm.

LAXTON BROS., BEDFORD.—A most interesting catalogue of fruits, special interest attaching to the coloured plate and descriptions of new fruits now being introduced by the firm.

H. LANE AND SON, GREAT BERKHAMSTED.—Two catalogues have reached us from this firm, one devoted to hardy trees and shrubs, rhododendrons especially; and the other to fruit trees and roses.

W. J. UNWIN, HISTON, CAMBS.—A descriptive catalogue of sweet peas, including a number of fine novelties, and a coloured plate.

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There is a steady supply of good flowers and a fair demand.

		s. d.	s. d.
Acacia	per pad	6 0	8 0
Adiantum cuneatum	per doz. bun.	4 0	7 0
Asparagus	per doz. bun.	9 0	12 0
Bouvardia	per doz. bun.	4 0	5 0
Cattleyas	per doz.	9 0	12 0
Carnations	per doz.	2 0	3 6
,,	per doz. bun.	6 0	9 0
Chrysanthemums	per doz. bun.	3 0	5 0
,,	per doz. blms.	1 6	3 0
Croton leaves	per bun.	1 0	2 6
French fern	per doz. bun.	2 0	4 0
Gardenias	per doz.	1 6	3 0
Lapagerias	per doz.	1 6	2 6
Lilium auratum	per bun.	1 6	2 6
,, speciosum	per bun.	1 3	1 6
,, longiflorum	per bun.	1 6	2 0
Lily of the Valley	per doz. bun.	5 0	12 0
Marguerites	per doz. bun.	1 6	3 0
Mignonette	per doz. bun.	1 0	2 0
Odontoglossums	per doz. blms.	2 0	3 0
Pelargoniums	per doz. bun.	2 0	6 0
Physalis	per doz. bun.	2 0	4 0
Roses	per doz.	0 9	2 6
Smilax	per doz. trails	2 0	3 0
Statice	per doz. bun.	3 0	4 0
Tuberoses	per doz.	0 4	0 5
Violets	per doz. bun.	1 6	2 6

Fruits.

Business is a little quieter, and supplies are quite sufficient to meet all demands.

		s. d.		s. d.
Apples, English	per bush.	4 6	to	10 0
,, American	per barrel	14 0		24 0
,, Californian	per box	6 0		8 6
,, Nova Scotian	per barrel	14 0		24 0
Bananas	per bun.	3 6		12 0
Cobnuts	per bag.	12 0		
Chestnuts	per bag	10 0		14 0
Cranberries	per case	8 0		10 6
Figs	per doz.	1 0		3 0
Grapes, English	per lb.	0 9		3 6
,, Guernsey	per lb.	0 6		1 3
,, Almeria	per barrel	8 0		15 0
Lemons	per case	16 0		36 0
Melons	each	0 9		3 0
Oranges, Jamaica	per case	8 0		10 6
,, Naples	per case	12 0		16 0
,, Valencia	per case	9 0		12 6
Pears, French	per crate	5 0		12 0
,, English	per bush.	6 0		9 0
,, Californian	per case	16 0		21 0
Pineapples	each	2 0		5 0
Quinces	per case	5 0		10 0

Vegetables.

There are abundant supplies to meet a steady demand.

		s. d.		s. d.
Artichokes, Globe	per doz.	1 6	to	3 0
Beet	per bush.	1 6		2 6
Brussels Sprouts	per ½-bush.	1 3		2 0
Cabbages	per tally	2 0		4 0
Carrots	per doz. bun.	0 9		1 3
Cauliflowers	per doz.	1 6		2 0
Celery	per doz. rolls	6 0		10 6
Cucumbers	per flat	6 0		7 6
Endive	per doz.	0 9		1 6
Lettuce, Cos	per doz.	1 6		2 0
Mint	per doz. bun.	1 0		2 0
Mushrooms	per doz. lb.	7 6		12 0
Mustard and Cress	per doz. pun.	0 6		0 8
Onions	per bag	4 0		4 6
Parsnips	per bag	2 0		3 0
Radishes	per doz. bun.	1 0		1 6
Parsley	per ½-sieve	1 6		2 0
Spinach	per bush.	1 3		2 0
Tomatoes	per doz. lb.	2 0		3 6
,, Guernsey	per doz. lb.	2 0		3 0
Turnips	per doz. bun.	1 0		2 0
Watercress	per doz. bun.	0 3		0 6

LONDON POTATO MARKETS.

Supplies are good, and the demand quiet.

		s. d.		s. d.
British Queen	per ton	60 0	to	70 0
Sharpe's Express	per ton	65 0		70 0
Eclipse	per ton	55 0		60 0
Epicure	per ton	50 0		60 0
King Edward	per ton	60 0		70 0
May Queen	per ton	55 0		65 0
Up-to-Date	per ton	60 0		75 0

FORTHCOMING ENGAGEMENTS.

MONDAY, November 14.—United Horticultural Benefit and Provident Society; Committee meeting.

TUESDAY, November 15.—York Florists' Chrysanthemum Show; three days.

Winchester Chrysanthemum Show.

WEDNESDAY, November 16.—Scottish Horticultural Association's Chrysanthemum Show; four days.

Chester Chrysanthemum Show; two days.

Buxton Chrysanthemum Society.

THURSDAY, November 17.—Barnsley Chrysanthemum Society; two days.

Windsor Chrysanthemum Show.

FRIDAY, November 18.—Bolton Chrysanthemum Society; two days.

MONDAY, November 21.—National Chrysanthemum Society; Floral Committee at Essex Hall, at 3 p.m.; Executive Committee at 7 p.m., at Carr's Restaurant.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea level, 150 feet.

DATE.	SUNSHINE.	TEMPERATURE OF THE AIR.			
1910. OCTOBER 30 TO NOVEMBER 5.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Oct. 30—Sunday	—	50	48	51	46
,, 31—Monday	1 12	45	43	55	43
Nov. 1—Tuesday	2 48	46	45	51	44
,, 2—Wednesday	4 6	42	38	47	39
,, 3—Thursday	0 24	38	37	44	34
,, 4—Friday	4 24	39	39	50	36
,, 5—Saturday	6 12	37	32	46	27
Means	(total) 19 6	42	40	49	38

DATE.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
1910. OCTOBER 30 TO NOVEMBER 5.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Oct. 30—Sunday	trace	51	52	53	38
,, 31—Monday	0·43	49	51	53	41
Nov. 1—Tuesday	0.04	50	51	53	40
,, 2—Wednesday	0.04	46	50	53	33
,, 3—Thursday	0·44	44	48	53	29
,, 4—Friday	—	44	47	52	30
,, 5—Saturday	—	42	43	52	21
Means	(total) 0·95	46	49	52	33

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Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

MR. E. R. BEVAN highly recommends his late HEAD GARDENER; 13 years in his service; life experience in all branches; most capable and trustworthy; 39; married, one child. H. KING, Rempstone, Corfe Castle.

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GARDENER (Head Working where two or more are kept); experienced in all branches; 12 years' excellent reference as Head; left own request; age 45; two in family, youngest 15. HUNT, 9a, Bridewell Street, Devizes, Wilts.

GARDENER (Head Working or Single-handed); life experience in Fruit, Flowers, and Vegetables, both Inside and Out; excellent references; disengaged; married, three in family. PEARCE, Herriard, Basingstoke.

GARDENER (Head Working).—Mr. WATSON can highly recommend C. WALLIS, where two or three are kept; been here 5½ years as Second of five; age 30; married, one child. The Gardens, Bushey Down, Tooting Common.

GARDENER (Head Working); life good practical experience in all branches, Inside and Out, Early and Late Forcing; excellent references. H. TURNER, 62, Star Road, Peterborough.

GARDENER (Head Working); 24 years' practical experience in the cultivation of Flowers, Fruit, and Vegetables Inside and Out; good conception in the alteration and improvement of Gardens and Pleasure Grounds; six years' excellent character; married; age 39. SQUELCH, Keston, Hayes S.O., Kent.

GARDENER (Head Working), age 45; married, no family; experienced in all branches (Inside and Out); excellent testimonials. WM. SMITH, care of Mrs. Clibury, Weather Lane, Astley, Stourport.

GARDENER (Head Working), requires SITUATION; experienced in Vines, Peaches, Melons, Cucumbers, Stove and Greenhouse Plants; Flower and Kitchen Garden, Hardy Fruit, etc.; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working) requires SITUATION; experienced Vines, Peaches, Melons, Fruit, Flowers, Vegetables; 5 years' good character; married. C. N., Clarence Cottage, Broadbridge Heath, Horsham.

GARDENER (Head Working where one or more are kept); thoroughly experienced in all branches, Inside and Out; age 36; married; good references. EVANS, Dinmore Hill Leominster.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; leaving own request; no young children, youngest 14. W. BLOOMFIELD, Staplehurst, Kent.

GARDENER (Head Working, where one or more are kept, or good Single-handed); experienced Inside and Out; good references; abstainer; married; age 29. W. S., Office of this Paper.

GARDENER (Head Working, where two or more are kept); good all round; can be well recommended; married when suited; age 36. PEARCE, 10, Roxwell Road, Shepherd's Bush.

WANTED, SITUATION as HEAD WORKING GARDENER where two or more are kept; lifelong experience in all branches, inside and out; also landscape work; Churchman; abstainer; excellent references; married; one child; North of England preferred; age 30. Apply GARDENER, care of Hy. Wardhaugh, Shotley Bridge, Durham.

GARDENER (Head or good Single-handed), experienced Inside and Out; age 36; married, no family. M., North Road, Lancing, Sussex.

GENTLEMAN recommends GARDENER Head of two or three; life experience in all branches; understands formation of new or renovating old gardens; married, one boy 10 years; age 45. PENNELLS, Phœnix Green, Winchfield, Hants.

GARDENER (Single-handed or otherwise); good all-round man in all branches, or handy man on gentleman's estate; good at either; willing to be useful; active and reliable; good character; age 45; married, one child. OSBORNE, 48, Bradshaw Road, Watford.

GARDENER (Single-handed or otherwise); age 39; single; experienced Inside and Out; willing to be useful; excellent character. GRIFFITHS, 17a, Eynham Road, Shepherd's Bush, London, W.

GARDENER (Second); 14 years' experience in Vines, Peaches, Orchids, Greenhouse, Lawns, Kitchen and Flower Gardens; age 27; good references; married. HOLT. Bankside, Malcolm Road, Coulsdon, Surrey.

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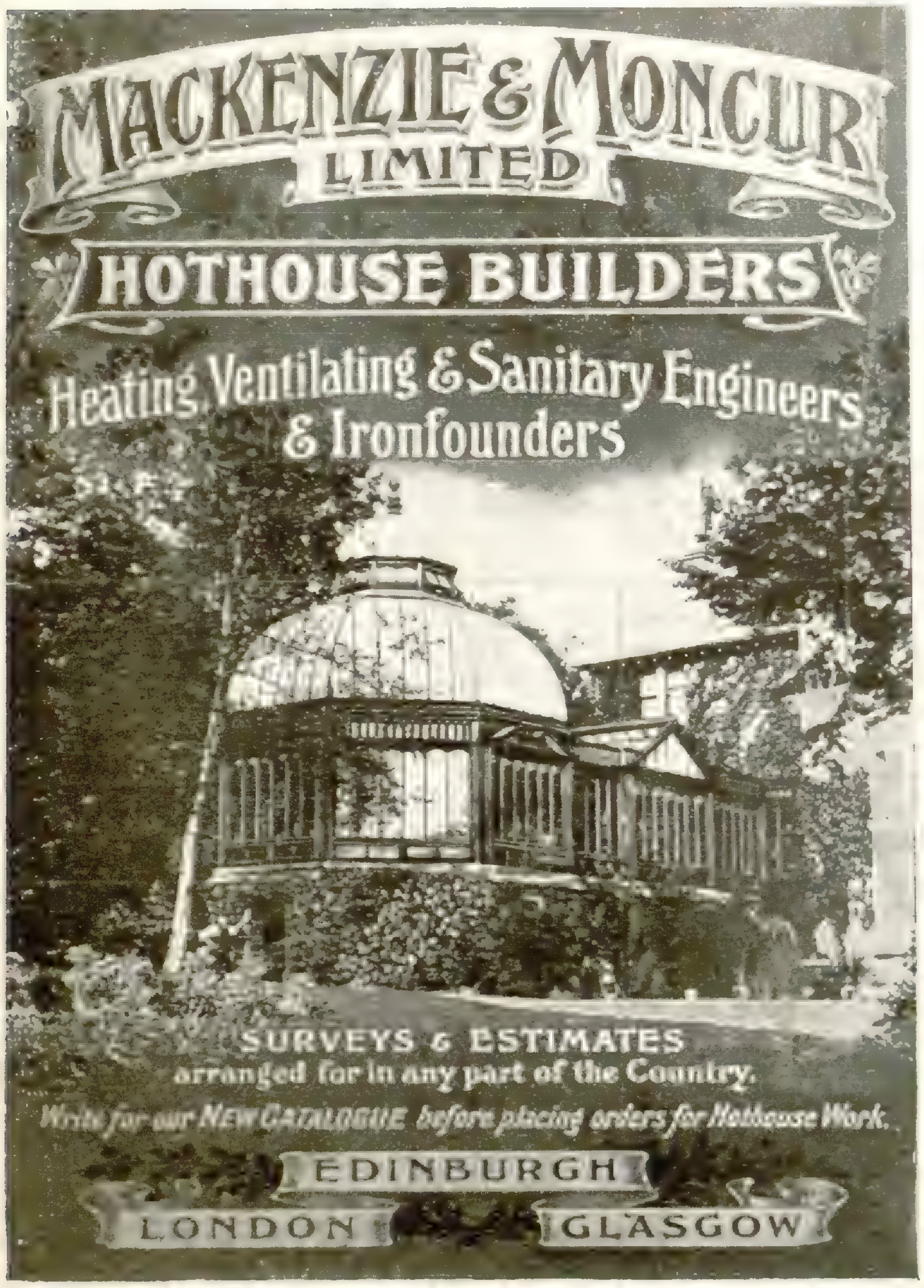

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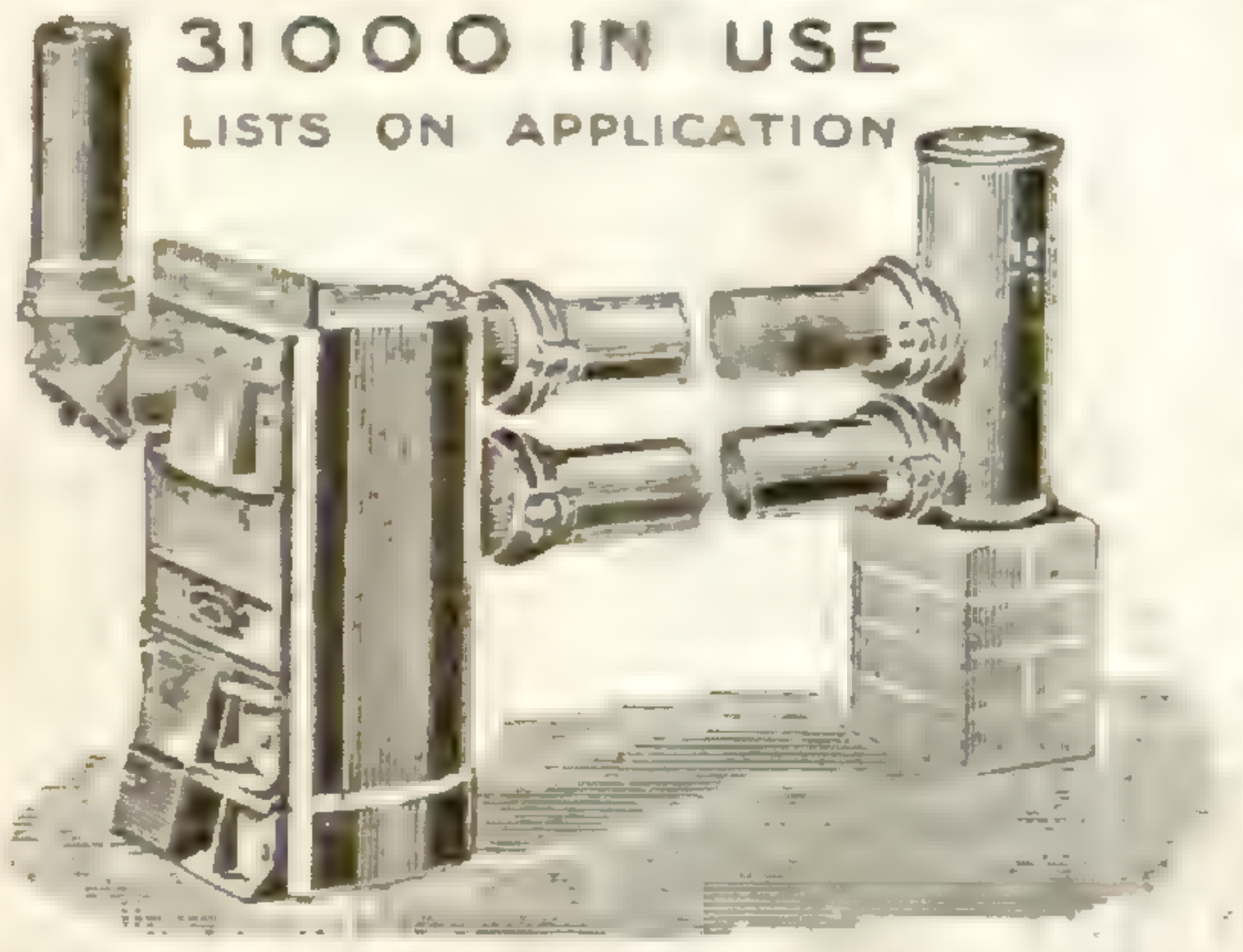

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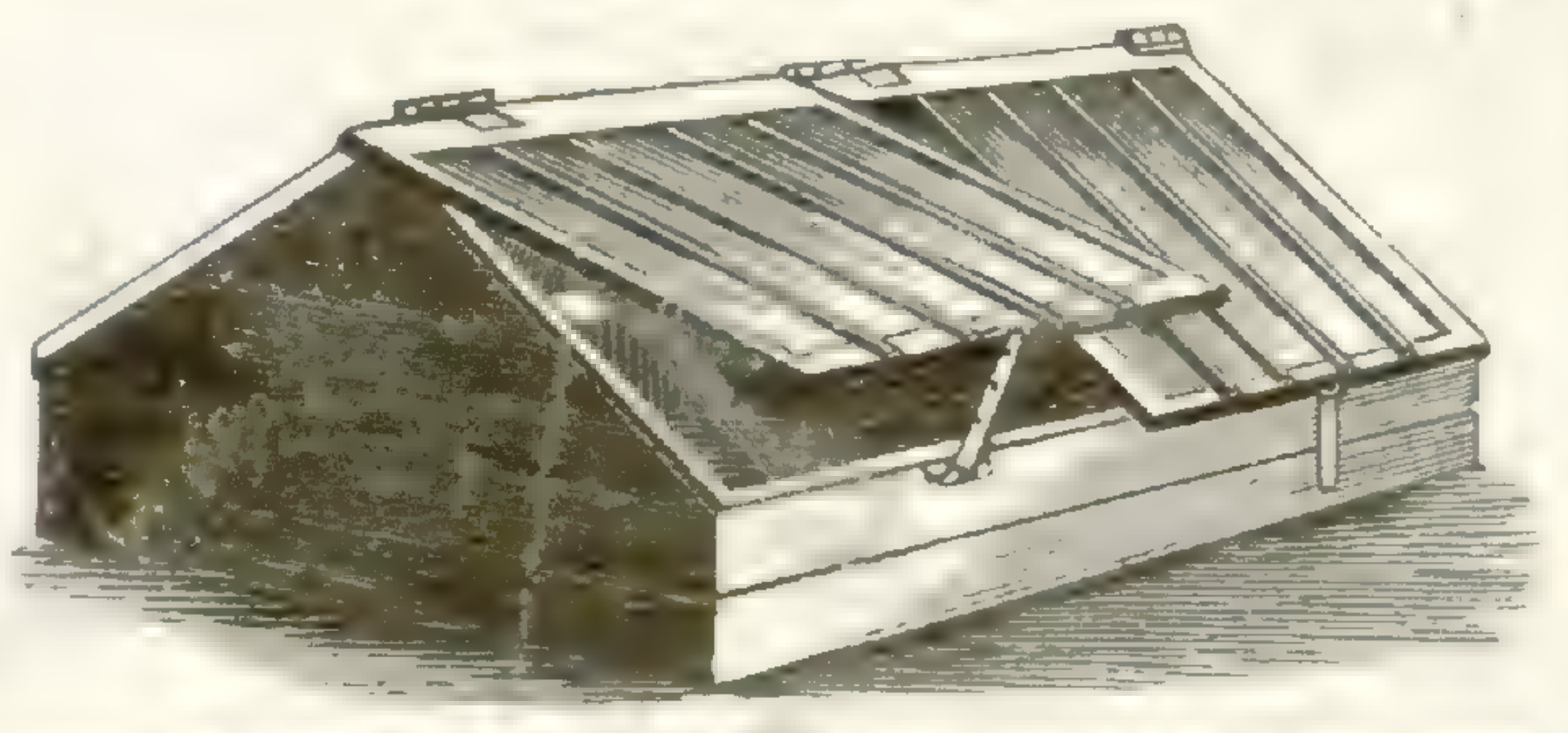

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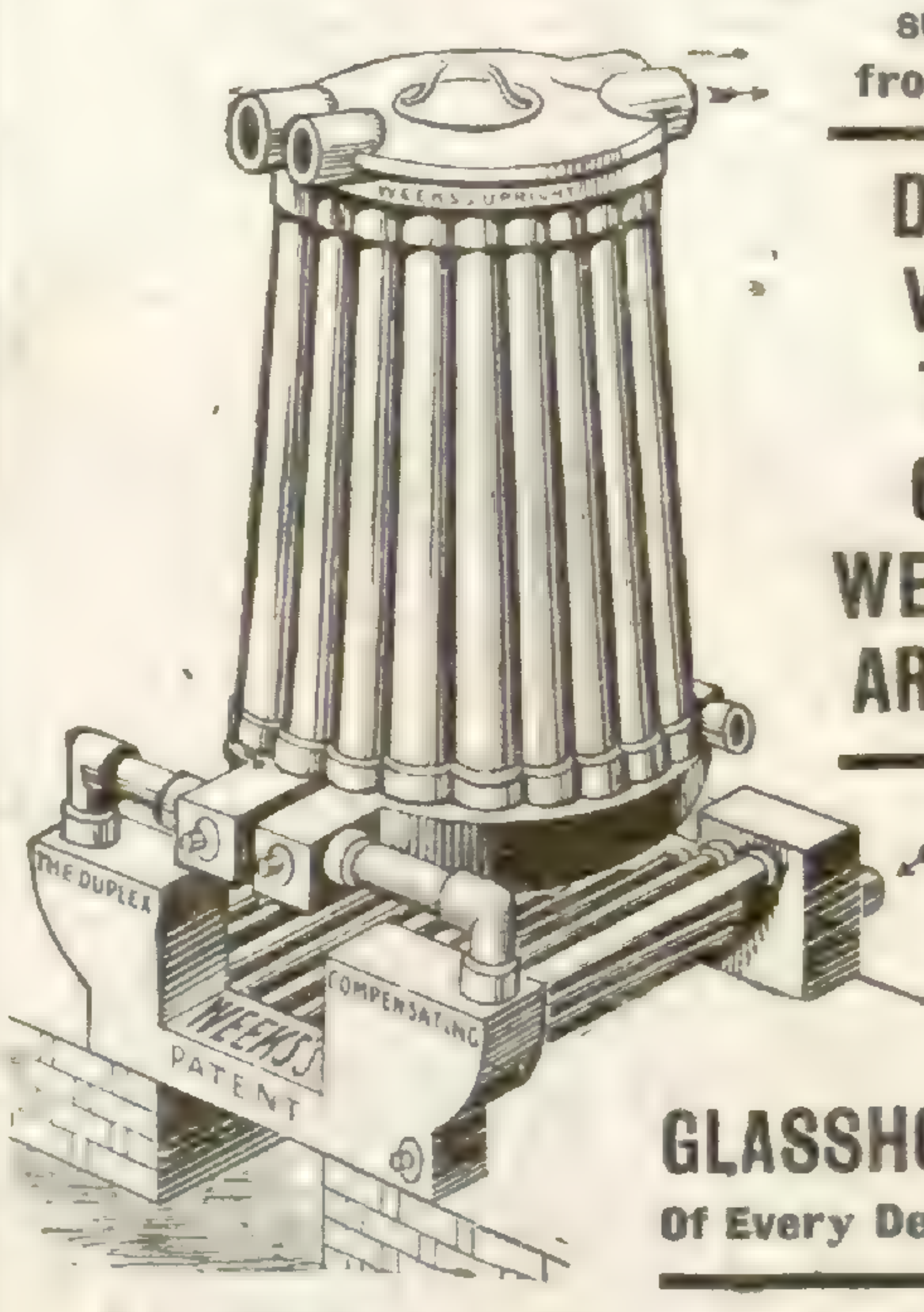

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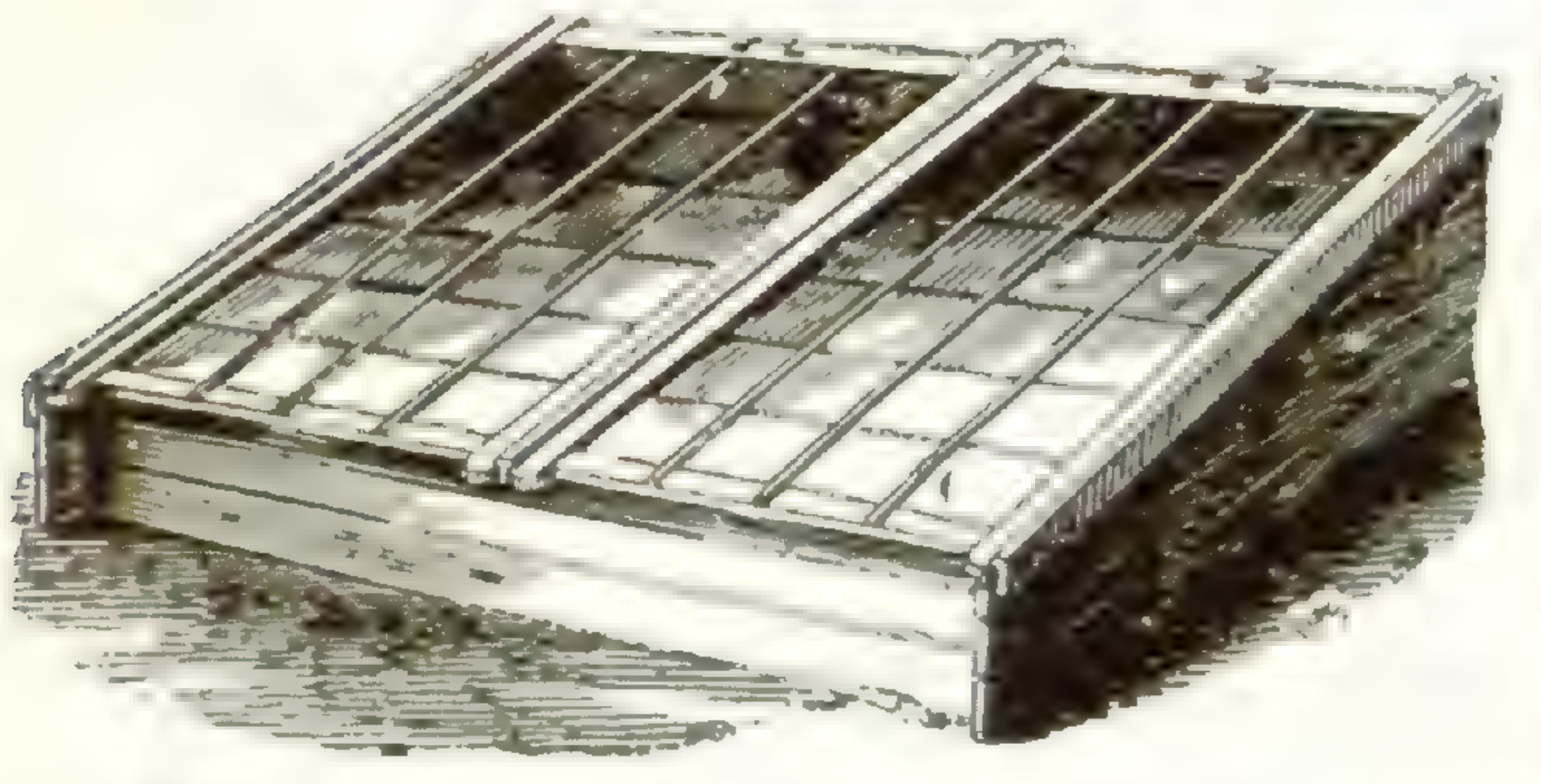

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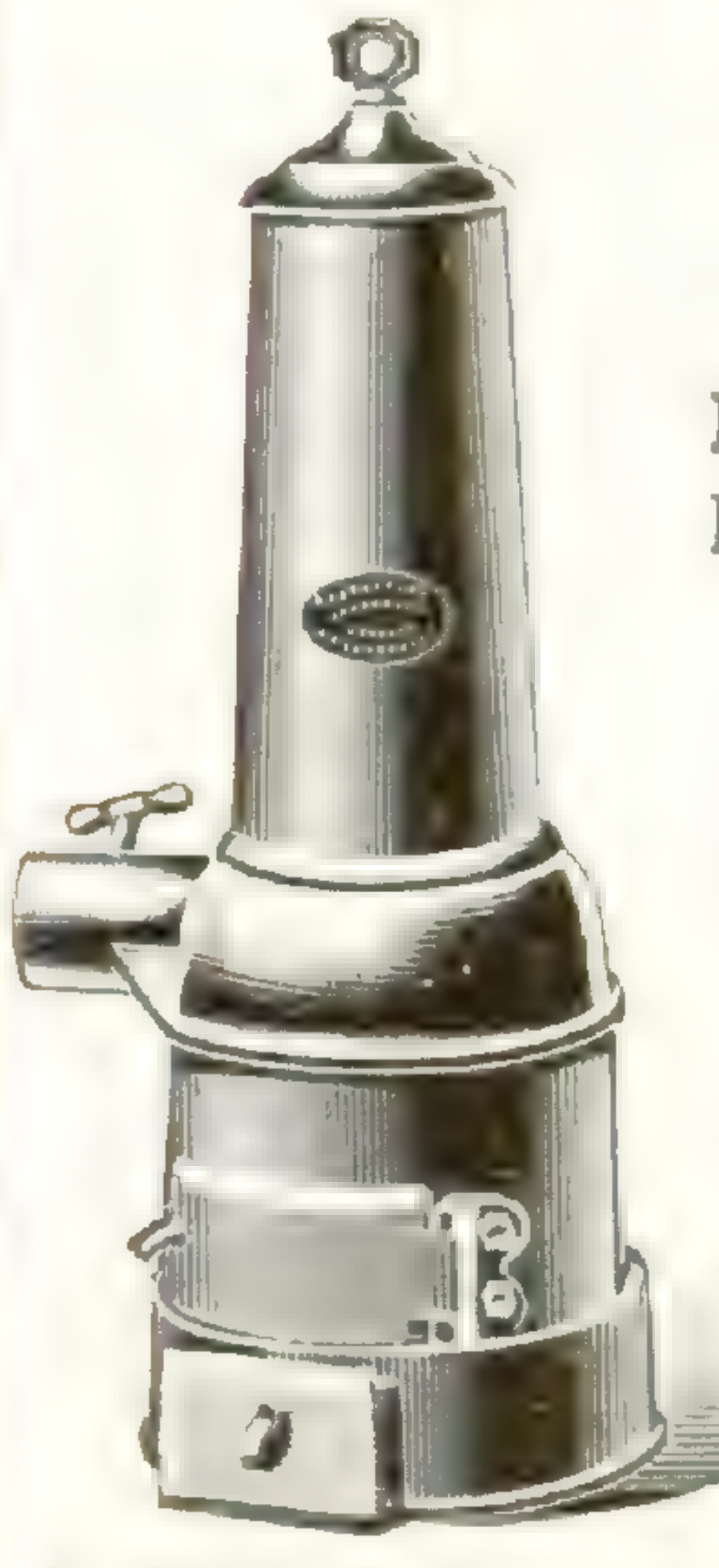

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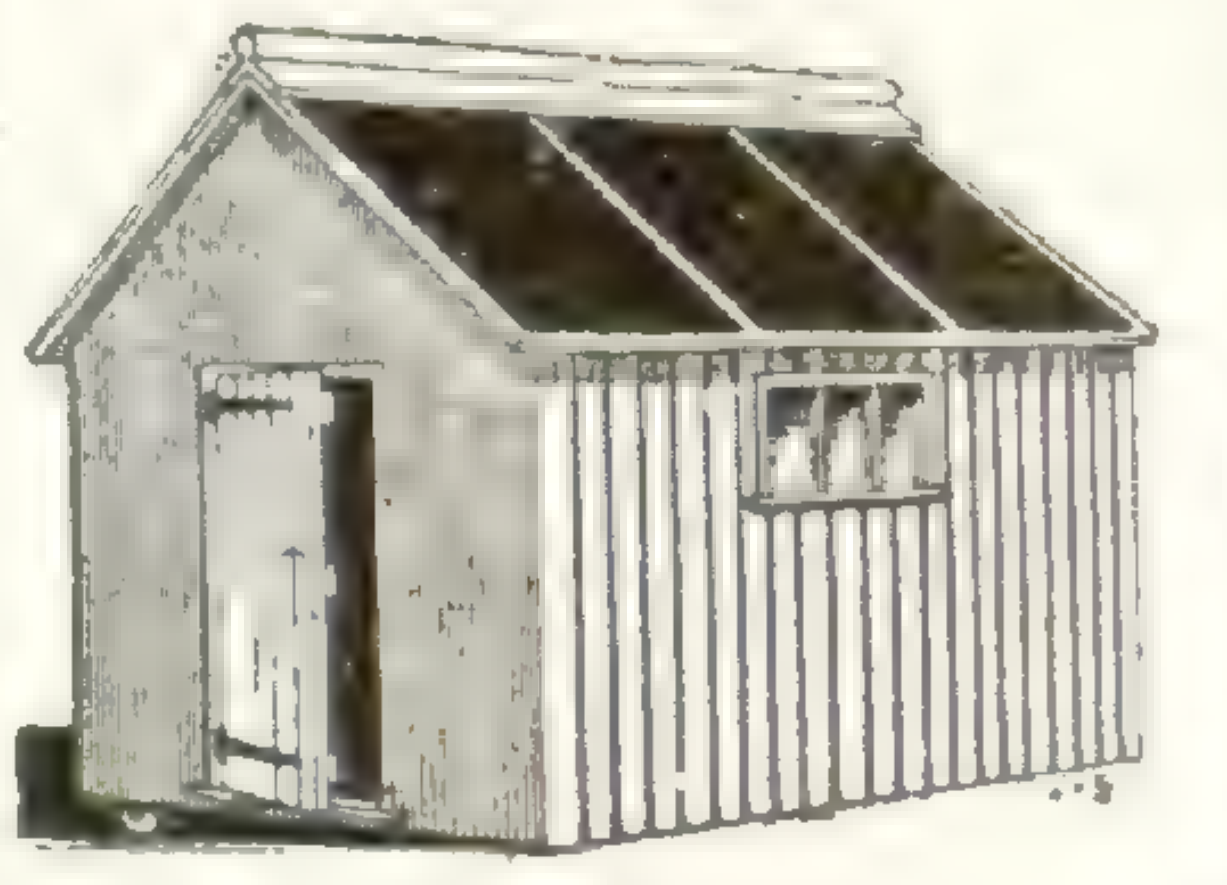

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GARDENER (Head Working where two or more are kept); experienced in all branches; 12 years' excellent reference as Head; left own request; age 45; two in family, youngest 15. HUNT, 9a, Bridewell Street, Devizes, Wilts.

GARDENER (Head Working or Single-handed); life experience in Fruit, Flowers, and Vegetables, both Inside and Out; excellent references, disengaged; married, three in family. PEARCE, Herriard, Basingstoke.

GARDENER (Head Working).—Mr. WATSON can highly recommend C. WALLIS, where two or three are kept; been here 5½ years as Second of five; age 30; married, one child. The Gardens, Bushey Down, Tooting Common.

GARDENER (Head Working); life good practical experience in all branches, Inside and Out, Early and Late Forcing; excellent references. H. TURNER, 62, Star Road, Peterborough.

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GARDENER (Head Working), requires SITUATION; experienced in Vines, Peaches, Melons, Cucumbers, Stove and Greenhouse Plants; Flower and Kitchen Garden, Hardy Fruit, etc.; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working) requires SITUATION; experienced Vines, Peaches, Melons, Fruit, Flowers, Vegetables, 5 years' good character; married. C. N., Clarence Cottage, Broadbridge Heath, Horsham.

GARDENER (Head Working where one or more are kept), thoroughly experienced in all branches, Inside and Out; age 36; married; good references. EVANS, Dinmore Hill Leominster.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; leaving own request; no young children, youngest 14. W. BLOOMFIELD, Staplehurst, Kent.

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GARDENER (Head Working, where one or more are kept, or good single-handed); experienced Inside and Out; good references; abstainer; married; age 29. W. S., Office of this Paper.

GARDENER (Head Working, where two or more are kept); good all round; can be well recommended; married when suited; age 36. PEARCE, 10, Roxwell Road, Shepherd's Bush.

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GARDENER (Head or good Single-handed); experienced Inside and Out; age 36; married, no family. M., North Road, Lancing, Sussex.

GENTLEMAN recommends GARDENER (Head of two or three); life experience in all branches; understands formation of new or renovating old gardens; married, one boy 10 years; age 45. PENNELLS, Phœnix Green, Winchfield, Hants.

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IMPROVER, age 18, seeks SITUATION; 3½ years' experience, Inside and Out; good references. Apply JAMES URQUHART, Gardener, Fairy Hill, Reynoldston, Glam.

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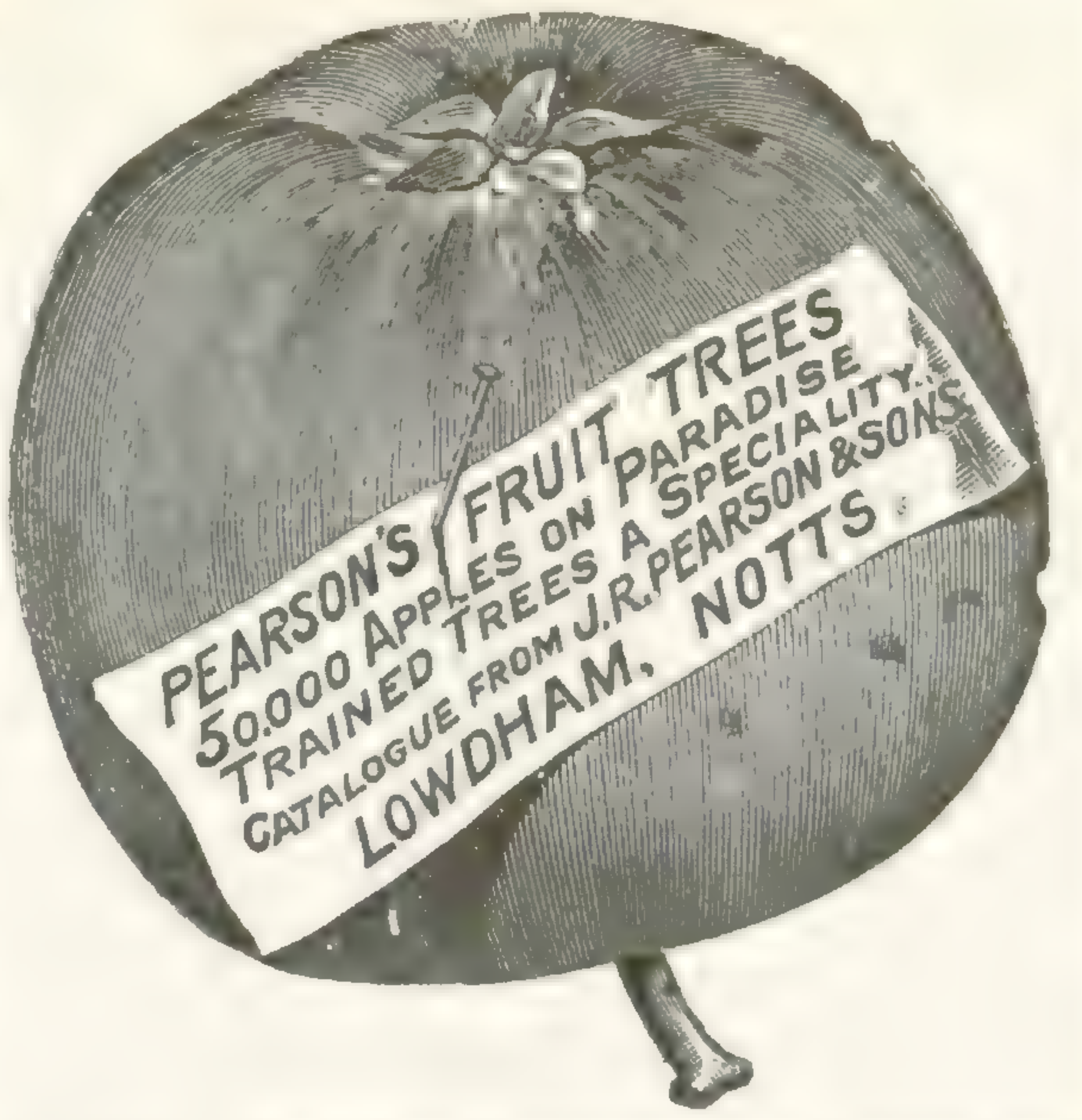
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VOL. LIII.—No. 2,977. SATURDAY, NOVEMBER 19, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Autumn Exhibitions.

The exhibitions that have been held during the present month have, as a whole, been highly successful, and those who fully appreciate the importance of the competitive gatherings that belong to the second half of the autumn season, can hardly have failed to derive much gratification from the spirited contests and the high quality that were evident on all sides. Remembering what has been accomplished in the corresponding period of some previous years, we do not regard the present season as having established a record, but we suggest that it is one of the most satisfactory within recent years. Chrysanthemums, if not equal in every respect to those shown when these flowers were at the zenith of their popularity, were staged in larger numbers than for some years past, and in merit they were considerably above the average of the past decade. From the opening of the chrysanthemum season at Brighton to the great exhibition which was held in the Waverley Market during the second half of the past week, the several classes of flowers have been splendidly represented. The exhibition of the National Chrysanthemum Society was, as duly recorded in these pages, the finest the society has held for some years past. The blooms of Japanese varieties have for the most part been large in size, bright in colour, and high in finish; and the incurved varieties have been remarkably well shown. In the latter there was a marked improvement, owing evidently to a fuller appreciation on the part of cultivators of high finish, so essential in the case of the incurved blooms. It is satisfactory to be able to record that much interest continues to be taken in what is commonly known as the decorative sections, as the result of the increased provisions that are now made for them at the principal exhibitions. At Brighton, Bradford, Cambridge, Hitchin, York, and some other of the principal exhibitions at which we have had the pleasure of being present, the single and double varieties specially adapted for decorative purposes have been so largely and tastefully staged as to constitute features that were attractive and of much educational value. Groups have been somewhat at a standstill, and in many cases have failed to attract attention commensurate with their merits. It might be well, in some instances, to make a change, and for a season or two invite groups of naturally grown decorative varieties. There is no way in which they appear to greater advantage than in tastefully arranged groups, and such groups would be appreciated by visitors after enjoying to the full the large display of exhibition blooms of Japanese and incurved varieties that is usually provided. While it is quite proper that the National Chrysanthemum Society should devote the whole of its energies to the extension and improvement of the cultivation of chrysanthemums and the encouragement of raisers of new varieties, it is important that provincial societies holding exhibitions in the autumn should consider whether it would not be advantageous to them to make their annual gatherings more comprehensive than is frequently the case. From close observation over a wide area, we have no doubt upon this point. We have had ample evidence on all sides that those societies have been the most successful which have made their exhibitions more varied by providing classes for winter-flowering carnations, begonias, primulas, Roman hyacinths, lily of the valley, salvias, and other things that might be mentioned. The chrysanthemum in its varied forms should be the paramount flower at the autumn exhibitions—and so far as possible the prizes should be sufficient to afford adequate encouragement to cultivators. In the case of the leading provincial societies it would be an advantage to provide open classes with prizes sufficiently liberal to induce cultivators from a distance to take part in the competition. With regard to providing classes for miscellaneous subjects, such as those mentioned, it need hardly be said that all the skilful cultivators in a district do not grow chrysanthemums for competitive purposes, but they may grow carnations or some other of the flowers mentioned to a high degree of perfection, and in giving them an opportunity of displaying the products of their skill their interest in the society and its work is stimulated, and the exhibition is rendered more attractive to the general public. Beyond that the cultivation of flowers of a high degree of utility for decorative purposes at a dull season of the year is encouraged. Especially does it appear desirable that societies should provide such classes for perpetual-flowering carnations as would ensure their full representation to give visitors an opportunity of becoming acquainted with the best varieties. Knowing how plentiful are the easily-grown orchids flowering at this season of the year, it is difficult to repress a feeling of surprise that these fascinating plants so seldom have classes provided for them in the schedules of the autumn shows. Twenty years or so ago they were liberally encouraged by the Brixton Hill Chrysanthemum Society, and they were so largely shown as to form a glorious feature; and, with so much additional material at com-

MR. G. P. BERRY.

mand, as the result of the activities of the hybridists, it is reasonable to infer that even finer displays might be produced at the present time than was possible at Brixton Hill two decades ago. A few societies provide one or two classes for palms, and it would be an advantage were the practice to become more general, for a few palms judiciously placed on the stages devoted to cut blooms of chrysanthemums add very greatly to the general effect by preventing the air of monotony that pervades tables devoted wholly to cut flowers. We might write at length of the importance of providing sufficient classes to ensure a large display of fruit and liberal contributions of vegetables, but we have said sufficient to show that we consider it essential that the shows held in the autumn should include all the products of the plant house and garden that are suitable for exhibition at that season.

Mr. G. P. Berry, whose portrait is given herewith, is one of the foremost of the many able men engaged in giving instruction in horticulture, and occupied a prominent position among those who contributed to the success of the Northern Counties Fruit Congress, recently held at Hexham. To Mr. Berry was given the honour of delivering the opening address at the first of the six meetings that were held during the three days over which the Congress extended, and he fully justified the course taken by the committee in the preparation of the programme. His address was on "Fruit Storage and Fruit Bottling," and in this he afforded unmistakable proofs of his being thoroughly acquainted with both the scientific and practical sides of these two important methods of keeping the various kinds of fruit for use some time after it has been gathered. Mr. Berry had for the purpose of the Congress prepared a paper, in which the various points were set forth in considerable detail, but, instead of reading it, he gave a summary, and this was so remarkable for its clearness and fulness of information as to evoke the warmest expression of approval from the large audience. He was not less successful in the part taken in the discussion that followed the reading of papers at subsequent meetings. At the present time Mr. Berry is the Horticultural Instructor to the Edinburgh and East of Scotland College of Agriculture, and his advisory work extends over a large area in the East of Scotland. For some years previous to occupying his present position, he was Horticultural Instructor to Armstrong College for the four northern counties of England. Previous to engaging in educational work of a public character, Mr. Berry was several years in the gardens of Gordon Castle, the Scottish seat of the Duke of Richmond and Gordon, under that able gardener, Mr. Webster, and, judging from his subsequent career, he was careful to take full advantage of the opportunities he had for the acquisition of a thorough acquaintance with the science and practice of horticulture.

Hardy Trees and Shrubs at Syon House.—We have much pleasure in acknowledging a copy of the catalogue of hardy trees and shrubs growing in the grounds of Syon House, which has been compiled by Mr. A. Bruce Jackson, for it is a model of what such a catalogue should be, and a pleasant reminder of the important part these great gardens have taken in maintaining an interest in the ornamental aspects of arboriculture. There is an MS. catalogue in existence which was compiled in 1849, of the trees and shrubs at Syon, and in this there are particulars of over 800 specimens. This catalogue cannot, however, be considered a guide to the collection as it exists at the present time, for many of the trees have died, and additions have been made. The catalogue now before us is, the author states, the outcome of a careful survey of the grounds made in the autumn of 1899 at the request of the Duchess of Northumberland. All the trees have been re-measured with Stanley's apocemometer, and the identification carefully checked, and it is interesting to compare the measurements of the more remarkable specimens with those given by Loudon in his "Arboretum et Fruiticetum Britannicum." The nomenclature is remarkable for the care that has been taken to ensure its correctness,and the notes accompanying the names of the several hundred trees are of much interest. The catalogue is published by Messrs. West, Newman, and Co., 54, Hatton Garden, London, and Mr. A. Bruce Jackson may be heartily congratulated on the success he has achieved in its compilation.

Mr. Frank Cant, whose fame as a rosarian is well known throughout the United Kingdom, and indeed beyond its boundaries, has been elected Mayor of Colchester, and his election by the members of the Corporation to this important position is immensely popular among all classes of the community resident within the borough. During the past nine years Mr. Cant has represented the North Ward in the Borough Council, and has rendered excellent service during this period, more especially as a member of various committees. The Deputy Mayor, in proposing the election of Mr. Cant, said they all knew and appreciated the splendid work he had accomplished on behalf of his native town, and they recognised in him a business man of great ability and an able and honourable colleague, who had the courage of his convictions, and also the most genial of temperaments. So far as we are aware, Mr. Cant is the first professional rosarian who has had the honour of occupying the high position of Mayor in his native town, and we wish him a pleasant and successful year of office.

National Chrysanthemum Society.—We would remind our readers that the annual dinner of the National Chrysanthemum Society will be held at the Holborn Restaurant on Tuesday, November 29. The President, Sir Albert Rollit, D.C.L., LL.D., will preside, and the function is fixed at 6.15 for 6.45 p.m. Tickets for the dinner, 5s. each, may be obtained from the Secretary, Mr. Richard A. Witty, 72, Savernake Road, Gospel Oak, London, N.W.

Rockery Margin to Strawberry Bed.—Of late years much has been done with a view to make the quarters devoted to fruits and vegetables attractive as well as useful, and we have illustrated several kitchen gardens in which herbaceous plants have been used with good effect. We have now the pleasure of giving (page 917) an illustration of a rockery margin to a strawberry bed, and the charming effect produced is so admirably shown as to render description unnecessary. The ground on which the strawberry plants are growing is considerably above the general level, and it was a good idea to form a margin of rockwork to keep the soil in position, and then to furnish it with plants that happily combine freedom of growth with floral beauty.

Presentations at Paris.—At the luncheon given to the jury at the recent International Chrysanthemum Show and Congress at Paris, Sir Albert Rollit, President of the National Chrysanthemum Society, in a most eloquent speech, publicly thanked M. Viger, President of the National Horticultural Society of France, and M. Max de la Rocheterie, President of the French Chrysanthemum Society, for their hospitality and kindly welcome to English Chrysanthemum men visiting the French shows during the past few years. Sir Albert presented to each of these gentlemen the silver-gilt medal of the N.C.S., as a small token of his high appreciation of their kindness, and promised that at the next annual meeting of the N.C.S. the title of honorary member of the society should be conferred upon them.

Small Fruits in Great Britain.—According to the official returns for the current year, the area under small fruits in Great Britain has declined for the first time since 1898, the decrease amounting to nearly 3,000 acres, or 3 per cent.

Coventry Flower Show.—We regret to learn that the financial results of the exhibition held by the newly-constituted Coventry and Warwickshire Horticultural Society in the course of the past summer were so unsatisfactory that the committee have had to face a deficit of £150. Fortunately, they have a guarantee fund of £73 to fall back upon, which it has been decided to call up, and this, with some other amounts that have been obtained, will reduce the deficit to be met by the committee to £25. It was prudent to have a guarantee fund, but it appears to us hardly wise to have held a flower show, especially the first, on lines involving an expenditure of considerably over £500, with a subscription list of less than £100. Of the desirability of having an annual horticultural exhibition in an important centre such as Coventry, there can be no doubt, but to avoid the unpleasant experiences of this year the speculative element should be eliminated by obtaining a much larger subscription list. It was unanimously decided to clear up this year's accounts before entering into arrangements for another exhibition.

Horticultural Club.—The next house dinner of the club will take place on Tuesday, the 22nd inst., at six p.m., at the Hotel Windsor, when Mr. W. W. Pettigrew, superintendent of the Cardiff Public Parks Department, will give a lecture on "The Aim and Scope of a Public Parks Department." The lecture will be illustrated with lantern slides.

Nerine Crosses.—Mr. A. Worsley showed a spike of Nerine Haylocki at a recent meeting of the R.H.S. Scientific Committee, to illustrate the fact that reciprocal crosses are not always of precisely the same nature. N. Manselli is the result of the reciprocal cross in this case, but it differs in colour from N. Haylocki. Dr. Keeble pointed out that such differences may arise because the pollen may not carry the chromoplasts. In addition to this, it is not certain that the same forms of the species were used in the making of both crosses, and if different forms were used the result would naturally be different.

"**Plants in Congenial Positions**" is the subject of a lecture to be delivered before the Royal Horticultural Society on Tuesday next, November 22, at three o'clock, by Mr. James Hudson, V.M.H., gardener to Leopold de Rothschild, Esq., Gunnersbury House, Acton.

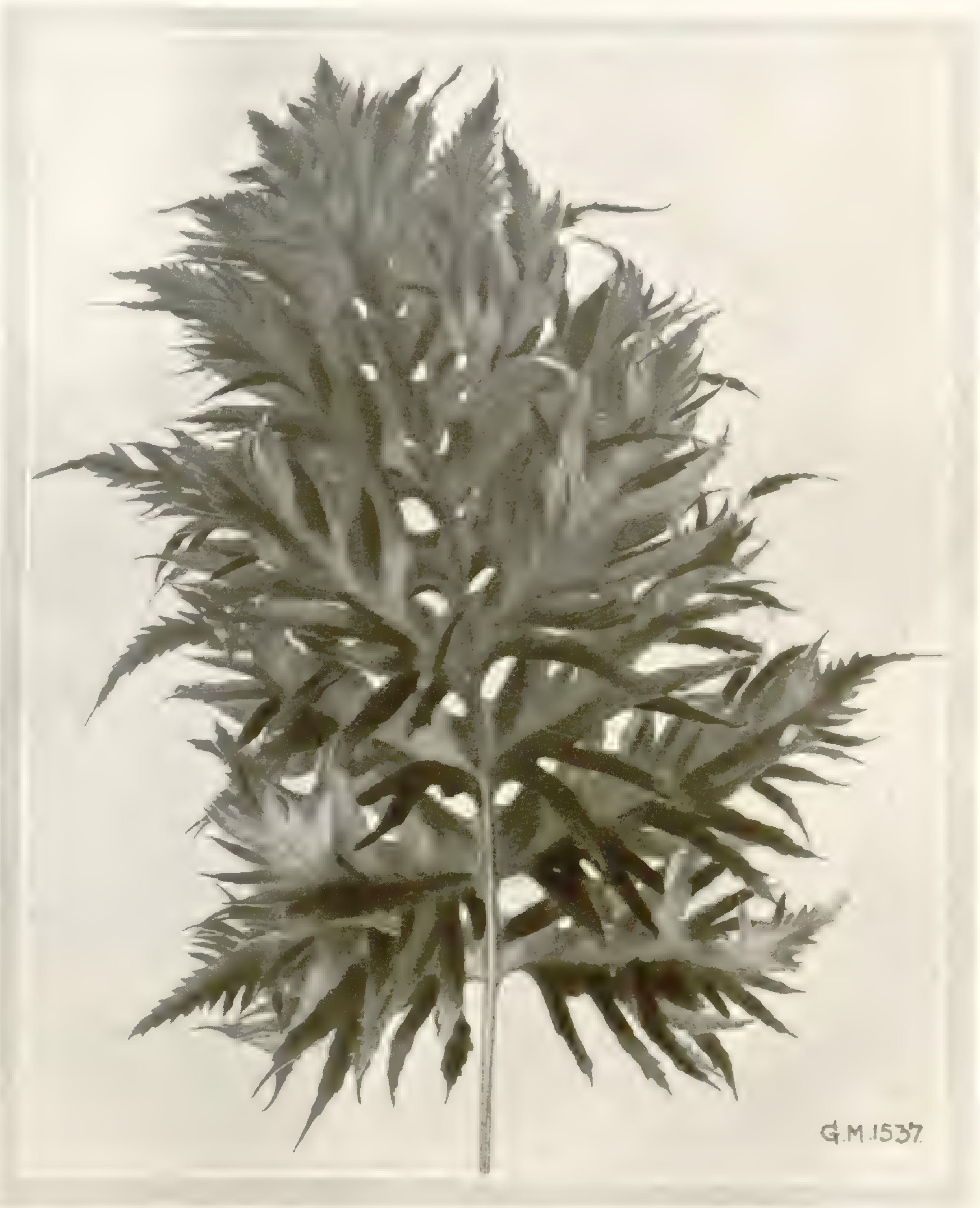
THE COMMON POLYPODY AS A DECORATIVE PLANT.

The Common Polypody (Polypodium vulgare) is well known to all country ramblers with an eye for pretty wayside plants, as a fern which fringes the tops of old walls with its once-divided fronds, nestles in the forks, and fringes the branches of old trees, especially of pollards, and peeps out in profusion from the hedge-tops or roadside banks, often for miles at a stretch in ferny counties where it is thoroughly at home. Examined more closely, it is found that these fronds spring from a creeping, fleshy root-stock as thick as one's little finger, and that these are anchored in open friable leafy soil in the hedgerows, in deposits of leaf-mould on the wall tops, and in the tree hollows, but also in many cases on wall sides and on tree branches, are firmly fixed in chinks in the former, and in mossy superficial growths in the latter; its size and development being in conformity with the root accommodation the situation provides, tiny, and stunted in the dry chink, and a couple of feet long in the frond in the hedgerow or pollard hollow. Normally, the frond is very simply constructed, a long bare stalk being continued as a midrib, whence on both sides springs a row of oblong bluntly-pointed sub-divisions with broad basis at point of attachment, so that they do not spring quite apart from each other, but jointly form a narrow wing each side the midrib in question, that is, as botanists term it, pinnatifid, or nearly pinnate, instead of pinnate or quite separate. Towards the top of the frond these divisions taper to form eventually a bluntish terminal.

In rambling about, however, it will be noted that this description does not always apply, and we come across specimens or even colonies where the blunt points become acute, and, instead of the regularly tapering tip we may find the fronds finish with a pinna set on end. In some parts, Wales and Ireland especially, the side divisions are frequently found to be widened and more or less divided again, and not infrequently in many other places the tips of most of the pinnæ divide into two or three (P. v. bifidum), indicating a capacity for producing tassels, which brings us to the decorative part of our article. All these minor variations indicate that the plant is by no means constant to one type, but they would hardly suggest the wonderful extent to which divergence has gone in numerous instances in this species. One form known as the Welsh Polypody (P. v. cambricum), because originally found wild in Wales, has been known for centuries. In this there is an utter transformation. The pinnæ are very long, wide, and overlapping, owing to their division into long-pointed segments, and so leafy in character that all resemblance to the normal is lost and a highly-decorative and beautiful plant is the result, the fronds being almost as wide as they are long, and growing very large.

During the last century some even more beautiful varieties on similar lines were found in the Lake District. P. v. c. Barrowi, with much more leafy fronds and longer and more acute divisions (vide illustration); P. v. c. Prestoni, of denser and more feathery make; P. v. c. Hadwini, of thinner texture and flatter, but otherwise closely akin, all three of which are ferny gems of the first water. The tendency to form tassels, shown in "bifidum," has found wonderfully increased expression in P. v. cristatum, with fine tassels at all tips; P. v. bifido-multifidum, with long, narrow fronds and tassels on blunt bifidum lines, but thorough; P. v. grandiceps Forster, Fox, and Parker, the first two with heavy bunch tassels, and the third practically with each frond one great branching tassel on an all but bare stalk.

In addition to the feathery or plumose cambricums above described, all of which are quite barren and papery in texture, we have P. v. pulcherrimum, with thrice-divided fronds, P. v. semilacerum and omnilacerum, with sharply pointed divided pinnæ on extremely ornate lines when they are thoroughly at home, which unhappily is rarely the case, and P. v. cornubiense or elegantissimum, which is a very eccentric variety, bearing fronds of three kinds, viz., normal, much-divided on coarsish lines, and much more divided on extremely fine lines. P. v. trichomanoides representing this last character with but little reversion to the others, as a selected improvement on the parent.



POLYPODIUM VULGARE CAMBRICUM BARROWI.

Many other varieties might be cited, but we are satisfied to recommend all these particularly as desirable plants for pan or suspended basket culture in cold conservatories, or in the open on rockwork under sheltered conditions. Grown in shallow, well-drained pans, stood on, but not in, saucers, in which water is always present, and provided with an open soil consisting mainly of leaf-mould, preferably oak, their travelling root-stocks spread over the surface, and produce a mass of the characteristic frondage such as no decorative foliage plant can excel. They are, of course, as native plants, quite immune from frost, and are so perfectly evergreen as to be particularly fitted for winter effect, the old fronds only dying late in the second season when the fresh set arises to replace them. In planting acquired specimens, the root-stocks should be kept on the surface and not buried, the attached fibrous roots being well spread out in the leafy compost beneath. Treated thus, all these will well repay culture, and cannot be too highly recommended.

Chas. T. Druery, V.M.H., F.L.S.

ACER CARPINIFOLIUM.

The Hornbeam-leaved Maple, Acer carpinifolium, is very different in appearance from the ordinary forms of acer, for the leaves resemble those of Carpinus betulus, the Hornbeam, more closely than those of the common maple, Acer campestre. It is a Japanese species, and was described many years ago by Siebold and Zuccarini. Travellers describe it as being a rather rare tree in Japanese forests, and it does not appear to be included among trees which are of commercial importance on account of their timber. Under cultivation it is of moderately quick growth, but the branches are slender, and it does not seem as if it would make very rapid progress in the girth of the trunk. The more or less ovate leaves are 4½ inches long and 2 inches wide, with deeply cut margins and a long drawn out apex. The upper surface is glabrous and the under-surface hairy, particularly on the nerves and in the axils of the veins. It thrives in rather light loamy soil, and is less subject to injury from late frosts than the palmatum group of the genus. Though it is doubtful whether any very large example is to be found in this country, nice, well-grown specimens are occasionally seen. It is one of Mr. Charles Maries' introductions, and was first grown by the Messrs. Veitch, of Chelsea.

W. D.

TOP-DRESSING FOR LAWNS.

With an increasing interest in tennis, croquet, and bowls, there is a correspondingly greater demand for lawns of healthy grasses, free from leguminous plants, daisies, and other obnoxious weeds, than was formerly the case; so that ground which had been poverty-stricken through the extraction of plant food from the soil during a long term of years, is being enriched and improved by various means.

In dealing with very poor ground, sickly grasses, and healthy weeds, the first step should be to clear out the latter by the use of some reliable preparation for this purpose: then set about feeding the grasses. In a wide experience I have seen many things employed with this object in view, and different results obtained on different soils. Light, sandy formations are the most difficult to deal with once they become poverty-stricken, and perhaps the best way of treating them is to lift the turf, heavily manure with well-decomposed farmyard dung, dig it in, re-level, solidify, and return the turf, giving a light dressing of slaked lime in February or March. During the growing season the ground should be mown twice a week, without the box on the machine. Under this treatment it is surprising what can be done in a single season to improve the herbage. If the mowings are allowed to remain on the ground for a few seasons, and an occasional application of lime given, a perfect lawn, so far as the growth of grasses is concerned, will be secured.

When it is outside the question to lift the turf and treat it in this way, owing to pressure of work in other quarters, I have found that much can be done to enrich the soil by top-dressing with horse droppings at the end of November and beginning of December. In order to break them up thoroughly they should be passed through a half-inch sieve and then evenly spread over the ground to a depth of not more than a quarter of an inch. In passing the droppings through the sieve all strawy matter is removed, and there is nothing to rake off in March when the ground is brushed and the lime applied. Brewers' grains mixed with the horse-droppings tend to invigorate the herbage, and on heavy soils a certain amount of sand added to the mixture will be advantageous.

The heavier soils are apt to become moss-grown when allowed to get into a barren condition, but this is easily removed by an application of ground sulphate of iron at the rate of 1½oz. to the square yard. Formerly gardeners were advised to pull the moss up with rakes and then surface dress with rich soil and grass seeds; but this method is crude, and, so far as raking went, often did more harm than good. In using the sulphate of iron we are not only killing the moss, which eventually decomposes and feeds the other herbage, but we are supplying a valuable grass food constituent, and securing a richer dark green colour. On both heavy and light soils frequent mowing without the box on the machine is a sure road to a grass lawn of unusual thickness and robust health.

For agricultural land leguminous plants are valuable in grass for feeding purposes, and phosphatic manures are specially suited to foster this class of herbage: but on no account should they be employed on lawns. Again, as iron acts inimically on the phosphates in the soil, it should not be used on agricultural land. For lawns, nitrogen, potash, lime, and iron are the plant foods to use to assist the growth of grasses, and these in accordance with the condition and chemical composition of the soils. No lime is required on calcareous mediums, nor iron where this exceeds 4 per cent. Few soils, however, are so rich in potash that an occasional dressing of potassic sulphate to lawns is not marked by a decided improvement in the vigour and appearance of the finer grasses. One and a half ounces to the square yard is the limit of the quantity to employ. Muriate of potash is sometimes used instead of the sulphate, but this contains more chlorine than is good for the plants. These chemical manures, however, may be regarded simply as auxiliaries once the soil contains a fair amount of organic matter, and good supplementary dressings of horse droppings or any other decomposing organic materials rich in nitrogen are given.

If anyone is fortunate enough to possess a tank containing the drainings from the farmyard manure heap, he has the essence of the very best materials for rejuvenating his turf. This, diluted and put on the lawn in December and again in January, and followed in March with 4oz. to the square yard of slaked lime, will induce the grass to grow apace. The strength and frequency of applications of liquid manure can be regulated in accordance with the needs of the herbage and the kind of turf required.

Hibernia.

FRUIT TREES AND SPRING FROSTS.

The following interesting paper was contributed to the Northern Counties Fruit Congress at Hexham, by Mr. S. T. Parkinson, B.Sc., of Wye College.

The problem of protection from spring frosts is a very old one. It has long been known that orchards suffer a very considerable amount of damage from frosts in the spring. Methods for minimising this have been tried from very early times. Perhaps one of the oldest is the well known method of lighting bonfires: this was even mentioned by Pliny about eighteen hundred and fifty years ago. He says: "The moon, however, is productive of no noxious effects at either of these periods, except when the nights are clear, and every movement of the air is lulled; for so long as clouds prevail, or the wind is blowing, the night dews never fall. And then, besides, there are certain remedies to counteract these noxious influences. When you have reason to fear these influences, make bonfires in the fields and vineyards of cuttings or heaps of chaff, or else of the weeds that have been rooted up: the smoke will act as a preservative."

It is curious how little the common idea has changed since his time. The moon is still regarded in many quarters as the cause of these frosts, though modern investigations lend no support to this view. This method of making bonfires has been developed by Lemstron in Finland, where early frosts do an enormous amount of harm to all crops.

Injury by frosts manifests itself in many ways, thus we may have discolouration and death of local parts of the softer parts of plants, as when the centres of strawberry flowers turn black and perish, or it may result in the formation of blisters, furrows, or clefts, which are generally to be observed in the hardy or woody portion.

The spring frosts that injure our fruit crops are often associated with the formation of ice in the plant. Where this takes place the soft tissues of the flower or unset fruit are generally damaged, and frequently destroyed.

The soft parts of plants are composed of plant cells, which consist of a cell wall, and contain the living substance or protoplasm of the plant. It may help us to get an idea of the structure if we think of a honeycomb the cells of which consist of a cell wall and contain honey. But whereas in the case of the honeycomb there are no spaces between the cells, this is not the case with the plant, for in the plant there are a number of spaces (known as intercellular spaces) which contain air, and water, and other vapour. The cell wall, although impenetrable for solid substances, allows sap and water vapours to pass through it.

It was formerly supposed that under the action of severe frosts the water inside the plant cells turned into ice. Ice, as we know, takes up more room than water, and it was supposed that as there was not room for the ice in the cell the wall burst, just as is the case with a water pipe when ice is formed in the winter. When the wall burst the protoplasm escaped and the well was destroyed.

If the cell is actually burst, as in the process described above, it is, of course, destroyed, and the injury irreparable.

But it was found that, at any rate, in some cases, where ice had actually formed in the leaf, it was possible to restore it to a normal condition by gradual thawing, and so the old theory was given up, and, as the result of observations, something like the following was said to take place when ice is formed. During a still night a considerable amount of heat passes out from the plant into the still air by radiation, also evaporation of moisture takes place, and, as a consequence, the water vapour present in the intercellular air spaces becomes chilled, and turned into ice. The changing of a relatively large amount of vapour into a small amount of ice leaves space for and otherwise causes the withdrawal of more vapour from the cell into the intercellular space. This, in its turn, changes into ice, so that two effects are noticeable.

Firstly, ice in the intercellular space is gradually accumulating; secondly, water is being continually withdrawn from the cell wall and from the protoplasm inside the cell to form more ice in the intercellular space.

If much ice is formed it will force the cells apart from one another, and so make a rent inside the tissues of the plant, but, as a rule, will not burst the cell wall.

Now if this is what happens, we can see that on gradual thawing of the ice the water might be restored to the cell and the life of the cell still continue. If, however, the thaw is very rapid, the water formed from the melted ice will evaporate into the air, and be lost before it can get back into the cell.

So that it was supposed a certain amount of water may be withdrawn from the cell and restored again without destroying it. But more than this may happen, for if the frost was very severe, or of long duration, so much water would be withdrawn from the cell that it would be actually taken from the protoplasm itself, and in such a way as to cause the protoplasm (that is the living matter) to be changed beyond possibility of restoration. And seeds heated in a glass tube will perhaps help to illustrate what is meant here. If, for example, dry wheat seeds are so heated it will be found that water is given off from them and condenses on the sides of the tube, but the vitality of the seed will be gone because the protoplasm has been destroyed. From these considerations it appears that the deadly effect of the frost is not due to mere cold, but to a drying-up process which, when carried to excess, causes both mechanical and chemical changes to occur in the protoplasm of the cell.

The same degree of frost may perhaps, in the case of the same plant, be at one time harmless and at another deadly, according as the thawing is (1) gradual or (2) sudden, and, providing the freezing has not gone too far. But this point is much disputed. Sarauer draws attention to the fact that if you touch a frozen leaf with the warm fingers the part so touched will be destroyed, whereas the rest of the tissue may recover. Practically this would mean that it is not the frost but the quick thaw which is dangerous. Certainly this is not universally true.

(To be continued.)

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MOON DAISIES.

I have been interested in the remarks of your correspondent "Alger Petts" concerning the Moon Daisies (Chrysanthemum maximum varieties) in the issue of October 22, and while being desirous of extending the list of forms given, I have no wish to go over the ground he has covered. A reference to the Shasta daisies reminds me greatly of their introduction some years ago, when a trial of several hundred of these Shasta daisies of Burbank's came under my notice. Of all these seedlings I do not remember noting any worthy of naming and perpetuating. True, there was great diversity of form and habit, and some varieties carried several rows of petals, giving them a semi-double character, but apart from their lightness and service for decorative purposes, there was little to commend them over the existing forms of Chrysanthemum maximum.

Then again the introduction of the much lauded "cream" and "primrose" coloured varieties, California and its associates, was to have heralded the dawn of new colourings. Yet under trial these forms giving creamy-hued buds, opened to reveal greyish white petals which were certainly not nearly so pleasing as the pure white-petalled varieties. Robinsoni, doubtless the same as Mr. Pett's William Robinson, is a pretty laciniated flower, though it is recorded that the newer Kenneth is an improvement upon that well-known form. Mrs. C. Lowthian Bell has again this season proved its true merits. It is dwarf with stout stems, huge blossoms, and is continuous in blossom. It is one of the first to bloom amongst the large-flowered class, and at the moment of writing (October 21) the plants still carry many blossoms. King Edward is always attractive, and its bold habit, and hosts of fine flowers make a fine picture in the larger herbaceous borders. Li Hung Chang has failed by reason of its unfortunate habit of hanging its head, but those sterling new forms, The Speaker and Progress, are notable by reason of the fine grand-petalled flowers they produce.

The new Dutch variety, J. Tersteeg, should prove an acquisition. It combines a tall, grand habit with large snowy blossoms, borne upon stout stems. Other excellent forms include the older Moonlight, which is even yet a favourite in many gardens. Rev. Arthur Carter, a medium-growing variety, giving a profusion of fair-sized blossoms, and James Cocker, a fine free-blooming form, with large rounded flowers borne upon stout stems, are good.

The combinations in floral display in which the Moon Daisies take a conspicuous part are many and varied. Two of the best are colour combinations of white and blue, and white and gold. With the white masses of the moon daisies one can group some of the prettier of the tall campanulas, or the blue of Scabiosa caucasica, which for duration of blossoms even exceeds the best of the daisies. For the gold combination there is a wealth of golden border perennials, such as heleniums, anthemis, etc., etc., which readily provide the means of attaining the desired effect.

P. S. Hayward.

"CHRYSANTHEMUMS AND HOW TO GROW THEM FOR EXHIBITION," by J. B. Wroe.—Full details on timing and stopping for Northern, Southern, and Midland growers, selections of the best varieties, illustrated instructions on taking the buds, staging, etc. Price 1s. net, by post 1s. 2d.; cloth 1s. 6d., by post 1s. 8d. from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

NEW PLANTS, ETC.

◆

SOPHRO-CATTLEYA DORIS COBB'S VARIETY.

This is one of the finest of the Sophro-cattleyas, the dwarf plant carrying a handsome rounded flower of good size, and of particularly brilliant orange-scarlet colouring, with some yellow markings on the lip. The parents are Cattleya Dowiana and Sophronitis grandiflora. F.C.C., R.H.S., Nov. 8; W. Cobb, Esq. (gardener, Mr. C. J. Salter), Normanhurst, Rusper, Horsham.

CALANTHE COOKSONIÆ GIGANTEA.

A very fine white calanthe, broad lipped and resembling C. Harrisi. It is the result of crossing C. vestita rubro-oculata with C. Harrisi. A.M., R.H.S., Nov. 8; Mrs. N. Cookson (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne.

LÆLIO-CATTLEYA OLIVIA.

A beautiful hybrid between Lælia Jongheana and Cattleya Schroderæ. The plant is of comparatively dwarf habit, and carried one flower of good size. The sepals and petals are a lovely shade of blush pink, with deeper shading, while the waved lip is orange-yellow, with a rosy edging. A.M., R.H.S., Nov. 8; Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

CARNATION MRS. C. W. WARD.

A new perpetual-flowering variety with rather large flowers of rich rose-red colour. A.M., R.H.S., Nov. 8; Mr. C. Lange, Hampton.

CHRYSANTHEMUMS.

Mrs. Frank Hill.—A large single variety with soft mauve-pink flowers, a pale, almost white band, encircling the eye. A.M., R.H.S., Nov. 8; Messrs. G. Williams and Sons, Cardiff.

Victorian.—A very beautiful and refined exhibition Japanese variety. The ground colour is deep dull yellow, and this is heavily overlaid with rich red. A.M., R.H.S., Nov. 8; Messrs. J. Stredwick and Son, St. Leonards.

APPLE ARD CAIRN RUSSET.

We have received examples of this apple from the Messrs. Hartland—our readers will remember there were no examples left after the committee had satisfied itself as to the merits of the variety. The fruits are of medium size, broad based, conical, and slightly ribbed. The colour is yellow, with red flush and streaks on the sunny side, and plentiful patches of russet, the latter almost covering the shaded side. The stalk is short, rather deeply inserted; the eye is prominent, closed, and set at the apex of the fruit in a very shallow and puckered depression. The flesh is crisp and highly flavoured, and altogether the apple is a very promising one as a late dessert variety. We understand that the variety has been growing at Ard Cairn for upwards of a hundred years. A.M., R.H.S., Nov. 8; Mesrs. W. Baylor Hartland and Sons, Ard Cairn, Cork.

APPLE ARD CAIRN RUSSET.
A dessert variety of good flavour; skin yellow, red, and russet. A.M., R.H.S., Nov. 8; Messrs. W. Baylor Hartland and Sons, Ard Cairn, Cork.

POPULUS LASIOCARPA.

This remarkable poplar was given a first-class certificate by the Royal Horticultural Society on September 15, 1908, which is at once a strong recommendation for it, and a mark of appreciation of its evident great horticultural worth from a large number of our leading horticulturists. It was originally discovered by Dr. A. Henry, in the province of Hupeh, in mountainous districts, at elevations varying between 4,000 and 6,000 feet. As a wild specimen it has been recorded as forming a tree from 20 to 40 feet high; under cultivation it grows vigorously, but it remains to be seen as to what dimensions it is likely to attain. Its ornamental character centres in the foliage, for the leaves are larger than those of any other poplar. They are ovate or cordate in shape, and frequently from 10 to 12 inches long and 8 or 9 inches wide. The colour is dark green and there is a deep red midrib which adds to the general effect. On the under-surface, the veins are clothed with velvety hairs. The species is one of Messrs. Veitchs' introductions, and is likely to become a popular tree for decorative planting.

W. D.

FORCING PITS AND HOUSES.

Practice of many years duration, and science as applied in present day forcing houses, are great helps to the gardener who must of necessity have supplies of either fruit, vegetables, or flowers out of their natural season. It is quite true that properly built and efficiently heated structures must be so placed that the maximum light can be made use of at the dullest period of the year. Shelter, also, from the prevailing cold winds in any given district must be thought of, and means provided for tempering their violence. Those who have not had to do with the planning and necessary arrangements connected with forcing houses have now many opportunities of studying existing ones in their neighbours' gardens; and the good firms of horticultural builders who frequently advertise in these pages are ever ready to advise those who might benefit by their services. At the same time those about to build should have a fairly clear idea of what is wanted to meet their special case.

Horticultural buildings, like those for other uses, may cost almost as much to erect as the owner may care to lavish upon them, but what we may term the utility types of houses, so frequently erected for the market growers, give general satisfaction to those who of necessity must use all the available interior space for the crops to be produced. Present day forcing pits and houses, too, are much lighter in build than structures of former days; heavy beams and deep sash-bars have given place to lighter materials without in any way weakening the structures. It would appear, from studying the erections of bygone days, that the more wood and panes of glass that could be crowded into the building the more serviceable it would be, happily for us it has been proved that wall-plates, sills, bars, etc., of lighter, well-seasoned wood last longer than the heavy timber formerly employed.

A very important point in connection with the building of forcing houses is to see that there are no flat, or nearly so, surfaces of wood where condensed or other moisture can lodge. Wall plates should be sufficiently sloping for any moisture to run quickly away, and if the timber used is properly seasoned, and all moisture kept out by using good paint whenever necessary, the structures will stand for many years. The particular design to be employed is sometimes governed by existing erections, and should a wall already exist that is facing the sunniest quarter, a three-quarter span structure would give excellent results with such crops as early beans, melons, cucumbers, tomatoes, and cut flowers that are usually obtained from bulbs or deciduous flowering trees and shrubs.

It is often a great advantage, especially in windy districts, to excavate rather freely for forcing pits and houses, and, providing drainage is good, and that the additional depth can be safely provided for in the matter of boiler accommodation, the interior can be kept at a more uniform warmth. Sunk houses are also convenient for outside covering during very severe weather, and the occupants may be more healthily grown thus than is the case when pipes are over-heated to maintain a given temperature. One of the chief necessities where forcing is done is the use of plenty of hot-water pipes for maintaining a good bottom heat in addition to that required for the general interior. Front lights are hardly an advantage for very early forcing as the necessary airing may be arranged for by having a few box ventilators opposite the hot-water pipes, and, of course, making ample provision in the roof for regulating the temperature caused by sun-heat. Houses about 12ft. wide, whether span-roofed or three-quarter span, are a very useful size for growing such crops as I have named, and those of a similar nature. For beans, strawberries, and the raising of numerous seedlings, front lights are an advantage, but for forming beds of manurial warmth, in addition to the hot-water pipes, for growing such crops as melons and cucumbers, whose roots are in the soil, there is no advantage in having their roots unduly dried by front sunshine.

The old forcing type of pit is already giving place to something where less straw manure is required for keeping it at a pleasant temperature, and in some cases heated pipes are being laid in the soil for producing bottom heat. The warmth given off is not of that mild ammoniacal nature that is so helpful to plant life, and careful management is required to judge of the amount of water necessary for the growing crop. Forcing pits are great aids in any garden, and, providing plenty of long manure and leaves are to be had, the brickwork may be built a yard below ground, and the soil inside thrown out to that depth, the space left being ample for good bottom heat, and the two pipes arranged along the front of the pit will keep up a good forcing heat. There is no advantage in having too much brickwork above ground; 18in. at the front, 2ft. 6in. at the back, will be a useful and convenient height for a frame from 6ft. to 8ft. wide—generally 6ft. in width is most convenient for giving attention to the crops; movable lights ought not to be more than 4ft. or 4ft. 6in. wide, and should be provided with handles at the top and bottom. In windy places the runners should be provided with buttons to prevent the wind lifting them.

Span-brick pits are also very useful and ought not to be less than 8ft. wide, with about 1ft. of 4in. brickwork above ground, or, preferably, a concrete wall; one row of 4in. piping running all around the frame will keep up a steady warmth. For early crops requiring more air and less atmospheric moisture during the dull season of the year they are excellent, as well as for growing sturdy shapely plants for flowering purposes. Useful forcing pits may also be formed by placing the portable span frames with hinged lights on prepared brick or concrete foundations, heating them in the same manner as brick pits. All span frames will need centre supports. Gas piping set on a brick foundation will be light yet strong enough to support the weight. The amount of piping required for a forcing house 12ft. wide will be at least four rows on either side of the path under each bed, provision being made for the heat to escape into the centre of the house and up near the outer walls. In addition I should prefer one 4in. pipe for additional top warmth in all houses with glass fronts; the extra cost in the first instance is more than compensated for by the saving in fuel.

Ventilating is now well provided for, and if the houses are of great length lever workings will save much time. Ventilation need not be continuous in forcing structures, but be fixed between every three panes, so that each ventilator has two bars or three panes of glass in it. It is important that each ventilator fits closely on to its seat, or wind and rain may enter, and effectual vapourising for pests would be made difficult.

Of all materials employed for placing over the heated pipes for forming the forcing beds, thick slates are most satisfactory, they harbour no woodlice and are easily cleaned after each crop has been removed. If a span-forcing house is built in an isolated position very useful frames may be built on both sides of it, 4ft. 6in. wide being a good width to have them; a good deal of warmth will come through the wall into the frame and a couple of 2in. pipes along the front will keep up a useful heat for many things. There are scarcely any other features in a garden that call for greater skill than that connected with forcing; it is therefore very necessary that the grower should be able to control the warmth by proper screw-down valves to all the flow pipes, and it may sometimes happen that it is necessary to have them also on the returns, but these are matters that are largely governed by the general scheme of structures and the position of the mains from which pipes are taken for heating the various types of houses. As warmth and moisture are a necessity in forcing houses the interior should not be so highly finished that there are practically no moisture holding surfaces about the floors and pipes, otherwise red spider and thrips will be difficult to keep down.

CHARLES FOSTER.

Sutton Green.

FRUIT TREES FOR LOW WALLS.

If we accept the axiom that all wall space is valuable, it follows that even very low walls should be used to the best advantage. When only some three feet six or four feet in height walls are often regarded as of little if any use for fruit, and either they are left bare or anything is allowed to run over them which will cover them up quickly and completely, sometimes ivy or the ubiquitous ampelopsis. If there is a flower border in front of such a wall the difficulty of devoting it to fruit is increased, especially if the border is used for perennials, for it might mean that the trees would be almost concealed during the summer months, when they would soon become weak, or make badly-balanced growth, in which all the new growth would be above the wall. I know it is rank heresy to talk of having flowers on a fruit tree border, and, of course, there must be some sacrifice of flowers in such a case—a compromise, in fact. If it is a wide border, and the trees are given a clear space of three feet at least from the stem, a very workable compromise will be effected, either by restricting the use of the border to plants of medium height, or by bringing some of the tallest plants nearer to the front, and putting low-growing things in the bays so formed, and in the spaces at the back, thus reversing the usual practice of planting a mixed border, and, in some ways, rather improving upon it, always assuming that the low-growing things behind the tall ones flower before the latter hide them. But we will assume that our wall is suitable for training fruit trees upon in every respect, but is low.

In the first place, it may be said without fear of contradiction that for such a wall fan-trained trees, other than those of bush fruits, are quite unsuitable. In a fan-trained tree there is always a strong tendency for the growth to be strongest on the central branches, and that is just where there is least room for extension, as these branches are probably at the top of the wall the first summer after planting, and the necessary shortening produces the inevitable result, while there is a limit to the amount of restriction that can be practised consistently with the health of the tree. As regards bush fruits, one hardly likes to give up any but a north or east wall to them, and on such an aspect, even if the wall is only three or four feet in height, gooseberries may be grown with great success, the wall being covered from top to bottom, as the lowest branches of a fan-trained gooseberry often grow as strongly as the middle ones. Red or white currants can also be grown with greater or less success on the same wall, but are more inclined to make strong growth at the top at the expense of the lower branches.

The horizontal-trained tree, or what is generally known as the espalier form, is suitable for such walls, as the extension of the tree is in a horizontal direction only, supposing the tree to be furnished with the requisite number of tiers at the time of purchase. The double horizontal cordon is the simplest form of this kind of tree, consisting of one tier only. This espalier form of tree requires more than usual care in pruning—and all wall trees require a good deal—if a fruitful and well-balanced growth is to be maintained. This is the ideal form for a wall-trained pear tree, and also for the apple, though a wall is not often given to it, but for stone fruit it is not generally considered a success, the branches resenting being bent down to the horizontal position, and often die off altogether if trained in the same horizontal plane as the point of junction with the central stem, or at right angles to the central stem. One large firm of nurserymen specially recommends plums as horizontal trained trees, and if such are tried this latter danger must always be borne in mind, or branches will be lost, and when lost can never be replaced. At least, that is my experience, though I hear some speak lightly of replacing branches by inserting buds in the leader.

Having considered the objections to the fan-trained tree, and the limitations of the horizontal-trained tree, we need not consider the different variations, known as gridiron trained, toasting fork, and the like, as they are obviously more unsuitable than the two we have discussed. But there remains to be considered the single cordon form, and this is undoubtedly, for fruit trees in general, the most suitable form of tree for a low wall. Such trees, when growing in the nursery, will be in the form of single upright cordons, but when they are planted against a low wall they can be put at an angle of 45 degrees, or even less angle, at two to two and a-half feet apart. As they lengthen, and get to the top of the wall, they can be depressed, and so have room to grow longer. Though when grown as upright cordons a foot and a-half is space enough to allow between them, yet it must be borne in mind that when planted at an angle of 45 degrees, and still further depressed as they lengthen, they come close together, so that two feet apart is not at all too much space, but rather too little, to allow them, two and a-half feet being better when the wall is very low.

Some of the cordons will probably need to be taken up and root pruned before they will come into bearing, and this is best done late in October or early in November of the first year after planting, in the case of any which show unmistakable signs of rampant growth, but is better delayed till the same period of the second year in the case of normally strong growers, the poor growers, of which there will probably be few, being left alone altogether, as far as may be, though taking up the trees on either side will probably check them to some extent. By this means all the trees, if the varieties have been judiciously chosen, will be in good fruiting condition the third year after planting—many before this—by which time they will have attained their full length, and then with fairly good fortune, especially if some little protection is given from frost, fruiting should be sufficiently regular to obviate the necessity for further root pruning, except in the case of one or two incorrigibles. If a tree dies and has to be replaced it must be given a good start to enable it to hold its own against its well-established neighbours, and to this end it is advisable to put a piece of tile or slate between it and them to keep their vigorous roots away from the good fresh soil put in for the new tree, as it will be equally to the advantage of the new tree to have the good soil to itself, and to the old ones to be kept out of it for a year or two.

I know a long low wall not more than three feet and a-half high which is well covered in this way, the available space being increased by a simple device. Iron bars were fixed to the wall so that they stood up above the top of the wall some two feet. The bars were twisted in the middle so that the vertical plane of the part above the wall was at right angles to that of the lower part, and holes were punched in the upper half at regular intervals, wires being passed through the holes and tightened at the ends of the wall. This increased the possible length of the cordons by several feet, and by giving them this additional run the need for root pruning was lessened.

Both the selection of sorts and the preparation of the ground need more than ordinary care, or more than many people give to them. As regards the former, it is a bad plan to go to an exhibition and choose those varieties which most take the eye. There will probably be some failures even with the most careful selection, but to adopt this method will be to ensure a good many, as nothing is more deceptive than the exhibition table for this purpose. Some varieties, too, are not adapted to this method of cultivation, however well they may do in other forms. It is better to make out a list of the varieties one fancies, and ask some trustworthy nurseryman or experienced private grower, or both, if there are any in the list he does not recommend for the purpose.

As to the preparation of the border it is needless to point out what a drain upon the soil this method involves. It does not matter much about the nitrogen content as a rule, until the trees have borne some heavy crops, but the stores of lime, phosphate, and potash tend to become seriously depleted after a few years, so that a good reserve should be put in before planting. Lasting manures, such as bonemeal, basic slag, and kainit should be well mixed with the soil, while the sifted ashes from the garden fire are above everything as a medium for working in amongst the root fibres when planting the trees, as they root more quickly in these than anything else.

Alger Petts.

Bougainvillea glabra Out-of-Doors.—There is a widespread idea that this bougainvillea requires a good deal of heat, for its successful culture, but this is by no means the case; indeed, it will flower well out of doors during the summer months. In this way, with full exposure to air and sunshine, the bracts are more highly coloured than when they develop under glass. Good-sized examples may often be seen bedded out in the London parks. Being a native of Brazil, it, of course, requires to be kept quite safe from frost in the winter. Some forms are superior to others, the best coloured, as well as the hardiest, being Sanderiana.—W. T.

HEAT FOR PERPETUAL CARNATIONS.

The use of artificial heat for carnations is a perplexing matter to many. The crux of the whole matter is more one of light than heat, or at least graduated heat in accordance with the light. That is why all good growers advocate a day temperature ten degrees higher than the night temperature.

On a bright sunny day your carnation house will register 70 or 80 degrees, but with a circulation of air on the house this will do no harm, simply because you have an increased light. Large market growers build light, airy houses on this very account, while in America they are able to run their carnations at a much higher temperature during the winter than it is safe to do over here, because they have a stronger light in winter. This is also increased by the sun's rays being reflected by the snow.

One of the fundamental principles in carnation growing is to avoid a sudden drop in the temperature. This is what the perpetual carnation most abhors. An even day and night temperature must be maintained.

We will take, for example, a bright day at the present season of the year. The sun sets at about 4.30 p.m. The ventilators will require lowering in accordance with the drop in the outside temperature from two to four o'clock (p.m.), at which time on ordinary days the ventilation would be reduced, and mild artificial heat commenced, because the sun's influence lessens rapidly as its rays begin to leave the glass. The heat inside is increased as the outside heat fails, but instead of maintaining the regular day temperature you allow it to fall gradually to the required night temperature.

It is a mistaken idea that the low night temperature is to counteract the higher day temperature, it is simply providing a degree of warmth in which the plants can produce a healthy strong growth. Heat and light go hand in hand, and as it is practically impossible to control the light, we have to confine ourselves to the heat.

Naturally the question arises: What is the best temperature for day and night at which to grow perpetual flowering carnations? Now I should say, under normal conditions, that is, with a good light house, well equipped with ventilators, a night temperature of between 45 and 50 degrees, and a day temperature between 55 and 60 degrees, and if these degrees of warmth are maintained with as much regularity as possible three parts of the way to success is covered. Yet it would be folly for anyone growing perpetual carnations in an old-fashioned house with heavy rafters, or a poor aspect, to try to grow them with the same temperature as under more favourable conditions. The light is weaker, so the temperature must be less, say 40 to 45 degrees at night, and 50 to 55 degrees during bright days. It is that power to adapt oneself to circumstances which is so essential to good culture.

In the matter of ventilation we have one of the most difficult subjects to write about, simply because we can never lay down definite rules, but have to be guided by circumstances.

In the case of perpetual carnations, as much air as possible should be given during the night and day, retaining the previously mentioned temperatures, and avoiding all draughts. On a clear night, to have a moderate supply of artificial heat, and at the same time a fair amount of ventilation, will promote ideal conditions for Dame Carnation, giving that amount of buoyancy and freshness in the air which contributes to a free, healthy growth.

Montagu C. Allwood.

Bush Hill Park.

"CARNATIONS, PICOTEES, AND PINKS" will tell you plainly how to propagate and grow these favourite flowers to perfection. The work is freely illustrated with plates of leading varieties, and explanatory diagrams as to layering, taking cuttings, fertilising blooms, etc. Price 2s. 6d. net, by post, in box, 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

SOME PECULIARITIES OF ROSES.

It is little wonder few writers upon, or even growers of, roses, agree respecting the growth or some other characteristic of several varieties; and how seldom they select the same half-a-dozen as most suitable for a given purpose, when we consider how differently they behave in certain localities. A rose does well with one, or else it happens to be his or her favourite colour or perfume, and so it is lauded by that grower. Even when the soil and conditions are apparently closely allied, we often find great divergence of growth and results.

Some stand by plants upon their own roots alone, others must have some special stock. The crux of the matter is, we should go a great deal more by the results in our own case, and not lay down too fast a rule for all others. Whatever one may say there is little doubt that some varieties do thrive as well, if not better, upon their own roots than upon any stock. And it is also unquestionable that many are greatly aided by the use of foster roots. But these should be suited to the variety of rose and the soil they are growing in. The fact is, we have such a vast number of roses and hybrids that it is hopeless to expect all to do under precisely the same conditions. We might almost as well expect the same with orchids. So that we need not condemn a variety as weak-growing simply because it does not show any disposition to vigour with ourselves. I have seen many instances of this, and it has been difficult to credit a certain variety as growing so strongly as some assert until the plants have been seen and the correctness of the name verified.

Then there is the peculiarity of stocks and hardiness, which vary so much in the same locality. I have had some splendid plants of Comtesse de Nadaillac in a sheltered position, but, as a rule, it has been very weakly in the open; yet a neighbour grows it most rampantly in, to all appearances, the same soil and position as my own fail. Horace Vernet I have seen almost as strong as I have Ulrich Brunner, but one will generally find it described as an indifferent grower, and it is so with me.

Sports again are peculiar, often going back to the original, and generally varying very much even among themselves and upon the same plant. We obtain a hybrid between two varieties that partakes of both parents in a more or less degree, and others from the same pedigree that one wonders if the cross was correctly stated.

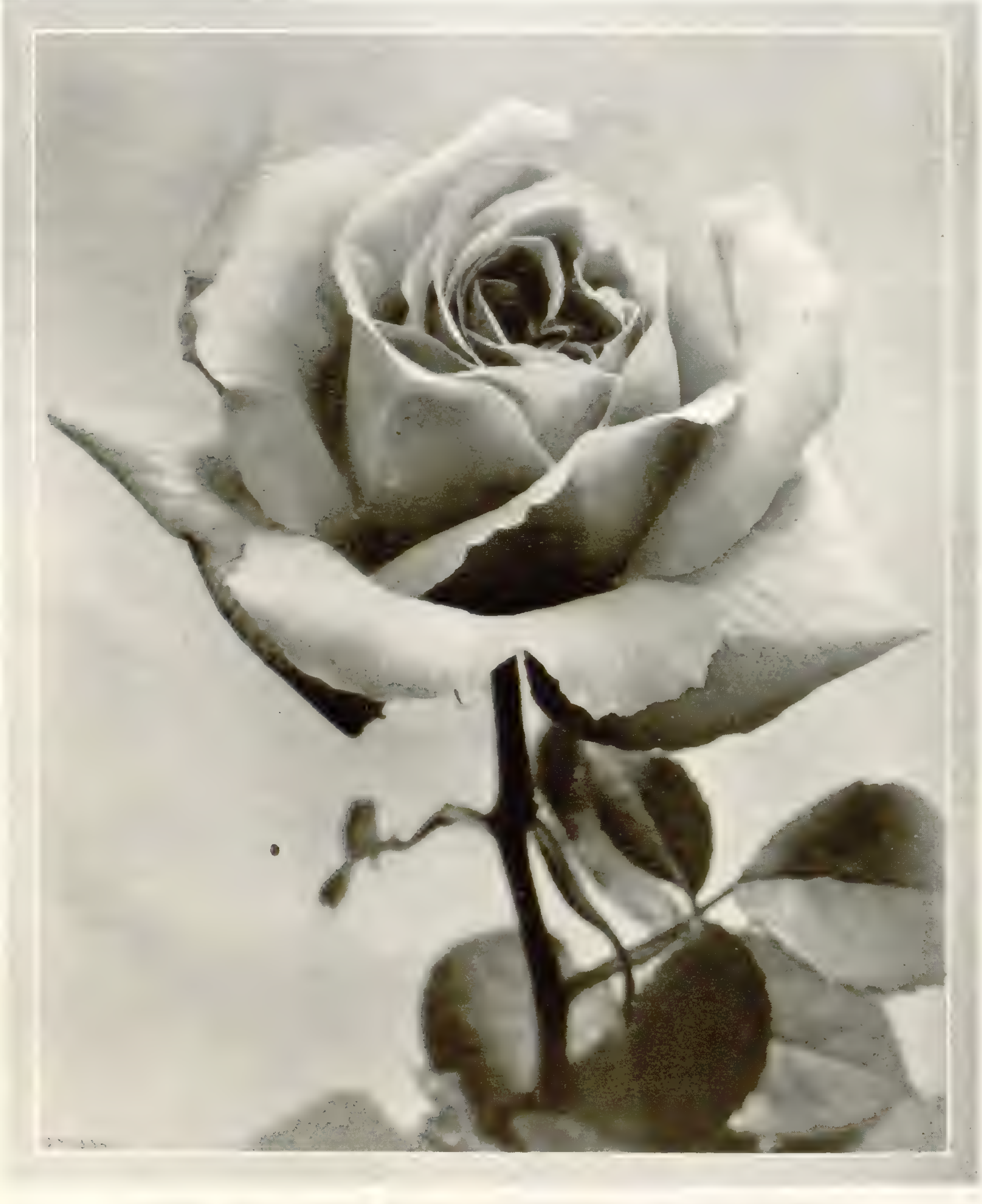
Out of the same seed pod more than one distinct variety has resulted. In fact, we cannot be certain of any crosses. When one looks up the pedigree of a rose it seems incredible the result could be what it is, though in some cases, by working further back, we find distinct traces of atavism; Her Majesty, Frau Karl Druschki, and Gloire Lyonnaise, for example.

We have varieties subject to mildew and canker more than others, and yet another plant of the same variety, and placed side by side, may not develop the latter disease. One rose will open well with certain growers, and be a hopeless failure in the majority of cases with another. Again, a generally thin-petaled variety has not infrequently been so good with some as to find a worthy position in a winning exhibition box. The late Mr. A. Slaughter could frequently obtain Madame Charles with more substance than I saw from any other grower, and often staged it in his winning stands. With us Queen of Spain was a failure until the past season when it was one of our very best roses; and yet one might well fancy such a wet and dripping year was altogether against the opening of such a double and slow expanding variety.

Take the striped roses also, how seldom do we find one constant to any particular degree of shadings; not infrequently coming self-coloured, and often varying in a remarkable manner. Again, take such roses as Lady Roberts, Prince de Bulgarie, and Madame Lambard, the way these vary is remarkable. Oftentimes we could cut an almost perfect Madame Hoste from Lady Roberts, or a Clara Watson from Prince de Bulgarie. William Allen Richardson will sometimes produce a light-coloured flower that much resembles La Marque, and this not infrequently upon the same truss with the orange-yellow so much sought after in this variety.

In the late autumn many roses are quite unrecognisable, and it is because several have reached me for naming under the impression they were wrong that has induced me to pen these few lines. May I also take this opportunity of saying how unreasonable it is to send some peculiar flower without any guide as to growth, and often only the mere bloom minus any wood prickles or foliage, and expect one to give a correct name. When we consider only a few of the above variations it must be obvious how difficult and unsatisfactory such a task must be.

A. Piper.



NEW H.T. ROSE 'MARY COUNTESS OF ILCHESTER.

Flowers rich rose shaded with pale purple-violet. Raised by Messrs. Alex. Dickson and Sons, Lim.

NEW ROSE MARY COUNTESS OF ILCHESTER.

This beautiful rose which Messrs. Alexander Dickson and Sons submitted to public notice during the past summer is, by common consent, one of the finest of the many good hybrid teas that have been raised at Newtownards. The growth is free, and the blooms are large, full, and of superb form, the colour rich rose, shaded with pale purple-violet. As an exhibition rose there can be no question as to its value, and we shall be much surprised if it does not take a prominent position among the higher-class roses suitable for bedding. The variety received an Award of Merit at the exhibition held by the Royal Horticultural Society at Holland Park on July 5 of the current year.

Aubrietia Prichard's A1.—This variety is claimed to be a much better one than Dr. Mules (which it somewhat resembles) by the raiser. It is certainly a much deeper violet, and the individual flowers are larger. Plants, when in full blossom, look charming, and form striking objects on rockeries, especially when grown in masses. But they are equally effective as edgings to borders, or as a groundwork for bulbous plants. Inexperienced cultivators should well prepare the soil before putting in the plants; if planted on the level and the soil be of a stiff nature, some gritty material must be mixed with it.—G. B.

SINGLE CHRYSANTHEMUMS.

Years ago there was an idea in the mind of many skilful cultivators that because a flower was single it did not deserve to be cultivated. One of the leading gardeners of the present day was of this opinion, and would not tolerate a single chrysanthemum in the garden over which he so ably presides. Now he is so strongly imbued with the value of single varieties that his stock of many hundred plants is almost confined to this section! He is loud in the praise of the good varieties, and smiles at his previous objections. As far back as 1885 I grew many plants of this section, having seen them so well displayed at the Birmingham shows. I also wrote strongly of the advantage of the section for decoration, and endeavoured to interest my friends in their culture, knowing quite well how such a type of flower must eventually become popular.

[Photo: Miss S. M. Wallace.

A ROCKERY MARGIN TO A STRAWBERRY BED.

Nineteen years since I wrote an article in the **Gardeners' Magazine** describing as many as thirty varieties, and even at that time there was a remarkable range of colouring in those available. Previously the fault of the objectors to the section was that there were no bright colours. In that list I placed Mary Anderson at the head, and even now this variety is much appreciated, and its shapely blossoms are accepted as an ideal by many. Another variety, Mrs. Langtry, was at that time very popular, and its sweet violet-like perfume was much appreciated; now it is seldom seen, owing, presumably, to its small flowers. The rage is now for size, and many flowers are obtainable five inches in diameter, and even more.

The section is obtaining much greater recognition by committees of autumn shows than formerly, and that is the way to encourage its extension. I am not acquainted with any society that does not include singles in its prize list, and it is not unusual to find as many as ten or more competitors in a class for six varieties. Growing plants, too, now receive encouragement, either as specimens or in decorative groups. At Windsor last year, and at York, also, they were largely employed in groups.

In a cut state the flowers are frequently arranged with stems much too short to display the flowers to advantage; nothing sets off the blossoms better than their own foliage below. An interesting class would be that for so many varieties, and so many sprays or stems of each, not less than two feet, or even three feet long, and arranged in vases on the ground, without any accompaniment save their own foliage. Such a class would illustrate the true decorative value of the singles, and would do much toward making them more popular still.

Many early-flowering single varieties are being pushed forward, but I do not think this race is at all required, because out of doors single flowers are not nearly so effective as they are under glass. I also believe too many ordinarily November flowering sorts are being introduced that have little in the way of improvement to recommend them above well-known sorts. Those who have the power should raise the standard before conferring certificates. I do not agree with the ideal of one row of florets only, for, as a rule, such flowers have a "skimpy" appearance, especially if they are cup-shaped. One of the finest types of single-flowered varieties I have yet seen is named Mensa, which has as many as four rows of ray florets, and which does not look objectionable. In this case the florets recurve a little at the tips, are wide at the base, and form a charming blossom, set off as it is by a perfectly formed large yellow disc, which contrasts pleasantly with the white florets.

Another good variety is Sir Walter Scott, with narrow and drooping florets in not more than two rows. The blooms are from four inches to five inches in diameter, and deep rich yellow. These two form a brace of almost perfect varieties, yet opposite in some respects, which goes to prove that a hard and fast line is not always desirable. Both these varieties produce their blooms in clusters of three to six, and the blooms in each cluster open simultaneously, thus enhancing their value for decoration.

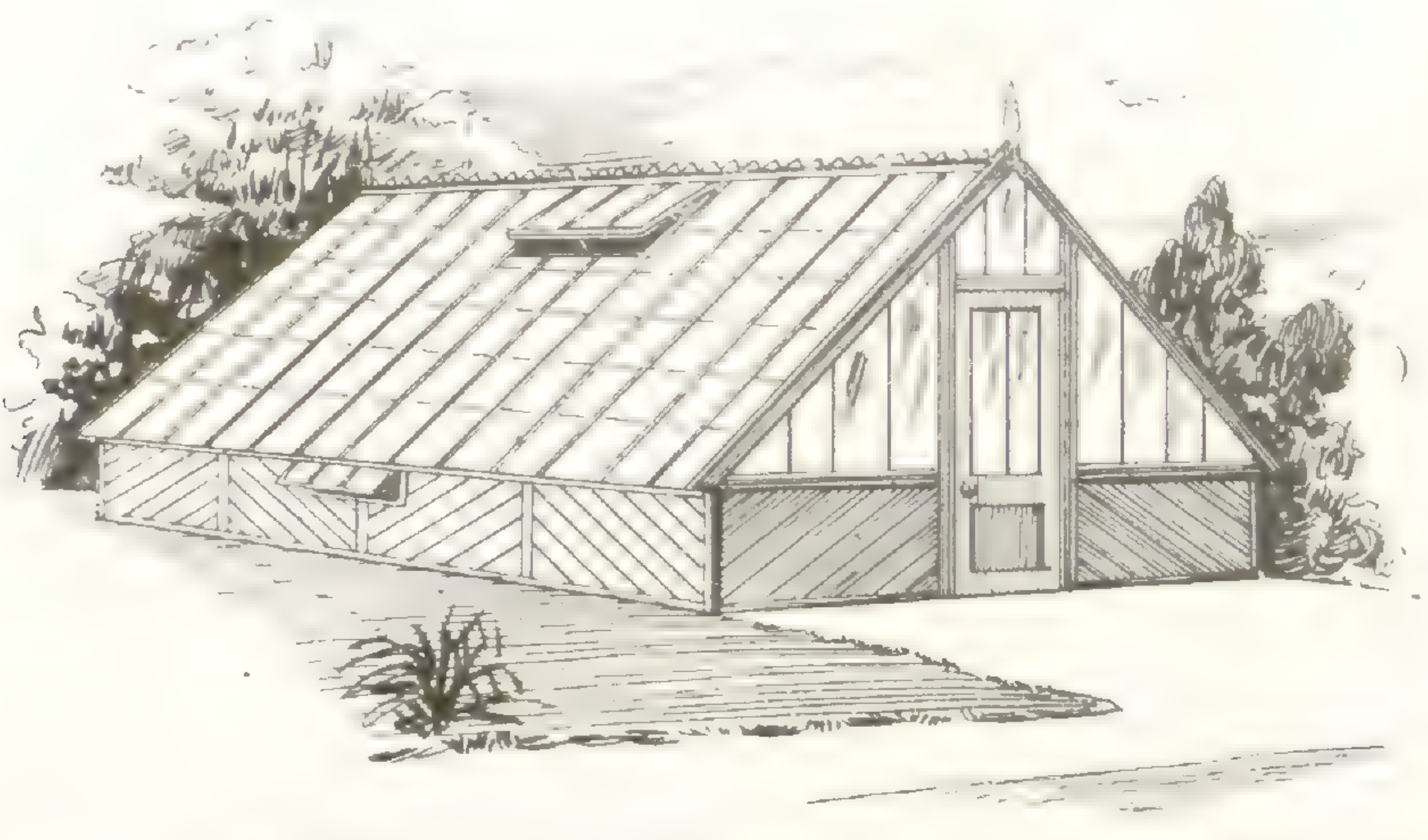
Swanmore Park. E. Molyneux.

MELIOSMA VEITCHIORUM.

Until recently members of the genus Meliosma were cultivated in greenhouses, except in the most favoured parts of the country, where an example or two might occasionally be noted out of doors. The introduction of M. Veitchiorum has, however, made it possible to have the genus represented in outdoor collections in counties which do not enjoy such exceptional climatic conditions as Cornwall and Devonshire. It was collected by Mr. E. H. Wilson in Western China at altitudes ranging between 5,000 and 7,500 feet, where it is said to grow into a tree 30 feet high. Like the other meliosmas, it has ornamental foliage. The leaves in this case are pinnate, and 15 to 24 inches long, usually with nine leaflets. Those on the best developed leaves may be up to seven inches long and 3½ inches wide, but on smaller leaves they range from 3½ to 4 inches long and are about 2 inches in width. The individual flowers are small, but they are borne profusely in large panicles. They are succeeded by round, dark coloured fruits, which are rather more than a quarter of an inch in diameter. It appears to succeed in well-drained loamy soil, in a position where shelter from cold winds is afforded, and when once well established, moderately fast growth is made. As a specimen for a conspicuous position on a lawn it has much to commend it, especially in gardens where choice and out-of-the-way subjects are encouraged. W. D.

DESIGN IN FORCING HOUSES AND PITS.

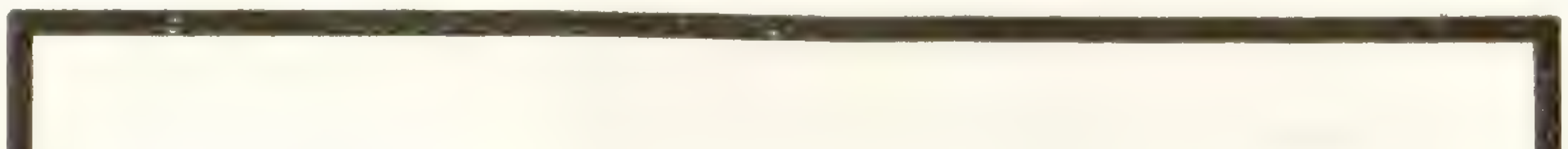
In making a brief reference to some examples of design in forcing houses and pits it is hardly necessary to say that the construction of houses and pits for the forcing of fruits, flowers, and vegetables of the usual designs form a large and important part of the extensive business of Messrs. W. Duncan Tucker and Sons, Stafford House, 27, Cannon Street, London. Evidence of this is found in many gardens, both commercial and private, in various parts of the United Kingdom, and on referring to the illustrated catalogue issued by the firm it will be seen that owners of gardens have full scope for the exercise of their taste in the matter of design, and have no difficulty, with the aid of the firm, in selecting, according to the purpose for which the structure or structures may be required. We mention this much to avoid any misapprehension on the part of those who are not fully conversant with the scope of the firm's operations, because, instead of referring to their structures of the usual type, we are desirous of giving a brief description of the quite new form of forcing house they have introduced.



PORTABLE SPAN-ROOF FORCING HOUSE.
Erected by Messrs. W. Gardam and Sons, Lim., Staines.

This new structure is known as the "Caloricult," and its design is well shown in the accompanying illustration. Consisting almost wholly of glass, it is not difficult to imagine that it forms a veritable trap for sun heat, and, provided with double lights, it is evident that it has the power of retaining for the longest possible period the heat that has been caught. The construction of the house of double glass with an air space between insulates the interior, and ensures an equable temperature, which is so important a factor in the acceleration of the growth of the various fruits and flowering plants required for furnishing supplies early in the year. The structure illustrated is 31ft. long by 7ft. wide at the base, and the roof has a slope of 8ft. The latter can be removed when the house is no longer required, and the lights be utilised as a covering for frames that are devoted to the production of crops of cucumbers, melons, tomatoes, and some of the late vegetables that derive advantage from the shelter of glass. The structure is heated artificially by means of hot water pipes fixed below the bed of soil and covered by an iron core.

With a history extending over upwards of a hundred years, and examples of their work in an immense number of gardens in the United Kingdom, Messrs. J. Weeks and Co., 72, Victoria Street, Westminster, require no introduction, and it is certainly not necessary to refer otherwise than in the briefest manner to the excellent design and the high quality of the glass structures erected by them. We would like to write of the handsome conservatories and winter gardens, and of the plant and fruit houses that have come under notice, but the subject is forcing houses and pits, and to these perforce must this note be confined. We have selected a section of a lean-to forcing house for the purpose of illustration; and, although it does not produce quite such an imposing effect as would a view of the house, it posseses greater educational value. It shows the reader how skilful has been the arrangement of the heating apparatus both for providing top and bottom heat. Here we have a bed that may be formed with a rich compost for cucumbers or melons, or with some suitable material in which to plunge pots containing cuttings, or the pots in which are growing plants that derive assistance from bottom heat during the earlier stages of their development. At the back is a stage for plants not requiring bottom heat. It will be seen that the pipes underneath the bed are ample for the maintenance of the requisite heat in the bed, and that it can be easily regulated by means of the openings with their shutters, that are provided in the wall next the pathway. The pipes provided for furnishing the top heat indicate an excellent arrangement for obtaining an equal distribution of warmth throughout the house.



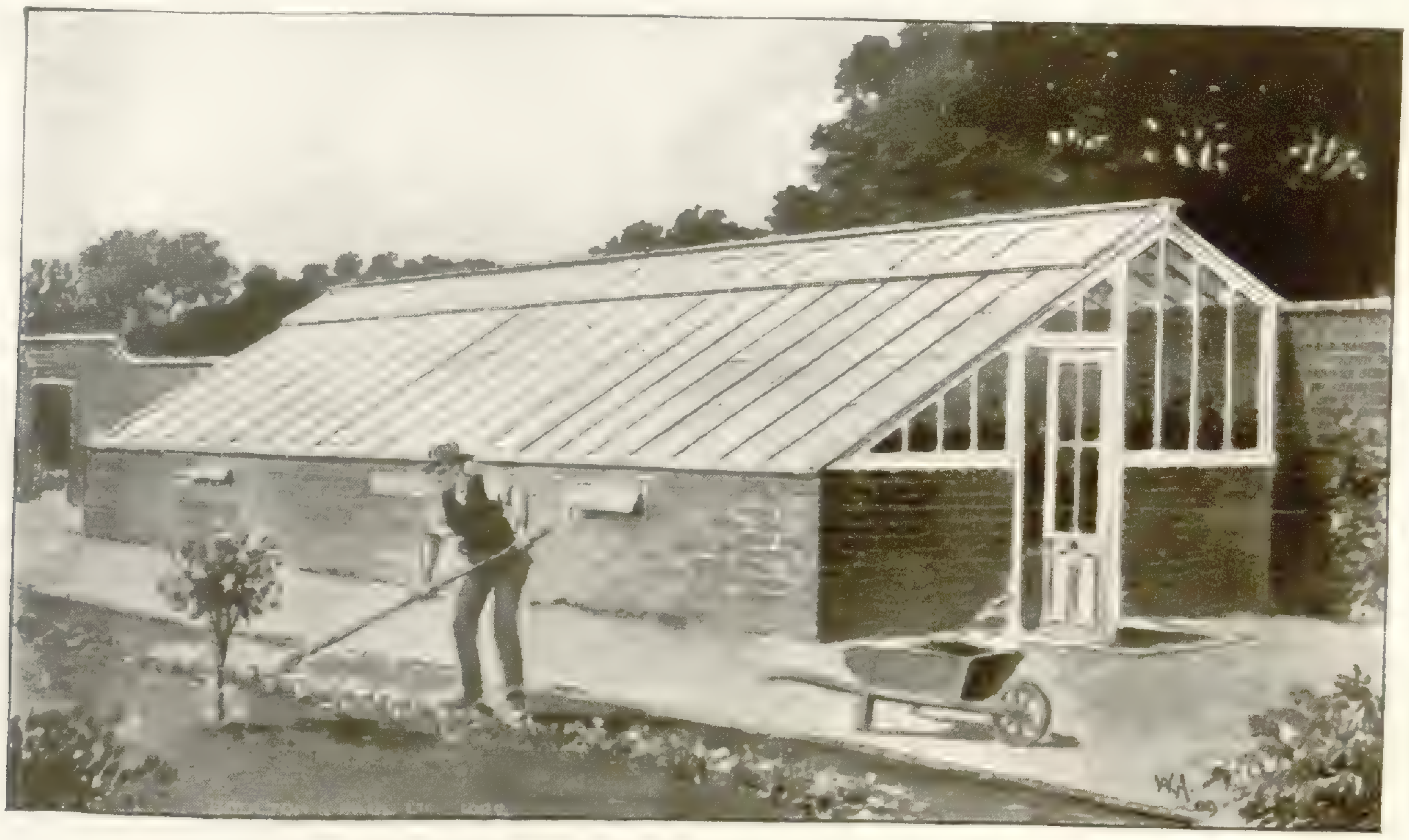
SECTION THROUGH A LEAN-TO FORCING HOUSE.
Erected by Messrs. J. Weeks and Co.

While Messrs. Boulton and Paul, Lim., of Norwich, have long occupied a prominent position as builders of more or less ornate conservatories and winter gardens, and spacious plant and fruit houses, the construction of forcing houses and pits form an important feature of their extensive and many-sided business. A number of designs of such structures have a place in their catalogue, and we have selected an illustration of a three-quarter span forcing pit as representing an excellent type of building. Lean-to, three-quarter span, and span-roof houses and pits all have their advantages, and among those possessed by the three-quarter type may be mentioned the additional head room obtained down the middle of the house and over the staging at the back, as compared with the lean-to. The principal ventilation in this as in other structures used for forcing purposes, is effected by means of the lights near the apex of the roof, and early in the season the air will be wholly admitted by the roof ventilators for considerable periods; but openings, with well-fitting shutters, are provided in the front wall, so that a circulation of air through the house can be readily obtained when considered desirable.

There are various reasons why forcing houses and pits should in certain instances, as in the case of some other glass structures, be of a portable character—as, for example, when the tenant holds his dwelling house and garden under a three-years' agreement. For this reason a forcing house or pit that comes under the category of a tenant's fixture is of great advantage to many tenants who take a keen interest in their gardens, and know the great assistance a forcing house will render in the production of early supplies of flowers, strawberries, etc., and in the raising of the requisite stocks of plants for beautifying the flower garden. We have pleasure in directing attention to the portable houses manufactured by Messrs. W. Gardam and Sons, Lim., The Wharf, Staines. Like other structures manufactured by this well-known firm, they are made of materials that are in every way suitable for the purpose, and can be depended upon to remain in excellent condition for the full period. The sizes listed by the firm range from 7ft. by 5ft. to 50ft. by 14ft., and we have no doubt that the houses, both span-roof and lean-to, may be made of any desired dimensions.

Recognising their value to an important section of garden lovers, Messrs. Browne and Lilly, Lim., Fobney Works, Reading, have for some years devoted considerable attention to forcing houses that comply with the conditions of tenants' fixtures, and the largely increased demand they have to meet show that they accurately gauged the requirements of occupiers of gardens whose tenancy is terminable at short notice. It is not necessary to repeat what has been said with reference to the advantages of portable houses when the dwelling-house and garden are held on a short lease, or when they may have to be given up on a comparatively short notice. Suffice to say they are great, and that a structure in which a temperature from 10 to 15 deg. higher than that of a greenhouse is maintained is most useful for the raising of stocks of various classes of plants required for the decoration of the conservatory and furnishing the flower garden, and also for raising stocks of certain vegetables for planting out, after having been duly hardened, early in the season. The houses can be efficiently heated, as in the case of permanent structures, and it need hardly be said that the materials and the workmanship in the houses executed by this firm are of an equal degree of excellence.

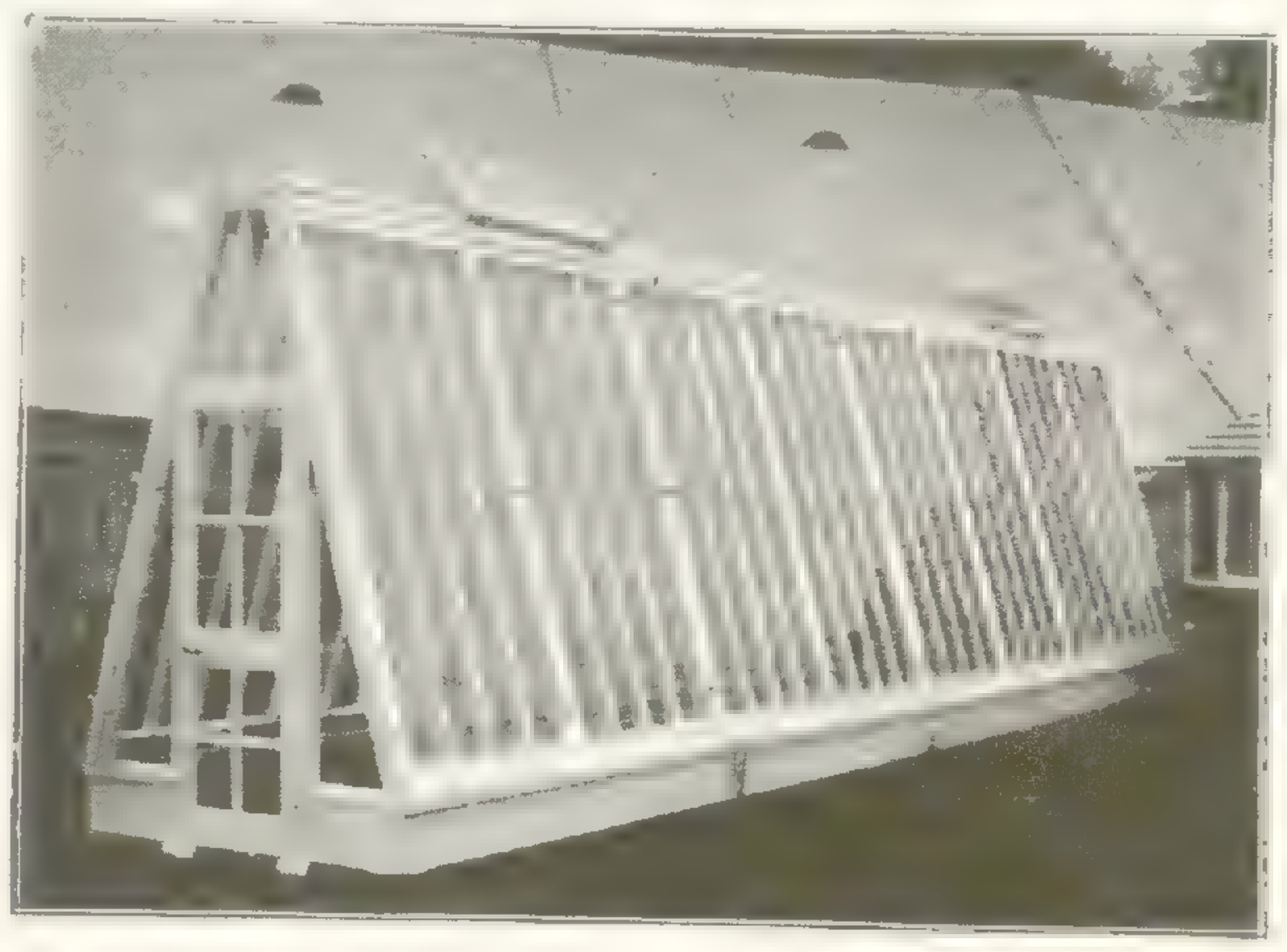
BEST PLANTS FOR GREENHOUSE.—Nearly 300 pages are devoted to the description, propagation, and culture of the best flowers and plants for the greenhouse in THE AMATEUR'S GREENHOUSE, by T. W. Sanders, price 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.



THREE-QUARTER SPAN FORCING PIT.
Erected by Messrs. Boulton and Paul, Lim., Norwich.

GRAPE PRINCE OF WALES.

I have not had the opportunity of growing this grape myself, but I have seen it many times in the hands of others. I saw specimens of it when it was first shown by Messrs. J. Veitch and Sons, and I saw also those grand examples grown at Stanmore by Mr. Ellis. Since then I have seen it growing under various methods of culture, and have come to the conclusion that the treatment successfully accorded its parent, Mrs. Pince, from which it is a sport, is what is required. As long ago as 1875 I saw Mrs. Pince growing in the Garston Vineyard, Liverpool, under the control of the late Mr. Meredith, and no finer specimens have been seen since. There this grape occupied an inside border, and in the same manner Mr. Shingler has produced extremely fine examples; he is a staunch believer in the restriction of the roots, so that they are under control, not only for this variety, but all sorts of grapes.



THE CALORICULT, A NEW FORM OF FORCING HOUSE.
Constructed by Messrs. W. Duncan Tucker and Sons, Lim.

Prince of Wales is of vigorous growth, and does not require the aid of any other variety as stock, therefore it is best grown on its own roots in a border quite under control, and given a somewhat high and dry temperature while in flower. I am sure when this grape is better known it will become an universal favourite for late use, as it possesses all the attributes of a perfect grape—size of both bunch, berry, shape, colour, and flavour.

E. MOLYNEUX.

In his note on this variety Mr. Pirie (p. 731) also mentions Lady Hastings and Melton Constable. I can sympathise with Mr. Pirie in his dissatisfaction with these two varieties. In my time I have had attacks of the novelty fever, from some of which I have escaped, to my satisfaction, but in others have suffered somewhat severely. After personal attacks one understands the symptoms much better.

I do not think I have a word to say in favour of Lady Hastings grape, for, after two attempts, I discarded it. Who of your readers have grown this grape and have been satisfied with it? Perhaps Mr. Shingler will give us his experience of it, and the best way to cultivate it. When first sent out it was said to be a vigorous grower, but I never found it so, and I never had any fruit worth looking at from it.

The variety Melton Constable, when grown on its own roots, appears to be practically the same as Gros Colmar, and, therefore, for that reason I do not consider it worth cultivation, as one grape of Gros Colmar type is sufficient. I was induced to buy it after tasting some of the grapes at the last fruit show held at Chiswick, and from what I now know of the variety I should say the vine from which those grapes were cut was inarched on to another variety. I also exhibited, for the introducer, several fine bunches of Melton Constable later in the autumn of that year. In appearance, berry, and flavour of those bunches there was much to recommend the variety.

I have grown Melton Constable inarched on Black Hamburgh, and also on Black Alicante, and, grown in this way, it is useful for giving variety, where that is desired, but beyond that there is little to recommend it. Appley Towers is worth growing in late and midseason houses. Lady Hutt seems most satisfactory in a late house, but appears to succeed best grown on the extension system; it would be improved by having Muscat temperature.

I believe it will be found that the variety Prince of Wales will be more satisfactory on the extension than on the spur system. I saw a vine of this variety quite recently which was already showing signs of what the restriction principle would eventually do; it may be that here we solve the question of the non—"setting" of Prince of Wales.

T. H. SLADE.

Turnips from the late sowings have made excellent progress during the last few weeks. The most serviceable bulbs should be pulled, placed in small clamps, and covered with sand: they will then remain in good condition over a long time at this season, and be free from frost. If any remaining bulbs in the beds are likely to be fit for pulling later on, draw a little soil over them to ward off frosts.—G. ELLWOOD.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

IMPORTED CATTLEYAS.—From the present time onwards, importations of various species of cattleyas and lælias will be arriving at intervals. Unlike the hybrids which have been raised under artificial conditions, most of the species of the cattleya family are usually found to deteriorate after a few years' cultivation, and it is therefore desirable that the old stock should be replenished as opportunities offer themselves; and as it is in most cases desirable to secure freshly imported plants in preference to those that have been started into growth, the opportunities of securing them should be embraced as soon as possible after the plants arrive.

CATTLEYA DOWIANA.—I noticed that Cattleya Dowiana has been extensively advertised of late. This plant should not be confounded with the variety C. D. aurea. The flowers are in many respects similar, but the habit of growth is so dissimilar that they can easily be distinguished out of flower. C. D. aurea is by no means a difficult plant to keep in robust health for successive years, but the more beautiful and desirable C. Dowiana, although to all appearances more robust and vigorous in habit of growth, is usually found a most difficult plant to keep in a desirable condition for many years in succession, and as it is a long time since any quantity of this species has been imported, no doubt the plants will have become plentifully distributed in our gardens. There is no orchid that reaches this country in a more satisfactory condition in respect to retaining its leaves in good condition than C. Dowiana, and with a little care when the plants are first unpacked they are induced to retain these well. Where there is ample foliage, roots are not long in making their appearance, so that they may be potted as soon as received.

POTTING.—When potting imported cattleyas and their allied genera at this season and through the winter months, it is desirable to use as little potting compost as possible about the base of the plants until root action commences. Select pots of a suitable size, or shallow pans sufficiently large to contain the plants comfortably; drain these to about half their depth with clean crocks, and after placing the plant in position a few sticks may be desirable to secure the pseudobulbs. Fill in the remaining space with broken crocks. Little root moisture will be required; lightly syringing the crocks about once a day will be ample under the most favourable conditions. As soon as the new roots make their appearance the crocks on the surface may be removed, and about equal portions of osmunda fibre and peat, or polypodium fibre, be added. Give a good watering as soon as the potting is completed. The plants should not be encouraged to commence growth rapidly, for the longer they can be retarded the better, so that they may have full advantage of the summer to develop and mature their growths.—H. J. Chapman, Oakwood Gardens.

FRUITS UNDER GLASS.

LATE-KEEPING GRAPES.—These may be kept upon the vines until the end of December, or gathered earlier and placed in the grape room, as circumstances dictate. In good waterproof houses, devoted entirely to the vines, late varieties, such as Gros Colmar, Lady Downes, Lady Hutt, Alicante, and Appley Towers, may be kept to advantage upon the vines to the end of the year; but in the case of badly-constructed houses, or those in which plants have to be accommodated during winter, it is better to cut the grapes at an earlier date, and store them in the grape room. All varieties of Muscats and others, except the latest keepers, should, however, be cut and stored by the end of November, and in the case of all grapes it is well to remember that vines cannot support ripe fruit for a lengthened time without their suffering more or less. While grapes are hanging the temperature of the house should be kept at 50 or a few degrees lower in severe weather, ventilation being discreetly given when external conditions are suitable. If it should be necessary to water inside borders, do so early in the morning of fine days, and expel the atmospheric moisture thus promoted by warming the pipes, and both by day and night slightly opening the ventilators; in order to check evaporation, give the border a covering of clean straw. Previous to cutting the fruit cleanse the grape room, and bottles, fill the latter with clean water, place in each bottle a piece of charcoal, and fix them in the rack. When gathering the grapes, be careful not to rub the berries, cut the laterals immediately above the buds required for next year's crop, and leave the points their full length. When placing the laterals in the bottles, see that their ends reach the water, and subsequently keep the bottles filled with water, decaying berries removed, and the temperature of the room at about 50 deg.

PRUNING VINES.—It is a good practise to prune the rods in each vinery as soon as they have lost their leaves, provided the fruit has been gathered, for early pruning has beneficial influences, inasmuch as it concentrates the sap upon the buds that yield the next year's crop of fruit, and thus in this direction prevents waste of energy. It also secures complete rest, and to a great extent prevents bleeding. In spur pruning, which is both the most simple and most generally adopted method, each lateral should be cut back to two sound basal buds, for, though in the case of vigorous young vines good crops may be often secured by pruning back to one bud, there is generally greater certainty about having good crops when two buds are left, and surplus shoots thus encouraged can be simply dispensed with by disbudding as soon as the fruit shows.

STRAWBERRIES.—There should be no further delay in placing strawberries in quarters where they will keep in a healthy condition, and where the pots can be protected from injury by frosts. For those at least that have been prepared for early forcing accommodation should be found in cool pits, or frames, where the pots should be plunged in tree leaves or cocoanut-fibre refuse, and protected by lights in severe weather. Those that cannot be treated in this way may be firmly plunged closely together, to the rims of their pots, in beds of fine ashes, the sides of the beds being supported by planks placed on edge. Plants treated in this manner, provided the drainage is in good order, will receive no injury from exposure to rain, but as a protection to their pots they should be efficiently covered during spells of severe frosts by bracken, or a similar material. While the plants are at rest a favourable opportunity should be taken to top-dress with fresh compost, and in doing this first remove the surface soil, and then add fresh compost, and make tolerably firm with a rammer.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

CAULIFLOWERS.—Late plants will be found very useful for prolonging the season if they are lifted with a good ball of earth attached, and placed close together in pits or frames, whereas if left in their quarters they will succumb to frosts. Give them a good watering, and admit air in plenty on all possible occasions. Treated thus, very nice heads will turn in right up to the winter. Those sown in August and September for producing heads during the spring and early summer should be well cared for in the way of clearing the dead basal leaves away, stirring the soil, and admitting plenty of air.

CABBAGES.—Hoe regularly, and fill up any gaps from the seed bed. Prick out seedlings thickly in a sheltered quarter for spring planting, and for making good any vacancies that may appear at that time in the maincrop beds.

HORSERADISH.—It is a good plan to take up and trench a part of the bed annually, and the work can be done at this season. Take out all roots, laying the serviceable ones in soil or sand for winter use. Well trench the ground, incorporating a dressing of manure, and when completed, place selected thongs in rows, eighteen inches apart, one foot from each other, and six inches below the surface.

GLOBE ARTICHOKES.—These will now need protection; all worthless and decaying leaves should be cleared away with the flower stems, and the plants be dug round and given a dressing of four inches of cinder ashes placed around each crown. Bracken or long stable litter should be in readiness to place around the stools during frosty weather, but it must be drawn away during spells of open weather. To make sure of the crop young strong suckers should be taken up with a ball of earth, and put into ten-inch pots, placing them in cold frames for the winter; this is very necessary on very wet, heavy soils, and the plants will be found more fruitful than crowns which remain in one place for years.

CHICORY.—This can now be brought forward by placing the roots a few inches apart in a dark corner of the mushroom house, at intervals. More seakale can be placed in the same structure, but in larger quantities, as it will now respond more readily to forcing.

POTATOES.—Where these are planted early, it is not too soon to prepare the "sets" by placing them in an upright position, thickly, in boxes, on a base of leaf-soil, in a light cool house. Choose moderate-sized tubers. We find May Queen and Express two very good varieties for early use. As room can be found for the main crop seed potatoes, lose no time in laying them on shelves in a light, but not too dry, position just free from frost.

FRENCH BEANS.—Where room is available sow these at intervals in 60-sized pots, placing six seeds in a pot, finally putting them into 24-sized pots in a warm and light compost.

GENERAL.—Sow forcing carrots in frames on a mild hotbed. All endive of usable size should now be comfortably under cover; the late sowings that are small will stand under a wall for spring planting. Late sowing of lettuce can be pricked out thickly in cold frames for spring planting on mild hotbeds, and in sheltered positions outside. Beds of winter spinach should have every attention during favourable weather, and if in exposed localities a row of fir branches placed on the cold side of the crop will give useful shelter. Collect all garden refuse, and place on the rubbish heap, and, lastly, have in readiness plenty of protecting material for celery.—Geo. Ellwood, Swanmore Park Gardens.

"**Botanical Magazine.**"—The plants figured and described in the issue for November are **Xeronema Moorii**, a somewhat striking liliaceous plant, with bright red-purple flowers, which is a native of New Caledonia, where it is found growing on volcanic rocks at an elevation ranging from 3,000 to 5,000 feet above the sea level. Columnea Oerstediana, a handsome gesnerad, with slender pendant growths, and bearing comparatively large rich red-pink flowers; it is a native of Costa Rica, and was discovered about half a century ago. Pyracantha angustifolia, an attractive species, elegant in growth, and bearing a profusion of white flowers, which are followed by a plentiful crop of orange-coloured fruits; the species was discovered by Delavay in Yunnan in 1882, and was referred by Franchet in 1889 to Cotoneaster as C. angustifolia. Houlletia Sanderi, an interesting Peruvian species bearing cream-coloured flowers; Pleiocarpa mutica, a distinct stove shrub, introduced from the Cameroons, and bearing a profusion of white flowers, which are arranged in clusters, and are not unlike some of the bouvardias in form.

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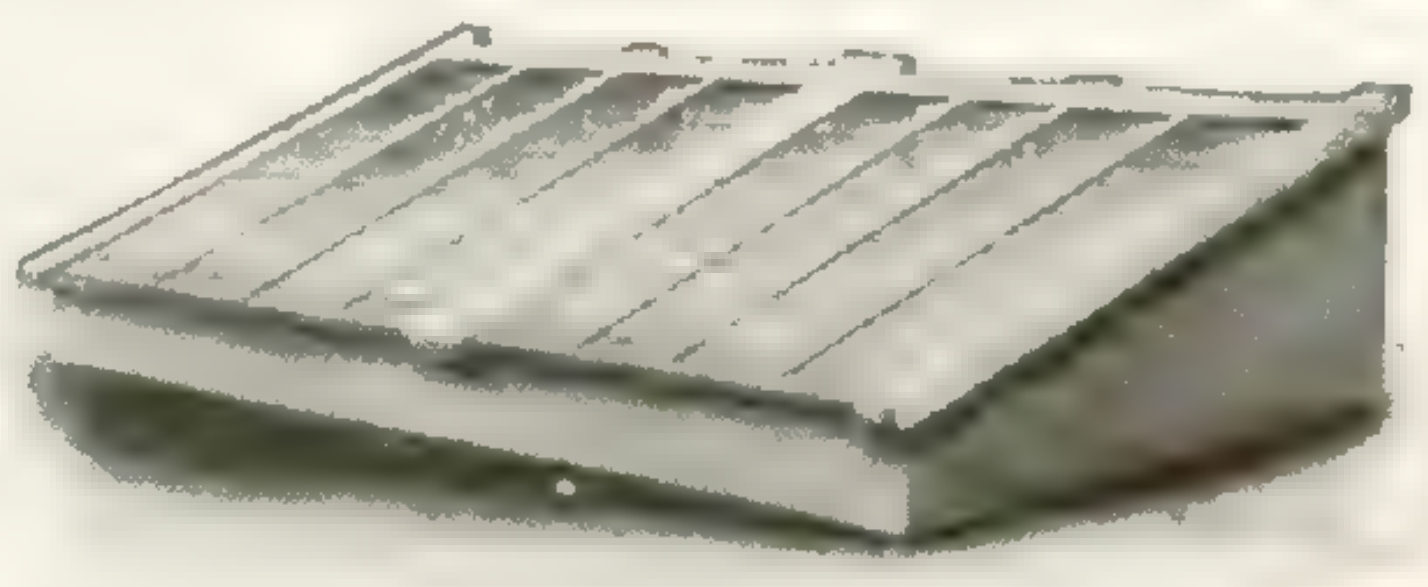

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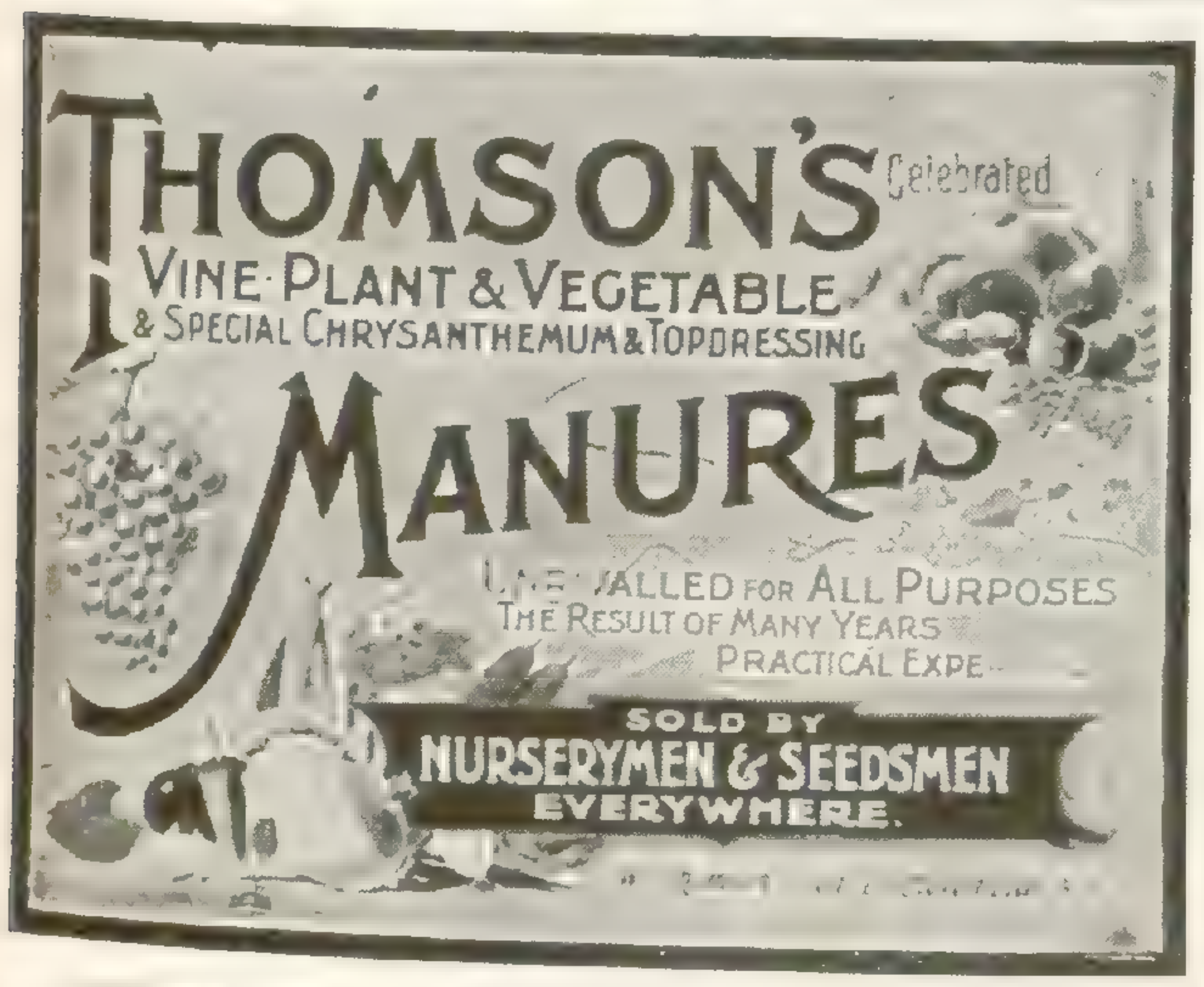

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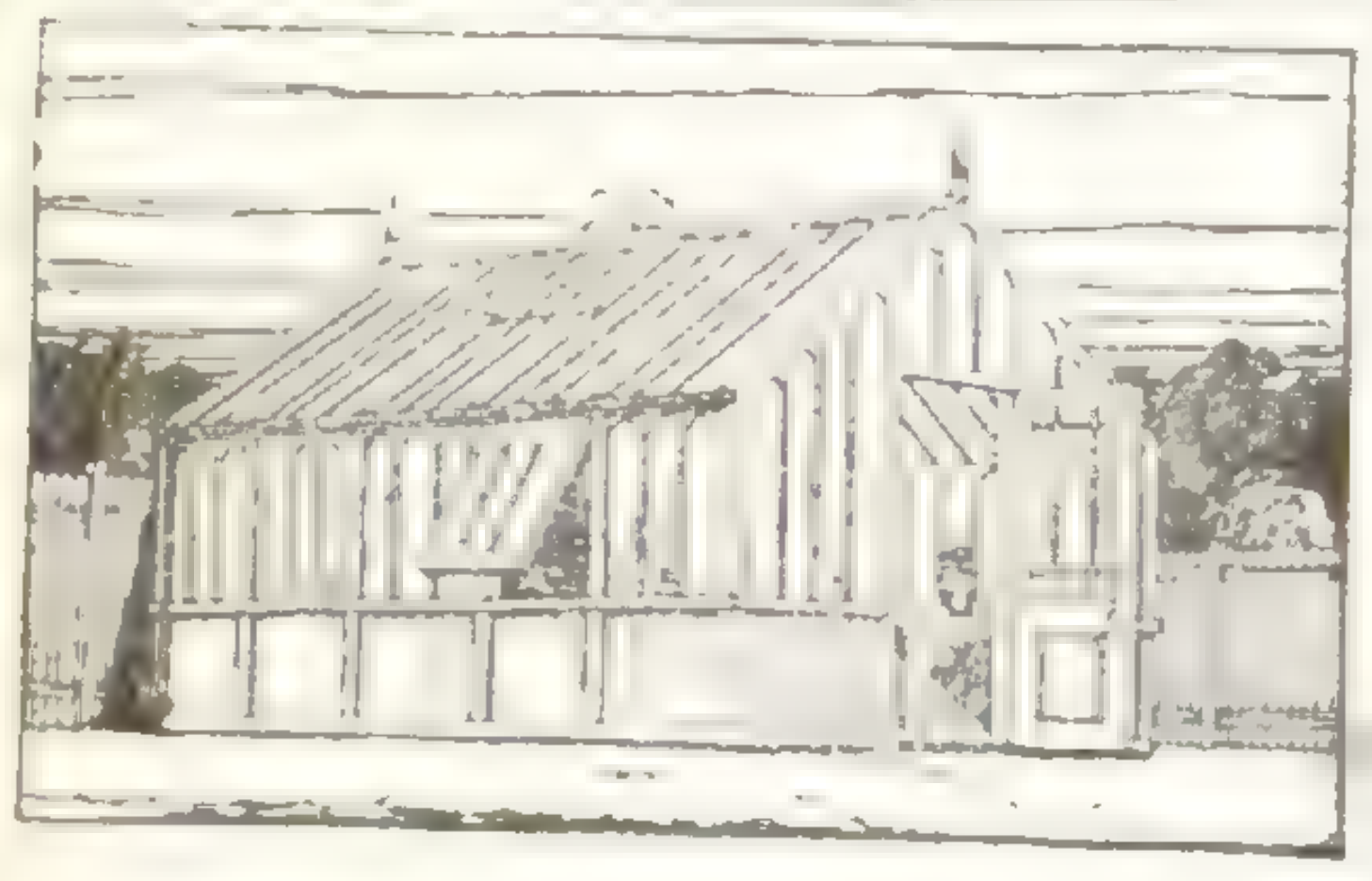

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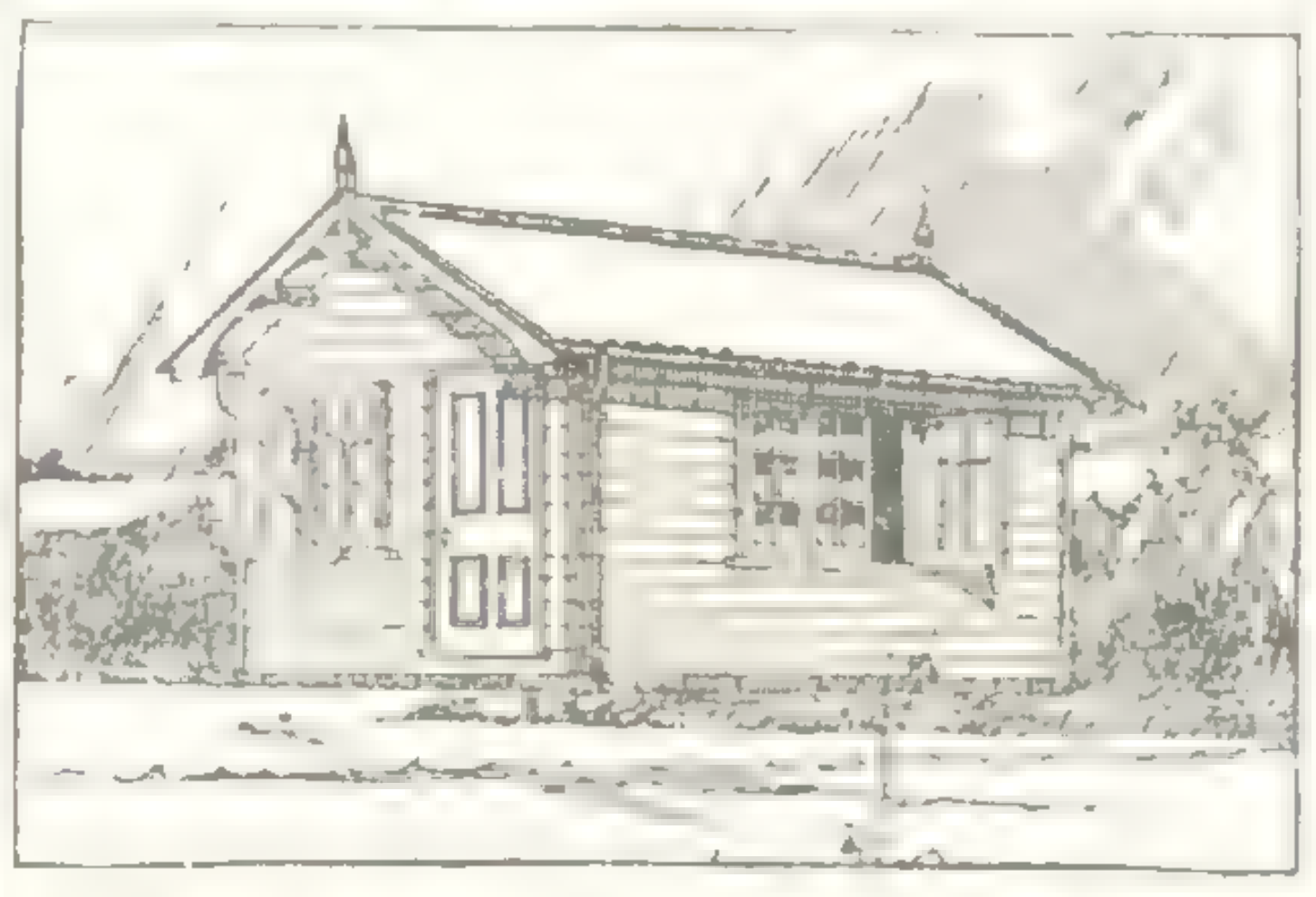

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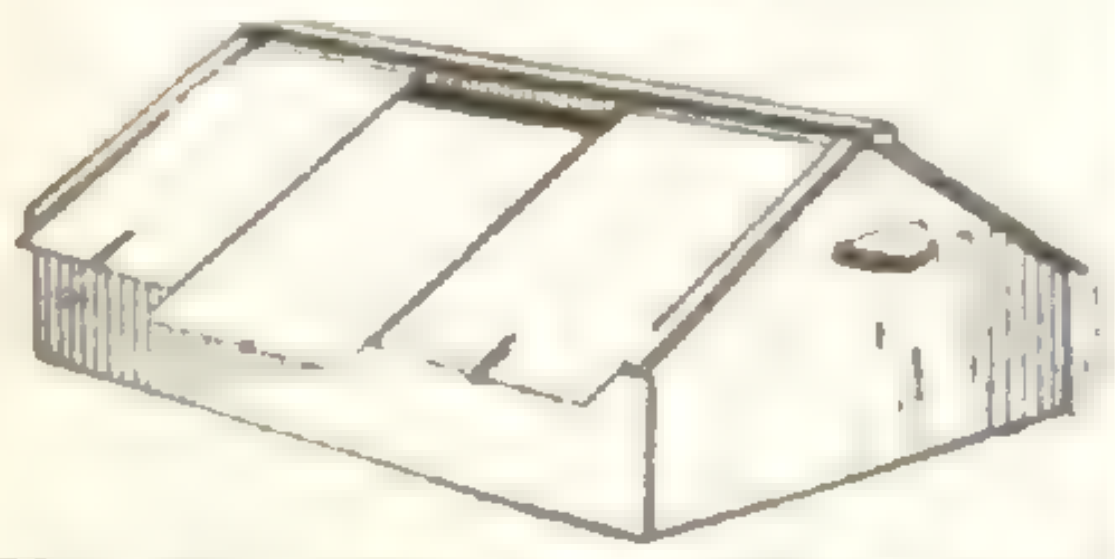

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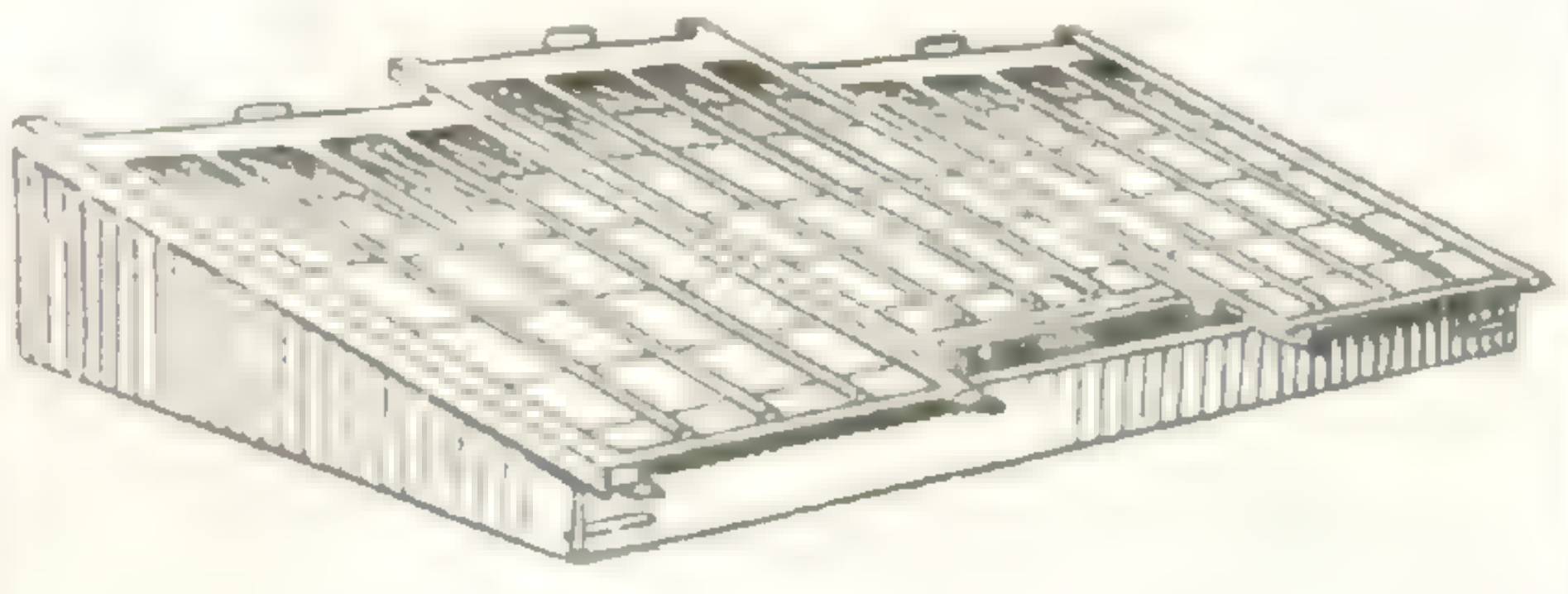

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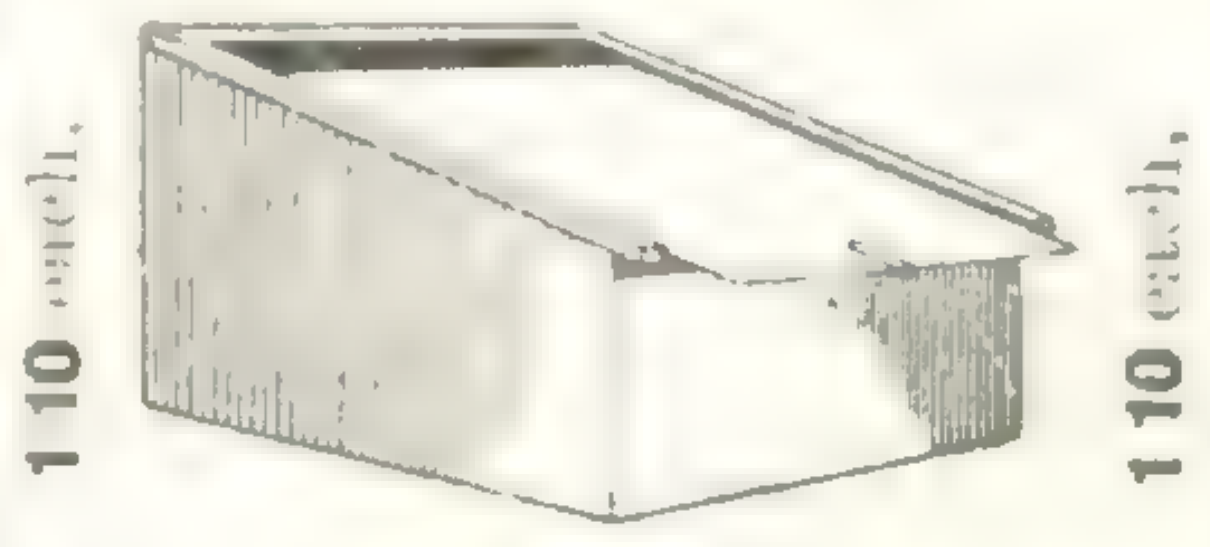
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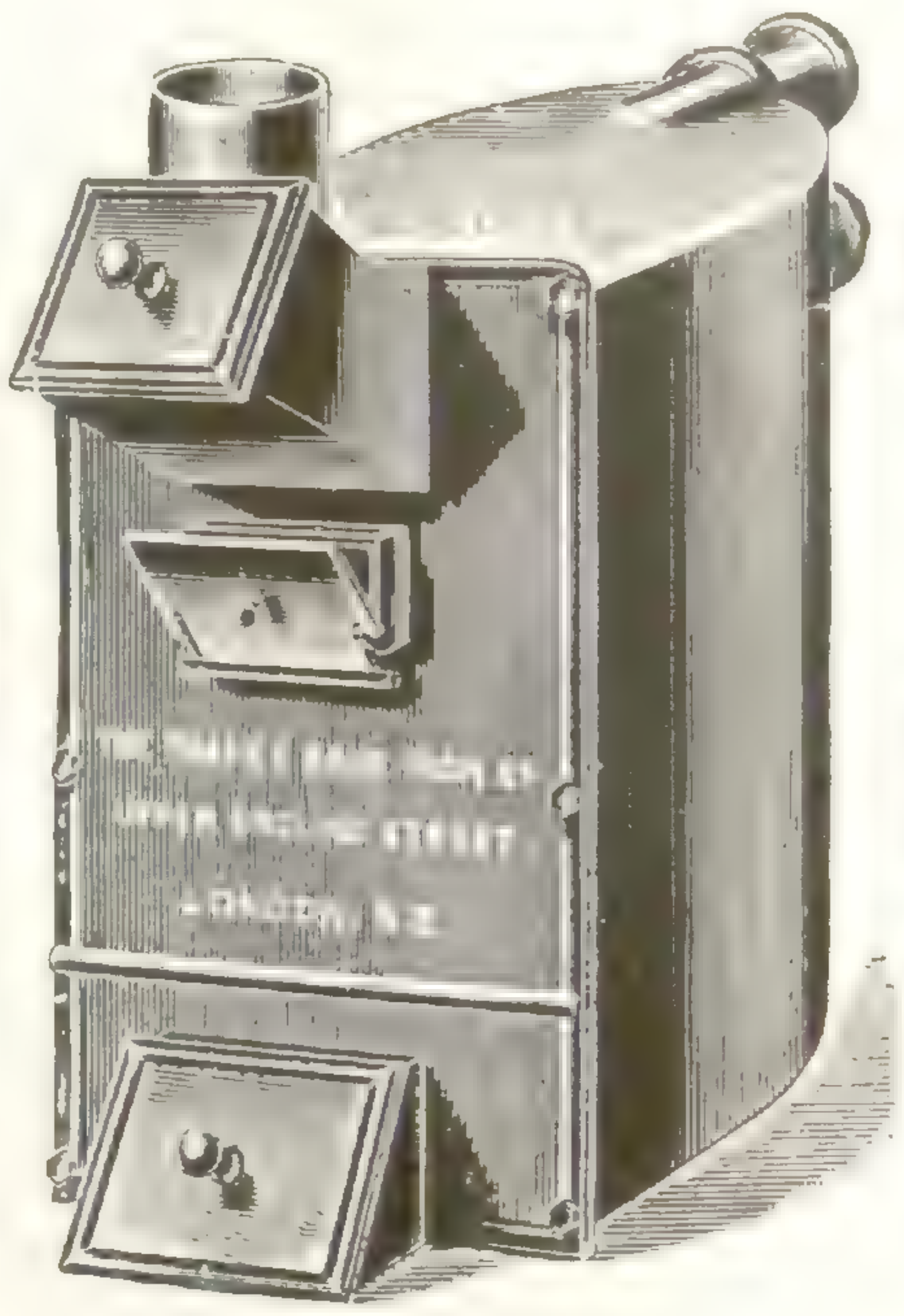

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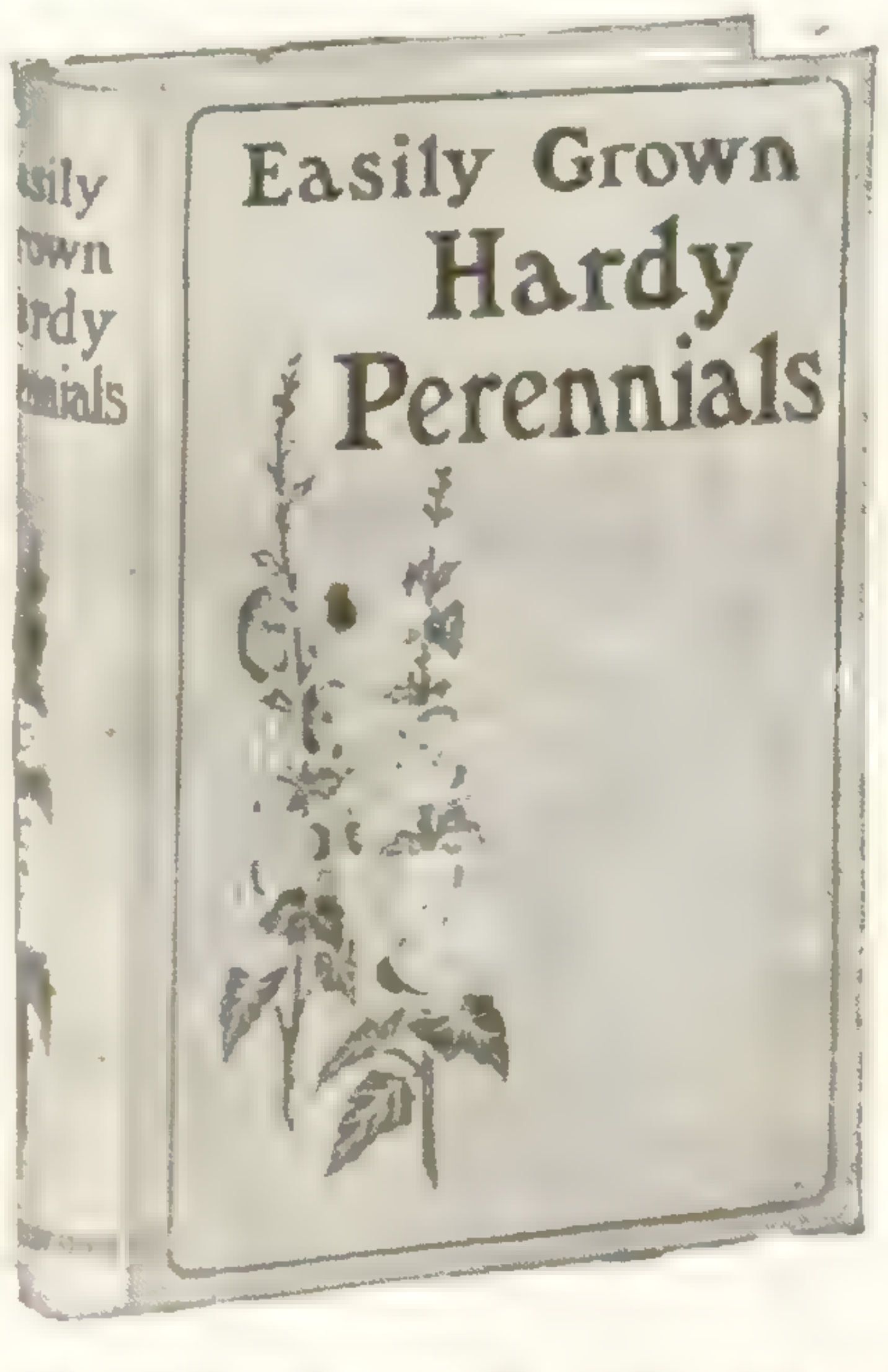

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EXHIBITIONS AND MEETINGS.

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Sheffield.

The annual exhibition of the Sheffield Society was held, as usual, in the Corn Exchange, and the dates were November 11 and 12. The big building was fairly well filled with exhibits, and cut flowers were very much in the ascendant. Groups and plants were conspicuous by their absence, but displays and trade groups made a good setting as arranged against the side wall and at the entrance end. The previous evening was extremely wet and windy, and the opening morning was unpleasant. Mr. C. Cook continues to fill the duties of secretary in an able manner, and he is well supported by a hard-working set of committee men and stewards who do not shirk their part of preliminary and tedious duties on the show morning.

Some alteration of the arrangements for judging seem necessary. The schedule states that the show will be open to the private view of patrons and subscribers from 1 to 2 p.m., to the public from 2 p.m. onwards, but judging was not nearly finished by 2 p.m.

At Sheffield one always sees the beautiful old incurved varieties of the Rundle family shown well, and on this occasion the artisans showed no fewer than fourteen stands of six blooms each.

CUT FLOWERS.

The leading cut flower class was for three dozen Japanese chrysanthemums, in not less than twenty varieties, arranged on boards, and here the premier award was the handsome Broomhead Memorial Shield (held for the year only) £6, and a medal. There were three entries, and the best of these was from Mr. G. W. Drake, Cardiff, who scored 97½ points, with good blooms of the following varieties: Lady Talbot, W. Gee, F. S. Vallis, President Viger, Chrys. Montigny, Mrs. G. Milcham, Marquis of Northampton, J. W. Molyneux, J. H. Doyle, J. Lock, Valerie Greenham, Madame Paolo Radaelli, Reginald Vallis, Maud Jefferies, Rose Pockett, Leslie Morrison, W. A. Etherington, O. H. Broomhead, Bessie Godfrey, J. H. Doyle, Pockett's Crimson, Gladys Blackburn, Master James, Walter Jinks, and J. H. Silsbury; the second prize fell to Mr. W. Iggulden, Lock's Hill Nurseries, Frome, who totalled 88¼ points; Mr. W. C. Hyde, Pitsmore, Sheffield, third.

Next in order of importance came the class for six vases of Japanese blooms, three blooms of one variety in each vase. There were three competitors again, and first prize was awarded to Mr. C. Jennings, Aston Hall, North Ferriby, who had grand flowers of Mrs. A. T. Miller, Master James, Mrs. L. Thorne, Marquis Visconti Venosta, Reginald Vallis, and Lady Talbot; the second prize went to Mr. W. Iggulden; and third to Mr. W. Drake.

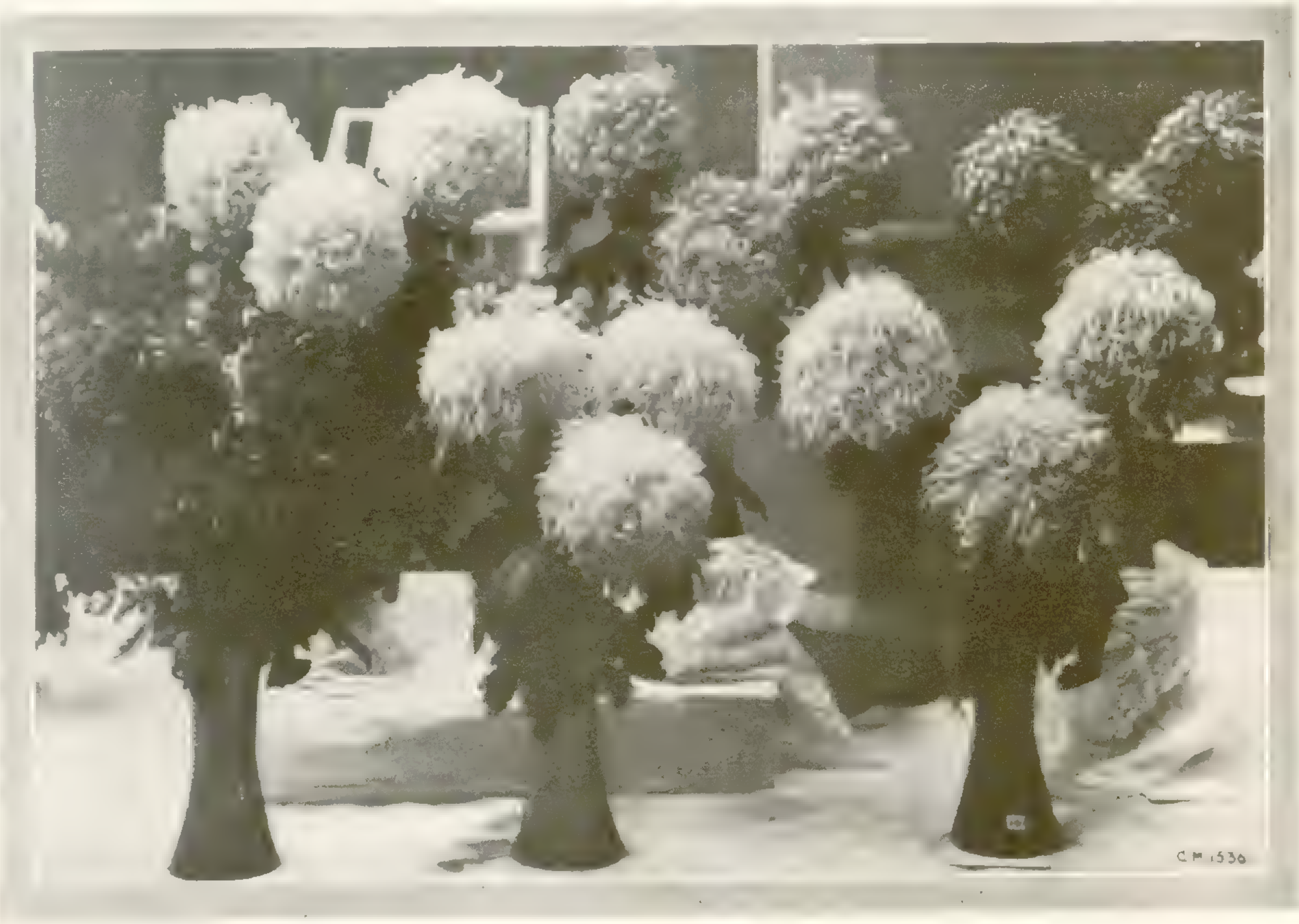
Mr. Drake led for six vases of incurved blooms with finely finished examples of G. F. Evans, C. H. Curtis, Bocace, G. W. Matthews, Mrs. F. Judson, and Miss N. Threlfall; Mr. C. Jennings, second, and Mr. J. Harrison, Walkley, third; three entries. The best two vases of incurved were from Mr. Drake, who was followed by Mr. C. Jennings and Mr. J. Harrison, as placed. Mr. Jennings led for a vase of white chrysanthemums with Mrs. A. T. Miller; Mr. Drake second, and Mr. Spencer, gardener to Mrs. Roberts, Park Grange, Sheffield, third.

Mr. H. Woolman, Shirley, secured the premier award for a display of single chrysanthemums, arranged on a space 12ft. by 5ft., and he won with a very fine display of good blooms, well set up in stands and vases of various sizes, some of the best being Felix. [illegible], E. Pagram, Sylvia Slade, Altrincham Yellow, Stella, and J. L. Tredwell; Messrs. Seagrave and Co. came second, and Mr. W. E. Hyde third, and all showed well, the class proving a considerable attraction.

Mr. Iggulden staged the best vase of a yellow Japanese variety, staging Mrs. W. Iggulden finely; Mr. Drake second, and Mr. Jennings third.

There were several entries in the class for a display of chrysanthemums arranged for effect on a table space 6ft. by 3ft., and here Mr. James Harrison came to the front with an exhibit of fair-sized flowers, representing Japanese, incurved, and single varieties, all well arranged; Mr. W. Rednall, gardener to J. Milner, Esq., Sharrow, came second; Mr. C. Hyde, third; and Mr. Ayan, gardener to S. Roberts, Esq., Sheffield, fourth.

In the district class for four vases of Japanese chrysanthemums, three blooms of one variety in each, Mr. W. Fletcher, Mr. J. Harrison, and Mr. C. Fletcher secured the awards in order as placed. For two vases of Japanese blooms the awards fell to Mr. W. Spencer, Mr. W. Fletcher, and Mr. J. Harrison, as placed. In this division the class for six vases of single chrysanthemums was a very good one, and premier award fell to Mr. D. Lewis for particularly beautiful flowers of Master Lour, White Chief, Cream King, Edward Lewtas, Seagull, and Ajax; Mr. W. Spencer, second; and Mr. W. Hartley, Barnsley, third.



FIRST PRIZE SIX VASES OF JAPANESE BLOOMS AT SHEFFIELD.
Exhibited by Mr. C. Jennings, Aston Hall, North Ferriby.

In the amateurs' and cottagers' section there were hosts of flowers, and many of these were of good quality. In most of the classes there were six prizes given. Mr. W. Fetcher and Mr. C. Fetcher, both of Stannington; Mr. W. Crawshaw, Woodend View; Mr. W. J. Carnall, Sheffield; Mr. A. Asfurth, Hillsbro'; and Mr. W. Lee were the most successful competitors.

Mr. Spencer scored for a basket of chrysanthemums, while for a dinner table arrangement Mr. Lewis, gardener to W. A. Milner, Esq., Totley Hall, was first prize winner with a bright design in rich bronze-red single varieties; Mr. C. Hyde, second with bronze Source d'Or, and Messrs. Seagrave and Co., third, with deeply coloured flowers of Primula obconica.

PLANTS.

Mr. E. Mills was a good first for six Begonia Gloire de Lorraine, winning with pyramidal specimens that were, in some instances, four feet high; Mr. W. Spencer, gardener to Miss Roberts, second. Six table plants made up a good class, Mr. C. Hyde and Mr. E. Mills coming first and second in a good competition. Mr. Agar led for six specimen ferns with large examples of plumose nephrolepis, pteris, Asplenium bulbiferum, and Adiantum Weigandi; Mr. C. Hyde, second; and Mr. Clapham, Broomhall Park, third. Mr. Hyde was first for two specimen plants with a pair of well-grown palms.

FRUIT AND VEGETABLES.

Mr. C. Hyde was the only exhibitor in the class for a collection of fruit. He was awarded first prize for a collection that consisted of one bunch each of Muscat of Alexandria and Alicante grapes, and dishes of Beurre Bachelier and Doyenne du Comice pears, and Charles Ross and Cox's Orange Pippin apples. There was not a strong competition in the grape classes. For two bunches, black, Mr. W. Evans, Totley Hall Gardens, secured first prize with Gros Colmar; Mr. E. Cotterall, gardener to J. W. Cocker, Esq., Thornsett, Sheffield, second, with Alicante. Mr. C. Hyde was the only exhibitor of white grapes, showing Muscat of Alexandria with shrivelled berries; he was awarded a first prize.

Vegetables were not particularly well shown; Mr. J. E. Davis, Ballathie, Stanley, Perthshire, led in the class for six kinds, prizes offered by Messrs. Sutton and Sons, Reading, and was followed by Mr. C. Hyde, and Mr. Bradley, Totley.

NON-COMPETITIVE.

Messrs. Seagrave and Co., Gleadlees, Sheffield, put up a very large exhibit of cut chrysanthemums, arranged effectively with palms, crotons, bamboos, and ferns. The emergency exit door came in the centre of their display, and over the top of this Messrs. Seagrave arranged pot chrysanthemums, cut flowers, and foliage plants, draping this part of the group with Asparagus Sprengeri. Mr. H. Woolman, Shirley, set up some large vases of popular Japanese and incurved chrysanthemums, and with these displayed smaller vases of the old-fashioned incurved varieties of the Rundle family, as well as modern singles.

The Government of British Columbia contributed a very interesting exhibit of finely coloured fruit, the apples being the great feature, and a particularly fine one; Baldwin, Jonathan, Spitzenberg, Grime's Golden, and King of Tompkin's County were unusually well represented. Messrs. W. Wells and Co., Merstham, showed examples of their White House carnation, and such chrysanthemums as Clara Wells, Mrs. R. A. Witty, Lady Crisp, Shanklin, Marie Loomes, and some beautiful single varieties.

Messrs. Hiram Shaw and Son, Richmond Hill Nurseries, Sheffield, filled one corner of the great hall with a handsome group of floral and other designs, consisting of crosses and vases of chrysanthemums, baskets of orchids and roses, baskets of grapes, etc., etc., set in a groundwork of heaths, ferns, solanums, and other useful plants. In the opposite corner a rather flat group of chrysanthemums and foliage plants was displayed by Mr. E. Haworth, Pitsmoor.

Hitchin.

The Hitchin Chrysanthemum Society held its exhibition in the Town Hall and adjacent gymnasium on November 10. The display was an excellent one, and though there was a falling off in the miscellaneous group class, this seemed to be the only weak spot. Cut flowers were very fine, especially those in vases, while the classes for single and decorative varieties proved particularly attractive. The day was fine, at least until evening, and it is therefore to be hoped that the takings at the door were good. The society deserves far better support than it receives, and it would be a thousand pities if, for lack of financial support, the work of the society should cease.

CUT BLOOMS.

There were five entries in the leading class for six vases of Japanese blooms, three flowers of one variety in a vase, and here the silver challenge cup fell to Mr. J. Jefferies, gardener to J. Balfour, Esq., Moor Hall, Harlow, who scored with grand examples of Lady Talbot, Francis Jolliffe, Mrs. A. T. Miller, Master James, F. S. Vallis, and John Peed. The second prize fell to Mr. T. J. Hartless, gardener to T. Fenwick Harrison, Esq., King's Walden, Bury, who had Mrs. C. H. Totty, Mrs. A. T. Miller, Madame G. Rivol, and Rose Pockett in good form. Mr. J. Coutts, gardener to M. R. Pryor, Esq., Weston Park, Stevenage, came third; and Mr. E. Thayer, gardener to W. Bailey Hawkins, Esq., Stagenhoe Park, Welwyn, fourth.

For four vases of Japanese blooms, three blooms in each, another challenge cup was offered, and this was secured by Mr. R. H. Crockford, gardener to C. Poyntz Stewart, Esq., Chesfield, Stevenage, with fine flowers, unlabelled; Mr. T. C. Sadler, gardener to Mrs. Cotton Browne, Walkers Hall, Stevenage, second; and Mr. H. Harding, gardener to Mrs. Grace Harris, Sele Lodge, Hertford, third. Mr. Hartless scored for a vase of incurved blooms with Emblême Poitevine in grand form; Mr. Sadler second, and Mr. Thayer third. For one vase of a Japanese variety, five flowers, Mr. R. H. Crockford, won first place with Reginald Vallis in fine form; Mr. T. Pateman, gardener to C. A. Cain, Esq., The Mole, Welwyn, second; and Mr. J. Coutts third.

Chief award for a vase of white Japanese variety was won by Mr. Pateman with Mrs. A. T. Miller, Mr. Coutts second, and Mr. Crockford third, each with Mrs. A. T. Miller. Mr. W. G. Willmott, Chiltern Road, Hitchin, had the best vase of any Japanese variety, and showed Mrs. C. Beckett. Premier award for a dozen Japanese chrysanthemums on boards was won by Mr. T. J. Hartless, who scored with fine specimens of Bessie Godfrey, Merchett Beauty, Madame Paolo Radaelli, Pockett's Crimson, Rose Pockett, Mrs C. H. Totty, Mrs. A. T. Miller, Mary Poulton, Algernon Davis Master David, White Queen, and Reginald Vallis; Mr. E. Thayer second, and Mr. Pateman third. Mr. Crockford scored for six Japanese, and was followed in order by Mr. T. C. Sadler, and Mr. H. Harding.

Three vases of single varieties, six sprays of one variety in each vase, proved a most attractive class. There were ten entries, and the winner was Mr H. Bates, gardener to Miss Robertson, Sele Grange; Mr. Orsman second, and Mr. W. Robinson, gardener to F. Ransom, Esq., The Chilterns, third. Equally good was the class for a dozen vases of decorative chrysanthemums staged under similar conditions, and here Mr. Robinson was to the front, followed by Mr. C. Green and Mr. A. Wilson, gardener to A. Ransom, Esq., Baslow, Hitchin.

FLORAL ARRANGEMENTS.

There were several classes for ladies, the chief one being for a table decoration of chrysanthemums. There were nine competitors, and Sister Ernestine, Warren Hee, Hertford, annexed the premier award with a dainty arrangement of the single variety Mary Richardson; Miss E. C. Cooper, Sun Street, Hitchin, a good second, with a design in the same variety; Mrs. Charles Green, Hitchin, third, with yellow flowers; and Miss Armstrong, Fishpond Road, Hitchin, fourth. Baskets of chrysanthemums were very fine, and Sister Ernestine was placed first with a beautiful and bold exhibit of a rich bronze single; Miss A. R. Lucas second, and Mrs. Crockford, Chesfield, Stevenage, third. Sister Ernestine was also first for a vase of any flowers and foliage with scarlet carnations; Mrs. Crockford second, with Lilium speciosum, and Miss A. R. Lucas, Tile House, Hitchin, third.

GROUPS AND PLANTS.

All the chrysanthemum groups at Hitchin were edged and faced with ivy sprays, and this makes an admirable setting. There were two entries in the large group class, and here the secretary, Mr. W. G. P. Clark, York Road, Hitchin, was a comfortable first with a well-arranged display of fine flowers. Mr. E. Orsman, gardener to S. Lucas, Esq., Hitchin, second, with a rather too formal exhibit. There were four groups in the amateur class for a display on a space 6ft. by 3ft. 6in., and here Mr. F. A. Wheeler, gardener to Dr. Foster, Hitchin, led with a pleasing arrangement, followed in order by Mr. Willmott, Elmside, Hitchin, and Mr. S. C. Taylor, Tilehouse Street, Hitchin.

Mr. Hartless had the best three winter-flowering begonias; Mr. R. H. Crockford, second, and Mr. J. Coutts third, and all showed really well. Mr. Hartless was first for three zonal pelargoniums, and Mr. R. H. Crockford was best out of five competitors for one orchid, and he led with Cypripedium insigne. Mr. Hartless led for table plants, and Mr. Pateman was easily first for six cyclamens in a considerable competition. The best three specimen chrysanthemums were huge trained bushes shown by Mr. W. Robinson, Mr. Orsman coming second, and Mr. A. Titmus, gardener to W. Tindall Lucas, Esq., Foxholes, third.

FRUITS.

Mr. C. E. Martin, gardener to Viscount Hampden, The Hoo, Welwyn, led for white grapes. Mr. Pateman and Mr. Hartless were first and second respectively for nine dishes of apples, and each staged a good collection. Mr. Pateman showed the best three dishes of pears, staging good fruits of Pitmaston Duchess, Doyenne du Comice, and Durondeau; Mr. R. Parker, gardener to Major Low, Frogmore Hill, Hertford, third. Mr. Hartless scored for black grapes, with Mr. Hawksworth, gardener to J. Flack, Esq., The Paddock, Stevenage, second. Mr. H. Hardy, gardener to Miss Harris, Sele Lodge, led for a dish of Cox's Orange Pippin apples.

In the amateurs' class for vegetables Mr. E. H. Pateman was first, and the Rev. C. Chalmers Hunt, Willian Rectory, second, for six kinds.

Bradford.

The Bradford Society is to be congratulated upon the continued success that attends its efforts to provide a fine autumn show. The St. George's Hall is an ideal place for an exhibition, except that it is rather small for the number of exhibits brought together. The show always looks well, with the table plants, cyclamen, Roman hyacinths, etc., arranged down the centre of each table between the cut flowers. The larger plants are arranged upon the orchestra, where they produce a very fine effect, but are not get-at-able, while in front of the platform the array of high-class floral designs is set out. Big prizes are offered for cut chrysanthemums, and a splendid competition results.

CUT FLOWERS.

The leading class at Bradford is for two dozen Japanese blooms, in not less than eighteen varieties, the prizes offered being £10, £7, £5, £3, and £2, respectively. The premier award was annexed by Mr. A. Chandler, gardener to Arthur James, Esq., Coton House, Rugby, who showed superb blooms of F. S. Vallis, W. Gee, Purity, Reginald Vallis, J. Peed, G. Hemmings, Lady Talbot, W. Mease, Francis Joliffe, Valerie Greenham, Hon. Mrs. Lopes, Mrs. Charles Penford, Marquise Venosta, President Viger, Bessie Godfrey, J. Lock, J. H. Silsbury, and Master James. Mr. T. Stevenson, gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey, came second, and he had grand flowers of Lady Talbot, Mrs. A. T. Bott, F. S. Vallis, Harry Wood, W. A. Etherington, W. Mease, and Rose Pockett. Mr. G. H. Drake, Cathays Terrace, Cardiff, came third; Mr. W. Iggulden, Lock's Hill Nurseries, Frome, fourth; and Mr. Charles Jones, Abergele, North Wales, fifth. Six competitors.

For a dozen Japanese blooms, distinct, Mr. Thomas Stevenson secured the chief award with big specimens of Lady Talbot, O. H. Broomhead, Duchess of Sutherland, W. Jinks, Maud Jefferies, Edith Jamieson, F. S. Vallis, Reginald Vallis, W. Rawlins, W. Mease, Hon. Mrs. Lopes, and Purity. Mr. A. Chandler had here to take second place, and Mr. Iggulden was third.

Twenty-four incurved blooms, in not less than eighteen varieties, was a class that brought out three competitors, and here Mr. G. W. Drake was to the front, securing the £7 prize with big bold specimens of G. W. Matthews, W. Biddle, C. F. Evans (of this he appeared to have three flowers), Pantia Ralli, Bocace, Mrs. F. Judson, Emblême Poitevine, M. Muelanare, Mrs. G. Denvers, Lady Isabel, Mrs. J. Agate, Clara Wells, Nellie Threlfall, and Doris Rayner. Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, was a capital second; and Messrs. H. Clark and Sons, Rodley, near Leeds, were third. The best dozen incurved blooms were those shown by Mr. W. Mease, whose varieties were Clara Wells, Edwin Thorp, C. H. Curtis, Buttercup, Triomphe de Montbrun, Mr. J. Wynne, Mrs. G. Denyer, Mrs. J. P. Bryce, Lady Isabel, W. Pascoe, Emblême Poitevine, and Mrs. H. J. Jones; Mr. G. W. Drake was second.

Twelve bunches of singles proved an attractive class, and premier award was won by Mr. J. Thornton, Lumb Hall Nurseries, Drighlington, whose varieties were Altrincham Yellow, Crown Jewel, Edith Pagram, G. W. Parkinson, May Anderson, Mary Richardson, Rosie Belle, Kitty Bourne, White Pagram, Felix, Queen Alexandra, and Ronald Ferguson; Messrs. H. Clark and Sons, Rodley, came second; and Mr. W. Moorby, Rhodes Street, Shipley, third.

For six vases of Japanese blooms, three blooms in a vase, Mr. A. Chandler won first prize with splendid examples of F. S. Vallis, J. H. Silsbury, Reginald Vallis, Lady Talbot, Mrs. G. Mileham, and Algernon Davis; Mr. W. Iggulden was second; and Mr. C. Jones, Abergele, third.

The chief of the local cut bloom classes was one for eighteen blooms, distinct; there were six competitors, and first prize was won by Messrs. H. Clark and Son; Mr. J. Thornton second, and Mr. H. Foster, St. Ives, Bingley, third. For six Japanese Messrs. H. Clark and Son led, followed by Mr. J. Thornton, and Mr. R. C. Jones, gardener to J. M. Kitson, Esq., Highfield, Branley, third. Mr. J. Thornton scored for a dozen incurved, with Messrs. H. Clark and Son second, and Mr. T. Bird, Valley Street, Windhill, third. Mr. J. Thornton, Mr. E. T. Smith, Mr. W. Aldridge, gardener to Mrs. Constable, Manor House, Otley; Messrs. H. Clark and Son, and Mr. J. W. Bries, Ivy Bank Cottage, Halifax; and Mr. A. Rowling, Cottingley, were the other leading prizewinners.

Carnations were very good, and in the class for six vases Mr. W. Iggulden led the way with handsome flowers. Mr. A. Chandler coming second, and Mr. F. Howland, Rawdon, third.

GROUPS AND PLANTS.

An interesting class is the local one for a group of eighteen chrysanthemums, shown in six vases, and set amid plants and foliage in a tasteful manner on a space 6ft. by 3ft. The silver cup, given by the Lord Mayor of Bradford, is the premier award, and this was won by Mr. L. Shearman, Undercliffe Cemetery, with good flowers, associated with crotons, asparagus, etc. Mr. W. Baldwin, New Laithes, Horsforth, second; and Mr. W. Robinson, gardener to C. B. Shaw, Esq., J.P., Shipley Grange, third; seven entries.

Mr. G. W. Dunsmore, gardener to J. Hill, Esq., Throstle's Nest, Allerton, led for six pots of Roman hyacinths, with excellent material, while Mr. A. E. Brown, gardener to C. Beverley, Esq., Farsley, was equally successful with six pots of lily of the valley.

FLORAL DECORATIONS AND FRUIT.

Floral decorations are always a feature at Bradford, and on this occasion the display in this section of the show was as good as ever. Mr. J. Brooke, Market Hall, Bradford, scored for a bouquet of roses, with Mr. M. Brooke North Parade, Bradford, second. Mr. J. Brooke led for a bouquet of carnations with pink flowers; Mr. M. Brooke, second. The premier bouquet of orchids was a charming design in oncidiums, cattleyas, odontoglossums, and a few cypripediums, by Mr. J. Brooke, Mr. M. Brooke following closely. These two close competitors reversed positions, however, in the class for a bride's bouquet, Mr. M. Brooke using white orchids and lily of the valley.

Mr. Midgley, gardener to R. J. Foster, Esq., Queensberry, had the best basket of chrysanthemums in one class, and Mr. R. Field, Eldwick, the first prize in another class. Mr. M. Brooke scored for a bouquet of chrysanthemums, but this looked a very limp affair late in the evening, when we saw it; Mr. Midgley second.

Mr. E. T. Smith, Bankfield, led for a pair of bunches of white grapes; Mr. F. Howland second, and Mr. J. Backhouse, gardener to J. N. Ambler, Esq., Heaton Mount, third; five competitors. There were eight entries in the class for a pair of bunches of black grapes, and here Mr. A. Kirk, gardener to W. Brown, Esq., Swinsby, was first with giant clusters of Barbarossa; Mr. E. T. Smith, second, and Mr. M. Midgley, third.

NON-COMPETITIVE.

Mr. J. Brooke, Market Hall, had a pretty display of floral designs and choice pot plants. Messrs. A. J. Keeling and Sons, Bradford, showed a small, but very attractive group of cypripediums, in which choice C. insigne varieties were greatly in evidence. Some very fine floral designs were staged in a large group by Mr. M. Brooke, North Parade, and these added greatly to the general effect of the show. The British Columbian Government filled a small side hall with a splendid contribution of fine, bright, and clean apples, many of them of popular varieties; this proved a most attractive exhibit. We also noticed that some friends had a stall of flowers, and offered buttonholes, etc., for sale on behalf of the Royal Gardeners' Orphan Fund.

Southampton.

NOVEMBER 8 and 9.

In the Artillery Drill Hall the annual autumn exhibition was held, and was quite the best of recent years. Cut blooms were the most prominent portion of the display, as they usually are here, being numerous and of high quality. Fruit and vegetables were conspicuous features. The arrangements were of the usual high order of merit in the experienced hands of Mr. C. S. Fuidge, who has held the post of secretary now for thirty-six years.

CUT BLOOMS.

In the section for flowers shown in vases, the leading class was for twelve Japanese varieties, three blooms of each, and there were six competitors. The winner was Mr. W. Baxter, gardener to Captain F. J. Dalgety, Lockerley Hall, Romsey, who had specimens of the following in high-class condition: Mdme. P. Radaelli and its yellow sport Mdme. G. Rivol, W. A. Etherington, Edith Smith, Lady Talbot (extra fine), W. Rawlings (a trifle coarse), Purity, Master James (rich colour), Hon. Mrs. Lopes, Reginald Vallis, F. S. Vallis, and Mrs. Norman Davis. Mr. T. Stevenson, gardener to E. G. Mocatta, Woburn Place, Addlestone, Surrey, was a good second, Valerie Greenham, Bessie Godfrey, F. S. Vallis, and Lady Talbot were noteworthy; Mr. F. Chandler, 75, Shirley Road, Southampton, third

For six Japanese, any two white-flowering varieties, three blooms of each, there were three competitors. Mr. Chandler won with fine specimens of Purity and Annie Nichol; Mr. W. Hall, gardener to Major Chichester, Embley Park, Romsey, second. In a class for any two other than white, three blooms of each, Mr. Chandler again led amongst four with F. Payne, and F. S. Vallis, really fine blooms they were; Mr. Baxter second with F. S. Vallis and Master James.

Single-flowered varieties receive their due share of attention here. For six, distinct varieties, disbudded, there were nine entrants, making a charming display. Mr. Stevenson won with a remarkable exhibit: the varieties were Marsa, white; Pictor, soft pink; Bronze Pagram, Metta, Forbes Pink, and Framfield Beauty; Mr. C. Dymott, Freemantle Nurseries, second, staging well also. In a similar class, without disbudding, nine took part. Mr. C. Dymott here led with extremely well-flowered examples of Mary Richardson, Laura Hearne, Lily Beer, Edith Pagram, Merstham Beauty, and Peter Pan; Mr. Stevenson second with a good set also.

What are known as decorative chrysanthemums, in addition to singles, are here remarkably well shown. In the class for four varieties there were eleven competitors, and Mr. Chandler was awarded the first prize for small blooms of such forms as Alice Byron, Lady Talbot, O. H. Bromhead, and W. Gee, which hardly represented the inference in the schedule. The second prize exhibit, from Mr. Dymott, was more in accordance with the spirit of the schedule, being really market-grown blooms of such varieties as Market Red, Hortus Tolosanus, Mdlle. Dorey, and the Rev. W. Wright.

The blooms in the following classes were to be shown on boards: In the class for twenty-four Japanese, in not less than sixteen varieties, six entered, and Mr. Baxter again led with a level lot of high-class blooms well displayed; F. S. Vallis, W. Mease, Mrs. G. Hemming, Bessie Godfrey, and Lady Talbot were noteworthy; Mr. Stevenson followed closely with a set containing many excellent blooms; Mr. A. J. Marsh, gardener to M. Hodgson, Esq., Moreton House, Kingsworthy, Winchester, third.

Incurved varieties were numerous and good. For eighteen, in not less than twelve varieties, there were five competitors. Mr. A. J. Marsh here received the premier award for a set of large, rather rough examples that were not too fresh. Romance, Godfrey's Eclipse, Clara Wells, and Frank Trestian were the best. To Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, was given the second prize, who, in the opinion of many, should have been first. The blooms were not large, but they possessed high quality, and were well finished and fresh. Clara Wells was especially fine, being selected as the premier incurved bloom in the show; Lady Talbot in Mr. Stevenson's second prize vase class was adjudged the

A MAGNIFICENT COLLECTION OF CHRYSANTHEMUMS.
Exhibited by Mr. Norman Davis at the National Chrysanthemum Society's Great Show, and awarded the Special Gold Medal offered by Messrs. Clay and Son for the best exhibit.

premier Japanese bloom. Amateurs showed really well in the various classes provided for them.

PLANTS.

Plants were not numerous, but well developed. For a group of chrysanthemums and foliage plants arranged for effect in a space twelve feet by eight feet, there were three entries. Mr. T. Hall, gardener to Lord Swaythling, South Stoneham House, Southampton, was first with good single-flowered varieties and desirable foliage plants; Mr. F. G. Bealing, Bassett Nurseries, Southampton, second. Bush plants were really well grown, being large and profusely flowered, the best four coming from Mr. C. Hosey, gardener to J. C. D. Esterre, Esq., Edenfield, Southampton; Mr. C. Dymott second. Mr. Hosey was also premier prize taker in the class for six plants, distinct, to carry not less than five blooms each, staging F. S. Vallis and Alice Byron in good condition.

Table plants were a strong feature, and in the class for six, eight competed. Mr. Ellwood, gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, was first with a charming set.

FRUIT AND VEGETABLES.

Fruit was a distinct feature. Mr. W. Hall won for three bunches of grapes. Mr. Baxter had the best white grapes, Muscat of Alexandria, really first-class. Vegetables were a strong feature, Mr. Ellwood winning the leading prize in Messrs. Sutton and Sons' class for six distinct kinds; and also in Messrs. Toogood's class for the same number of kinds. In both instances he staged extra good leeks, cauliflowers, onions, celery, and tomatoes.

MISCELLANEOUS.

Non-competitive exhibits were numerous and good. Messrs. Oakley and Watling had a fine exhibit of floral work, which was much admired. Messrs. B. Ladhams and Co. had hardy plants in good array. Mr. E. Wills, Winchester Road Nurseries, Southampton, contributed floral designs, bouquets, etc., amongst which were crosses and wreaths composed of laurel leaves, quite a feature. The British Columbian Fruit Company had a splendid exhibit of apples, and bottled fruit. Messrs. F. Hillier and Son, Winchester, had fine apples.

Weston-super-Mare.

NOVEMBER 10.

For the twenty-fifth year Weston show added to its record in entries if it did not in attendance, but this no doubt would have been larger had the weather only continued its promise of the early morning. The exhibition itself was a fine one, and in almost every instance the competition was keen, and exhibitors, inspired, no doubt, by the tactful enthusiasm of the secretary, Mr. John Lee, who is the most popular man in Weston on show day.

CUT BLOOMS.

These made a fine display, and the quality was of the best. A local exhibitor, Mr. Cook, gardener to H. Cornelius, Esq., excelled in the class for twenty-four varieties with a stand of exceptional blooms, though the casual observer scarcely comprehended the point which separated the two leaders. The best flowers were Splendour, Edith Smith, Rose Pockett, Leslie Morrison, Mrs. Knox, Maud Jeffries, and Lady Talbot. Mr. Iggulden, Lock's Hill, Frome, took the second award, having several conspicuously new sorts, among them Mrs. R. Brown, Alice Lemon, Mrs. W. H. Lewis, Ellie Green, Mrs. Iggulden, and F. Payne; third prize went to Mr. Harding, gardener to Colonel Colfax, Bridport, who staged Thomas Stevenson, and Mrs. Chas. Penford in good form. With twelve varieties Mr. Daffurn, gardener to Mrs. J. R. Murray, won from Mr. F. Tyler, Clevedon, and Mr. W. C. Perry; Mrs. Coster, Master James, and Pockett's Surprise were notable flowers.

Mr. Iggulden championed the class for six vases three blooms each, with magnificent blooms of F. S. Vallis, W. Jinks, Hon. Mrs. Lopes, Mad. Rivol, J. H. Silsbury, and Madame Radaelli. Mr. Sutton, Portishead, came next with Mrs. Knox, Pockett's Crimson, and A. T. Miller as his best. Mr. Iggulden and Mr. Hancock shared first prize for three of white and yellow flowers.

GROUPS, ETC.

Groups were good, both of large-flowered and single varieties, the latter making a new class. Messrs. Cook, Henby, and Brooks and Son were the prize winners in the first named. Mr. C. J. Ellis, Weston Nursery, was an easy first for singles, with some varieties of his own raising, notably W. Buckingham (F.C.C.) and C. J. Ellis, reputably good lasting flowers. He also scored easily for the bank of miscellaneous foliage and flowers. There were keen contests in other classes for plants, varying in size and character.

Decorative exhibits are always choice at Weston, and the well-lighted hall showed them to the best advantage. In a central position these artistic schemes in flower and foliage were pleasingly prominent. Baskets of autumn foliage were excellent.

Fruit—apples, pears, and grapes—won high opinions for the uniformly high quality all through, and the competition was both keen and full. Mr. Wilkinson, Tyntesfield, had the finest Muscats and Alicantes, and dessert pears in two classes; Mr. Curtis, gardener to Sir W. Howell Davis, M.P., also being a prominent exhibitor. Mr. J. H. Virgo, a veteran in apple culture, won in both dessert and culinary classes, four dishes each, with unmistakably good fruit. Mr. Wilkinson, with wall-grown Peasgood's outstripped several other notable growers for a single dish of apples. James Grieve, from Mr. Lane, a local grower, was the finest dish we have seen of this choice dessert apple.

Vegetables in collections and single dishes were splendid, Mr. Curry, Worle, and Mr. Shephard, Bridgwater, being notable winners.

The trade exhibits gaining gold medal awards were those from Messrs. C. J. Ellis and W. Brooks and Son, both well-known local representatives.

Dundee Horticultural Association.

This association met on the 10th inst., under the presidency of Mr. Wm. Christeson, when an interesting and instructive lecture on "Malmaison and Winter-flowering Carnations" was delivered by Mr. W. M. MacDonald, head gardener, Mount Melville, Fifeshire. Without going into wearisome detail in regard to the obscure history and hybridising of the Malmaison type, the lecturer gave a lucid and comprehensive account of his own methods of cultivation as practised with gratifying results in various parts of the country. "Perfection" was the "goal" aimed at, and this Mr. MacDonald constantly kept in view as he directed the attention of his audience to the various details, from the layering of the growths to the flowered specimens of two years old. After reaching this age he did not think it desirable to keep them, as the quality of the blooms and the appearance of the plants deteriorated. Overwatering and coddling (mistaken kindness) were, he considered, the primary causes of failure and disease, which could easily be averted were attention paid to the real requirements of the plants. This, Mr. MacDonald attributed the key-note of success. In referring briefly to the varieties of Malmaisons, the lecturer appraised Princess of Wales and Duchess of Westminster for their refined flowers. Winter-flowering carnations evidently stood very high in the lecturer's opinion: while he regretted the fact that they were not so much grown in the north as was the case in the south. As far as he could judge, his collection was as good at present as any he had charge of in the south or west. There was one thing he was confident of, and that was, they could not be grown entirely in the open in this district during the summer months, as was the practice in many places in the south. His practice was to strike the cuttings as procurable from October to February, pinching as often as possible before the end of June to ensure a bushy growth; 5 or 6-inch pots were quite large enough for the final shift to bloom the first year, but he strongly advised growing some of them on a second year. In response to the request of a member, Mr. MacDonald recommended the following varieties as the best in his collection: Aurora, Britannia, Duchess of Portland, Fair Maid, Enchantress, Harlowarden, Floriana, Jessica, Mikado, Mrs. Thos. W. Lawson, Nelson Fisher, Robert Craig, Rose Enchantress, White Enchantress, White Lawson, White Perfection, Winona, and Uriah Pike. A profitable discussion ensued, the following members taking an active part: Messrs. Slater, Grant, Birse, Butchart, Campbell, Croll, and Bethel. The latter remarking that "he had the privilege of seeing Mr. MacDonald's collection a week previously, and was convinced that the lecturer practised what he preached."

Derby.

The Derbyshire Gardeners' Association's Chrysanthemum Exhibition, held at the Drill Hall, on November 4 and 5, was decidedly the largest seen there for years. The entries were numerous, and the quality of the exhibits quite up to the mark. The exhibition was formally opened by the Countess of Kerry; the Rev. Henry Buckston presided, and amongst those who took part in the ceremony were: Sir Thomas Roe, M.P., Sir Edwin Ann, Mr. H. H. Raphael, M.P., and Alderman T. Fletcher. It was, however, discouraging to see such a scanty muster of visitors present.

For twenty-four Japanese blooms there were six competitors, and Mr. R. Nesbit, gardener to Sir W. Bass, secured the first honours, his stand consisting of F. S. Vallis, Reginald Vallis, Mrs. H. B. Marsham, President Viger, Francis Jolliffe, W. Gee, White Queen, Mr. L. Thorn, J. W. Molyneux, Mrs. A. T. Miller, G. Hemmings, Hon. Mrs. Lopes, Mr. R. Luxford, Marquis Venosta, Dennis Kirby, Evangeline, and Lady Conyers. The bloom of J. W. Molyneux was of the most striking colour. Mr. A. Chandler, Rugby, followed closely, his F. S. Vallis being the finest bloom in the show; Mr. J. Wood, Alvaston, third.

Of twenty-four incurved, there were four entries. Mr. Nesbit led with Romance, F. Tristian, H. W. Thorpe, Pantia Ralli, Marjorie Shields, Buttercup, Mrs. Hygate, W. J. Higgs, Lady Isabel, Boccace, Mdme. de Vernenuel, Mdme. Vrembley, Mrs. G. Denyer, Daisy Southern, and Calypso; Mr. A. Chandler second, and Mr. J. Wood third. For six vases of Japanese, the winners ran in the same order.

Six competed for the table decoration. Mrs. F. Orton, Longford, first, Mrs. Warwick second, and Mrs. Flint third. For a group of chrysanthemums Mr. F. Meakin led, Mr. C. T. Chadwick was second, and Mr. G. Potter third. The first prize in another group class was won by C. S. Buck. There was keen competition in the less important classes.

Non-competitive exhibits were a great feature of the show. Mr. F. Sherwin, gardener to Captain W. Drury-Lowe, Locko Park, had a superb display of begonias; and Mr. Shambrook, gardener to the Rev. H. Buckston, sent a collection of begonias, orchids, cyclamen, and chrysanthemums, which was much admired. Mr. Coley, The Outwoods, Duffield, had three very fine specimen seedling single chrysanthemums, which attracted the attention of the visitors, these were named respectively Elsie Robinson, a bright pink with a white eye; C. Knifton, white, flushed orange; and J. H. Coley, a waxy white.

Vegetables were abundant, and there were twenty entries for collections, the winner being Mr. H. C. Smith, Alvaston.

Praise is due to Mr. W. Garton, the secretary, for the very able manner in which the arrangements were carried out.

Royal Horticultural Society of Aberdeen.

ANNUAL MEETING.

The annual meeting of the members of this society was held in the Music Hall Buildings, Aberdeen, on Saturday evening, 5th inst., Mr. J. G. Burnett, of Powis, in the chair. There was a very large attendance. In moving the adoption of the annual report and accounts of the society for the past year, the Chairman said they might regard them as very favourable. Their show was one of the best ever held under the auspices of the society. That was the opinion of the judges who were present. After all, it was upon the number of exhibitors and the quality of the exhibits that they as a horticultural society had to depend. Only when their show was successful could they be considered to be doing the real work of promoting horticulture. In the matter of finances the society had every cause to be thankful for the results. They began the year with a deficit, but now they were able to go on with a certain balance towards the expenses of next year. The balance was not a very large one, but still, the fact that they had been able to wipe out something like £34 of a debt during the year was a sincere cause for gratification. He was sure that on the second day of the show the hearts of a great many of the directors must have been very heavy on account of the weather. Fortunately there was a change on the Saturday, the rain cleared off, and as a result the whole gate realised £324, an increase of something like £80 on the previous year. While they were very glad of these facts, there was one thing which he thought did not give the same cause for gratification. The directors wished to take this opportunity of appealing to them to endeavour to help to increase the membership of the society. The working expenses of the society during the past year were £434, and he thought that was about the smallest expenditure possible if they were to have a really good show. When the income side of the accounts was looked at, it would be seen that the one source of income on which they could depend—subscriptions and donations—only amounted to about £100, or less than a quarter of the expense to which they had to go in holding their annual show. He thought this should give cause for reflection to all who were friends of the society. Mr. George Alexander, Aberdeen, seconded, and the report and accounts were unanimously adopted.

Mr. Burnett then moved the re-election of the honorary president—the Lord Provost of Aberdeen—the honorary vice-presidents, and the honorary directors, and his motion was adopted. The Chairman said that during the past four years he had had the honour of holding the post of chairman. He was very proud to have had the confidence of the directors for so long a period. After four years he felt there ought to be a change—that someone else ought to be appointed in his place. He did not think it was good to have the same chairman for long, and he was further strengthened in this opinion by the likelihood that at the time of the next show of the society he would not in all probability be at home, and he thought the chairman, if at all possible, should always be at the show. It was with regret, indeed, that he severed his official connection with the society, and with the directors. That connection had always been most pleasant. He had to thank Mr. Rennett, the secretary, for the valuable help he had given him. He had the name of a gentleman to propose for the post of chairman—one who, he felt sure, would be in every way suitable for the post. He referred to Mr. W. S. Gill, of Dalhebity, who was a public-spirited citizen, and one who took a great interest in horticulture. Although Mr. Gill was unable to be present that night, he had written saying he would be pleased to accept the post. Mr. Gill's election was made unanimously and with great cordiality.

Mr. Robson (Messrs. W. Smith and Son, seedsmen, Aberdeen) felt sure they would not allow their present chairman to depart, after his four years' service to the society, without giving some definite expression of their gratitude for his most excellent service. Mr. Burnett had done all in his power to promote the interests of horticulture. Their venerable society was now 86 years old, and during that time the chair had been occupied by a great many very distinguished citizens of Aberdeen, but he believed he was expressing the opinion of all present when he stated that they had not in all that time had a more zealous or more efficient chairman than Mr. Burnett, of Powis. (Prolonged applause.) Mr. Burnett had kept the chair with unanimous approval for four years, which was an unusually long tenure of office. He moved that a special vote of thinks be accorded to the retiring chairman for the great interest he had shown in the affairs of the society during his four years of office. (Loud applause.) Mr. Burnett returned his thanks for their hearty appreciation of his services, and remarked that, although he was giving up the chairmanship, he would still continue to take a warm interest in all that pertained to the welfare of the society.

Ex-Baillie Milne was re-elected vice-chairman; Messrs. W. Reid and W. Wyllie were re-elected auditors; while Mr. J. B. Rennett was most cordially re-elected secretary and treasurer of the society. Twenty acting directors were also elected for the ensuing year, and a ringing, kindly cheer to the chairman closed the proceedings.

Paris International Chrysanthemum Show.

Among the various foreign exhibits staged at this show, special mention should be made of Mr. Engelmann's superb display of carnations. It far excelled anything of the kind set up by French exhibitors, and one of the most famous French lady artists expressed her high appreciation of the arrangement. Messrs. W. Wells and Co., of Merstham, sent a vase of their new carnation White House. Messrs. G. and A. Clark, of Dover, also had a good exhibit.

Great Britain was also well represented on the jury. Mr. Harman Payne was elected president of the first section, and also president of the Floral Committee. Mr. Bevan was appointed president of the third section; Sir Albert Rollit, president of the fourth section; Colonel Prain, president of the seventh section; and Mr. Geo. Schneider, president of the eighth section.

The festivities lasted over three days, and the British representatives were treated in the most hospitable and cordial manner.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, November 8.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair), Dr. A. B. Rendle, Messrs. A. W. Hill, J. Fraser, C. E. Shea, E. M. Holmes, C. H. Hooper, W. C. Worsdell, and F. J. Chittenden (hon. sec.).

FRUIT OF MUSA VENTRICOSA.—Mr. W. C. Worsdell showed a fruit of a species of musa, probably M. ventricosa, which he had collected in the northern Transvaal, the plants growing in a grove on the edge of the forest just where it joins the high veldt.

POLLEN OF APPLES, ETC.—Mr. C. H. Hooper showed photographs of the pollen of several kinds of fruit trees and bushes.

PROLIFERATED PEARS.—Mr. E. A. Bowles showed, on behalf of Mr. Hooper Pearson, some so-called proliferous pears. This malformation is not uncommon, and is explained by the fact that the fleshy part of the pear is an axial structure, not a part of the ovary. The fruits are merely extensions of the axis without the formation of carpels.

TRIPLE FLOWER OF DENDROBIUM FORMOSUM.—Mr. L. Crawshay made the following report on the flower referred to him from the last meeting: This flower was developed near the apex of an inflorescence bearing normal ones, being about half as large again in all its parts. The normal flowers consist of six perianth segments, the petals much broader than the sepals, two of the latter, together with the labellum and column, being prolonged backwards to form a spur. The spur is complete posteriorily by the cohesion of the posterior margins of the lateral sepals, but is split almost to the apex anteriorily, on account of the corresponding margins of the lateral sepals being free. The abnormal flower showed five sepals and three petals, a double labellum and triple column, the middle third of which being the smallest. It is formed of three flowers, the laterals being set nearly at right angles to the median one. Each lateral flower consisted of two complete sepals, two petals (one on the labellum), and a well-developed spur. Each also accounted for one-third of the column, and bore a normal pollen apparatus. The posterior petal (dotted), showed traces of a dividing line, and represented the two contiguous petals of the lateral flowers, whilst the anterior sepal (lined), similarly represented two lateral sepals. The only evidence of the median flower was in the ovary, and the middle third of the column, which was barren. Instead of the characteristic triangle, the ovary showed an oblong section, and only five placental areas had been differentiated.

Bath, NOVEMBER 9 and 10.

The sixth annual exhibition of the Bath Society, held on the above dates, maintained the high character of its predecessors, and favoured with fine weather, it should have attracted a greater number of visitors on the opening day. The Bath Gardeners' Debating Society's principal officers form the executive of the November show, and right well do they discharge their several duties, and deserve well of the community. Having acquired a considerable number of pottery vases, exhibitors do not need to transport them to the exhibition hall, for they can be hired for a merely nominal sum.

CUT BLOOMS.

All cut blooms are staged in vases without exception, and not only is the staging simple, but the effect is distinctly uniform. In the class for twenty-four blooms, Mr. Parrott, gardener to W. H. Tugwell, Esq., Bath, won the first prize with an even lot, among which were Lady Talbot, Reg. Vallis, Leslie Morrison, J. H. Silsbury, and F. S. Vallis. Mr. Cooter, Marshfield, closely pressed the winner with an exhibit of exceptional merit. Sir F. Crisp, Rose Pockett, W. Mease, Splendour, and Beecham Keeling were good. Colonel Rolleston (Mr. Trimby, gardener), taking third place. Mr. G. W. Tilley, gardener to John Moulton, Esq., The Hall, Bradford, smartly carried off the first prize for twelve blooms, prominent among which was the old Mme. Carnot and F. S. Vallis. Mr. Parrott and Mr. H. Chislett followed. Good entries came in the classes for six yellow and six white. In the first-named class the first prize blooms came from Mr. Lilley, who had an exceptionally fine group of F. S. Vallis. Decorative and single varieties came in goodly numbers and in excellent variety.

PLANTS.

Groups were fewer in number this year, but the quality of the blooms, especially in the first-prize lot, was of high standard. Mr. Robb, Mr. T. R. Murray's gardener, succeeding in winning outright the challenge cup offered with cash prizes. This is his third successive win Mr. Parker, gardener to Dr. Wilson Paton won second place. Mr. Pierce, gardener to W. Wailes, Esq., was the only entrant in the class for a miscellaneous group.

FRUIT AND VEGETABLES.

Apples, pears, and grapes were particularly good, though we missed some familiar names among the prizewinners. Chas. Ross was beautiful, also Cox's, King's, and Rival. Mr. Fishlock brought the best collection of apples, and Mr. W. A. Hick had the best pears. Mr. Cooter sent muscats as fresh as in summer, and really grand Alicantes were staged by Mr. Harding.

Vegetables were equally well represented, and the quality select. Messrs. E. Webb and Sons and Messrs. Sutton and Sons offered special prizes for collections, and in these and the open class for nine varieties, Messrs. Pople, Sparey, Horsell, Evry, and Andrews were prominent winners.

NON-COMPETITIVE.

Trade displays, as usual, occupied much space, giving ample testimony of the great help that is afforded by the trade grower—often with little compensation. Messrs. Cypher and Son had an exquisite assortment of vigorous orchids, comprising cypripediums, oncidiums, cattleyas, and odontoglossums. Messrs. A. A. Walters and Son, had an extensive display of apples in good variety. Mr. W. H. Coles lent tall, graceful palms for the central tables, forming quite a tropical avenue. Messrs. G. Cooling and Son, Mr. Rowland, Mr. Adams, Mr. Chas. Wall, Messrs. Blackmore and Langdon, Mr. J. Milburn, Messrs. W. T. Payne and Son, Mr. J. Carpenter, Messrs. Godfrey and Son, and Messrs. Rich and Co., also sent non-competitive exhibits representing widely varying classes of subjects. Gold and silver medals were the awards made.

Oxford, NOVEMBER 8.

On the above date the Oxfordshire Chrysanthemum and Fruit Society held its forty-eighth annual exhibition in the Town Hall, which proved a fairly good floricultural success. The show was formally opened by Mrs. Daniel, wife of the Provost of Worcester College. Entries were below the average, as several exhibitors have recently left the district. To compensate any loss on that score some "extra" exhibits assisted in making up a very attractive display—notably, an extensive arrangement of chrysanthemums, crotons, palms, ferns, and winter-flowering begonias, etc., forming an elongated semicircular pyramid covering fully 140ft. The design had as a back-centre a noble specimen of Kentia Belmoreana, whose dark green, gracefully-recurving fronds proved a foil to the fully 100 giant blooms; very fine being the examples (three blooms on each plant) of Mrs. Norman Davis, Mrs. A. T. Miller, Master James, Mrs. R. H. B. Marsham, Dorothy Goldsmith, Master David, F. S. Vallis, T. H. Silsbury, Leigh Park Wonder, Magnificent, Miss O. Miller, Reginald Vallis, Mrs. A. H. Lee, Mrs. H. Perkins, and Thomas Stevenson. The group was arranged by Mr. J. S. Chidlow, gardener to Mrs. Herbert Morrell, Headington Hill Hall, who further contributed collections of winter-flowering begonias and zonal pelargoniums, double primulas, and chrysanthemums in vases; a gold medal was awarded. Other "extras" which received honorary awards included a fine show of carnations in pots and vases from Mr. John Johnson, The Nurseries, Garsington, the specimens of the several shades of Enchantress being noticeable; Mr. John Mattock, Rose Nurseries, New Headington, staged a collection of single chrysanthemums, from seed sown in February; and Mr. H. Smart, 32-34, The Market, Oxford, put up a most extensive assortment of English (Oxfordshire-grown) and foreign apples and pears, which formed an interesting show. In the competition the class for four specimen chrysanthemums proved a good one, the premier award going to Mr. S. Mold (foreman cooper), Grandpont, Oxford, for well-grown examples; and in the class for a group on 48 square feet the award fell to Mr. James Holton, gardener to Mrs. Daniel, Worcester College. A very excellent group on 30 square feet space was arranged by Mr. Harry Miles, carrier, New Headington, who scored well in the amateurs' division for blooms, winning the cup for six triplets and two other premiers.

Cut blooms, though fewer than usual, were certainly very good, the silver challenge bowl for nine triplets falling, as last year, to Mr. J. M. Bush, gardener to F. J. Myers, Esq., Charlton Lodge, Banbury, whose colossal examples attracted attention. The varieties were: Marquis of Northampton, Master James, Hon. Mrs. Lopes, Marquis Venosta, Reginald Vallis, Lady Talbot, Mrs. C. Penford, and F. S. Vallis, the blooms of this last-named being 8in. deep, with a breadth of 11½in. Mr. Bush was also ahead for twenty-four varieties, staging, in addition to the above, Maud Jefferies, J. Lock, George Hemmings, Algernon Davis, Mdme. Rivol, Mrs. Barkley, Mrs. J. W. Coles (a white Barkley), Rev. R. D. Eves, Leon Truelle, Thrumpton Pride, Walter Jinks, Mdme. Paolo Radaelli, and W. Beadle; Mr. S. Brown, Aynho Park Gardens, Banbury, second. Mr. Bush scored first for six white Japanese, with Mrs. A. T. Miller; first for six yellow, with Lady Talbot. Mr. Brown was first with Sapho in the class for any other colour.

The display of fruit in competition comprised fully 200 dishes of pears and apples, and there were some noble clusters of Gros Colmar grapes, exhibited by Mr. S. Brown and the Rev. A. J. Wilson, Tackley Rectory, Oxon. Peasgood's Nonsuch figured as giant examples of apples; and among the pears was a most excellent dish of Marie Louise, staged by Mr. W. G. Baker, of the Botanic Garden, Oxford.

Vegetables are always largely shown, and the collections and single dishes were most meritorious. For nine kinds the awards went to Mr. R. Wadham, gardener to Mrs. R. Bradshaw, Steeple Aston; Mr. J. Holton, gardener to the Provost of Worcester College; and Mr. A. E. Kirtland, Bletchington, Oxon, in the order of their names.

Lyndhurst Gardeners' Association.

On November 4 a meeting of the gardeners of Lyndhurst and district was held in the Parish Room to consider the advisability of forming a Gardeners' Mutual Improvement Association for the district. The meeting was presided over by R. G. Hargreaves, Esq., of Cuffnels Park, and he fully explained the object of the meeting. After some discussion the Chairman proposed that an association be formed, to be called the "Lyndhurst and District Gardeners' Mutual Improvement Association." This was carried unanimously, and a provisional committee was at once appointed to draw up rules, etc., to be presented to a meeting of members. At the close of the meeting the Chairman was accorded a very hearty vote of thanks. The formation of this new society is a step in the right direction; and, having the support of Mr. Hargreaves and other owners of beautiful gardens in the neighbourhood, it is sure to be a big success. The town is situated almost in the heart of the New Forest, and in all directions, for miles around, there is a veritable wealth of magnificent trees and shrubs. Very interesting, indeed, are the many seedlings that spring up from time to time. The new society will have ample matter to discuss, and the results cannot but be highly beneficial to horticulture in the town and its delightful neighbourhood.

National Chrysanthemum Society.

In connection with the trials of single chrysanthemums which is being undertaken during the present year by the National Chrysanthemum Society the members of the Floral Committee paid a visit to the nurseries of Mr. H. J. Jones, at Keston, on Saturday, November 12, for the purpose of inspecting the November varieties. The party were met at Hayes Station by Mr. Jones, and conveyed in carriages to the nurseries at Keston. The committee, under the chairmanship of Mr. D. B. Crane, spent about two hours in drawing up a list of synonymous varieties, and deciding as to the best varieties under each colour heading included in Mr. Jones's collection. The plants under trial were sent by most of the chief trade growers, and represented practically all the November singles worthy of note. The results of these trials will be embodied in a report to be made by the Floral Committee, and this will be in due course issued to the members. After the business of the afternoon was completed, Mr. Jones entertained his visitors to tea, and this in turn was followed by short speeches and reminiscences of great interest to all those who have studied the culture of the chrysanthemum during the last quarter of a century.

National Vegetable Society.

Owing to representations from many of the smaller country competitors, the National Vegetable Society has arranged to hold its next annual exhibition at a rather earlier date than was the case this year. It will therefore take place at the Royal Horticultural Hall on August 30, 1911. The accounts for the past year, ending September 30, have been audited, and a report is being prepared upon the work done by the society during the past year. Copies of the report will be furnished to the members before the annual general meeting takes place on December 6 next. The accounts show a satisfactory balance. In regard to next year's trials, seeds have been sown at Sutton Green, and the liberal manner in which these have been supplied by the trade is much appreciated by the committee.

East Anglian Horticultural Society.

Consequent upon this society winning the challenge cup of the R.H.S. for apples and pears at the exhibition of British-grown fruit, there was a large gathering of members at the November meeting, when the fruit was placed upon view and a report given by Mr. Lewis Smith and Mr. F. J. Endersby, who went to London with the collection. Mr. Smith gave a most interesting discourse, with a table of points and a list of varieties staged by all the societies competing in the class. Mr. Geo. Davison, Westwick Gardens, also supplemented this and was also heartily thanked for the assistance he had rendered upon that occasion, especially with the supplying of the pears.

To again prove that apples can be well grown, and are fairly plentiful in gardens where good culture is maintained, it might be pointed out that at this meeting prizes were offered by Mr. F. Piper, one of the vice-presidents, for two dishes cooking and two of dessert, in which class 40 fine dishes were staged. In the floral section high commendation was given to Mr. W. Shoesmith, gardener to F. H. Harmer, Esq., Cringleford, for his plants of Begonia Gloire de Lorraine, which he had over two feet through, and one mass of bloom. Other exhibits were plentiful and evidenced great cultural skill.

Mr. H. J. Clayton, Ulleskelf, Yorks, had promised a paper for this meeting, but his health would not permit of so long a journey. However, his son, Mr. John Clayton, of Messrs. Daniels Bros., Lim., Norwich, stepped into the breach and gave a very interesting paper upon "Seaside Gardens." Norfolk being a coast-bound county this was very appropriate. In the course of his visits to the noted seaside places, such as Yarmouth, Lowestoft, Cromer, etc., Mr. Clayton had taken notes of those flowers and shrubs which flourished in the public gardens. He dwelt upon the grand way in which annuals bloomed, and the sturdiness of their habit. He also gave lists of many of the choice and rare plants he had seen growing in private gardens whereon the salt spray descended. A good discussion followed, and Mr. Clayton was heartily thanked for his paper.

Reading Gardeners' Association.

At the meeting, held in the Abbey Hall, on November 7, Mr. Alderman Parfitt presided over the largest attendance of the present session. Instead of the usual lecture the committee had arranged competitions of an educational value to the gardener, all the work being done in the room, and in view of the assembled audience.

The first competition, for the best lady's spray and gentleman's buttonhole, was confined to head gardeners and foremen. Eight entries were secured for the three prizes offered, and the judge's award was: First prize, Mr. H. Wynn; second, Mr. H. Goodger; and third, Mr. A. Abraham. The next event was open to all except head gardeners and foremen, and was for five small vases, arranged for effect. This contest attracted eleven entries, and it was decided to award a fourth prize if the work was of sufficient merit to admit it. The judge's decision was: First prize, Mr. A. Francis; second, Mr. A. H. Casey; 3rd, Mr. A. E. Bolton; and fourth, Mr. S. G. Chambers. Twenty minutes was the time allotted for work in both competitions. The judges, Messrs. T. Tunbridge, W. Butler, and W. G. Pigg, accomplished their somewhat difficult task to the entire satisfaction of all concerned, and complimented the prize-winners on the admirable work executed by them. The character of the work having been criticised by several speakers, the president presented the prizes, all the winners being loudly cheered. On the business side of the meeting the President urged the members to do their utmost to make the forthcoming exhibition on November 23 an even greater success than last year, and as evidence of the extraordinary vitality of the association no fewer than ten new members were elected.

Messrs. Tunbridge, Powell, Wilson, Bailey, Judd, F. Townsend, Loader, W. J. Townsend, H. Goodger, G. Durrant, and A. Webb kindly brought bunches of flowers, which next morning were forwarded by the hon. secretary to the Royal Berkshire Hospital.

The meeting closed with votes of thanks to the judges for officiating, and to Mr. J. E. Phillips and Messrs. Watson and Son for kindly loaning the tables and the vases used for the competitions.

METEOROLOGICAL OBSERVATIONS.

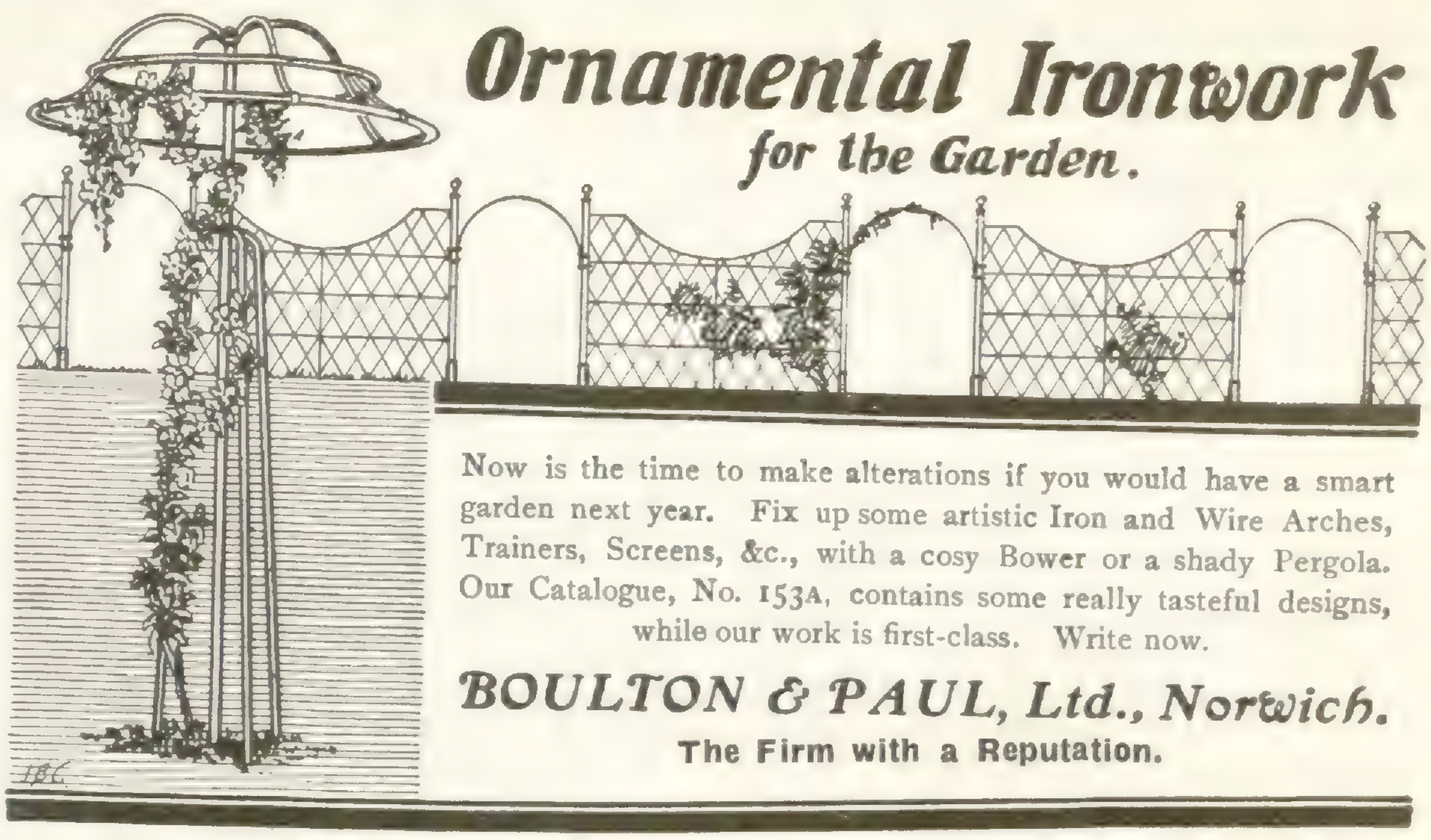
TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea level, 150 feet.

DATE. 1910. NOVEMBER 6 TO NOVEMBER 12.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Nov. 6—Sunday	0 18	37	36	52	30
" 7—Monday	3 42	46	41	50	38
" 8—Tuesday......	4 42	42	39	48	39
" 9—Wednesday..	6 48	37	35	46	30
" 10—Thursday....	4 42	35	33	50	29
" 11—Friday........	2 48	42	39	45	29
" 12—Saturday.....	3 6	32	31	50	29
Means	(total) 26 6	38	36	48	32

DATE. 1910. NOVEMBER 6 TO NOVEMBER 12.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Nov. 6—Sunday	0·09	41	45	51	22
" 7—Monday	0·03	43	45	50	35
" 8—Tuesday......	—	43	45	50	32
" 9—Wednesday..	—	41	45	50	19
" 10—Thursday	0.06	40	44	48	21
" 11—Friday	0.03	42	43	49	32
" 12—Saturday	0·02	40	43	49	21
Means ...	(total) 0·23	41	44	49	26

Staffs in British, Indian, and Colonial Botanic Gardens.—In the form of an appendix to the "Kew Bulletin" there has just been issued a new list of staffs in botanical gardens at home, in India, and the Colonies. The list runs into fourteen pages, and is extremely interesting. The influence of Kew in our Colonies and India is very marked, as shown by the large number of curators, etc., that have been trained at or recommended by the Kew authorities.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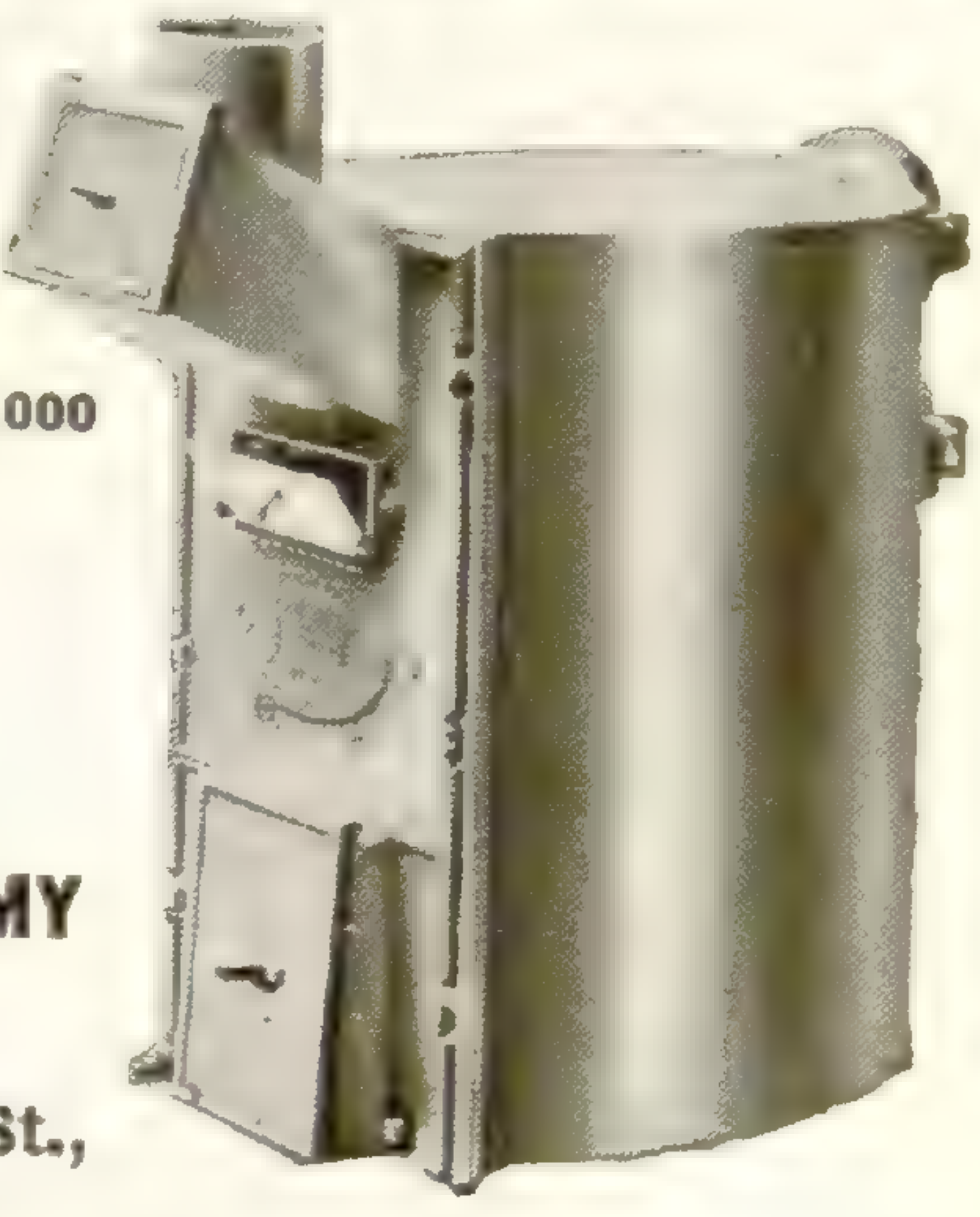
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1A	60 ft. " "	3	5	0
2	100 ft. " "	4	0	0
2A	150 ft. " "	4	5	0
3	250 ft. " "	5	15	0

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention correspondents are requested to distinctly mark the paragraph.

STRAWBERRIES.—J. C. W., St. Albans: Clear away all weeds and dead leaves; give a dressing of basic slag at the rate of 2oz. to the square yard, point this in with a fork, and then apply a mulching of quite short, half-decayed manure.

MUSHROOMS.—S. S., Everton: A handy little book dealing with mushroom culture under various conditions, with the pests that attack mushrooms, and methods of cooking mushrooms, etc., is "Mushrooms and their Cultivation," which can be obtained from the GARDENERS' MAGAZINE Office, 148-149, Aldersgate Street, E.C., post free for 1s. 2d.

STORING BEGONIA TUBERS.—F. S. B., Hereford: As soon as soil adhering to the lifted tubers is perfectly dry proceed to thoroughly clean the tubers, and, having done this, store them in finely-sifted dry leaf-soil and place in a shed or cupboard where a temperature of 40 to 45 deg. is maintained. If any tubers are bruised or otherwise damaged remove the affected portions by means of a sharp knife, and dip the cut surface in finely-powdered dry charcoal. Leave them on a shelf in a greenhouse to heal, and then store them away.

EARLY-FLOWERING CHRYSANTHEMUMS.—L. P., Brightlingsea: Lift two or three stools of each variety you wish to retain, and either pot these, or, better still, place them in boxes, packing soil tightly about the roots and giving them a good dusting with soot. Then put the stools in a cold frame, and only give shelter during particularly severe weather or during snow and rain. Abundance of growths will start from these stools in the new year, and they may be made into cuttings and rooted in an unheated frame in February or March. These should be potted as necessary, and be in large 60-sized pots, in fine condition for planting out by the end of April or early May.

LOGANBERRY ON COLD SOIL.—M. E. J., Derby: The late Mr. J. C. Tallack was particularly successful in his method of cultivating the Loganberry at Shipley Hall, and we cannot do better than give you the advice contained in an article from his pen about two years ago. He wrote: "Here we grow most of the stock on a split-oak fence facing east and in heavy, cold soil. It appears to enjoy both the soil and position, and grows and crops remarkably well. We plant at 15ft. apart, and the plants would do with even more room than this. The canes grow so freely and plentifully that up to the time the fruit is gathered the fruiting canes cut out, and the young ones for the next season tied into position, the plants cover a big space, and other crops should not be grown very near. Hence the advisability of utilising for the culture of this fruit any out-of-the-way fence which may have been erected primarily to hide an unsightly portion of the ground. The main cultural details, when once the plants are established, are to see that the principal old canes are cut away directly the crop is over, to make room for the young canes, which should then be tied or otherwise secured in position. About three rows of strong wire running along a fence of, say, 8ft. or 9ft. high will be quite sufficient for providing support for the canes. In the spring the canes should be examined, and any damaged tips removed, cutting back into sound wood, but no farther, as the longer the canes the heavier the crop. In dry seasons or in poor soil a good mulch of manure would be useful, though where the soil is heavy and the position rather shaded there is no need for any application of the kind until, perhaps, the plants show some signs of exhaustion.

HERBACEOUS CLEMATIS.—M. P. E., Bristol: The herbaceous clematises now form a most interesting group, and include several hybrids. Ordinary good garden soil suits them, and they need a fair amount of room for development. C. recta and its double variety grow about 3ft. high, and carry an abundance of small white flowers in early summer. C. integrifolia has blue, bell-shaped flowers, and C. Durandi appears to be a continuous-flowering form of the latter. C. heracleæfolia and C. Davidi have much in common, the former having purplish flowers and the latter pale blue, fragrant ones. Hybrids between C. Davidiana and C. Stans, raised by M. Lemoine, of Nancy, include those named Azur, blue, very free; Columbine, violet; Crepuscle, pale blue, tall; Cypris, turquoise-blue, tall; Fraicheur, dwarf, flowers rather large, lilac; Iris, bright blue; Phare, porcelain-blue; Hybrida, pale blue, very compact habit; Gerbe Fleurie, very like C. Davidiana, but with lilac-blue flowers; and Profusion, blue with cream centre.

THERMOMETER RECKONINGS. — F. E. S., Eastbourne: To convert degrees Centigrade above zero to degrees Fahrenheit, multiply by 1.8 and add 32. To convert degrees Centigrade below zero to degrees Fahrenheit, multiply by 1.8 and subtract from 32. To convert degrees of Centigrade into those of Reaumur, multiply by 4 and divide by 5. To convert degrees Reaumur above zero to degrees Fahrenheit, multiply by 2.25 and add 32. To convert degrees Reaumur below zero to degrees Fahrenheit, multiply by 2.25 and subtract from 32. To convert degrees Reaumur into those of Centigrade, multiply by 5 and divide by 4. To convert degrees of Fahrenheit into those of Centigrade, deduct 32, multiply by 5, and divide by 9. To convert degrees of Fahrenheit into those of Reaumur, deduct 32, divide by 9, and multiply by 4. In De Lisle's thermometer, used in Russia, the graduation begins at boiling-point, which is marked zero, and the freezing-point is 150. The sign — (minus) indicates below zero in Centigrade reckonings, the freezing point being zero of Centigrade and Reaumur, and 40 degrees below freezing of Fahrenheit. For rough-and-ready purposes a degree of Fahrenheit may be considered the equivalent of 1 degree Reaumur, 1¾ degrees Centigrade. In books addressed to English readers thermometrical readings should always be stated in accordance with the Fahrenheit scale.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

M. G., Horsham.—1, Ardisia mamillaria; 2, A. crenulata; 3, Primula Kewensis.

B. S., Taunton.—1, Oncidium varicosum Rogersi; 2, Odontoglossum ardentissimum.

T. G. N., Warrington.—1, Cypripedium Leeanum giganteum; 2, C. Memoria Moensi; 3, C. Lathomianum.

A. P. P., Chesterfield.—1, Berberis stenophylla; 2, Selaginella Kraussiana aurea; 3, Linum trigynum; 4, Salvia azurea.

W. H., Surbiton.—1, Pteris longifolia; 2, Brainea insignis; 3, Didymochlæna lunulata; 4, Berberis Wallichiana; 5, Cotoneaster horizontalis; 6, Cryptomeria elegans.

S. S., Bovey Tracey.—1, Sequoia gigantea; 2, S. sempervirens; 3, Cedrus Deodara.

G. D. B., Leicester.—1, a fine form of Begonia Gloire de Lorraine, probably the one known as Mrs. Leopold de Rothschild.

NAMES OF FRUITS.

When sending fruits for naming, will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, GARDENERS' MAGAZINE, as advised in the notice at the head of "Answers to Correspondents."

G. E., Canterbury.—A very fine specimen of Mère de Ménage.

B. C. M., Walkley.—1, Alfriston; 2, Bramley's Seedling; 3, Fearn's Pippin.

R. A., Ipswich.—1, Bramley's Seedling; 2, Hormead's Pearmain; 3, Bess Pool.

I. D. J., Waterford.—1, Emperor Alexander; 2, Tyler's Kernel; 3, Reinette du Canada.

M. B. R., Chertsey.—1, Golden Noble; 2, Dumelow's Seedling; 3, Hollandbury; 4, Queen Caroline.

F. E. J., Knebworth.—1, Blenheim Pippin; 2, King of the Pippins; 3, not recognised; 4, Vicar of Winkfield; 5, Lane's Prince Albert.

B. B. W., Cheltenham.—1, Beurre Diel; 2, Beurre Rance; 3, Catillac; 4, Court Pendu Plat; 5, Adam's Pearmain; 6, Warner's King—an excellent set of clean specimens.

TRADE NOTE.

Mr. David Barr, for the last twenty years manager to the firm of Messrs. Thomas Kennedy and Co., nurserymen, Dumfries, and Mr. David H. Hunter, for the last fourteen years manager to Messrs. William Learmont and Son, Larchfield Nurseries, Dumfries, have acquired by purchase the seed and nursery business of Messrs. James Service and Sons, Maxwelltown, Dumfries. The business will continue to be carried on in all its branches by these gentlemen, under the old name of James Service and Sons.

CATALOGUES RECEIVED.

HELLIER AND SONS, WINCHESTER.—From this firm we have received a series of neat catalogues dealing respectively with fruit trees, bulbs, hardy perennials, forest trees, and roses.

W. ATLEE BURPEE AND CO., PHILADELPHIA, U.S.A.—A list of choice new sweet peas for 1911, the striking novelties being Ethel Roosevelt and Florence Nightingale.

HENRY DREW, LONGWORTH, BERKS.—A descriptive catalogue of roses.

HERD BROS., PENRITH.—An interesting catalogue of forest trees, ornamental trees, fruit trees, clematis, etc.

G. W. PIPER, UCKFIELD.—A descriptive catalogue of roses, with the varieties arranged in alphabetical order.

HAYWARD MATHIAS, MEDSTEAD, HANTS.—A list of border, Malmaison, and perpetual carnations, and of picotees.

H. CANNELL AND SONS, SWANLEY.—This catalogue is devoted chiefly to roses, but bulbs, flowering roots, and seeds are also included.

THOMAS RIVERS AND SON, SAWBRIDGEWORTH.—The new edition of this firm's autumn catalogue of fruit trees, roses, and shrubs, is fully as useful and interesting as its many predecessors, and we cannot more highly praise it than this.

CHAS. P. KINNELL AND CO., LIM., 65, Southwark Street, S.E.—A useful catalogue dealing with heating apparatus for houses of various kinds. The Horse Shoe boiler is fully described, and its special virtues referred to.

Salvia azurea grandiflora.—Though chrysanthemums are indispensable for greenhouse decoration in the autumn, it is sometimes said that the range of colour in the flowers is not sufficient to make them perfect in this respect. True, there are no blue ones, hence this salvia, which blooms at the same time, and supplies this missing colour, merits a special note. It is of spare growth, and needs to be stopped freely when young in order to obtain a number of shoots. In this way plants four to six feet high can be obtained, every shoot being studded for some distance with beautiful blue flowers. It is also known as Salvia Pitcheri.—W. T.

MANNA.

Manna is collected from the tarfa, or tamarisk, the manna ash, the camel thorn, the larch, the cedar, the Australian Eucalyptus viminalis, and even some edible lichens, such as Lecanora esculenta, and its allied species are known by this name. According to Burckhardt the manna from the tamarisk (Tamarix gallica) drops from the thorns, on the sticks and leaves with which the ground around these trees is usually covered, and must be gathered early in the day or it will be melted by the sun. "The Arabs cleanse and boil it, strain it through a cloth, and put it into leathern bottles, and in this way keep it uninjured for several years. The manna ashes (Fraxinus ornus, F. Europæa, and F. rotundifolia), yield manna in consequence of a puncture made by an insect resembling the locust, known as Coccus mannifarus. The substance is fluid at night, and resembles dew, but begins to harden in the morning, Fraxinus ornus was introduced into England in 1730 by Dr. Uvedale.

The camel thorn, which grows in Northern India and Syria, produces the description known as Al baj, or Persian manna. The larch and the famous cedars of Lebanon also furnish a manna of their own, but although prized and eaten by the natives of the countries where they are found, these kinds of manna do not seem to possess the useful properties of the manna ash, which is the manna of European commerce. The Australian Eucalyptus viminalis exudes crumbs of an edible manna, which is very sweet, and is used to produce the opaque drops called honey-manna, or melitose.

Of the edible manna lichens, Lecanora esculenta, and Lecanora tartarea, the colouring matter known as litmus is made. This kind of lichen is sometimes torn up and transported by violent gusts of wind and falls in showers several inches thick. In 1829, during the war between Persia and Russia, there was a great famine in Oroomiah, south-west of the Caspian sea. "One day during a violent storm the surface of the country was covered with lichens, which fell from the sky in showers. The sheep immediately attacked and devoured it eagerly, which suggested to the inhabitants the idea of reducing it into flour and making bread of it, which was found to be palatable and nourishing."

During the siege of Herat, there is mention made of a hail of manna which fell upon the city and provided the inhabitants with food. In April, 1846, in the government of Wilna, says "Indian Planting and Gardening," a rain of manna occurred, forming a layer upon the ground three or four inches thick. It was of greyish-white colour, rather hard, irregular in form, inodorous and insipid. It is to be found in the great desert of Tartary, on the steppes to the north of the Caspian sea, in the Altai range, in South America, and in Algeria.

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MARKETS.

◆

COVENT GARDEN.

Flowers.

Supplies are good, and prices have advanced a little in many cases. Chrysanthemums and carnations are good.

		s.	d.		s.	d.
Acacia	per pad	6	0	to	8	0
Azalea, white	per doz. bun.	4	0		5	0
Adiantum cuneatum	per doz. bun.	4	0		7	0
Asparagus	per doz. bun.	9	0		12	0
Bouvardia	per doz. bun.	4	0		5	0
Camellias	per doz.	1	0		1	6
Cattleyas	per doz.	9	0		12	0
Carnations	per doz.	2	0		3	0
,,	per doz. bun.	6	0		9	0
Chrysanthemums	per doz. bun.	3	0		6	0
,,	per doz. blms.	1	6		3	0
Croton leaves	per bun.	1	0		2	6
French fern	per doz. bun.	2	6		4	0
Gardenias	per doz.	1	6		3	0
Lapagerias	per doz.	1	6		2	0
Lilium auratum	per bun.	1	6		2	6
,, speciosum	per bun.	1	3		1	6
,, longiflorum	per bun.	1	6		2	0
Lily of the Valley	per doz. bun.	9	0		15	0
Marguerites	per doz. bun.	1	6		3	0
Mignonette	per doz. bun.	1	0		2	0
Narcissus, Paper White	per basket	8	0		10	0
Odontoglossums	per doz. blms.	2	0		3	0
Pelargoniums	per doz. bun.	2	0		6	0
Physalis	per doz. bun.	2	0		4	0
Roses	per doz.	0	9		3	0
Smilax	per doz. trails	2	0		3	0
Tuberoses	per doz.	0	4		0	5
Violets	per doz. bun.	1	6		2	6

Fruits.

The supply of British apples is practically over except in the case of choice dessert varieties that are being held over for Christmas. Grapes are cheap.

		s.	d.		s.	d.
Apples, English	per bush.	4	0		10	0
,, American	per barrel	14	0		24	0
,, Californian	per box	6	0		8	6
,, Nova Scotian	per barrel	14	0		24	0
Bananas	per bun.	3	6		12	0
Cobnuts	per bag	12	0			
Chestnuts	per bag	10	0		14	0
Cranberries	per case	8	0		10	0
Figs	per doz.	1	0		3	0
Grapes, English	per lb.	0	9		3	6
,, Guernsey	per lb.	0	6		1	3
,, Almeria	per barrel	8	0		17	0
Lemons	per case	16	0		36	0
Melons	each	0	9		3	0
Oranges	per case	8	0		16	0
Pears, French	per crate	5	0		10	0
,, English	per bush.	6	0		9	0
,, Californian	per case	16	0		21	0
Pineapples	each	2	0		5	0

Vegetables.

Supplies are steady and business is good for the season.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	3	0
Asparagus	per bundle	4	0		5	0
Beet	per bush.	1	6		2	6
Brussels Sprouts	per ½-bush.	1	3		2	0
Cabbages	per tally	2	0		4	0
Carrots	per doz. bun.	1	0		2	0
Cauliflowers	per tally	5	0		7	0
Celery	per doz. rolls	6	0		10	6
Cucumbers	per flat	6	0		7	6
Endive	per doz.	1	0		1	9
Lettuce, Cos	per doz.	1	6		2	0
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	7	6		12	0
Onions	per bag	4	0		4	6
Parsnips	per bag	2	0		3	0
Radishes	per doz. bun.	1	0		1	6
Parsley	per ½-sieve	1	6		2	0
Spinach	per bush.	1	3		2	0
Tomatoes	per doz. lb.	3	6		4	0
,, Guernsey	per doz. lb.	2	0		3	0
Turnips	per doz. bun.	1	0		2	0
Watercress	per doz. bun.	0	3		0	6

LONDON POTATO MARKETS.

Prices have advanced considerably, and there is a steady demand.

		s.	d.		s.	d.
British Queen	per ton	60	0	to	90	0
Sharpe's Express	per ton	65	0		75	0
Eclipse	per ton	60	0		75	0
Epicure	per ton	60	0		65	0
King Edward	per ton	70	0		80	0
May Queen	per ton	65	0		70	0
Up-to-Date	per ton	80	0		100	0

FORTHCOMING ENGAGEMENTS.

MONDAY, November 21.—National Chrysanthemum Society; Floral Committee at Essex Hall, at 3 p.m.; Executive Committee at 7 p.m., at Carr's Restaurant

TUESDAY, November 22.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "Plants in Congenial Positions," by Mr. Jas. Hudson, V.M.H.; Scientific Committee at 4 o'clock.

FRIDAY, November 25.—Aberdeen Chrysanthemum Society; two days.

Hawick Chrysanthemum Show; two days.

THURSDAY, December 1.—Colonial Fruit Show at the Royal Horticultural Hall, Westminster; three days.

SATURDAY, December 3.—French Horticultural Society of London.

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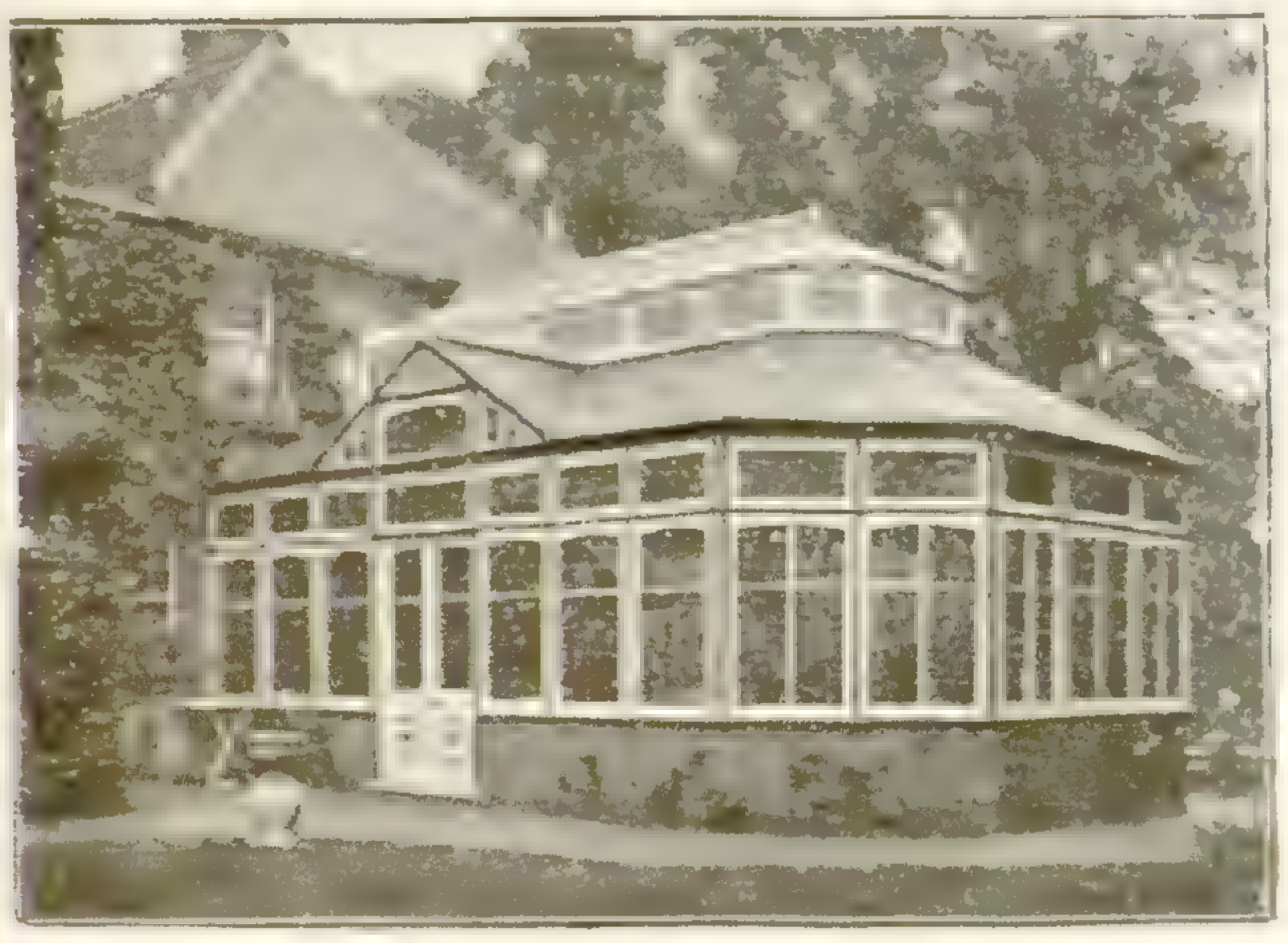

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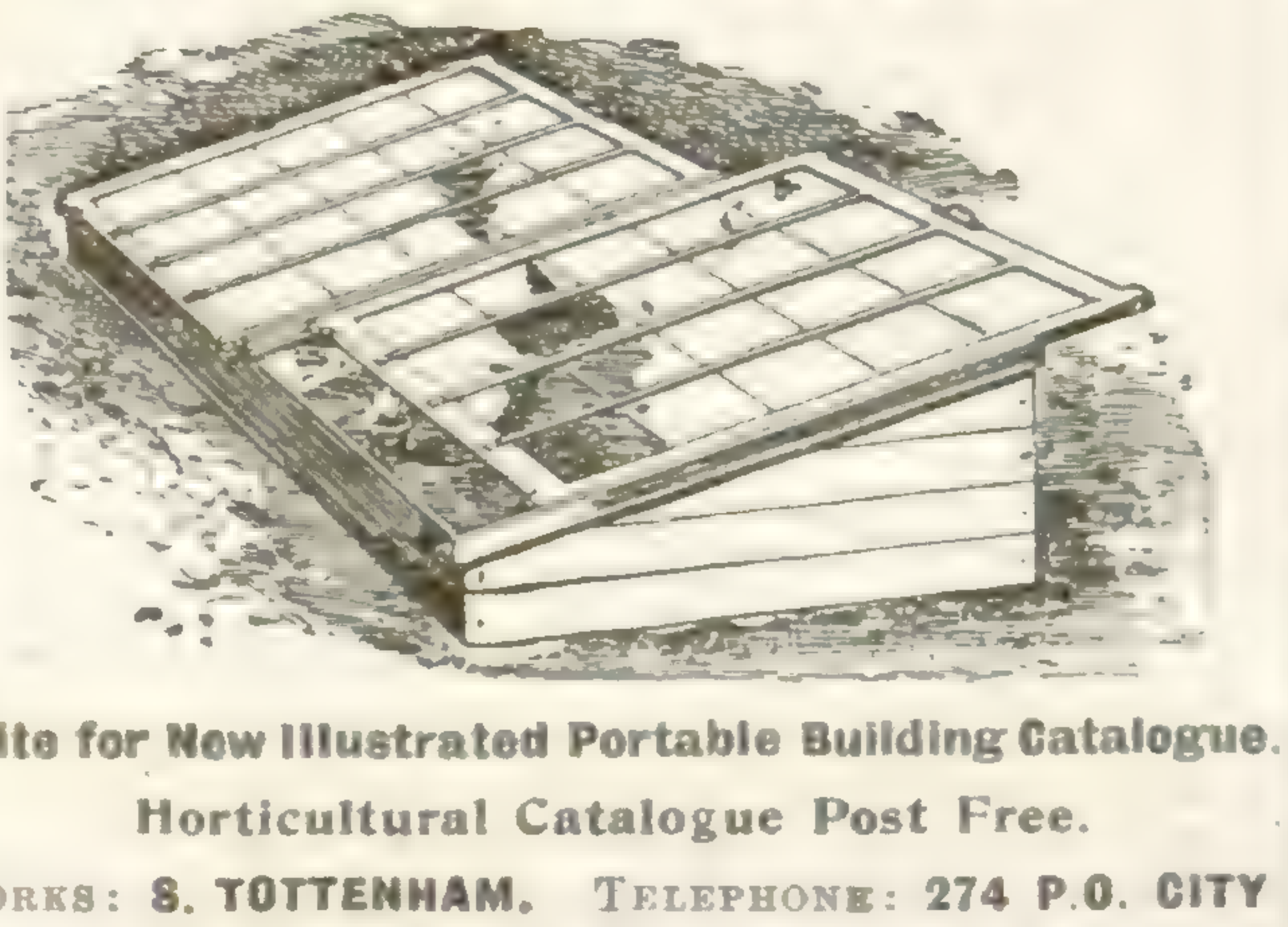

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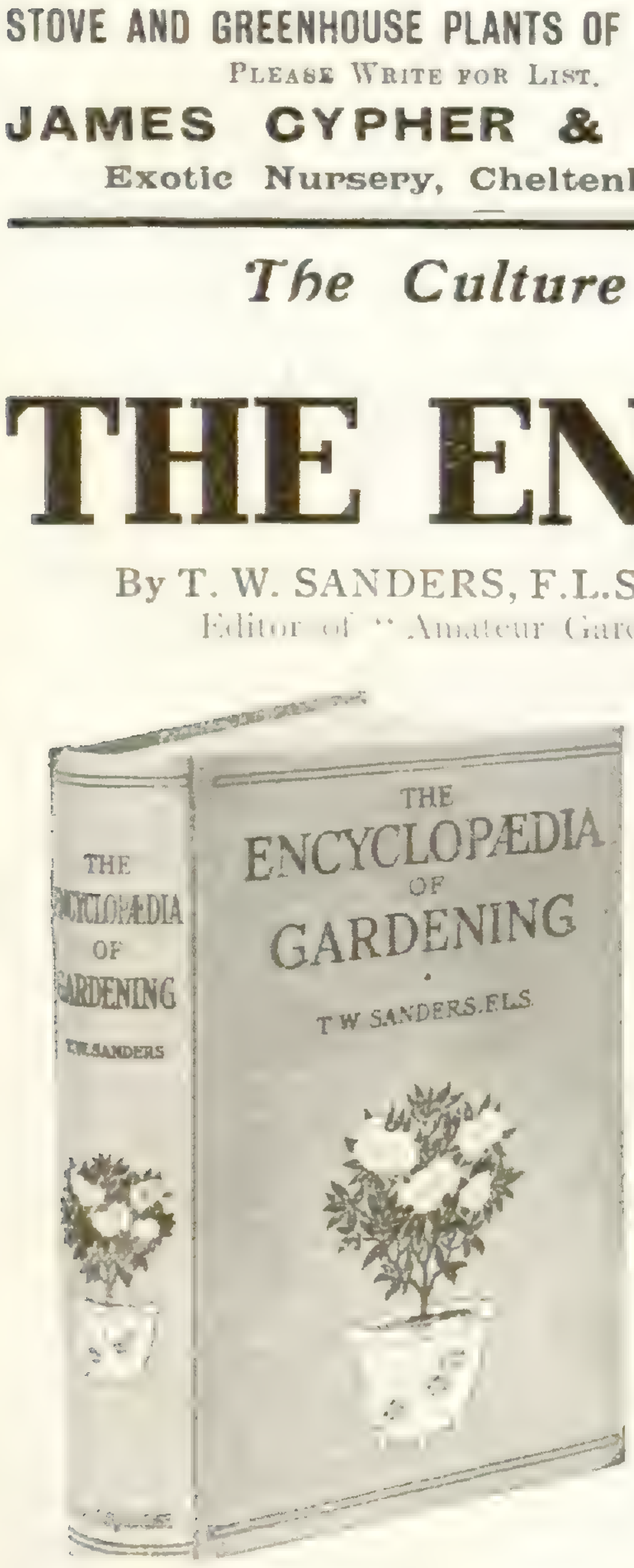

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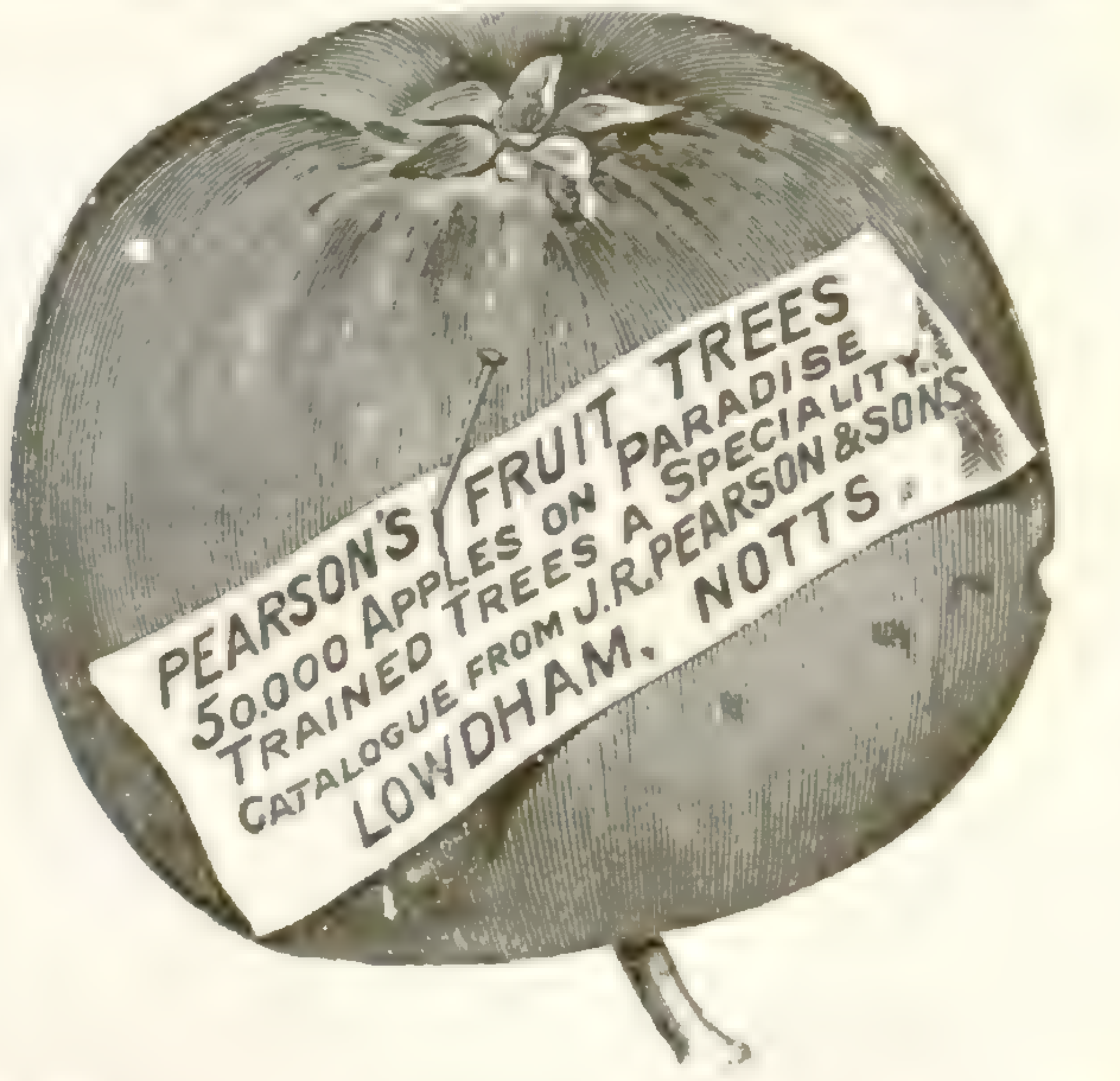
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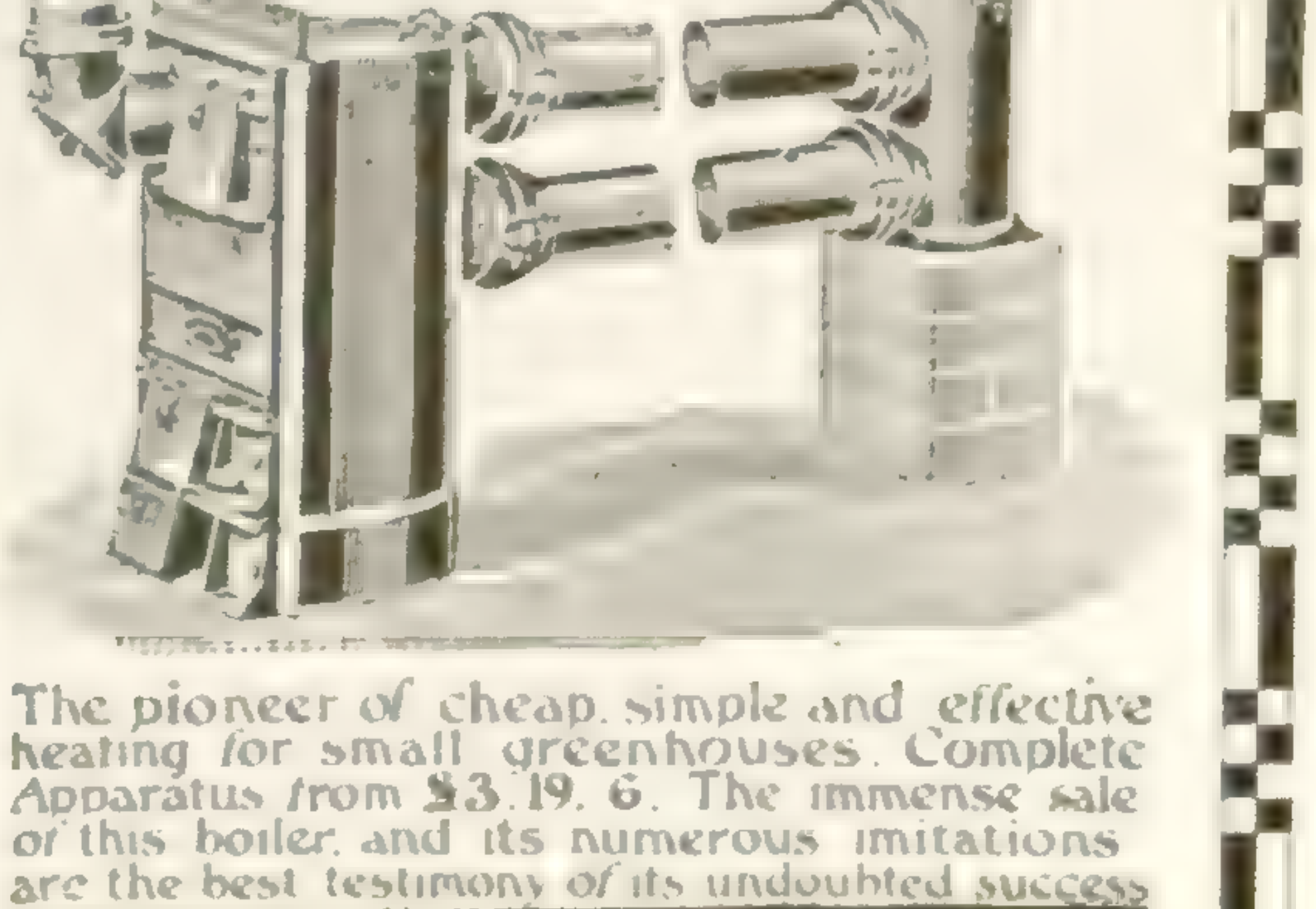

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THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Hairs, Bristles, Thorns, etc.

The superficial growths on members of the plant and animal world vary so much in appearance, and yet agree so much in origin, that the use of an etc. is unavoidable in the heading of an article referring to them generally. The most diverse forms are found to merge together by innumerable links, as in the animal world we may see in the porcupine and the hedgehog, in which two animals we may find the long horny quills of the former exactly imitated in the far smaller bristles of the latter, which, again, will be found to merge into nothing more formidable than hair in one and the same animal. Even the protective scales of fishes may be regarded as modified hairs, and in the scale direction we may go as far as the turtle and armadillo as examples of hair modification into actual armour plating, as an extreme in one direction, while the softest down of the eider duck, or the plumage of the ostrich, form the extreme in another. In the plant world, too, a great diversity is found. A vast number of leaves bear superficial hairy growths, as, for example, the mullein, salvia, and Antennaria tomentosa, and these are of great service in resisting transpiration, while it is easy to imagine also that a plant thickly bristling with such outgrowths must also be well calculated to resist insect approach and attack. Such superficial hairs vary greatly in form, sometimes being branched, and even star-shaped, which form, when sessile, gives us the clue to the transformation of hairs into scales, those of Hippophæ rhamnoides exactly resembling the stellate scales of the turbot. In the fern family we may see all grades of such transformation, from the fine downy white covering of the young fronds of the hart's-tongue to the large netted scales of the shield ferns, and many others. In the cactus tribe we have, perhaps, the most remarkable development of hairs into formidable protective chevaux-de-frise, in the shape of long obvious spines, at the bases of which there are myriads of minute and much more insidious barbs, which are more to be feared by the inquisitive traveller than the large ones. In this same family, on the other hand, we find these defences transformed into long fine silky hairs, as in the so-called "old man" cactus. Another purpose served by plant hairs is that of seed dissemination, and in this direction again we find great diversity. Thus, in the familiar burr and goose grass of our hedges we find examples of hooked hairs, which enable the seeds to adhere to the coats of animals, including man himself, while in the dandelion they take the form of downy parachutes of extreme delicacy, which utilise the friendly breezes as their conveyers far and wide. In this latter connection we have the cotton down, which forms so great a staple of trade and manufacture as to constitute one of the chief industries of the world. There are, however, other forms of hairs of a quite different class. Thus we have the curious poisonous hairs of the nettle, fine brittle tubes with a bag of venom at their bases, capable at a touch of inflicting a troublesome wound upon any thin-skinned aggressor; and in quite another direction we have the sensitive hairs of the sundew, transformed into tentacles tipped with viscous dew, and endowed with the power of appreciating the near presence of a victim which has come into contact with one of them, and bending over to aid in its capture and subsequent digestion. In the dionæa, or Venus's fly trap, we see three little hairs similarly gifted in the centre of a valved leaf, which, at a touch, snaps together and enshrouds the poor victim in an extemporised stomach, as does the sundew aforesaid. We have already mentioned the thorns of the cactus tribe as examples of hair modification, but there are also the innumerable other thorns, which are less obviously so, such as those of the rose family, the roses proper, the brambles, etc., etc., in which the thorns spring from the stem, these, too, as epidermal outgrowths, must also be classed as modified hairs; but in the prickly gorse we must assume the thorns to be aborted leaves instead, which is also the case in many other instances; Nature here, as always, being able to produce similar results by different methods. In the holly we see thorny leaves, due to hard texture and acutely pointed extensions of the margin, and in some cases even the surface breaks out into thorns, in which case it is rather a question whether these latter do not belong to the "hair" category of excrescences. Still another form of hair is seen in the "glands" which are found on an immense number of plants as very small stalked outgrowths with globular tips, often containing the essential oils which yield the odour of the plant or flower concerned, when, by passing the leaf or blossom through the hand, these are ruptured, and their contents escape. The subject, indeed, is a so very wide one that we have only been able to touch the fringe of it.

MR. GEORGE MACKINLAY.

Mr. George Mackinlay, so well known as head gardener to His Excellency the United States Ambassador, at Wrest Park, Ampthill, Bedford, is one of the most popular of private gardeners, and he is as able as he is popular. He has a large garden under his charge, and, as His Excellency entertains largely, this means a vast amount of decorating and a smart upkeep of the large flower garden and extensive pleasure grounds. Mr. Mackinlay has had a very wide experience in horticultural practice, and began his career at Avocha, in the Black Isle, Renfrewshire; afterwards he was employed as journeyman in the kitchen garden at Riccarton House, Midlothian, and subsequently in the flower garden at the same establishment. He then went as foreman at Castle Simple, Renfrewshire, and eventually occupied a similar position at Mohale Castle, Midlothian, at Gosford House, Haddington, at Mareno Park, co. Dublin, and at Dalkeith Palace, Dalkeith. He was head gardener first at Tulloch Castle, Ross-shire; then at Blackwood House, Lanarkshire; at Lamport Hall, Northampton, and then at Wrest Park, where he has been head gardener for the past fifteen years—a record of experience in three of the countries of the United Kingdom that it would be difficult to beat.

Sweet Peas in Scotland.—The Perthshire Sweet Pea Society, which was formed about twelve months ago, has met with a measure of success that fully justifies the anticipation that it will soon become a strong organisation. The annual meeting was held at Perth a few days since, and the Rev. J. S. Clark, the president, stated in the course of his opening address that the society had received such hearty support as to suggest to some of the members the advisability of altering the name of the organisation to the Scottish National Sweet Pea Society. Mr. R. A. Halley, reporting on the work of the year, said the enthusiasm which had been shown on the foundation of the society was unabated, and that their members, now numbering 144, were drawn from a wide area, this extending from the Border Counties on the south to Forres in the north. The prospects for next year were, he considered, bright, although Mr. Mechi, the treasurer, reported a debit balance of £28 1s. 11d., this being largely due to the unfavourable weather experienced on the day of the show and to the expense incidental to the formation of the society. With regard to the proposal to alter the name of the society, he did not consider the proper time had arrived for making the change, and, on his suggestion, it was decided to let the matter stand over for a year. The Rev. Harold Mayal Courrie was elected president, and Mr. R. S. Halley, and Mr. A. M. Mechi were re-elected secretary and treasurer respectively.

Purchased Gooseberry Bushes.—In consequence of the spread of American gooseberry mildew during the past summer, the Board of Agriculture recommend purchasers of gooseberry bushes, from whatever source they are obtained, to examine their purchases very carefully on delivery, to cleanse the plants thoroughly from all earth, and to remove and burn the tips of the shoots before planting. If any trace of disease is found the purchaser should communicate with the Board and supply full information as to the sources from which the consignments were obtained, in order that the matter may be investigated.

Irish Potato Crop.—According to the official returns of the acreage under crops in Ireland, the total area of potatoes in 1910 was 593,065 acres, as compared with 579,799 acres in 1909, an increase of 13,266 acres or 2.3 per cent. There was an increase in Leinster of 2,712 acres, in Munster of 1,320 acres, in Ulster of 2,103 acres, and in Connaught of 7,131 acres. In Leinster the increase was chiefly in King's County, Longford, Queen's County, Westmeath, and Wexford. In Munster the increase was chiefly in Clare and Kerry. In Ulster the increases were chiefly in the counties Armagh, Cavan, and Donegal. In Connaught there was an increase in all counties, but chiefly in Galway and Mayo. The increase in the area of potatoes this year is the first recorded increase in the total extent of that crop in Ireland within the past twenty-two years.

Mr. Harman Payne.—On the occasion of the opening ceremony of the International Chrysanthemum Show and Congress, recently held in Paris, M. Viger formally presented our old friend and correspondent, Mr. Harman Payne, to M. Fallières, the President of the French Republic. Five years ago M. Viger did Mr. Payne the honour of presenting him to President Loubet, under similar circumstances.

Bright Sunshine in November is usually so limited in amount that the sunny weather which has been experienced since the commencement of the month is a matter of considerable interest. There are, on an average, in London, thirteen days in November in which bright sunshine is absent, but in the current month there had been, up to the 20th inst., only three such days. The total duration of sunshine up to the date mentioned was 35.6 hours, or nine hours in excess of the average for the month. According to the record of the Westminster Meteorological Station for the past twenty-seven years this aggregate has only been exceeded during that period four times by the amount registered for the whole of November. The highest total was in 1894, when 60.5 hours were registered. In 1908 the amount registered was 46 hours, in 1905 45 hours, and in 1883 41 hours. The dullest Novembers during the past twenty-seven years were those of 1897 and 1901, when 7 hours, or about 25 per cent. of the average, bright sunshine were registered.

A Conference on Fruit Culture will be held at the South-Eastern Agricultural College, Wye, on Friday, December 2, and the chair will be taken at 11.30 a.m., by Mr. C. S. Martin, president of the National Fruit Growers' Federation. An introductory address will be given by Mr. J. R. Dunston, principal of the college, and Mr. C. S. Martin will give an address on "The Work and Aims of the National Fruit Growers' Federation." The following papers will be read before luncheon: "Grading, and the Boxing of English Apples," by Mr. J. A. Raynham and Mr. C. S. Smith, of Wye College; "The Marketing of Fruit and Vegetables," by Mr. G. F. Hooper; "Co-operation as an Aid to Fruit Growers," by Colonel A. C. Borton; "Commissions for the Selling of Fruit in London and the Provinces," by Mr. F. Ivo Neame. Proceedings will be resumed at 2.30, when the following papers will be read: "Commercial Varieties of Apples," by Mr. C. S. Smith, of Wye College; "Grease-banding and Red Spider on Fruit," by Mr. F. V. Theobald, of Wye College; "Some Fungus Diseases of Fruit," by Mr. E. S. Salmon, of Wye College; "Soil Analysis and its Use to the Fruit Grower," by Dr. W. Goodwin, of Wye College. There will be an exhibition of English apples in boxes and a trade exhibition of boxes and non-returnable packages.

Dr. Dukinfeld H. Scott, F.R.S., famous for his researches in fossil flora, especially in connection with the flora of the coal measures, has been elected a corresponding member of the Munich Academy of Sciences, as has also Dr. L. Fletcher, the Director of the Natural History Museum, South Kensington.

R.H.S. Exhibitions and Meetings, 1911.—The dates of the exhibitions and meetings that will be held by the Royal Horticultural Society during 1911 are as under: Exhibitions.—March 14 and 15, Spring Bulbs; May 9, Auriculas and Primulas (National Auricula Society); May 23 to 25, Temple Show; July 4 to 6, Summer Show at Olympia; July 11 and 12, Sweet Peas (National Sweet Pea Society); July 25, Carnations (National Carnation and Picotee Society); August 30, Vegetables (National Vegetable Society); September 14, Autumn Roses (National Rose Society); September 26, R.H.S. Vegetable Prizes; October 10, British-grown Fruits; November 30 to December 2, Colonial Fruits; December 12, Carnations (Perpetual Carnation Society). Meetings of the several committees: January 3, 17, 31; February 14, 28; March 14, 28; April 11, 25; May 9, 23; June 6, 20; July 4, 18; August 1, 15 (committees will meet upstairs, but there will be no show on this date), 29; September 12, 26; October 10, 24; November 7, 21; December 5, 19 (committees will meet as usual on this date, but there will be no flower show).

Burton-on-Trent Chrysanthemum Show was, a correspondent informs us, a great success. Especially noteworthy for their high quality were the Japanese and incurved blooms, while the single and decorative varieties were so largely shown as to produce bright displays of colour. Mr. R. Nisbet, gardener to Sir William Bass, was first in the open classes for eighteen and twelve Japanese, and for twelve incurved.

Kew Guild.—Mr. H. Cowley has been appointed secretary of the Kew Guild, and editor of the "Journal." All correspondence relating to the guild, and communications for the next issue of the "Journal" (which will appear shortly) should be addressed to Mr. Cowley, at South Side, The Green, Kew, Surrey.

Potato Markets are just now being regarded with more interest than is customary at this season of the year. In the corresponding month of last year depression prevailed in all the principal markets because of the great abundance of supplies, but now potatoes are less plentiful owing in part to the crop having been rather lighter than usual, and to the area under potatoes having been 36,000 acres less than last year. In August the wretched weather gave rise to the gravest apprehension with regard to the disease, and the greater proportion of the growers sold their crops as quickly as possible. The buyers incurred considerable risk, but, as the weather during September was highly favourable to the potato crop, and the prices advanced by about £1 per ton, their purchases have proved highly profitable.

The Rev. T. Sheepshanks, of Chudleigh, specially distinguished himself in the competition in the open classes for cut blooms at the recent exhibition of the West of England Chrysanthemum Society, held at Plymouth. He obtained premier honours in the classes for forty-eight and twelve Japanese blooms, for twelve incurved, and for eighteen blooms arranged in vases.

Chrysanthemum Conference.—The National Chrysanthemum Society will hold a conference at Essex Hall, Strand, on December 5. There will be an afternoon and an evening session. At the former Sir Albert Rollit will preside at 3 p.m., and a paper will be read on "The Culture of Japanese Chrysanthemums for Exhibition" by Mr. Norman Davis, to be followed by a paper on "The Culture of

Incurved Chrysanthemums for Exhibition" by Mr. W. Higgs. The evening session will commence at 6.30 p.m., when Mr. Thomas Bevan will preside. To begin with there will be two short papers by Mr. H. J. Jones and Mr. R. F. Felton respectively on "Methods of Exhibiting Japanese and Incurved Chrysanthemums" and "The Use of Large Blooms in Floral Decorations." Mr. Thomas Stevenson is due to read a paper on "Late-struck Japanese Chrysanthemums for Exhibition," at 7.30, and the proceedings will conclude about 8.30 p.m. There will be a display of chrysanthemums at the Essex Hall, and this will be open to inspection from 3 p.m. to 9 p.m.

The New Daffodil Classification.—For the second time within three years a new Classification of Daffodils has been brought forward under the authority of the Royal Horticultural Society, and we trust that the specialists will, as a body, adopt and follow the latest efforts of some of the most eminent raisers and growers. In the new classification just issued by the R.H.S. the flowers are classed into eleven divisions: Trumpet Daffodils, Incomparabilis, Barri (incorporating Burbidgei), Leedsi, Triandrus Hybrids, Cyclamineus Hybrids, Jonquilla Hybrids, Tazetta and Tazetta Hybrids, Poeticus varieties, Double varieties, and Various, the latter including various species. The first three divisions are again sub-divided according to the colour of the varieties. After the explanation of the classification there follows fifty-three pages of daffodil names, and, allowing a fair margin for cross references, there must be well over 2,000 varieties and species listed. The great majority of these are classified. For example, we take the well-known Emperor, and find it set out thus: "1a, Emperor (Backhouse)," and on referring to the classification find this to mean that Emperor was raised by Backhouse, it is a (1) Trumpet variety, and has (a) a "yellow or lemon-coloured trumpet and perianth of same shade or lighter (but not white)." The work of pigeonholing this huge list of varieties must have been very great, while that of bringing so many names together and preparing the new "Classified List of Daffodil Names, 1910," must have been both tedious and considerable. The booklet is issued from the R.H.S. offices at 1s., and it should be in the hands of all enthusiastic daffodil lovers.

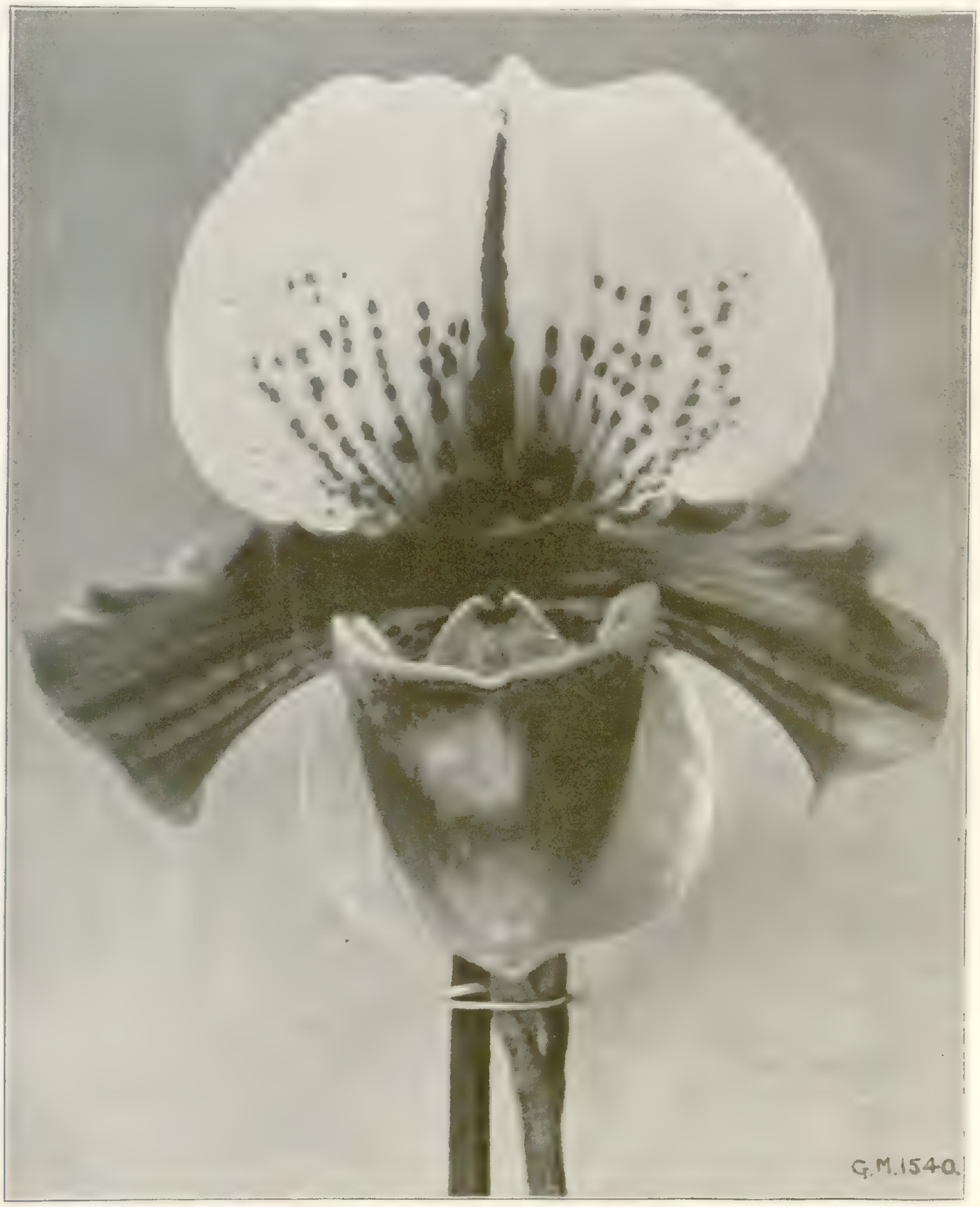
Women as Market Gardeners.—The annual meeting of the Women's Agricultural and Horticultural International Union was so well attended as to afford proof that there is continued interest in its work, and Mary Countess of Lovelace occupied the chair. Miss Brace, who is a pioneer in market gardening in Australia, stated that there was a profitable opening for women in the Commonwealth, provided they were properly trained and capable of hard work. Miss K. M. Courtauld related her experience in fruit farming in Essex, and assured the meeting that it could be made to pay if conducted efficiently. It was an appropriate occupation for women, since grafting, pruning, and budding were matters demanding deftness rather than strength, and required fingers used to delicate employment. She recommended beginning in a small way, with a sufficient amount of capital, and extending afterwards. The land should be near a good market or railway, but ground close to large towns was too expensive. Many practical hints were given by the speaker as to the management of the orchard, the destruction of insects, the selection of fruits that grew well in the locality, and packing for the market.

ROYAL HORTICULTURAL SOCIETY.

There was a remarkably good show at Westminster on November 22. The hall was well filled, and there was a large attendance of visitors during the afternoon, and all this was the more remarkable because of the sharp frosts of that and previous days, and the heavy fog of the same morning. Orchids were finely and extensively shown, and these, with chrysanthemums, winter-flowering begonias, carnations, and pelargoniums, made up the bulk of an interesting and very bright exhibition.

FLORAL COMMITTEE.

Very beautiful was the exhibit of winter-flowering begonias put up by Messrs. Jas. Veitch and Sons, Chelsea. The plants were all splendidly flowered, and their brilliant hues shone in the dull foggy light of the hall. The best varieties were Mrs. Heal, Winter Cheer, Elatior, Ensign, Agatha, and Mrs. Bedford. With these were batches of the orange-yellow-flowered Jacobinea chrysostephana, and bouvardias. A very large and bold group of single and decorative chrysanthemums was staged right opposite the entrance by Messrs. Jas. Veitch and Son, Chelsea. This served to show the great value of single varieties for late use, and also indicated their freedom, as the plants were in pots as grown. Cinnamon, Feltham White, Atair, H. M. Smith, Metta, Elusive, Sylvia Slade, Belle of Weybridge, Portia, Roupel Beauty, and Naomi were a few of the most attractive of the many beautiful single varieties staged. The elegance and freedom of the plants exhibited appealed to everyone.



CYPRIPEDIUM MINOTAUR.

Flower white, purple, green, and brown. F.C.C., R.H.S., November 22. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

Messrs. W. Wells and Co., Merstham, filled the greater part of one side of a table with chrysanthemums in variety, including big Japanese, incurved, single, and decorative varieties: Doris Stevenson, G. W. Forbes, Caledonia, Narcissus, Miss Hilda Wells, Arcturus, Metta, Merstham Jewel, and Mensa are a good selection of the single varieties shown by the Merstham firm. Mr. J. Box, Lindfield, had a small but pretty exhibit of chrysanthemums arranged with fern fronds in various receptacles.

Mr. T. Lilley, Guernsey, presented a collection of single chrysanthemums, and set up beautiful flowers of Mensa, the vivid crimson Arcturus, and a new rich red variety named Strawberry that was particularly bright and effective. The large plants of the new scarlet pelargonium His Majesty, shown by Mr. W. H. Page, Tangley Nursery, Hampton, were greatly admired, and they demonstrated very pleasingly the merits and brilliance of this variety for winter flowering.

A display of begonias of the Gloire de Lorraine section was made by Mr. J. Davis, gardener to J. Gurney Fowler, Esq., Glebelands, South Woodford; there were about a hundred plants in 48-sized pots, and all lightly trained into pyramid form; the type and the modern varieties, as well as the white form, were all represented. Mr. H. Burnett, Guernsey, presented a beautiful lot of carnation flowers in his usual style, and among fine varieties shown we noticed Mrs. C. F. Raphael, Mikado, R. F. Felton, Mrs. W. J. Hunter, Countess of March, and Mrs. H. Burnett. A dozen large and well-grown plants of Begonia Gloire de Lorraine, staged by Mr. F. Elvey, gardener to R. Foster, Esq., Summer Hill, Lindfield, were greatly admired as every specimen was smothered with blooms. Mr. Vincent Slade, Taunton, put up a small but very bright group of cut zonal pelargoniums. Golden Glory, Chavarris, Hermanos, Paul Reboux, M. Alf. Arckemer, Fascinator, and Comte de Roma were a few striking new semi-double varieties worthy of note.

Messrs. George Williams and Sons, Manor House Nurseries, Cardiff, filled a considerable space with single, Japanese, and decorative varieties of chrysanthemums; the singles were well shown, notably such varieties as Herbert Williams, Miss May Thorne, Sylvia Slade, Mrs. Hazelhurst, Brightness, and Caledonia. Mr. Martin Silsbury, Shanklin, Isle of Wight, submitted beautiful flowers of new Japanese chrysanthemums, D. B. Crane, Fred Green, Octopus, Hon. Mrs. Lopes, and Queenie Chandler. Mr. H. A. Thorp, Worthing, also showed new chrysanthemums.

A very handsome exhibit of chrysanthemums, made up of tall stands of big blooms and smaller stands of single and decorative varieties, all associated with ferns, asparagus, and other foliage, was put up in fine style by Mr. H. J. Jones, Ryecroft Nurseries, Lewisham. Some of the best things in this elegant and interesting group were Helena Williams, True Gold, Mrs. Hygate, Hon. Mrs. Lopes, Mrs. Faulkner, E. Jamieson, R. Hooper Pearson, Madame E. Rivol, Purity, Lady Francis Ryder, R. F. Felton, E. G. Mocatta (A.M.), a lovely soft yellow sport from E. Jamieson (grown by Mr. Thomas Stevenson, Addlestone), and Harry Mann; these are all Japanese varieties, but associated with a fine set of singles, representing the best varieties.

Begonias were finely shown by Mr. A. R. Allan, gardener to Lord Hillingdon, Hillingdon Court, Uxbridge. Mr. Allan had one group of well-developed bush plants of B. Gloire de Lorraine, all nearly a yard across, while he filled the side of one table with very fine plants of Begonia Ensign, one of the newer hybrids with carmine flowers. There were about three dozen plants, and many of them 3ft. through. Mr. L. R. Russell, Richmond, submitted well-berried pernettyas, and once more showed how useful are small tree ivies, berried aucubas, and eleagnuses for various winter decorations.

A large miscellaneous group, tastefully arranged by Mr. Bradford, gardener to E. H. Brown, Esq., Highwood, Roehampton, was greatly admired by the general public. Palms, bamboos, ferns, and stove foliage plants were freely used, and flowering plants that went to make up the colour of the display included richardias, celosias, Begonia Gloire de Lorraine, bouvardias, streptocarpuses, browallias, Calanthe Veitchi, chrysanthemums in variety, cyclamens, carnations, poinsettias, Primula obconica, Roman hyacinths, lily of the valley, and anthuriums. A large exhibit came from Messrs. W. Cutbush and Son, Highgate, and it was in three parts. In the first section were perpetual carnations, well arranged and representing the best of the varieties, and some very fine new seedlings, one of these being a yellow-ground fancy, very heavily splashed with crimson scarlet. The next part was devoted to heaths, dracænas, aralias, and small palms, while the major portion of the grouping was composed of retarded (and forced) astilbes, Lilium speciosum, and L. longiflorum, grouped with ivies, araucarias, skimmias, aspidistras, etc.

A good exhibit of perpetual carnations was set up near the door by Messrs. Stuart Low and Co., Bush Hill Park, Enfield who had large stands of Lady Alington, Mrs. J. W. Riley, Marchioness of Linlithgow, Beacon, Colossus, O. P. Bassett, and Mrs. H. Burnett. The same firm submitted a small batch of cyclamens. A beautiful group of finely-grown nephrolepises, were shown by Messrs. H. B. May and Sons, Edmonton; herein were large specimens of N. Duffi, N. exaltata, N. todeaoides, N. exaltata grandiceps, N. Marshalli (very beautiful), N. Fosteri, N. splendens, N. Whitmani, N. multiceps, N. rufescens Mayi, and many other exquisite varieties.

ORCHID COMMITTEE.

A beautiful group of orchids, chiefly cypripediums, was staged by Mr. G. Day, gardener to H. S. Goodson, Esq., Fair Lawn, West Hill, Putney. Particularly fine were the three dozen or so of plants of the charming Cypripedium insigne Sanderæ, carrying three or four flowers each. Associated with these were C. insigne Harefield Hall, C. i. Luciani, C. Madame Jules Hye, C. Leeanum Clinkaberryanum, C. triumphans, and C. Arthurianum. In addition there were odontoglossums in variety, the beautiful Golden Fairlawn variety of Cattleya Venus, a fine form of C. Iris and Lælio-cattleya Myrrha var. Dayana. A very handsome group of cypripediums came from Messrs. James Veitch and Sons, Chelsea, and here there were fine flowers of C. insigne Sanderæ, C. Maudiæ, C. illustre, C. Euryades, C. Baron Schroder, C. Milo superbum, C. Iolanthe, C. Thalia splendens and C. Spicerianum.

A group made up entirely of the lovely Cypripedium insigne Sanderæ, and including one plant carrying a dozen blooms, was staged by Messrs. J. and A. A. McBean, Cooksbridge. Messrs. Jas. Cypher and Sons, Cheltenham, presented a fine group of orchids, and here cypripediums figured extensively, and included C. gigas Corndean Hall variety, C. Actæus, C. Baron Schröder, C. insigne Harefield Hall, C. i. Sanderæ, C. i. magnificum, C. Leeanum Corona, C. Rolfæ, C. triumphans, C. Vipani, and C. Thalia gigantea; Masdevallia tovarensis and Sophronitis grandiflora were also shown in this handsome group. Dendrobium Phalænopsis varieties were shown by Messrs. Stuart Low and Co., Bush Hill Park, Enfield, who also staged the pretty Oncidium varicosum concolor, the green-flowered Liparis longipes, and Cypripedium insigne Sanderæ.

Messrs. Charlesworth and Co., Haywards Heath, had a very small group for them, but it included a fine plant of Brasso-cattleya Digbyano-Mendeli, Odontioda Devossiana with deep purple flowers; the fine Cypripedium Thalia gigantea, a finely-spotted Odontoglossum crispum, and Calanthe Burfordiense. Mr. Alexander, orchid grower to Lieut.-Colonel Sir George Holford, Westonbirt, Gloucester, brought up Cypripedium Minotaur, a superb hybrid between C. Euryades and C. Minsul; it has an immense white, dark-purple spotted dorsal sepal, and green and brown sepals and petals. Mr. Edward V. Low, Vale Bridge, Haywards Heath, brought up Cattleya labiata and a white form of it, Cypripedium Maudiæ, and two plants of C. Thalia.

From The Ridgeways, Haslemere, Mr. Hale, gardener to Samuel Larkin, Esq., brought up a few orchids that included a good specimen of Cattleya lucida with over thirty flowers, Oncidium ornithorhynchum, Cypripedium insigne Sanderæ, Odontoglossum Harryanum, and Cymbidium Traceyanum. A large exhibit of orchids was made by Mr. Davis, gardener to J. Gurney Fowler, Esq., Glebelands, South Woodford. The display consisted chiefly of fairly large plants of Cypripedium insigne type, with C. i. Sanderæ, C. i. Harefield Hall, C. Leeanum, C. Baron Schroder, C. A. de Lairesse, C. villosum, Lycaste Skinneri, and Odontoglossum crispum.

Cypripedium Charlesworthi Téméraire (F.C.C.), with a very big wavy dorsal sepal, was shown by Messrs. Sander and Sons, St. Albans, together with Chondropetalum Fletcheri (Chondrorhyncha Chestertoni x Zygopetalum Mackayi), and Vanda cærulea var. Sanderæ (F.C.C.), with rosy instead of blue colouring, this being deepest on the petals, while the lip is rich rose-red. A beautiful and novel variation from the type. Mr. R. G. Thwaites, Streatham Hill, sent a fine form of Cattleya Maggie Raphael, and Odontioda Charlesworthi. Colonel Carey Batten, Leigh Lodge, Abbotsleigh, Clifton (gardener, Mr. Spewage), showed a fine branching spike of Oncidium tigrinum and a small home-raised seedling of Cypripedium callosum Sanderæ. Calanthes were well shown by Mr. Hunt, gardener to P. Ralli, Esq., Ashstead Park, Leatherhead; there were three or four spikes on some plants, especially on C. Wm. Murray; these made up a very pretty group.

FRUIT COMMITTEE.

Mr. Whittle, gardener to Lieut.-Colonel A. C. Borton, Cheveney Hunton, Maidstone, showed some remarkably fine apples, clean, of good size, and finely coloured; especially fine were Cox's Orange Pippin, Ribston Pippin, Warner's King, Gascoyne's Scarlet, Bismarck, Mabbott's Pearmain, Lane's Prince Albert, Annie Elizabeth, Cox's Pomona, Rival, Lord Derby, Emperor Alexander, Peasgood's Nonsuch, and Vicar of Beighton. Some deeply coloured bunches of Alicante, Appley Towers, Gros Maroc, Gros Colmar, and Muscat of Alexandria grapes, three bunches of each, were shown by Mr. Lintott, gardener to Sir Walpole Greenwell, Bart., Marden Park, Woldingham.

Mr. W. Poupart, Richmond, brought up a few dozen of bottled fruits, showing fine fruits, finely bottled, and looking particularly appetising. Endives in great variety were brought up from the Society's Trials at Wisley, and such varieties as White Curled, Moss Curled, and the various forms of Batavian endive were very good. Mr. T. Coomber, gardener to Lord Llangattock, The Hendre, Monmouth, sent up some splendid specimens of Smooth Cayenne pineapples.

MEDALS.

Silver-Gilt Flora.—To Mr. Allan, gardener to Lord Hillingdon, Uxbridge, for winter-flowering begonias; to Mr. Bradford, gardener to E. H. Brown, Esq., Highwood, Roehampton, for group of plants; to Messrs. H. J. Jones, Lewisham, for chrysanthemums; to Messrs. Jas. Veitch and Sons, Chelsea, for chrysanthemums and begonias; to Mr. G. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, for orchids.

Silver-Gilt Knightian.—To Mr. Whittle, gardener to Colonel Borton, Cheveney, Hunton, for apples.

Silver-Gilt Banksian.—To Messrs. H. B. May and Sons, Edmonton, for group of nephrolepises.

Silver Flora.—To Messrs. H. Cannell and Sons, Swanley, for pelargoniums and chrysanthemums; to Messrs. W. Cutbush and Son, Highgate, for carnations, etc.; to Mr. J. Davis, gardener to J. Gurney Fowler, Esq., Glebelands, South Woodford, for begonias (and also one for orchids); to Messrs. W. Wells and Co., Merstham, for chrysanthemums; to Messrs. Jas. Veitch and Sons, Chelsea, for orchids; to Messrs. Jas. Cypher and Sons, Cheltenham, for orchids.

Silver Banksian.—To Messrs. J. and A. A. McBean, Cooksbridge, for cypripediums; to Messrs. Stuart Low and Co., Bush Hill Park, Enfield, for orchids; to Mr. Hale, gardener to S. Larkin, Esq., Haslemere, for orchids; to Mr. Hunt, gardener to P. Ralli, Esq., Ashstead Park, Leatherhead, for calanthes; to Mr. H. Burnett, Guernsey, for carnations; to Mr. R. Foster, Lindfield, for begonias; to Mr. W. H. Page, Hampton, for pelargoniums; to Mr. L. R. Russell, for shrubs.

Silver Knightian.—To Mr. T. Coomber, gardener to Lord Llangattock, The Hendre, Monmouth, for pineapples.

Bronze Banksian.—To Earl Stanhope, Sevenoaks, for Plumbago rosea.

CERTIFICATES AND AWARDS.

First-Class Certificates.—To Messrs. Sander and Sons, St. Albans, for Vanda cærulea Sanderæ, and for Cypripedium Charlesworthi var. Téméraire; to Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester, for Cypripedium Minotaur.

Award of Merit.—To Cypripedium Iolanthe, from Messrs. Jas. Veitch and Sons, Chelsea; to Cattleya lucida, from S. Larkin, Esq., Haslemere; to Japanese Chrysanthemum Ernest G. Mocatta, from E. G. Mocatta, Esq. (gardener, Mr. T. Stevenson), Woburn Place, Addlestone; to Japanese Chrysanthemum D. B. Crane, from Mr. Martin Silsbury, Shanklin, Isle of Wight; to Single Chrysanthemum Strawberry, from Mr. S. Lilley, Guernsey; to Japanese Chrysanthemum William Turner, single chrysanthemum Sandown Radiance, and semi-double chrysanthemum Crimson Jewel, from Messrs. W. Wells and Co., Merstham; to single chrysanthemum Mrs. Foot and Peter Plant, from Mr. Lawrence, Shoreham; to single chrysanthemum Brightness, from Messrs. Williams and Son, Cardiff; and to incurved chrysanthemum Ethel Thorp, from Mr. H. Thorp, Worthing.

NOTES FROM SCOTLAND.

◆

Autumn Weather and Vegetation.

The comparatively dry and pleasant weather that prevailed throughout the greater part of September and October gave way to a severe storm of wind and rain in the closing hours of the latter month. This appears to have been the precursor of complete atmospheric change, as since then frosts of considerable severity and showers of hail and snow have been of almost daily occurrence. Upon the distant hills the latter lies to some depth in the corries, but to a lesser extent upon the more exposed wind-swept portions, which, as viewed from the lower levels, produces an impressive, or what perhaps might be more fittingly described as majestic, effect when the whole landscape is illumined with bright sunshine, over which the slowly-moving shadows of light fleecy clouds chase each other in irregular succession.

Autumn Flowers.

It 's seldom that the more tender kinds of decorative plants remain so long unharmed by frost, and maintain at least some portion of their beauty, as has been the case this year. To the close of October dahlias were quite fresh, and, although their flowering capabilities were well-nigh exhausted, a very fair show of blossoms was in evidence.

The same remark applies to most kinds of bedding-out plants, as heliotrope, mignonette, lobelia of the herbaceous class, marguerites, verbenas, and lastly, Calceolaria amplexicaulis, which for late flowering is still the best of the family, and produces a full display long after the more shrubby kinds are past their best.

Marguerite Carnations.

The season has suited these, as the plants grew strongly, and an abundance of flowers and buds in various stages of development have been available for a long time. Coming into beauty as these do just at the time the border varieties are getting past their best, their usefulness for display or for cutting for decorative purposes in rooms, together with the ease with which their successful cultivation is carried out, should ensure for them more favour than appears to exist at present.

Sweet Peas and Roses.

The former have done unusually well, and the freedom enjoyed in this part from wind storms allowed of the growths remaining erect and productive of excellent flowers until a very late period. Roses, too, have flowered well, many of the blooms being equal in form and colour, and considerably more lasting than were others in the height of the season. In this respect the hybrid tea varieties take precedence, some of the best late flowering being Caroline Testout, Gustave Grunerwald, Vicountess Folkestone, Madame Abel Chatenay, Lady Ashtown, and Pharisaer. China roses in variety, but more particularly the well-known blush, that blooms more or less throughout the late summer and autumn, are very useful when most other denizens of the garden are past, and withstand several degrees of frost with impunity. Among climbing roses the rambler section easily takes the lead, and such varieties as Lady Gay, Hiawatha, Dorothy Perkins, and the white counterpart of the latter, all flower with some freedom long after most others are past.

Berried Plants.

The display of coloured fruits is this year very scanty, and even the commoner forms, as the hollies and the thorns, are no exception. The Spindle Tree (Euonymus latifolia) is the only species profusely laden with berries, and some plants of this ten feet or more in height, are beautiful objects at present, the foliage being naturally reduced in amount, but with sufficient remaining to form a slight background to the long racemes of scarlet fruits just now—mid-November—beginning to burst, and thus show the orange-tinted seeds and interior.

Fine Foliaged Trees.

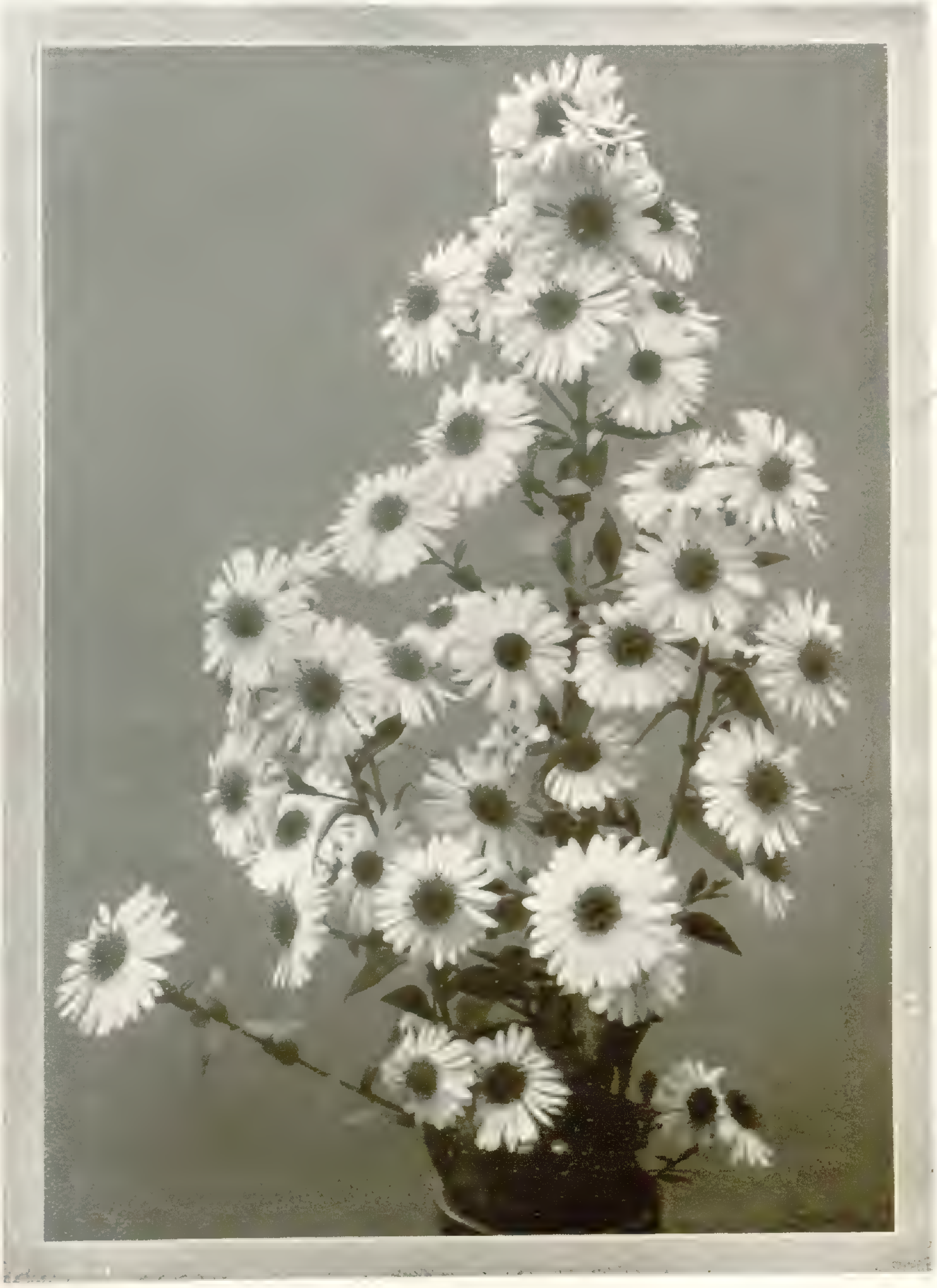
The weather referred to has had a most beneficial effect upon the trees, and, although many, as chestnuts, limes, thorns, etc. (with the exception of Prunus pissardi), are now past, the oaks and beeches still retain a great portion of their foliage, and some specimens of the last-named, of great height and spread of branch, are objects of great interest and beauty. The common oak, though less brilliant in colour, is not without interest, while some of the American forms of the genus are unsurpassed in this respect, and furthermore retain their foliage for a very long period, sometimes for the greater part of the winter, if growing in positions where not exposed to strong blasts of wind.

James Day.

Galloway House, Wigtownshire.

ASTER CLIMAX.

One of the very finest perennial asters or Michaelmas daisies yet raised is the one named Climax. It does not follow that Mr. E. Beckett has arrived at the non plus ultra of aster raising, but, so far as garden decoration is concerned, there is not at present a bolder, stronger-growing, more effective or more beautiful variety than the one here figured. Not only has the variety the good qualities indicated, but it carries its large flowers in great abundance, and these are so shapely that they commend themselves to the most exacting floriculturist. The colour is soft blue, a very pleasing and effective shade. The free-branching and elegant habit of the plant is all that can be desired, and a border that lacks this variety lacks one of the most beautiful of late autumn flowers. In height the plant reaches about six feet, and is well furnished with bold, roundish foliage. Messrs. W. Cutbush and Son, Highgate, N., have shown this variety remarkably well during the autumn, and the illustration represents a spray shown by them in mid-October. We may add that Aster Climax received an Award of Merit from the Royal Horticultural Society in the autumn of 1908, and that it is a plant every lover of hardy plants should possess.



ASTER CLIMAX.

A handsome variety, with flowers of a soft blue colour. From a spray exhibited by Messrs. W. Cutbush and Son, Highgate.

DECORATIVE EVERGREENS FOR WINTER EFFECT.

The value of foliage masses in the garden is always most apparent in winter, when few other interests compete with them, as at this season they impart to the garden an appearance of cheerfulness and life that softens our first great loss occasioned by the autumn fall. With shrubs in particular, their variety produces a group so great that gardens of any extent, and offering every condition of soil and aspect, may readily gain in character by a judicious selection of the best. Nor can we overlook the importance of evergreen foliage amid the lighter, softer shades so typical of summer leaves; this element of contrast, while generally present, is rarely given due allowance when dissecting those features in a composition that most directly appeals to us.

APPLE WORCESTER PEARMAIN.

The primary idea in the use of evergreens should be that of imparting life, beauty, and interest to the garden during those months when deciduous plant life is for all practical decorative purposes inoperative. As already hinted, the scope for selection is practically unlimited, therefore choice should be directed to the best and most distinct, and obviously, when the flowering season occurs within the winter period, due preference should be given to these.

It is interesting to note the position of Viburnum tinus, a plant so easy to propagate, inexpensive to procure, and succeeding under the most trying circumstances, that for no other reason it is often relegated to neglected corners or planted under trees, while it is also equal to any evergreen for town gardens, yet it is probably the finest evergreen winter-flowering shrub we have, forming a conspicuous object while the flower heads are in bud, and marvellously beautiful when draped in the snowy mantle of expanded flowers. It rather suffers, I think, from over-production and an easy-going character, as plants of far less intrinsic merit are frequently preferred before it, whereas, given an open position in any ordinary garden soil, it will more than repay this scanty favour. Viburnum tinus lucidum is the best form, having broad, glossy green leaves, and the variety French White is the best flowering variety of this. Arbutus Unedo and its varieties, under favourable conditions, attain to tree-like dimensions, and they combine beauty in leaf and stem with that of flower and fruit. From the apparent resemblance of these latter to the strawberry the tree has commonly been spoken of as the strawberry tree. Arbutus is a member of the Ericaceous family; the flowers are small inverted bells, with contracted mouth, and borne in small branching sprays resembling lily of the valley spikes. It succeeds on a greater variety of soils than any other genus of ericaceous plants, as this includes limestone and chalk, upon which the trees make healthy, if not over-vigorous, growth. Arbutus Unedo coccinea is a conspicuous variety to grow for the brightness of the bark, while the type should always be given a place for its ruddy-coloured fruits.

Andromeda is another Ericaceous genus, also remarkable for floral beauty, but demanding as an essential condition a soil entirely free from lime. Andromeda floribunda, the commonest species, is an exceedingly neat shrub, covering itself with flowers, at first greenish coloured throughout winter, that in spring develop into racemes of cream-white blossoms, bearing striking resemblance to miniature sprays of lily of the valley. Andromeda japonica is a choicer, more desirable plant, as, in addition to the floral beauty, the young leaves and shoots art exceedingly delicately coloured red and pink, and when grouped in quantity the effect is particularly good. A. formosa is larger in all its parts than A. japonica, ultimately developing into tree-like proportions; it requires a sheltered, favoured spot as spring frost at times damages the young growths when rapidly thawed by sunshine. Its beauty when in flower equals anything found among hardy shrubs, and the young shoots and leaves exhibit a rich shade of reddish-scarlet. A. (Zenobia) cassinifolia differs in habit from the foregoing; the branches are lighter and more pendulous, and, in consequence, the plant is less stiff. The flowers are very freely produced in the form of pendulous white bells, and they continue in beauty for some considerable time. The foliage in this species is also distinct, being a rich deep shade of blue-green; in the latter respect it is, however, surpassed by the variety pulverulenta, a form having leaves of an intense shade of glaucous grey-green that render it at once conspicuous at any season. The flowers resemble the type in general character, being, if anything, larger and more freely produced. Andromeda Rollissoni is dwarfer, but an ideal plant to group in mass; the flexible shoots arch in a graceful manner, and when these are crowded with pure white bell-shaped flowers the effect is altogether a charming one. At all seasons, but more particularly in the young state, the leaves and shoots are tinted with varying shades of red and purple.

Of winter evergreens effective for leaves and fruits the holly takes precedence. It succeeds on a great variety of soils, and few hardy plants equal hollies in their glossy greens, variegations, and countless forms. In the majority of instances, where a garden can be lightened by variegated shrubs, the holly should have pride of place. Ilex argentea marginata is the best silver holly, and of equal merit in shades of gold is Golden Queen; a conspicuous plant is fructo-lutea, with yellow berries. I. ferox and its coloured forms are curiously interesting, with twisted margins and innumerable spines. I. scotica is a charming holly, with sinuate margins entirely free from spines. I. japonica latifolia is a good, if somewhat tender, Japanese kind, for walls; the leaves are dark green.

The berberis family contains many fine evergreens, B. Darwini being one of the first to flower, and, although an old garden plant, is still one of the best. The same remarks apply to B. japonica, one of the most distinct, having stout stems supporting the leaves in whorls that in spring become surmounted by huge trusses of yellow flowers. B. stenophylla, B. Wallichiana, and B. Knighti are among the most desirable of garden plants in this large genus.

Escallonia Langleyensis develops into a specimen some eight feet high, the plant becoming a spreading bush, with graceful arching branches that, in bloom, appear a drooping cascade of blossom, the flowers being cherry-red in colour. In marked contrast to other evergreens is Garrya elliptica; in many districts it succeeds in the open, and when the flowers expand the plant produces a unique effect among other shrubs. Olearias yield a group of shrubs which have evergreen leaves more or less covered with a white tomentum, generally on the undersides, and as the young shoots exhibit the same character the general appearance is that of grey-green leafage.

Azara microphylla is an ideal evergreen for a limestone soil; the tree is exceedingly graceful in habit, and is densely clothed with small, dark green, toothed leaves of exceptionally glossy appearance. Osmanthus ilicifolius purpureus forms a graceful bush with holly-like leaves that are brightly tinted with purple in the young stage. Photinia serrulata is very distinct in leaf and colour, and a most valuable acquisition for a position on a wall.

Thomas Smith.

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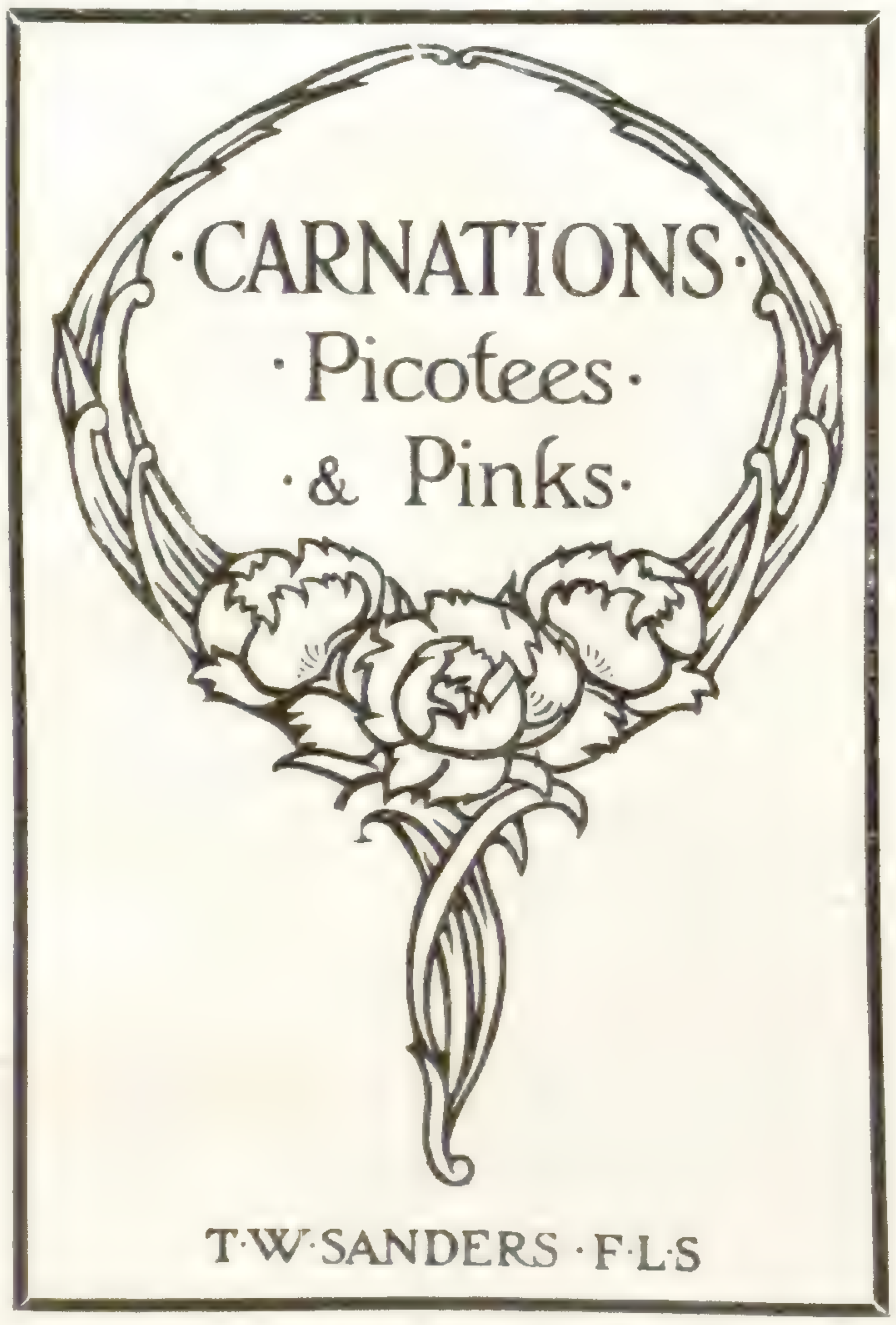

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TWO GOOD APPLES.

◆

Apple King of the Pippins.

There appears to be some confusion as to which is the correct name of the apple here illustrated. King of the Pippins, as described by Dr. Hogg, is an early rich-flavoured dessert apple, in use during August and September, whereas the apple here portrayed is not in use until the first week in November, or occasionally it may be ready, in warmer and drier localities with a sandy soil, in October. This apple is described by Dr. Hogg as Golden Winter Pearmain, synonymous with King of the Pippins, Hampshire Yellow, and Jones's Southampton Pippin. Let the name be as it may, the apple here illustrated is well known as King of the Pippins, both at shows and in the market, and is distinctly popular. In point of quality it varies considerably: in warm loamy soil it is really quite first-rate, but in soil of a heavy retentive character, where the growth is slower, the flesh is liable to be hard, and does not possess that brisk spicy flavour which is naturally characteristic of it, and renders the variety so much sought after where it succeeds. In all markets that I am acquainted with it finds a ready sale, and at a good price, because it is in season at a slack time, just before Cox's Orange Pippin, Blenheim Pippin, and Ribston Pippin are fit for use.

Dr. Hogg says it will grow in almost any situation, but that is not my experience, except at considerable expense and labour in deep trenching and the addition of lightening materials where the soil is heavy, cold, and retentive of moisture, and, consequently, naturally cold in the spring. In such a soil, without extra deep trenching and the addition of light soil, I do not advise the planting of this apple largely, as the tree is liable to canker, and does not grow with the freedom desirable in a market apple.

In light and naturally warmer soil King of the Pippins is a most desirable variety, as it crops freely, and grows to a good size. I have noticed another point in favour of this apple. The small fruits possess equal flavour with the larger ones, and that is not a common occurrence in apples. As a standard, bush, pyramid, espalier, and especially as a cordon in the open, King of the Pippins succeeds, and is perhaps more favoured by the thinness of branches than almost any other variety, as it crops so freely on spurs on the main branches. The point then is to furnish the trees as quickly as possible with a sufficient number of branches, and then induce them to form spurs in quantity by summer pruning, thereby exposing the wood to the favourable influence of light and air.

No apple that I know pays better for the time spent in thinning the fruit, as that remaining grows so evenly.

Worcester Pearmain.

This early dessert apple is a general favourite, in the market especially, where its bright colour is an attraction. It comes into use at a time—September—when there is a dearth of good dessert fruit. The earliest varieties, as Mr. Gladstone, Quarrenden, Irish Peach, and the June-eating, have disappeared. From a market point of view I look upon Worcester Pearmain as quite the best of the early apples, and, as far as I know, it succeeds pretty well in most localities. I do not suggest that in a low-lying wet district, especially where the soil is a heavy clay, that it would succeed as well as in a higher, drier district, and in a loamy soil. Wherever it does succeed I would advise it being planted largely, because it fills a gap in the market at an important time of the apple season.

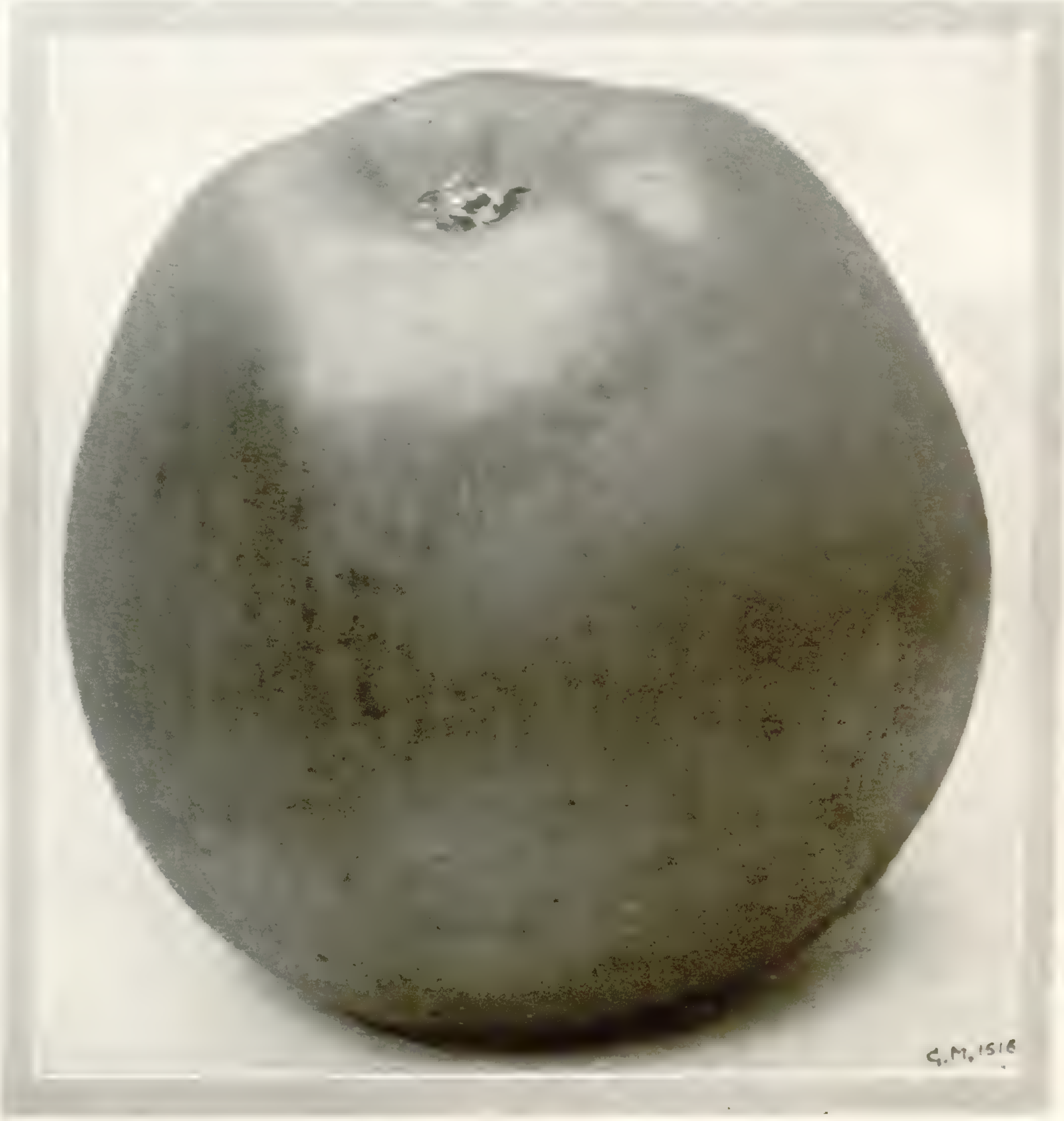
Worcester Pearmain is a seedling from Devonshire Quarrenden, and was sent out by Messrs. R. Smith and Co., of Worcester, in 1873. I planted at Swanmore, in 1878, one of the first grown standard trees of it, and I must say it has cropped constantly ever since. Although growing vigorously during the first fifteen years after planting it does not make such rapid progress afterwards. As a standard, bush, pyramid, espalier, cordon, or as a wall tree it is quite desirable, succeeding in any form. For the small garden it is of much value, not needing so much space as many varieties, and, being such a constant cropper, is all the small grower desires.

To obtain the finest fruit manurial aid is required, especially for trees over ten years old. This may be given as a top dressing—mulching in the summer—or some desirable artificial stimulant worked in amongst the surface roots. A method of pruning that admits an abundance of light and air to the branches should be adopted to ensure the high, rich colour of the fruit so important from a market point of view, and also the flavour, for the richest coloured fruits possess the finest flavour.

Summer pruning of vigorous growing bush trees is time well spent, the point being to keep the centre of the tree quite open. In the case of standards that have their main boughs thinly disposed little will be required in the way of pruning, as I do not find that standards do make so much growth as bushes. Some of the finest crops of fruit I have seen of this apple were in the gardens at Sandringham, where the thinly-trained bush trees were heavily laden with richly coloured fruit of large size.

Another advantage I find in this early apple is the fact of its fruit keeping much longer than do the majority of early varieties. Fruit carefully gathered will remain quite good till the early part of November. Dr. Hogg describes Worcester Pearmain thus: Fruit, medium sized, two and three-quarter inches wide, the same in height, conical, even, and very slightly angular towards the crown, where it is narrow. Skin very smooth, and completely covered with a brilliant red, dotted with fawn-coloured freckles. Eye, small, closed. Flesh, very tender, crisp, very juicy, and sprightly, with a pleasant flavour. With this description I agree, and I would impress upon planters that it does not possess so high a flavour as some, but in the case of an early market apple its high colour is of primary importance. The attractive colouring of the fruit renders it most useful for dessert, and the flavour, if not rich, is sufficiently pleasant to ensure it being fully appreciated.

E. Molyneux.

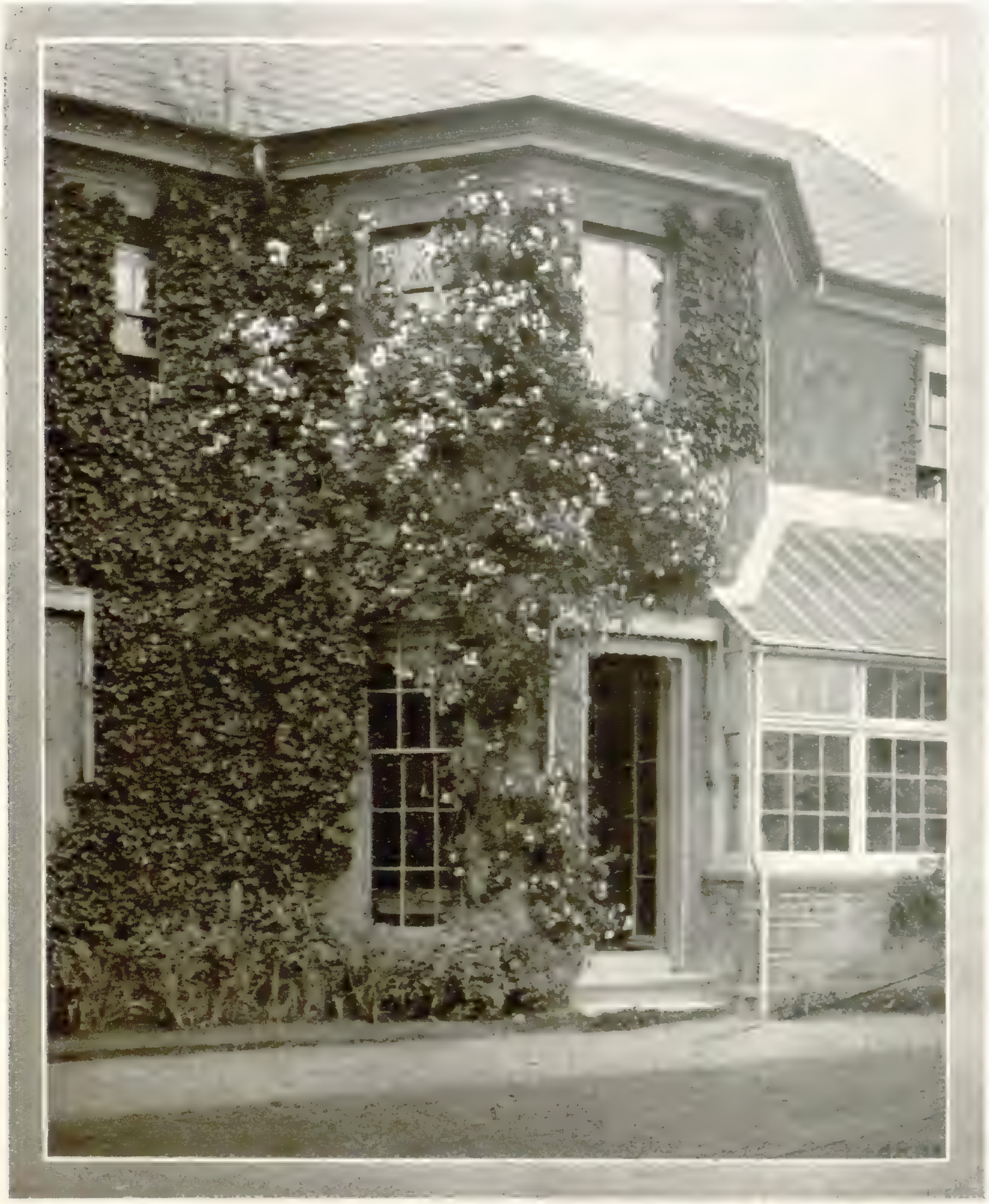


APPLE KING OF THE PIPPINS.

Thalictrum dipterocarpum.—The ranks of the meadow rues have been considerably recruited within the past few years, and that named Thalictrum dipterocarpum is proving one of the best of recent acquisitions. It comes from China, and we are indebted to Messrs. J. Veitch and Sons, of Chelsea, for its introduction. It was exhibited before the Royal Horticultural Society at the meeting of August 18, 1908, and received the commendation of the Floral Committee in the shape of an Award of Merit. Although the vote was not absolutely unanimous, it was nearly so, and the award has been justified by the plant when better known. The foliage is of the general character familiar to those who know the meadow rues, and is of a light green above, somewhat glaucous below, and is arranged in a graceful manner on the thin shining stalks. The pale purple flowers, with yellow anthers, are drooping, and are in erect panicles on stems which are about five feet high in congenial quarters. This meadow rue seems to be partial to a sunny, warm, though not too dry position, and its hardiness in very cold districts remains to be proved.—S. A.

ROSES AT STRATFIELDSAYE RECTORY.

The rural parish of Stratfieldsaye has long been of much interest, for within its boundaries is the fine estate that, nearly a century ago, was presented by the nation to the first Duke of Wellington for the splendid services he had rendered in the course of his remarkable military career. Stratfieldsaye has at the present time an added interest, more particularly to rosarians, for as its rector it has the Rev. F. Page Roberts, the president of the National Rose Society, and one of the most successful of the amateur cultivators of roses. This distinguished rosarian has had a more varied experience than the majority of amateurs, for it has been his lot to grow roses in the counties of Norfolk, Kent, and Hampshire, which, it need hardly be said, differ much both in the character of the soil and in climatic conditions. Yet he has achieved much success in each of them, a point of importance, as it again brings into prominence the fact that in the cultivation of roses, as indeed some other classes of plants, more depends upon the skill and the unremitting endeavour of the cultivator than upon the soil and climate.



[Photo: F. Mason Good.

STRATFIELDSAYE RECTORY WITH SUMMER-FLOWERING ROSES.

Thirty-five years ago Mr. Page-Roberts went from a manufacturing town in the Midlands to take up his residence and his work at Scole, a rural village in the county of Norfolk. At that time, he informs us, he did not know a rose by name, nor was he acquainted with any other classes of flowers. His floricultural instinct soon asserted itself at Scole, for within two years of his taking up his residence, he was the secretary of a horticultural society, and had been successful in winning a prize for roses. It is interesting also to learn that at Scole the soil was mostly sand resting on gravel; indeed, so poor that it could not be regarded as good for any class of flowers, and that the east winds were felt in their full force. Yet, as we know, Mr. Page-Roberts was successful in winning many prizes for tea roses with blooms cut from his plants at Scole, and on more than one occasion occupied the premier position in the class in the National Rose Society's schedule which is popularly known as the Champion Tea Class. At Stratfieldsaye both the climate and soil conditions are of a quite different character. The rectory gardens are, it may be assumed from the large number of stately trees near their boundaries, well sheltered from the east winds, and the soil is a heavy clay that is so near the surface as to render it extremely difficult to properly drain it.

The soil with which Mr. Page-Roberts had to deal at Halstead differed very materially from the soils at Scole and Stratfieldsaye, being heavy and adhesive and full of flints. He was, he has told us, just understanding how to deal with it to advantage when he was preferred to Stratfieldsaye, and, as proof of this, it may be mentioned that a fine lot of maiden teas was transferred from Halstead to the gardens of his new home. Knowing the attention which Mr. Page-Roberts has given to the soil in the production of the blooms with which he has obtained many honours, some of his friends have playfully suggested that when the Duke of Wellington offered him the living, he fully examined the soil to see whether it was good for roses before accepting it. The soil is, we are assured, of the best, but the gardens are not considered ideal for roses. The difficulty has been to find a position beyond the influence of the great elms and oaks that abound. Originally the most favoured parts of the kitchen garden were devoted to the roses, but the results were not satisfactory. They, in Mr. Page-Roberts' words, "made no growth, but dwindled and died."

In no way deterred by his earlier experiences, Mr. Page-Roberts has greatly developed the cultivation of roses in the rectory gardens, and if he has not been able to combat the conditions unfavourable to the development of blooms of the exhibition teas to the highest degree of perfection, he has succeeded in forming a rose garden rich in interest and attractions. The rose beds have been formed on one portion of the spacious lawns, with, as will be seen from the accompanying illustrations, wide grass paths between them. The illustration only shows a small part of the area devoted to roses, wherein may be seen during the summer season glorious displays of flowers, to which all the leading sections contribute liberally. One might particularise, but this would necessitate the enumeration of so considerable a number of varieties as to form a lengthy list. Many of the beds made strong claims for notice, but possibly the bed which appealed the most strongly to the notice of the writer when he had the pleasure of seeing the Stratfieldsaye roses was a bed wholly devoted to standard trees of Frau Karl Druschki.

One of the most delightful of the features of the rectory gardens at Stratfieldsaye is the pergola which was erected within a short time of Mr. Page-Roberts settling down in his Hampshire home. It is simple and substantial, and well-clothed with the finest of the rambling roses, as may be seen on turning to page 531 of last year's volume, where an excellent illustration is given. The pergola leads from within a short distance of the rectory, of which a portion is illustrated, to the interesting church, which is just beyond the boundary of the gardens, and over it Rène Andre, Dorothy Perkins, Heléne, Jersey Beauty, and other varieties equally well known spread their flexile branches in graceful profusion, and in their season yield a wealth of flowers. While roses predominate, the rectory gardens are remarkable for their borders of hardy herbaceous plants, in the cultivation of which Mr. Page Roberts is highly successful. G.

Pavetta caffra.—This South African shrub bears a general resemblance to an ixora, and, indeed, they are both members of the same order. The pavetta, however, for its successful culture, does not require as much heat as the ixoras, for it succeeds in a warm greenhouse or intermediate temperature. It forms a freely branched shrub, clothed with smooth obovate leaves. The flowers, which are freely borne in rounded clusters, are white with long prominent stamens. In byegone days it used to be grown as a specimen plant.—W. T.

JAPANESE ROCK PLANTS.

The widespread interest vouchsafed to all things pertaining to the rock garden is one of the most notable features of this age of horticultural development. There is something attractive in plants from the highland wilds and mountain ranges of the world; something about them that enhances their value and renders them the equal of the choicest exotics which need the sheltering care of the stove or intermediate house.

Japanese rock plants (though as yet not so well known as those from "nearer" lands) have a wealth of interest, and the near future should bring many more of them into our English gardens. Some few of them, notably the schizocodons (which replace the soldanella in Japan), the exquisite shortias, a few hardy orchids, etc., are very well known in this country, but the majority are outside the pale of the English rock garden. Now that the desire for Japanese plants is extending, and Japanese ideas of landscape gardening and garden decoration are being fostered by lovers of garden art, a short notice concerning some typical forms may help to maintain the interest, and direct the thoughts of the reader to a wider range of subjects, which may yet be of service in clothing rock formations and sloping banks, especially those which are "Japanese" in design.

Take, for instance, some of the rarer primulas, P. nipponica for one, with its rosettes of toothed leaves and clusters of bluish-white blossoms, or P. farinosa Fauriæ, with its quaint rhombic leaves and lilac-pink blossoms. P. cuniefolia is a pleasing rosy form, deepening to crimson at the petal edges. P. mistassinica albiflora, a quaint rarity from Mount Hayachine, in Northern Japan, is the tiniest of all the Japanese primroses, and carries its blossoms usually three upon a stem. P. Yesoana is a purplish-hued native of the Hokkaido and Shinano, with uncommon foliage, almost maple-like in shape. Other primula gems include the brilliant scarlet P. Reini, a gloriously attractive little gem, with large blossoms; the variety of P. farinosa called Modesta is an exquisite study in light pink, with a carmine centre, and the two fine forms of P. cuniefolia, known as heterodonta and Hakusanensis, the former being an extremely bright red, and the latter a soft pale pink, are charming; both forms have finely toothed leaves.

Gentianas are represented by several forms, among which we note G. Makinsi, a rich blue-flowered perennial form, which hails from the mountain sphagnum beds and grassy stretches of Central and Northern Japan. This species grows about a foot high, and the flowers, which cluster around the apex of the stem, are produced in August. Somewhat similar, save that the leaves are smaller and the blossoms white in colour, is the pretty G. algida, which is found in plenty in the central districts, and, like G. Makinsi, it is August flowering. Of less value, though extremely interesting, is the annual G. auriculata, noteworthy for its solitary wide-open, deep purple flowers. G. nipponica is charming, a very pretty semi-creeping gem, dainty both in foliage and blossom. It is deep blue in colour, quite dwarf, and should prove an acquisition. A distinct form of G. Thunbergi, under the varietal name minor, comes from the swamps and moist grassland of the high mountains. The blossoms are small, borne upon long slender stems, and the plant is but biennial in duration. Two late-flowering gentians, purple in colour, are G. sikokiana, and the form of G. scabra known as Buergeri. Both are useful plants, and are notable for their heavily foliaged flower stems and the clustered flower heads. I must also note that tiny biennial, G. pseudo-humilis, an exquisite miniature hailing from Mount Yatsugatake. The little touches of colouring are fine, and are at their best in August.

Mountain rhododendrons, too, are worthy of notice, and in some places add materially to the beauty of the landscape during their season of flowering. R. kamschaticum is found on Mount Iwate, etc., and its brilliant scarlet blossoms give a fine bit of colour in July. The light-habited R. Tschonoski, and its variety trinerva, are widely dispersed throughout the central districts; both are white flowering, the latter being most readily distinguished by its larger, three-lined leaves. R. Keiskei is rather larger, both in foliage and blossom, than the foregoing, and is of more woodland type. The leaves are thin, and covered with a minute scaly deposit, and the flowers are creamy-white. In R. hymenanthes var. pentamerum (otherwise R. Metternichi pentamerum) we greet a pretty pink-flowered form, with rosy-red blotches toward the centre; the foliage is of good size, and evergreen. Prettier still is the rich salmon-pink variety of hymenanthes known as heptamerum. The colouring is grand, and the blossoms slightly larger than the preceding form, making it a meritorious subject. Very fine is R. chrysantha, a fine yellowish gem from the central and northern districts, it is exceedingly attractive, and, like the foregoing, is of an evergreen nature.

I might go on to recount saxifrages and sedums, campanulas and shortias, violas and veronicas, potentillas and polygonums, ranunculus and pyrolas, and many other interesting plant groups, but my main point is to emphasise the possibilities of the Far Eastern empire in furnishing a rock or mountain garden. Many of the Japanese plants are full of interest and

A VIEW IN THE RECTORY GARDEN, STRATFIELDSAYE.

[Photo: F. Mason Good.

charm, and some are quite brilliant in colouring, and certainly they deserve a little more attention than they are getting at the present moment.

Lastly, I may note the richness of the Eastern Island empire in hardy orchids. Apart from the warmth-loving bletias, angræcums, calanthes, etc., there are a host of high mountain forms which are certainly rich in numbers and interest. Among them are cypripediums, goodyeras, gymnadenias, platantheras, malaxis, orchis, calypso, Herminium monorchis, listeras, etc., amply testifying to a diversity of form that is, to say the least, interesting.

As time goes on, and the horticultural trade between England and Japan increases, we may hope for many new things in the way of mountain and rock plants from the Northern islands, and the tiny islets that stud the seas around Japan proper. Sufficient has been said, however, to awaken the notice of the reader to Japanese rock plants, and possibly, in a later issue, I may further touch upon varied forms unmentioned in these notes. Certain phases of garden art testify to the taste and skill of the Japanese.

P. S. Hayward.

NEW SWEET PEA MAUD HOLMES.

The value of sweet peas with rich crimson blossoms for the production of bright colour effects in the garden, and the supply of cut flowers for competitive gatherings, market purposes, and home decoration could not well be overestimated even by the most optimistic of those who devote special attention to these flowers. It is certainly great, and we have ample evidence of it being so regarded by the general body of cultivators in the high degree of popularity which the finest of the crimson varieties in commerce have enjoyed, and, indeed, are enjoying. King Edward VII. is a remarkable proof of the high appreciation in which varieties having crimson flowers are appreciated, for within a short period of it being distributed it was to be found in well-nigh every garden in which sweet peas were cultivated. Since the introduction of that beautiful and popular variety several other crimsons have been fixed and submitted to public notice, and one of the most noteworthy of these is unquestionably Maud Holmes, which Mr. Robert Holmes, of Tuckswood Farm, Norwich, is now offering. The variety has flowers above the average in size, and these have finely waved wings and a standard of the Spencer type, and are borne on long stems in threes and fours, the latter greatly predominating. The colour is intense crimson, and this is said to be unaffected by full exposure to the most brilliant sunlight. It came out well in the trials held by the National Sweet Pea Society at Sutton Green during the past season, and is one that all who grow sweet peas should include in their selections for next year, even if they do not exceed a dozen varieties.

NEW SWEET PEA MAUD HOLMES.
Flowers brilliant crimson. Raised by Mr. R. Holmes.

CHRYSANTHEMUMS IN BATTERSEA PARK.

The annual display of chrysanthemums in Battersea Park is much appreciated by the local residents, and crowds may be seen there on Saturday afternoons and on Sundays. It is, from our point of view, one of the finest, if not the very finest, of the shows that have been held there, and a recent visit showed many interesting features. The varieties which contributed largely to the display when first opened were in many cases then over, but the house was still amply furnished with very fine flowers.

The structure in which the chrysanthemums are exhibited would admit of a better display if wider, but the best use is made of the space at command by carrying a serpentine path from end to end. In its windings the path is, from the narrowness of the house, brought in one place close to the wall, too close, indeed, to admit of ordinary bush plants being placed there. This difficulty has been overcome by training a few decorative varieties with ample foliage and profusion of bloom in fan shape, and they thus completely hide the wall, and at the same time take up but little space. An unusual feature is seen at Battersea, namely, the furnishing of the walls and parts of the roof with tall plants, chiefly of the decorative section, which are laden with blossoms. Notably among those so employed are the old white-flowered Sœur Melaine, the deep orange Source d'Or, and its crimson form Lizzie Adcock, Gloire de Mezin, a bronze-coloured flower, and Margot, salmon-pink.

The general arrangement followed is that of an undulating bank sloping down towards the walk, the monotony being relieved by a few cordylines and palms, but chiefly by plants of some of the single-flowered varieties raised well above their surroundings. This bank of flowers is in some cases narrow, and in others wide, according to the winding of the path. The front next the path is finished off with dwarf pompon varieties, which, with some large plants of Asplenium bulbiferum, serve to hide the stems of the taller chrysanthemums. The varieties of which the display is chiefly made up are Japanese kinds.

The single varieties mostly employed for breaking up the uniform level of the banks of blooms include: Edith Pagram, rich pink; Ideal, blush; Miss E. Partridge, deep rose-pink; Will Jordan, crimson lake, with a ring of white around the disc; Annie Farina, terra cotta and gold; and Bronze Pagram, rich bronze.

The Pyracantha as an Open Bush.—The pyracantha is so generally treated as a wall shrub, that its merits as an open bush are apt to be overlooked; indeed, the idea is often expressed that it will not give satisfaction in this way. This is, however, quite wrong, for examples may be met with of Lelandi's Pyracantha (Cratægus pyracantha Lelandi) growing in bush form, and being at the same time laden with berries. True, in the open the leaves are in the event of very sharp frosts more liable to be seared, than where protected by a wall, but this does not affect the autumn display of berries.—W. T.

SOME GOOD YELLOW BEDDING ROSES.

As some advertisements run, "Now is the time to plant," and inquiries are being made for suitable roses. It is rather late in the year to make a selection, but we so procrastinate, and then bestir ourselves at the eleventh hour. Let us suppose we are resolved on having beds of roses on the lawn. If we are wise, if we have regard to saving labour in mowing, we shall avoid having curly beds twisting in and out. These curly beds were all very well when "bedding out" was the fashion, when the beds were outlined with blue lobelia, but they serve no good purpose where roses are concerned. Let us have beds square, rectangular, or oblong, but no round corners or curves. Remember the lawn mower.

Having shaped our beds, what roses shall be have? In the first place, a better effect will be produced if we have all one sort in each bed. If we mix them, some will grow taller than others, and the general appearance will be ragged and rough, rather than trim and tidy. Next, What about colour? The most striking colour on lawns is yellow. That is why the yellow calceolaria played such a prominent part in "bedding out." So we decide upon having roses possessing yellow in various shades. Then, again, for beds on lawns we want compact growers, not tall straggling ones, for our object is not a few extra good flowers, but a mass of colour. But the most important point of all is that the roses should be good in autumn; well in flower in September, when country houses begin to fill up. Let us then suppose we have some half-a-dozen beds on the lawn, and that we wish to have roses of various shades of yellow, compact in habit, and good in autumn. What are the best varieties for the purpose? You say you want only well-tested sorts, not those of recent introduction, and, consequently are more or less on trial. Very well, then: Here are some which you will find suitable; they are placed in order of merit Sulphurea, Joseph Hill, Prince de Bulgarie, Les Progrés, Edu Meyer, and Mrs. Aaron Ward. A few remarks upon each of them may be helpful.

Sulphurea, T. (W. Paul and Son, 1901).—Although classed as a tea, this rose possesses all the strength and hardiness of the hybrid tea. It is essentially an autumn-flowering variety. Unlike the teas, it is late flowering, coming into bloom about the third week in July, and blooming continually until quite late in October. The colour, as the name suggests, is bright sulphur-yellow, the wood and foliage bronze, which tends to deepen the colour of the flowers. Prune it but sparingly, and you will find it one of the very best.

Joseph Hill, H.T. (Pernet-Ducher, 1903). —This is a robust hardy hybrid tea, with leathery dark green foliage, salmon-coloured flowers with yellow shading, pointed bud. The growth strong and stout, but sufficiently compact in habit for bedding purposes.

Prince de Bulgarie, H.T. (Pernet-Ducher, 1901).—A rose that leaped into popularity very soon after its introduction, and is now well known. Its growth is short, which makes it useful for bedding, the shortness of growth is due to its habit, not to its constitution. It is an exceedingly free-flowering variety, and when full out, blooming early and late, it is most attractive. The colour is variable, some flowers being silvery-flesh, others deepening into salmon, but all possess a deep yellow shade in the centre.

Les Progrés, H.T. (Pernet-Ducher, 1903). Another of this raiser's many excellent yellows. In it we have a variety of more decided yellow than the last-named, but not quite so free in flowering. Nevertheless, what it lacks in quantity is made up in colour. In the bud stage it is golden-yellow, but pales off to buff as it develops. The growth is robust and compact, and well adapted for bedding purposes.

Edu Meyer, H.T. (P. Lambert, 1903). Although this rose is not strong in growth, yet its constitution is good. More plants, however, will be required of this rose than of the others to fill the bed. To omit it would be a loss to the general effect, both on account of its colour, and also of its very late-blooming habit. The wood and foliage are light green, the colouring of the blooms is distinct from any other variety, being described in one catalogue as "copper-coloured yellow, shaded nasturtium red and orange." The flowers are comparatively small for a hybrid tea, but quite large enough to make a bed of this variety attractive.

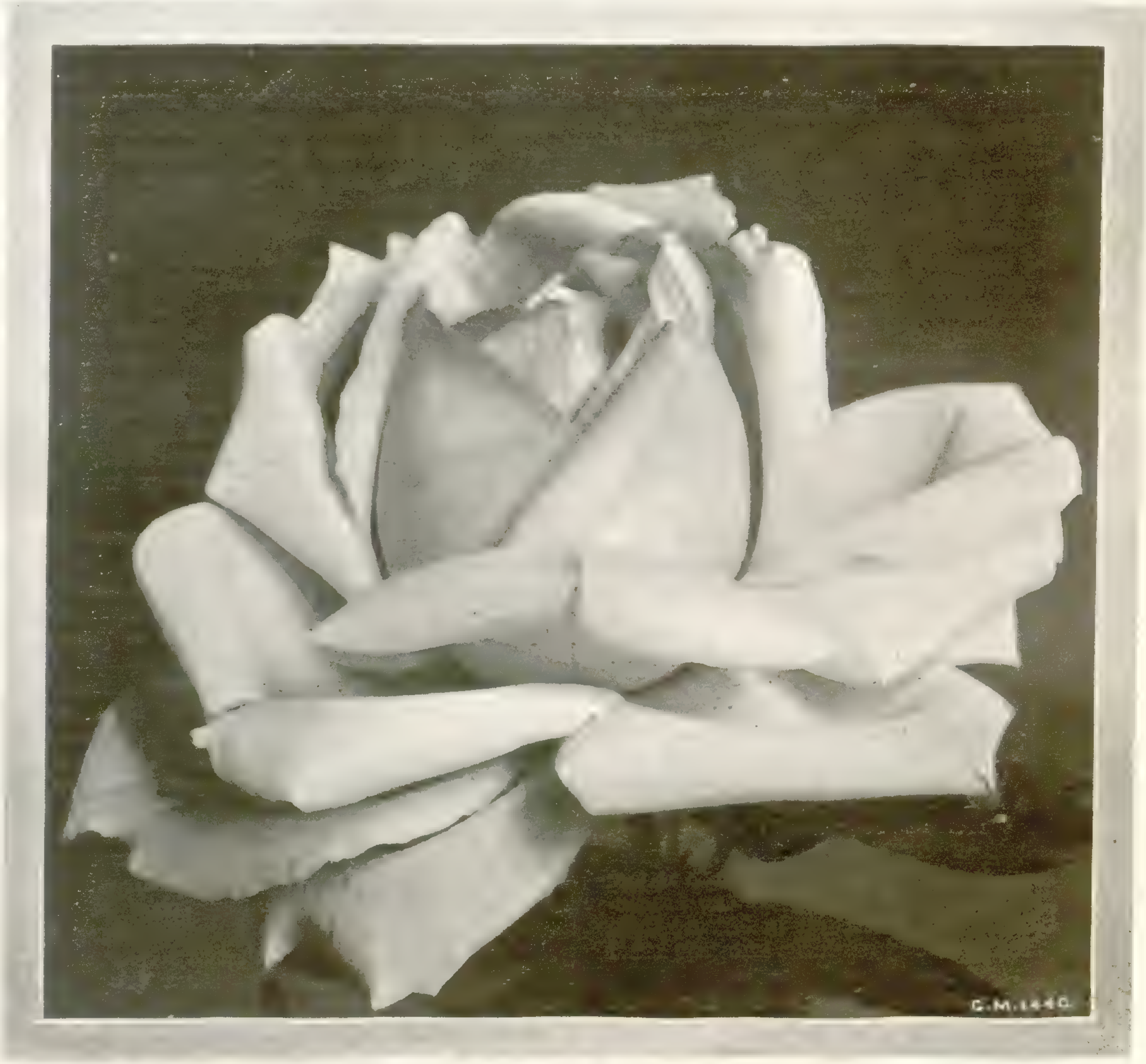
Mrs. Aaron Ward, H.T. (Pernet-Ducher, 1903).—A rose with a stiff, short-growing habit, very compact. Not perhaps so free flowering as some, but it is valuable on account of the colouring of the blooms, a deep yellow, shaded orange. Plant this variety close together, after the French method, and the bed will be very effective.

JOSEPH H. PEMBERTON.

Havering.

NEW H.T. ROSE JAMES FERGUSON.

This fine new hybrid tea rose is, we believe, a sport from that famous and popular variety Caroline Testout. It closely resembles this variety in size and form, and apparently has all the good qualities of Caroline Testout, with the added beauty of broad silvery-pink petals. For exhibition purposes it promises to be a great success, while, following its parent, it should possess considerable value for garden decoration. Some very fine blooms were shown at the Royal Horticultural Hall on September 15 last, on the occasion of the autumn show of the National Rose Society, by Messrs. W. and R. Ferguson, Brucefield Fens, Dunfermline, and on that date a Silver-gilt medal was awarded to the variety, which, as indicated above, was named James Ferguson.



NEW H.T. ROSE JAMES FERGUSON.
Flowers silvery-pink. Silver-gilt Medal, N.R.S., September 15. Messrs. W. and R. Ferguson, Dunfermline.

Pear Emile d'Heyst.—I have never seen fruits of this variety in better condition than they are this year. It is not really a large fruit, but I have noted some remarkably fine specimens at the November shows. There are few varieties to equal it as regards flavour and cropping. As far as my observation goes, the tree is inclined to bear heavily and to make only moderate growth in light soils during rather dry summers where ordinary treatment has been given; but the fruits are larger and lighter in colour this year, and freer growth of tree has been made; no doubt the character of the past season accounts for all this. As a wall or bush tree, it is a grand variety for both large and small gardens.—G. B.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

TEMPERATURE.—The temperature of the different divisions of the orchid houses should now be reduced to the minimum winter figure. This should not be effected suddenly, but gradually, until the desired temperature is reached. If the reduction is extended over a period of about two weeks there will be little likelihood of the plants receiving a check.

MOISTURE.—With a lower night temperature the atmospheric moisture must be reduced accordingly. Much of the disfiguring black spot often prominent among masdevallias and other cool orchids is caused either by excessive moisture in the atmosphere or at the roots during periods of low temperature, the latter being brought about by the sudden falling of the outside temperature. No hard and fast rules can be laid down, nor is it safe to state one for guidance, as the conditions under which orchids are cultivated in different parts of the country are so varied.

COVERING ROOFS AS A PROTECTION IN EXTREME WEATHER.—Where the roof is fitted with lath roller blinds as a means of shading in summer these latter are also exceedingly useful as a means of protection during the prevalence of gales or excessive frosts in winter, especially where houses are large, or at all lofty. The only difficulty is when there is a snowstorm. Unless the runners which carry the blinds from eaves to ridge are fixed reasonably close together, or the ends are supported, the weight of the snow causes them to sag, and frequently the blinds are afterwards thrown out of shape, or some of the laths may get broken. We find it a good plan to let these blinds down every night when there are signs of frost. This makes a very great difference to the temperature inside the houses, and dispenses with a considerable amount of artificial heat. In smaller houses, where lath blinds are rolled along close to the glass, the same advantages are felt without the risk of damage from weight of snow. Where these are not obtainable some mats should be tied together and rolled along the roof, or even old tiffany shading may be used for the purpose; this prevents the glass becoming frozen through, and so precludes the difficulty caused by the drip of very cold water on the plants where they are arranged on side stages. The side lights and ends may also be protected, even if the covering is not fitted closely to the framework; considerable advantage is derived from ordinary No. 5 tiffany shading hanging from the eaves or tacked below the gutter.

VALVES.—Examine all valves; see that they are well oiled, and in good working order, so that they may be ready for any emergency. If a split socket, or a defective ring or joint goes wrong, it will generally occur at the most unfavourable moment, so that too much care cannot be taken to guard against trouble.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

MIGNONETTE.—Plants for flowering in spring should be kept close to the glass, and given an abundance of air on all favourable occasions. The plants should not be fed at this season, but after the commencement of the new year, when the roots will again become active, a little feeding will be an advantage. If the plants have a tendency to show flower, these should be pinched out, stopping the shoots evenly. The chief condition necessary for success in growing good mignonette is to encourage the roots to the surface; therefore water must be supplied with great care, as mignonette is most impatient of an excess of moisture.

MARGUERITES that were lifted and potted up some time ago will now have recovered from the check thus caused, and be useful for the conservatory. Spray them occasionally with quassia solution, or some other insecticide, which will help to keep the leaves free from pests.

CYTISUS.—No attempt should be made for the present to force these cool greenhouse plants, for if subjected to heat they rarely furnish a good supply of flowers. They need very careful watering, and should not be watered until the roots really need it, or the foliage will quickly turn yellow; at the same time, drought would be followed by shedding of the leaves. Large plants growing in comparatively small pots may be given weak liquid manure at every fourth watering.

PLUMBAGO ROSEA. — The graceful winter-blooming P. rosea coccinea superba, now coming into flower, should be afforded a very light position as near to the glass as possible, in order that the flowers may perfectly develop their delicate colours. Do not syringe the plants overhead, but if they are in a very dry position, damp slightly between the pots as the flower spikes continue to develop. A temperature of 50 to 55 degrees, with the usual rise in the daytime, will be sufficient, and the atmosphere should be fairly dry in order that the flowers may continue in good condition for a considerable period. Plumbago rosea possesses a most effective colour for dinner-table decoration.

BATCHES OF HYACINTHS AND TULIPS should be moved into a warmer structure to keep up the supply of cut flowers. Later batches in ashes should be examined lest growth becomes drawn.

CAMELLIAS. — Close attention must be paid to watering these shrubs, whether they are growing in tubs or pots, or planted out in the borders; for if they are allowed to become at all dry many of the flower-buds will fall. It will be well to raise the tubs and pots by placing three thin blocks under each, so as to ensure perfect drainage. Disbudding should now be commenced, the work being done gradually, so as not to cause a severe check to the plants.

CHRYSANTHEMUMS.—As these pass out of flower, any variety that is not to be grown another year should be at once discarded, retaining only those which are required for propagation. These latter should be placed in a position near to the glass, exposed to full light and with abundance of air. The best cuttings are those prepared from firm and short-jointed growths. If, therefore, the cuttings have already been drawn up weakly because the plants have been placed thickly together, thin out the weakly growths to a limited number, so that those retained may acquire more vigour. Some varieties are shy in producing cuttings, and such should be encouraged by removing some of the surface soil and affording a top-dressing of good loam, leaf-mould, and sand. If these materials be well mixed together they will encourage root action, and the production of growths for use as cuttings in due time.—W. Staward, Preston Hall Gardens.

THE FLOWER GARDEN.

PLANTING ROSES.—It is much the best policy to complete this work as early as possible, for, without a doubt, November is by far the best month for the operation. Most, if not all, roses delight in a deep rich soil, into which a goodly proportion of well-decayed manure has been worked while the ground was being dug or trenched. Where the soil is very retentive or stiff vegetable matter, burnt or decayed, might prove beneficial, in addition to the manure. On light sandy soils the addition of cow manure will aid in keeping the soil and roots cool during hot weather—a point in the cultivation of outdoor roses that should not be lost sight of. Where the soil is of an exceptionally light and porous nature the addition of flaky clay that has been exposed to the atmosphere for some time will prove a decided advantage. Before planting carefully trim the ends of any roots that may have been injured in any way, and shorten back those of exceptional length. During planting make the soil fairly firm around the plants, afterwards mulching the surface of the beds with a good layer of light, half-decayed manure; this latter, to a large degree, insures the safety of the plants should the winter prove severe, protecting, as it does, the most vital part of the plant, namely, the collar, or point of union. Tea roses, whether newly planted or established, should be protected unless the soil and situation be exceptionally favourable; dry bracken is an excellent material for this purpose if loosely placed between or about the plants, protecting them, not only from severe frost, but cold, cutting winds as well, which, in many instances, are as injurious as frost and snow.

THE PLEASURE GROUNDS.—If to be kept neat and tidy these will entail a considerable amount of labour at this time. Now that most of the leaves have fallen from the trees they should, when swept together, be removed at once to a convenient place, and there reserved for future use, either as material for hotbeds or for leaf-mould. Portions of the lawn, where the grass has become thin, may receive a dressing of burnt refuse or slaked lime; this should be applied during mild or open weather, and not during frost. All recently planted trees and shrubs should be mulched and securely staked in order to prevent disturbance at the roots during windy weather. Preparations should also be made for protecting tender, or half-hardy evergreen trees and shrubs during severe weather; timely attention to such matters should not be lost sight of, and all should be in readiness when required.

SHRUBBERIES AND VACANT BEDS in prominent positions should be made clean and tidy. The surface of old gravel walks should be turned, or freshened up by the addition of new material, or where these consist of turf, the edges must be neatly trimmed, and the whole put in order for the winter. Where new paths are being made careful attention should be given to proper drainage—a matter too often overlooked. In all instances the gratings and drains should be large enough to carry off all surface water quickly; at the same time the former should be as inconspicuous as possible. Suitable receptacles, to catch the silt from the gravel, should be constructed beneath these, or the drains may soon become blocked and fail to carry off the water.—W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

PRUNING.—Every effort should be made to push forward pruning, taking advantage of fine days for this operation with a view to complete it as soon as possible. There is nothing gained in delaying pruning, although, in the case of newly-planted trees the pruning could be deferred for a few weeks, but at the same time, as I have pointed out in a previous calendar, we have found from practical experience here that it is advantageous to the future growth and welfare of the trees—with the exception of cherries—to prune them the same year as they are planted. It is a common error in many gardens to treat all trees and varieties alike when pruning. The operator should be thoroughly conversant with each particular variety which has to be operated upon; some varieties bear their fruits upon the extreme ends of the current season's growth, while others will bear good crops of fruit when the spur method is adopted. Where young trees have to be dealt with it is absolutely necessary to prune them somewhat hard for a few years, to build up a foundation for good specimen trees. The foregoing remarks apply more particularly to trees grown in the open quarters.

GOOSEBERRIES AND CURRANTS.—Where summer pinching was followed for gooseberries and red and white currants the leading shoots of the main branches, if required for extension, should be cut back to within nine inches, and all side shoots should be pruned back to within an inch of the main branch: particular attention should be paid to thinning out and regulating the main branches of gooseberry bushes, so as to allow plenty of space for the hands to pass easily through when gathering the fruit.

When pruning black currants it should be borne in mind that the finest fruits will be produced next year upon this season's growth, so pruning should be confined to all old and superfluous wood, and to judiciously thinning the young growths. Where it is deemed advisable to undertake the propagation of these bush fruits, well ripened shoots should be selected at the present time and planted in nursery rows, adopting the same method for making the cuttings as that advised in the calendar for January 8 last. After the work of pruning is finished the twigs and branches should be raked up and consigned to the fire heap, and if the weather is at all favourable no time should be lost in lightly forking over the soil between the bushes preparatory to adding a good surface dressing of rich farmyard manure.

RASPBERRIES, LOGANBERRIES, AND BLACKBERRIES.—Assuming the old canes were cut out as soon as the fruit was gathered, the young canes should be well thinned now, and the unripened tips cut off; they should then be tied neatly and securely to the wires, or to whatever supports are used. This season the loganberry has made a superabundance of lateral growths, and these should be severely thinned out, cutting them back to within three or four buds of the main canes; after the work is finished and the prunings are cleared up a good mulching of farmyard manure should be spread over the surface of the soil.—Henry R. Farmer, Cardiff Castle Gardens.

LILIUMS AND FROST.

Although I do not believe in exposing lilium bulbs wilfully to frosts during the depth of winter, I have proved that such exposure neither kills nor seriously damages them. A few years ago I had grown in the flower garden a large number of liliums, chiefly L. speciosum, L. s. Kratzeri, L. s. Melpomene, and L. s. rubrum. In the autumn of that year one of the young men, while engaged in lifting and bringing away the bulbs, placed a number of them near the edge of a shrubbery border, and there they remained fully exposed to several rather severe frosts before I discovered them. After a close examination I found that the bulbs were quite sound, and, apparently, uninjured, so I left them thus exposed throughout the winter, in order to see how they came through it.

Rather early in the New Year fresh growth commenced, and, though very slow, it was stronger than had been the case when the bulbs were purchased and first planted. By the end of April the new stems were about five inches high, and very healthy looking. But early in the New Year some good leaf-soil and loam mixed had been placed under the bulbs for the latter to root in, though practically the whole of each bulb was left exposed.

In due time these lilium bulbs were replanted in the flower beds, and were more satisfactory as regards growth and flowers than in the former season. The roots had taken possession of the mixture of leaf-soil and loam, which was planted with them as it still adhered to the roots. All the scales of the bulbs were sound, plump, and brittle, and full of sap at the end of the winter. I am, of course, not advocating this treatment generally, but I would advise inexperienced persons who may have had bulbs thus exposed for a time to retain them, and not discard them as worthless. G. B.

The Dwarf Pomegranate.—This is a very old plant in gardens, the date of its introduction being given as 1723. For a low sunny wall, such as that of a hothouse, it is just the thing, as limited to three or four feet in height it will flower profusely. The flowers, which are at their best in August and September, are of a bright sealing-wax red, and thus make a goodly show. They are particularly attractive just before expansion. Late in the autumn the leaves died off brightly tinged with yellow.—W. T.

EXHIBITIONS AND MEETINGS.

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Norwich.

NOVEMBER 17, 18, and 19.

There were great doings in Norwich on the above dates, when shows of fat cattle, poultry, dogs, and of chrysanthemums, fruit, etc., were held in various halls in the city. There were crowds of people about, and apparently each exhibition was well attended. This, at any rate, was so in the case of the flower show, which was held in St. Andrew's Hall, a magnificent building of great architectural beauty and historical interest. There seemed to be something particularly appropriate in a display of the best of modern horticultural products being housed in a building that so well exemplifies the art and skill of a bygone age.

GROUPS.

The schedule opened with a class for a circular group of chrysanthemums and foliage plants, the circle being eight feet in diameter. A challenge cup went with first prize, and the successful exhibitor was Mr. T. Notley, gardener to E. G. Buxton, Esq., Catton Hall, Norwich. A few fine big blooms, arranged evenly over the group, were well supported by yellow, bronze, and crimson decorative varieties, ferns being used around the base. Mr. J. Woodard, gardener to F. Tidman, Esq., 29, Bishop Bridge Road, Norwich, was the only other competitor.

CUT BLOOMS.

The principal class was for forty-eight blooms, Japanese, in not less than thirty-six varieties. Mr. E. Leach, gardener to W. H. Palmer, Esq., Ormesby, was awarded first against three other competitors, his stand containing a nice even set of blooms, although not of specially large size. C. H. Totty, Lady Talbot, Miss E. Fulton, and Mdme. G. Rivol were among his finest blooms. The second prize was awarded to Mr. C. Nicholls, gardener to T. A. Rising, Esq., Manor House, Ormesby. This stand had a few very good blooms, but lacked evenness. Mr. E. F. Bull, gardener to J. W. Brooke, Esq., Adrian Lodge, Lowestoft, third.

For thirty-six blooms, in not less than eighteen varieties, confined to Norfolk growers only, two exhibitors were forthcoming, the lead being taken by Mr. J. King, gardener to C. J. Hacker, Esq., The Grange, Great Ormesby, with very fresh flowers that included some really good specimens. There was good competition for twelve distinct varieties of Japanese, Mr. Rogers, gardener to Lord Rendlesham, Rendlesham Hall, taking the lead. Lord Hopetoun, M. Knox, and Magnificent were three of his best flowers; Mr. W. Laws, gardener to G. E. White, Esq., Eaton House, Unthank Road, Norwich, second; Mr. R. Gee, gardener to A. J. Raven, Esq., Conifer Hill, Starston, third. Mr. C. Nicholls had the leading six blooms of one variety of Japanese, staging six good blooms of Mdme. G. Rivol, Mr. J. King, gardener to G. J. Hacker, Esq., took second with very even blooms of capital depth, Reginald Vallis being the variety.

For a group of cut chrysanthemums arranged for effect on four feet run of table space, the lead was taken by Mr. C. Nicholls, who put up nice flowers of Algernon Davis, Hon. Mr. Lopes, Mrs. C. Frick, and others, the table being decorated with trails of smilax. A special first prize in this class was awarded Mr. T. Notley, whose exhibit was of decorative varieties with vine leaves as a setting. Mr. H. Saville, gardener to R. Gurney, Esq., Earlham Hall, received second prize; and Mr. E. Leach, Ormesby, third. There were three entries for incurved, twelve varieties, distinct, and Mr. T. J. Broom, gardener to Miss Langworthy, Gays House, Holyport, was at the head of the competitors with flowers of fine texture, and fair depth; Mr. E. Hill, gardener to F. J. Montagu, Esq., Wynford Hall, Mundford, second. Naturally grown blooms had provision made for them, but it can hardly be said that they made a great display. There were also classes for baskets, epergnes, and for hall stands decorated with chrysanthemums and autumn foliage, some of the arrangements being very tasteful.

MISCELLANEOUS PLANTS.

There were several classes for winter flowering plants, and some useful decorative subjects were staged. Begonia Gloire de Lorraine made a bright bit of colour, Mr. Woodhouse, gardener to Dr. Osborne, The Grove, Old Catton, having the best three plants; Mr. Marjoram, gardener to W. Jerrold, Esq., Roxley, Thorpe, coming second; and Mr. F. J. Endersby, gardener to J. H. Gurney, Esq., Keswick Hall, Norwich, third (8 entries). Mr. Woodhouse also won for six cyclamen, as well as for three Begonia Turnford Hall. The most successful exhibitor of orchids was Mr. Lewis Smith, gardener to Miss T. Fellowes, Shotesham Park, Norfolk, who took firsts for six distinct, three distinct, and second for a single specimen, showing a nice piece of Oncidium varicosum Rogersi.

MISCELLANEOUS CUT FLOWERS.

There were four competitors for the prizes offered for a collection of stove and greenhouse flowers, Mr. J. Hilson, gardener to Sir F. Adair, Bart., Flixton Hall, Norfolk, scoring with Plumbago coccinea, Salvia Pitcheri, Browallia speciosa, allamandas, and other good things. Mr. Smith, Shotesham Park, was a good second, the old favourite Leonotus leonurus and a nice spike of Cattleya Bowringiana being included on his stand. A nice lot of perpetual carnations were staged, Mr. Allan, Gunton Park, and Mr. Rogers, Rendlesham Hall, being awarded equal first prizes for small, but choice collections.

FRUIT.

In the challenge cup class for a collection of twelve varieties of fruit, including grapes, dessert apples and pears, and kitchen apples, Mr. W. Chettleburgh, gardener to Colonel Rous, Worstead House, Norwich, was the only exhibitor, and there was not really much quality in even that exhibit. The same exhibitor was first also for nine dishes of dessert apples; Fearn's Pippin and Allington Pippin were included in this exhibit, and were nice fruits. There were four entrants for six dishes of dessert apples, Mr. W. Allan, of Gunton Park, leading with excellent fruits of Mabbot's Pearmain, Winter Ribston, Ribston Pippin, Blenheim Pippin, Cox's Orange Pippin, and King of Pippins. Second went to Mr. T. Jones, gardener to E. G. Cubitt, Esq., Honing Hall, whose fruits were of firm texture, and very even. Mr. F. Graveling, Bella Vista, Thorpe Road, Norwich, third.

Mr. J. Alborough, gardener to N. Prior, Esq., Thorpe St. Andrew, led for three dishes of apples, and for a single dish of Cox's Orange Pippin Mr. E. Hill received first prize for a dish of fine fruit, but quite unlike any Cox's we have seen, the fruit being very deep, and of almost unbroken lemon colour. In the culinary classes were some big shapely fruits, Mr. G. Davison, gardener to Colonel B. J. Petre, Westwick House, Norwich, staging nine really good dishes in his first prize collection. Mr A. V. Coombe, gardener to Lord de Ramsey, Haverland, was a good second. Mr. T. Jones, Honing Hall, had the best six dishes, and Mr. J. Alborough the best three varieties.

Six dishes of dessert pears brought two entries, Mr. Allan, of Gunton Park, scoring with beautifully finished fruits of Pitmaston Duchess, Durondeau, Doyenne du Comice, Marie Louise, Beurre Diel and Hacon's Incomparable. Mr. Davison, Westwick House, second, having fine fruit. Some nice fruit was put up in the stewing pear classes and in single dishes.

Mr. W. Allan, Gunton Park, obtained first prize for three bunches of Black Alicante grapes, showing beautifully finished bunches of fair size; Mr. A. V. Coombe second, with somewhat loose bunches; Mr. E. F. Greene, Old Catton, third. Mr. Jones, Honing Hall, scored for three bunches of Black Hamburgh, J. Fitzpatrick, Esq., Dereham Road, Norwich, being second, and Mr. F F. Bull, Lowestoft, third. For three bunches, three black varieties, Mr. Coombe took the lead, Mr. Allan coming second, and Mr. Greene third. Mr. H. G. Oclee, gardener to the Marquis of Lothian, Blickling Park, had the best single bunch of black, showing a big cluster of Gros Colmar. Mr. Allan's winning bunch of white was Muscat of Alexandria.

VEGETABLES.

There was a big display of vegetables, which occupied most of the space in the Blackfriars Hall. Messrs. Sutton and Sons, Messrs. Webb and Sons, Messrs. Carter and Co., and Messrs. Daniels Bros., Lim., all provided classes, chiefly for single dishes, and the quality of the exhibits was of a high order all round, the local gardeners and amateurs coming forward heartily to compete for the large number of prizes offered.

NON-COMPETITIVE.

A table of very choice vegetables was exhibited by Messrs. Sutton and Sons, Reading. About ten distinct varieties of tomatoes were represented by dishes of fine shapely fruits. Some beautifully modelled Ailsa Craig onions, good melons, and a variety of uncommon things, were effectively staged with single chrysanthemums as a set-off. Messrs. Hobbies, Lim., Dereham, occupied a large space with an exhibit of single and decorative chrysanthemums in pots, and also in a cut state. A rich crimson single, named Weybridge Belle, was very striking, and there were also good varieties in bronzes, pinks, and yellows. Some baskets of roses were good for the time of year.

Mr. G. W. Miller, Clarkson Nursery, Wisbech, arranged a very nice group of orchids, representative of most of the genera that flower at this season of the year. The plants were small, and of a particularly healthy appearance, and the flowers of bright clean colours. Messrs. Fred Smith and Co., Woodbridge, put up a table of vegetables, including good potatoes, parsnips, carrots, and onions. Some cut chrysanthemums were also used. Zonal pelargoniums, in both cut flowers and growing plants, were well staged by Messrs. C. Holmes and Sons, Acle, Norfolk. The semi-doubles were very fine, especially Gustav Guich, a huge orange-scarlet, and Mrs. Lawrence, a dainty pink.

Across one end of the Blackfriars Hall Messrs. Daniel Brothers, Lim., Norwich, put up a group of miscellaneous winter-flowering plants, supplemented by some fine blooms of Japanese chrysanthemums, Astilbe Peach Blossom, Begonia Gloire de Lorraine, Salvia fulgens, Clerodendron fallax, and liliums, all playing a part in a nicely arranged group. The same firm exhibited groups of small shapely conifers, hollies, eleagnus, etc., and of young fruit trees, pot roses, etc. An exhibit of well-preserved bright coloured apples was staged by Messrs. W. Seabrook and Sons, Chelmsford. Among the culinary varieties were splendid fruits of Peasgood's Nonsuch, Rival, and Norfolk Beauty, and among the dessert varieties, Cox's Orange Pippin, King of the Pippins, and Worcester Pearmain were well shown.

Samples of chemicals, artificial manures, ground bones, etc., were shown by Messrs. W. Colchester and Co., Ipswich, who also exhibited some good vases of new chrysanthemums of good size and substance. The stand was effectively arranged, and came in for a good deal of attention. Alpha spraying machines were exhibited in a number of sizes and patterns. The Knapsack machine, recently awarded the gold medal at the Northern Counties Fruit Congress, was much sought after by the East Anglian fruit growers. The same stand also had on view a new metal propagating tray, with movable divisions, which facilitate transplanting young plants without breaking their roots.

MEDAL AWARDS.

Silver.—Messrs. Sutton and Sons, Messrs. Daniels Brothers, Lim., Messrs. Hobbies, Lim., Messrs. W. Seabrook and Sons, Alpha Extinguisher, Lim.

Bronze.—Mr. G. W. Miller, Messrs. Fred Smith and Co., and Messrs. R. Holmes and Co.

The R.H.S. silver-gilt medal for the best exhibit in the show was awarded to Mr. H. Palmer, for forty-eight blooms of chrysanthemums.

Windsor.

The nineteenth annual autumn display was held in the Albert Institute on November 17. This is a central site, but all too small for arranging the exhibits in the best possible manner. The date was perhaps a trifle late for this southern fixture, still, the cut blooms were quite first rate. The groups of single-flowered chrysanthemums were quite the feature of the show, so well were the plants grown and arranged.

Cut blooms were the leading feature of the show. The chief class was that for five blooms each of six varieties, Japanese, arranged in vases, and for which the King's Challenge Cup was offered with a cash prize, but, unfortunately, on this occasion only two competitors took part—three was the number required. Mr. C. Page, gardener to J. B. Fortescue, Esq., Dropmore, Maidenhead, was an easy first with fully-developed, well-staged blooms of Purity, Lady Talbot, Hon. Mrs. Lopes, Reginald Vallis, Maud Jefferies, and F. S. Vallis. Mr. G. Spong, gardener to W. A. Owston, Esq., Langley House, Langley, second with much smaller blooms. For eighteen Japanese, distinct, arranged in a space 5ft. by 3ft., with any foliage plants, the object being to show how large blooms can be associated with foliage in a decorative manner, Mr. T. Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone, Surrey, was easily first of four entrants with massive examples of Lady Talbot, Hon. Mrs. Lopes, Mdme. G. Rivol, Purity, J. H. Silsbury, and Frank Payne, well displayed on a base of ferns intermixed with Spiræa Thunbergi, and Osmunda regalis with their autumn tints. Mr W. H. Hearn, gardener to Mrs. Gerald Goodlake, Hawthorn Hill, second with good blooms poorly displayed; Mr. Page third with smaller blooms nicely set up.

The latter secured the premier position for twelve incurved and a similar number of Japanese, distinct, with very good specimens of Duchess of Fife, W. Pascoe, Romance, Lady Isabel, Emblême Poitevine, J. F. Evans, Clara Wells, and Fred Palmer. The Japanese were Lady Talbot, Pockett's Crimson, Edith Jameson, Mr. C. Pentord, Hon. Mrs. Lopes, W. Gee, and Mrs. J. C. Neil. Mr. F. Capp, gardener to E. Iveson, Esq., Charters Towers, Ascot, second with smaller examples of similar varieties. A class was provided for twelve large blooms, any section, arranged in one vase with any foliage, to illustrate the value of large blooms for room decoration, and right well the six entrants did this with their various methods of arrangement. Mr. Stevenson, with grandly-developed blooms of the Japanese variety Purity pleasingly associated with sprays of Spiræa Thunbergi and the variegated symphoricarpus, was easily first; Mr. H. W. Hearn was second with well-proportioned flowers of F. S. Vallis; Mr. G. L. Crowsley, gardener to Miss L. Oppenheim, Hawthorn Hill, third with mixed blooms of fairly good quality. Among eight competitors Mr. H. Bowyer, gardener to Sir Robert Harvey, Langley Park, won for twelve Japanese, distinct, with an even set of blooms of popular varieties; Mr. G. L. Crowsley, second. No fewer than twelve entered for six Japanese, any one variety, and Mr. Stevenson won with desirable blooms of Lady Talbot, Mr. Page following with F. S. Vallis, a trifle uneven. In a similar class for incurved Mr. Page, with really good flowers of Clara Wells, won with a little to spare; Mr. G. West, gardener to F. Ricardo, Esq., Old Windsor, second, with Mrs. J. Wynne.

Single-flowered varieties, undisbudded, arranged in vases, were plentiful, and contributed by eight exponents, who made a good display down the centre of the table in the body of the hall. Mr. W. Coles, gardener to Mrs. E. B. Foster, Clewer Manor, was first with such sorts as Sylvia Slade, Mensa, Bessie Pagram, and H. Hearn as the best; Messrs. Page and Stevenson second and third in the order given. A class was provided for six decorative varieties, and Mr. Steward Smith, Englefield Green, won with a desirable collection of flowers for the purpose required.

For a group of decorative chrysanthemums, not disbudded, and arranged in a semicircle 8ft. by 4ft., a challenge cup and a cash prize were offered, which induced five competitors to take part, the class making one of the finest features seen at an autumn show this year. Mr. G. West won decisively with well-grown plants that were displayed so perfectly in a pyramid-like mound that little fault could be found with the exhibit. Such varieties as Sylvia Slade, Lyra, Delphinius, Reginald Godfrey, and a number of seedlings were employed. Mr. W. Cole was second with a really good exhibit, although a few defects in arrangement at the front were perceptible; Mr. F. Capp, third. Mr. G. West won the leading prize for a group of miscellaneous plants arranged for effect, with well-flowered cattleyas, cypripediums, and Oncidium varicosum. Mr. G. Baskett, gardener to P. Nelke, Esq., Woodlee, Virginia Water, second.

Carnations were contributed in good numbers in the various classes set apart for them. Four entrants staged six vases, distinct, for Mr. A. F. Dutton's prizes, Mr. G. West winning with May Day, Carola, Enchantress, Mrs. Burnett, and Britannia, and also for three vases, distinct, six flowers in each, with similar varieties and blooms.

Fruit and vegetables were well shown. Mr. Stevenson secured the first prize for six dishes of apples with exceptionally fine fruit of Rival, Cox's Orange Pippin, and Ribston Pippin.

Messrs. Tett and Son, florists, Windsor, had a pleasing display of bouquets, wreaths, etc., which were admired by the many visitors.

Winchester,

NOVEMBER 15 and 16.

The annual show at Winchester was held in the Guildhall, and was a distinct success. Nowhere can a more complete display of autumn products be seen than here. Chrysanthemums are naturally the leading feature. Cut blooms are of a high order of merit, the incurved specimens being remarkable for their high quality and numbers. The Japanese are of distinct merit, and, the date being suitable for them, specimen plants are here a fine feature. They are not of unwieldy size, but they are furnished with blooms of exceeding high and excellent quality, and that is of far greater importance than mere numbers of flowers. Miscellaneous plants, as groups arranged for effect, begonias, primulas, etc., are all interesting, and of a high order of merit. The management is of the best, in the careful, experienced hands of Mr. Chaloner Shenton, who has long held the office of hon. secretary, and his assistant, Mr. Saunders.

PLANTS, CHRYSANTHEMUMS.

In the class for a collection, with an edging of foliage plants, in a space eight feet by seven feet, quality and general effect to be the leading features, there were two competitors, which is fewer than usual. Mr. A. J. Marsh, gardener to M. Hodgson, Esq., Moreton House, Winchester, was first with quite fine blooms, but a stiff arrangement and a faulty edging. Mr. J. Knight, gardener to James Harris, Esq., Barton Mark, Winchester, second. A class is here provided for nine plants, distinct, suitable for conservatory decoration, with not less than five blooms on each. The aim is to encourage high quality flowers on dwarf plants with good foliage. Mr. G. Adams, gardener to Colonel Dickins, Edge Hill, Winchester, was easily first with dwarf, well-flowered plants of the following: Madame G. Rivol, J. Peed.

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Madame R. Oberthur, Splendour, Emblême Poitevine, and F. S. Vallis as the best. Mr. G. Cousins, gardener to J. A. Fort, Esq., 69, Kingsgate Street, Winchester, second. Mr. H. Gigg, gardener to the Rev. R. M. Moorsom, Holyrood, third. For nine plants, any white and yellow varieties, under similar conditions, there were three entries, and a good display. Mr. Adams was again the most successful, with really fine specimens of F. S. Vallis, Nellie Pockett, Godfrey's Eclipse, C. H. Curtis, Mrs. F. Judson, and Emblême Poitevine. Messrs. G. Cousins and H. Gigg followed in the order here given.

Naturally-grown undisbudded plants here receive encouragement. For three, Mr. A. Taylor, 3, Hillside Terrace, Winchester, was first with quite freely-flowered plants of the single Sylvia Slade, Kate Thompson, and Glitter. Single specimen plants were numerous and good, Mr. Adams, with J. H. Silsbury, carrying remarkably fine blooms, was first.

CUT BLOOMS.

Cut blooms are here staged on boards, with the exception of those in two classes, which are arranged in vases. The former method is more popular here.

For the prizes for thirty-six, in not less that twenty-four varieties, there were three competitors, and Mr. C. Moore, gardener to Mrs. Clark, Frensham Place, Farnham, won the premier award with grandly developed blossoms of the following varieties: Hon. Mrs. Lopes, Maud Jefferies, Bessie Godfrey, W. Mease, Lady Talbot, J. H. Doyle, J. H. Silsbury, J. Lock, W. Gee, F. S. Vallis, Master James, Mr. C. Penford, Pockett's Crimson, Splendour, Leslie Morrison, Mrs. R. H. B. Marsham, John Peed, Purity, Keith Luxford, Mrs. A. T. Miller, and Rose Pockett. Mr. A. J. Marsh was a good second with a somewhat uneven set of blooms; Lady Talbot, F. S. Vallis, Madame P. Radaelli, and Madame G. Rivol were the more noteworthy. Mr. W. Higgs, gardener to Mrs. B. Hankey, Fetcham Park, Leatherhead, who was third, followed the second prize winner very closely.

In the class for twenty-four, not less than eighteen varieties, exhibitors in the preceding class not to compete, there were five entrants, making a good display. Mr. W. Baxter, gardener to Captain F. J. Dalgety, Lockerley Hall, Romsey, occupied the premier position with clean, richly coloured examples of popular varieties well staged. Mr. W. Wilson, gardener to Mrs. Christie, Ribsden, Windlesham, second. There were four entries in the class for twelve, and Mr. D. Edwards, gardener to W. Garton, Esq., Sarisbury Court, Southampton, was first with medium-sized even blooms of popular varieties. Mr. Rone gardener to J. Ridley Shield, Esq., Carden, Alresford, second.

As usual, the incurved varieties formed an important section of the show. In the class for thirty-six, in not less than twenty-four varieties, there were three competitors and the first place was occupied by Mr. W. Higgs with a characteristic stand of modern varieties. The more prominent blooms were those of Clara Wells Lady Isobel, Emblême Poitevine, G. F. Evans, Daisy Southam, Duchess of Fife, Amber Beauty, Buttercup, Frank Christian, Mrs. J. Wynne, Frank Hammond, Calypso, J. Wynne, Doris Rainer, The Egyptian, Mrs. G. Denyer, and Mrs. Bernard Hankey. Mr. Wilson was second with a somewhat uneven set. Mr. J. Hunt, gardener to Pantia Ralli, Esq., Ashtead Park, Epsom, third.

Eighteen, in not less than twelve varieties, were best shown by Mr. M. A. J. Marsh, his blooms being of medium size and high quality. Messrs. D. Edwards and J. Hughes followed closely for second and third places in the order of their names.

There was but one entry in the class for six varieties, Japanese, arranged in vases, and that was from Mr. C. Moore, who had fine examples of J. H. Silsbury, Hon. Mrs. C. Lopes, F. S. Vallis, and Splendour. Single-flowered varieties, not disbudded, are here a distinct feature, and in the class for six vases there were seven competitors. Mr. J. Hughes won easily with Bronze and White Pagram, Sylvia Slade, Roupell Beauty, and Mrs. Kitson, all beautifully developed. Mr. C. Smith, gardener to A. H. Evans, Esq., Harris Hill, Newbury, second; Mr. E. Henderson third. Decorative varieties, other than singles, not disbudded, receive much encouragement, and in competition for the prizes for six bunches, distinct, Mr. A. Taylor won with effectively arranged vases of Soleil d'Octobre, John Shrimpton, Kate Thompson, Sœur Melaine, and W. Sabery; Mr. J. H. Hughes second.

OPEN TO LADIES ONLY.

The most tastefully arranged dinner table was exhibited by Mrs. Arthur Bide, Alma Nurseries, Farnham, who used the beautiful yellow rose, Lady Hillingdon, with good effect. Mrs. Ladhams was second. The last-named won for a stand of flowers, foliage, and grasses with carnations, and lily of the valley; Mrs. Bide quite close for second place, with Madame A. Chatenay rose.

VEGETABLES.

Vegetables were finely shown, especially by Mr. Ellwood, gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, who won the leading place in competition for Messrs. Sutton and Son's prizes, and also in Messrs. Toogood's class, staging very fine onions, tomatoes, celery, leeks, and potatoes.

MISCELLANEOUS.

Non-competitive exhibits were not numerous, but they were good, and added materially to the interest of the show. Messrs. E. Hillier and Sons, The Nurseries, Winchester, had a fine display, including apples, carnations, begonias, shrubs, etc. (gold medal). Mr. Myers had apples grandly coloured, quite rivalling the British Columbian exhibits in that respect (silver medal). Messrs. Toogoods, Southampton, had vegetables; Messrs. Ladhams, shrubs and hardy plants; and Mr. Wootton, Fair Oak, carnations.

Aylesbury.

The thirty-second exhibition of the Vale of Aylesbury cultivators was held on November 17 in the Corn Exchange and adjoining Meat Market, in conjunction with a "bread competition," in which fully 2,000 two-pound square loaves were entered for the medals and prizes offered by the several large milling firms in the United Kingdom—an attractive combination of "flour" and "flowers."

Aylesbury would seem to be somewhat conservative, for while many societies are reducing the number of classes for chrysanthemums in pots, this society provides eleven classes in two or three divisions in addition to groups for effect. On the present occasion some 96 plants were in competition, the old Cedo Nulli pompons being conspicuous. Among the "extras" was an interesting exhibit arranged by Mr. Philip Mann, F.R.H.S., horticultural instructor to the Bucks County Council, comprising a collection of apples grown in the county. No special manure had been used in the cultivation of the trees, generally six or seven years' planted, but the samples on plates and those graded and packed bore strict scrutiny as to form and colour—very handsome and bulky were the examples of Lord Derby, Lane's Prince Albert, Sandringham, Alfriston, Emperor Alexander, Peasgood's Nonsuch, Tyler's Kernel, Charles Ross, Blenheim Pippin, Bramley's Seedling, Annie Elizabeth, The Queen, Tower of Glamis, Bismarck, and Warner's King; while of dessert kinds Allington, Wyken, Cox's Orange, King and other pippins were associated with James Grieve, Red Reinette, Lord Burghley, and Calville Rouge Precoce.

One of the principal classes for cut blooms was the ten vases of triplets, the chief award going to Mr. W. Tipler, gardener to Mrs. E. D. Lee, Hartwell Park, who had in grand form Splendour, F. S. Vallis, Dubison Foubert, G. J. Bruzzard, Lady Talbot, Reginald Vallis, Bessie Godfrey, Magnificent, and Algernon Davis; the second prize falling to Mr. Pullen, gardener to Miss Napier Higgins, Winchmore Hill. For eight varieties in vases first prize went to Mr. R. Mead, who was strong with Romance, Countess of Warwick, Reginald Vallis, C. H. Curtis, and M. L. Resseau. For six incurved, one variety, the awards went first to Buttercup, second to C. H. Curtis, and third to Mad. Ferlat; and to one incurved first and second to Romance, and third to Battercup; and for six Japanese, one variety, the stands of Master James, Reginald Vallis, and C. H. Totty were selected for honours.

Fruit was largely staged, the grapes being Alicante and Alnwick Seedling; the apples and pears being well-known sorts, nicely coloured, Mr. Pullen, Winchmore Hill, having a fine assortment as an extra exhibit. Vegetables were staged in the Meat Market, and comprised fully 900 specimen potatoes, the onions, sprouts, cauliflowers, turnips, etc., being also good; the Intermediate carrots were simply superb, shapely, and of excellent colour, but parsnips, though gigantic, were a trifle rough; the cottagers put up twenty collections of six kinds each.

Bristol Chrysanthemum Society.

The annual exhibition of this society was held on November 16 and 17, in the Victoria Rooms, Bristol, and proved to be a decided improvement upon those held in recent years.

CUT BLOOMS.

The chief class for these was for thirty-six Japanese, in which six exhibitors participated. Mr. G. Hall, gardener to the executors of the late Lady Ashburton, Melchet Court, Romsey, secured leading honours with handsome blooms of Maud Jefferies, Mary Inglis, Ernest Godfrey, Purity, John Peed, W. A. Etherington, Annie Hamilton, J. W. Wells, Mrs. J. C. Neal, Miss Hankey, Lady Talbot, etc., and with the last-named won the prize offered for the best bloom in the show. The second place was taken by Mr. W. Iggulden, Frome, who staged almost equally fine examples of Frank Jolliffe, Mad. G. Rivol, W. Mease, Mad. P. Radaelli, Rose Pockett, Mrs. W. Iggulden, Mad. R. Oberthur, etc.; Mr. J. R. Tooley, gardener to H. Andrews, Esq., third. For twelve blooms, Japanese, Mr. Baker, gardener to Dr. J. Cropper, was placed first, and staged a good set, including Sir Frank Crisp, Miss E. Fulton, Leigh Park Wonder, Rose Pockett, and F. S. Vallis. The second prize went to Mr. F. Yerbury, gardener to Mrs. J. Wheeler, who was followed by Mr. A. M. Wilson. In a similar class, open only to gentlemen's gardeners and amateurs, there were seven entries, Mr. G. Hall again securing the lead, and staging in fine condition Maud Jeffries, Mrs. G. Mileham, Mad. Bott, Pockett's Crimson, Lady Henderson, etc.; Mr. G. Sutton, gardener to W. A. Todd, Esq., was placed second, and Mr. F. Lockwood third.

For incurved, distinct, twelve blooms, Mr. Hall once again proved invincible, and staged model flowers of Mrs. J. Judson, Souv. de W. Clibran, Doris Rayner, Triomphe de Mont Brun, Mad. Primley, Nellie Hall, Romance, Miss Cora Stoop, Ialene, Mrs. J. Wynne, and Pantia Ralli. Mr. Baker, who had as his best Clara Wells, Buttercup, Fred Palmer, Godfrey's Eclipse, and Emblême Poitevine, was a good second, and Mr. J. Bishop, gardener to H. E. Murray Anderson, who, had some of his blooms been a little more dressed, might have been higher placed, was third. There were six entries.

VASE CLASSES.

The blooms staged in this class were very handsome. For six vases Japanese, three blooms in each, Mr. Hall again secured the coveted position amongst five exhibitors, with a splendid set composed of T. W. Vallis, F. S. Vallis, Lady Talbot, Annie Hamilton, Mrs. G. Mileham, and Mary Inglis, Mr. C. Vincent, gardener to J. A. Waller, Esq., was second, and Mr. W. Iggulden third. Mr. Iggulden took leading honours for six blooms of any variety, shown in two glasses, with splendid blooms of Mad. P. Radaelli; Mr. H. Cornelius being second with J. H. Silsbury; twelve entries. For six blooms of any white Japanese variety, Mr. Iggulden was placed first, staging beautiful blooms of Purity, and was followed by Mr. C. Vincent, with Elsie Fulton, Mr. Sutton being third with A. T. Miller. Mr. Iggulden again scored in a similar class for a yellow Japanese, having Helena Williams; Mr. Vincent was again second, and Mr. G. Runnacles took the third position. Single varieties in six sorts, arranged in separate vases, brought six entries, and made a charming bank. Mr. A. O. Shelton, gardener to Calvert Fisher, Esq.; Mr. Hignell, gardener to W. Reid, Esq.; and Mr. Jennings, gardener to R. Dalton, Esq., were the prize-winners in the order named.

GROUPS.

Only three exhibits of chrysanthemums and ornamental-leaved plants, arranged on fifty square feet, were forthcoming, and the best of these was from Mr. Bannister, gardener to Mrs. St. Vincent Ames, who had a bright and good arrangement of well-grown plants, the chief of which were Japanese and single chrysanthemums, skilfully blended with crotons, palms, and other graceful subjects, and edged with maidenhair fern. Mr. Thoday, gardener to L. Todd, Esq., was placed second, and Mr. Ellis, Weston Nursery, Weston-super-Mare, third.

For a group of miscellaneous plants, chrysanthemums excluded, Mr. Ellis took a good lead with an imposing group, containing as his chief plants, several kind of orchids, and liliums, poinsettias, palms, crotons, and ferns; Mr. Curtis, gardener to Sir W. Howell Davies, was the other exhibitor. The best of two groups of chrysanthemums came from Mr. F. A. Burt, gardener to Mrs. Stucky Wood, who used plants with good foliage and fine blooms, well varied in colour, nicely arranged and edged with Maidenhair fern; Mr. Hunter, gardener to J. Buckland, Esq., second.

Orchids had eight classes provided for them, and were, as is invariably the case at Bristol, well shown, cypripediums in particular being present in many choice varieties. A class for a group brought two exhibitors, viz., Mr. Spowage, gardener to Col. Carey Batten, and Mr. Woodward, gardener to E. Watts, Esq., who each arranged a choice assortment of well-grown plants, and were awarded prizes in the order named. Mr. R. J. Love, gardener to A. S. Groves, Esq.; Mr. Shelton, and Mr. Woodward, were leading exhibitors in other classes.

For winter-flowering begonias, ornamental fruiting plants, salvias, cyclamen, primulas, poinsettias, together with specimen ferns, and ornamental foliage plants, classes were provided, and the exhibits skilfully disposed about the rooms did much to increase the beauty of the show.

FRUITS.

For a collection of six dishes of fruit the leading exhibitor was Mr. Tooley, gardener to H. Andrews, Esq., who had grand Alicante and Muscat of Alexandria grapes, Early Favourite melon, Cox's Orange Pippin apple, and Beurre Bachelier and Beurre d'Esperen pears; Mr. Wilkinson, gardener to G. A. Gibbs, Esq., was placed second with an almost equally good collection, and Mr. Springham third.

Mr. Tooley, proved to be a champion with grapes, being placed first for Muscat of Alexandria, Alicante, Gros Colmar, and Mrs. Pince; while Mr. R. H. Jennings, gardener to R. Dalton, Esq., was first for Lady Downes Seedling, and Mr. Coote first for any other black variety with Gros Maroc. Messrs. Wilkinson, E. Chivers, Shelton, and Curtis were other prominent prize winners.

Apples were,throughout the five classes provided for them, splendidly shown. G. Pow, Esq., led for six dishes, culinary varieties, with grand fruits of Bramley's Seedling, Lane's Prince Albert, Gascoigne's Scarlet, Tyler's Kernel, Peasgood's Nonsuch, and Newton Wonder; Mr. H. C. Meadows second. For one dish Mr. Wilkinson led with an exceptionally fine, highly-coloured set of Peasgood's Nonsuch; Mr. Davies, gardener to Dr. Shaw being second with the same sort. S. Pow, Esq., again won leading honours for six dishes, dessert varieties, with splendid fruits of Cox's Orange Pippin, Allington Pippin, Ribston Pippin, Baumann's Red Reinette, Lord Burghly, and Rival; second, J. H. Virgo, Esq. Mr. Pow again led with four dishes, dessert, and was followed by the Rev. J. R. Wood. Twenty dishes of a dessert variety were staged, Mr. Baker, Mr. Stucky, and Mr. Hedges winning the prizes with Cox's Orange Pippin. Mr. Bannister retained his reputation as a cultivator of pears, securing the leading prizes both for six dishes and for four dishes, with grand fruits of Durondeau, Doyenne du Comice, Beurre Bosc, Beurre Diel, Marie Louise, and Pitmaston Duchess; Mr. McIntosh, gardener to Lord Islington, and Mr. Little were his chief rivals. Mr. McIntosh led with Doyenne du Comice for a single dish, and was followed by Mr. Baker and Mr. Bannister, each staging Doyenne du Comice.

TRADE EXHIBITS.

Gold medals were awarded to Mr. Cypher, Cheltenham, for orchids; Mr. Murrien for floral designs; Messrs. Clibran, Manchester, for vegetables; and The British Columbia Government for apples. Silver gilt, to Messrs. Garaway and Co., Bristol, for apples, zonal geraniums, and decorative plants; and Messrs. Parker and Sons, Bristol, for floral designs. Silver, to Messrs. Stuart Low and Co. for orchids; Messrs. Parsons and Co., for bulbs, etc.; and The Tilehurst Pottery Company for horticultural pottery.

Bolton.

As usual, the Bolton Horticultural Society staged an exhibition worthy of its high traditions. The Albert Hall was packed, on November 18 and 19, with a varied and interesting display. The five groups, twelve feet in diameter, all followed the same lines, i.e., a substantial pyramid in the centre, surmounted by a good palm, and surrounded with small groups and dot plants, the intervening spaces filled with plants in variety. Mr. H. Shone, the esteemed treasurer, gardener to J. W. Mahant, Esq., occupied the position of honour, his sprays of Oncidium Rogersi, in quantity, spreading a brightness over the whole; cattleyas, dendrobiums, begonias, crotons, etc., also proved effective. Mr. W. Burgess, gardener to John Harwood, Esq., was second, with good palms, crotons, etc.; Mr. J. Wainwright, gardener to E. T. Crook, Esq., third.

For a group of undisbudded chrysanthemums Mr. W. Burgess led with a fair lot; Mr. Robert Tyrer second; and Mr. H. Bishop, gardener to G. Hughes, Esq., third. For a group of large flowers Mr. H. Drinkwater, gardener to H. Parke, Esq., led with fair-sized fresh blooms, well staged. For a table of growing orchids arranged with foliage plants, Mr. W. Holmes, gardener to J. McCartney, Esq., was first, and secured the R.H S. silver medal. Mr. W. Holmes proved the winner for a table of cypripediums with a batch of fine healthy plants; Mr. H. Arthur, followed.

For twelve incurved and twelve Japanese blooms Mr. C. Jennings, gardener to F. W. Jameson, Esq., led with good blooms of Mr. A. T. Miller, F. S. Vallis, Lady Talbot, May Shields, Romance, Lady Isabel, etc.; second prize fell to Mr. G. W. Drake, Cardiff; third to Mr. G. Haigh, gardener to Sir W. H. Tate, Bart. For thirty-six Japanese blooms, not less than twenty-four varieties, Mr. A. Chandler, gardener to A. James, Esq., had the best out of four good lots, his finest flowers being F. S. Vallis, Lady Talbot, Hon. Mrs. Lopes, W. Mease, J. H. Silsbury, H. Stone, Algernon Davis, etc.; Mr. G. Haigh second, with a good stand; Mr. Charles Jones, third.

For six vases of singles, Mr. A. Adshead led, and he also led for six vases of decorative varieties.

Mr. J. Wright, gardener to E. Lord, Esq., won in the grape class with moderate bunches of Alicante, and for the two white bunches the same exhibitor scored with Muscat of Alexandria. For a collection of eight varieties of vegetables Mr. James Bailey won with good examples, including tomatoes, Brussels sprouts, etc.

Mr. W. Eckersley was successful in winning the gold medal for two pots of large-flowering chrysanthemums.

Woolton.

This small but charming show was held on November 16, in the Church Hall, under most unpleasant circumstances, the weather, which, unfortunately, has proved the case with most of the Liverpool and district shows, being so bad that the takings were greatly reduced.

As usual, the main feature was the single varieties, nine vases, with nine blooms in each vase, arranged on a space 4ft. square. The winner, Mr. G. Eaton, gardener to W. Tod, Esq., Allerton, may be proud of his win as Woolton claims to stage the finest singles in the country. The winning stand was composed of Felicity, Edith Pagram, Admiral Seymour, Metta, White E. Pagram, G. W. Forbes, Pink Felicity, Merstham Jewel, and Mansa; the blooms were from six to seven inches in diameter, with splendid substance and great purity of colour, arranged over pleasing coloured foliage backed with fronds of Davallia; the other prizemen were Mr. T. Keightley, gardener to P. W. Barr, Esq., who had much larger flowers, but lacking in quality and colour; Mr. H. Howard, gardener to A. S. Mather, Esq., and Mr. J. Rothwell, gardener to S. S. Bacon, Esq.

For twenty-four Japanese Mr. Eaton again had the premier set with a good all-round stand; Mr. J. Stoney, gardener to Colonel J. Gaskell, was second. For eighteen Japanese, distinct, Mr. G. Haigh, gardener to Sir W. H. Tate, Bart., led the way with a good collection. For eighteen incurved varieties Mr. Haigh was again to the fore with fine blooms. For twelve Japanese Mr. T. Keightley led, and for the same number of incurved Mr. J. Clarke, gardener to T. Clarke, Esq., proved the winner. For ten Japanese and five incurved, arranged with any foliage, Mr. G. Haigh led with heavy blooms, formally arranged. For three vases of singles, six in each vase, Mr. J. Stoney staged the winning lot. For three large-flowering chrysanthemums, in pots, Mr. T. Keightley won with handsome, trained plants, his Mrs. Norman Davis being especially noteworthy. For one incurved Mr. W. Wilson, gardener to W. Cunningham, Esq., was first and likewise for one pompon, one reflexed, and one single; Mr. T. Keightley had the best anemone, and Mr. Haigh the best reflexed. For one palm Mr. G. Haigh scored with a grand Kentia, and for the single fern Mr. J. McColl, gardener to J. W. Hughes, Esq., led with a grand Goniophlebium subauriculatum. For two orchids Mr. McColl again led the way, and for the single plant won with a grand Vanda cærulea with nine large flowers of deep rich blue colour. Mr. Haigh had the best foliage plant, Mr. G. Eaton the best cypripedium, Mr. Stoney the best three decorative plants. Mr. Keightley the best two begonias, and Mr. Haigh the best three salvias.

For two bunches of white grapes, Mr. J. Hoggarth, gardener to Colonel W. H. Walker, M.P., won with good Muscat of Alexandria, and for black grapes Mr. McColl led with Alicante; for three dishes of dessert apples Mr. J. Clarke led; for a collection of vegetables Mr. J. Clarke was first in the gardeners' class, and Mr. James Gore in the farmers'.

Chester.

This exhibition was held on November 16 and 17, in the Town Hall, the Assembly Hall and annexe with the Council Chamber being utilised to the full. The show was held under the auspices of the Chester Paxton Society, which is doing admirable work in diffusing knowledge in the culture of hardy fruits; each exhibit in this division bears a card giving the name of the exhibit, the soil, stock, and, in some cases, the age of the tree, and other valuable information. The schedule embraces eighty classes for fruit, the majority being for single dishes.

The show is famous for its groups of chrysanthemums, and this year possibly the four groups staged were in advance of former years. For a group of single varieties Mr. E. Stubbs, gardener to Major MacGillycuddy was to the fore with a bank of richly-coloured bloom, charmingly arranged; the flowers, although reaching to a height of nine or ten feet, faced the visitor—an important factor in lofty arrangements. Mr. A. Walker, gardener to Mrs. Potts, was second with a telling display. For a group of representative, naturally-grown flowers Mr. T. Gilbert, gardener to T. Gibbons Frost, Esq., led with a fine bank of colour, in which ferns and greenery were blended; Mr. E. Stubbs followed with a pleasing combination. For four pots, distinct, single varieties, Mr. E. P. Smith was first.

For six distinct Japanese varieties, three blooms of each, in vases, Mr. C. Goves, gardener to Sir Gilbert Greenall, Bart., was the winner with heavy blooms; and for twelve Japanese, set up in two vases, the same exhibitor won, having good President Viger and Leslie Morrison. For five blooms of one variety Mr. J. Fleet, gardener to Mrs. Thompson led with extra heavy specimens of F. S. Vallis. For five incurved, distinct, Mr. C. Goves was again to the fore. For twelve Japanese not less than nine varieties, arranged on stands, Mr. W. May, gardener to W. Drensfield, Esq., led, having good blooms of Hon. Mrs. Lopes, J. H. Silsbury, etc. The best-arranged six vases of naturally-grown sprays were from Mr. A. Petcarin Campbell, who had unnamed varieties, the same exhibitor winning for six vases of single varieties.

For the best-arranged table Mrs. J. Nixon was well ahead with a beautiful table of orchids; this lady also had the best basket.

For two bunches of black grapes Mr. W. May was successful with Alicante, and for whites Mrs. James Clack, gardener to J. G. Frost, Esq , led with Muscat of Alexandria. Mr. Godfrey F. Hugh secured the bronze medal in addition to the first prize, with excellent fruits of Cox's Orange Pippin; Mr. W. A. Peirce also had a like award for extra large fruits of Lord Derby, and Mr. James Thornton for heavy fruits of Bramley's Seedling. For a new kitchen apple Mr. J. Weaver won with Byford Wonder. For twelve distinct varieties of kitchen apples Mr. P. Greene was first, having good Peasgood's Nonsuch, Lord Derby, and Warner's King. For six dishes Mr. W. Pilgrim was first, having extra fine Loddington Seedling, etc.

For twenty-four varieties of apples and pears Mr. G. Aitken was an excellent first with extra fine Worcester Pearmain, King of the Pippins, Pitmaston Duchess, etc. For six varieties of dessert apples the Rev. L. Garnett won with well-coloured fruits of Cox's Orange, Melon Apple, Adam's Pearman, etc.

In the non-competitive division a large gold medal was awarded Mr. N. F. Barnes, gardener to the Duke of Westminster, Eaton Hall, for a large display of chrysanthemum blooms arranged with dried grasses, coloured foliage, berries, etc. Messrs. Dicksons received a like award for a fine display of chrysanthemums, interspersed with bamboos, palms, etc. Messrs. Clibrans had a small gold medal for a bank of cut chrysanthemums. A fine exhibit of apples was staged by the British Columbia Government, and chrysanthemums, palms, fruit, etc., by Messrs. McHattie. Mr. J. Francis secured a bronze medal for a collection of cacti.

National Chrysanthemum Society.

The Floral Committee meeting of this society, held at Essex Hall on Monday, November 21, was well attended, and the room was well filled with exhibits of beautiful flowers, including many splendid novelties, from Messrs. W. Wells and Co., Merstham; Mr. L. Lawrence, Shoreham; Mr. H. W. Thorp, Worthing; Mr. G. Mileham, Leatherhead; and Mr. Philip Ladds, Swanley Junction. It was a very fine display for so late a date and for so cold a day, and the Floral Committee had a very busy sitting.

At the meeting of the Executive Committee, held at Carr's Restaurant in the evening, there was again a good attendance, Mr. Thomas Bevan presiding. The cash balance to date was £73 0s. 1d., and it was estimated that there would be a comfortable little balance to the good at the end of the year. The Dinner Committee expected a record attendance and an excellent programme at the annual dinner, and the secretary reported everything in order for the forthcoming Chrysanthemum Conference. A few special awards recommended by the judges at the November show were confirmed, and it was resolved that a silver-gilt medal be presented to Mr. W. Higgs, suitably engraved, to commemorate his record of winning the Holmes' Memorial Cup for incurved blooms for twelve years in succession.

Mr. C. Harman Payne graphically described the Paris Show, and its attendant festivities, and referred to the presentation by Sir Albert Rollit of N.C.S. Medals to the respective presidents of the National Chrysanthemum and National Horticultural Societies of France. Mr. Thomas Bevan gave an interesting report of the Brussels Show, and referred to several points in connection with the Paris Show, not mentioned in Mr. C. H. Payne's narrative. The meeting was a most interesting one, and showed that the society is still full of life, and has, indeed, the promise of a renewal of vigour and prosperity.

Broughty Ferry Horticultural Association.

The ordinary monthly meeting took place on the evening of the 15th inst., the president, Mr. James Bethel, presiding. Being question night, Mr. James Slater, Panmure Villa Gardens, enquired, "The cause of, and remedy for, red rust on roses?" Mr. Slater explained that he had no knowledge of the disease, his roses being free from attack: but he knew from reports that it was prevalent in many gardens. Mr. Grant, Fernhall Gardens, expressed his opinion that badly drained soil was likely to cause it. He had one or two beds, hollowed out of rock, which were planted with H.P.'s three years ago, and these showed increasing signs of the disease, which he thought was imported with the plants; but, as none of the other beds showed any signs of the rust, the latter idea had been almost abandoned. Mr. George Masson, Ayestree Gardens, said, undoubtedly bad drainage and low-lying situations were the chief causes; he had charge of a garden a few years ago where the disease was very bad, and he had succeeded in keeping it in check by spraying with paraffin emulsion and sulphur. Other members spoke in like manner.

The chairman exhibited some shoots of roses showing the rust on the leaves, and he explained that they were taken from a plant growing in the shrubbery adjacent to a plant of Buxus balearica, the plants in the rose garden being comparatively free from attack. He opined that the disease was a species of puccinia, a fungus found in gardens as P. buxta on box edgings and other plants; P. mentha on mint, P. grossularia on leaves of gooseberries and fruit; P. malvastrum on the hollyhock, and on farms there was the dreaded Puccinia graminis or wheat rust. He thought it desirable to look for the rust on other plants in the vicinity of infested roses, as there was a probability that it was migratory, or had different hosts at different periods. The conditions already mentioned were congenial to the dispersion of the spores, but he had seen two gardens lately very badly affected where the conditions were by no means alike, one being low lying, shaded, and damp, while the other was on the top of a hill exposed even to sea breezes; the subsoil was, however, a heavy clay. Sulphate of copper or Bordeaux mixture, sprayed on the plants at graded strength to suit the season of application, ought to be efficacious if proper conditions of cultivation were observed. The question was a very important one, and worthy of an answer from a more scientific body.

The second question, asked by Mr. G. Masson, was in relation to the preparation of the ground for sweet peas. After debating the question, the consensus of opinion was that trenches for lines and pits for clumps ought to be taken out at least two feet deep, farmyard manure placed in the bottom, the natural garden soil replenished as well as possible with turfy loam, and a dressing of kainit and basic slag, these being applied in autumn. Sulphate of potash, sulphate of ammonia, and other stimulants to be applied during the growing season.

The Chairman exhibited leaves of holly and the common "bishop-weed" badly affected with the leaf-mining maggot, and enquired of the members a remedy for this troublesome pest, which seemed as much at home in the leaves of dandelion and bishop-weed in the hedges as in the cinerarias and chrysanthemums in the greenhouse. If they were allowed to multiply at the present rate, a plague was inevitable. He questioned the use of fumigants, except for killing the fly when on the wing under glass, while squeezing the maggot in the leaf was a laborious job, but nevertheless the recognised method of destruction. A decoction of bitter aloes or quassia extract rendered the leaves distasteful, but this could not readily be employed in the woods and hedgerows. As no other remedies could be suggested, the chairman hoped that the Board of Agriculture and Fisheries would make investigations into this matter, as well as into red rust on roses.

Banbury.

Cold, but bright weather attended the twenty-fifth exhibition of chrysanthemums, winter flowers, fruit, and vegetables, held in the Town Hall on November 16 and 17. Cultivators in the district of the "town of sweet cakes" were in excellent form, the cut blooms being remarkable for their size, and the competition was good throughout. The show was opened by the Hon. Mrs. Molyneux, Bodicote, in the presence of a very distinguished company. The schedule does not provide any class for chrysanthemums in pots, but those reserved for winter-flowering begonias, cyclamens, and foliage plants made a fair show, and the tables of orchids, on twelve-feet square, proved a very attractive feature. Mr. G. F. Hallett, gardener to Lady Hesketh, Easton Neston, Towcester, won the "Banbury Cross" Twenty-guinea Challenge Cup and cash for the third year in succession, and thus becomes the owner. His collection was tastefully arranged, the arching spikes of Oncidium varicosum gracefully depending over the many well-flowered examples of Cattleya Mossiæ, Odontoglossum grande, and other forms, with several stout racemes of Vanda cærulea; Mr. J. M. Bush was placed second for a beautiful arrangement, his Calanthe Veitchi being very bright.

CUT BLOOMS.

Generally these were most effectively staged, and filled the bulk of the central table and side staging. For nine triplets, in vases, a fine exhibition resulted, the "Town Challenge Cup" and cash going to Mr. Bush, gardener to F. J. Myers, Esq., Charlton Lodge, who put up large, well-finished specimens of Madame P. Radaelli, Walter Jinks, Mrs. A. T. Bott, Maud Jefferies, Master James, Marquis of Northampton, Hon. Mrs. Lopes, and Bessie Evans; Mr. G. Hallett, second; and Mr. C. J. Sadler, gardener to Lord Lawrence, Chedwode Manor, third. For a dozen varieties, in vases, cut with long stems, Mr. S. Brown, gardener to W. C. Cartwright, Esq., Aynho Park, filled the post of honour, with some grand blooms, and singularly attractive were Mrs. E. Crossley, Valerie Greenham, F. S. Vallis, F. Penford, W. A. Etherington, Reginald Vallis, Miss Olive Miller, Sapho, and Splendour: Messrs. Bush and Hallett took the lower awards. For eighteen varieties (on boards) the competition was keen, Mr. Bush heading the list with a set of giants: back row: W. Etherington, F. S. Vallis, Magnificent, Marquis of Northampton, Maud Jefferies, Mrs. C. Penford; mid row: Madame P. Radaelli, Master David, Mrs. Barclay, Mr. H. Stevens, Walter Jinks, Mrs. W. Cole; front row: Madame Rivol, G. Hemmings, Miss Nicoll, Lady Talbot, W. King, and Splendour. Messrs. S. Brown, and F. Tapper, gardener to Sir S. Scott, Westbury Park, received lower awards.

For twelve Japanese Mr. Salter was strong, his premiers being the Rev. W. Wilks, Pockett's Surprise, Bessie Godfrey, Frank Payne, and Leslie Morrison; Mr. Brown, second, with replicas of a former class; and Mr. Tapper third, who had very fine examples of Reginald Vallis, Mary Inglis, Lady Henderson, and Pockett's Surprise. For six Japanese, any one variety, the prizes went to Mr. Brown, for Splendour; Mr. F. Carter, gardener to W. G. Peareth, Esq., Thorpe Mandeville, with F. S. Vallis; and Mr. Bush for Bessie Godfrey. For a dozen incurved Mr. Salter held his own with full-sized exquisitely finished examples of Pantia Ralli, Lady Isabel, Emblême Poitevine, W. Pascoe, C. H. Curtis, Hanwell Glory, Daisy Southam, Perle Palace, Louisa Giles, Romance, Comtesse d'Estoile, and Ialene; the lower award falling to Mr. W. J. Florey (schoolmaster), Chipping Warden. For six incurved, one variety, Mr. Hallett scored a premier with Romance, and in the class for six Japanese (amateurs) the prizes went to F. S. Vallis (2) and Mrs. Knox.

FRUIT AND VEGETABLES.

The show of fruit in the Council Chamber was a grand one, the chief point of interest being the dessert tables, the society's challenge cup and cash going to Mr. S. Brown, who utilised single chrysanthemums; Mr. E. Cox, gardener to Lady Knightley, Fawsley Park, and Mr. Bush sharing the lower awards. The show of grapes was an average one, Gros Colmar and Muscat of Alexandria being most in evidence; pears were very fine for the season, and the culinary apples appeared more in character than the dessert kinds.

Vegetables, of which there was a large display, were located in the basement of the building, the big collections being in the hands of Mr. R. Wadham, gardener to Mrs. Bradshaw, Steeple Aston, and Mr. Bush. The onions were of the Ailsa Craig type, and giant leeks and Intermediate carrots were extensively presented; while sprouts, cauliflower, and beet met the view all round. Potatoes were of good useful size, King Edward VII., Mr. Bresee, Factor, Up-to-Date, Duchess of Cornwall, Purple Perfection, Centenary, Sutton's Favourite, Ninetyfold, Dalmeny Beauty, and Windsor Castle being most largely represented.

Croydon Gardeners' Association.

Of the many great improvements observable in plant life of late years there is nothing more prominent than the hybrids of amaryllis we have at the present day. The whole history of this great improvement in these lilies was dealt with at this society's last meeting, and the society were fortunate in getting one of the most successful cultivators, in the person of Mr. J. Heal, of Messrs. Veitch's Royal Nurseries, Chelsea, S.W., to lecture upon the subject.

The lecturer brought under notice the whole family of amaryllis, but dealt principally with the hippeastrums. In the early part of last century the hybridising of these flowers received attention, and what was considered a great achievement about 1824 was the successful crossings and re-crossings by Dean Herbert, who claimed to have thirty-five different crossings. However, when one compares illustrations of these flowers with those of to-day they are insignificant in colour and size, as well as shape. Skipping a period of fifty years, during which time nothing eventful had taken place, we find other cultivators specialised with them, especially horticulturists of the Netherlands. It was at the establishment of one of these growers that the lecturer first acquired his enthusiasm, for on a business visit for Messrs. Veitch he observed several plants quite in advance to what he had previously seen, and coming back with a few bulbs he set to work hybridising and selecting. Like all lovers of the craft, he has received reverses as well as successes, and these reverses have fostered in his mind a keener love of his charges than perhaps would have been the case. It was interesting to hear him remark that since his commencement with their culture Messrs. Veitch had obtained 110 awards of merit.

Dealing with their culture, he advised the preparation of the soil, giving each component part, and advising the mixing of these soils five to six months before using. The bulbs should be well ripened, and clean from decayed roots and soil. Potting should commence in January, about the second week, and at a little later period another batch may be started. Plunge the pots in tan at a temperature of 60 degrees, with the house temperature five degrees lower. The temperature of the house can then be raised to 60 degrees, and great care must be taken in watering. The latter part of the cultivation appears to be one requiring the most care, for unless the water is given judiciously trouble will result.

Propagating by bulbs and seeds was freely dealt with, and when stock is worked from seeds it will require about two years to obtain flowers, although in Mr. Heal's experience he had obtained flowers in considerably less time. It is not always advisable to allow them to flower each year, for a twelve months' rest will help very much to build up the bulb, and then the results from the following year will amply repay waiting.

Thrip and red spider are the two commonest forms of insect pests which the cultivator has to combat, but with the many good insecticides at one's disposal nowadays these can be kept in check.

Mr. Heal generously offered to answer any questions from his audience, and the information derived from this source considerably augmented his treatise, because it brought out the very information required where success had not been experienced by the cultivators. The lucid and practical manner in which Mr. Heal had given his lecture was exceedingly interesting, and his audience in unanimous spirit accorded him a hearty vote of thanks.

Mr. O. Jeal exhibited three heads of Standard Bearer celery, and Mr. R. Cleveland staged a basket of Black Hamburgh grapes cut from the open air.

Birmingham Gardeners' Association.

"Some Features of the Birmingham Chrysanthemum Show" was the title of a talk by Mr. William Spinks (the treasurer of the Gardeners' Association) at the Athletic Institute, on November 14; Mr. C. H. Herbert occupied the chair, and there was a good attendance. At the same meeting there was, in response to the prizes offered by the society for a vase of cut flowers by under-gardeners only, a keen contest by four aspirants, each having chosen chrysanthemums, and considerable ability in the disposal of the flowers was evidenced throughout. The contestants were placed in the order named: Mr. R. Clark, Mr. P. Catt, and Mr. Kemp.

Mr. Spinks dealt with his subject in a very interesting and suggestive manner, and more or less adverted to nearly every prize exhibit, and to the non-competitive and trade contributions. Upon the conclusion of his congenial task Mr. Spinks invited a discussion, and suggestions for the consideration of the Chrysanthemum Show Committee, in view of next year's schedule. Mr. Walter Jones (the chairman) and Mr. Alfred Noakes (the secretary of the show) were present, and the former animadverted upon the extremely low financial position of the society, and his great disappointment at the comparative lack of support by wealthy occupiers of large gardens around Birmingham, and that unless a more substantial financial support was quickly forthcoming, he feared a collapse would be the result ere long, and the imminence of which is accentuated by the serious deficit in the "gate" receipts at the recent show, chiefly owing to the adverse weather. Mr. Noakes, in acknowledging the various suggestions advanced, remarked that due consideration would be given them.

At the conclusion of the proceeding Mr. W. Gardiner (the librarian) essayed as a fitting concomitant to the subject of the evening's discourse to read (more especially for the edification of the younger members of the association) the life history of the respected treasurer of the association (he has been treasurer from its initiation, upwards of twenty years ago). The narration was much appreciated, and Mr. Spinks, with characteristic modesty, intimated that Mr. Gardiner was solely responsible for the course he had taken.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea level, 150 feet.

Date. 1910. November 13 to November 19.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Temperature of the Air. At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Nov. 13—Sunday	—	48	41	51	37
,, 14—Monday	4 48	47	45	51	45
,, 15—Tuesday......	0 30	40	40	48	38
,, 16—Wednesday..	7 48	34	32	42	32
,, 17—Thursday	2 0	27	26	37	23
,, 18—Friday........	3 36	35	33	44	25
,, 19—Saturday.....	4 0	35	32	40	32
Means	(total) 22 42	38	35	44	33

Date. 1910. November 13 to November 19.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Nov. 13—Sunday	0·35	43	43	48	30
,, 14—Monday	0·01	45	44	48	41
,, 15 Tuesday......	trace	43	45	48	28
,, 16—Wednesday..	—	42	44	48	26
,, 17—Thursday	trace	38	43	48	17
,, 18—Friday	—	37	42	48	21
,, 19—Saturday	0·05	38	41	47	25
Means ...	(total) 0·41	40	43	48	26

Mussænda erythrophylla.—This stove shrub was introduced from the Congo district over 20 years ago, and anticipations were then freely indulged in as to its probable highly decorative value. It, however, proved in most cases so shy-flowering that it gradually dropped out of cultivation. True, it has within recent years flowered at Kew, but that is the only place I have met with it in bloom till on a recent visit to Messrs. Veitch's nursery at Feltham. I found it there in good condition. It is not the blossoms themselves that form the showy part of the inflorescence, but the large leaf-like bracts of a bright red colour which subtend them. If it can be induced to bear these bracts more freely than it has hitherto done, it may yet become a popular plant in gardens.—W. T.

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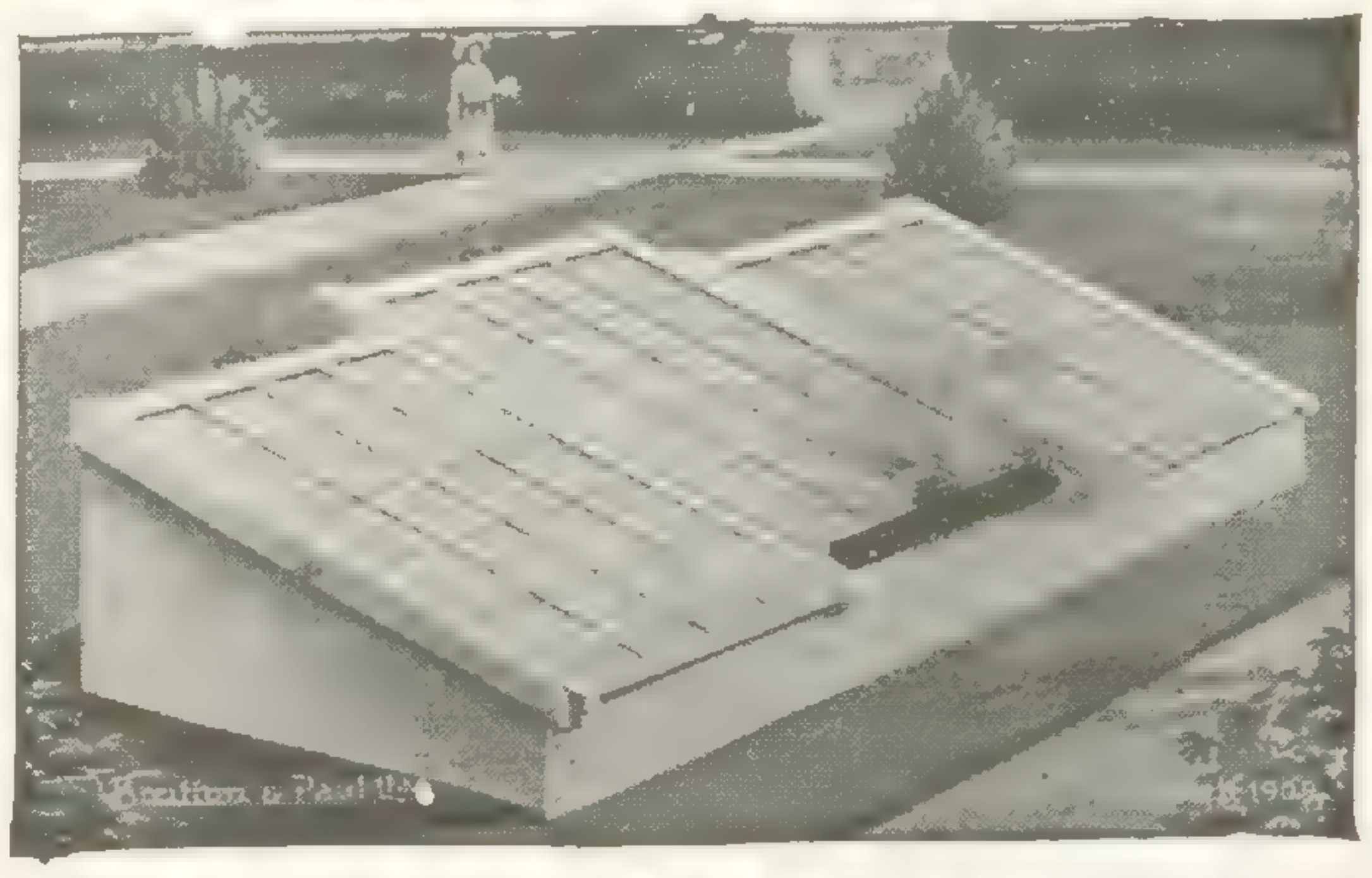
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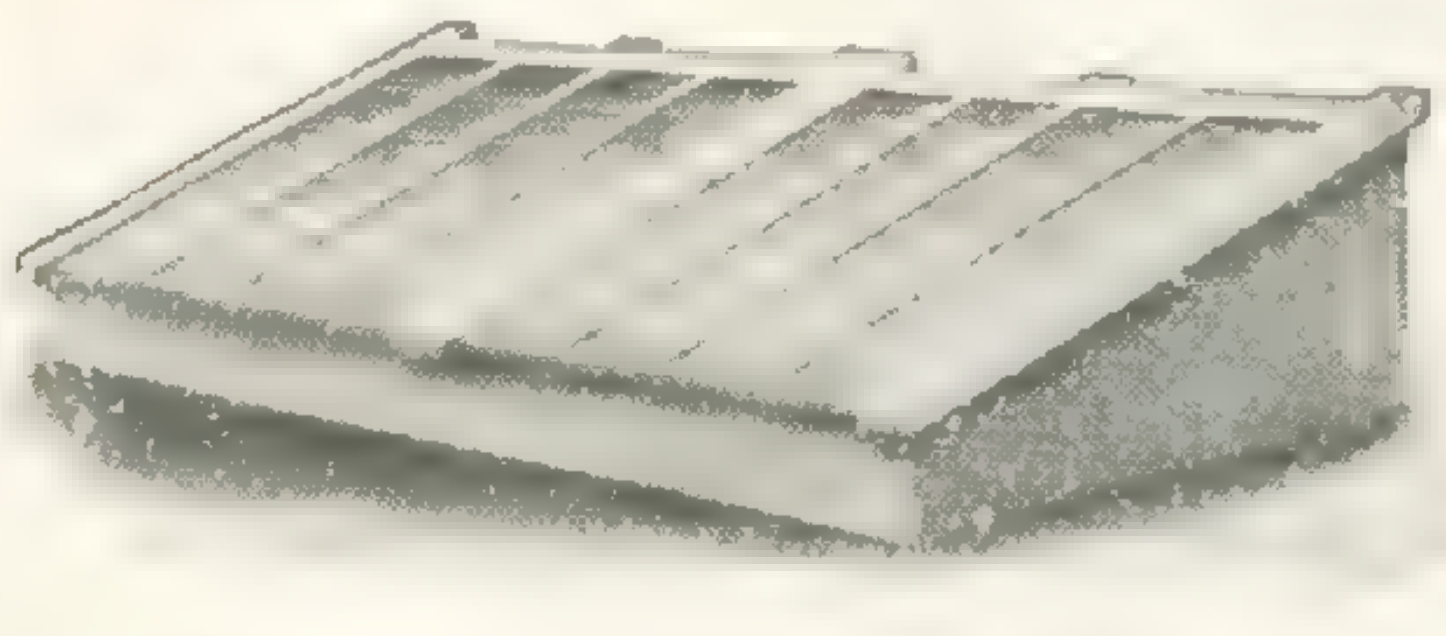

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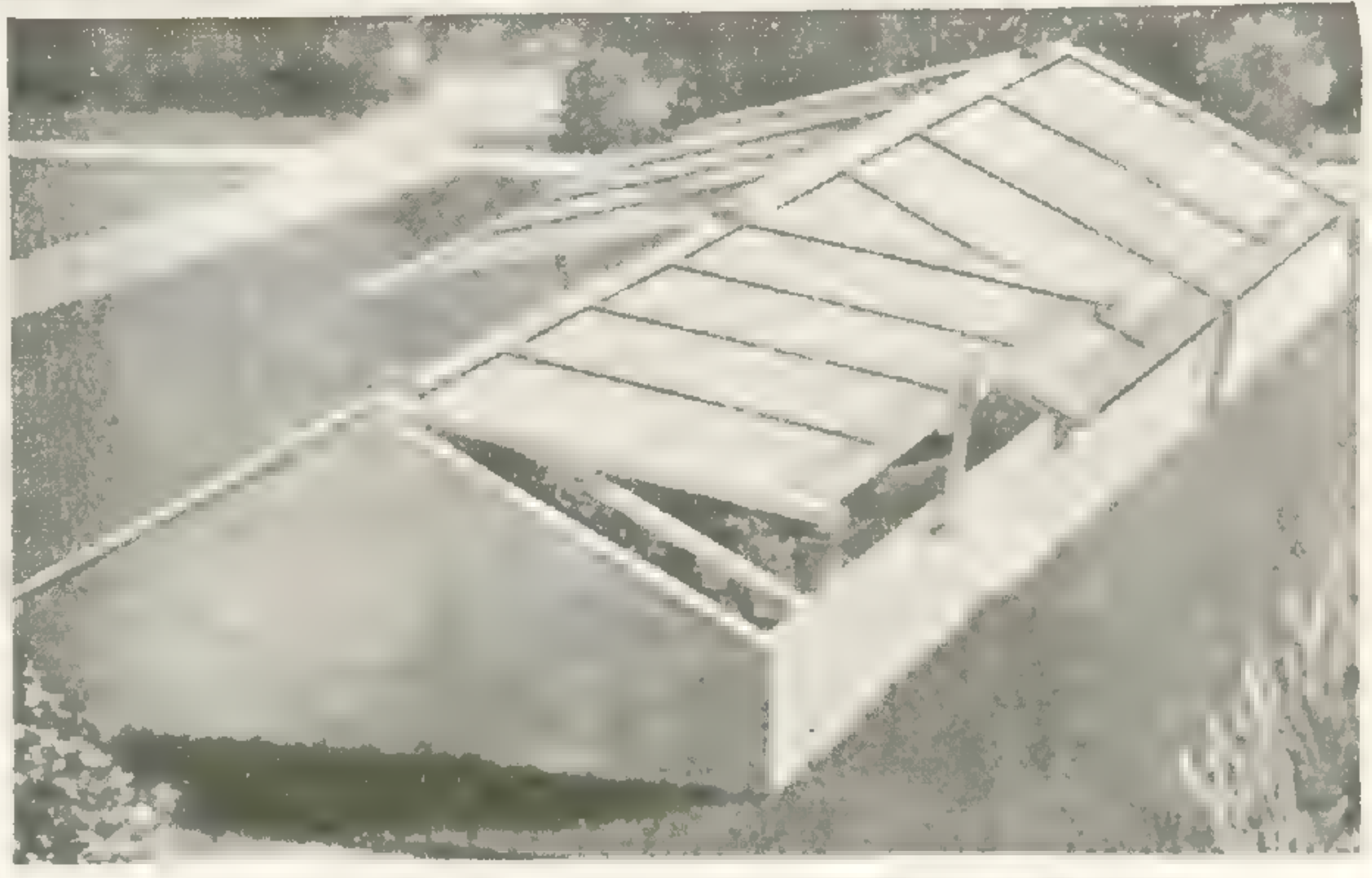

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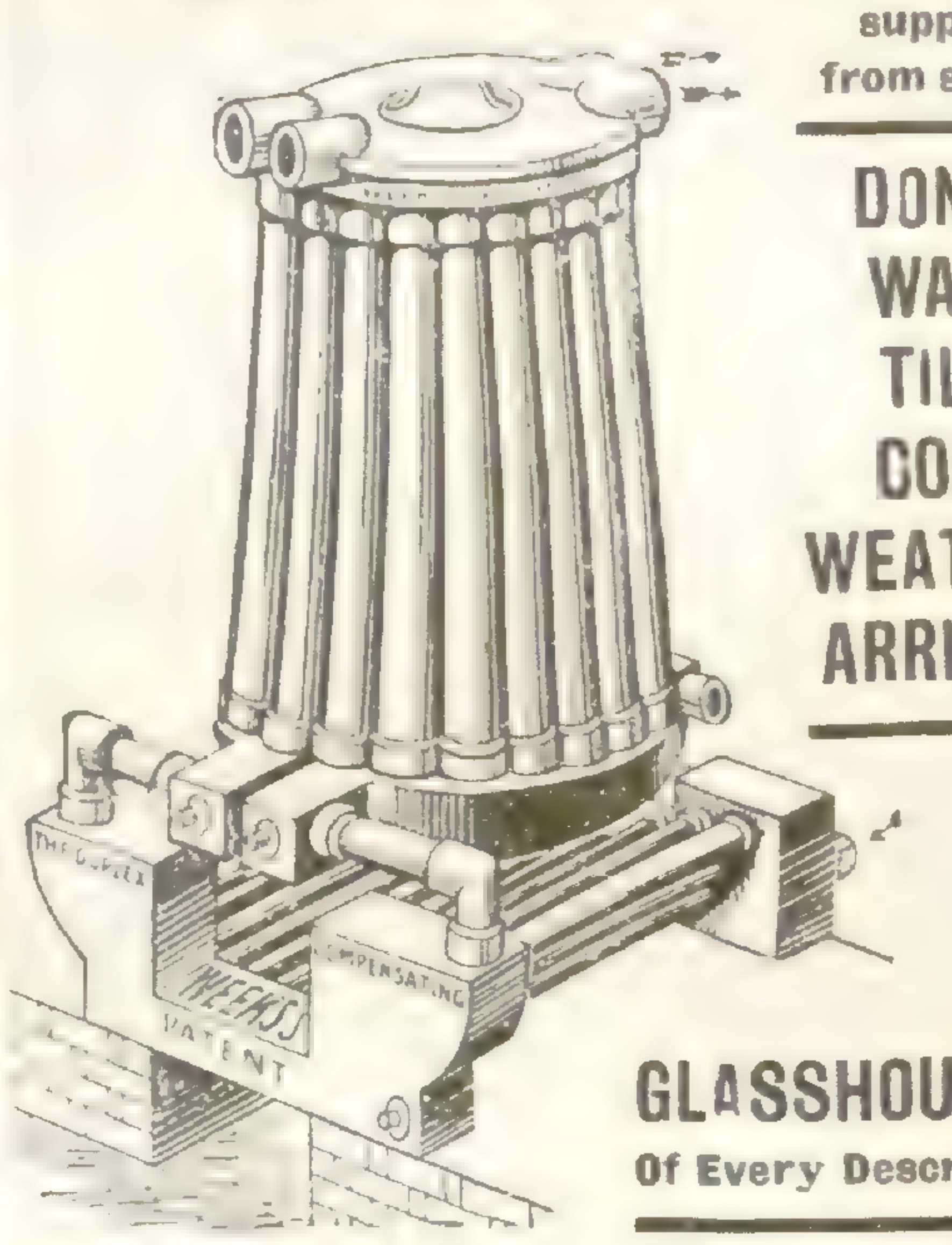
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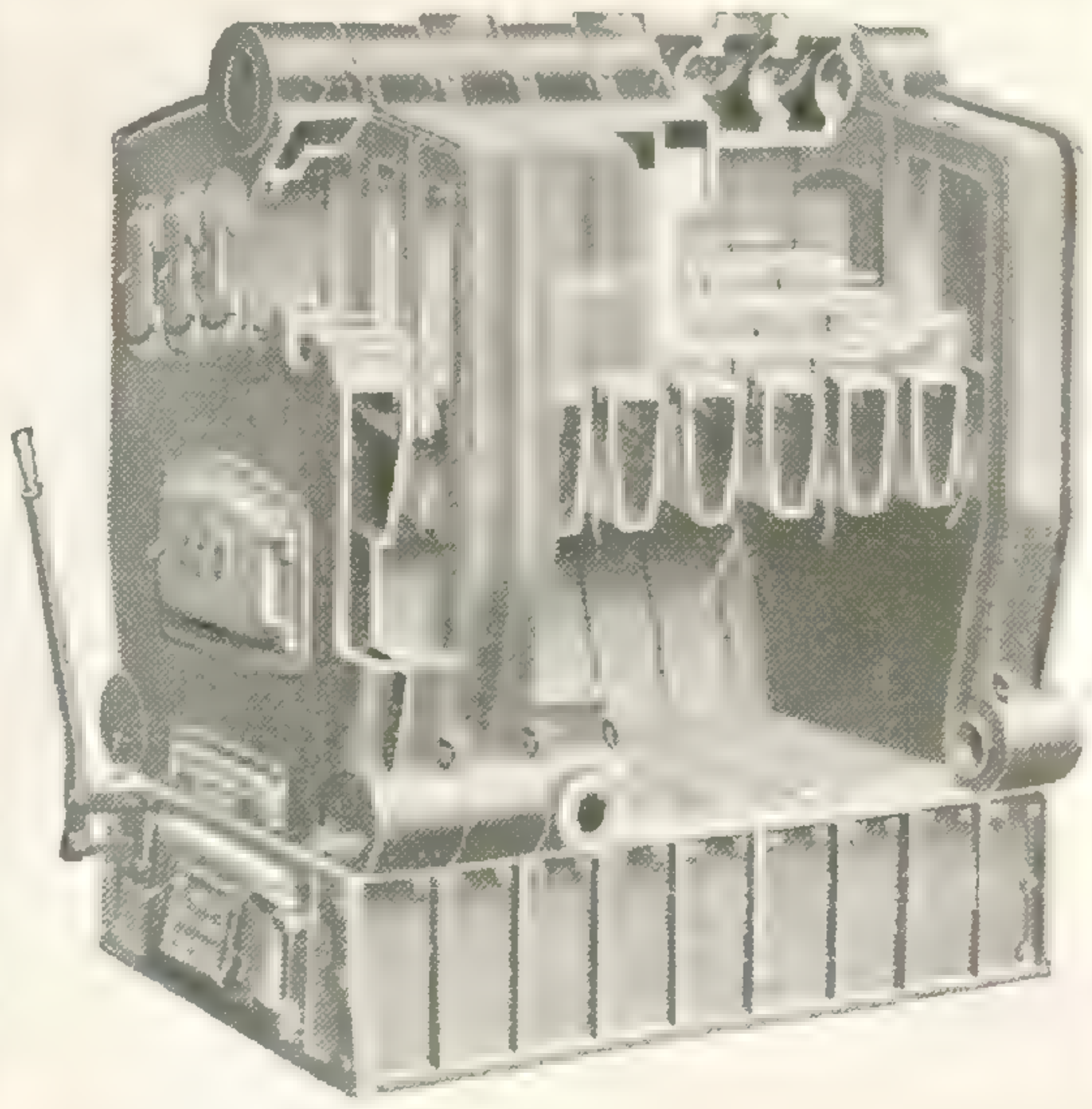

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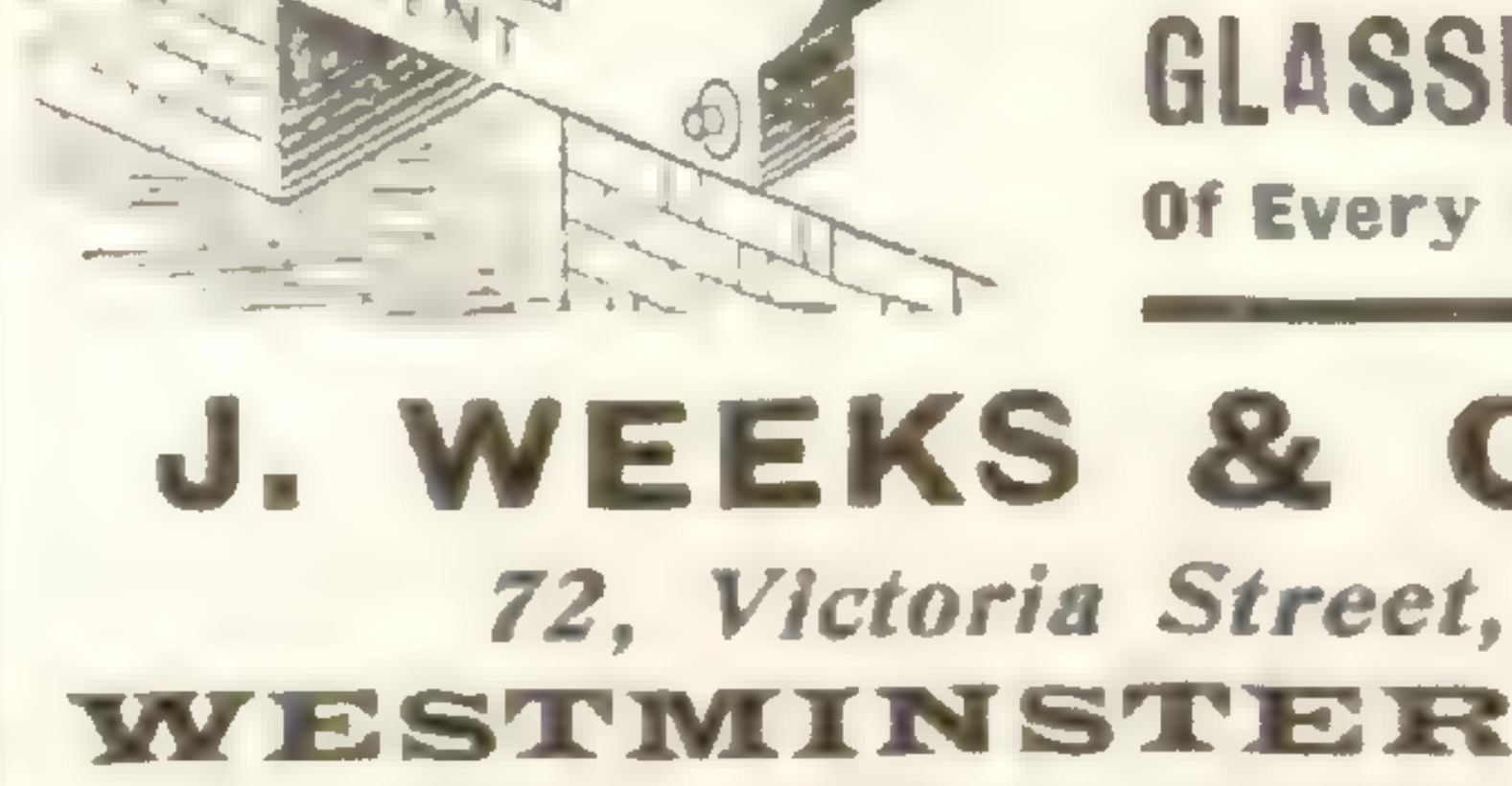
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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention correspondents are requested to distinctly mark the paragraph.

STOVE AND GREENHOUSE PLANTS.—B. W., Walsall: A very useful book of the kind you need is "Greenhouse and Stove Plants," written by the late Mr. Thomas Baines, and published by John Murray.

INFESTED GRAPES.—J. G. W., Stoke: We received the second parcel, and the mites we found were those so usually found upon decaying vegetation. We think, as before stated, that the cause of the trouble must be sought elsewhere. Examine some of the roots and see whether there are any insects upon them.

STRAWBERRIES ON SMALL HOLDINGS.—A. C. J., Bucks: Owing to the extent to which strawberries exhaust the land, and to the risk of damaging the bed by subsequent manuring, the soil must be well manured at the outset. As much as twenty to thirty tons of good short dung may be applied per acre when the bed is formed, and ten tons in the autumn after the second crop is taken. Bone manure may be substituted for the latter dressing, but artificial manures are not in general use. The cost of farmyard or town manure may be put at about 6s. 6d. per ton, and in addition 2s. per ton for haulage to the ground, and from 2s. to 3s. per acre for spreading, must be allowed, so that the average cost of manuring will work out to something like £9 to £12 per acre.

CHRYSANTHEMUM SPORT.—E. W. K., Bath: We recently saw some flowers of the type, and so are able to say that yours is a sport, but whether a similar sport is in the hands of other people we do not know. Your best plan would be to approach some chrysanthemum specialist on the matter both in relation to the distinctness of the sport, its possible value as an introduction, and means of distribution. A specialist can usually manage anything in his line far better than a general dealer, unless the latter has a very wide clientele.

MEAGER ON PLUM TREES. — S. J., Waterford: We happen to have a copy of "The New Art of Gardening," by Leonard Meager, and so are able to answer you at once. Under the title of "Plumb Trees, and How to Order Them," he writes:—"Plumb-trees are Planted from the Middle of Winter, to the Ides of February; but if you set the Stones soon after the fall of the leaf, let it be done in November, in a good and mellow ground, two handfuls; they may be also set in February, but then they must be steeped in lye three days, that they may the sooner spring; they are also planted from the young sets that grow from the body of the tree either in January or the beginning of February the roots being well covered with dung; they prosper best in a rich and moist ground, and in a cold country they are grafted towards the end of March, and are better in a cloven stock than the bark, or else in January, before the gum begins to drop out; it is grafted upon his own stock, the Peach and the Almond. There are several sorts of Plumbs, whereof the Damsen is not the least esteemed, joying in a dry ground, and in a hot country; it is grafted as other Plumbs are. There are divers coloured Plumbs, white, black, purple, and red, Wheat-plumbs and Horse-plumbs; the Finger-plumbs are most commended, bearing near the length of a man's finger, and blue in colour, but later. The Damsens may be dryed in the sun upon lattises, leads, or in an oven; some do dip them before, either in sea-water, or in brine, and after dry them."

WATERING COOL ORCHIDS.—L.C.C., Brentwood: At this season of the year cool orchids should be watered with great care, or trouble will be sure to follow. Watering should be done on a bright day, and as early in the day as possible provided the inside temperature has risen to the proper degree for the day, and also provided the water used is rather over than under the maximum day temperature for the house. Under these conditions give every plant that needs it a good watering so as to thoroughly wet every portion of the rooting material. Whatever may be said for the practice of standing the pots directly upon the ashes or other material that covers the stages (we do not recommend it at any season, however) during spring and summer, it is very necessary that during winter the plants should be raised well above the moisture-holding material by means of inverted pots or a movable trellis stage. This will allow the moisture applied directly to the plants to pass through the potting material quickly, and this is an important matter in the dull season. Handle all the plants frequently, remove any excessive sphagnum growth, as well as dead and decaying leafage.

FAILURE OF PLANTS IN CONSERVATORY.—R. E., North Finchley: It is quite possible that the paint has a great deal to do with the failure of the plants. The odour of paint is distasteful to plants, and especially so if the paint is an arsenical one. When the paint has become perfectly hard the trouble will, no doubt, cease. Remove the plants, turn on all the heat possible, and freely ventilate the house so that the paint may become thoroughly dry before returning the plants to it.

NAMES OF PLANTS.

W. A. M., Nottingham.—1, Pteris Wimsetti; 2, P. tremula Smithi; 3, not recognised; 4, Davallia dissecta.

L. M. E., Bournemouth.—1, Cypripedium Leeanum giganteum; 2, C. Spicerianum; 3, C. Actæus; 4, C. Euryades.

T. L. L., Sevenoaks.—1, Begonia fuchsioides; 2, Calanthe Veitchi; 3, Salvia azurea; 4, Oncidium crispum.

S. F., Bedeford.—1, Symphoricarpus racemosus; 2, Olearia Haasti; 3, Spartium junceum; 4, Trachycarpus excelsa; 5, Erica herbacea.

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C. T. J., Axminster.—1, Loddington; 2, Bismarck; 3, Smart's Prince Arthur; 4, Cox's Orange Pippin; 5, Catillac; 6, Beurre Rance.

GARDENING APPOINTMENT.

Mr. R. Winter, formerly at Avishays House Gardens, Chard, has been appointed head gardener to Mrs. Harriss, at Three Ashes House, Cold Norton, near Maldon, Essex.

FORTHCOMING ENGAGEMENTS.

THURSDAY, December 1.—Colonial Fruit Show at the Royal Horticultural Hall, Westminster; three days.

SATURDAY, December 3.—French Horticultural Society of London.

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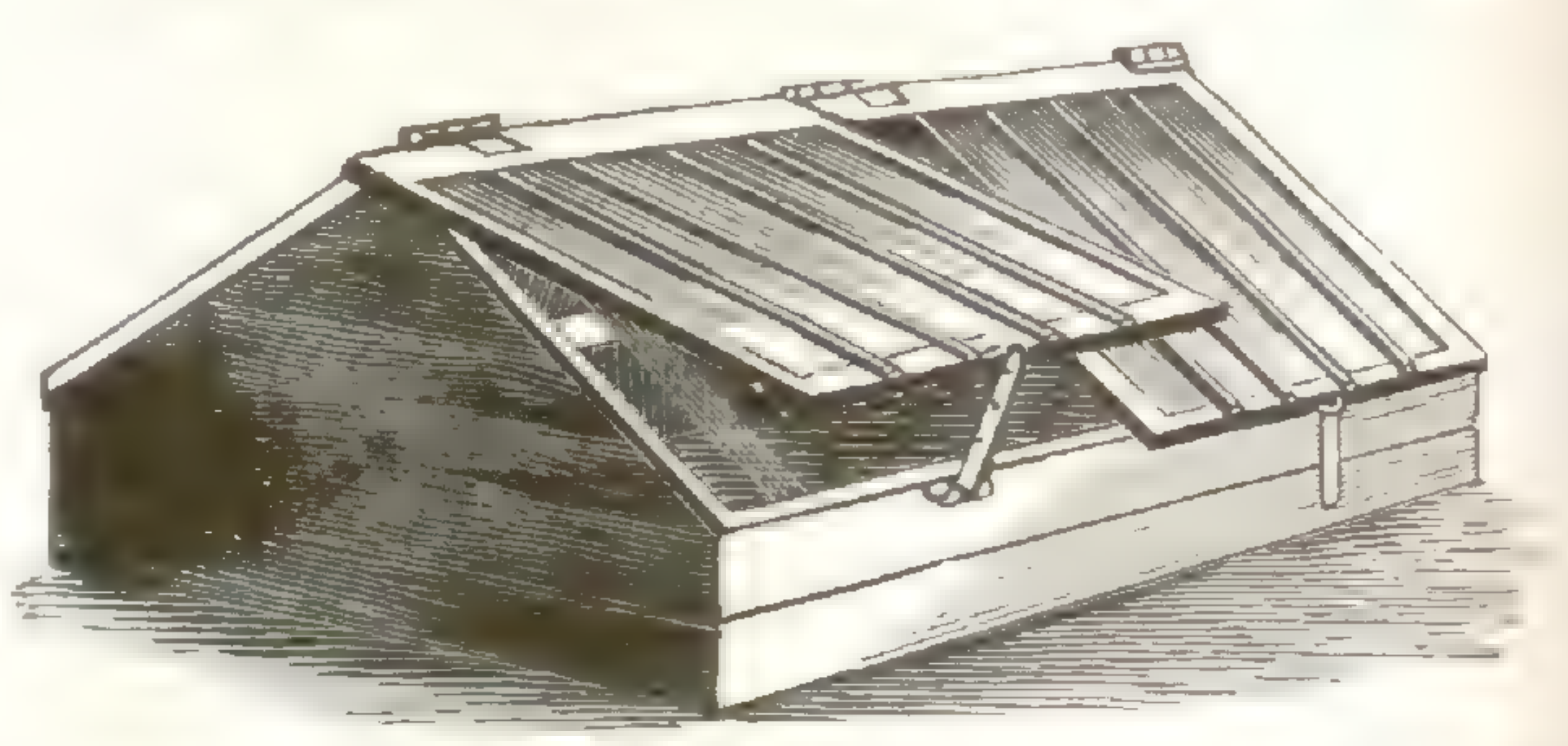

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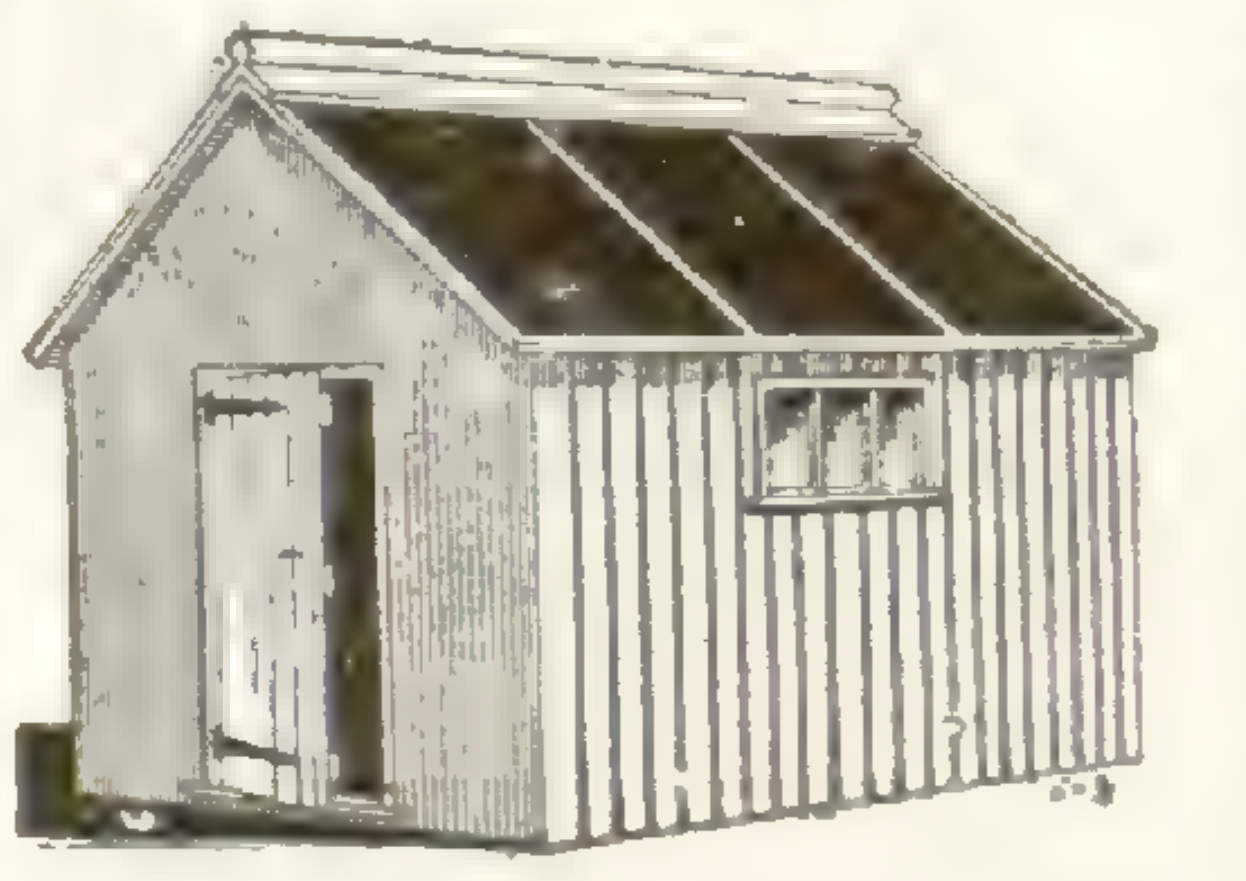

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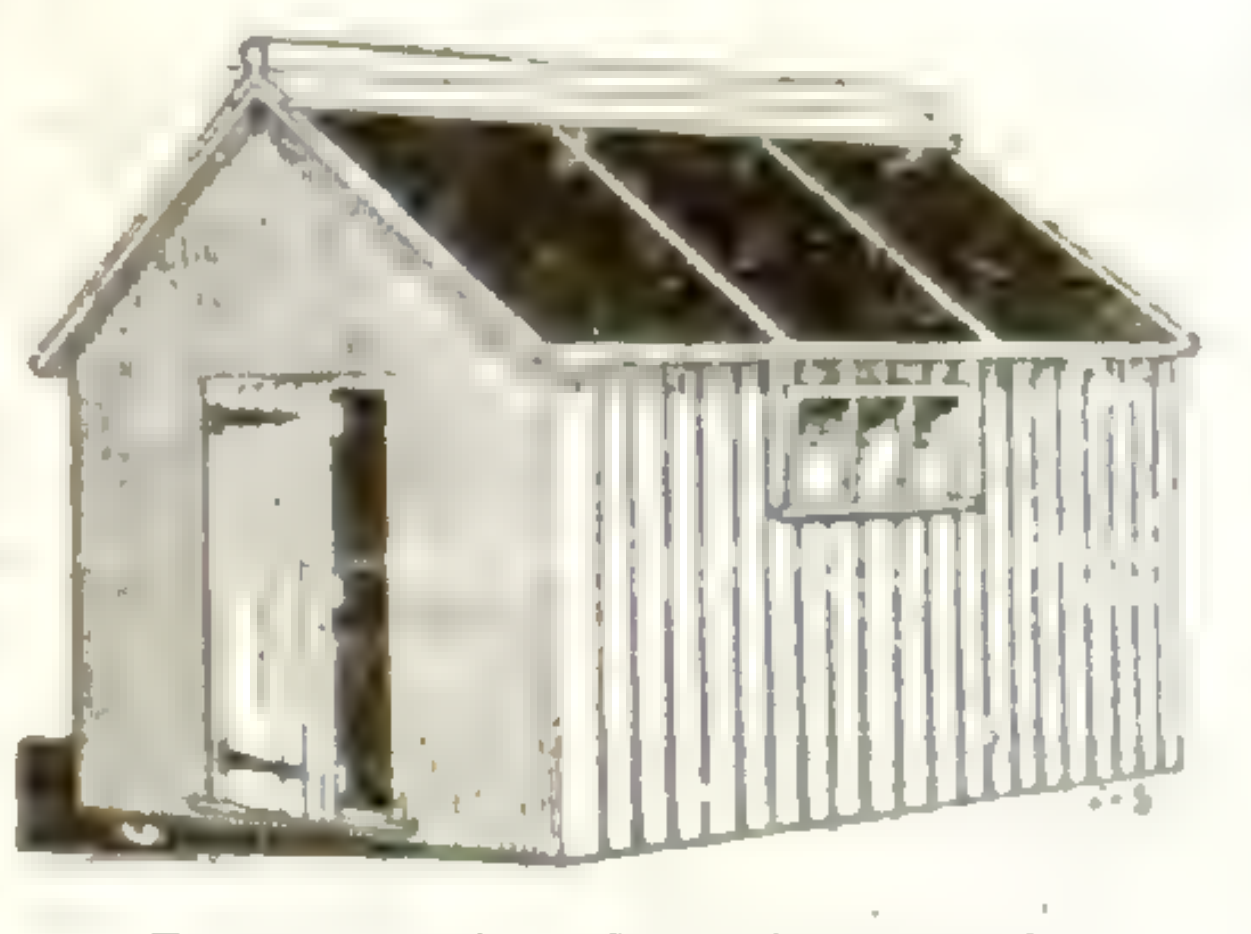

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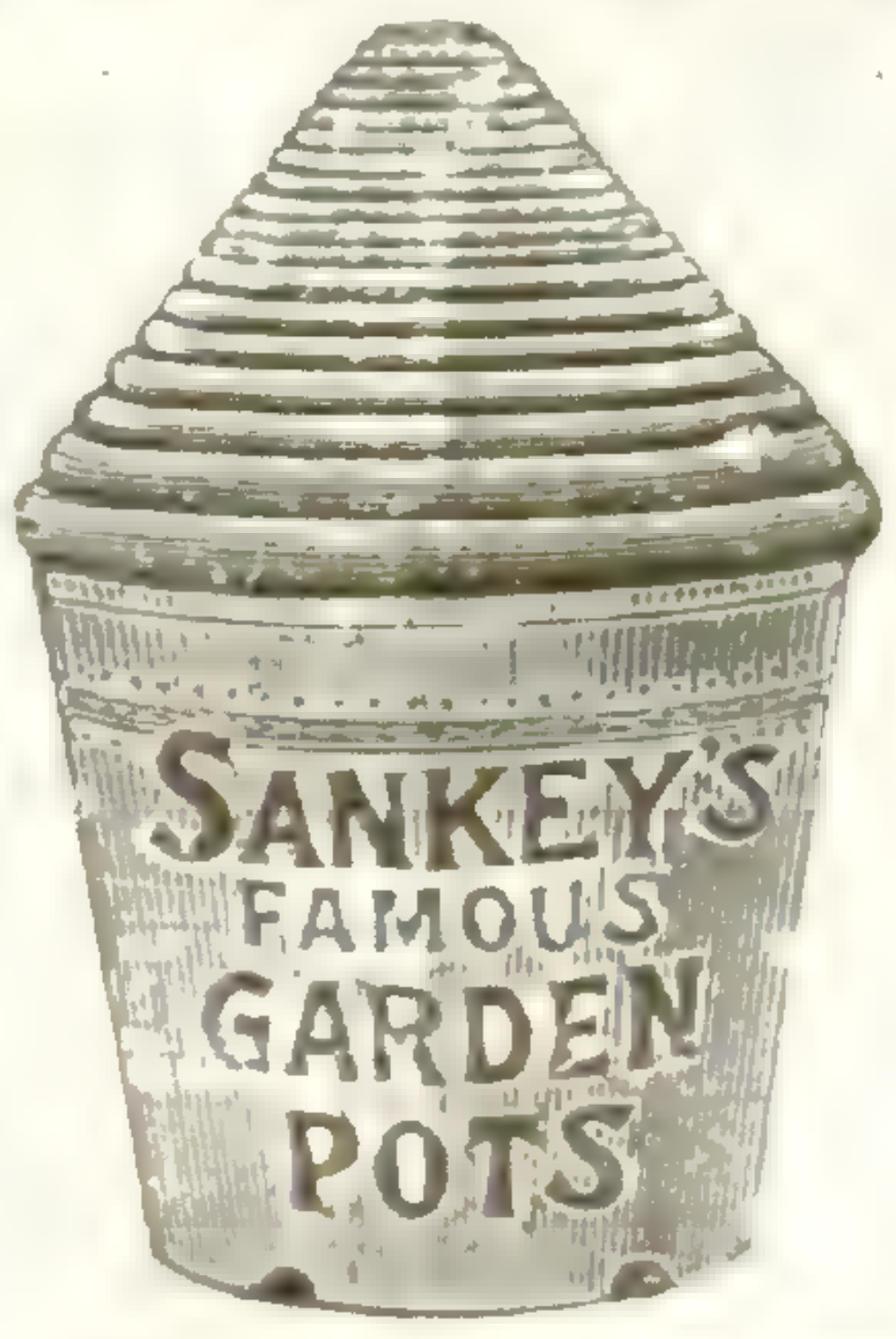

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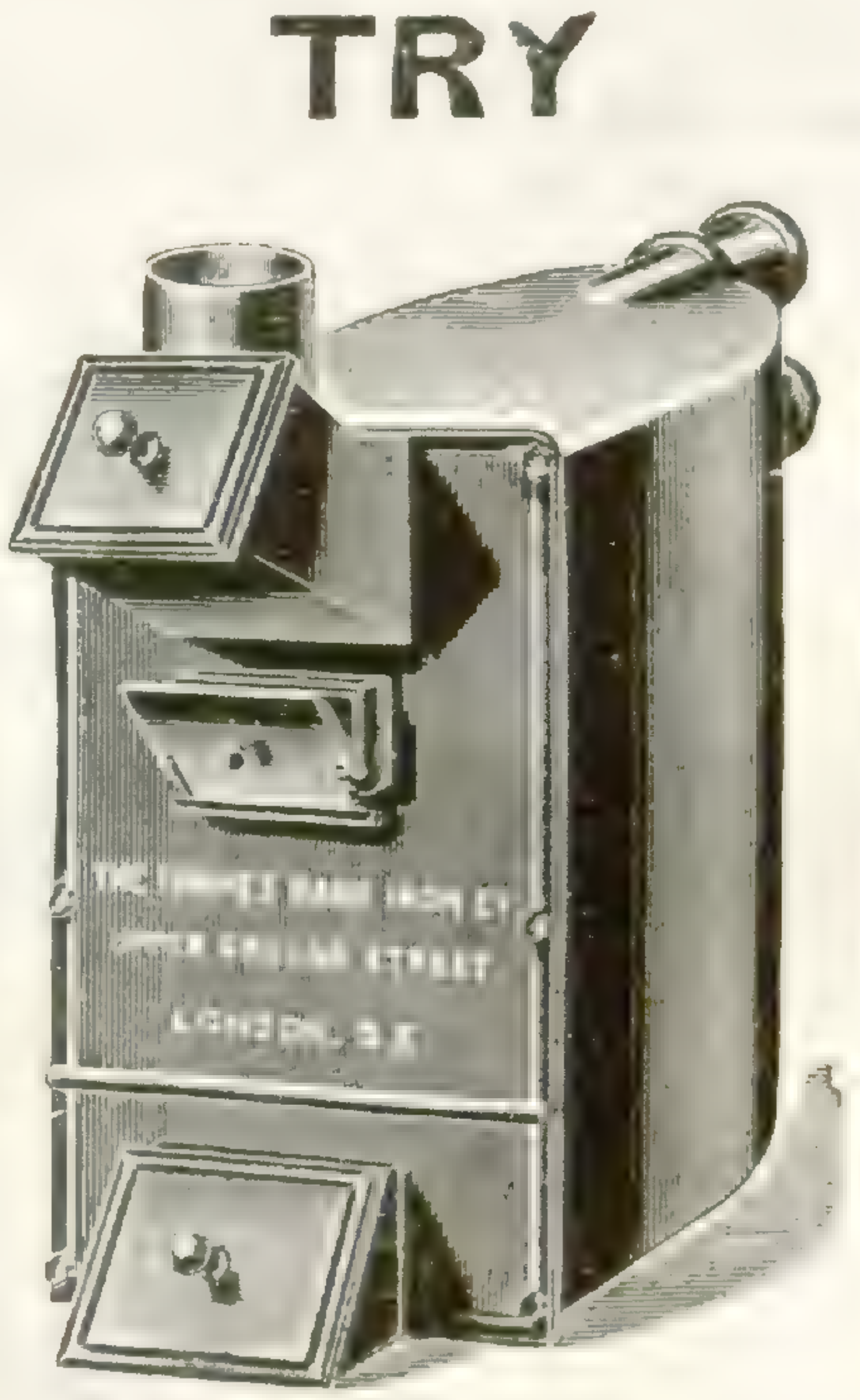
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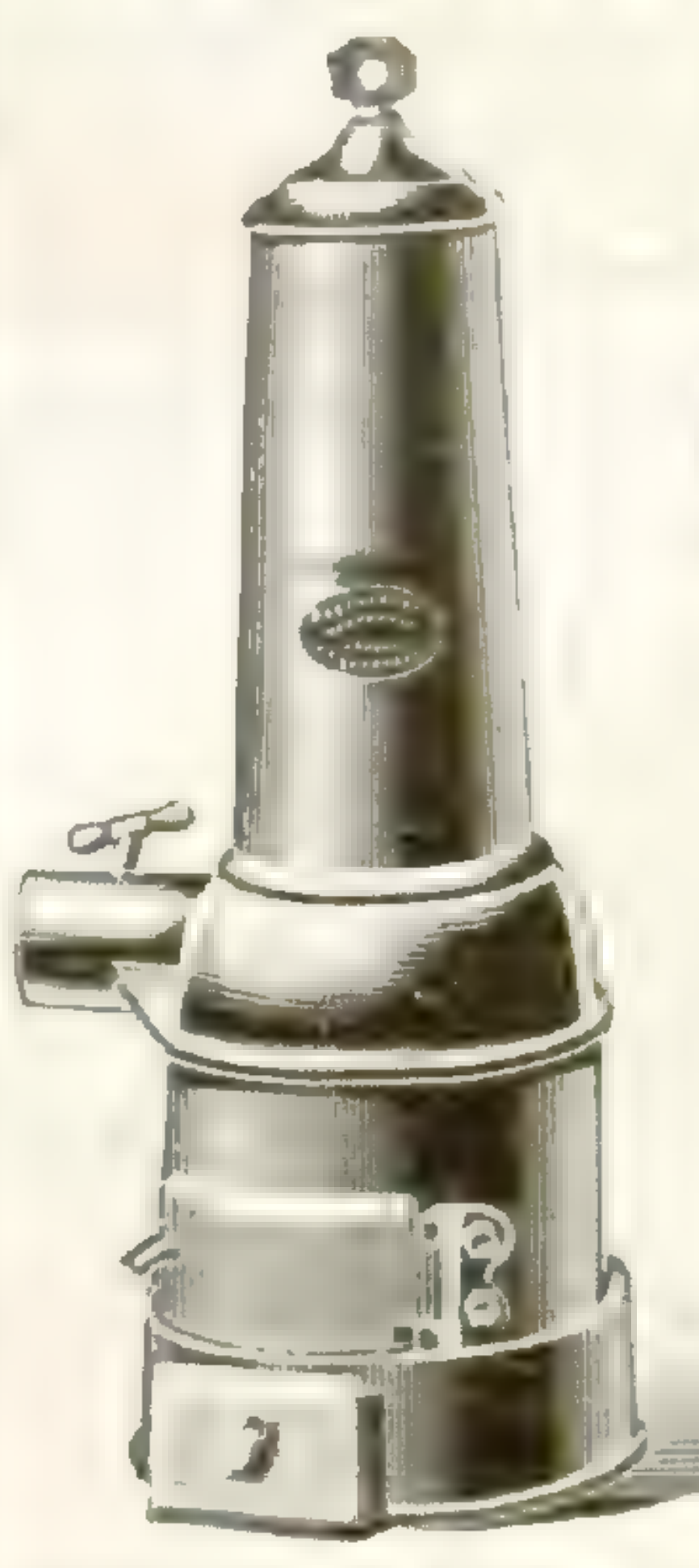

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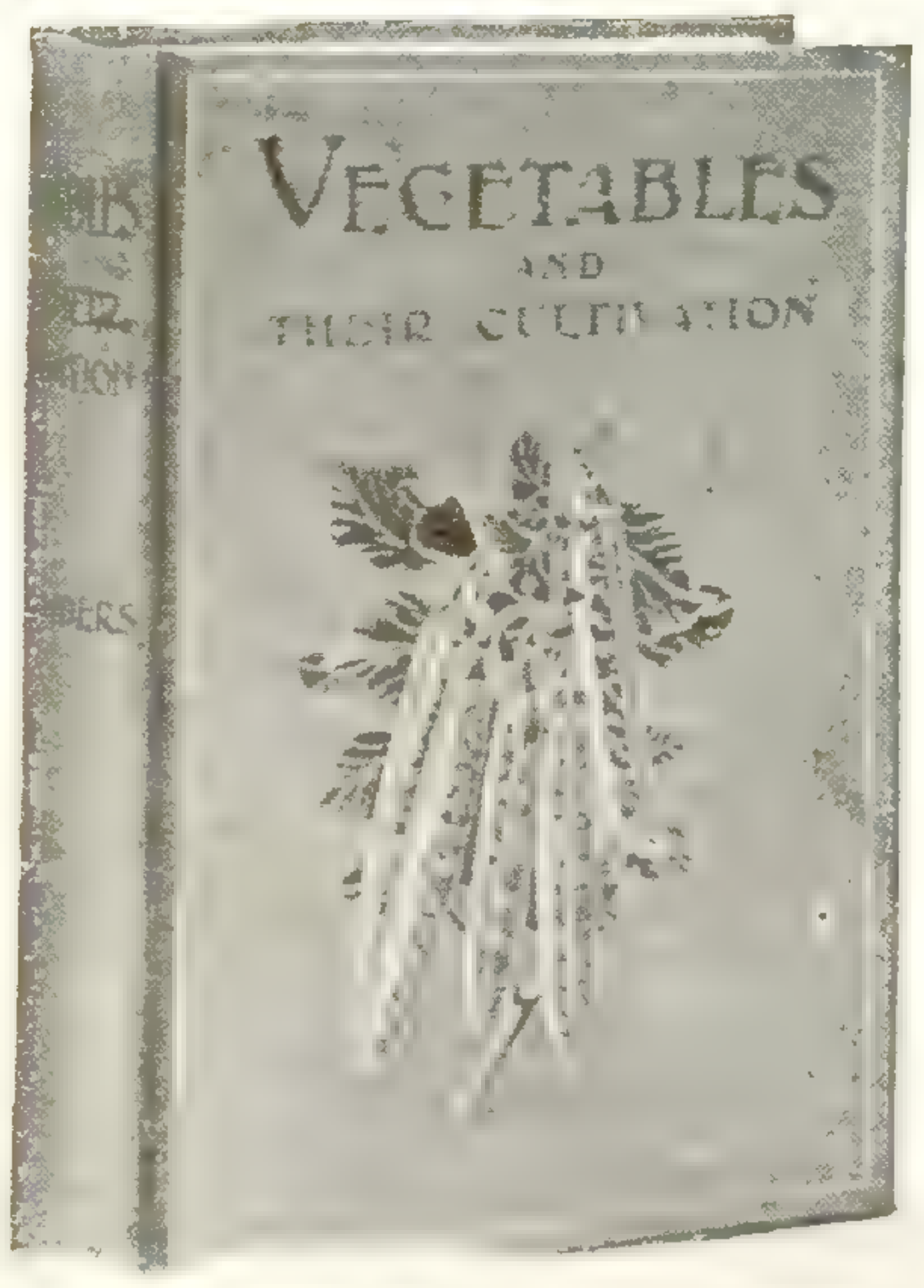

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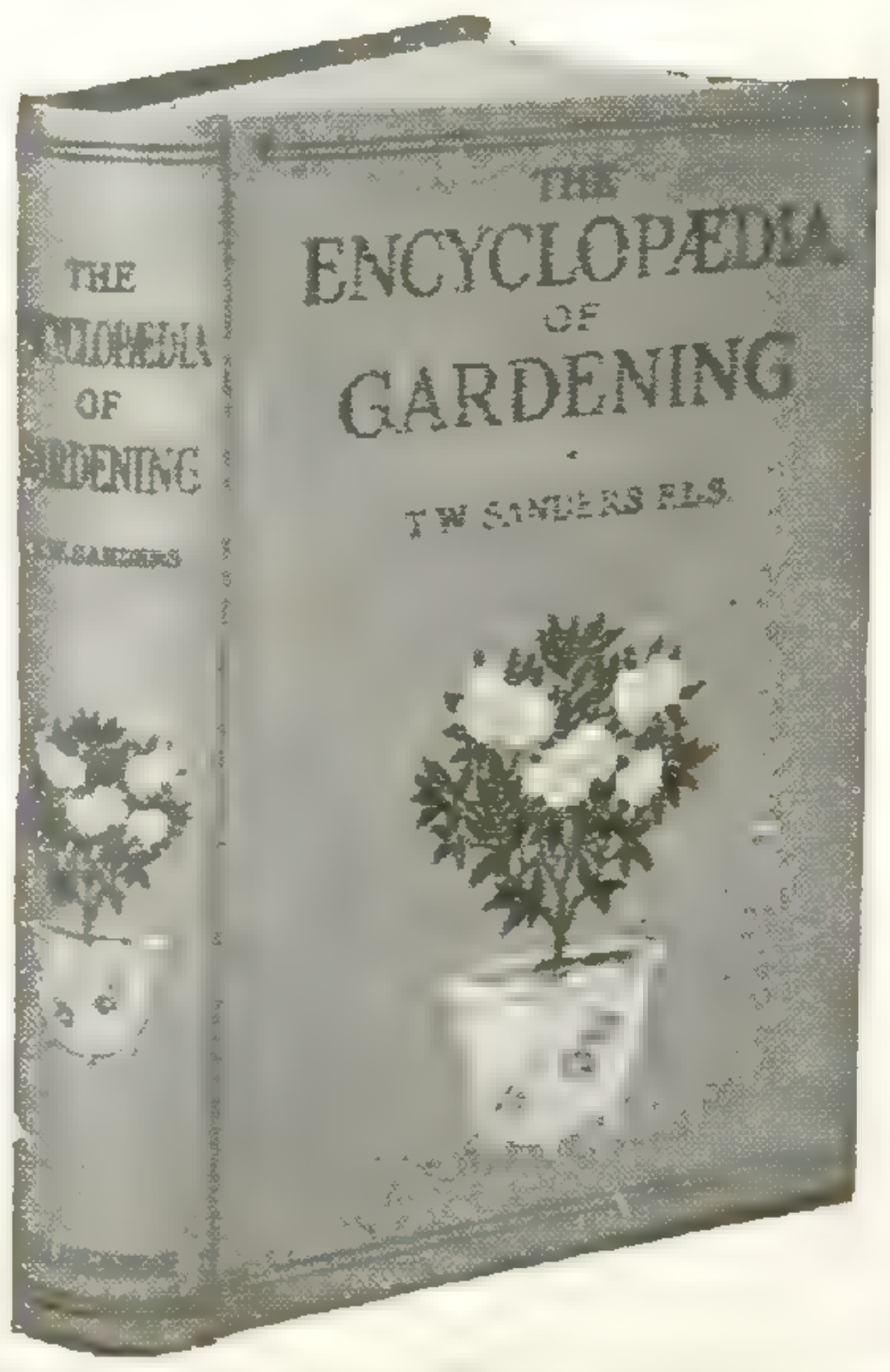

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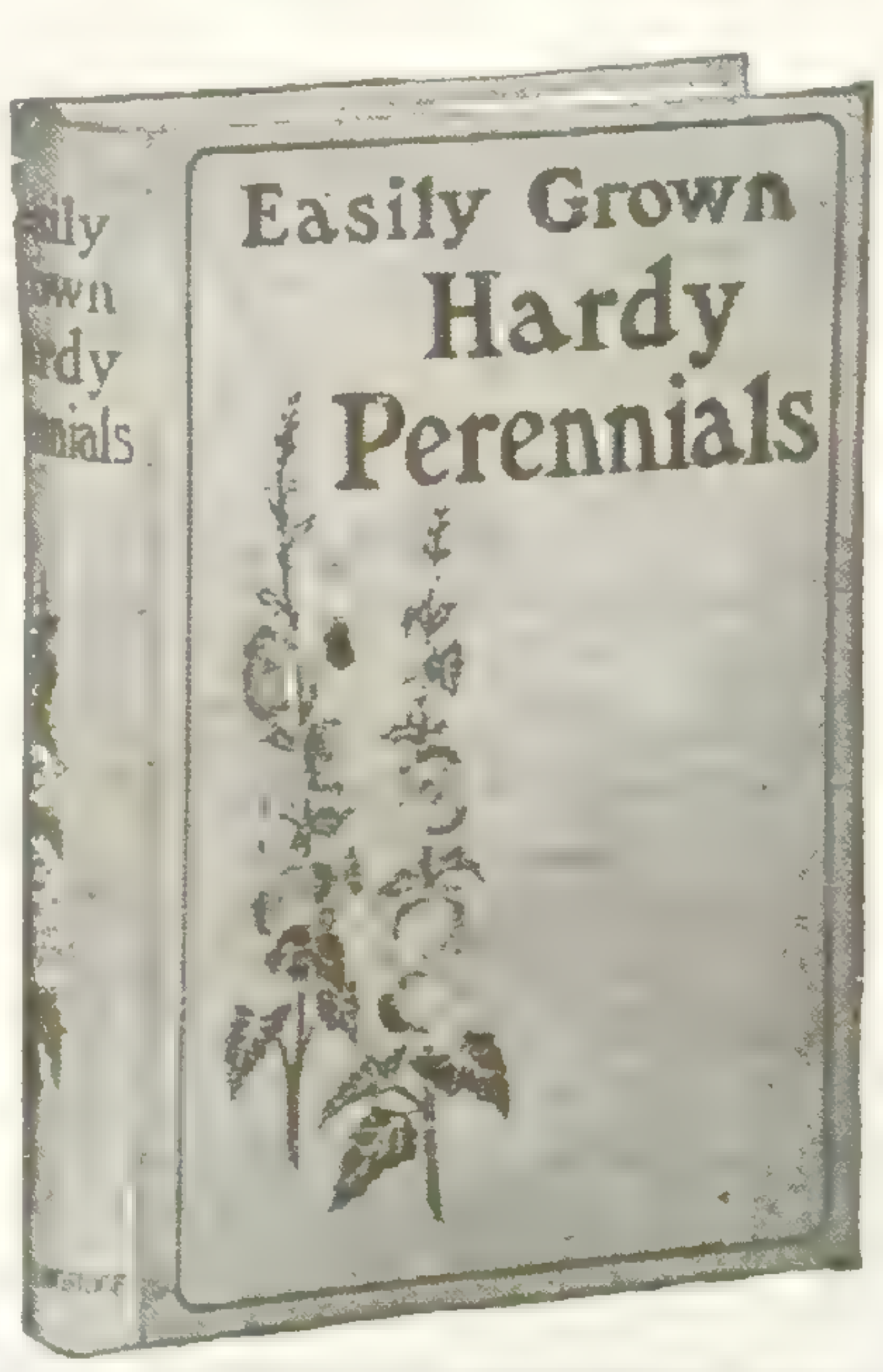

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YOUNG MAN, age 21, seeks SITUATION in large garden (Inside or Out), Kitchen Garden or Pleasure Grounds; 8 years' general experience; excellent references; Bothy preferred. Write GARDENER, c/o Wardley's Stationery, Mill Street, Guernsey.

YOUNG MAN seeks SITUATION as General NURSERY HAND; with good experience and references; age 22. S. BUCK, 61, Goldstone Villas, Hove.

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For DECEMBER 10, 1910.

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VOL. LIII.—No. 2,979. SATURDAY, DECEMBER 3, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Deep Cultivation.

Some of our readers will probably remember the story they read in their younger days of the old man who, feeling that his life's work was done, called his sons about him, and bid them search diligently in the garden for hidden treasure. The sons acted upon the advice given them by their father, and in their search they dug over the garden to a depth far exceeding anything that had previously been known, but they were disappointed in not finding, as they anticipated, treasure of gold or silver. They were not, the story proceeds, without their reward, for in the following year the crops were so enormous as to leave no doubt in the minds of the sons as to what their father meant when he gave them the advice. This simple story, which belongs to the far distant past, is of interest as showing that the importance of deep cultivation in the production of garden crops is not a present-day discovery, but was recognised, to some extent, at a time when gardening had not attained to a very high position in the estimation of the community at large. At the present time the deep stirring of the soil is generally regarded as an essential part of good cultivation, and it forms part of the regular practice of all who have achieved any considerable degree of success in garden management. There are some whose experience has not been sufficient to enable them to fully appreciate the value of deep cultivation, and there are those who do not clearly understand the conditions under which it can be carried out with the greatest advantage to the various classes of useful crops and ornamental plants, and a brief reference to the subject at the present time can hardly fail to prove useful. As a general proposition, it may be stated that all the vegetable crops and hardy herbaceous plants attain to a higher state of development when occupying beds and borders that were deeply trenched previous to their being sown or planted, and that fruit trees and ornamental trees and shrubs make the most satisfactory growth when the ground has been prepared by trenching, than where the soil preparation has been limited to ordinary digging. Therefore, trenching should be regarded as an essential part of the routine work, both in kitchen and flower gardening, and where, as in the majority of gardens, it is not practicable to trench the whole of the area each year, as large a portion as possible should be trenched. The advantage of this method of soil preparation, as compared with digging to a depth of twelve inches or so, are, briefly summarised, so great an increase in the depth of the soil as to enable a considerable proportion of the roots to push down deep enough to be beyond the influence of short periods of drought, a doubling at least of the area over which the roots can extend in search of food, the greater facility afforded for the passage of rain water through the soil, and the improvement in capillarity the latter a point of much importance to the plants in dry weather. Opinions differ somewhat as to the manner in which ground should be trenched, with a view to ensure the highest degree of success. There is a general agreement as to the desirability of trenching to a depth of not less than two feet, but there is a difference of opinion as to whether the bottom spit should be brought to the surface, or be merely broken up where the subsoil is a strong clay. The majority of cultivators hold decided views as to the advantage of simply turning over and well breaking up the top spit, and then forking over the bottom spit, and incorporating with it any partly-decayed manure, vegetable refuse, and gritty matter that may be available. Other cultivators consider the practice of bringing the bottom spit to the surface in all cases as the better of the two, and the position to which they have attained justify their opinions being treated with the greatest respect. With regard to the latter, it is probable that in the statement of their views upon this important point they have not in their mind, unless we are much mistaken, strong clays that have not been broken up to a depth exceeding twelve inches many times, if at all, but a heavy soil that has been deeply cultivated for a considerable number of years. If a soil of the latter description is trenched during the autumn, or at the commencement of the winter, and left in a rough state on the surface, the frosts, rains, and winds will so break it down as to render it comparatively easy to secure a good tilth, more especially if liberal supplies of old potting soil, decayed manure, leaf-mould, and similar materials be spread over the surface, and forked in to a depth of six or eight inches. But if a soil resting on clay within twelve or fifteen inches of the surface is trenched, and the bottom spit brought to the surface, the soil which had been so ameliorated by cultivation and exposure to atmospheric conditions as to enable the roots to run freely through it, will be buried to a depth that practically places it beyond their reach. Some thirty years or so ago the deep trenching of both heavy and light soils was strongly recommended,

MR. J. WHITTLE.

without any qualifications, and we remember many quarters that were rendered of comparatively little use for a year at least owing to the advice having been blindly followed, and the ameliorated soil buried below a layer of tenacious clay. The proper course is to trench to a depth of not less than two feet, and if there is good soil throughout, reverse the top and bottom spit, well breaking up the soil in the process. Should, on the other hand, the soil be heavy, but considerably ameliorated by previous cultivation, bring the bottom spit to the surface, and apply a good dressing of light material in the spring, and well mix it with the surface. Then, in the case of the clay subsoil, allow it to remain in the bottom, until it has been greatly improved by the methods of amelioration that find favour in good gardens.

Mr. J. Whittle, whose portrait we have the pleasure of giving in this issue has during the past five years been in charge of the gardens of Chevening, Maidstone, the residence of Lieut.-Colonel Borton, and during this period he has specially distinguished himself as a cultivator and exhibitor of hardy fruits, in which his employer takes much interest. As will be remembered by those who visited the Royal Horticultural Society's exhibition of British-grown fruits in October last, or read our report of the show, Mr. Whittle was successful in occupying the first place in the great class for thirty dishes of hardy fruits, and in several of the principal classes for apples, staging in all cases fruit equally remarkable for its large size and superb finish. Mr. Whittle's successes have been such as to afford the best possible proof of his having had the advantage of a thorough training in the art of gardening, and it is a matter of some interest to mention that in his probationary period he occupied positions in the gardens of Park Hall, Oswestry; Culford Hall, Tring Park, and Cowley Manor, and that for several years he was general foreman in the gardens of Mote Park, Maidstone, where hardy fruit is grown with much success. The successes of Mr. Whittle as an exhibitor of hardy fruit would form a somewhat lengthy list, and for the present purpose it will suffice to mention that he has been awarded six Hogg Memorial medals, of which two were silver-gilt; the Worshipful Company of Fruiterers' silver-gilt medal, and the Veitch Memorial medal. At the last three fruit shows held by the Royal Horticultural Society Mr. Whittle has been first in the class for thirty dishes of hardy fruit; and at each of the last four exhibitions he obtained the premier award for twenty-four dishes of apples, distinct varieties; for six dishes of culinary apples; and for six dishes of dessert apples, a record of which any fruit-grower might justifiably feel proud.

National Sweet Pea Society.—The annual general meeting of this society will be held in the North Room, Hotel Windsor, Victoria Street, Westminster, S.W., at 3 p.m. on Thursday, December 15, 1910. A presentation of silver plate will be made to Mr. and Mrs. Charles Foster on this occasion. A Sweet Pea Conference will also be held at the Hotel Windsor on the above date, commencing at 7 p.m., when the following papers will be read: "Judging Sweet Peas," by Mr. Walter P. Wright; and "Cultivation of Sweet Peas," by Mr. George Herbert. For the convenience of members dinner will be provided at the Hotel Windsor at 5.30 p.m. on the above date. Tickets, 5s. each (exclusive of wine). Application for tickets must be made to the Hon. Secretary, Adelaide Road, Brentford, Middlesex, not later than December 14

Sale of Poisonous Insecticides.—In the Winchester County Court the Pharmaceutical Society of Great Britain brought a claim against Mr. C. W. Breadmore, of Winchester, for the recovery of £5, the amount of a fine imposed upon him by the society for the alleged non-compliance with the Pharmacy Act of 1908, by not affixing his name to a bottle of "XL All Insecticide." The case was heard at considerable length, and Mr. George Waldock, the representative of the society, stated that on July 13 he purchased at Mr. Breadmore's shop, a bottle of insecticide, and that the bottle did not bear the name and address of the seller. Mr. W. C. Connett, the assistant who sold the bottle, said he was certain the bottle was labelled. Mr. E. Newton, another assistant, gave evidence with reference to receiving the consignment of the insecticide from the manufacturer, and said the bottles would not be put into stock without being labelled: and Head Constable Sim, the inspector under the Pharmacy Act, stated, in his evidence, that he had paid three surprise visits to Mr. Breadmore's premises since October, 1909, and examined the bottles and tins, and saw they were all properly labelled. His Honour gave judgment at considerable length, and stated that on the evidence he was satisfied the bottle in question was sold with the label, and that judgment would be for the defendant, with costs.

Electrical Control of the Weather.—Mr. S. Z. de Ferranti, president of the Institution of Electrical Engineers, evidently holds highly optimistic views of the development of electrical science. In the course of his inaugural address, which was delivered the other evening, he said it would be a desirable thing if, instead of the dark weather that we now often experienced owing to cloud obstruction, we could have continuous sunshine at certain times of the year. The amount of sunshine would, no doubt, be largely increased by the abolition of all smoke in the air, as not only did smoke itself obscure the sun, but also it seemed to have the effect of assisting the formation of cloud, which greatly diminished the light and heat we received. He believed that the time would come when it would be thought no more wonderful largely to control our weather than it was now thought wonderful to control the water after it had fallen on the land. He thought that it would be possible to acquire knowledge which would enable us largely to control by electrical means the sunshine which reached us, and in a climate which usually had ample moisture in the atmosphere to produce rainfall when and where we required it. It might be possible, when we knew a great deal more about electricity than we did to-day, to set up an electrical defence along our coasts by which we could cause the moisture in the clouds to fall in the form of rain, and so prevent these clouds drifting over the country between ourselves and the sun, which they now blotted out. It also seemed to him that it would be possible, when more water on the country was required, to cause the falling of rain from the clouds passing over the highest part of the country, and so produce an abundance of water which, properly used, would greatly add to the fertility of the country.

R.A.S.E. Flower Show at Norwich.—The Royal Agricultural Society will, in accordance with the custom that has obtained for several years past, hold a flower show in conjunction with its great exhibition, which will be held at Norwich during the last week of June next. The schedule contains twelve open classes, and these are for groups of miscellaneous plants, collections of orchids arranged for effect, groups of carnations (cut blooms and plants), groups of tuberous begonias, displays of herbaceous flowers, bamboos, lilies, and foliage, either cut or in pots, collections of stove and greenhouse plants, of cut sprays of carnations, of cut hardy perennials, of cut roses, of sweet peas, and of vegetables, and for decorative displays of ripe fruit. The prizes for miscellaneous plants are £30, £25, and £20; for displays of herbaceous flowers, £20, £15, and £10; and for displays of ripe fruit, £20, £15, and £10. In addition thirteen classes are provided for cut flowers, fruits, and vegetables, in which the competition is limited to members of the Norwich Horticultural Society. Of these classes seven are for roses, one each for carnations and sweet peas, two for hardy perennials, and one each for collections of fruit and vegetables. The exhibition of the contributions to the open classes will open on Tuesday, June 27, 1911, and be continued until the following Friday, and the exhibition of local flowers, fruits, and vegetables will be held on June 29 and 30, 1911. The manager of the horticultural section is Mr. Peter Blair, Trentham Gardens, Stoke-on-Trent.

Sweet Pea Trials in 1911.—The National Sweet Pea Society will hold its annual series of trials at the "Times Experimental Station," Sutton Green, near Guildford, in 1911, and will test novelties and grant awards and certificates according to merit. No awards or certificates will be granted to sweet peas unless they are sent for trial at Guildford. For these trials the varieties will be accepted only from the raiser or introducer. A charge of 2s. 6d. for each variety will be made. Orange and salmon-coloured varieties will be shaded if the raiser or introducer expresses a wish that they should be so treated. A further trial, solely for the purpose of testing correctness and purity of stocks of sweet peas, will also be held, and a charge of 10s. per variety or stock will be made. Sweet peas for these trials must reach Mr. Charles Foster, "Times Experimental Station," Sutton Green, near Guildford, not later than January 14, 1911, and in every instance the colour class to which the variety belongs should be stated. For the novelty trials not less than fifteen seeds should be sent, and for the purity trials not less than two dozen seeds of each variety or stock. At the same time a list of the varieties, together with the amount due for trial charges, must be sent to the hon. secretary, Mr. C. H. Curtis, Adelaide Road, Brentford, Middlesex.

The Cooking of Vegetables is so important a matter in the economy of the household that the lecture on this subject by Mr. C. Herman Senn at the general meeting of the Royal Horticultural Society on Tuesday next should be of much interest. If the interest shown is proportionate to the importance of the subject the lecture room will be crowded.

WATERING CARNATIONS IN WINTER.

The old adaptation that "Good waterers are born, not made," is, to a certain extent, true, and there are many more growers of carnations who imagine that they know all there is to be known about this art, than there are those who possess the actual knowledge. An observant grower, however, can, by close observation and the application of common sense, quickly become proficient in the art, an art which everyone who grows flowers, from the chief in the Botanical Gardens to the old lady who uses a tea pot, think they thoroughly understand.

Everything depends upon the climatic conditions and season of the year. Carnation plants, if growing vigorously and blooming profusely, require considerable water in winter, whereas, on the other hand, plants which were overpotted or potted late, or in unsuitable soil, and hence suffer from weak root action, do not require much water. It is between these two extremes that the difficulty lies.

No carnation plant should be kept perpetually wet or perpetually dry, and it is the craftsman who can discriminate between these, who most appreciates the root action of the plant, and the means by which it grows. Excessive moisture not only enfeebles the root action, but invariably turns the soil sour and useless, whilst excessive drought checks the root action, and the plant is then unable to properly absorb the moisture when it is given.

During the dull season of the year greater care has naturally to be exercised, and the selection of suitable days studied. No plant ever wanted more water simply because it is Saturday and the waterer is doing Sunday duty. To water heavily upon dull rainy days is sheer ignorance, or foolishness, simply because little or no evaporation through the leaves is in progress. Few of us realise that half the moisture absorbed by a carnation transpires through the leaves, and does not actually go to build up the growth.

Evaporation through the leaves of carnations goes on more quickly in summer than in winter, and also on bright days more than on dull ones, consequently we must be ever on the guard against excess of moisture in dull weather, particularly so in the case of plants not in the most vigorous health.

In the early mornings of bright days is when the bulk of the watering should be done, so that any moisture is dried from the foliage by night, and the air of the greenhouse becomes reasonably dry, thus avoiding risk of fungoid diseases. It is always wise to admit some air to the house when watering during the winter, on account of any steam that may arise from the pipes, although excessive fire heat should be avoided in a carnation house, as it creates the wrong atmosphere, and dries out the plants near to it too quickly.

Artificial feeding of carnations before the new year is the cause of all too many failures. A plant must be in an exceptionally vigorous state to require artificial manure during October, November, or December, whilst even then your house must be light and airy, and situated in a bright country district. The whole policy of this early winter feeding is like working for a temporary success—which never pays.

Montagu C. Allwood.

Bush Hill Park.

PELARGONIUM HIS MAJESTY

When the fine new zonal pelargonium named His Majesty gained an Award of Merit, on the occasion of the Royal Horticultural Society's meeting, November 23, 1909, those who saw the flowers of it agreed that for brilliance, size of bloom, and size of truss it was splendid for the time of year, but cautious people were not satisfied that the variety would prove wholly successful for winter flowering, and so withheld their verdict. If they had seen the plants in flower at Mr. W. H. Page's nursery, at Hampton, at that time, they would have been quite satisfied, and if they saw the large, freely-flowered specimens this clever grower staged at the Royal Horticultural Hall on November 22 last they would, with all others who saw them, have become convinced that His Majesty is a pelargonium well worthy of its name, and a famous variety from every point of view for flowering during the winter season. Many individual blooms are over three inches in diameter, and their brilliant deep crimson-scarlet colouring is enhanced by the neat white eye to each flower. Our illustration represents one of the specimens from the Tangley Nurseries, as shown by Mr. Page, and it measured nearly a yard through.

PELARGONIUM HIS MAJESTY.

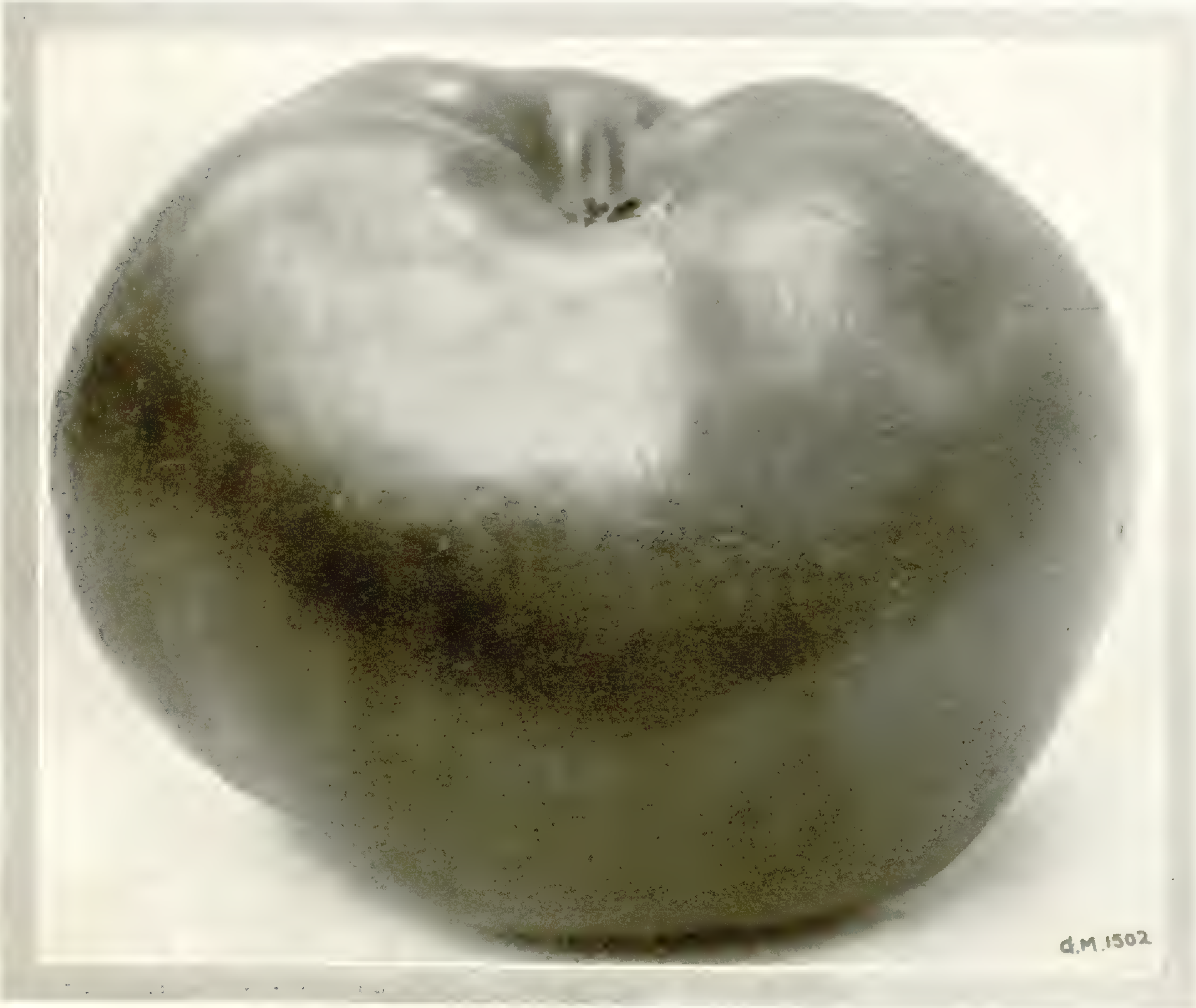
A fine winter-flowering zonal variety with crimson-scarlet flowers; exhibited by Mr. W. H. Page, Tangley Nurseries, Hampton.

Aster Finchley White.—As with all classes of popular plants, the long lists of Michaelmas daisies are very puzzling to anyone wishing to make a selection therefrom. I should not like to guess how many white-flowered forms are to be met with in different catalogues, but I do know that this is one of the best that has come under my observation. —W. T.

TWO GOOD KITCHEN APPLES

Apple Bramley's Seedling.

Beyond knowing that this apple was sent out by Messrs. Merryweather and Son, of Southwell, we appear to know little of its origin, or the date of its introduction. Whatever may have been its origin, I feel well assured it does not belie the advertisement of it, so well known, as being the finest apple upon earth. I for one believe that assertion. Let us consider its many good qualities. There are few situations in which it will not grow; certainly it is at home in a stiff soil, showing not the slightest sign of canker. As a standard it revels in its natural habit of growth, a semi-horizontal form of branch, requires no pruning as a standard, beyond the keeping of the branches thin. Very often the stems are crooked, which seems to be a point in favour as a standard in a wind-exposed site, at any rate in this form the wind does not appear to affect the trees so much. The only fault I find with Bramley's Seedling is that when worked on the free, or seedling, stock it is rather long in coming into bearing, as it grows so vigorously. On the paradise stock no doubt it would be more amenable, and be better suited for a small garden. Whenever I can I recommend it as a standard. Dr. Hogg says the fruit will keep until January; my experience is that it will, under ordinary conditions, keep till May. As a kitchen apple for midseason or late use it has no superior, and so hardy is its constitution that the fruit is not nearly so liable to be infected by scab as many of the softer skinned varieties.



APPLE BRAMLEY'S SEEDLING.

Lane's Prince Albert.

If but three culinary apples were to be grown in any garden this variety must be one of the trio; it has so many points in its favour to warrant its inclusion in so limited a number, and so few against it. Of the latter I would first speak. Perhaps this apple requires more assistance, from a manurial point of view, than any other variety to maintain its growth in a sufficiently free manner to enable the trees to crop to their fullest extent, especially in soil other than a deep sandy loam, which is no doubt quite in keeping with its natural requirements. Some years ago I carried out some manurial experiments with a bush-grown tree of this apple, applying farmyard manure to the roots carefully during the winter, and supplementing this with a surface dressing of Thomson's vine manure directly the fruit was taking its first swelling. The tree grew freely, was quite healthy, gave an annual crop of fruit which grew to a large size, in spite of the heavy crop, which had been thinned judiciously. For field culture this apple succeeds well as a half-standard. This form of training suiting its natural semi-drooping style of growth. As a bush, at times, where growth is not vigorous at the commencement, the branches are liable to be too near the ground. Of course, this fault is aggravated by the heavy crops of fruit the trees bear. A severe thinning of the fruit is a good plan while the trees are young, to encourage more vigorous growth until the foundation of the bush is laid.

For the small grower this apple should be always included, and the trees treated liberally to manure, even at planting time. When once established, either as a bush or as a standard, this variety requires perhaps less pruning than any other owing to the scarcity of new shoots made, when cropping is regular, as it will be when there are apples at all in the neighbourhood. As a culinary apple, from October to the end of March, it contains all the good points required, and for dessert there are many worse, although classed as dessert varieties. For instance, Baumann's Red Reinette. Lane's Prince Albert was raised by Messrs. H. Lane and Son, Berkhamsted, and was introduced by them in 1857.

E. Molyneux.

PARSLEY.

This humble but quite indispensable herb is of very great importance, as it is required all the year round. Common as it is, and humble as it may seem, it has certain idiosyncrasies that baffle even the oldest practitioner. Everyone is more or less familiar with parsley "going off," i.e., when in the most exuberant health and vigour the leaves suddenly turn yellow and droop, and the plants look in a very pitiable condition; they do not exactly die, and after a time they make another feeble attempt to grow, but no good result ever follows, as all the leading roots are dead, and only two or three weak roots spring from the collar of the plants near the surface of the ground.

In my younger days it was always considered prudent to make several sowings of parsley in different positions as far apart as possible in a very large garden, so that if one position or soil did not suit another position or soil might do so. I have adhered to that system as far as possible, and have tried in many ways to ensure a supply of nice green parsley all the year round. We always devote several cold frames to parsley culture, and in some we sow seed and for others we dig up roots from outside beds, and plant them thickly, keeping them well covered up in severe weather. In the spring I have found it a good plan to sow a good supply in 3in. pots, and plant them out as early as possible in March, as plants from this sowing are much in advance of those sown in the open in March. It is a good plan to reserve some of the pot plants until April, for if the weather is very frosty sometimes the newly set out plants do not succeed well. Another good sowing should be made in well-prepared soil at midsummer, which plants are fairly strong and are able to stand the rigours of a moderate winter, and thus produce the earliest supply outside the following spring.

Parsley has "gone off" very badly in our district this year. I heard of one gardener who had a good supply, and I sent to ask him if we could have some roots for our frames, and he replied that we could have a cartload. We were contented with a good wheelbarrow load, and were so very much struck with the wonderful healthiness and robust character of the roots that I felt determined to make a note of it, and send the editor a specimen of a root from this oasis in the parsley desert. The particular bed was sown at midsummer, 1909, on entirely unmanured ground on black shale formation, almost belonging to the coal measures, a specimen of which the editor will see enclosed. The interesting fact about the matter is that where the parsley has done so well is an enlargement to an old garden which at present has not been cultivated, and the parsley in the old cultivated garden hard by has "gone off" very badly.

The lesson seems to be that parsley likes fresh ground, and is not over partial to heavy manuring, as the pasture field out of which the new garden ground was taken is poor and barren. W. M.

Cheshire.

[The plant of parsley sent by our contributor formed a dense mass of finely curled leaves measuring two feet across.—Ed.]

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THE QUINCES.

The quinces are represented in gardens by five species, of which the Common Quince (Cydonia vulgaris) and the Japanese Quince (Cydonia japonica) are the most common. All possess qualifications as ornamental flowering trees or shrubs, as the case may be, whilst the fruit is usually attractive, either in appearance or fragrance. The fruit of at least three species can be used to some extent for culinary purposes, either for flavouring with other fruit, or for jelly making, but it does not appear to be employed for these uses to any great extent. The market value of the fruit is hardly worthy of consideration, for it finds its way into commerce in such irregular quantities that there cannot be said to be any regular supply or demand for it. The seeds of the common quince are, however, used in pharmacy.

From a commercial standpoint the common quince obtains its greatest value from the fact of its forming an excellent stock on which to work pears; trees growing on this stock being considerably dwarfer, and coming into full bearing very many years earlier than those which have been worked on a free-growing pear stock. This, and the ornamental qualities, therefore, form the principal assets of the family. The quinces cannot be said to be very fastidious regarding soil, for they thrive in poor and good loam, though, like other plants, their maximum proportions are attained when a generous rooting medium is provided.

In the following notes attention is directed to the various species and their varieties.

C. cathayensis.—This is the least ornamental of the group, and is rarely met with in gardens. It is a Chinese shrub, but is said not to be common in a wild state. A free and vigorous grower, it forms long rambling branches clothed with lanceolate dark green leaves, and armed with spiny, spurry branchlets. The flowers are a couple of inches across, pale pink, or occasionally almost white, and the fruits are large, three to four inches long, and two to three inches wide. The date of its introduction is not known, but it appears to have been in cultivation in a few gardens for many years.

C. japonica, the Japanese quince, is a native of both China and Japan, and is popular all over England as a wall plant. There is, however, no reason why it should be planted against a wall, more especially in the southern counties, for it is perfectly hardy, and forms large bushes in the open. Some years ago a remarkably fine example was to be seen growing in the gardens of Wimbledon House. This was ten to twelve feet high, and quite twenty feet in diameter, and it flowered with remarkable freedom. It grew on a lawn, and as there was plenty of open space about it the specimen formed a beautiful object. The best results are obtained when they are growing in a border where the root run is restricted, or the soil not of very rich quality, as short-spurred growth is then formed, from which flowers are produced, rather than strong flowerless branches. It stands pruning well, and, in fact, has to be hard pruned when grown against a wall to keep it within bounds. The type with deep red flowers one and a-half inches across is most frequently met with, but there are varieties with white, pink, rose, and yellowish flowers. The fruit differs somewhat in shape, for whilst usually oblong, and two to two and a-half inches in length, it is sometimes apple-shaped and rather flat. The rind also exhibits some difference, for, whilst some have a viscid surface, others are quite dry. They are sometimes used for jelly. Good varieties are camelliæfolia, with semi-double pink flowers; cardinalis, with very deep red blooms; candicans, with white flowers; luteo-viridis, with greenish-yellow blossoms; and flore albo, white. The type is occasionally used for hedges.

C. Maulei.—This Japanese species is usually met with between one and a-half and two and a-half feet in height, forming a rather dense, spreading bush. The flowers are brick red, borne with great freedom, and are succeeded by round fruits, which are yellow when ripe, and very fragrant. These fruits may be used for similar purposes to those of the common quince, and are said to be better flavoured than the fruits of other species. There are several varieties, all of which are useful. Alba has yellowish-white flowers, whilst atrosanguinea, Leichtlini, and superba are remarkable for their large rich red blossoms. One of the three is, however, sufficient to obtain.

APPLE LANE'S PRINCE ALBERT.

C. sinensis, the Chinese quince, was originally described by Thorin, from a tree in the Jardin des Plantes, Paris, and he states that it was introduced into England and Holland during the last decade of the eighteenth century. It, however, appears to have been lost sight of for many years, and it and C. cathayensis were mixed up and thought to be one and the same thing until a ripe fruit was found on a tree in the garden of the late Sir T. Hanbury at La Mortola, by Sir W. T. Thiselton-Dyer, and the history of the two plants was then worked out. C. sinensis is rather tender when grown in the open about London, and it really needs the protection of a wall. The leaves are three to four inches long, ovate, and considerably paler in colour than those of the Japanese quince. The flowers are pink, about one and a-half inches in diameter, and are succeeded by fruits, which, when mature, are from five to six inches in length, and deep yellow in colour. These fruits are credited with being of use for preserves, and for mixing with apples for tarts.

C. vulgaris, the common quince, is met with in gardens and orchards in many parts of the country. About its origin a great deal of uncertainty prevails, but it has been suggested that it was probably found wild in the Caucasian provinces, Persia, and Asia Minor. It has, however, been cultivated from time immemorial, and in old books a number of wonderful tales are ascribed to it, amongst them the one that it was the quince with which Eve tempted Adam. Medicinal properties are ascribed to it, and in Bentley and Trimen's "Medicinal Plants," vol. ii., No. 106, it is stated that "the seeds are used medicinally on account of the mucilage, which possesses emollient and demulcent properties." "In this country it is used externally in the form of a decoction, as a demulcent in skin diseases, affections of the eye, erysipelas, and other cases where mucilaginous applications are useful." The same work adds: "Quince seeds are highly valued by the Mahommedans in India and all over the East as a demulcent tonic and restorative. Europeans have also employed them with success in dysentery. The mucilage of quince seeds is one of the substances used by hairdressers under the name of bandoline, for dressing the hair." Under cultivation the common quince is met with as a tree from fifteen to twenty feet in height. The flowers are pink, or sometimes almost white, and are large and showy. The fruits ripen during the latter end of September and early part of October. Early in their development they are covered with a dense pubescence, but much falls off before they ripen. When ripe they are golden in colour, and very fragrant. On different trees a difference in shape may be noticed, for some trees bear pear-shaped fruits, whilst others more closely resemble an apple in outline. This has resulted in the terms pyriformis and maliformis being applied to the two kinds.

W. D.

NEW PLANTS, ETC.

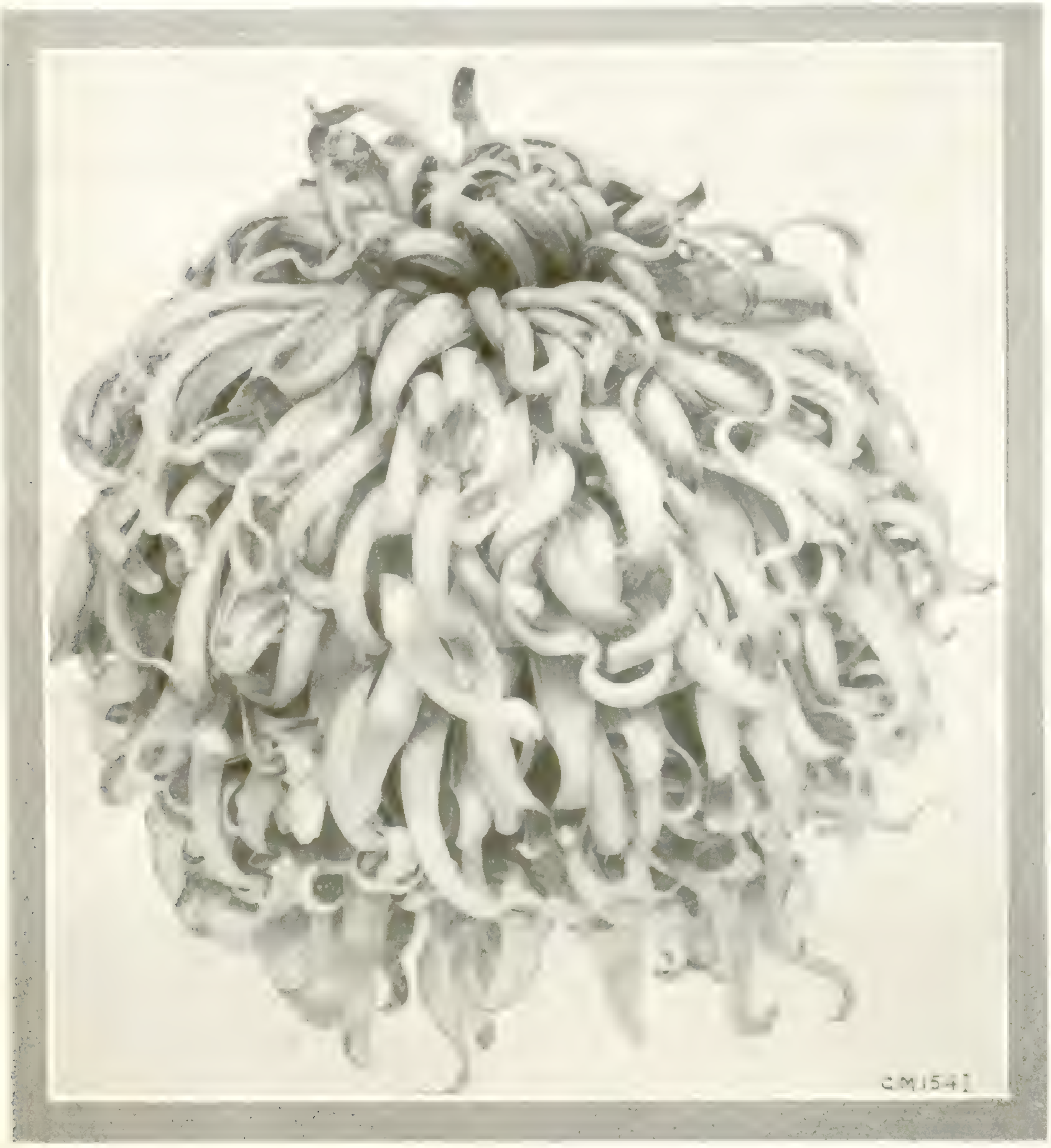
◆

CHRYSANTHEMUMS.

Crimson Jewel.—A very handsome variety with flowers of large size, semi-double, or, say, like a single with about five rows of florets. The rich crimson-chestnut colouring, with tips and margins of gold, is most attractive. F.C.C. (as a semi-double decorative). November 21; A.M., R.H.S., November 22. Messrs. W. Wells and Co., Merstham.

Golden King.—A large incurved variety, a trifle rough, as shown, but evidently capable of being dressed into a striking flower. It makes a full solid bloom, with pointed florets. Commendation, N.C.S., November 21; Messrs. Wells and Co., Merstham.

Sandown Radiance.—A brilliant single of vivid crimson-scarlet colour. It is not quite so even in outline as some of the newer large-flowered sorts, but its size and colour will make it popular. F.C.C., N.C.S., November 21; A.M., R.H.S., November 22. Messrs. W. Wells and Co., Merstham.



CHRYSANTHEMUM D. B. CRANE.
A fine Japanese variety, golden-buff, shaded with chestnut-red. A.M., R.H.S., Nov. 22. Mr. Martin Silsbury, Shanklin, Isle of Wight.

William Turner.—A grand pure white incurved Japanese variety of finest exhibition size. The flowers are very solid, composed of broad curling and incurving florets. F.C.C., N.C.S., November 21; A.M., R.H.S., November 22. Messrs. W. Wells and Co., Merstham.

Colonel E. C. Converse. — A Japanese variety with broad incurving florets, the tips incurving very decidedly. The colour is deep rosy-red, with nankeen reverse. F.C.C., N.C.S., November 21; Messrs. W. Wells and Co., Merstham.

Mrs. W. Powell.—A fine market Japanese variety of a beautiful soft yellow shade. The flowers are of good size and elegant form, the florets drooping prettily. F.C.C., N.C.S., November 21; Mr. H. W. Thorp, Worthing.

Thorp's Beauty.—A splendid deep Japanese variety with moderately broad petals of a bright rosy-red shade with a bright buff reverse. One of the largest of the new exhibition Japanese varieties. F.C.C., N.C.S., November 21; Mr. H. W. Thorp, Worthing.

Phyllis Bryant. — A single variety with rather broad but pointed florets. It bears its flowers freely in good sprays, and is of a pretty soft yellow shade. Commendation, N.C.S., November 21; Mr. Philip Ladds, Swanley Junction.

Mrs. W. Higgs.—A big single variety raised by Mr. W. Higgs. The florets are very broad and regular, and there are two or three rows of them, closely and evenly set. The colour is soft rosy lilac. F.C.C., N.C.S., November 21; Mr. Philip Ladds, Swanley Junction.

Ivy Gay.—A very useful market variety belonging to the incurved section. It is a good grower, and carries solid silvery-pink flowers on good stems. F.C.C., N.C.S., November 21; Mr. Philip Ladds.

Queenie Chandler. — A lovely and refined Japanese variety with very gracefully drooping florets, the lower ones being narrower than the upper ones, and prettily and loosely twisted. The colour is soft primrose-yellow. F.C.C., N.C.S., November 21. Mr. Martin Silsbury, Shanklin, Isle of Wight.

Fred Green.—A grand exhibition Japanese variety with very broad, evenly disposed, drooping florets of a very bright and rich amaranth-purple shade. F.C.C., N.C.S., November 21. Mr. Martin Silsbury, Shanklin, Isle of Wight.

Harry Mann. — A large broad-petalled Japanese variety; the colour is bright chestnut with buff reverse. Commendation, November 21; Mr. G. Mileham, Leatherhead.

Peter Plant.—A large-flowered single, very free, but with rather slender stems. The broad, rich rosy-pink florets recurve slightly. Commendation, N.C.S., November 21; A.M., R.H.S., November 22. Mr. L. Lawrence, Shoreham.

Pink Delight.—A charming single variety of medium size. The flowers are of good shape, and borne freely in elegant sprays. The colour is bright rose-pink, with pale zone round the eye; very effective. F.C.C., N.C.S., November 21; Mr. L. Lawrence, Shoreham.

D. B. Crane.—A splendid Japanese chrysanthemum of fine exhibition size, and yet making a refined bloom. The petals droop gracefully, and are loosely curled; the colour is rich golden-buff, shaded with chestnut-red. A.M., R.H.S., November 22. Mr. Martin Silsbury, Shanklin, Isle of Wight.

Mrs. Foot.—A large reddish-purple single variety, with a white ring round the dull yellow centre. A.M., R.H.S., November 22. Mr. L. Lawrence, Shoreham.

Strawberry.—A beautiful and free-flowering single variety, with the general form and character of the popular Mary Richardson. The colour is bright fawn-red, set off by a bright yellow centre. A.M., R.H.S., November 22. Messrs. G. Williams and Son, Cardiff.

Ernest G. Mocatta.—A beautiful Japanese chrysanthemum, with broad, regular, and gracefully drooping florets that make up a refined flower of good size. The colour is soft yellow, with paler reverse. This variety is a sport from Edith Jamieson. A.M., R.H.S., November 22. Mr. T. Stevenson, Woburn Place Gardens, Addlestone.

Ethel Thorp.—A very large variety that will no doubt have to be classed as an incurved; it will need a good deal of dressing, but in the hands of a skilful grower and exhibitor it will no doubt make a useful addition to the show board. The colour is deep silvery-rose. A.M., R.H.S., November 22. Mr. H. W. Thorp, Worthing.

Brightness.—A large single variety of crimson or rich chestnut-red colour, with a whitish ring round the centre. A.M., R.H.S., November 22. Messrs. G. Williams and Son, Cardiff.

CATTLEYA LUCIDA.

A very free-flowering hybrid from C. Bowringiana and C. Schilleriana. It grows well, and bears its flowers in a closely-set spike. Each flower is of fair size, and of magenta colouring, with a light rosy-mauve edging round the flattish lip. A.M., R.H.S., November 22. Samuel Larkin, Esq. (gardener, Mr. Hale), Haslemere.

CYPRIPEDIUM MINOTAUR.

This is a magnificent hybrid, with a wonderful pedigree. It has a large, rounded, and very broad dorsal sepal, with a small green base, and a median band and some spots of rich red-purple. The petals and lip are green and rich brown. The parentage set out is as follows:

C. Minotaur	C. Minnie	C. nitens	C. villosum C. insigne Maulei
		C. Leeanum	C. insigne C. Spicerianum
	C. Euryades	C. Boxalli	
		C. Leeanum	C. insigne C. Spicerianum

It is interesting to notice that only four distinct species have entered into the composition of the new flower, i.e., C. villosum, C. insigne, C. Spicerianum, and C. Boxalli, the latter coming in as a grandparent. This fine cypripedium was figured on p. 931. F.C.C., R.H.S., November 22. Lieut.-Colonel Sir G. Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

CYPRIPEDIUM IOLANTHE.

A handsome and bold hybrid derived from C. insigne Sanderæ and C. Euryades. The round white dorsal sepal has a green base and some rather large purple spots all over the central area. The petals and lip are green, heavily shaded with bright brown. A.M., R.H.S., November 22. Messrs. James Veitch and Sons, Chelsea.

CYPRIPEDIUM CHARLESWORTHI TEMERAIRE.

A remarkable variety of a now well known species. It differs from the type in having an unusually large dorsal sepal that is wavy, and is bluntly pointed at the apex. The colour of this segment is deep and bright rose, with darker veining. The petals and lip are of the usual greenish-brown colour. F.C.C., R.H.S., November 22. Messrs. Sander and Sons, St. Albans.

VANDA CÆRULEA SANDERÆ.

A remarkable and very distinct variety of the well-known blue-flowered vanda, but instead of the flowers being blue they are light rose coloured, the colour being deepest on the petals, while the lip is dark rose-red. A most novel and striking variation from the type, and probably an unique plant. F.C.C., R.H.S., November 22. Messrs. Sander and Sons, St. Albans.

SOPHRO-CAT.-LÆLIA ALTHÆA.

This handsome orchid is derived from Cattleya Percivaliana and Sophro-lælia Gratrixiæ. The plant is a good grower, and carries flowers of good size. The petals are carmine, flushed with salmon-buff, and the sepals are salmon coloured, while the frilled lip is purple and gold. A.M., R.H.S., November 22. H. S. Goodson, Esq. (gardener, Mr. Day), Fairlawn, Putney.

RHODODENDRON UNGERNI.

This species comes from the Southern Caucasus, and bears a large corymb, or truss, of campanulate pale rose flowers. Whether the plant is perfectly hardy has not yet been determined, but probably it is. At Kew it flowers but rarely. "Bot. Mag.," t. 8,332.

CHIRITA RUPESTRIS.

An interesting and pretty gesneraceous plant, found by Mr. C. Curtis when exploring the Lankawi Islands. Under cultivation it needs moist tropical conditions, and then becomes a bushy plant 2ft. high, that produces blue yellow-blotched flowers freely during the autumn. It is of annual duration. "Bot. Mag.," t. 8,333.

TRISTELLATEIA AUSTRALIS.

A climbing tropical shrub, with pendulous racemes of yellow flowers with red anthers. The flowers are regular, with five broad-lombed segments, and are about an inch and a-half across. The species is found near the sea coast, along the Malay and Australasia. "Bot. Mag.," t. 8,334.

MICROMELES CALONEURA.

This quite hardy tree promises to become popular in gardens. It is closely related to the thorns, and it bears whitish flowers, each a quarter of an inch across, in many-flowered corymbs, on short twigs, and these, with their purple anthers, are very attractive. The flowers are followed by brownish, white-dotted fruits. The strongly-veined and serrately margined leaves are of rich green colour. "Bot. Mag.," t. 8,335.

ALECTORURUS YEDOENSIS.

This graceful liliaceous plant is a member of the asphodel group, and a native of Japan. The plant is a hardy perennial, with long narrow leaves and a tall branching spike a yard or so high. The rosy flowers are more or less pendant along the branches of the inflorescence, and they are dimorphic, some plants bearing short-staminate and others long-staminate blossoms. July is the flowering season, but it does not appear to flower freely. "Bot. Mag.," t. 8,336.

Jasminum grandiflorum. — A deliciously fragrant jasmine, and a most desirable greenhouse climber is this Himalayan species. It is not much grown in this country, though it is often met with on the Continent, and in the warmer parts of Italy and Spain it is largely grown for the sake of the scent obtained from the flowers. Treated as a greenhouse climber it will flower throughout the latter part of the summer and well on into the autumn. Its nearest affinity is with the common hardy jasmine (J. officinale), but it is of a more straggling style of growth, while the flowers are considerably larger, and have a reddish tinge on the exterior. As a roof plant it does not keep much light from the subjects underneath.—W. T.

HARDY PLANT CHAT.

Adonis amurensis.

Owners of slug-infested gardens are cautioned lest they forget that the Amoor adonis is liable to attack from these pests, and that some precaution is desirable if they are to retain their plants of this lovely flower, which gains immensely, in our estimation, from the fact that it blooms very early in the season, sometimes in February. I question, however, if the slug is the sole cause of the losses which occur among plants of this beautiful early adonis. Our winters are so full of changes that a plant which, from what we know of its native regions, is dormant in winter, and then comes on quickly when the weather gives it a settled spring, cannot but suffer from the premature hurrying into growth we frequently have in our winters, followed by keen frosts unaccompanied by snow. It is impossible for us to give this adonis any other conditions in our climate, but we may do something to keep it back, and thus prevent it from being so liable to injury. Planting in shade retards it, and, therefore, gives it less chance of suffering. We naturally wish to have A. amurensis as early as possible, but by putting it in sun we render it more liable to injury by the sun striking upon it when covered with white frost. But slugs ought to be guarded against, and nothing equals the old precaution of a ring about the plant, although one of fine brass gauze is even more effectual than a zinc one. If the latter is notched along the edges it is a great barrier to the vaulting ambitions of the gastropod.

Primula pulverulenta.

To admirers of the Japanese primrose (Primula japonica) it seemed, a while ago, as if nothing of the same class could rival that fine plant. But the advent of P. pulverulenta has shaken this conviction, and when we secure varieties of pulverulenta with the same shades of colour as in P. japonica we shall probably find the latter largely superseded by its more imposing relative. Taller, and more effective because of this, P. pulverulenta is very handsome, with its farina-covered stems and leaves, and its noble spikes of whorled flowers of crimson with golden centres. Like P. japonica, it prefers moisture, and a plant put by way of experiment into a dry border, has failed to do credit to the species, and has looked unhappy, compared with others in moist borders and corners. Where a dry place is the only one available, shade, or partial shade, will be beneficial, but in moisture the flowers are brilliant when in full sunshine. For planting by a

CHRYSANTHEMUM SANDOWN RADIANCE.

A handsome single variety with elegant crimson-scarlet flowers. F.C.C., N.C.S., Nov. 21. A.M., R.H.S., Nov. 22. Messrs. W. Wells and Co., Merstham.

rivulet or a little pond this primrose is grand indeed.

Œnothera Michael Cuthbertson.

This is sometimes catalogued as W. Cuthbertson, but it was first named M., or Michael, Cuthbertson, for an all-sufficient reason. This is that it was raised and distributed by Mr. Michael Cuthbertson, of Rothesay, and my friend, Mr. W. Cuthbertson, who is entitled to all honour for his great work among flowers, would be the first to acknowledge that "Honour should be given to whom honour is due." It is a semi-double variety, but is much superior to the old Œ. Youngi plena, being more vigorous, and also a much prettier colour. It takes after the style of Œ. fruticosa Fraseri, and gives in summer a supply of golden-yellow flowers, almost double, with crimson buds, and the appearance of the plant when in bloom, with open flowers of gold and buds of crimson, is very pretty indeed. The foliage is bronze in autumn, and this border plant, about two feet high, is thus an acquisition to the garden.

Orchis foliosa.

Why is this fine plant so expensive after being so long in cultivation? This is a question which occurs to us, as we see good clumps in some gardens, and apparently there this leafy orchis from Madeira increases in a satisfactory manner. But in other gardens we find that it is less free, and that there a single plant may remain without affording any offsets for years. It would be an assistance to many could we arrive at the precise cause of this discrepancy between the experiences of cultivators of this fine plant, which is the best of the orchises. It does not appear to be a question of moisture alone, as I know of gardens in which it increases well, but where there is no special supply of moisture even better than in some where it is in moister places. So far as my observation goes, it likes a good and well-manured loam better than the peaty soil we are apt to associate with the orchises. I am not at present aware of its natural conditions, but even these would hardly help us much, as the rainfall and the temperature of Madeira are vastly different from ours, and these are factors which cannot be ignored in the cultivation of exotic plants. Whether we possess a small plant or a large one, we must all admire this handsome orchis, with its fine broad leaves, and its nice spike of fine purple flowers.

Orobus aurantiacus.

Botanists, in their natural desire for accurate classification, have abolished the name of orobus from their genera, and have divided the plants we knew by that name between the lathyruses and the vicias. In this distribution we find that Orobus aurantiacus, or aurantia, has now to be called Vicia aurantia. Long usage, however, has so sanctioned the name of orobus that most catalogues retain it, and so we find that O. aurantiacus is to be found in the trade lists. This is quite convenient for gardening purposes, and I am therefore retaining it in this note. It is a plant which is frequently described as having "old gold" flowers. This partially describes the colouring, which is also occasionally called "orange." I do not think that anyone can say it is a showy plant, but it is a pretty one, with its pea-like blooms, in June, and its neat foliage. The plant is about eighteen inches high, and thrives in practically any soil.

S. Arnott.

THE LANGPORT NURSERIES.

He would proclaim himself an absolute ignoramus in horticultural matters who confessed that the name of Kelway, of Langport, was new to him, for surely it would be impossible for anyone to spend a single season among horticulturists, professional or amateur, without learning something of the great work that has been accomplished at Langport, and of the many choice delphiniums, pæonies, gladioli, and other good things that have been raised and introduced to gardens by the Messrs. Kelway. The name is, indeed, of world-wide renown, and every gardener knows so well how much richer our gardens are to-day by reason of Kelway introductions that it would be but retailing stale news for us to dwell upon that subject.

A brief account, however, of what we saw on the occasion of a recent visit to the extensive nurseries will, we believe, be of interest to our readers, particularly those—now a goodly number—who live in distant lands, and have no opportunity of visiting the great horticultural establishments of Britain. Langport is a quiet little Somersetshire town, situated about midway between Yeovil and Taunton, and the soil and climate are admirably suited for the cultivation of hardy plants. Until recent years the nurseries might have been described as off the beaten track, beyond the reach of smoke and dirt; but since the advent of the motor-car this paradise of peace has suffered in common with many another, and the roadside hedges that were so fresh and green are now sadly marred by the dust churned up by an almost constant stream of hurrying motor traffic. As one approaches from the direction of the railway station a glimpse of one part of the home nursery reveals something of the treat that is in store, for there are great beds of brilliant flowers and a number of fine ornamental shrubs within sight of the road. The offices face the entrance gate, but stand some distance back from the road, the space on either side of the walk being laid out in an attractive manner.

The great feature of the home nursery is the fine example of a colour-scheme border, which, as everyone knows, Messrs. Kelway have made a special study. This border is of great length, and considerable space is given to flowers of one separate colour, the grouping being so skilfully arranged that there is a continuous succession of flowers in each colour from spring to late autumn, and the blending or contrasting of colours throughout the whole border bears testimony to the work of a true artist as well as a skilled plantsman. One has but to set oneself the task of selecting, say, a series of scarlet-flowered plants that will grow together and maintain an effective display throughout spring, summer, and autumn to realise what a vast amount of care and thought Messrs. Kelway must have bestowed upon their scheme, which runs through the whole gamut of colours from pure white to richest crimson, orange, and blue. They set themselves a high ideal, and have so well achieved their object that a Kelway border, seen at any time from March to October, is a mass of beautifully-mingled colours, bold and striking in effect, furnishing innumerable gems for close inspection, and an abundance of flowers for cutting. One is impressed here, if never before, with the inexhaustible store of beauty and usefulness that is to be found in hardy herbaceous plants.

Passing through the nursery, the walks of which are all cemented, therefore comfortable to walk upon in any weather, one soon discovers that here is a veritable plant factory, where everything really worth having in the way of hardy perennials is produced in thousands. A few things noted in passing were Œnothera speciosum album, Aconitum lycoctonum, Platycodon grandiflorum, Romneya Coulteri, Zauschneria californica, and, indeed, one might compile a huge catalogue of the good things hereabout. A capital phlox, which is a Kelway introduction, is White Lady, growing about 18in. to 2ft., and producing grand trusses of purest white flowers. Astilbe Davidii was carrying plumes of richly-coloured flowers, and near by helianthemums and potentillas were still ablaze with colour. About twenty acres of pæonies are grown, five acres being planted under fruit trees, and it is found that the partial shade not only lengthens the life of the blossoms, but also improves the colours. A field of pyrethrums in their second bloom was very fine, the single variety, James Kelway, being conspicuous among the richest colours. It is hard to beat.

Leaving the home nursery, we had a look in at England's Fields—a big addition to the original ground upon which the firm was started. Here were great breadths of gladioli spawn, young delphiniums, pæonies, and other general stock; and in Barrymoor Fields, near by, were the beds of pæonies which furnish blooms for exhibition, and an enormous quantity of gladioli in full bloom. It would be difficult to name even the cream of the collection, but a few noticed as of special merit were Queen Mary (white), Limburg (pink and white, with a yellow blotch), Beatrice Kelway (bright pink), King of Gladioli (orange-scarlet), and Huish Tower, an enormous cerise flower. Mention must also be made of a new race of hybrids which Messrs. Kelway have produced by crossing G. primulinus with G. gandavensis. Some lovely things have been obtained from these crosses, but they are not yet to be put in commerce. One particularly striking variety was carrying a spike of great length, the flowers being flame colour suffused with golden-yellow. It is a great acquisition. In what goes by the name of the Allotments were still more gladioli, and big breadths of sweet peas for seed, the latter being particularly true stocks.

Still another large nursery is occupied in close proximity to the famous old church of Huish Episcopii. The fine old tower stands in full view, and the surrounding country is exceedingly fine. It is through this nursery that the Great Western Railway cut their way when making the new line for the Plymouth express, and passengers in passing trains get a fine view of the masses of gladioli, pæonies, and delphiniums that bloom in their respective seasons.

Harking back to the home nursery, we had a hurried peep into the glass houses. Some forty-five houses, of an average length of 50ft., were occupied by such things as begonias, calceolarias, cinerarias, and primulas for seed, tomatoes, cucumbers, and melons being largely grown for the same purpose. There are two great seed stores, four-storied buildings of very large capacity, an inspection of which suffices to convince one that Messrs. Kelway's seed business is even greater and more important than their nursery business. Near by the seed stores stands the gladioli and bulb store, another building of substantial proportions, where the great quantities of bulbs are cleaned, stored, and drawn upon to supply the great demand from this and foreign countries. The nursery staff, independent of the staff employed on the seed farms, numbers well over a hundred hands, and one noticed how smoothly and methodically the whole work of this busy place was progressing. There were labour-saving appliances of various kinds in evidence, as it is imperative in a place of this kind that there shall be no waste of valuable time and labour. The water supply is maintained by the aid of a lofty windmill, and most of the propagation is carried on by the aid of about two thousand pyramidal handlights. Everywhere it was apparent that here is a vast, well-organised business that is of immense importance to the immediate neighbourhood, as well as to British horticulture.

For pretty gardens and lovely flowers read The Flower Garden, by T. W. Sanders, F.L.S. An up-to-date work on the formation, planting, and management of the garden, with description and cultivation of flowers and plants adapted for outdoor culture. Price 7s. 6d. net, by post, in box, 8s., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

"CROWN-GALL" DISEASE IN ENGLAND.

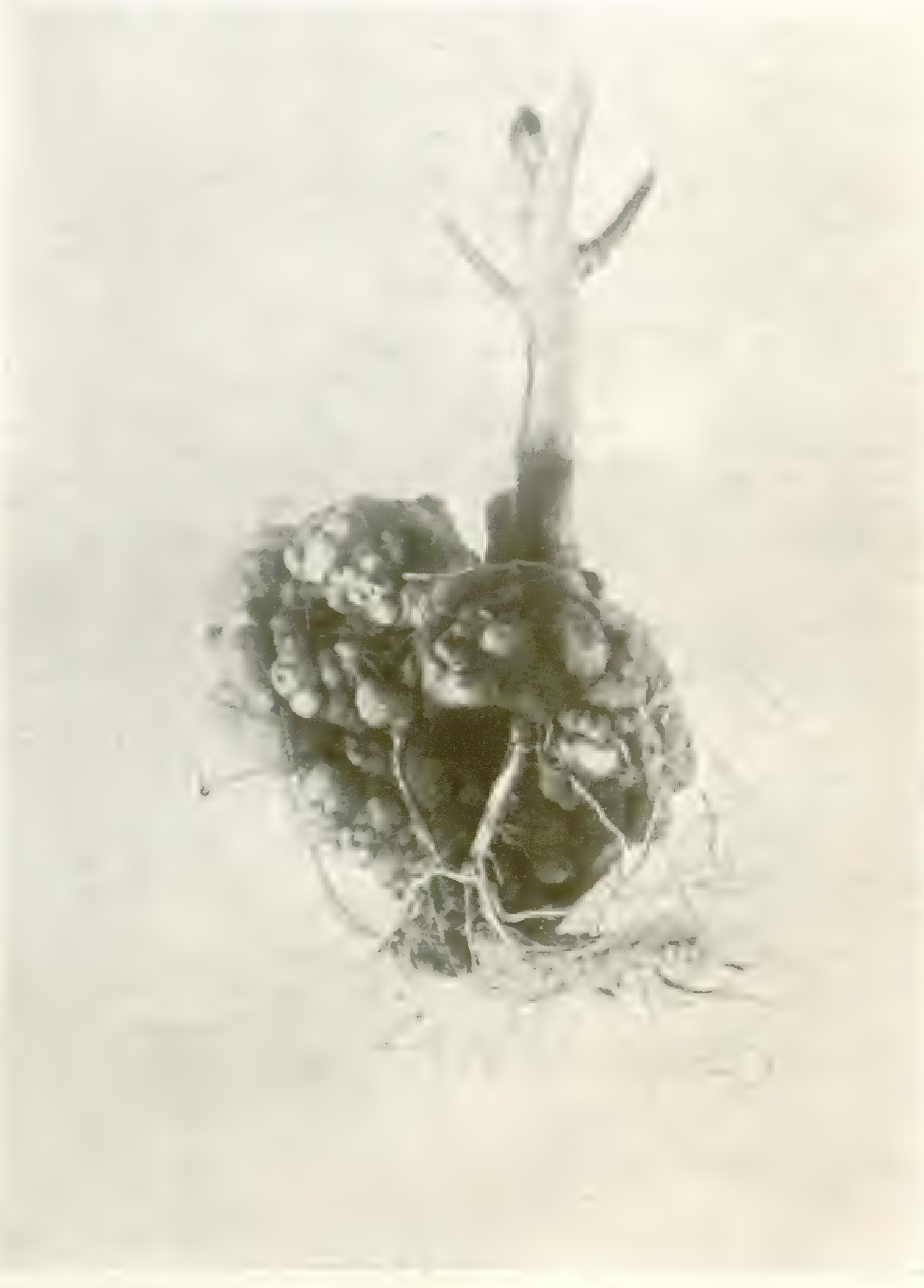
During the present season, examples of plum, rose, raspberry, and chrysanthemum plants have been received at Kew for investigation, each bearing irregularly globose, nodulose galls or swellings originating from the crown or collar region of the stem. The galls varied in size from a pea to that of a cricket ball, and one gall at the base of a rose stem measured seven inches in diameter. Small galls were in some examples also present on the branches of the root. Most of the galls were in an exolete or woody condition, and gave no indication of the true cause of their formation. Mycelium was present in some instances in the dead tissues, and various conidial conditions of fungi were not uncommon in the crannies present on the surface, but nothing of a nature that suggested, from analogy, an organism capable of inducing the formation of a gall.

It was not until a batch of Chrysanthemum frutescens, L., having the base of the stems covered with large excrescences, was examined, that the true nature of the gall was discovered. This proved to be the well-known and very destructive disease called "crown-gall" in the United States. The galls are caused by Dendrophagus globosus, Toumey, one of the Myxogastres, allied to Plasmodiophora brassicæ, Woronin, the cause of "finger-and-toe" or "anbury" on the roots of many cruciferous plants. When a section of a gall in active growth is examined under the microscope, strands of plasmodium are seen permeating the tissues of the gall in every direction. Eventually the plasmodium concentrates in the peripheral cells forming the gall, and from thence passes on to its free surface, where numerous minute, globose, yellow sporangia or fruit-bodies are formed. If a gall containing the organism in an active, or swarming condition is allowed to dry, the plasmodium concentrates into compact masses, and passes into a resting condition. On the application of moisture these resting massses of plasmodium gradually expand and assume an active condition, moving from cell to cell through the wall-pits, and consuming the contents of the cells. "Crown-gall" is considered as a very serious disease in the United States. Hundreds of thousands of fruit trees have been killed by it when growing in the best soil, and with the best treatment. The subject has been very carefully worked out by Toumey who describes the galls as occurring on the following trees: Peach, apricot, almond, prune, plum, apple, pear, English walnut and grape, cherry, poplar, chestnut, raspberry, and blackberry.

Seedlings from one to six months old are most susceptible to the disease. The galls appear in the region of the collar or on the larger roots. A gall commences growth as a very minute, smooth, colourless, wart-like body, often attached to the stem or root by a narrow neck. Growth is rapid, and the surface of the gall becomes nodulose or warted, and darkens in colour. The galls usually decay at the end of one season's growth, and leave an open wound which extends for some distance into the wood. The following spring gall formation commences round the margin of the wound formed the previous season. These galls perish in turn, and the process is repeated each season, resulting in a large, deep wound. When two or three galls are produced on different sides of the stem, it becomes so weakened that the tree breaks off at the injured joint.

Toumey has proved that the disease is of a contagious nature. Healthy seedlings planted in soil mixed with sliced galls contracted the disease, as did also healthy trees planted in proximity to diseased ones.

Since the investigations of Toumey were published, Messrs. Erwin F. Smith and E. V. Townsend have devoted a considerable amount of attention to the origin and cause of "crown-gall," and have come to the conclusion that the primary cause of these outgrowths is a Bacterium, B. tumefaciens, a species not previously described, and that Toumey's Myxogaster is but a secondary agent. It seems quite certain that the galls investigated by Toumey and by Smith and Townsend are identical in origin. It is also quite certain that the "crown-galls" met with in England exhibit the Dendrophagus described by Toumey, and that in these no trace has yet been met with of B. tumefaciens, as described by Smith and Townsend in Centralbl. f. Bakt. Parasit. u. Infektionskr., xx., p. 89 (1907).



"CROWN-GALL" DISEASE IN ROSES.
(By permission of the Controller of His Majesty's Stationery Office.)

From the economic standpoint, however, this variation in the experience of different workers does not materially affect the problem. It is not open to dispute that "crown-gall" is caused by the presence of a living organism. It is therefore possible to formulate definite preventive measures. Further, it is admitted by all who have investigated the subject that the affection, whatever its precise cause, is contagious. Nurserymen and fruit growers will on this account doubtless be glad to adopt such measures as are required to prevent the wholesale dispersion of the disease.

The diseases "crown gall" is probably not new to this country, nor to other European countries, as descriptions of galls corresponding in appearance and position on the host-plant with "crown-gall" are described in works on plant pathology. Sorauer, who made some observations on such galls in Germany, noticed that they were much more frequent in some nurseries than in others, which indicated a parasitic origin, but not succeeding in finding the parasite, he considered such galls as probably the result of mechanical injury or some physiological disturbance. We have at present no knowledge of the relative frequency of "crown-gall" in this country. The galls are formed just underground, and thus escape observation, and those galls that have been observed from time to time have had their origin attributed to other than the true cause, and have not been considered as the symptom of a dangerous disease.

"Crown-gall" is most destructive to nursery stock, as the disease spreads rapidly along the rows, killing a large number of the seedlings outright. The widespread dissemination of the disease in the United States is attributed to the wholesale distribution of infected stock from nurseries, also to the carelessness of orchardists in not dealing promptly with diseased material. In the case of older trees becoming infected, the galls may continue to be produced for many years, the tree living on, but making less growth and producing less fruit, and of an inferior kind to that of a healthy tree. It is estimated that $1,000,000, possibly much more, are lost annually in the fruit-growing regions of the United States through this disease.

When trees are not badly diseased, Toumey found that by removing the galls and covering the wounds made with a paste composed of one part of sulphate of iron, two parts of sulphate of copper, and three parts of quick lime, the further development of the gall was frequently arrested. On the other hand, the most economical course is to remove and burn trees that are at all badly diseased, as they not only constitute centres of infection, from which the disease spreads rapidly through the soil to adjacent trees, but such trees, though they may continue to live for years, never produce a crop equal in either quantity or quality to that produced by a healthy tree.

Quick-lime should be worked into the soil in orchards known to be infected. Finally, nursery stock should be examined critically before it is planted.

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NATIONAL HORTICULTURAL SOCIETY OF FRANCE.

This famous French Horticultural Society, which occupies in France the same position as the R.H.S. does in England, was founded in 1855. M. Viger, formerly Minister of Agriculture, is the president. It was under the auspices of this society that the recent International Exhibition and Chrysanthemum Congress was held in Paris. Twice a year the society holds, on a splendid site in the Cours-la-Reine, a spring and an autumn exhibition, besides smaller shows for dahlias, roses, gladiolus, etc., at other periods, which take place in the society's hall in the Rue de Grenelle. The big spring and autumn shows are each visited by about 100,000 visitors. On the first Sunday during the recent chrysanthemum show about 35,000 persons passed through the turnstiles. Both these shows are open for ten days, Sundays included. The library of the society, unequalled in Europe, has about 15,000 volumes, most carefully classified, and of which there is an excellent catalogue compiled by the librarian, M. Geo. Gibault, an eminent authority on horticultural literature. Fortnightly meetings are held, at which papers are read on various subjects of interest relating to the practical and scientific phases of gardening. Much of the work is done by sub-committees, there being thirteen in all. The chief of these are the Scientific, Pomological, Kitchen Gardening, Floral, Orchid, Rose, and Chrysanthemum Committees.

Awards are made to gardeners for long and faithful service to their employers, and scholarships are awarded to young gardeners. The annual expenditure in this respect amounts to 30,000 francs. The annual subscription for ordinary members is 20 francs (16s.) per annum, which can be commuted for a lump sum of 250 francs (£10). There are also various other grades of membership, such as life members, honorary members, corresponding members, etc. Altogether the roll numbers at the present moment 4,536 members.

Lilium nepalense.—This, one of the most distinct of lilies, is essentially an autumn flowering kind. Though previously referred to by botanists, it was quite unknown in this country till imported and flowered by Messrs. Low just 22 years ago. It is of rather tall, spare growth, with the lower portion of the stem particularly firm in texture. The drooping flowers are recurved in a very graceful manner, the upper part of the segments being greenish-yellow, and the basal portion deep purple, thus forming, as it were, a purple centre to the flower. This lily is a native of Burmah, and needs greenhouse culture.—W. T.

GRAPES AND HOW TO GROW THEM.—An illustrated guide to propagation, culture, and management in vineries, greenhouses, and in the open air. By J. Landell, F.R.H.S. Price 1s. net, by post 1s. 2d.; cloth, 1s 6d., by post 1s. 8d., from W. H. and L Collingridge, 148 and 149, Aldersgate Street, London

FRUIT TREES AND SPRING FROSTS.

(Concluded from page 912.)

Theoretically there are two reasons why quick thawing should cause injury to the plant:

Firstly: In the changing of solid ice into water, heat must be absorbed from somewhere, and some of it obviously should come from the more deeply placed plant cells, so that, cold before, they become even colder then.

Secondly: It is impossible that the cell wall can on the instant suck up the great masses of suddenly formed water from the thawed ice, which means that the water remains in the intercellular spaces, is evaporated into the open air and lost before it can be taken back into the plant cell.

A point to be considered is the temperature at which ice is formed in the plant.

It does not begin at the ordinary freezing point of water, i.e., at a temperature of O°C, but usually at some degree lower. The freezing point of cell sap varies with its composition, but is always below O°C. Muller-Thurgau and others have shown that the sap is cooled down below its freezing point before ice is formed, i.e., a super-cooling or under-cooling occurs. When this occurs the ice forms suddenly, and is accompanied by a rise of temperature.

In the grape, for example, under-cooling took place till a temperature of minus 7 degrees centigrade was reached, and then ice formed and the temperature rose to minus 3 degrees centigrade.

Apples and pears were cooled to—2°C or —5°C before ice formed suddenly at —14°C to —1.9°C.

Experiments carried out by Professor Sarauer on fruit trees show generally that as a result of frosts a browning of the protoplasm takes place. The cell wall was not discoloured, as a rule, and the damage was most apparent in cells with rich, sappy contents.

It is very difficult to avoid confusing damage by frost with damage from other causes. For example, while experimenting with Morello cherries, and before freezing the twig artificially, I opened some apparently healthy buds, and in many cases found that the centres were already turning brown or black. Now this is a symptom almost invariably attributed to frost, but in the case described it could not be due to it, since we had experienced no frost for some time previously. On microscopical examination the tissue proved to be full of fungus threads, and no doubt the blackening was due to the fungus. This shows how easily wrong conclusions may be drawn concerning the matter.

As regards the effect of the wind, one or two points may be mentioned. The shaking of the branches and the quick passage of air promotes loss of water, and creates a tendency for the leaf to dry up, thus we often notice dried up leaves hanging on the branches after a great wind. The same drying up effect is seen, although to a lesser extent, in a browning round the margins of the leaves.

According to Hansen, the wind, like frost in this respect, does not directly cause the leaf to wither, but causes a similar drying up of the protoplasm of the leaf cells. He also describes a similar appearance to that produced by frost. Professor Sorauer, in his "Handbook der Planzen-Krankheiten," mentioned that protection against raw spring winds is often more necessary than against frosts.

He mentioned a case in which young rhubarb leaves were frozen and slowly thawed, only those leaves which had met with the wind were injured. Portions of rose bushes also which were in a protected place were unharmed after a frost, whereas other portions to which the wind had free access were destroyed. The wind may also interfere with the normal distribution of the sap in the plant. It may also do harm by blowing away snow which would otherwise cover up and protect plants in periods of cold.

It is obviously desirable to have an accurate knowledge of all available facts with regard to the action of frost, and the actual changes of temperature that occur, and investigations and collection of information on the following points are being carried on at Wye College.

1.—The changes of temperature that occur in plantations between sunrise and sunset.

2.—The distribution of temperature near the ground and at the height of the blossoms.

3.—The effect of antecedent weather conditions.

4.—The effect of local conditions (shelter, shade, air currents, situation, etc.).

5.—The incidence of frost in variously arranged plantations; such questions, for example, as whether more damage is done in plantations wholly of gooseberries or where these are mixed with plums.

6.—Whether the nature of the ground and methods of cultivation have any effect on hindering frost damage.

7.—The examination, microscopical and otherwise, of the injuries actually done by the frost.

8.—The effect of artificial freezing on blossoms.

In this last connection, I tried the effect of an artificial freezing on forty-five different twigs of four sorts of trees, viz., Morello cherries, damsons, greengages, and apples.

In order, as far as possible, to obtain actual conditions, the freezing was carried on with living twigs actually on the tree. By thus keeping the twig on the tree it is possible to watch its further growth, and to compare it with others which have not been treated.

The part of the twig to be frozen was put into a freezing chamber and surrounded by another vessel containing a mixture of ice and salt.

A sensitive Centigrade thermometer was fixed so that the bulb was in the freezing chamber, and readings were taken every two minutes. The end was covered in so as to inclose the twig as completely as possible, and precautions were taken to prevent the flowers and leaves from touching the cold sides of the freezing chamber.

We have so far tried the effect of (1) varying temperatures for the same interval of time, and of (2) the same temperatures for varying intervals of time.

Short exposures to frost, even if the temperature falls as low as —6°C, seem to have but little effect on apple and damson blossoms; this is in accordance with the general experience that apple and damson blossoms suffer less from frost than, for instance, greengages and cherries.

This is well seen in the following cases:

	Min. Deg. C. below Zero.	No. Time of Freezing in Minutes.	
Apple	8.8	14	Flowers and leaves killed, but dormant buds breaking.
	7.4	14	Flowers all killed, early leaves affected, but shoot quite recovered.
	6.3	40	Flowers all fallen, leafage rather worse than last.
	3.0	66	One fruit set, but retarded. Foliage affected.
Damson	6.3	12	Unaffected.
	6.2	20	All flowers killed and leaf buds received a big check.
	3.9	20	Unaffected.
Cherry	4.0 (in bud)	30	Unaffected
	4.5	10	Killed.
	2.6	10	Many fruits set.
Damson	6.5	11	Unaffected.
Cherry	6.4	10	All blossoms killed.
Apple	6.9.	9	Unaffected.
Cherry	4.5	10	Killed.
Apple	4.9	30	Unaffected.

So far we have dealt only with the formation of ice in the plant, but damage may occur without the formation of ice.

The movement of sap in the plant, the manufacture of plant food, and, in fact, all the functions of a plant depend on a favourable temperature. If the temperature remains low the functions are carried on less energetically just as in the case with the human body in cold weather, and anything that tends to produce and prolong low temperature is harmful for the plant, quite irrespective of the formation of ice.

Each plant has its own specific minimum temperature for growth, which is generally about the freezing point of water, and as we get near to this the plant begins to lose activity, quite apart from whether ice is formed or not.

On a dry, still night the plant loses much heat, so that portions of it, especially thin portions, with a relatively considerable amount of surface, become much cooler than the surrounding air, and may, indeed, be several degrees below freezing point while the air around is some degrees above it. This is a point worthy of notice.

Plants in which the tissues are rich in water are specially susceptible. Thus soft, sappy tissues are easily destroyed by cold.

CHINESE OR BENGAL ROSES.

As several really good additions have been made to this favourite class it may be well to note some of the best while the planting season is still with us.

The old Blush, or common Monthly, variety, was sent out by Parsons as long ago as 1796, and is still difficult to beat as a pale pink; it is too well known to need description here. The old crimson variety appeared in 1810, or exactly one hundred years ago; this also needs no comment. Cramoisie Supèrieure came out twenty-four years later, and favours the Old Crimson in many ways. I think it more double, a little better grower, and I should give it the preference for bedding, thinking it a little better in bloom and growth. Ducher (1869) is the best white: the flowers are perfect, pure white, in large trusses, and the plant is thoroughly perpetual. A very deep crimson, with a faint line of white, named Fabvier, is perhaps the best deep crimson bedder of the older varieties. This was sent out, or raised, by Laffay, who also gave us Mrs. Bosanquet, a pale flesh, of good size for this class, and a very free bloomer. By some this rose is classed as a Bourbon. Eugène Beauharnais (1838) is a very distinct and deep amaranth-red, of good size and substance, and one of the best. This last, with Fellenberg (1857), a semi-double bright crimson, make the best of the older kinds.

We now come to several that have art colours, rather than plain self hues. It was in 1887 that Guillot gave us Laurette Messimy, a beautiful soft and clear rose, shaded with yellow, and quite a break in this class. The same raiser followed this in 1895 with Madame Eugène Resal, a much-improved flower in some ways, being coppery-rose shaded with clear orange. These two are still among the best. In 1903 Guillot seems to have even improved upon these with Comtesse du Cayla; a reddish-carmine, tinted with orange, and very beautiful. This is also a capital grower, and throws its trusses wider than the two previously mentioned. Chin-Chin, from Hobbies, in 1909, is, I believe, a sport from this. Chin-Chin is a clear sulphur-yellow that does not fade or go pale with age—a great fault with many of this colour. It has the same growth, and is a decided acquisition to the class. Arethusa, from William Paul and Son (1903), is also a yellow, but tinged with apricot, and more resembling Queen Mab in habit. Queen Mab was sent out by the same firm in 1896. It is only moderate in growth, but very free flowering, and of beautiful colour, soft rosy-apricot, orange centre, and tinted outside with rose; a very pretty little flower in all of its stages. Another from Waltham Cross is Duke of York (1894); this is a very variable flower, rosy-pink and white, edged and tipped with both colours, and seldom has two blooms just alike. A good sturdy grower, and free. Irene Watt (Guillot, 1896), is a reputed seedling from Laurette Messimy; white, tinted with salmon-pink, very long buds, and free. This, I think, completes the list from that firm, who have given us so many beautiful Chinas.

Hermosa, or Armosa, like Mrs. Bosanquet, is frequently classed both as a China and Bourbon. It much resembles the Old Blush, but is rounder and fuller in the flower, and, I think, closer or more robust in growth. Jean Bach Sisley is a silvery-pink, with the outside of its petals tinged with carmine; a vigorous grower, and very free. In 1899 V. Schwartz gave us a very little flower in Cora, which is a clear yellow, tinted with carmine. Leuchtfluer, sent out by Turke two years ago, is a deep blood-red, that will be grand for massing. Unermudleche, from Lambert, in 1904, is a very rich crimson, with red shadings.

Among the newest varieties we find V. Schwartz sending us two this year (1910). I believe both will prove good and useful. One, Mdlle. de la Vallette, is golden-yellow shaded with coppery-red, with a ruby tinge on the outside petals. The other, Mrs. Edward Clayton, is a coppery golden-yellow, with carmine edges. Both are quite distinct. This list by no means exhausts the true and dwarf-growing Chinas, and there are several hybrids, which I do not propose to touch upon. I may, perhaps, mention that the Green Rose (Viridiflora) is a true China, and was sent out in 1859.

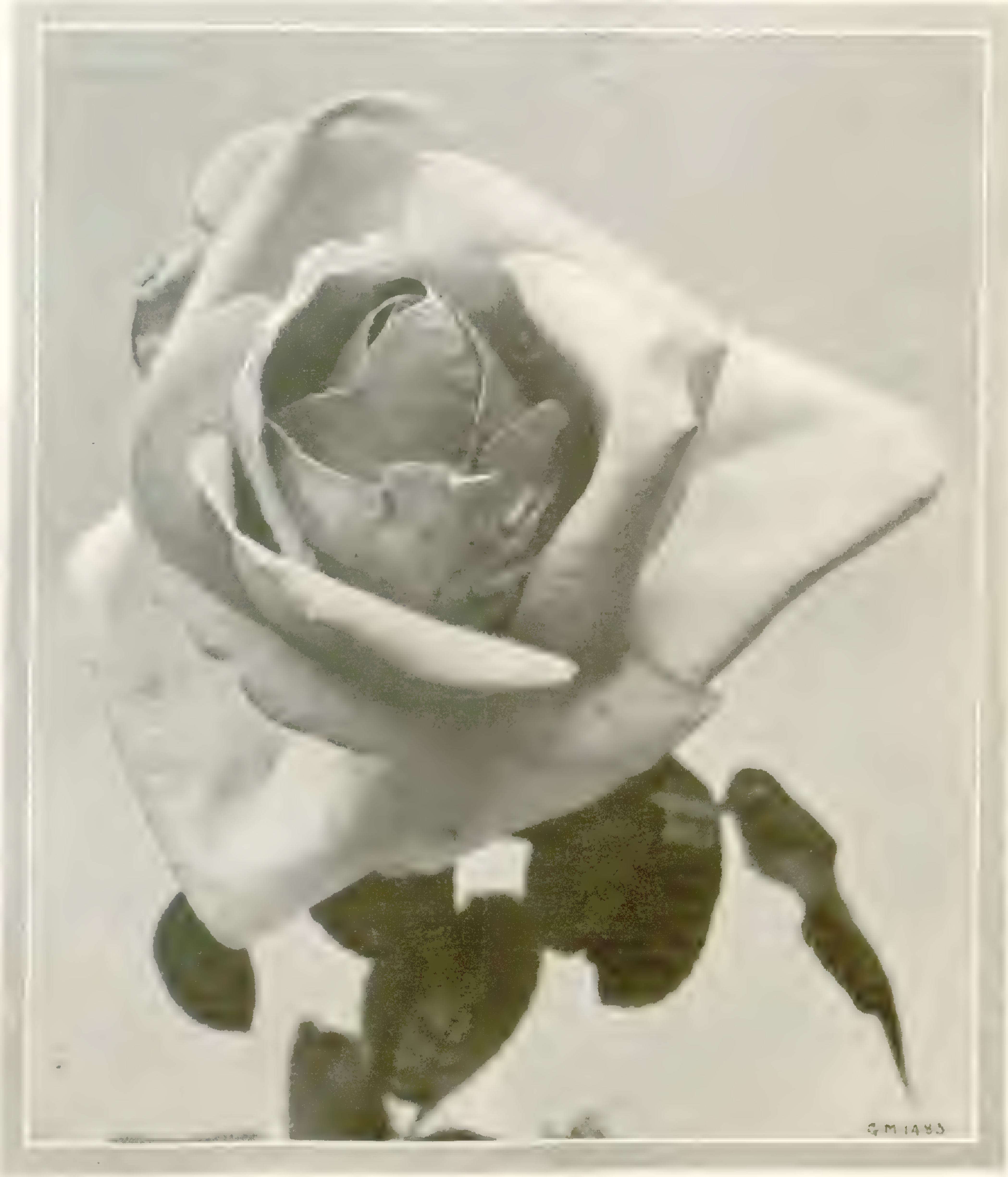
There are a few climbing varieties, or sports that deserve notice. Climbing Cramoisie Supèrieure is a strong grower. The next best, in my estimation, is Field Marshal, this is very bright in a warm position, or on a wall. It is a blood crimson shaded with amaranth, and quite distinct.

The dwarf-growing varieties make capital bedders, and are also very effective when used as edgings to the stronger-growing roses.

A. Piper.

NEW ROSE ELIZABETH.

A fine new rose that Messrs. Benjamin R. Cant and Sons, Colchester, have shown freely, and in excellent condition all through the rose season of 1910, is the one named Elizabeth, and figured herewith. The variety belongs to the H.P. section, and its broad petalled flowers are of a rich reddish-rose colour, rather deeper in the centre. From an exhibitor's point of view it should prove a useful addition, and one of the most successful of competitors regards it as a red counterpart of the famous white Frau Karl Druschki, and it is very like that popular variety in build, as well as in the character of its growth, spines, and leafage. Messrs. B. R. Cant and Sons have evidently a fine novelty in their new rose Elizabeth. The present illustration is from a photograph of an October flower.



ROSE ELIZABETH.
Messrs. B. R. Cant and Sons' new rose-red variety.

Potatoes grown in Great Britain during the current year show a decrease of nearly 36,000 acres, or over 6 per cent., as compared with 1909, and the area under this crop is the lowest returned since 1898.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

CYPRIPEDIUMS.—The winter-flowering cypripediums are at the height of their flowering season. It seems only a few years ago since the writer of these notes was pointing out in the Gardeners' Magazine the advantage of these most useful orchids, their tractability under culture, and recommending their more general cultivation. As one of the pioneers of this movement, it is with no small amount of pleasure that I find, not only are these plants forming the greater part of the orchid groups exhibited at the meetings of the Royal Horticultural Society just now, but even the most humble amateur gardener finds pleasure in their culture. There can be no question but that these orchids may be induced to give satisfactory returns even in the neighbourhood of large towns and in smoky manufacturing districts, where the atmosphere is fatal to many of our commonest stove and greenhouse plants. There are scores of species, varieties, and hybrids that only a few years ago were almost worth their weight in gold that can be purchased for the modest outlay of a few shillings, and plants in bloom at that. This season gives an opportunity of making selections of desirable kinds, and I have frequently pointed out how preferable it is to select the plants while they are in flower rather than from a detailed list of suitable kinds.

THE EARLIER-FLOWERING KINDS, as they pass out of bloom, may be examined, and where it is desirable to repot this should be done without delay, as many of the roots will be in a more or less active state. We find that Cypripedium Fairieanum does best in the intermediate house throughout the year. As these pass out of flower repotting should be attended to. It is not always desirable to disturb the plants by dividing them, but it may be advisable to transfer them to large pots when the compost is still in a good state of preservation. There can be no doubt the plants thrive best where they have filled the pots with roots, but there is a limit beyond which begins the road to starvation. Providing there is ample lime rubble intermixed with the potting compost any reasonable shift may be afforded C. Fairieanum. We find about two-thirds turfy loam to one of peat the most suitable compost for this species. Practically the whole of the hybrids descended from C. Fairieanum are robust and vigorous growers. These may be repotted as they pass out of flower, and where it is desirable to make larger specimens it is advisable to cut the rhizome between the growths. There will frequently be found plants that have been growing with a single lead for many years, and with numbers of flowered growths behind it; now all leafy growths are capable of producing new growths, but they frequently wait for something to happen to the leading growth before they break into new life, hence the rhizome should be severed.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

STOKING.—During the past two or three weeks we have been experiencing quite wintry weather, especially for the time of the year, and stoking has needed a considerable amount of attention. This is a matter that cannot be left in the hands of an inexperienced journeyman. An occasional critical look round on the part of the head gardener will often do good, not merely from an economic point of view, but a few practical hints to the young man in charge will enable him to maintain the most heat with a minimum of fuel and labour. Whenever there are signs of very cold weather the temperature in the houses should not be allowed to run down at all during the afternoon; an early start should be made, and all fires and ash boxes given a thorough cleaning the first thing after dinner; do not try to make up a big fire immediately afterwards by filling the furnace, but just put on a few shovels of clean fuel, which, with plenty of draught on, will soon make a bright, clear fire, and this, later on, according to circumstances, may be added to or partially stopped. Where anthracite coal is used I find the young men are generally too fond of using the poker, thus breaking the half-burnt coal up finely, and in this state it burns very dull, and gives off very little heat. Once the furnace is thoroughly cleaned, and the fire well started, it is only necessary to add fuel in small quantities as it burns through, and thus build up a good bright fire which will give out a tremendous amount of heat over a long period. With coke as fuel more clinker will be made, and a good clearing may be necessary every three or four hours to keep up the desired temperature, but aim at keeping a moderately sized and bright fire rather than choke up the furnace, for it is not until the whole material is burnt through that the greatest amount of heat is obtained. Another point is that when a very bright medium-sized fire is banked up, and the boiler power is sufficient, there will be no difficulty in keeping the heat up during the night.

TEMPERATURE. — During the cold weather the temperature generally may be kept somewhat lower, but on no account should houses of crotons be below 65 degrees, though where a general collection of stove plants is grown in one house 60 degrees will be high enough, while for stove flowering plants about 55 degrees will suffice for begonias, poinsettias, euphorbias, etc., etc. Many of the summer stove flowering plants that may have been put in a cooler house to rest, such as borgainvilleas, clerodendrons, allamandas, etc., may now be pruned, and this will allow of their being stored away in a somewhat smaller space. Do not put these in too cool a house, or the results may not be altogether satisfactory. Even where they are planted out in the stove many of them will be quite matured enough for pruning, and if so they should be attended to at once, the plants growing underneath thereby benefiting by this extra light.

AMARYLLIS.—Where large quantities of these are grown some of those that flowered early in the season will be pushing up their flower spikes, and may, with advantage, be put in the stove, giving them a good soaking of water, but not before they have been surfaced over with a little fine soil, which will fill up the gap between the pot and the ball, caused by the contraction of the soil during the process of drying off. As the spikes begin to extend liquid manure will help to strengthen them. A batch of amaryllis early in the year will prove of much value for house decoration, as there are few flowers, particularly at that time of the year, that are so bold and effective.—Thomas Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

CHERRIES.—Where very early fruit is required a house containing trees that were fruited early last year should be prepared for starting in December. In forcing the cherry it should be borne in mind that it is particularly impatient of fire heat and sluggish atmospheres, and that if subjected to these conditions the setting of the fruit will be poor, and the fruit be liable to drop while passing its stoning stage. For the first fortnight merely close the house, slightly ventilating it when the temperature from the sun's warmth reaches 50 degrees, and close it again at 55 degrees, when the sun's power is waning. Use fire heat in a very moderate way, by merely warming the pipes sufficiently for the night temperature to be kept at 40 degrees, and that for the day, by artificial means, at 45 degrees, a rise of 10 degrees from the sun's influence being allowed after the house has had free ventilation. These conditions must be accompanied by a careful spraying of the trees with tepid water, a moderate degree of atmospheric moisture, and the necessary watering of the trees.

EARLY PEACH HOUSE.—The time that a peach house should be closed, with a view to starting the trees into growth, depends upon the date that ripe fruits are required and the varieties of peaches the house contains; for example, in order to have fruit ripe at a given date it would be unnecessary to force Amsden June, Early Alexander, Waterloo, Hales' Early, and similar varieties, so early as such varieties as Bellegarde, Dymond, Royal George or Noblesse. Directions were previously given for preparing the trees for forcing in this house. No fire heat should be employed for the first fortnight, nor need the house be ventilated unless the temperature reaches 50 degrees. Once fire heat is used maintain a night temperature of 40 to 45 degrees, and that for the day 5 degrees higher, allowing the usual increase from solar warmth. Upon fine days spray the trees and their surroundings with tepid water in the morning and early afternoon, but guard against keeping the buds constantly wet.

STRAWBERRIES.—For affording early supplies of fruit plants may be now placed upon shelves near the glass in suitable quarters, or, if preferred, have their pots plunged in a warm bed of leaves placed in a light pit. Only enough artificial heat to slightly warm the pipes should be used, and the ventilators of the structure should be left slightly opened both by night and day. Keep the plants sufficiently supplied with water to preserve the soil in a moist state, and as soon as they begin to grow afford them moderate supplies of diluted liquid manure, or other suitable stimulants. Spray the plants overhead early in the morning of fine days.

YOUNG VINES.—Vines raised from eyes last spring, and intended to be grown on in pots next year in order to fruit early the following season, should, now that they have lost their leaves, be cut down to two buds, dressed with styptic, and kept at rest until started into growth at the beginning of the new year. Thoroughly ripened laterals should be selected when vines are being pruned, to furnish eyes for propagating purposes. Keep the laterals cool, with their ends placed in moist soil, until the end of January or beginning of February, which is a suitable season at which to commence propagating.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

PEAS.—Where room can be found for a batch of peas under glass, either in houses or pits, now is an excellent time to commence sowing the seeds. There are various ways of raising the seedlings, but perhaps the best way is to sow them in ten-inch pots, to avoid further disturbance of the roots. Moderately drain the pots with a few pieces of crock, over this place a small amount of dried and partly decayed manure, to prevent the drainage from clogging, and to assist growth at a later date. The soil should consist of three parts decayed turf, one part of spent mushroom bed manure, a little leaf-soil, and a scattering of burnt garden refuse; place the mixture rather firmly to within three inches of the top of the pots, the remaining space will eventually be used for top-dressing. When sowing place plenty of seeds in each pot, thinning the seedlings to five or six plants when it can be seen which are the strongest. Cover the seeds with an inch of the finer soil, give a good watering, and then place the pots in unheated pits or on shelves near the glass in a greenhouse. Do not hurry the germination; in fact, a slow steady growth should be the aim throughout. Later on stake, tie, and syringe according to requirements. There are now many fine varieties for the purpose, and first-rate ones are Gradus, Edwin Beckett, Reading Giant, and Duke of Albany.

BROAD BEANS.—If these are sown in pots similar to peas they will yield some useful dishes. Care must be exercised when they come into flower to create a fresh atmosphere to assist the "setting" of the pods. The tops should be pinched previous to the flowering stage also, as this alone will further the setting immensely. Give frequent waterings with diluted farmyard manure, and occasional sprinklings of artificial manure to both beans and peas.

MUSHROOMS.—The early beds are now bearing splendid crops, and to maintain them satisfactorily too much fire heat must not be employed. Aim at a uniform temperature of 50 degrees, and the beds will be found to bear much longer, and the quality of the mushrooms will be superior than if subjected to a higher temperature. Beds in cold sheds will need more covering with prepared stable litter, which should possess a certain amount of heat when applied to stimulate the bed. Ten inches in depth will not be too much.

SALSIFY AND SCORZONERA.—These should now be very carefully dug up whole, the tops lightly trimmed off, and the roots laid away in heaps behind a north wall, covering them over entirely with fine soil. If severe weather sets in a covering of strawy litter should be placed over the mounds to prevent their becoming frozen. This rule applies to all root clamps in exposed places.

SEAKALE.—At this season it will be an easy matter to procure fine blanched heads, providing the grower has carried out the cultural details throughout the year. A supply, according to the demand, should be introduced into the mushroom house or like structure weekly. Exclude the light entirely to ensure proper blanching, water in, and syringe regularly. Put regular supplies of endive, and roots of chicory, and dandelion into a light-proof place, with a temperature of 50 degrees.—Geo. Ellwood, Swanmore Park Gardens.

NOTES OF OBSERVATION.

Rochea falcata.—If grown and flowered as were some specimens in the old days, this ancient inhabitant of our gardens would be more often met with than it is. It is one of the many succulent plants that we received from South Africa a century to a century and a-half ago, and for a time, were more popular than they are now. This rochea has a stout succulent stem, and very thick, fleshy leaves of a rather glaucous green tint. The flowers, borne in a terminal, flattened head, are small, but exceedingly numerous and closely packed together, their colour being bright red. The golden anthers, too, are very noticeable.—W. T.

Erythrina crista-galli. — This old garden plant, introduced from Brazil as long ago as 1771, though perhaps not so popular as it once was, is still to be found in many gardens. It is well worthy of a place therein, for towards the end of the summer, when in full bloom, it is certainly very striking. Grown in large pots and plunged outside when it is nearing the flowering stage, this erythrina usually forms a showy feature in Hyde Park. It produces a thickened, woody root-stock, from whence annual shoots are pushed up. It is only necessary to protect this root-stock from frost during the winter. Such being the case, it may be safely planted close to the wall of a warm greenhouse, the warmer the better, and so situated it will give little or no trouble, and flower annually.—W. T.

Lilium sulphureum. — The fact that this Burmese lily does not flower till the extreme end of the summer, or in autumn, stands it in good stead for the decoration of the greenhouse or conservatory at that period. By the time September reaches us many occupants of that structure are past their best, and this lily is therefore particularly valuable. From the large importations that have reached us within the last few years, it is now fairly well known, therefore it will suffice to say that it is of tall growth, with long trumpet-shaped flowers of a rich yellow inside, and creamy-white with a reddish tinge on the exterior. A notable and unique feature among lilies of this section is the presence of numerous bulbils in the axils of the leaves.—W. T.

PROBLEMS UNDER CANVAS.

From an exhibitor's point of view, I claim to know something about the show problems that require solving, but I know much more about them from a secretarial point of view, having had the honour to act as secretary for over twenty years. As a judge, too, I have seen another side of the question, and know what it is to be cross-examined on points that were not too clear to the disappointed exhibitor. A secretary too often has a full working committee when the prizes are being arranged, and especially do gardeners who are committee men attend then, but on the show day, too often, these are quite useless; not that they are to blame, because, as exhibitors, they must attend to their exhibits, and if they did not do so there would be no show. The remedy, however, is to elect fewer gardeners who are regular exhibitors. My experience is that competitors, broadly speaking, are quite the worst of committee men; there are exceptions, and some do not put their own aims too forward when preparing the classes. I prefer enthusiastic amateurs, who have a real love for flowers, and who work for the advancement of horticulture, and the general good of the society Too often the professional in committee men shows too plainly that position in the prize list is nothing to them outside the monetary value of the prizes. They often know it is impossible for them to obtain a higher position than the third prize, and yet they are content with the cash only, reputation of a high standard being quite a secondary consideration to them.

A secretary of a small cottage society has many more difficulties to contend with than one holding a similar position in a large society, because in the latter no liberty is given exhibitors in the time of entering; but in a small society, where every entry is eagerly looked for, it often happens that an exhibitor finds, when he is preparing his stuff, that he could have entered in several more classes, and when he arrives at the show he tells his story of how he found a good dish of carrots or a dozen cut blooms, and entreatingly asks, "May I put them up?" A secretary who can refuse such a request must have a hard heart, and the consequence is usually that space has to be allotted for such an exhibit, and some confusion or delay of necessity arises. Too often a judge may blame a secretary for want of punctuality, when, under such conditions, he hardly deserves such blame.

Very few of our large societies are ready for the judges at the appointed time. The most punctual secretary I ever knew was Mr. Dixon, when acting with the late Mr. Harland for the Hull Chrysanthemum Society. At two minutes to ten he could always be found in front of the clock, with the bell in his hand, as a signal to the exhibitors to leave the hall; talk about working like clockwork, that was the place to find it. I would therefore ask critics of the inexperienced order to withhold their sharp remarks until they make themselves acquainted with all the facts.

I am inclined to think that the experience of "H." as a judge of an ordinary show, either single-handed or with another or two, must be somewhat limited, or he would not suggest that all the collections should be judged by points, and the points entered on cards placed upon the exhibits. He ought to know that seldom is it necessary to point collections to arrive at a correct decision in the awards, and to point all collections merely to appease disappointed exhibitors is only adding to the task of the judges, and using up valuable time. A conversation of about two minutes' duration with an exhibitor after the awards are made will often do much towards influencing him in the future, but there are some judges who think it beneath their dignity to explain matters, and too often awards are made on a basis that requires much more explanation than such judges can give.

In regard to the problem of varieties versus species, the judges should carry out the published stipulations, even if these do not meet with their personal approval. Judges go to shows to carry out laws already made; they do not go to make laws, though they may criticise and expose errors. I think the exhibitor in question, who adhered to one variety of flower, was quite correct, and should be supported. There are many such problems that annually occur and have to be treated on strict lines. It is a safe plan to adhere strictly to rule, as a judge then has an unanswerable argument.

As to the question of dishonest practices much talk about fancied grievances of a disappointed exhibitor happily ends in smoke. Flagrant cases should be promptly checked, both for the welfare of the society and the individual, too. E. Molyneux.

SUMMER SHOWS OF 1910.

I was much interested in the recent article in the Gardeners' Magazine dealing with the summer shows of 1910, and particularly so in that portion dealing with the annual exhibition of the society to which I have the honour of acting as general secretary. The Handsworth Flower Show has been in existence for over half a century, and at the present time its acknowledged position is third in the list of Midland shows. I especially noticed that reference was made to the criticism on the fête portion of the exhibition, and, feeling that a little comment is justifiable, I venture to send these few notes, trusting you will find space in the columns for them.

I do not intend to dwell upon the merits and demerits of the perfectly innocent amusements provided as usual, and the isolated cases of adverse criticism had little or no weight anywhere, for they were speedily answered in an excellent "leader" in the Birmingham "Daily Mail," justifying the action of the committee. To quote the article in question . . . "In other towns floral fêtes and hospital and lifeboat galas are held in the public parks with the happiest results, and it may be in time something of the sort may become an annual fixture in Greater Birmingham. Under the circumstances, therefore, the committee will doubtless persevere with their efforts to develop the fête side of the undertaking."

Almost without exception similar entertainments are provided by societies who wish to keep their shows upon a sound financial basis (even the Birmingham Chrysanthemum Society, whose annual exhibition is now held in the largest permanent exhibition building in the provinces, i.e., Bingley Hall—will eventually have to provide some such "draw" to be a financial success). Among other shows, I had the pleasure of visiting Hanley upon both days of their floral fête, and it is not an exaggeration to say that they provide ten times the quantity of side shows and roundabouts, to the evident satisfaction of the visitors. By all means banish the objectionable features, but let the sources of innocent merriment remain. So long as they can win popular favour—and we fancy they will do so as long as human nature remains what it is—let the people's pleasures have full sway. There is too much grandmotherly coddling nowadays by the superior person. When the Socialistic Utopia arrives, and all our days are ordered out to us by State schoolmasters—thank goodness we shall be dead before then—the Bunthornes and Stigginses of this world will certainly see we uphold the national character for taking our pleasures sadly; until then a little more freedom and less cant would add to the national gaiety.

There is no doubt the Handsworth Show is THE Show of Birmingham and district, and if the Birmingham City Council lend yet more of their valuable assistance, as there is every probability of their doing, the exhibition bids fair to be second to none.

William G. Carradine,
Secretary to the Handsworth
Horticultural Society.

82, Soho Hill,
Handsworth, Birmingham.

PERPETUAL - FLOWERING CARNATIONS.
GREAT WINTER SHOW, at the HORTICULTURAL HALL, VINCENT SQUARE, S.W. TUESDAY, December 13th, 1910. Admission 1 to 5 p.m., 1s.
ANNUAL DINNER, Anderton's Hotel, E.C., same evening, at 6.30 p.m. Schedules and all particulars from Mr. E. F. HAWES, Royal Botanic Gardens, Regent's Park, London, N.W.

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EXHIBITIONS AND MEETINGS.

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Aberdeen Chrysanthemum Society.

NOVEMBER 25 and 26.

The annual exhibition under the auspices of this society, opened by the Right Hon. Robert Farquharson of Finzean amid a large attendance of the elite of Aberdeen, was held in the Music Hall Buildings, Aberdeen, on the above dates. This popular winter exhibition has ever been a source of great pleasure to the citizens of Aberdeen, and there was no falling away in its popularity on this occasion, large crowds being present on both days. The entries, over 500 in number, showed a slight increase over those of last year, and constituted an exceedingly rich and attractive display, reflecting great credit on all concerned.

For some years past the display of large blooms has been a feature at the Aberdeen show, but this year the leading feature was the large number of blooms of single chrysanthemums, both in the pot-plant and cut-flower sections: in short, the show was specially noteworthy for its superb display of serviceable flowers. The texture and colour of the blooms gave evidence of much careful attention on the part of the growers, and the fine array of colour, from pure white and soft peachy-pink to golden-yellow and fiery-red, illustrated to the very best advantage what can be done in the cultivation of this popular winter flower.

POT PLANTS.

The section devoted to these was undoubtedly a strong feature of the show. The entries comprised a large number of shapely and well-grown specimens, and richly earned for the growers the hearty encomiums of the visitors. For the best group of chrysanthemums and other plants, arranged in semicircular form on a space 8ft. by 5ft., to be judged for quality and effect, there were good entries. The first place was given to Mr Robert Begg (gardener), Garthdee, Aberdeenshire, for an exquisite group from the point of quality. The setting was composed of Cocos Weddelliana, kentias, and adiantums and pteris. Mr. Begg's arrangement gave rise to some criticism on the part of veteran growers, being considered much too crowded, and not a few considered his edging at fault, so dense was it. In quality of blooms, however, Mr. Begg was far and away the best, and deservedly won the silver plate awarded. Second place went to Mr. John Mathieson (gardener), Craigielea, Aberdeenshire, for a very effectively-staged entry. The arrangement here was undoubtedly superior to the first-prize group, being light and airy, with every individual plant standing out prominently. The quality of the blooms, however, was distinctly inferior to those composing Mr. Begg's group. For six chrysanthemums, at least four varieties, Mr. Begg scored finely with very meritorious entries, taking first and second honours. For four pots, single chrysanthemums, undisbudded, Mr. A. Murray, Ashley House, Aberdeen, was a capital first, and he also carried off the leading place for two pots of single chrysanthemums, undisbudded, distinct. Mr. Murray's entries were very much admired, and were well ahead of those of his opponents. For four pots of decorative chrysanthemums, two each, disbudded and undisbudded, the leading place went to Mr. Alexander Duncan, Rubislaw Den House, Aberdeen, for capitally-grown entries. For two pots of decorative chrysanthemums, one each disbudded and undisbudded, distinct, Mr. Murray again came out first. For decorative chrysanthemums, undisbudded, any variety, Mr. James D. Smith, 275, Union Grove, Aberdeen, had a fine win. The entries of specimen chrysanthemums, disbudded, any variety, were a capital show, and certainly nothing finer has been seen at Aberdeen for many years back. Mr. Coutts, 47, Sunnybank Place, Aberdeen, won handsomely here with a beautiful specimen of Soleil d'Octobre, and was closely followed by Mr. Begg and Mr. Murray.

Ferns were not a large entry, Mr. Alex. Duncan, Rubislaw Den House, having matters pretty much his own way. Chinese primulas were also limited in numbers, but those forwarded by Mr. Begg well deserved their pride of place. As is his wont, Mr. Andrew Reid (gardener), Durris House, Aberdeenshire, had it all his own way for orchids, with magnificent entries. Winter-flowering begonias were well shown by Mr. William Dick, 96, Queen's Road, Aberdeen, and Mr. W. B. Cormack, Dyce, Aberdeenshire. Taken all over, the pot plants were undoubtedly an outstanding feature of the exhibition, and were well worthy the admiration evinced by all who saw them.

CUT FLOWERS.

The entries in this division reached a standard that has perhaps never been attained in Aberdeen; certainly it has never been bettered. The class for thirty-six blooms, twelve varieties, was a very fine one, and the competition was exceedingly close. In this class premier place was given to Mr. Alex. Morton, gardener to the Countess of Seafield, Cullen House, N.B., for a very fine assortment, composed of Algernon Davis, Elsie Fulton, Mrs. L. Thorn, Francis Jolliffe, Mrs. A. T. Miller, William Beadle, Victoria and Albert, Lady Talbot, J. H. Silsbury, Purity, Mrs. G. Mileham, and Mrs. C. Penford. The outstanding blooms were Mrs. A. T. Miller and Elsie Fulton, but all were noteworthy for their beauty of colour, texture, and symmetrical formation. Mr. James Jenkins, 419, Clifton Road, Aberdeen, took second place, with an entry little behind that of Mr. Morton's. Only two points separated these well-known growers—i.e., $106\frac{1}{2}$—$104\frac{1}{2}$. Mr. Jenkins' F. S. Vallis was unquestionably the finest bloom in the show, and certainly a better grown specimen has never been seen at Aberdeen. For twelve Japanese chrysanthemums, at least nine varieties, Mr. William Patterson, Minmore, Glenlivet, Banffshire, had a capital victory. While the gardener at Balmedie, Aberdeenshire, Mr. Patterson, sent some splendid entries to the Aberdeen show, and twice he won the cup for thirty-six blooms, although he never managed to carry it off entirely, but there are not a few experts who consider the cup ought to have gone to him. Be that as it may, Mr. Patterson, in his new home, seems to have lost none of his cunning, for his blooms were dense, heavy, and well grown. Mr. Jenkins was first in the section for six vases, and Mr. John A. Grigor, Seapark, Forres, N.B., carried off the first and second prizes for six Japanese chrysanthemums, the blooms being of exquisite colour and beautiful texture. Mr. Morton, Cullen House, carried off the leading honours in the class for yellow and white Japanese chrysanthemums, and also in the class for one vase of any variety. Mr. Morton chose for his entry in the last-named competition the variety William Beadle, and his three blooms were very fine, deep in colour, and splendid. His opponents here were a long way behind.

A feature of the show was the fine array of cut flowers of decorative and single chrysanthemums. There was a large entry in this class, and the leading place was taken by Mr. J. A. Grigor, for eighteen varieties. The colour and texture of Mr. Grigor's entry were of a quality much aimed at nowadays, and he included varieties comprising tints of the very latest character. Other exhibitors who did exceedingly well in this section were Mr. A. Grigor, Duff House, Banffshire, with nine varieties; Mr. Robert Begg, Garthdee, with twelve varieties; and Mr. A. Duncan, Rubislaw Den House, with six varieties.

Orchids were limited in numbers, but Mr. Andrew Reid, Durris House, has to be warmly congratulated on the splendid condition in which he exhibited those handsome exotics. Mr. Reid also exhibited something of a novelty in a basket of large citrons, grown at Durris House, which attracted considerable attention. Christmas roses were also a pretty show, and here Mr. William Milne, Corsindae Gardens, Sauchen, Aberdeenshire, had a capital first.

In the section for floral designs some artistic arrangements were shown. The majority of the prizes here were taken by Mr. Alex. Burns, jun., New Market, Aberdeen, and his daughter, Miss Alice Burns. This young lady, who recently started in business at 89, Victoria Road, Torry, a thriving suburb of Aberdeen, has to be congratulated on the fine display she made, betokening as it did the inheritance of the fine artistic taste of her forbears. One of her wreaths, composed of Western King, Mrs. Rundle, and white Pompon chrysanthemums, and measuring nealy 5ft. in diameter, was a really fine piece of floral work. Her baskets, too, composed of bronze and yellow flowers with asparagus, were deservedly admired. The best bouquets was entered by Mr. A. Burns, jun. A very artistic cross, entered by Miss Alice Burns, worthily gained premier honours. For a lady's spray and buttonhole bouquets, Mr. John Grigor, Forres, led the way in fine style. Altogether this was a very commendable section, and attracted the attention and earned the heartiest admiration of the visitors.

FRUIT.

The display here was very fine for a winter exhibition, the specimens being all clean, and of good size and quality. Apples were well shown, and the leading prizewinners were Mr. Charles G. Cumming, Pitgaveny, Elgin (kitchen and baking varieties), Mr. J. Coutts, Rosefield, Elgin (dessert). For pears, Mr. James W. Robertson, Letham Grange, Arbroath, had matters pretty well his own way with fine entries. Grapes were limited in number, but those shown by Mr. John Elder, Norwood, Cults, Aberdeenshire, and Mr. Robertson, Letham Grange, worthily earned for those gentlemen the chief places. The last-named was also first for tomatoes.

VEGETABLES.

This section was a good feature, being the largest lot ever shown at the society's exhibition. For a collection of vegetables, six varieties (tomatoes excluded), there were no fewer than eight entries, and the judges had considerable difficulty in making their awards. Messrs. J. and D. McKenzie, Lower Buxburn, by Aberdeen, carried off the premier honours with a very finely-assorted collection. The cauliflower and Brussels sprouts were very fine, while the carrots were perfect models. The potatoes were clean, shapely, and well grown, and the whole formed an entry the Messrs. McKenzie had good cause to be proud of. Mr. Harper, Tulliebelton, Perthshire, was second, his entry this year being inferior to the one that gained for him first place at this show last year. Nevertheless it was a capital entry, the leeks, celery, and onions being really fine specimens. Mr. John Garden, Broomend, Inverurie, N.B., made a very good third.

Potatoes were a superb display, and would have been hard to beat in any show. The chief prizetaker here was Mr. James Ferguson, Linton House, Sauchen, N.B., who had no fewer than five first prizes. His Grampians, Snowdrifts, and Prizetakers were greatly admired. Mr. William Webster, Muiresk House, Turriff, N.B., came next with fine dishes of Kepplestone Kidney, Dobbies' Royal Kidney, and King Edward VII. Savoys and cabbages were well shown, Mr. W. Ellis, Raeden, Aberdeen, gaining most points for these. For cauliflowers or broccoli, the Messrs. McKenzie, were first, and for celery Mr. Harper led the way. Mr. A. Gardiner, Drumduan, Aberdeen, had a well-deserved win for carrots. The others worthy of mention in this section were Mr. J. Ferguson, Linton House (turnips, yellow); Mr. Alex. McRae, Durris (turnips, Swedish); Mr. J. Garden, Inverurie (beetroot); Mr. William Ellis, Raeden (parsnips); Mr. Harper, Tulliebelton (leeks); and Mr. A. McLeod, Cluny Castle (onions).

AMATEURS.

The sections devoted to the exhibits of amateurs were exceedingly well filled, and reflected the highest credit on all concerned.

MISCELLANEOUS DISPLAYS.

Mr. William Dustan, florist, Holburn Street, Aberdeen, showed a large number of beautiful chrysanthemums belonging to the early-flowering section, well adapted for garden cultivation. Messrs. Wm. Thomson and Sons, Lim., Tweed Vineries, Clovenfords, had on exhibition a large entry of grapes, specially worthy of note being a fine exhibit of Gros Colmar. Messrs. W. Wells and Co., Merstham, had brought forward a fine display of their single chrysanthemums. Messrs. G. Bunyard and Co., Maidstone, had a most effective display of apples, and the British Columbian Government staged a magnificent exhibit of seventeen different varieties of apples, which attracted much attention.

The Executive Committee unanimously agreed to award the society's gold medal to the British Columbian Government for their fine exhibit. Awards of Merit were also given to Messrs. G. Bunyard and Co., for their apples; to Mr. Andrew Reid, Durris House, for the citrons grown there; and to Messrs. W. Wells and Co., Merstham, for their single chrysanthemums.

The show, financially and otherwise, was a decided success, and the admirable arrangements made by the courteous secretary, Mr. M. H. Sinclair, F.R.H.S., were all that could be desired, and reflected much credit on that gentleman's powers of organisation and administration.

Horticultural Club.

"THE AIMS AND SCOPE OF A PUBLIC PARKS DEPARTMENT."

On Tuesday, the 22nd inst., after the usual monthly dinner at the Hotel Windsor, Mr. Harry J. Veitch presiding, and a goodly number of members and guests being present, Mr. W. W. Pettigrew, superintendent of the Cardiff Public Parks Department, gave a very interesting address on the above subject, illustrating it with a large number of lantern slides, showing the very varied aspect of the question.

Preluding his address with a quotation from John Stuart Mill, that "the multiplication of happiness is, according to utilitarian ethics, the object of virtue," he proceeded to demonstrate that, whether the dictum was accepted or not, the proper object of authorities ruling parks and open public places in the midst of large communities, should undoubtedly be the multiplication of happiness. As this means not merely catering for the matured tastes of adults, but also for the physical enjoyment and healthy development of all ages from the baby in arms to those advanced in years, his first series of slides dealt with the provision in the spaces under his control for children of tender age, happy groups under their nurse's care being shown amid the daisies, or in their perambulators, older children romping in the fields provided for them, lads at cricket and football, and so on; while bowling greens were provided and kept in order for men of staider and less agile proclivities. Bathing was encouraged by the provision of a spacious lake, and those with a taste for music were shown as a varied crowd of all ages round a handsome bandstand. In one of the parks, too, a fine zoological collection at once amused and instructed the public in another direction, while cleverly and naturally constructed rockeries and well-furnished beds, provided material for the botanist and amateur horticulturist at the same time as they enhanced the beauty of the scene. Even fishing was not forgotten, the hatching of trout being one of the branches, and a successful one, at Cardiff.

In this way, the lecturer was happy in being instrumental in supplying wider interest in life than crowded cities can otherwise afford for the poorer inhabitants by giving opportunities of getting into closer touch with natural objects, developing æsthetic tastes, providing means of natural recreation in the open; and, in short, doing a multitude of things which tend to increase at once the happiness and the health of the community of every grade. The numerous slides shown as the lecture proceeded, many of which were very beautiful, and mostly taken by the lecturer himself, showed that in Cardiff at any rate, and under his fostering care, all the objects in view were attained to their utmost capacity.

In the subsequent discussion, in which Messrs. H. J. Veitch, W. Watson, and others took part, the value of this lecture was very fully appreciated, but strong expression was given to the obvious futility of confiding the superintendence on a most important scale, of such varied objects, varied but yet closely conjoined, all being part of a well-considered scheme, to any other than an individual who had had a long education in that particular line, and whose capacity not merely to conduct but to originate, had been proved in the same direction. The recent selection of a military man as ruler over the London Parks, in preference to skilled and experienced officials whose lives had been spent in the study and fulfilment of the manifold duties entrusted to them, evoked strong expressions of disapproval, not in any way in a personal sense, but at the gross injustice and unfairness of a council which publicly invites applications from the duly qualified, thus raising legitimate hopes of obtaining a post to which they were fully entitled, only to show that apparently from the outset the selection had been determined upon, regardless entirely of the qualifications stipulated for. This is undoubtedly an insult to such an honourable profession as that of the gardener or skilled horticulturist, especially when qualifications of such a technical character as the names imply are proved to be allied with high administrative ability, generally extending over a long series of years, and involving intelligent control of a large number of men.

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After an unanimous expression of such opinion, a very hearty vote of thanks was given to the lecturer.

National Chrysanthemum Society.

There was a very good attendance at the Holborn Restaurant on Tuesday, November 29, on the occasion of the National Chrysanthemum Society's annual dinner. The King's Hall was beautifully decorated with chrysanthums by Mr. R. F. Felton, the flowers being supplied chiefly by the leading growers, while Mr. Thos. Bevan provided every one of the ladies and gentlemen with a buttonhole bouquet.

The order of the toast list was altered somewhat, and the first toast given was "The Donors of Special Prizes," which was in the hands of Mr. E. F. Hawes, who referred to the President's special prize, and the several cups, etc., presented by leading trade and amateur growers. This was responded to by Mr. J. H. Witty.

The loyal toasts were duly honoured, and then followed the presentation of the Holmes' Cup and other trophies won at the November Show, and the numerous medals won, and for each recipient Sir Albert Rollit, the president, who occupied the chair, had a few congratulatory words. Mr. Thos. Stevenson, as a young and able prizewinner, and Mr. Mease, as a veteran winner, received rounds of applause, as did Mr. N. Davis, who won Messrs. Clay and Son's special gold medal. A silver medal, suitably inscribed, was presented to Mr. W. Higgs, as a memento of his having won the Holmes' Cup for incurved blooms for twelve years in succession.

The toast of the evening, "The National Chrysanthemum Society," was given by the President, who expressed a hope that the society's future might be even greater than its past. He was very fond of the society, and had always taken a keen interest in the chrysanthemum. He had seen the society in many vicissitudes, but he was proud to be associated with those who had fought so long under the banner of the golden flower. He was glad to see so large a company, and especially so many ladies present. Sir Albert then referred to the history of the chrysanthemum, and paid a compliment to Japan. He thought no vehicle of colour was so great and complete as the chrysanthemum, and in this sense it was ahead of the rose. The room that evening proved the decorative value of the flower which came so beautifully in the dead season of the year. The flower, he considered, had never been so completely and largely exhibited as at the society's show at the Crystal Palace in November last. The attendance at that show and at the dinner that evening proved the great and growing interest taken in the chrysanthemum, and also the high position of the N.C.S., a society that had done so much to educate the public in regard to the flower, and extend its culture among the poor as well as among the wealthy. The society had also done its duty to other nations, and at the recent Paris Show he, with Mr. C. H. Payne and Mr. T. Bevan, had the honour of being judges, the opportunity of expressing the love flower lovers everywhere bear each other, and also the opportunity of inviting the French horticulturists to come over and compete with the British growers at the great International Show of 1912. He said that the Government had been taking steps to further horticultural education. He eulogised the work of the society's Floral Committee, and referred to the Chrysanthemum Conference to be held at Essex Hall on Monday next—a fine educational feature. Sir Albert returned thanks to all who had helped to further the society's interests, and said he understood that at the end of the year there would be a pleasant financial balance to the good.

Mr. Thomas Bevan, chairman of the committee, acknowledged the toast, and said he hoped Sir Albert would long continue to be president of the society. Referring to the Palace Show, he thought the only thing lacking was the fine old specimen plants, but at the Paris Show grandly-flowered specimens, 8ft. square, 5ft. high, and from 500 to 1,000 flowers apiece were to be seen in great numbers, and gave evidence of splendid culture and patience. Mr. Bevan made reference to several Continental exhibitions he had visited, and then returned thanks on behalf of the society.

Mr. J. T. Simpson proposed "The Chairman," and this toast was very heartily received, and accorded musical honours.

"The Exhibitors and Affiliated Society" was ably proposed by Mr. C. Harman Payne, who drew comparison between Continental and British chrysanthemum shows that were very interesting. He said that the groups now set up at our own shows by Messrs. Davis, Jones, Wells, and others, were not surpassed for excellence and elegance by any displayed on the Continent. Mr. F. W. Ladds briefly and suitably responded, and said that if the society ever arranged a tableau display as a whole he thought the members would be ready to fill in their parts. He hoped the society would another year give a prize for the best novelty of the season.

Thanks were returned to Mr. Starr and Mr. G. Caselton, of the Crystal Palace, for their many kindnesses, and to Mr. Felton for decorating the dinner tables. Mr. Starr and Mr. Felton responded, the latter saying he would some day like to decorate the dinner hall with chrysanthemums in a way that would do the society immense credit, and also be a great advertisement for the society. He would like to offer a piece of plate next year for the best contribution of chrysanthemums to the dinner function. Mr. D. B. Crane proposed "The Ladies and Visitors" in eloquent terms, and to this Mr. Titmus responded. "The Press," proposed by Mr. H. J. Jones, was responded to by Mr. C. H. Curtis, of the Gardeners' Magazine.

Chrysanthemum notabilities present included Messrs. C. Harman Payne, Thos. Bevan, J. H. Witty, D. Ingamells, D. B. Crane, W. Simpson, W. Higgs, Norman Davis, H. J. Jones, W. Wells, E. F. Hawes, T. Stevenson, R. F. Felton, W. Newton, E. Such, C. H. Curtis, W. Howe, W. Leech, and W. Mease.

Roading Gardeners' Association.

A splendid non-competitive exhibition was held in the Small Town Hall on Wednesday week. The hall has rarely presented a more attractive and beautiful appearance, taste in arrangement being combined with the choicest of fruit, flowers, and vegetables. Exhibitors were invited to make decorative displays, and given a free hand in the selection of material. The gardeners made splendid use of the opportunity afforded for the display of their skill in arrangement and for putting into effect their artistic inclinations. Such exhibitions make an appeal to the eye, quite apart from the undeniable merit which the culture of such produce demands; while the fact that the result is obtained without the introduction of the competitive spirit is in itself fit subject for commendation. There is little doubt that if the exhibition is made an annual one it will grow in popularity. The proceeds of the exhibition will be given to the Gardeners' Royal Benevolent Institution and Gardeners' Royal Orphan Fund.

Following is a list of the exhibitors, with the names of the gardeners in parenthesis: Mr. G. Stanton, winter reminders of summer beauty; Mrs. Noble (Mr. T. J. Powell), fruits and vegetables; Mr. S. B. Joel (Mr. F. Johnson), group of begonias and a group of chrysanthemums; Mrs. Austen (Mr. W. Bennett), eighteen dishes of fruit; Mr. J. F. Child (Mr. A. E. Partridge), vegetables and ten dishes of fruit; Mr. L. G. Sutton (Mr. F. Townsend), a group of chrysanthemums, a group of begonias, and a group of primulas; Mrs. Bland Garland (Mr. H. Wilson), group of plants, apples and grapes; Mr. S. Wheeler (Mr. T. Judd), group of plants and apples; Mr. F. B. Parfitt, fruit; Mr. H. Collins (Mr. A. F. Bailey), fruit; Mr. H. J. Wynn, fretwork; Mr. M. H. F. Sutton (Mr. H. C. Loader), chrysanthemums and vegetables; Sir Rufus Isaacs (Mr. E. Blackwell), group of primulas; Dr. Hurry (Mr. H. Booker), group of chrysanthemums; Miss Cripps (Mr. Durrant), group of plants; Mr. J. Walter (Mr. W. Barnes), large exhibit of fruit; Mr. F. Rushby (Mr. W. Winterbourne), cacti; Mrs. Waterhouse (Mr. F. Pitman), two bunches of grapes; Mr. C. M. Powell (Mr. G. Boxall), eight dishes of fruit; Sir W. Farrer (Mr. W. J. Townsend), eighteen dishes of apples; Mr. J. O. Taylor (Mr. T. Brown), four large ferns, six dishes of apples, and group of plants; Mr. E. Jackson (Mr. W. Brown), six dishes of apples and two bunches of grapes; the Hon. A. Mills (Mr. D. Harris), group of chrysanthemums, etc.; Mr. H. Pretty (Mr. H. Fulkes), group of Primula obconica; Mr. J. Ridges (Mr. G. Tovey), zonal geraniums and twelve dishes of fruit; Messrs. Sutton and Sons, exhibit of vegetables; Mrs. Collins (Mr. H. Goodger), 9ft. run of vegetables and fruit; Mr. L. R. Erskine (Mr. C. Earl), vegetables; Mr. A. Webb, twenty-four dishes of apples; Mr. T. R. Harman (Mr. T. Neve), twenty dishes of fruit; Mr. M. J. Sutton (Mr. R. Doe, jun.), chrysanthemums (group in corner); Captain Miller (Mr. H. Reeves), 6ft. by 4ft., zonal geraniums; Captain Wilson (Mr. H. Kent), carnations; Mr. L. Oldershaw (Mr. W. Butler), dishes of fruit; University College, Reading (Mr. F. G. Drew), vases of flowers; General Bunbury Thompson (Mr. J. Pigg), dishes of fruit; Mr. W. Pole Routh (Mr. H. House), fifteen dishes of apples; Mr. H. Dunlop (Mr. A. Giles), flowers for table decoration; Mr. H. G. Cox, bottled fruits; and Mr. E. J. Dore.

In the centre of the platform was a magnificent display of chrysanthemums and begonias from Mr. S. B. Joel's gardens at Maiden Erlegh. Seedling chrysanthemums, sent by Mr. Leonard Sutton, compared well with their more formal relations for decorative purposes. A meritorious group of single chrysanthemums was sent by Mr. M. H. F. Sutton. The exhibits of Mrs. Noble, of Park Place (Mr. T. J. Powell), occupied a table extending along the front of the platform. They included some good fruit, exceedingly fine home-grown citrons, lilies of the valley, salads growing in pots, and a box of young potatoes grown from retarded tubers. In the centre of the table was a novel and pretty table decoration, comprising an open umbrella and a star composed of Bougainvillea glabra and smilax. The table, running almost the length of the hall, was largely devoted to fruit. It was broken by two fine bays, one composed of Begonia Gloire de Lorraine and the other of Primula sinensis, both provided by Mr. Leonard Sutton's gardener, Mr. Townsend. Captain Leslie Wilson staged some choice carnations; while Sir Rufus Isaacs, contributed, with Mr. Herbert Pretty, of Elmhurst, some well-grown Primula obconica. The president of the association (Mr. F. B. Parfitt) sent apples which were in splendid condition, notable dishes being those of Peasgood's Nonsuch and Blenheim Orange. Mr. T. R. Harman and Sir William Farrer were also notable exhibitors of fruit. Mr. J. Walters' gardener, Mr. W. Barnes, brought some fine produce from Bear Wood, and made an exceedingly effective decorative exhibit with fruit, flowers, and berries. Under the gallery Mr. G. Stanton made an attractive show of his "winter reminders of summer beauty," in which he demonstrated the decorative value of dried everlasting flowers, statice, honesty, winter cherry, ornamental grasses, etc. Messrs. Sutton and Sons staged a fine exhibit of bulbous and tap-rooted vegetables. Mrs. Collins, Mr. L. R. Erskine, Mr. J. F. Child, and the University College, Reading, also made good exhibits of vegetables and fruit. Mr. H. G. Cox showed some bottled fruit in fine condition, the fruit being preserved whole in nothing but plain water. Among the kinds were Victoria plums, gooseberries, strawberries, and damsons.

Mr. L. Castle, the hon. secretary, is to be congratulated upon the success achieved.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, November 22.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair); Messrs. W. E. Ledger, J. Douglas, R. Hooper Pearson, A. Worsley, and F. J. Chittenden (hon. secretary), with W. W. Pettigrew (visitor).

PINE SEEDS.—Mr. J. Douglas, V.M.H., drew attention to the sale of the seeds of Pinus pinea under the name of "pignolia" in Bournemouth and elsewhere. These nuts are used for flavouring, etc.

GENTIANA PNEUMONANTHE FORMA ALBA.—Mr. Chittenden showed a white-flowered specimen G. pneumonanthe, found by Admiral Carr on Chobham Common, and already alluded to in these columns (see p. 372).

Cardiff Gardeners' Association.

Mr. J. Mountney presided over the usual fortnightly meeting of this association, held at the Sandringham Hotel, on the 22nd ult., when Mr. E. J. Lingwood, artist and garden designer, of Westleton, near Saxmundham, Suffolk, gave a most interesting and instructive lecture on "Banks in the Garden, and Their Treatment." The lecturer dealt with the subject in a most able manner, detailing the methods of making formal banks and terraces, and the different angles at which they should slope, showing diagrams illustrating this. He also showed how to convert untidy banks into most interesting parts of the garden, and gave a list of plants most suitable for planting thereon. Mr. Lingwood described the method of building dry walls, and the most suitable subjects for furnishing them.

A most interesting debate followed, in which most of the members took part; many questions were asked and answered, and the lecturer was accorded a hearty vote of thanks. The Chairman, in closing the meeting announced that on December 6 Mr. J. C. House, of Combe Nursery, Westbury-on-Trym, the representative of the Bristol Association, would give a lecture on "Herbaceous Perennials."

Bristol Gardeners' Association.

The usual fortnightly meeting was held on November 10, at St. John's Parish Rooms; Mr. Garaway presided over a good attendance.

Mr. Porter, of the Bath Society, gave a paper on "The Herbaceous Border." The Lecturer said the herbaceous border was necessary as a contrast to the stiff and formal appearance of the flower beds, being also valuable on account of the length of time flowers are secured. Mr. Porter recommended a situation with a background formed by shrubs or a wall, preferably the former, with a south or west aspect; a soil of a light nature he considered best, and when trenching previous to planting leaf-mould and well-decayed manure should be added. Propagation might be done in three ways—division, cuttings, and seeds. Mr. Porter gave a long list of kinds in three sections—tall, medium, and dwarf. Included in the former were bocconia, rudbeckia, aconitum, eryngium, verbascum, artemisia, delphinium, astilbe, and kniphofia. Medium height: Anchusa, campanula, cimicifuga, thalictrum, hemerocallis, phlox, and asters. Dwarf: Incarvillea, dictamnus, salvia, funkia, montbretia, isatis, and ostrowskia.

For two bunches of grapes Mr. Scott was first, Mr. Jennings second, and Mr. Shelton third. Mr. Hoskins, of Henleaze, was awarded a special certificate for a grand exhibit of chrysanthemums; among the best were Madame Julien Valet, Freda Bedford, and Felton's Favourite.

FORTHCOMING ENGAGEMENTS.

MONDAY, December 5.—National Chrysanthemum Society's Conference at Essex Hall, Strand; First session at 3 p.m., under the presidency of Sir Albert Rollit; evening session at 6.30 p.m., under the presidency of Mr. Thomas Bevan. There will also be a display of chrysanthemums from 3 p.m. to 9 p.m.

TUESDAY, December 6. — Royal Horticultural Society; Committees meet at 12 o'clock; lecture at 3 p.m., by Mr. C. Herman Senn, on "Cooking of Vegetables"; Scientific Committee, at 4 o'clock.

WEDNESDAY, December 7.—Perpetual Flowering Carnation Society's Winter Show at the Royal Horticultural Hall.

THURSDAY, December 8.—National Rose Society. Annual Meeting, at the Westminster Palace Hotel, commencing at 3 p.m.; Conversazione, 4.30 to 6 p.m.

THURSDAY, December 15.—Annual Meeting of the National Sweet Pea Society at the Hotel Windsor, commencing at 3 p.m.

TUESDAY, December 20. — Royal Horticultural Society; the Committees will meet at 12 o'clock to consider novelties, but there will not be the usual exhibition.

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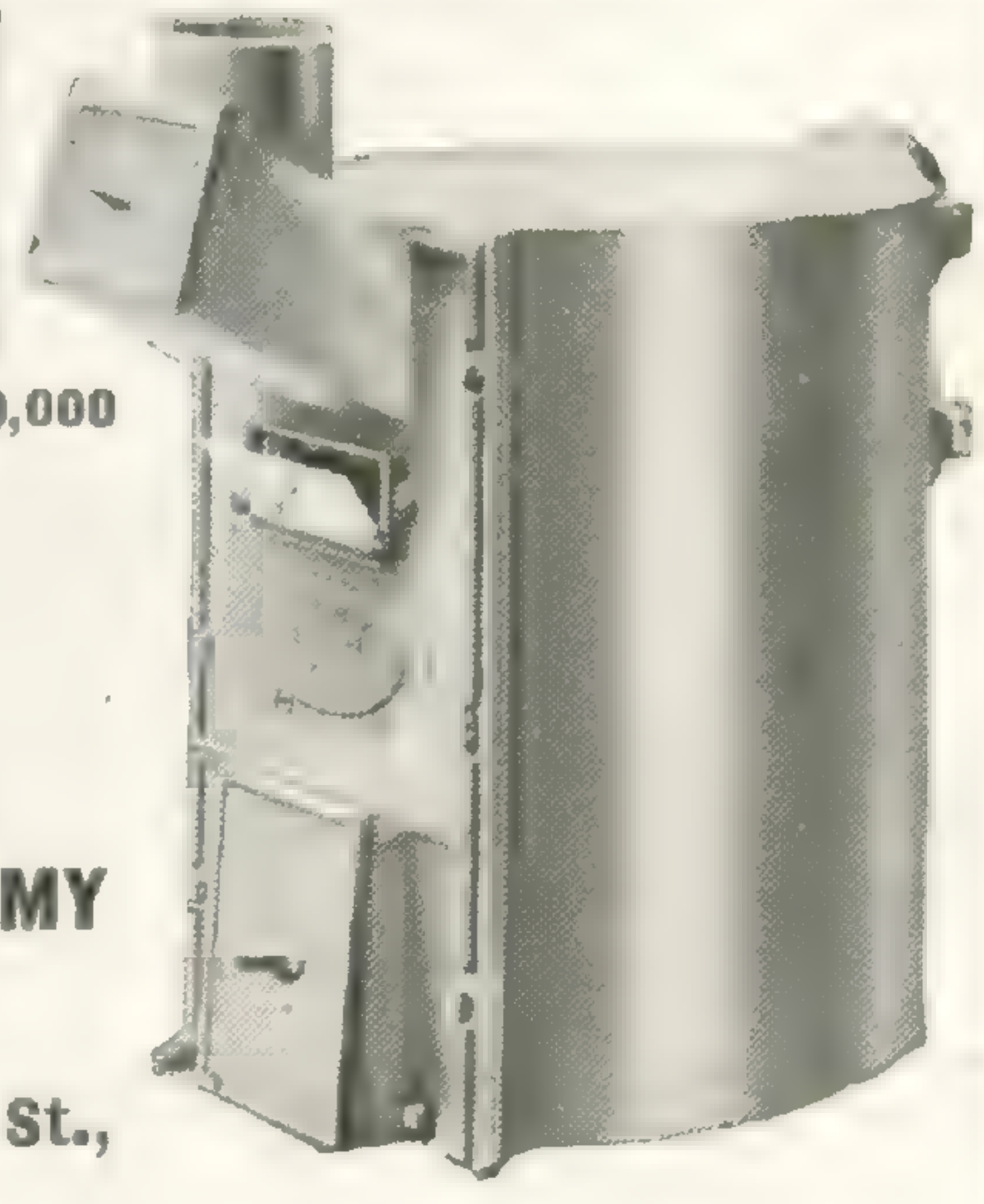

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention correspondents are requested to distinctly mark the paragraph.

DRIED MAIDENHAIR FERN FRONDS.—We shall be obliged if any of our readers can tell us what special method is followed in the drying of maidenhair fern fronds for decorative purposes. At this season of the year bunches of dried fronds are offered for sale in bazaars, fancy shops, etc. A correspondent is asking for the information.

GROUPS OF PLANTS AND FLOWERS AT THE HORTICULTURAL HALL.—T. H., Blackburn: You are under a misapprehension. Neither nurserymen nor amateurs pay the Royal Horticultural Society anything for the privilege of staging a group of fruits, plants, flowers or vegetables at the Royal Horticultural Hall, Vincent Square, Westminster, nor, on the other hand, does the Royal Horticultural Society pay nurserymen or amateurs to exhibit. Those who exhibit need not necessarily be Fellows of the society. Notification of intention to exhibit must be sent to the secretary of the society, the character and size of the proposed display being stated. Space is then allotted according to the entries received, and it is not always possible to obtain the full amount of space desired. Exhibits of every kind must be ready for inspection not later than 11.30 a.m. All exhibits of plants, fruits, etc., must be staged so as to come under the purview of one or other of the committees, viz., the Fruit and Vegetable, the Floral (which includes shrubs, trees, ferns, and foliage plants), the Orchid, and the Narcissus and Tulip Committees. Items coming under one committee should not be mixed with those coming under another. Each should be staged separately at one distinct part of the whole group.

VIOLETS IN FRAMES.—G., Leighton Buzzard: It is quite impossible for us to say why your violets are not a success without first knowing how the plants have been produced and managed. There are two ways of commencing operations, and one is to secure young runners in quite early spring, and dibble them in a cold frame in sandy leafy-soil, and plant them out of doors in April. Another way is to pull to pieces at the end of March or early in April, the plants that have already flowered, and select the strongest single growths for planting. The site chosen should be an open one, and the soil in first-rate condition as regards food content and drainage. Heavy, cold soils are unsuitable. Plant the selected growths fifteen inches apart in the case of the robust single varieties, and a foot apart in the case of double varieties. The great point is to get the plants well started into growth before hot weather sets in, so as to reduce the need of watering and syringing, and prevent attacks of red spider. Keep the plot well weeded and hoed, and remove all runners as soon as they are seen. A light surface dressing of half-decayed leaf-soil in early summer will also serve to reduce evaporation. A frame or pit with a southern aspect must be provided, and if a single row of hot-water pipes runs round the structure so much the better, as a little heat may be turned on during frosty weather, and also in a spell of damp, cold weather, as this, with ample ventilation, will ensure a circulation of air among the foliage, and prevent damping of leaves and flowers. Good garden soil over sufficient drainage will suffice to put the plants in, though the addition of leaf-mould will usually be an advantage. Put the soil in the frame or pit a few days previous to lifting the plants, thus allowing it to settle down. Sufficient soil should be used to bring the plants within three or four inches of the glass, but ten inches of soil should be the least amount provided. Lift and plant the violets in the frames early in September; lift with as much soil attached to the roots as possible, and plant just so that the leaves of one specimen do not overlap those of its neighbours. Give a thorough watering immediately after planting, but do not put on the frame lights until the nights become very cold.

CORRECTION. — TOP-DRESSING LAWNS.—"Hybernia" writes: "Under the heading of "Top-dressing for Lawns," p. 912, and about half way down the column, for "to a depth of not more than a quarter of an inch," please read "to a depth of not more than an eighth of an inch."

GOOD APPLES FOR THE NORTHERN COUNTIES.—J. C., Newcastle: The following are apples highly recommended for the Northern Counties: Dessert apples—Golden Spire, Lord Grosvenor, Grenadier, Domino, Early Victoria, Liddell's Seedling (a local Northumbrian seedling), Duchess of Oldenburg, and Ecklinville for early varieties; Lane's Prince Albert, Bismarck, Bramley's Seedling, Newton Wonder, Northern Dumpling, Tower of Glamis, Warner's King, and Schoolmaster as late varieties. Good early dessert varieties are Beauty of Bath, Mr. Gladstone, James Grieve, Worcester Pearmain, Nunnick Red (a local northern variety), Irish Peach, and Lady Sudeley, with Allington Pippin, Sturmer Pippin, Blenheim Orange, Cox's Orange Pippin, and King of the Pippins as late sorts.

PRIMULA OBCONICA.—W. L. J., Staffs: The leaves are being carefully examined, and we will report again later. It appears as though the foliage has suffered from severe cold while damp.

SLUGS ON PEACH TREES.—G. P., Parkstone: If you cannot persuade your neighbour to deal with the slugs on his side of the wall you will have to take special precautions to prevent the pests from coming over the wall and doing harm to your peaches. A layer of small ashes, with the dust sifted from them, would be difficult for the slugs to surmount if laid along the top of the wall.

WEEDS ON LAWNS.—R. W., Holmwood: The lawn sand is the material referred to, and this can be obtained through any of the sundriesmen or nurserymen who advertise in our columns, and directions for use will be sent with the material.

NAMES OF PLANTS.

D. M. M., Hever.—See next issue.

H. M., Huddersfield.—Stachys lanata.

H. B., Exeter.—1, Solanum capsicastrum; 2, S. Melongena; 3, Lælia Perrini.

W. M., Holywood.—Probably a Hechtia; we hope to determine it by next issue.

R. D. W., Hertford.—1, Areca lutescens; 2, Primula floribunda; 3, Browallia elata.

S. L. O., Halstead.—1, Chironia linoides; 2, Leucadendron argenteum; 3, Plumbago rosea; 4, Artemisia abrotana.

M. G. S., Chalfont. — 1, Ligustrum lucidum; 2, Leycesteria formosa; 3, Berberis stenophylla; 4, Mahonia aquifolia; 5, Cedrus Deodara; 6, Cryptomeria elegans; 7, Garrya elliptica.

NAMES OF FRUIT.

L. E. B., Knebworth.—Uvedale's St. Germain.

F. E. R., Bournville.—1, King of the Pippins; 2, Bismarck.

M. E. J., Torrington.—1, Wealthy; 2, Loddington; 3, Newton Wonder; 4, Golden Noble.

O. G. C., Chester. — 1, Lord Derby; 2, Warner's King; 3, Dutch Mignonne; 4, Catillac.

J. G., Shrewsbury.—1, Cox's Orange Pippin; 2, Ribston Pippin.

W. N. P., Axminster.—1, Dumelow's Seedling; 2, Bramley's Seedling; 3, Sturmer Pippin; 4, Gravenstein; 5, Beurre Diel.

A. F., Lowestoft.—1, D'Arcy Spice; 2, London Pippin; 3, Warner's King; 4, Mère de Ménage; 5, Emperor Alexander; 6, King of the Pippins.

L. C., Alverstoke.—We have received the specimens, but, not being satisfied as to the name of the tall apple, we are making further comparisons.

G. N., Clitheroe.—We do not recognise the pear sent, it was not a characteristic specimen, and was badly marked with scab. You should winter-spray your fruit trees.

MARKETS.

COVENT GARDEN.

Flowers.

Supplies are good, and prices have advanced a little in many cases. Chrysanthemums and carnations are good.

		s.	d.		s.	d.
Acacia	per pad	6	0	to	8	0
Azalea, white	per doz. bun.	4	0		5	0
Adiantum cuneatum	per doz. bun.	4	0		7	0
Asparagus	per doz. bun.	9	0		12	0
Bouvardia	per doz. bun.	4	0		5	0
Camellias	per doz.	1	0		1	6
Cattleyas	per doz.	9	0		12	0
Carnations	per doz.	2	0		3	0
,,	per doz. bun.	6	0		9	0
Chrysanthemums	per doz. bun.	3	0		6	0
,,	per doz. blms.	1	6		3	0
Croton leaves	per bun.	1	0		2	6
French fern	per doz. bun.	2	6		4	0
Gardenias	per doz.	1	6		3	0
Lapagerias	per doz.	1	6		2	0
Lilium auratum	per bun.	1	6		2	6
,, speciosum	per bun.	1	3		1	6
,, longiflorum	per bun.	1	6		2	0
Lily of the Valley	per doz. bun.	9	0		15	0
Marguerites	per doz. bun.	1	6		3	0
Mignonette	per doz. bun.	1	0		2	0
Narcissus, Paper White	per basket	8	0		10	0
Odontoglossums	per doz. blms.	2	0		3	0
Pelargoniums	per doz. bun.	2	0		6	0
Physalis	per doz. bun.	2	0		4	0
Roses	per doz.	0	9		3	0
Smilax	per doz. trails	2	0		3	0
Tuberoses	per doz.	0	4		0	5
Violets	per doz. bun.	1	6		2	6

Fruits.

The supply of British apples is practically over except in the case of choice dessert varieties that are being held over for Christmas. Grapes are cheap.

		s.	d.	s.	d.
Apples, English	per bush.	4	0	10	0
,, American	per barrel	14	0	24	0
,, Californian	per box	6	0	8	6
,, Nova Scotian	per barrel	14	0	24	0
Bananas	per bun.	3	6	12	0
Cobnuts	per bag	12	0		
Chestnuts	per bag	10	0	14	0
Cranberries	per case	8	0	10	6
Figs	per doz.	1	0	3	0
Grapes, English	per lb.	0	9	3	6
,, Guernsey	per lb.	0	6	1	3
,, Almeria	per barrel	8	0	17	0
Lemons	per case	16	0	36	0
Melons	each	0	9	3	0
Oranges	per case	8	0	16	0
Pears, French	per crate	5	0	10	0
,, English	per bush.	6	0	9	0
,, Californian	per case	16	0	21	0
Pineapples	each	2	0	5	0

Vegetables.

Supplies are steady and business is good for the season.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	3	0
Asparagus	per bundle	4	0		5	0
Beet	per bush.	1	6		2	6
Brussels Sprouts	per ½-bush.	1	3		2	0
Cabbages	per tally	2	0		4	0
Carrots	per doz. bun.	1	0		2	0
Cauliflowers	per tally	5	0		7	6
Celery	per doz. rolls	6	0		10	6
Cucumbers	per flat	6	0		7	6
Endive	per doz.	1	0		1	9
Lettuce, Cos	per doz.	1	6		2	0
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	7	6		12	0
Onions	per bag	4	0		4	6
Parsnips	per bag	2	0		3	0
Radishes	per doz. bun.	1	0		1	6
Parsley	per ½-sieve	1	6		2	0
Spinach	per bush.	1	3		2	0
Tomatoes	per doz. lb.	3	6		4	6
,, Guernsey	per doz. lb.	2	6		3	0
Turnips	per doz. bun.	1	0		2	0
Watercress	per doz. bun.	0	3		0	6

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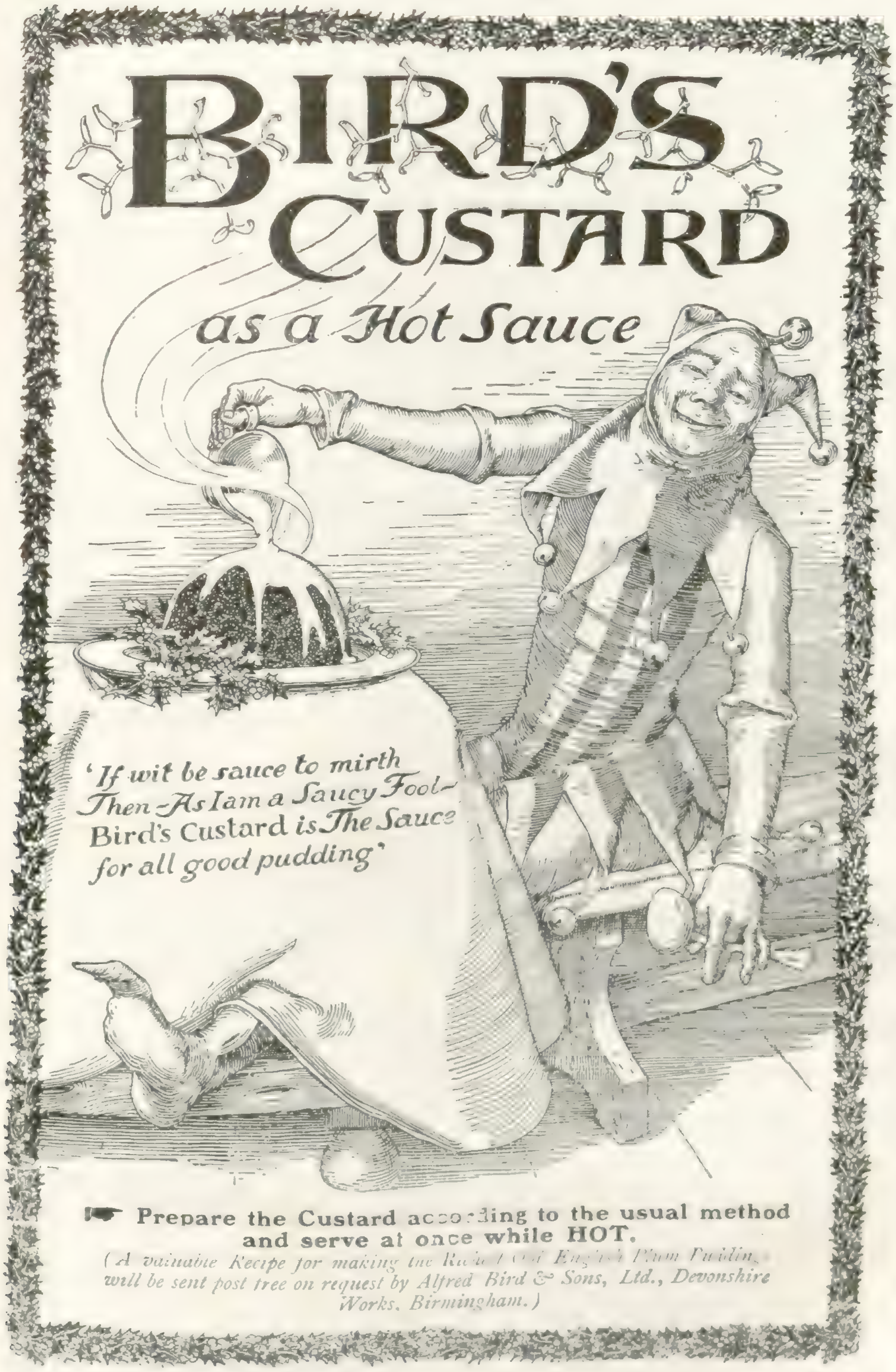
Eclipse	per ton	60	0		75	0
Epicure	per ton	60	0		65	0
King Edward	per ton	70	0		80	0
May Queen	per ton	65	0		70	0
Up-to-Date	per ton	80	0		100	0



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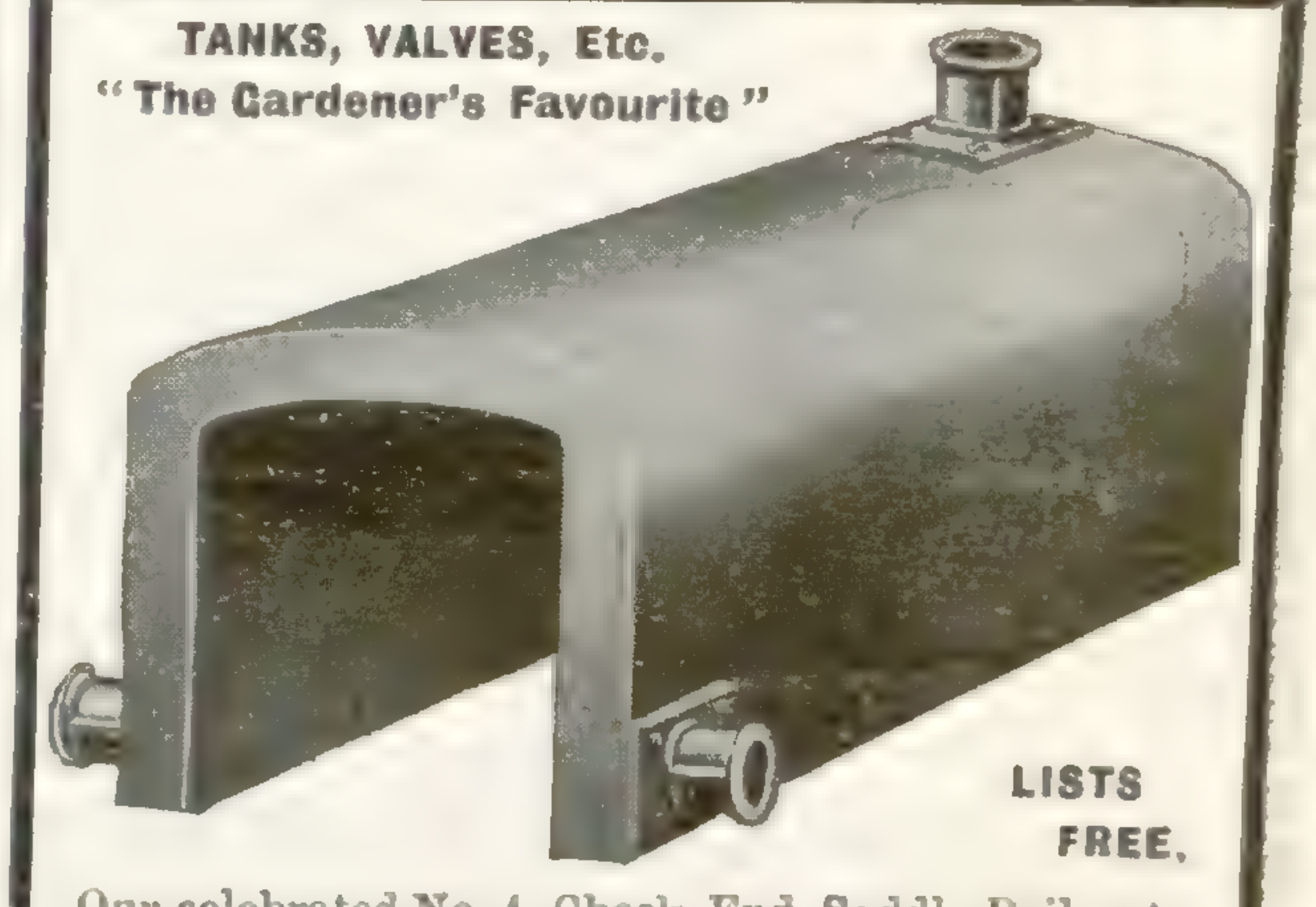

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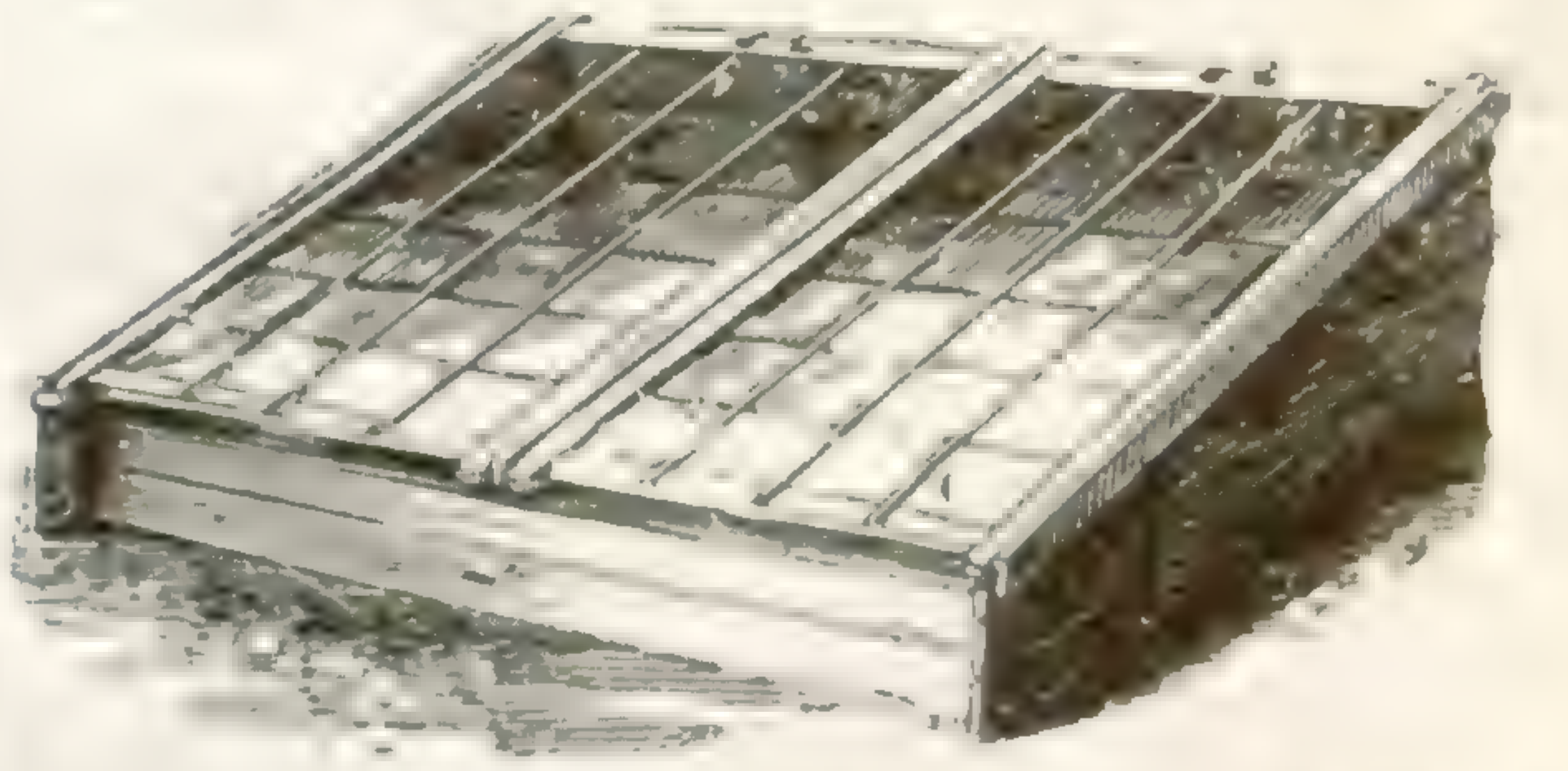

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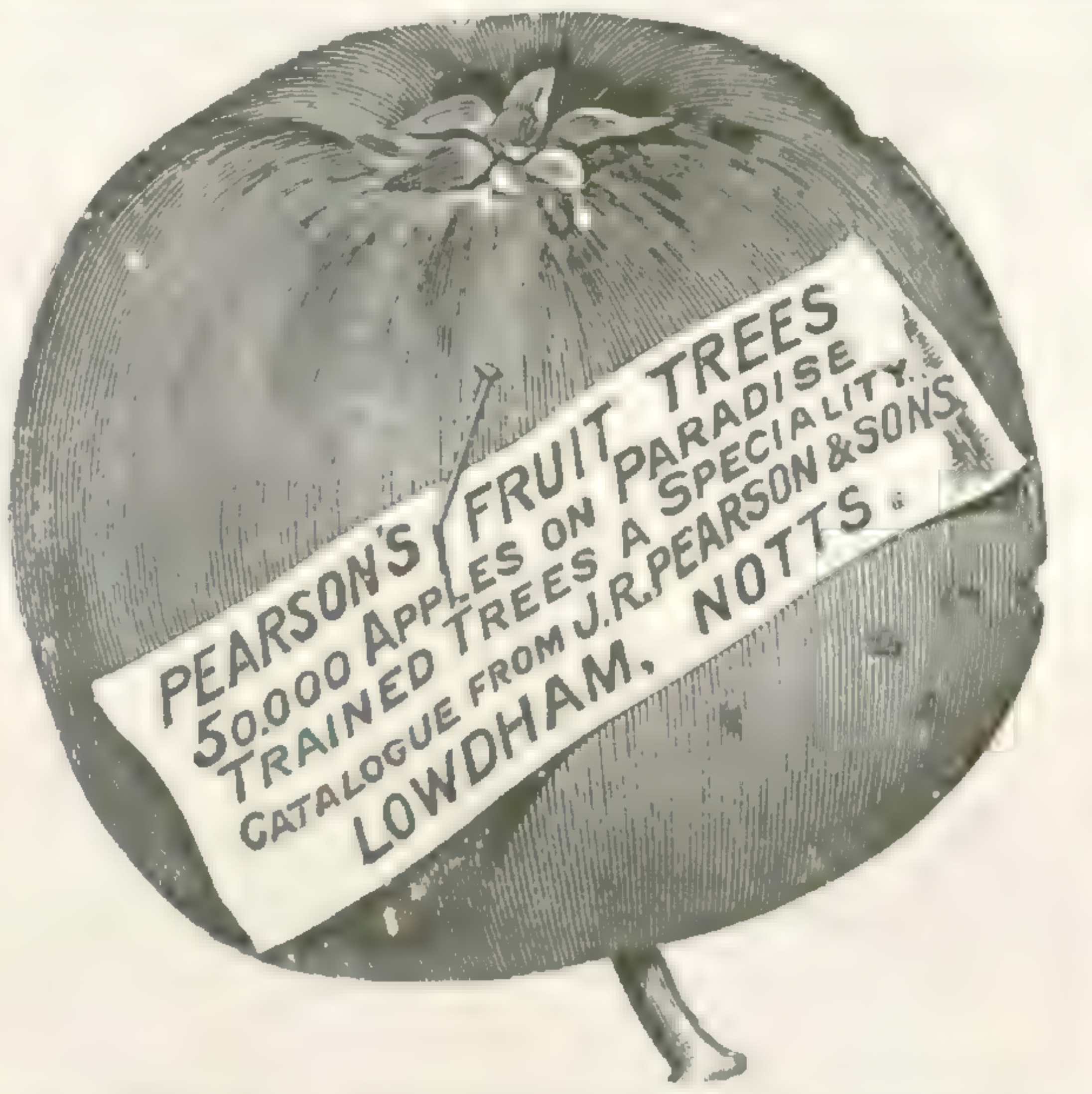
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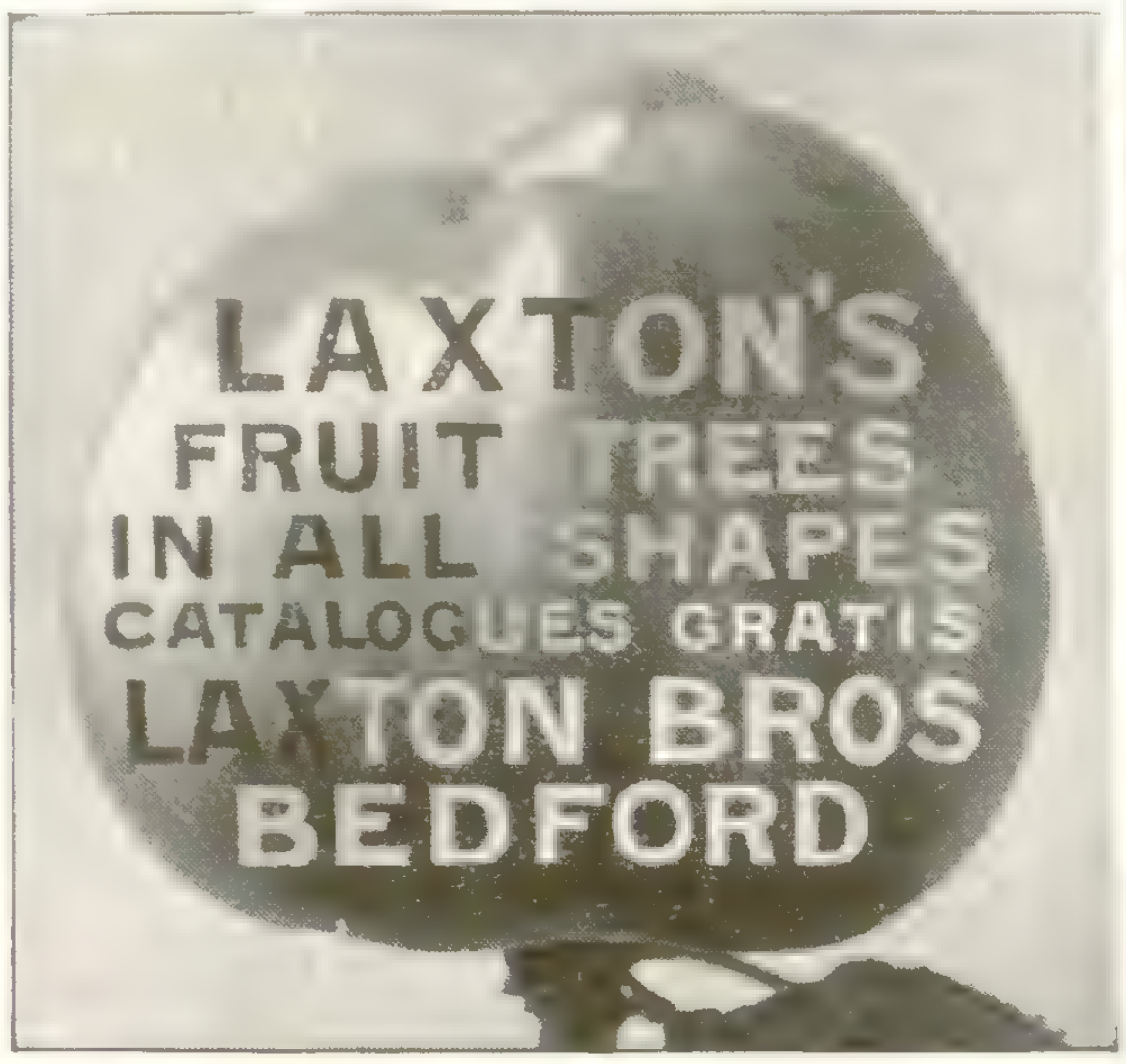

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VOL. LIII.—No. 2,980. SATURDAY, DECEMBER 10, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Frost.

Frost, popularly considered, simply means the result of a thermometrical fall below 32 degrees Fahrenheit, at which point water of ordinary purity congeals from a liquid into a solid. In calm weather aerial moisture becomes frozen into hoar frost as it is deposited, and if the temperature falls still lower we find the inside of our window panes covered with beautiful crystal foliage, due to the condensation of our moisture-laden breath upon them. As the frost continues all exposed water gradually becomes solidified downwards from the surface, while, in all probability, the aerial water which at a higher temperature would fall as rain, will be precipitated in little clusters of most beautiful hexagonal crystals to add a finishing touch to the now wintry landscape in the shape of snow. Very rarely, however, do we attach the idea of frost to anything else than water, and yet water is only one of the many things which are capable of existing in more than one form, determined by difference of temperature in the same way. Water, as we know, may be liquid as water proper, solid as ice, and gaseous or invisible in the form of vapour, and science, in these later days, has practically proved that all the solids, liquids, and gases which go to form our earth can be brought into any one of these three conditions if only sufficiently low or sufficiently high temperature can be produced to freeze, melt, or vaporise them, as the case may be. Unless the earth were warmed by the sun's genial rays, and hence protected from the inconceivable cold of space, nothing liquid would exist, the very air itself would be frozen and deposited as a snow upon an underlying shell of aqueous ice. On the other hand, if the earth were subjected to the temperature of the sun, or, at any rate, of its glowing envelope, everything solid would be vapourised, even the very metals themselves. As a natural result of this fact we are entitled to regard all solid bodies as frozen ones, all liquids as melted solids, and all gases as vapourised ones, due to temperatures far and away above their freezing point, though tolerable, or even pleasant, to humanity. Hence, under the hottest sun-blaze of the tropics we are surrounded on all sides by literally hard frost, and at the Poles themselves by temperatures of great height, as compared with the freezing points of the gases concerned. It is literally everywhere a question of degree. Leaving, however, this scientific aspect of frost in general, we may turn to consider the general effect of the frost popularly recognised. This is a great factor in horticulture as a natural force, which does an infinity of work in breaking up the hard and uncultivatable rocks beneath our feet into fertile cultivatable soil. A large proportion of our alluvials are due to frost, for, owing to the almost unique faculty of expansion of water, instead of contraction, in the act of congelation, every fissured rock exposed to rain, and subsequently to frost, is bound to be split up, and further fractured by the irresistible expansion of the enclosed water in its crevices. The fragments, sooner or later, find their way to the nearest stream by gravity and denudation, and there become mingled with the debris of vegetation, and, wearing down as they progress, are eventually deposited by wintry spate and inundating flood far beyond the banks of the parent stream, to form the alluvial soil, and the underlying gravels, by which the gardener eventually profits. Where lofty mountain ranges prevail, and soar above the line of perpetual snow, it is frost which draws that line, and piles up the burden of ice, born probably of tropical ocean waters, and wafted thither as beneficent clouds by the ocean breezes. Here, too, an infinity of preparatory work of the breaking down class we have indicated is effected. Go to the foot of one of the mighty glaciers which form the estuaries, as it were, of these rivers of ice, and see how the tumbling flood is laden with pulverised rock, while close at hand a huge moraine is sure to be found, destined sooner or later to perform the like service as a basis and food for plant culture. The very mountains themselves owe their shape to frost, which during æons has been chiselling them out and clipping them down, while in their lower and warmer levels, clothing themselves with vegetation to provide that admixture of humus which enriches the soil so liberally for the agriculturist, horticulturist, and humanity generally.

MR. JOHN C. CYPHER.

Mr. John C. Cypher, whose portrait we have the pleasure of giving in this issue, is one of the best known of the many members of the nursery trade, and possessing marked ability and a genial temperament, he is held in high estimation by his many friends. Mr. Cypher holds a foremost place in commercial horticulture as an exponent of the art of plant arrangement, and the success he has achieved as an exhibitor of groups of plants arranged for effect is known to our readers. The first prizes that have been awarded to the firm of Messrs. J. Cypher and Sons, of which Mr. J. C. Cypher and Mr. F. Cypher are the members, must amount to several hundred. They have exhibited groups at Shrewsbury during the past 17 years, and in all but three, they have been first in the great class, and on one occasion they obtained premier honours in two group classes. Altogether, they have been awarded about thirty firsts at Shrewsbury, including many of great value, for specimen stove and greenhouse plants. At York they have exhibited specimen plants and orchids for thirty years with unvaried success. At Taunton Messrs. J. Cypher and Sons have exhibited for a similar number of years groups and specimen plants, and have always had the first prize group. At Wolverhampton, Hanley, and Cardiff they have specially distinguished themselves, and at the Royal Agricultural Society's show at Gloucester last year they were awarded four gold medals, and at this society's show at Liverpool in July last they were the winners of two gold medals. Messrs. J. Cypher and Sons have for some years past been large exhibitors of orchids at the Temple Shows, and many are the medals and cups that have been awarded them. As regards the groups, the firm, we need hardly say, is practically Mr. John C. Cypher, for they are invariably arranged by him with, of course, the necessary assistance. Most competitors are good winners, and Mr. Cypher is one of them, but he is a good loser also. It may be that the occasions are rare when he suffers defeat; we can remember once finding a second prize on an arrangement of his, but he was in no ways perturbed. It is a matter of much interest that, while specimen stove and greenhouse plants now obtain but little attention, they continue to be successfully cultivated at the Cheltenham Nurseries, as evidenced by the collections contributed by the firm to the principal exhibitions where provisions are made for them, and by the positions they usually occupy in the keenest of contests. Orchids are largely and well grown by the Messrs. Cypher, and it is a quite common occurrence to find them staging finely developed specimens, not only at the Temple Shows, but in the competitive classes at the leading provincial exhibitions, or contributing choice varietal forms to the meetings of the Royal Horticultural Society at Westminster.

R.H.S. Lectures, 1911. The lectures arranged by the Royal Horticultural Society for next year include: "Recent Work in Seed Selection," February 20, and "Origin of Varieties," March 14, by Mr. G. F. Scott-Elliott, M.A., B.Sc.; "The Past History of Conifers," June 6, by Professor A. C. Seward, F.R.S.; and "The Origin and Structure of Aquatic Flowering Plants," April 11; "The Origin of Monocotyledons and Aquatic Dicotyledons," June 20; and "Theory of the Origin of Species and Varieties by Mutation," by the Rev. Professor G. Henslow, M.A., V.M.H. The lectures by Mr. Scott-Elliott will be the Masters' Lectures, for the year.

Vegetable Cookery was dealt with in a singularly able manner by Mr. Senn at the general meeting of the Royal Horticultural Society on Tuesday, and the Fellows who crowded the lecture hall gave ample evidence of their appreciation of the advice given. In his opening remarks he directed attention to the importance of vegetables as articles of diet, and to the desirability of effecting an improvement in their selection and preparation for the table. He suggested that, while the plain cooking of vegetables should be greatly improved, attention should be directed to cooking and serving them in a more varied manner than is the case in the majority of middle-class and other households, and this he showed could be done without any material increase in time or cost. It would, he said, be an immense advantage were the practice that obtains in France, Switzerland, and some other Continental countries to be generally adopted in this country. He referred to the great aid the stock pot, which occupies so important a position in the French kitchen, is able to render in an endeavour to improve the methods of sending vegetables to table. It was interesting to learn that Mr. Senn regards vegetable fats as distinctly inferior to animal fats in the cooking of vegetables, and that he has a strong objection to a mixture of flour and water being served with choice vegetables, as is so frequently done, under the designation of melted butter. The butter, said Mr. Senn, should be at least equal to the flour, but, if in a rather larger proportion, it is a distinct advantage, and with this statement we are in full agreement.

Arbor Day at Sandgate.—The Sandgate Society has decided to postpone the celebration of Arbor Day until after the General Election. At a meeting of the committee, over which Mr. Miall H. Judge presided, letters were read from Sir Edward Sassoon, M.P., Sir Alexander Cockburn, Sir W. Hart Dyke, the Poet Laureate, Mr. Henniker Heaton, M.P., the Rev. Canon Rawnsley, and others, all expressing the opinion that Arbor Day at Sandgate would not be a success if held before the conclusion of the elections.

Daffodils in Orchards. — We have on several occasions referred to the great charm of daffodils when growing in orchards formed with trees of sufficient age to present a picturesque appearance, and consequently are much interested in the coloured plate published with the issue of "Amateur Gardening" for December 3, which depicts an Essex garden in which the Emperor and other daffodils are so happily associated with old apple trees as to form a floral picture of great beauty.

The Fruit Conference that was held at the South Eastern College, Wye, on the 2nd inst., was a great success, for the papers read were of a high order of merit, and there were present between 500 and 600 persons more or less interested in the cultivation, packing, and marketing of fruit. The papers included "Grading and Boxing English Apples," by Mr. Raynham, of Marden; on "Marketing," by Mr. Hooper, of Pershore; on "Co-operative Fruit Marketing," by Colonel Borton, of Chevening, Yalding; and on "Fruit Salesmen's Commissions," by Mr. F. Neame. Railway charges were referred to by several speakers, and Mr. E. Vinson, who sat on the Commission of Fruit Culture a few years ago, said no evidence whatever had been submitted to that Commission, though it was sought for, to show that English railways gave any preferential treatment to foreigners over home growers. English growers could have the same terms of carriage as foreigners if they followed the example of the latter and combined and sent their goods in four-ton lots instead of in large numbers of small quantities.

A Hundred-guinea Cup for Roses.—The Saltaire and Shipley Rose Society intends to surpass itself in 1911, and is already obtaining designs for a hundred-guinea trophy for roses, but the class in which this trophy will be offered for competition has not yet been decided. The date of the 1911 exhibition is Tuesday, July 11. We see that the society made a profit of £58 11s. 5d. on the present year's working, and the total turnover was £473 9s. 1d. The income from subscriptions amounted to £138 10s. 9d., and the takings at the gate were £267 6s. 9d.

"**Repertoire de Couleurs.**"—The great disadvantage of this really valuable work is that being in two volumes with 365 loose sheets of colour it is practically impossible for purposes of comparison to use it in the open air or at shows and floral meetings. At the recent Chrysanthemum Congress in Paris Mr. Harman Payne pointed out how useful it would be for journalists, reporters, and others who frequent meetings where novelties of chrysanthemums, dahlias, roses, sweet peas, etc., are shown if a bound pocket edition, containing only those colours found in such flowers could be issued. It was resolved that a sub-committee be appointed to consider the question.

Bees and Pollination of Fruit Blossom.—In the course of investigations made at Oregon Agricultural College into the question of self sterility of apples, some experiments were made to ascertain the part played by the wind and by bees in pollenising fruit trees. Small glass slides 1 x 3 inches in size, smeared with vaseline, were placed at distances varying from 4 to 30 feet from large trees in an orchard, and at heights from the ground level to 9 feet. After an exposure of twenty-four hours the number of pollen grains found on each slide varied from 7 to 16. The trees were in the height of their blooming period, and a strong wind was blowing, so that it is concluded that the wind cannot be relied upon to transfer pollen from tree to tree. To confirm the point, the blossoms of a tree were emasculated, and the petals, by which bees are attracted, were removed. During the whole period that the pistils of these blossoms remained receptive only eight bees were seen to visit the tree, while more than twice that number were seen in half an hour on a tree that blossomed profusely 20 feet away. Out of 1,500 blossoms emasculated only five set fruit, from which it is concluded that fertilisation is almost entirely dependent on bees and other insects.

Orchid Pictures at the R.H.S. Hall.—A very interesting exhibit made at a recent meeting of the Royal Horticultural Society, Westminster, consisted of a hundred and twenty-two paintings, framed and glazed, and set up so that they could be easily inspected. These paintings represented fine varieties of orchids, or fine hybrids in the collection of H. S. Goodson, Esq., Fairlawn, West Hill, Putney, who was the exhibitor. It was a most interesting exhibit, and brought, as it were, the cream of the Fairlawn collection into view all at once.

Lime Sulphur Wash, which is now being officially recommended by the American Department of Agriculture for use against attacks of "scab" on the varieties of apples which are liable to have their fruits or foliage injured by the use of Bordeaux mixture, is the subject of an interesting contribution by Mr. E. S. Salmon to the current issue of the "Journal" of the Board of Agriculture. Mr. Salmon states that in his experiments lime-sulphur wash was found efficient in resisting the attacks of powdery mildew, and was not hurtful to the foliage of apples that are specially susceptible to injury from spraying with Bordeaux mixture. The lime-sulphur wash may be made first in a concentrated form by boiling together quicklime (in lumps) 50lb., flowers of sulphur 100lb., and water 50 gallons. Iron or zinc "coppers" are suitable, but copper ones must not be used. The procedure is as follows: Place 10 gallons of water in the copper, and start the fire. Add the 50lb. of quicklime. When the slaking is well started, add the 100lb. of sulphur gradually, and mix until a thin, even paste is formed, taking care to break up all the lumps of sulphur as far as possible. If too thick, a little more water can be added. When thoroughly mixed, add water up to the 50-gallon mark (using a measuring stick). Boil for one hour, adding water when necessary to keep it at the same level. The wash thus prepared will be an orange-red liquid, consisting of a solution of sulphides and polysulphides of calcium, together with small amounts of other sulphur compounds. There will also be a small amount of insoluble lime and sulphur. Strain through butter-muslin, and store at once where air cannot reach the liquid. This concentrated wash can be kept, until wanted for use, stored in completely filled and corked stone jars or in barrels. If in barrels, the surface of the fluid must be protected from the air by a layer of oil (mineral). The concentrated wash thus prepared will require dilution, and the amount of dilution which is necessary in order to avoid "scorching" varies with the character of the foliage or plant to be sprayed, and can only be ascertained by experiment. In his experiments Mr. Salmon used a wash diluted by adding from 20 to 23 gallons of water to each gallon of the concentrated wash. When diluted the wash must be used at once.

The Southampton Horticultural Society has fixed the dates of its exhibitions for 1911 as follows: Summer show (roses, etc.), June 27 and 28; carnations and sweet peas, July 28; and chrysanthemums and fruit, November 7 and 8.

National Vegetable Society.—This newly-established society held its annual meeting at the Horticultural Hall on Tuesday, and, as the pressure on our space compels us to hold over the report until our next issue, we would mention here that the report and balance-sheet presented to the members were of a highly-satisfactory character, and fully justified Mr. Alex. Dean, V.M.H., who presided, congratulating the members on the splendid work that had been accomplished during the year.

The Gardeners' Company.—In a note having reference to "What the Guild of Gardeners is Doing," the "City Press" writes: "What are generally termed the minor Guilds are showing at the present time an activity that is not a little remarkable, and certainly is most gratifying as a sign of the times. The Gardeners' Company may be quoted by way of example. A few years ago it was in a moribund condition, whereas to-day there is a strong Livery, and the Court have done splendid work in the direction of bringing the Guild into line with the horticultural craft. Proposals now before the company give further evidence of activities in near prospect. We believe that the Duke of Teck is about to be admitted to the Livery; that the Court are taking steps to associate themselves with the forthcoming visit of the Colonial Ministers of Agriculture to the country; and that it is also in contemplation to pay an official visit to Holland with an introduction from the Board of Agriculture to the Dutch Government. Stronger testimony to the usefulness of the Guild could not well be forthcoming." We are pleased to learn that the Company is acquiring strength, and that the Court is endeavouring to bring it into line with the gardening craft. We trust the endeavour may be successful, but do not exactly understand how the association of the Company with the Colonial Ministers of Agriculture, or making an official visit to Holland on the introduction from the Board of Agriculture, is likely to prove helpful in effecting the laudable object in view. Agriculture is not horticulture, and had the Company paid an official visit to Haarlem last spring during the celebration of the jubilee of the Bulb Growers' Society, and arranged to co-operate with the committee of the International Horticultural Exhibition to be held in London in 1912, it would have had abundant opportunities for giving evidence of its activities while keeping well within its province. There is ample time for the Company to become associated with the last-named undertaking, and should an official visit be made to Holland, an introduction from the Royal Horticultural Society, with which the Company has for a long series of years been closely associated, would accomplish all that is necessary to the visit being pleasant as well as profitable.

Professor F. O. Bower.—Two medals are annually given by the King to the Royal Society, and this year one of these medals was awarded to Professor F. O. Bower, in recognition, as stated by Sir Archibald Geikie, the president, of the great merit of his contributions to morphological botany, of which department of science he is the acknowledged leader in Great Britain. Professor Bower's early studies in this field (1880-2), on the genera Welwitschia and Gnetum, were marked by the discovery of the true nature of the two persistent leaves in Welwitschia. The next period of his work was given to a study of the morphology of the leaf. He developed in 1884 the idea of the phyllopodium or leaf-axis, and discussed in 1885 the apex of the leaf in Osmunda and Todea. This latter study was cognate to subsequent researches, the results of which were given in 1886 in a review of "Apospory and Allied Phenomena." This work, of much intrinsic interest, is important as having led its author to formulate the views advanced in 1890 in a memoir on "Antithetic as distinguished from Homologous Alternation [of Generation] in Plants." Another memoir, published in 1889, on "The Comparative Examination of the Meristems of Ferns as a Phylogenetic Study," prepared in the light of the then received belief that the leptosporangiate ferns are the more primitive, was followed in 1891 by a discussion of this question, in which Professor Bower advanced morphological reasons for reversing the hitherto accepted phylogenetic order. The new conclusion has proved to be in accord with palæobotanical results, and marked another distinct step in the advancement of botanical science. During the third period of his work, 1892-1903, Professor Bower's papers, including an important series on the spore-producing members,have resourcefully maintained the antithetic doctrine, and have afforded a striking instance of the advantage of a well-considered working hypothesis as a guide to investigation. The career of morphological research here outlined has been recently crowned by the publication (1908) of a book on "The Origin of a Land Flora," which is one of the "most important contributions to the advancement of natural knowledge, published originally in his Majesty's dominions," within the period prescribed in respect of the award of Royal medals.

Rainfall for November in Aberdeen.—The table given below—compiled at Cranford House, Aberdeen—shows the rainfall in Aberdeen last month, and the figures for the corresponding month during the past eleven years. It will be noted that the total rainfall last month—5.98 inches—has only once been exceeded in November during the eleven years, and only once in the same period has the number of days on which rain fell been exceeded:

Month of November.	Total depth.	Greatest fall in 24 hours.	Date	Number of days with rain.
1910	5.98	0.75	6	24
1909	1.65	0.35	11	15
1908	1.63	0.22	11	18
1907	2.39	0.77	26	14
1906	4.34	0.78	5	18
1905	6.83	0.88	26	23
1904	1.41	0.67	22	13
1903	3.46	0.54	15	24
1902	2.78	0.63	6	19
1901	2.27	0.56	20	17
1900	5.10	1.12	15	28

ROYAL HORTICULTURAL SOCIETY.

Although the exhibition at Westminster on Tuesday, December 6, was not a very large one it was very attractive and interesting. Orchids, notably the winter-flowering cypripediums, were in great force, and winter-flowering begonias were another great feature. Flower paintings were contributed by Miss F. Farrer, Acton, and Mrs. E. S. Ough, Streatham Common. The British Columbian Government kept up their splendid exhibit of apples from the Colonial Fruit Show, and the Dominican exhibit of fruits was also still on view. The Fruit and Vegetable Committee had a very short sitting, and appeared only to have a few seedling and other apples to discuss.

FLORAL COMMITTEE.

Chrysanthemums were largely shown by Messrs. W. Wells and Co., Merstham, and the great feature of their exhibit was the single varieties, beautifully shown in stands and vases; Merstham Jewel, Lady Furness (A.M.), Caledonia, Gerbera, Jane Russell, Framfield White, Cannell's Crimson, Doreen, and Pink Felicity. Mr. Frank Lilley, Guernsey, showed single and decorative chrysanthemums, but some of the flowers appeared to have suffered during the journey from the Channel Islands.

An interesting exhibit of begonias of the B. Gloire de Lorraine type was put up by Messrs. Thomas Rochford and Sons, Broxbourne. Besides the type there were the varieties of Alba grandiflora, Amabilis, Turnford Hall, Rochfordi, new (A.M.), the brightest of the whole set, and Mrs. L. de Rothschild. In each case there were one or more big baskets of finely flowered plants, and these were set amid ferns, funkias, crotons, and palms. The same firm put up a collection of crotons, and among those the broad-leaved variety Maurice Rouviere was conspicuously good. A batch of lily of the valley completed the exhibit. Messrs. James Veitch and Sons, Chelsea, contributed beautifully-grown decorative and single chrysanthemums in 48-sized pots, and batches of bouvardias, the bright Jacobinea chrysostephana, and the several varieties of their attractive hybrid winter-flowering begonias, the brightest of the lot being Winter Cheer.

Messrs. Wm. Cutbush and Son, Highgate, had Frank Galsworthy, Beacon, Lord Chas. Beresford, Lady Elphinstone, Glendale, May Day, and other fine perpetual carnations on view, and in addition had an interesting exhibit of dracænas, oranges, Phœnix Roebelini, etc. Mr. L. R. Russell, Richmond, exhibited ivies in great variety, eleagnuses, and other ornamental shrubs. Begonia Gloire de Lorraine and its varieties, poinsettias, Primula obconica, a good form, and a collection of the newer nephrolepises and other elegant ferns, came from Messrs. H. B. May and Sons, Edmonton.

ORCHID COMMITTEE.

Messrs. Charlesworth and Co., Haywards Heath, had a beautiful display of winter-flowering orchids. In the centre were glorious spikes of Vanda cærulea, a lovely blue, associated with spikes of Odontoglossum armainvilliersense; at one end of the group was a batch of Oncidium prætextum, with some beautiful Brasso-cattleya. Special things were Odontioda Diana, O. Cassiope, Cypripedium Maudiæ, C. Niobe, Miltonioda Ajax, Odontoglossum Phœbe, O. Solon, O. ardentissimum, Lælio-cattleya Golden Oriole (very fine), and L.-c. Myrrha—all fine things. Mr. Edward V. Low, Haywards Heath, had a pretty plant of Sophro-cattleya Doris, and good examples of Cypripedium Waterloo (A.M.), a bold hybrid, C. Earl of Tankerville, C. Dora Crawshaw, C. Priam, and other good things.

From Westonbirt, Mr. Alexander, grower to Lieut.-Colonel Sir G. Holford, came Cymbidium Pluto, an interesting cross between C. Traceyanum and C. Mastersi; a fine plant of Vanda cærulea Bluebeard, with big blooms of brilliant colour; a splendid spike of Cattleya Arethusa, and a good plant of Cypripedium Draco. Mr. Hopkins, gardener to Francis Wellesley, Esq., showed a fine specimen of Cypripedium W. J. Mills, with eight flowers—this is presumed to be a cross between C. insigne Sanderæ and C. aureum. Mr. Menteith Ogilvie, The Shrubbery, Oxford, sent a splendid Odontioda Charlesworthi. Mr. Collier, gardener to Sir J. Colman, Bart., Gatton Park, Reigate, showed Calanthe Alpha, Cirrhopetalum picturatum, Zygopetalum rostratum, Cœlogyne Mooreana, Masdevallia Courtauldiana, and other interesting things. From Gatton there came also a grand old plant of Dendrobium speciosum nitidum. Mr. W. R. Lee, Plumpton Hall, Heywood, Leeds, exhibited Odontoglossum Rouge Dragon, with big rosy flowers, and the pretty O. Ceres.

Mr. H. Hill, gardener to S. Larkin, Esq., Ridgways, Haslemere, contributed a group of cypripediums and odontoglossums. Mr. R. G. Thwaites, Streatham Hill, brought up several sophro-cattleyas, including a good S.-c. Saxa. Mr Maurice Mertens, Ghent, again brought over some seedling odontoglossums. A fine plant of Lycaste costata from the Burford Lodge collection, shown by Mr. W. H. White, orchid grower to Sir Trevor Lawrence, carried large numbers of flowers. A specimen of Lælia anceps Amesiana, carrying ten spikes of its dark-lipped blooms, was staged by Mr. Bristow, gardener to Mrs. Temple, Leyswood, Groombridge. Cypripedium Clio was well shown by Messrs. J. Veitch and Sons; and Mr. Brooman White sent a good form of Oncidium sarcodes from Ardarroch.

A very pretty little group of cypripediums was staged by Messrs. J. Cypher and Sons, Cheltenham, and chief among the good things set up were C. Leeanum Corona, C. Van Dyke magnificum, C. Madame Jules Hye, C. Minos Veitchi, C. triumphans, C. Thalia gigantea, C. Charlesianum Cypher's var., and C. insigne Harefield Hall. An interesting group, chiefly of useful cypripediums, was arranged by Messrs. Mansell and Hatcher, Rawdon, Yorks, and here the leading features were C. insigne Sanderæ, C. Niobe, C. Leeanum compactum, C. arthurianum, C. insigne Dormanniana, C. Memnon, etc.

Some fine orchids were staged by Messrs. Sander and Sons, St. Albans, and these included the interesting Brassia Forgetiana, Cypripedium insigne Sanderæ with a dozen flowers, Houlletia Sanderæ, Odontoglossum Harryano crispum, Dendrobium formosum giganteum, and the brilliant Lælio-cattleya Haroldiana. Varieties of Lælia anceps were submitted by Messrs. J. and A. A. McBean, Cooksbridge, Sussex, who also had Cypripedium Fairrieanum, C. Leeanum, and C. insigne varieties.

Messrs. Armstrong and Brown, Tunbridge Wells, sent up a number of very fine cypripediums that included C. Niobe Westonbirt var., C. Actæus, C. Thalia Mrs. Francis Wellesley, C. Germaine Opoix Westfield var., C. Baron Schroder, C. Euryades splendens, C. Minos Youngi, C. Hitchinsæ, and a fine form of C. triumphans. From Messrs. Stanley and Co., Southgate, came a finely-flowered plant of Cypripedium Leeanum giganteum, and examples of C. insigne Harefield Hall, C. Minos Youngi, etc. The contribution from Messrs. Stuart Low and Co., Bush Hill Park, contained Cypripedium insigne Sanderæ, C. Arthurianum, Oncidium Cavendishianum, O. ornithorhynchum album, O. crispum, O. varicosum Rogersi, Masdevallia tovarensis, and Dendrobium phalænopsis.

The old useful and fragrant Zygopetalum Mackayi was freely shown by Mr. Allan, gardener to Lord Hillingdon, Hillingdon Court, Uxbridge; there were thirty plants and an aggregate of sixty-two spikes.

AWARDS OF MERIT.

No first-class certificates were awarded on this occasion.

Award of Merit.—To Japanese chrysanthemum, Mrs. Gilbert Drabble, and to single Chrysanthemum Lady Furness, from Messrs. W. Wells and Co., Merstham; to Begonia Gloire de Lorraine Rochfordi, from Messrs. Thomas Rochford and Sons, Broxbourne; to Odontoglossum Rouge Dragon, and to Odontoglossum Ceres Plumpton Hall variety, from W. R. Lee, Esq., Plumpton Hall, Heywood, Lancs; to Vanda cærulea Bluebeard, from Lieut.-Colonel Sir George Holford (grower Mr. H. Alexander), Westonbirt, Gloucester; to Cypripedium Waterloo, from Mr. E. V. Low, Vale Bridge, Haywards Heath.

MEDALS.

Silver-gilt Flora.—To Messrs. Charlesworth and Co., Haywards Heath, for orchids.

Silver Flora.—To Messrs. Sander and Sons, St. Albans, for orchids; to Messrs. James Veitch and Sons, Chelsea, for begonias and chrysanthemums; to Messrs. H. B. May and Sons, Edmonton, for ferns and flowering plants; and to Messrs. Thomas Rochford and Sons, Broxbourne, for begonias and crotons.

Silver Banksian.—To Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. Jas. Cypher and Sons, Cheltenham, for orchids; to Messrs. Armstrong and Brown, Tunbridge Wells, for orchids; to Messrs. Mansell and Hatcher, Rawdon, Leeds, for orchids; to S. Larkin, Esq. (gardener, Mr. Hill), Ridgways, Haslemere, for orchids; to Lord Hillingdon (gardener, Mr. A. Allan), Hillingdon Court, Uxbridge, for zygopetalums; to Messrs. Wm. Cutbush and Sons, Highgate, for carnations, etc.; to Mr. L. R. Russell, Richmond, for shrubs; to Messrs. W. Wells and Co., Merstham, for chrysanthemums.

Bronze Banksian.—To Miss F. Farrer, Acton, and to Mrs. Oagh, Streatham Common, for flower paintings.

NEW BOOKS.

CARNATIONS, PICOTEES, AND PINKS.

By T. W. Sanders, F.L.S. (W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London, E.C.). Price, 2s. 6d., by post 2s. 10d.

An admirably illustrated book, in which the show, border, perpetual and Malmaison carnations, the show and border picotees, the border and laced pinks, the Indian pinks, the sweet william, and the many kinds of alpine pinks, all very showy and interesting plants for decorating the border or rockery, have full attention. The author tells the reader how to grow carnations and picotees for garden decoration and exhibition. He also describes the various other types, such as the marguerite, grenadin, and so on, showing how they may be grown as annuals for yielding a wealth of flowers for cutting, decorating the borders, and even the window-box.

The perpetual-flowering type is dealt with in a manner that becomes its importance, as also is the Malmaison section, both being of much value for greenhouse decoration and the supply of cut flowers in autumn, winter, and spring. Other useful features of the volume are the chapters on cross-breeding, manures, diseases, pests and diseases, and the very full lists of varieties of the various types. The latter, indeed, are most comprehensive in character, and practically include all the known kinds in cultivation. The volume is profusely illustrated with portraits of the best varieties of each type, is provided with an excellent index, and is throughout of so high an order of merit that it should be added to the bookshelf of all who are interested in the beautiful and fragrant flowers to which it is devoted.

PANSIES, VIOLAS, AND VIOLETS.

By William Cuthbertson, J.P. (T. C. and E. C. Jack, 16, Henrietta Street, London; and Edinburgh.) Price, 1s. 6d.

This is one of the series of handbooks that are now being published by the Messrs. Jack under the general title of "Present Day Gardening," and is of much interest as evidence of the high standard characteristic of the scheme formulated by the publishers, and now being carried out with so much success. The series, we learn, is based upon a plan prepared by the general editor, Mr. R. Hooper Pearson, whose ability is so well known as to render any reference to it unnecessary, and the object is to provide separate volumes on popular subjects covering every branch of horticulture. The list of the volumes in the course of preparation shows that the needs of those who take an interest in gardening has been accurately gauged, and that much judgment has been evinced in the selection of the writers. The book before us is a proof of this, for the author has for many years past devoted close attention to pansies, violas, and their allies, and is not less well versed in their history than in the details of cultivation, and the relative merits of varieties. So fully equipped is Mr. Cuthbertson with a knowledge of all that concerns the flowers to which the book is devoted, that no safer guide to methods of culture, the selection of varieties, and historical details, could possibly be desired, and, it should be added, that as a guide Mr. Cuthbertson is as pleasant as he is safe, for, possessing literary ability of a high order, he is able to interest as well as instruct his readers. The book is illustrated by eight coloured plates, which possess much merit, and is well bound.

DAFFODILS.

By the Rev. Joseph Jacob. (T. C. and E. C. Jack, 16, Henrietta Street, London; and Edinburgh.) Price, 1s. 6d.

This book belongs to the series published by the Messrs. Jack under the general heading of "Present Day Gardening," and will be welcomed by those who devote attention to daffodils as a pleasant and useful guide to their cultivation. The book, which is in Mr. Jacob's best style, opens with a short, but interesting, sketch of the history of daffodils, and in the chapters that follow ample information is given on their cultivation for exhibition and garden decoration, the raising of seedlings, classification, diseases, and the selection of varieties for various purposes. The selection for growing in the grass is rather weak, for the author states that all daffodils will succeed in the grass, and then mentions "a few that are a little out of the common." It may be that all the daffodils will succeed in grass, but they differ considerably in their relative merits for that method of culture, and it would have been more useful to direct attention to those of conspicuous merit than to have enumerated varieties of which some can only be successfully grown under special conditions. If we are unable to agree with the author upon this point we can heartily recommend the book to those of our readers, and their number we know to be large, who are interested in daffodils.

Lilium tigrinum Fortunei.—This is a very fine lily for the open border, and the latest to bloom of all the tiger lilies. Magnificent bulbs of this variety are sent here every year from Japan, and, what is more, they are sold at a comparatively cheap rate. Planted in some good soil they will reach a height of five to seven feet, and bear a large number of blossoms. The leaves and stems of this particular variety are more woolly than those of any other of the tiger lilies, while the flowers are somewhat paler. These large imported bulbs seem in many cases to exhaust their energies with the first flowering, as they frequently take two or three years to recover.—W. T.

Costus igneus.—This gingerwort is a native of Bahia, and it needs a stove for its successful culture. There it forms an exceedingly bright feature during the autumn months, and, indeed, often into the dull days of winter. Like many of its allies, this costus forms a thickened root-stock, from whence stout leafy shoots are pushed up to a height of eighteen inches or thereabouts. The flowers, borne in a cone-like head, are individually from two to three inches in diameter, and of a fiery orange colour. They are thin in texture, and do not last long, but a succession is kept up from one head for a considerable time. The plant needs fairly liberal treatment with a free supply of water when growing.—W. T.

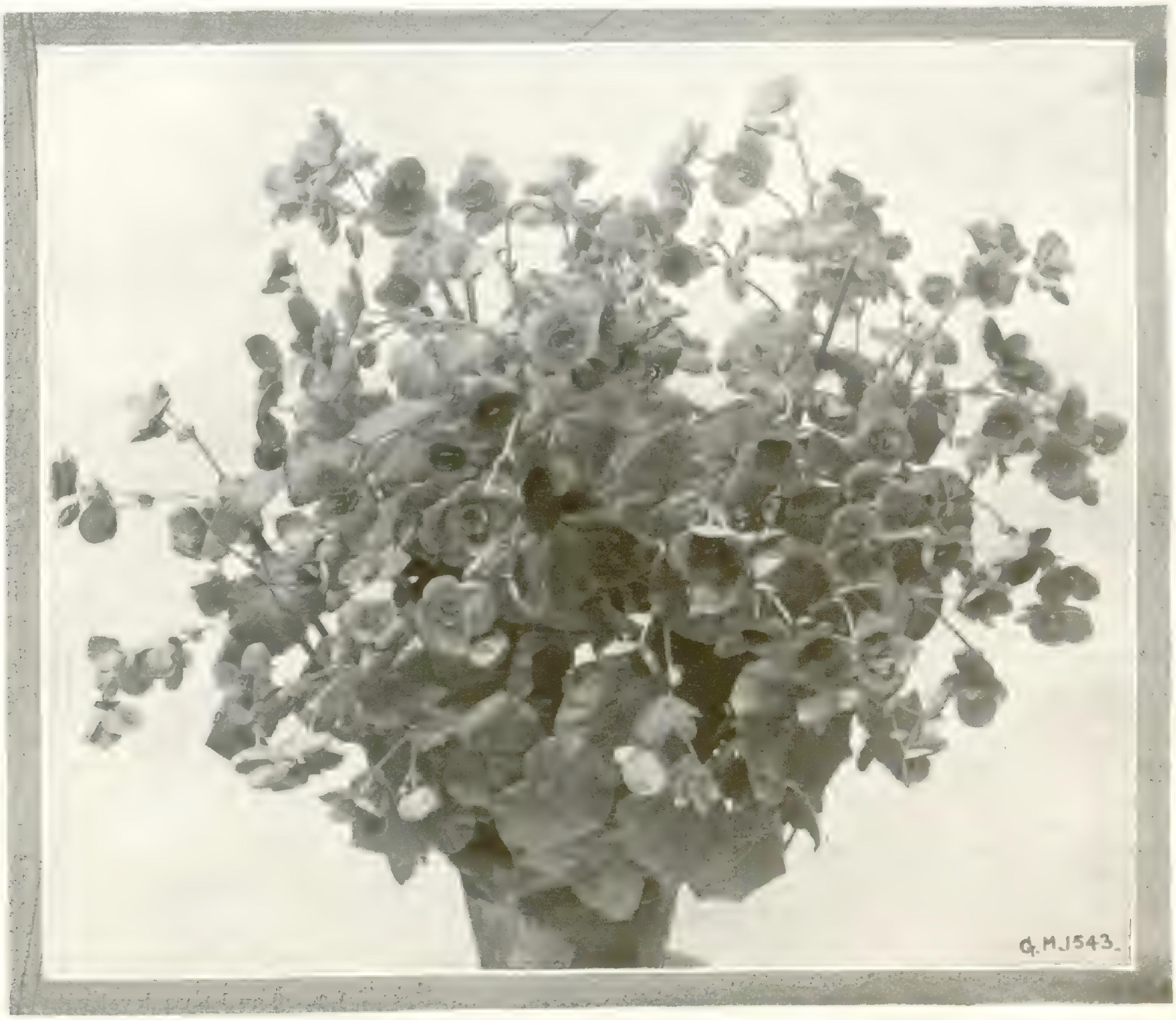
WINTER-FLOWERING BEGONIAS.

There are probably no flowering plants grown in the intermediate house capable of giving more pleasure during the dull winter months than the winter-flowering begonias of the type of which Ensign is an excellent example. This fine hybrid is, I would mention, of much value for decorative purposes, for it produces long, graceful branching sprays of bright carmine-coloured flowers, and whether arranged singly or massed in a group is very effective.

As much interest has been evinced in the bank of specimens of Ensign that I had the pleasure of contributing to the last of the November meetings of the Royal Horticultural Society, I am sending a few notes on the cultivation of the winter-flowering begonias belonging to the same group, with the hope they may be useful to those of your many readers who have to provide displays of flower at this season of the year, and, indeed, throughout the winter months. The practice which has proved so satisfactory here is to root the first batch of cuttings early in April. A compost consisting of equal parts of loam, peat, and leaf-mould is used, and the cuttings are placed in a propagating frame and the pots plunged in a bed where they receive the assistance of a bottom heat of 75 degs. As soon as well rooted they are put into three and a-half inch pots and maintained in a progressive state with the aid of a temperature of 65 degs., and a liberal degree of atmospheric moisture. When they are nicely rooted they are shifted into pots with a diameter of five inches, and as soon as these are filled with roots they are transferred to seven-inch pots, this last is the final shift, and is given early in July. The plants raised from cuttings rooted at a later date are put at their final shift into five and a-half inch pots.

The compost used throughout is prepared as mentioned above, but as a matter of course the loam and peat are not broken up so finely for the larger pots as in the case of the small pots. It is advisable to pot moderately firm, and to grow the plants in a structure in which a temperature of 65 degs. is maintained. Air must be admitted on all favourable occasions, the atmosphere being maintained in a buoyant state by damping down frequently and spraying the plants twice daily. It is advisable to close the house early enough in the afternoon to cause a rise in the temperature of 10 degs. above that mentioned in the preceding paragraph. Shading is a very important detail and must be strictly attended to, it being essential to screen the leaves from bright sunlight while admitting sufficient light to ensure a firm growth. Occasional fumigations will. it should be added, be necessary to prevent the attacks of insect pests.

A. R. Allan.



A FINELY-GROWN SPECIMEN OF BEGONIA ENSIGN.

Exhibited, with many other specimens, by Mr. A. R. Allan, at a recent meeting of the Royal Horticultural Society.

"CARNATIONS, PICOTEES, AND PINKS" will tell you plainly how to propagate and grow these favourite flowers to perfection. The work is freely illustrated with plates of leading varieties, and explanatory diagrams as to layering, taking cuttings, fertilising blooms, etc. Price 2s. 6d. net, by post, in box, 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

THE HIMALAYAN MAY APPLE.

Were the preferences of the podophyllums, or May apples, for moisture more studied these singular and pretty plants would ere now have attained a much greater amount of favour than they have ever received in British gardens. Fortunately, the increase in the taste for aquatic and bog plants has induced many to provide in their gardens positions for such flowers, and it is to be hoped that this will again lead to the podophyllums being more appreciated by reason of their being cultivated in really congenial positions, and not in the ordinary border or on the rockery, as we have, before now, seen them attempted. In moist and deep peaty soil, either in a prepared bed or by the margin of a stream or pond, these podophyllums will be at home.

P. Emodi is a very uncommon-looking subject, growing about a foot high, with handsome leaves, deeply divided into three lobes, but rounded in their outline, the lobes being again divided. In spring the white, rathed cupped flowers, are produced, and are about an inch across. Later the large edible berries, of a bright red,are produced, and these remain for some time on the plant. The leaves are very ornamental, both from their size and form. In suitable conditions they may reach as much as a foot across, but in dry soil they may be as small as six inches across. The Himalayan May apple is increased by division or by seeds sown under glass in autumn or spring.

S. Arnott.

THE POSITIONS OF AGRICULTURE AND HORTICULTURE.

When the British Gardeners' Association was established one of its objects was to raise the status of gardeners. How far it has succeeded, or is likely to succeed, in its estimable efforts in the above direction is not the point for discussion here, but there is an unmistakable agitation on foot just now for raising the status, not only of gardeners, but the industry of horticulture as a whole. People talk about agriculture as being the most important industry in the country, and in doing so one takes it that they refer to the cultivation of what are purely and simply farm crops. Even allowing this, and giving agriculture pride of place, horticulture is not far behind it, and people who are occupied in the latter industry are getting a bit tired of it being treated as a side issue of agriculture, when, as a matter of fact, it is too important to be placed in a subordinate position to anything.

When we consider the strides that horticulture has made in recent years, its importance to the country, the amount of capital invested in it, and the training, skill, and intelligence that are required to carry it on successfully, it can be fairly argued that any position of inferiority is an injustice, and as an industry horticulture is as indispensable to the nation as agriculture. Some people say that there is no need to particularise. In fact, they urge that horticulture is simply a branch of agriculture. I hasten to say that it is nothing of the kind, and to call a spade a spade, agriculture is farming, the growing of farm crops, management of cattle, sheep, horses, and the rest, and, in the same sense, horticulture is gardening, embracing the cults of vegetables, fruit, and flowers.

Without saying a word that is uncomplimentary to the skill and ability of the farmer, it cannot be urged that agriculture, as a business, requires more training than horticulture, or calls for the exercise of more skill and intelligence. Not a bit of it, and though this is no case for comparisons, an all round knowledge of farming is more readily and easily acquired than an all round knowledge of gardening. As evidence of this look round the private estates in the country, and note in how many cases men who have been trained as gardeners are acting as bailiffs, managing farms for their employers, and doing their work as well (sometimes better) as any farmer in the district. On the other hand, I wonder how many farm bailiffs have been given the management of their employers' gardens; and, if they were, I wonder what sort of a job they would make of it. This is rather a score for horticulture, for a man who has been trained in it can take up agriculture, and do it well, but you cannot reverse the positions and point to many instances of success.

PEAR LOUISE BONNE OF JERSEY.

To turn now to another phase, we have a Government Department, the much-abused Board of Agriculture and Fisheries. Mark you, there is nothing about horticulture in the title, but in some makeshift sort of way, the Board takes horticulture under its wing, though how many expert horticultural officials it possesses I am unable to say. One thing is ceretain, however, the Board is essentially a Board of Agriculture, and by this I mean farming, whereas horticulture comes in somewhere, I am not quite sure where, but its position is subordinate. Now this is the very thing that horticulturists are complaining about, and they ask to be put on equality with agriculture. Horticulturists may, or may not, be concerned in the reform of the House of Lords, but they certainly ask for some reform of the Board. In short, they want a Board of Agriculture and Horticulture (it doesn't matter to them whether Fisheries should be added as well), and they may work under the same roof if necessary, but they should be separate Departments, one on equality with the other, having their own experts in agriculture, on the one hand, and horticulture on the other. Reforms are not made rapidly, but it is only a question of time when these things will be.

A straw will indicate the way the wind is blowing, and there are plenty of signs to show that horticulture intends to stand on its own foundation, and be under the wing of nobody. Some movement is being made, too, and only recently I observed a proposal that there should be a Standing Committee of the Central Chamber of Agriculture formed to deal with matters concerning fruit culture and market gardening. In other words, this is to be a Horticultural Committee.

Now and then one sees horticulture getting an unpleasant knockback, instead of being encouraged, as, for instance, in the case of the London County Council, which, when it wants a chief officer for its parks, makes it plain that it does not want a horticulturist, but the head of a department, and the conclusion one arrives at from the appointment is that the individual chosen for the office need have no practical knowledge of the department of which he is the head. It is to be hoped that when a special Department of Horticulture is formed under the State that the example of the London County Council will not be followed in the appointment of officials.

In these days both agriculture and horticulture play an important part in education, but here again the craft which the GARDENERS' MAGAZINE represents is subordinate. Generally speaking, teachers of horticultural subjects are remunerated on a lower scale than those who teach agriculture, though there seems to be no logical reason why they should, as a lecturer in horticulture needs as much experience and practical training as a man who sets out to be a teacher of agriculture.

Speaking further of this matter, I have just read through a scheme for rural development submitted by the Rural Education Committee of the County Councils Association, and notice various suggestions about the appointment of Agricultural Instructors and Advisers, and Agricultural Organisers, but there is very little said about the need of Horticultural Instructors and Organisers, though experience shows that the demand for horticultural teaching is unsurpassed by any other department of rural education. In fact, the whole scheme throughout puts horticulture in a distinctly subordinate place, and it is difficult to see just exactly where it comes in, because after suggesting that each county should have a resident Agricultural Instructor and Adviser, and indicating what his duties should be, the committee puts down as further possible duties the provisions of a central county garden, demonstration allotments, and the laying out of gardens and demonstration plots, these matters being, one would think, distinctly the work of a Horticultural Instructor and Adviser.

In fact, all the way through it is the old story of giving horticulture a subordinate place in the arrangements, and this is the kind of thing that horticulturists are becoming rather tired of; they do not begrudge agriculture any of its privileges, but they claim that horticulture is an industry of sufficient national importance to be placed on a level with agriculture.

G.

Sutherlandia frutescens.—This, known as the Bladder Senna of the Cape, owing to its curiously inflated seed pods, is a decidedly pretty greenhouse shrub. The leaves are pinnate, and the drooping scarlet flowers are a good deal suggestive of those of Clianthus puniceus. As a rule the flowers are succeeded by the large conspicuous pods. Seeds are readily obtainable, but the plants raised in this way do not flower so freely in a young state as those struck from cuttings.—W. T.

Aristolochia elegans.—For a house of moderate dimensions where an intermediate temperature is maintained, this is a very desirable climber for draping a rafter, or for any similar position. Compared with many aristolochias, it is of a neat habit of growth, and the pretty shell-like flowers are borne in great profusion. They are distinctly netted with purplish chocolate on a greyish ground, with a deep-coloured blotch toward the centre. A succession of blossoms is kept up for some time.—W. T.

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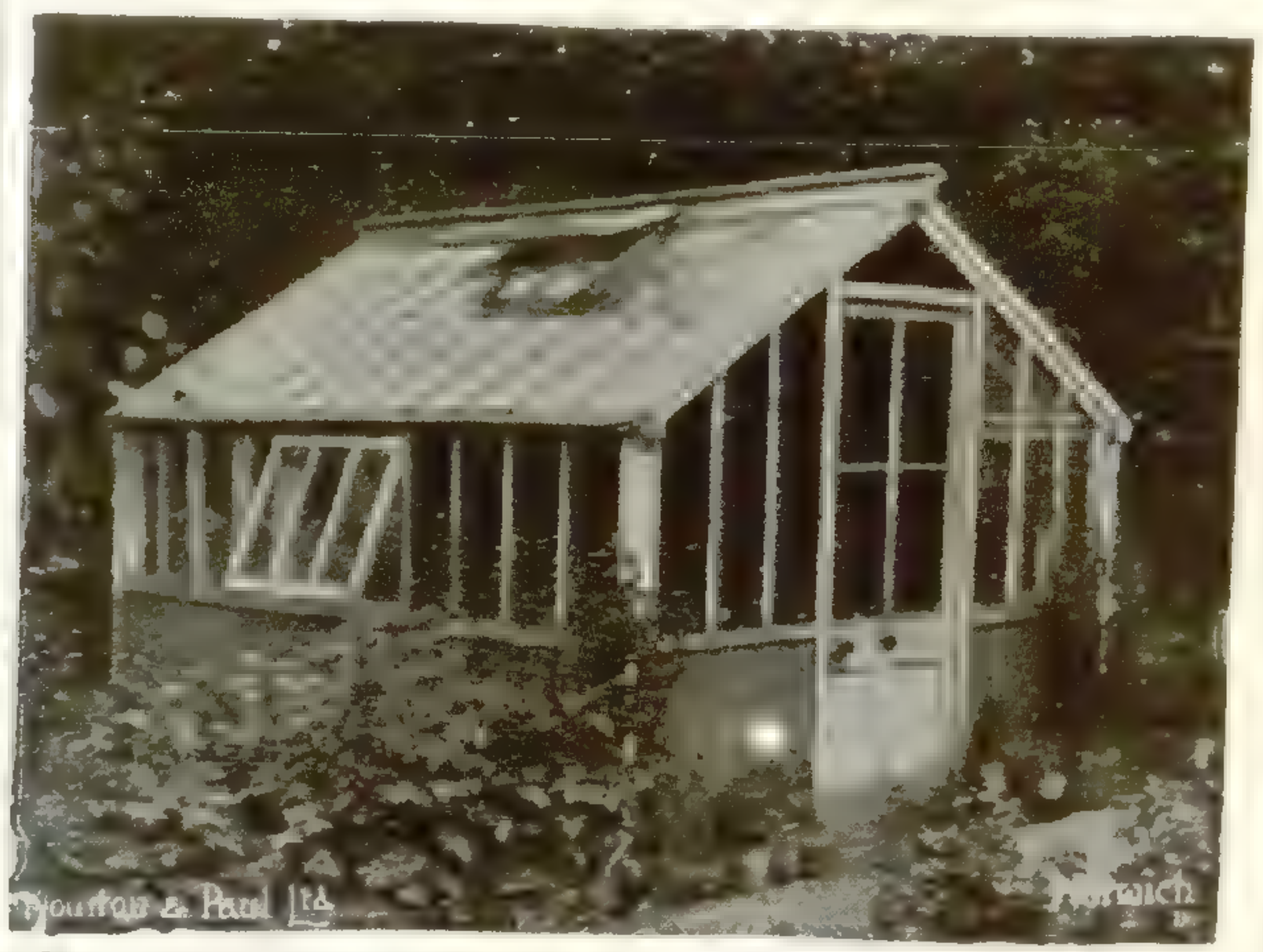

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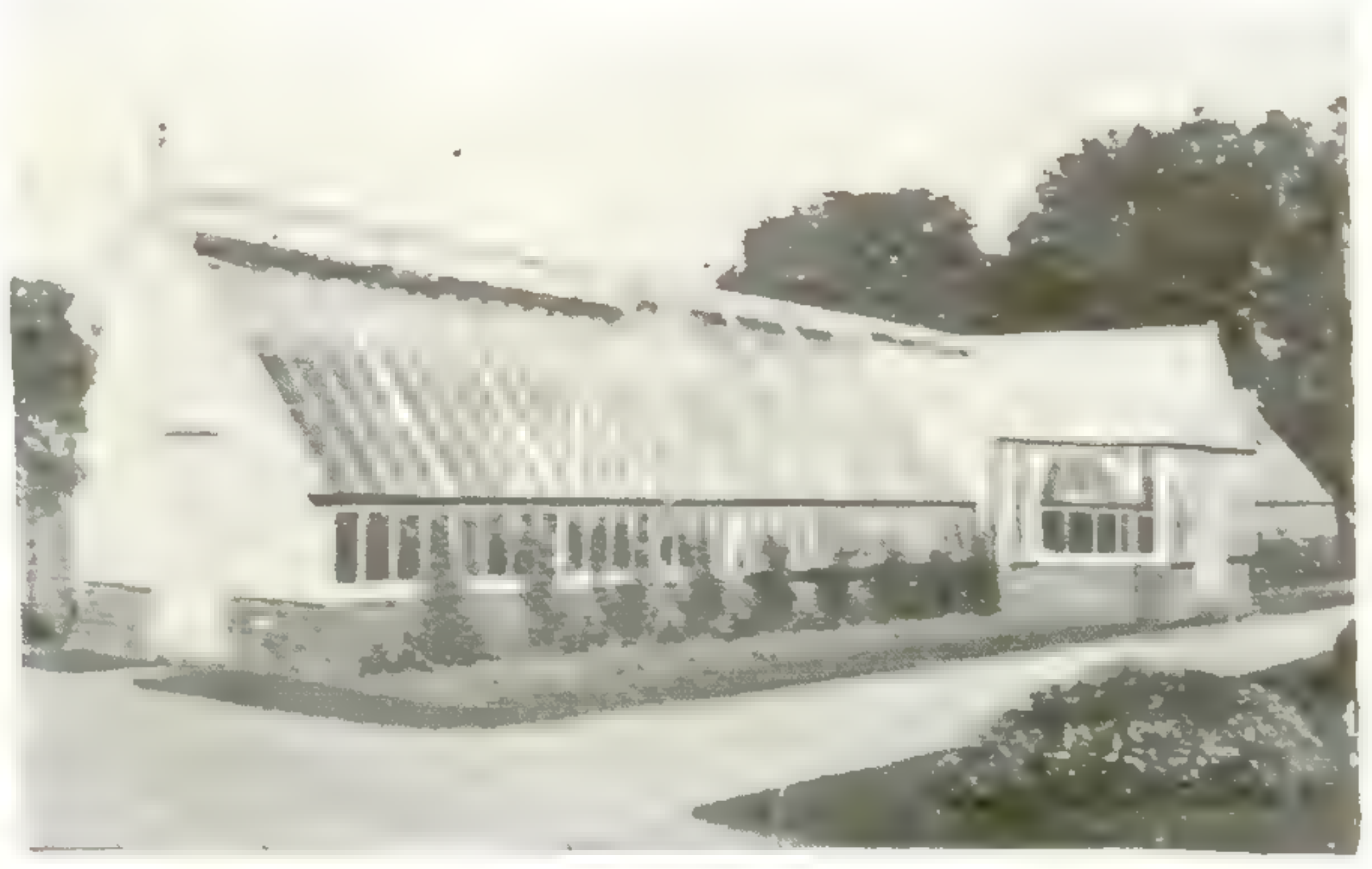

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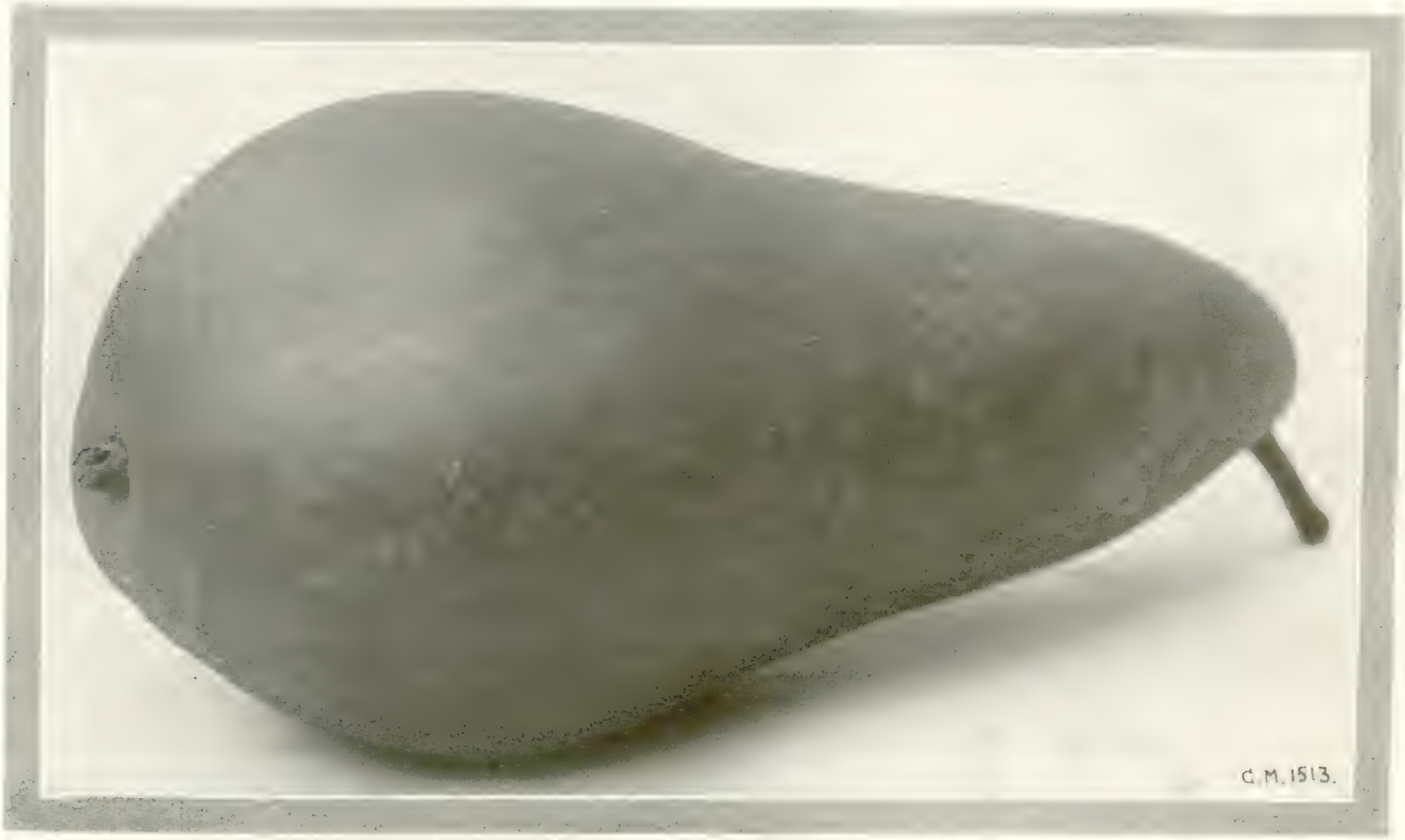
TWO GOOD AUTUMN PEARS.

◆

Conference.

This fine, comparatively new pear is easily distinguishable from the ordinary types by its extremely elegant shape, as the accompanying illustration so admirably depicts. It was raised by Messrs. Rivers and Son, of Sawbridgeworth, to whom we owe so many valuable hardy fruits. I do not know the date of its introduction, but as it was not exhibited at the National Pear Conference of 1885, and we planted it in 1903, it may be concluded that it was first distributed sometime between these two years. Though ignorant of its parentage, its characteristic resemblances in smoothness, colour, and russet to Marie Louise, leads me to think that old favourite was one of its parents.



PEAR CONFERENCE.

The fruits, which ripen in November, are, when well grown, large in size, and attractive in appearance, and richly flavoured, the flesh possessing a buttery texture. The variety in fact has the chief qualities required of a first-rate dessert and exhibition pear. It is also by some authorities said to be well suited for market purposes. Those, however, who do not know it may be assured of its good properties from the fact of its having been awarded a first-class certificate by the Fruit Committee of the Royal Horticultural Society.

The tree grows well, and bears freely when trained in any of the ordinary forms usually adopted in gardens and plantations. I have also seen fine pot trees of it carrying good crops of splendid fruit. It should be stated, however, that, according to my experience with trees upon the quince stock, planted on heavy cold soil, it is necessary, in order to secure cordons properly furnished with spurs, the trees should, while being formed, have the leading shoots closely shortened at pruning time. It is certainly necessary to cut them back more closely than in the case of such naturally free spur-producing varieties as Louise Bonne of Jersey. Unless this is done the basal buds may fail to break, and the permanent disfigurement of the tree will become a natural consequence. In warmer and otherwise more favourable soils than ours to the ripening of the wood and the production of good feeding roots, this precaution may not be to the same extent desirable.

Louise Bonne of Jersey.

Though this old variety ripens in October or November, when a goodly number of pears attain maturity, and amongst them some new ones of great excellence, it is, owing to possessing to the fullest degree the several qualities that are essential to a fruit being classed as first rate, fully entitled to the general popularity it holds. In appearance, when it is well grown, it is extremely handsome, being large, pyriform in shape, with an even and straw-coloured skin, overspread and spotted with crimson on the side exposed to the sun, while its flesh is white, melting, juicy, and highly flavoured. I well recollect the grand fruits I saw of it growing in Suffolk, where, as in Norfolk, the natural conditions appear to be admirably suited to the pear. At any rate, when assisted by skilful management, the Suffolk and Norfolk growers produce some of the finest examples of Louise Bonne of Jersey anywhere to be found in the kingdom. The tree forms a good pyramid, although the branches, not being so rigid as are those of some other varieties, when they are well laden with fully developed fruit, often need support to prevent the tree becoming badly shaped. It also makes excellent trained specimens of any form, while treated as a cordon when grown on the quince stock, it is perfect, clothing itself plentifully with fruit-bearing spurs with but little assistance. In favourable situations it also succeeds as a standard. I have seen instances of these carrying heavy crops of highly-coloured medium-sized fruits. In constitution the tree is not very robust; particularly is this the case when grown upon heavy soil, such as we have here, where it is found to be somewhat weakly when compared with such varieties as Emile d'Heyst, Beurre Hardy, or Marie Louise. There is, all the same, no need of condemnation from this reason. As a cropper this pear is one of the best, and quite young trees, if allowed to do it, may ruin themselves by this means. So free, indeed, is this variety in cropping that, in some instances, even in the case of well-nourished established trees, unless the fruit is severely thinned, serious consequences follow, as, apart from the fact of the unthinned fruit being small, and otherwise inferior, the tree is liable—I have seen it happen—to be permanently injured from exhaustion. As is the case with many others, the season may be prolonged by the fruit being gathered at short intervals. It is a most valuable pear for the gardens of amateurs.

T. Coomber.

Aralia spinosa.—This is well worthy of consideration, for the striking appearance of its large compound leaves, which give it a bold, sub-tropical appearance throughout the summer months. In early autumn the large erect panicles of small creamy-white flowers are freely borne, and it is then additionally attractive. The stems are very spiny. This aralia is a native of the United States, and is said to have been introduced into this country as long ago as 1688. It is nearly related to a Chinese species named Aralia chinensis, better known in gardens as Dimorphanthus mandchuricus. Of this there are two forms; one, in which the leaves are variegated with white, and the other with yellow.—W. T.

White Heather.—There is a deal of sentiment attached to the white heather, and a wide-spread idea that it is rare and valuable. As a matter of fact, there are several varieties of the common heather with pure white blossoms, differing from each other in habit, and other particulars. One of the best is Calluna vulgaris Searlei, of a fairly bold, free habit of growth; alba pilosa is a curious hairy-leaved form; and alba, an exact counterpart of the common heather, but with pure white blossoms; and rigida, a spreading variety with fine spikes of blossoms. It is interesting to remember that, at the time of King Edward's death, the South African Erica persoluta alba was used as white heather for wreaths.—W. T.

NOVELTY AND ELEGANCE AT CHRYSANTHEMUM EXHIBITIONS.

When reading the report of the recent Windsor Show in the Gardeners' Magazine, I was very pleased to see the special notice taken of the excellent groups of singles there displayed. They were far and away the best groups of single varieties I have seen anywhere, the whole five exhibits well meriting a prize, and I am sure the judges must have had a pretty severe task in adjudicating between the first and second prize winners. The schedule did not stipulate single varieties, but in each instance the groups were almost entirely composed of these, and a grand show they made, one or two groups towering up to a height of from ten to twelve feet.

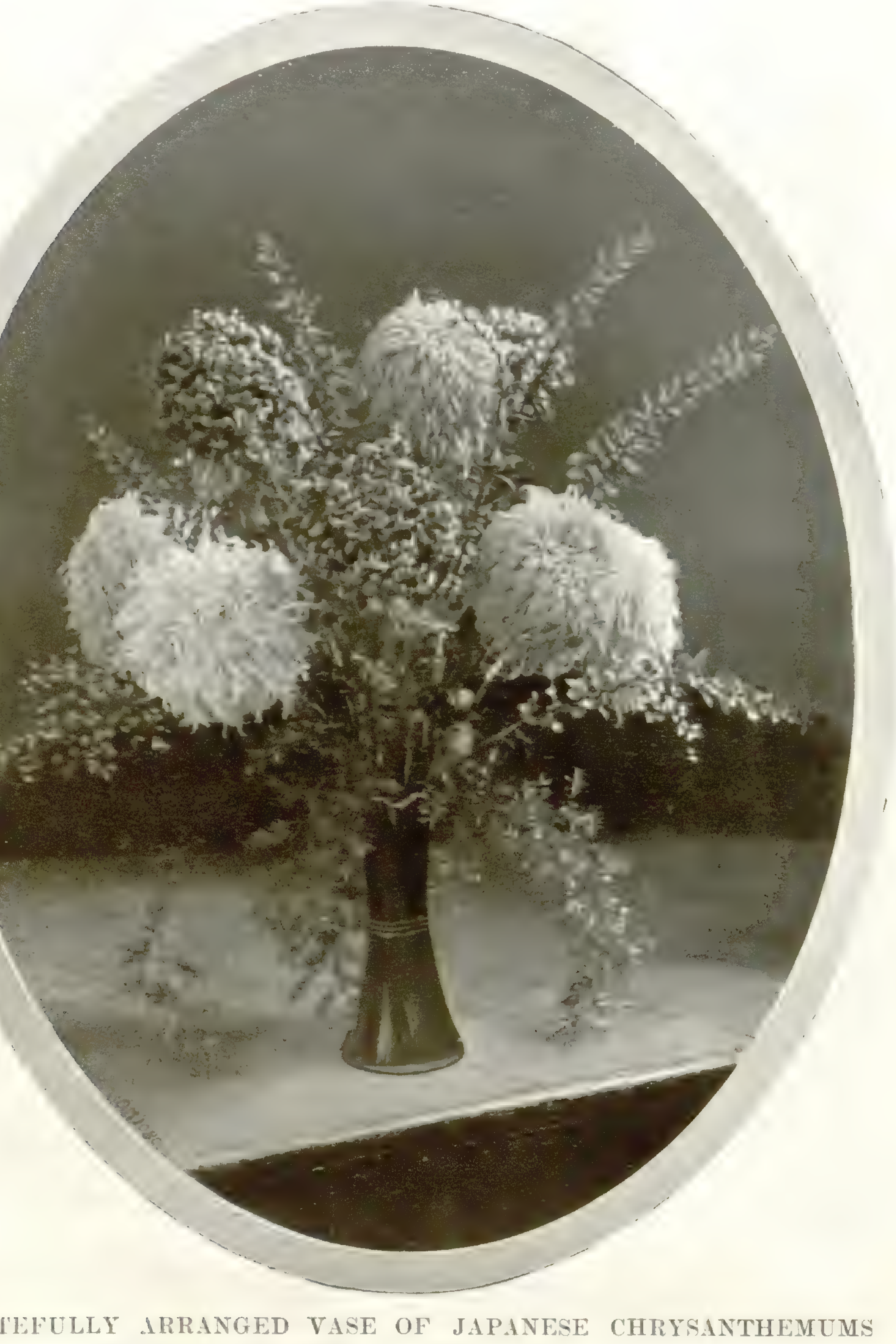
Now, good as these groups were, I cannot help but think they might have been improved very much if a few really high-quality Japanese blooms (on single stems) had been introduced among the singles, or ought I to say, a few single or decorative varieties should have been introduced among the Japanese, to break up what is generally a very severe outline? I am sure that were committees to word their schedules so that exhibitors could please themselves more as to the class of flowers they put in groups, and stipulate the maximum number of points that will be allowed for quality, and how many for arrangement and effect, it would tend towards a much larger entry in these group classes.

Unfortunately, most societies have none too large a subscription list, hence the paucity of the prizes offered in many of the group classes, but, taking into consideration the amount of space that groups occupy, and (when well set up) the splendid show they make, every endeavour should be made to give good prizes. I hardly think, however, that challenge cups are productive of as much competition as they are given credit for. Many gardeners who have the privilege of exhibiting often pay their own expenses, and a challenge cup, if won, does not help to pay the cartage bill, which, in the case of groups, is very considerable, so that a good money prize would be more acceptable in this case.

Harking back to the Windsor Show, I cannot help but pay a compliment to the executive for the really interesting exhibition they obtain, one or two of the classes in their schedule being quite unique, notably, Class 3: "Eighteen Japanese blooms, distinct, arranged in a space five feet by three feet, with the addition of any foliage plants or foliage, and in any way the exhibitor may please; exhibition boards not allowed; quality of bloom to be the leading feature"; and also Class 6: "A basket or vase of twelve cut chrysanthemums, with stems not less than twelve inches, any natural foliage allowed."

These two classes never fail to produce good competition, and they result in a much better show than the same number of blooms would if exhibited in the ordinary way on boards. I am sure many other societies, including the National Chrysanthemum Society, might institute similar classes with much advantage, as they fully demonstrate the decorative value of large exhibition blooms.

Thomas Stevenson.



A TASTEFULLY ARRANGED VASE OF JAPANESE CHRYSANTHEMUMS
Exhibited at the Windsor Chrysanthemum Show.

SOME GOOD RED BEDDING ROSES.

As a flower suitable for bedding and massing the rose is rising in popularity year by year. There was a time, not so very long ago, when the rose was regarded more or less as a specimen plant; be it standard or bush, we procured one, or perhaps two, of a sort, and planted them in borders with other flowers, and sought for excellence in form, size, and colour of the individual flower. We wanted quality, not quantity, and we found what we wanted in the hybrid perpetual. But compared with the modern rose, the true hybrid perpetual has but a short season, the designation "perpetual" simply denoting that, in contrast to the damask from which it sprang, the hybrid perpetual had more than one crop of flowers, not a continuity of flowering from June to October. The hybrid perpetual produced first-rate flowers in its first crop, but the second blooms were only second rate, mere echoes of the first. Ripening set in early; some varieties began ripening at the end of July if the season was dry, and then all was over.

But the coming in of the hybrid tea has changed all this. We found in it the hardiness of the hybrid perpetual combined with the activity of the tea, and, moreover, we found also that the second, and even the third crop of flowers was just as good, and sometimes better, than the first. Nevertheless, the suitability of the hybrid tea rose for bedding purposes was not immediately recognised, and for this reason the hybrid teas, when first introduced, lacked qualities demanded of bedding plants, compactness of growth, floriferousness, and brilliancy.

We had this brilliancy in the hybrid perpetual, such as Horace Vernet, Alfred K Williams, Charles Lefebvre, Duke of Edinburgh, and the like, but we sought for it in vain in the hybrid tea. Year after year new hybrid teas were introduced, first-rate varieties some of them as regards form, but in colour they were no substitutes for the hybrid perpetuals. It was the teas that suffered. We no longer cultivated them to the same extent as heretofore, when it was found we could get the same shade of colour in the hybrid teas. So time progressed, and we longed for some good red hybrid teas to take the place of hybrid perpetuals. Demand created supply; slowly, but surely, red hybrid teas are advancing, and, as a result, the hybrid perpetual is waning in popularity. It is not within the scope of this paper to refer to the new roses, except to observe there are now evident signs that before very long we shall have all we want in reds in the hybrid teas. One by one we have had to bid farewell to old favourites of the hybrid perpetuals, few now remain, and these will eventually become memories of the past. The dawn of the twentieth century witnesses the fading of the hybrid perpetual.

And in the class of hybrid teas such reds, such free-flowering reds, such brilliant reds, have come, and are still coming. Varieties, not perhaps up to exhibition standard, but what are far more in demand, fulfilling all the requirements of a bedding flower, compactness of habit, floriferousness, and brilliancy. Experts, specialists may appreciate yellow roses, but the colour in popular favour is red. Clearly then in any grouping of beds of roses on the lawn, especially if roses are to be substituted for geraniums, we must have some good reds.

Granted, but what shall they be? If we look through a catalogue we shall find many reds that might suit our purposes; let us select half-a-dozen of the very best. They are not novelties of this or last season cut from maiden plants, nor those seen only at the early shows grown under glass, but well tested varieties of some few years standing, all twentieth century roses, named, in the writer's opinion, in the order of merit: General McArthur, Chateau de Clos Vougeot, Ecarlate, George C. Waud, Warrior, Richmond.

General McArthur, H.T. (Hill, 1905).—A rose of American origin. Very attractive. Colour, bright scarlet. Flowers large and full, flat when fully expanded, freely produced on stiff upright stems, growing about twelve to eighteen inches high, compact. Very free flowering, constantly in bloom, good in autumn. Dark green leathery foliage. Very hardy, and a good bedder.

Chateau de Clos Vougeot, H.T. (Pernet-Ducher, 1908).—Colour velvet crimson, sometimes scarlet. Flowers of moderate size, buds pointed, expanded blooms cupped shape with deep yellow stamens. Very fragrant, and continually in flower. Wood and foliage pale green. Growth dwarf and spreading. The darkest red of all the hybrid teas, the flowers retaining their brilliancy in sunshine and rain. In habit it resembles a China rose. For massing, plant close together.

Ecarlate, H.T. (Boytard, 1907).—This rose will supersede that prey to and distributer of mildew, Marquise de Salisbury, which it closely resembles in habit and form of flower. In colour the blooms are brilliant scarlet, produced in bunches on upright stems, of medium size, and semi-double. One of the most suitable for massing, as it is constantly in bloom until late in autumn, and the colour is dazzling when at its best.

George C. Waud, H.T. (A. Dickson and Sons, 1908).—A most attractive rose on account of its colouring, crimson-orange. It seems to assert itself, for visitors notice it at once, and enquire as to its name. Truly it is a veritable "Top Dog" amongst reds. The flowers are pointed and full, after the style of the Newtownards roses. Habit is strong, but not too strong for grouping on lawns. Although active in growth, it bears but one or two blooms on a stem, and, therefore, a mass of flowers like General McArthur or Ecarlate is not to be expected. Nevertheless, its distinctive colouring, free flowering, and late blooming habit makes it suitable for bedding purposes.

Warrior, H.T. (W. Paul and Son, 1906).—In this rose we have a variety eminently adapted for bedding and massing. The flowers, of medium size, are dark red in bud, opening out scarlet-crimson. It blooms constantly, with great freedom, and is a good autumnal.

Richmond, H.T. (Hill, 1905).—An improved Liberty, retaining its colour better, and of stronger constitution. The flowers are perfect in shape, pointed. Habit of growth, upright. It is so well known on account of its excellent forcing qualities that no further comment is necessary, except to recommend it as suitable for bedding.

Joseph H. Pemberton.

FLOWERING SHRUBS FOR GROUPING.

With the present-day aim to increase the interest, beauty, and utility of our gardens, the old-time plants, such as laurels, aucubas, and cupressus are giving place to the more showy, more varied, and decidedly more useful of the flowering shrubs. These, too, instead of being planted singly, as in the old days, are grouped in masses of a size proportionate to the distance they are placed from the point of observation which they are intended to enhance. The farther they are from the point of view the larger the groups should be, and vice versa. In some instances twenty or more plants of the same variety will not be too many to plant, four feet apart, to form an isolated mass or a group in a border. The nearer the house, or the point from which the effect is desired, we approach, there should be a corresponding diminution in the number of plants employed to form the groups. In no case would I advise less than five plants where there is room for variety.

AN EFFECTIVE GROUP OF SINGLE CHRYSANTHEMUMS,
Exhibited at the Windsor Chrysanthemum Show.

Again, there are some flowering shrubs possessing so little merit, when we compare them with the better things, that a selection is desirable if the best results are to be obtained. The finer subjects naturally cost a little more than the more common and less showy ones, but this is the only difference, as inferior and good kinds cost the same to cultivate, and the extra expenditure in the first instance is more than compensated by the display and quality of bloom. There are, of course, a few really good free-flowering plants among the cheaper ones that should find a place in almost every collection. Spiræa ariæfolia and Ribes sanguineum, and its varieties, are all worthy subjects for brightening shrubbery borders. Besides being an effective plant for early spring, the ribes succeed well in partial shade as well as in the sun.

The following flowering shrubs may be relied upon to give a good display of colour at their time of flowering:

Evergreens.

Berberis Darwini, B. dulcis, B. stenophylla, Buddleia variabilis Veitchi (in a warm corner), B. v. magnifica (warm corner), Ceanothus azureus Gloire de Versailles, C. Albert Pettit, C. Veitchianus, C. divaricatus (all for warm situations), Choisya ternata, Cistus ladaniferus, Cytisus albus, C. scoparius Andreanus, Escallonia Langleyensis (excellent for covering banks), Genista præcox, Ligustrum japonicum, Olearia Haasti, Spartium junceum, Tamarix hispida æstivalis, veronicas (in mild localities), Viburnum tinus (laurustinus), and rhododendrons.

Deciduous.

Berberis Thunbergi, B. vulgaris, Deutzia crenata candidissima fl.-pl., Forsythia suspensa, Hydrangea paniculata grandiflora, Indigofera Gerardiana, Mespilus canadensis, Philadelphus Gordonianus, P. grandiflorus, Prunus sinensis alba fl.-pl., P. s. rosea fl.-pl., Ribes sanguineum and its varieties, Spiræa ariæfolia, S. media, S. Anthony Waterer, Viburnum plicatum, V opulus sterilis, Weigela rosea, W. nivea, W. Eva Rathke, and azaleas.

Rhododendrons and azaleas do not succeed on a calcareous soil. With the exception of the philadelphus, Berberis vulgaris, and ceanothus, all the plants in the above list are suitable for groups along the margin of a shrubbery, or as isolated masses. The philadelphus, ceanothus, and Berberis vulgaris should be in the second row of groups.

I might have included lilacs in this list, but conclude that they are sufficiently well known not to need any comment, as they are so extensively forced, otherwise groups of these along with philadelphuses and Berberis vulgaris should be included for the second row of groups. Hydrangea paniculata grandiflora is the only species amongst them that must be pruned. The best time to do this is early spring, and then plants should be cut back to within an inch of the base of the previous year's growth. All the shrubs mentioned will grow freely in an ordinary fertile loam, and, in the case of the more tender plants (including ceanothus), and the weigelas, much manure is undesirable. PEDESTRIAN.

PLUM EARLY PROLIFIC.

In nearly every garden there is a warm corner capable of accommodating one or more fruit trees. But I wish to refer chiefly to the small corners or spaces usually allowed to remain unoccupied by fruit or other trees. Such spaces are favourable for the above-named plum, and I am sure those who have not had any experience of it will be pleased if they plant young trees now.

I had some vacant wall spaces between a number of young pear, apricot, and plum trees on a very high wall, and decided to put in several young trees of Early Prolific plum, so as to utilise, for a time, the valuable wall space. Well, this variety cropped so well, and so early, and year after year, that I was very sorry to have to remove them.

In all gardens this is a good plum to plant, and it is especially suitable for small gardens. I have not tried it as a bush, but I daresay it would make a good companion to Victoria. G. B.

Chironia linoides.—Under the name of Chironia ixifera, this South African gentianwort has been of late years extensively met with. Grown in pots five inches in diameter it forms rather upright, compact little bushes, clothed somewhat sparingly with narrow bluish-green leaves. The flowers, borne freely at the points of the shoots, are of a pleasing pink colour, with conspicuous yellow anthers. Where a greenhouse has to be kept gay at all seasons this chironia will be valued for its display during late summer and early autumn.—W. T.

MODERN COMMERCIAL FRUIT CULTURE.

So much still appears, and has been appearing for some time, in the columns of the Press, especially in the weekly and daily newspapers, concerning fruit growing and the big fortunes to be made at it, that it has seemed to me about time some grower who has actually grown fruit for a living, and experienced some of the difficulties and drawbacks attending commercial fruit growing, should place before the gardening public, at any rate an account of the situation as it really is.

Many of the writers of such articles and paragraphs are men who have never done a day's work with a spade, fork, hoe, or any other gardening tool in their lives, and do not know what it is to follow their forefather Adam and earn their bread by the sweat of their brows. Their favourite practice is to take a fruit tree, or a small block of fruit trees, estimate the produce upon them, always as first grade fruits, calculate the value at best retail prices, and then proceed to work it out at per acre, as if all the plantation was absolutely regular, all the crop was of the finest size, and all sold at the highest retail price, without any losses whatever. Of course, examined critically, such reasoning is false in the extreme, yet such tales go down with the ordinary public, until a fruit grower comes to be regarded as a sort of modern Crœsus, who is piling up wealth at a very great rate. I would like to go into a few of the things which a modern grower has to contend with, and the first, and one of the most serious, is

Unsuitable Situations.

There is many and many a fruit grower who is struggling year by year to make a bare living almost the whole of whose troubles can be attributed to this cause. The soil may not be at all adapted for fruit culture, the land may "lay" wrong, that is, the tilt of the ground may be to the north or east, instead of the south or west, or the elevation may be at fault, the orchards may be in low land, where they are liable to any spring frosts which may be about. I am inclined to think that the latter is not nearly so serious a drawback as it was before the advent of the orchard heaters for fighting spring frosts, and that with their aid it is preferable to be situated in a valley, on good deep soil, than on a bleak hillside, with a thin staple, and exposed to all the cold spring winds.

The season of 1910, to a large extent, bears out what I have just said, it is my opinion, though I admit I took no records. We did not have any exceptionally severe spring frosts, but what we did have was a long continuance of cold winds, this time out of the west, and, as far as I can learn, it has been those growers who were in the valleys and in sheltered positions who have had the good crops, in contradistinction to those on the high exposed places. Further, I have found that all the best of our crops have been in the older, thicker plantations, and not on the younger trees, where their power to mutually shelter each other was not so great.

However, above all considerations of situation and elevation, the question of soil is the all important one, and there are many places where an absolutely hopeless struggle is being maintained, solely because the soil is not, and can never be made, suitable for the class of culture in hand. For one parcel of good fruit land in the country there are hundreds of bad ones, yet the innocent reader is never informed of this fact, but is led to believe that it is only necessary to get a field of any kind and plant it with fruit trees to be straightway in possession of an Eldorado.

Of course, many fruit orchards, the soils of which are now unsatisfactory, could be much improved by proper means: some, no doubt, need draining, the trees having been planted without any thought being given to the condition of the drains, or whether there were any; in others, the soil is acid, and badly needs the application of a dressing or two of lime, which would probably save much money now being spent on spraying by putting the trees into such a healthy condition as to ward off disease. Such difficulties are fairly easily overcome, but the more serious difficulty of the mechanical condition, if I may so call it, of the soil, is not so easily dealt with; indeed, it can only be surmounted practically by growing such fruits as will thrive properly in the medium one has at one's disposal; just one or two favoured soils will grow anything. Handicapped by an unkind soil, one must grow that which will do best upon it. Some of the worst lands, so far as orchard trees are concerned, are those with a thin layer of decent loam overlying cold clay subsoil, or even gravel or rock, though the case is not so serious in the last two. The trees do well for a time while in the good soil, but as soon as they begin to go down into the cold clay underneath all sorts of troubles begin: canker starts in all varieties the least subject to it, the general unhealthiness of the trees renders them an easy prey to all fungoid and insect pests, and so they rapidly deteriorate. I really believe that a thoroughly heavy stiff clay soil is far preferable to one of these thin-capped soils overlying the clay. On such soils strawberries and small fruits could be grown, and perhaps apples on the paradise stock, if particular care was taken to keep the roots as near the surface as possible.

It may be urged that there is plenty of suitable land for fruit growing, and there is no need to choose the bad; to a small extent this may be the case for one about to start, but many of us are on established places, and are now suffering for our own mistakes in earlier years, or for the mistakes of those who preceded us. Again, someone plants fruit in a new district, and happens to get a piece of ground which is suitable: in many cases his example is followed by the adjoining holders, though often their soil may be just as unsuited for fruit culture as the first was good. The same thing sometimes happens to one in extending one's own orchards. The natural extension of business may force one to plant fresh acreage, yet any available land within easy reach may be very unsuitable indeed.

Even if one can find a piece of suitable land for fruit growing, it is often difficult to obtain possession for the purpose, except by purchasing the freehold. Many landlords are so afraid of the compensation they may be called upon to pay some day if they allow fruit to be planted, that they absolutely refuse to let their land for the purpose at all.

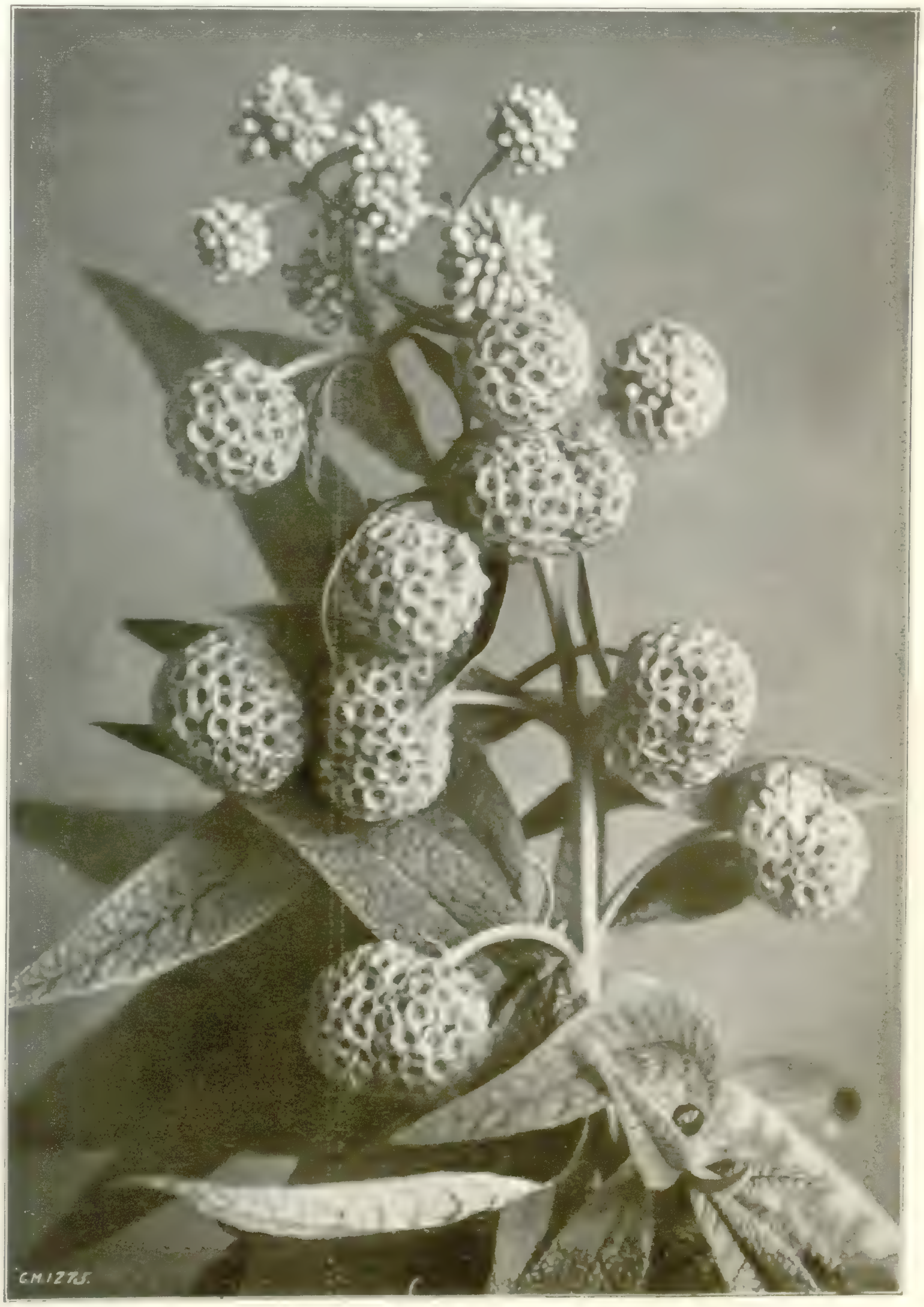
I do not think any good purpose will be served in labouring the point, but, to my mind, there is absolutely no doubt that a good deal of the trouble many growers are in with regard to the unhealthy state of their trees is due to the unsuitable soil in which they are planted.

FRANK HAMMOND.

(To be continued.)

BUDDLEIA GLOBOSA.

The introduction of Buddleia variabilis and its several varieties has caused this old, well-known species to be somewhat neglected of late years. At one time it occupied the proud position of being the hardiest known species, whilst its floriferous character made it a favourite for shrubbery planting. There is really no reason, however, why the cultivation of the newer kinds should have a depreciatory effect on the older plant, for the flowers are borne at a different time, and the inflorescence is totally distinct. B. globosa is found in Chili and Peru, and under cultivation it forms a large bush up to 15 feet in height. The leaves are semi-evergreen, and are retained through mild winters. The golden, tubular flowers are borne in round heads, a large number of which form a rather loose terminal panicle. They appear during June and July, and are conspicuous alike on account of their golden colour and honey-like fragrance. As is the case with the Chinese species, bees are very fond of the flowers, and from a large bush scores of the insects may be disturbed by a light shake. Though this Buddleia will grow in quite light soil, more satisfactory results are gained from plants growing in good loam. Occasionally a very severe winter may cut a shrub hard back, but it will usually produce young shoots from the ground line. Should a specimen be growing wild, it may be shaped in spring by drawing out some of the rampant shoots; on no account, however, ought bushes to be hard or stiffly pruned, for the charm of this buddleia lies in its naturally free habit. Cuttings may be rooted in July and August, or young plants may be produced from seeds which set freely and ripen perfectly. W. D.



BUDDLEIA GLOBOSA.

A handsome South American shrub bearing orange-coloured flowers.

THE CAPE FIGWORT.

A large number of plants of considerable beauty are not so hardy in many parts of the country as to be commonly met with, and Phygelius capensis, the Cape Figwort, must be included in the class of such flowers. It is a pretty, and also a distinct plant, quite showy, and valuable in both summer and autumn when it is in flower. The leaves are rather oval in form, and the flowers, which are borne plentifully, are drooping and of a fine vermilion colour, yellow in the throat, and rather cornucopia-like in their form. The whole plant is distinct from all other flowers of the season in which it blooms, and is a nice ornament to the garden. A slight lack of hardiness is the sole obstacle to the more general cultivation of this plant, which grows from one and a-half to about three feet in height in most places, but which the writer has had considerably taller, when it assumed a shrub-like habit in a garden near the sea. There it was not only taller, but, when planted on rockwork, it sent out a number of suckers among the stones. It thrives best in a warm situation, and in a mild district, but is wonderfully accommodating in some parts, and from some obscure cause even will flourish in certain cold parts of the country, while in others which are milder it will die out. It likes a dry soil, and is probably best against a wall in cold districts.

In some places it dies to the ground annually, but in others, as indicated, it assumes a shrubby character, and sends fresh growths from the old stems in spring. It is propagated by rooted suckers or by cuttings, which strike quite readily in pots of sandy soil under glass in spring, summer, or autumn. S. Arnott.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

WATERING.—One of the most essential items in the successful cultivation of orchids is to supply the necessary moisture in accordance with the requirements of the plants at the different seasons of the year. It is very important to supply water with care when the plants are at rest, or, in other words, when they are in a dormant condition. The fact cannot be overlooked that, when one has a mixed collection of orchids to be attended to, where not only is the accommodation for the plants restricted, but where labour is short, and attention has to be given to other matters, orchids cannot always receive the attention at the particular time they need it. Under such conditions the cultivator is considerably handicapped, and no small wonder, when we find that plants suffer at this season of the year perhaps more so than during the bright summer season. One finds it difficult even with a staff of skilled and willing workers to have the watering done as well as one would wish. It is frequently found that there is a considerable difference of opinion even among trained men as to when a plant is dry and requiring root moisture. Naturally, such a debatable point cannot easily be brushed aside and the work done haphazard. This does not apply to orchid growing more forcibly than to the treatment of other classes of plants. But there is one safe guide, and that is to water plants thoroughly when watering at this season of the year, and be careful not to water again before the compost has become reasonably dry. Again, with orchids we have plants differing materially in structure. Thus plants having large pseudo-bulbs will not require anything like the amount of root moisture that will be necessary to sustain those species which possess only tufted leaves and roots. Yet many of these widely differing kinds often have to be accommodated in the same structure. With the tufted kinds of orchids, such as cypripediums, masdevallias, etc., it is essential that when they require root moisture the potting compost should be well wetted through. If this is done there will be no danger of the surface of the potting compost appearing to be moist, while the portion containing the roots is quite dry.

TEMPERATURE.—With the changeable conditions outside the temperature of the house should be above the normal before watering is done. During periods of cold weather, and a consequent lowering of the temperature of the houses, I have always found that less injury is done when in a reasonably dry state at the roots. There is also the temperature of the rain water in the tanks to be considered. After heavy rains and snow storms, where the water runs straight to the tanks used, it will frequently be found that the water in the tanks will, for several days, be some degrees below the normal temperature of the houses. The water should be two or three degrees above the temperature, and hot water should be added to raise it to the desired degree of warmth.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

HERBACEOUS CALCEOLARIAS. — The most forward plants will have nearly filled their pots with roots, and should be shifted into pots of larger size, but this must not be done in very cold weather. A richer compost may be used for this shift, and it should contain a larger portion of sand. Repotting should not be done when the soil is dry, but when the compost is moderately moist, and the soil will not fall away.

CHRYSANTHEMUMS.—Cut down any of the plants on which the blooms have lost their freshness and beauty, and any that are required for furnishing cuttings should be removed to a light position, where, under careful attention, they will produce sturdy suckers. The prompt removal of these will provide room for many late-flowering varieties that are now coming into bloom. The latest plants should remain in a cool structure, where abundant ventilation can be employed when the outdoor conditions are favourable.

PRIMULA SINENSIS.—The plants now developing their flower trusses should have a temperature ranging from 50 degrees to 55 degrees, and also a little air when the temperature reaches the latter figure. If the plants are strong and healthy the trusses will rise well above the foliage, thus appearing to the best advantage

EARLY - FLOWERING GLADIOLI. — These are especially suitable for pot culture, and whether grown for use as pot plants in the conservatory or for cutting purposes, they are appreciated during the spring and early summer months. Procure the corms at once, and pot them up, using a compost consisting of two parts good turfy loam to one part of leaf-soil, and a little sharp sand. In the process of potting place a little sand immediately under each corm, and put from six to twelve corms in each pot, according to the size. Pots ranging from 4½ inches to six inches in diameter are large enough, The white variety of G. Colvillei, known as The Bride, is indispensable, and as the corms are moderate in price it should be grown in large quantities. Other good varieties for pots are Queen of Holland, Crimson Queen, Ne Plus Ultra, and Pink Perfection.

TRAINING OF PLANTS.—Winter is the best time for training plants into shape. Specimens are often seen at the exhibitions that are indifferently trained, and if exhibitors realised how many points they lose in competition in consequence they would give more attention to this detail of plant cultivation than is usually given. Much satisfaction may be derived from a well-grown specimen even when not in bloom. In growing soft-wooded subjects, such as fuchsias or pelargoniums, timely attention should be given to stopping at a very early stage, that the foundation may be well laid when they are quite young.—W. STAWARD, Preston Hall Gardens.

THE FLOWER GARDEN.

BEDDING PLANTS, such as pelargoniums that were lifted from the beds, are now starting into growth, consequently all the light available should be afforded them, as well as a temperature not exceeding 60 deg., if good cuttings are required for spring propagation. All kinds of stock bedding plants should be occasionally examined, carefully removing all decaying stems and foliage. Root moisture should be very sparingly given until the turn of the year and lengthening of the days, as losses are sure to occur from excessive root moisture, most of these subjects being very impatient of too much water at the roots at this dull time. Give abundance of air upon every possible occasion, and if accompanied by a little fire heat so much the better, for by these means damping will be most effectually prevented. Coleus, alternantheras, and kindred plants will, of course, require more fire heat, so that they may be kept steadily growing, and the temperature ought not to drop below 65 deg. if success is to be ensured.

ECHEVERIAS, CALCEOLARIAS, and the like, now wintering in cold frames, should be plentifully protected during very severe weather, for, although they will withstand a deal of frost at times, it is preferable that they do not go through the ordeal, and consequent risk.

HOLLIES AND CONIFERS, especially where growing on shallow soils, are frequently much benefited by surface dressings of suitable material at this time of the year; light turfy loam, roughly chopped up, with the addition of a small portion of well-decayed manure, is an excellent compost to use. If the trees are growing on lawns the turf should be rolled back, a portion of the surface soil carefully loosened and removed, and the dressing then applied. Much will, of course, depend on the condition and size of the trees to be treated, but under no consideration ought extreme risks to be run when dealing with choice trees and shrubs.

BERRIED TREES AND SHRUBS have been, and in some instances still are, giving a touch of colour to the shrubberies and borders, and the present is an excellent opportunity for marking sites where additions of this class of shrubs may be made for another season, and in this direction much taste and skill might be shown with little effort. Waste corners might be beautified and completely changed by the exercise of some skill, and become for a trifling outlay attractive and interesting features.

TURF EDGINGS AND VERGES under the dense shade of trees require to be frequently renewed if a smart appearance is to be maintained throughout the season; where this is so, an excellent remedy may be found by planting ivy in the form of edgings, or on bare patches under trees. The common Irish Ivy is an excellent variety for this purpose, and, although other choicer and showier kinds may be used, the former is usually the more satisfactory, being perfectly hardy, and adapted for rough treatment, which is of itself no small consideration.

TURFING DISCARDED BEDS may be proceeded with during favourable weather. Care should be taken that the surface be well rammed before laying down the turf, or hollows—which are always unsightly—will be visible all through the following season. Where a selection of turf can be made, that of a fine texture and quality should be secured, this giving altogether more pleasing results than turf of a coarser quality. Turves about 2ft. long by 9 or 10in. wide, and 1 to 1½ in. thick, are much more convenient for handling than those of a larger size.—W. HEDLEY WARREN, Aston Clinton Gardens.

HARDY FRUITS.

PRUNING PEACHES, NECTARINES, AND MORELLO CHERRIES.—As the same method is adopted for these three kinds of fruit trees, they can be dealt with under the one heading. Where the disbudding of the trees has been carried out in a proper manner, and a sufficient quantity of young shoots have been tied in, it will be only necessary to cut out the superfluous and useless growths; at the same time care must be exercised to thinly dispose the young growths, and this will probably necessitate the careful removal of some with a sharp knife. Strong-growing shoots should be shortened back, according to their strength and the ripeness of the wood, to assist in the building up of a well-balanced tree. Strict attention must be paid to the promotion of young growths from the centre or the base of the trees, and this is easily accomplished when careful pruning and disbudding in the spring months is carried out. Morello cherries are usually grown on a wall having a north aspect, and when pruning operations are finished the trees should be well washed with some approved insecticide, removing all ties or shreds before commencing this work. After the trees have been thoroughly cleansed, the main branches should first of all be carefully tied out at their proper angle, and the young growths tied securely, but loosely, in their proper places. I cannot emphasise too strongly the necessity of allowing plenty of room between the ligatures and the wood. When the pruning of the peach and nectarine is completed, the wood should be thoroughly cleaned in the same manner as that advised for cherries. Usually, these trees are grown upon a wall having a south or south-west aspect. Consequently, the proper training of them should be deferred for a few months later. Nevertheless, the branches and twigs should be tied up in loose bundles, and firmly secured a few inches away from the wall. This operation will not only have the beneficial effect of retarding the flowering period in the spring months, but it will also leave the walls exposed to the elements in winter, and will thus be the means of destroying many insect pests secreted thereon.

SPRAYING.—It is usually recommended that spraying operations should not take place until early in February, just before the buds begin to burst, but we have found it a good plan to spray our fruit trees at the present season and again in February, hence the necessity of urging that pruning operations be completed without delay, so that this work can be carried out. The trees must be well sprayed, taking care to thoroughly wet all the twigs and branches. Several winter washes can be purchased from reliable firms who make a speciality of these things.

GENERAL WORK.—If the weather continues open planting operations should be carried out without delay. If, on the other hand, frost continues, and pruning is finished, and the ground is cleaned up, advantage should be taken to wheel manure to a convenient spot in the fruit quarters, but this should on no account be spread upon the ground beneath the trees until all indications of frost have disappeared from the soil. — HENRY R. FARMER, Cardiff Castle Gardens.

CHRYSANTHEMUM PURITY.

This pure white-flowered variety has been very highly spoken of as an exhibition treasure. It will, undoubtedly, find favour with many cultivators on that account solely, but I am sure it will also become a favourite for decorations and the market. At one time we had the old white Elaine, but the flowers soon turned to a pale pink colour. Then we had Niveus, certainly better than Elaine, as regards keeping qualities, but it had one serious fault, namely, a weak flower stem. The variety Purity possesses every good point; the plant is easy to grow, has a fine dwarf, sturdy habit, every flower bud develops into a fine bloom, the latter is borne on a stout stem, and lasts fresh on the plant for quite a fortnight after the bloom is approaching full development, and then keeps its pure white colour for a week when cut and placed in vases.

For conservatory decoration, cut flowers, and market purposes, this variety will prove of great value from the latter part of November until nearly Christmas.

G. B.

BASIC SLAG.

This is one of the most useful of all artificial manures for garden soils, with the exception of those of a chalky nature, and light gravelly soils which have not been under garden cultivation long enough to have become rich in organic matter. Opinion as to its solubility has altered somewhat in recent years, for whereas it used to be held that scarcely any of the phosphate became immediately available when applied to the soil, and a considerable portion of it only very slowly indeed, it has now been proved by treating it with a solution of citric acid, to imitate the conditions to which it is exposed in the soil by the fermentation of the humus, and the acid of the root sap, that with the best samples much of the phosphate is almost immediately soluble, and the whole of it ultimately. One experiment showed, in fact, that after being subjected to a 2 per cent. citric acid solution for four hours 90 per cent. of the phosphate was dissolved.

Old garden soils which have become rich in humus as the result of many years of manuring are usually inclined to be sour, and on such soils basic slag acts more quickly than anywhere, while the lime in the slag, a small part of which exists in a free state, counteracts this acidity, and sweetens the soil, causing most plants to grow better, while it favours the development and activities of the soil germs upon which the supply of nitrate depends.

Nor is this all, for in any soil possessing an accumulation of manurial residues there is a great store of potash locked up, that is, it is not in an available condition for plants, and the lime of the basic slag has the effect of setting free the potash in a soluble condition, much to the advantage of plant growth. Anyone applying basic slag to such a soil for the first time will be astonished at the result, for as it supplies lime and phosphate, sets free potash, and by its sweetening of the soil hastens the breaking down of the humus into ammonia, etc., it may be considered as a complete manure in such circumstances, at least for the first time of use, and it need not be supplemented by any other manure, either animal or mineral.

As phosphorus is the principal agent in the formation of fruit buds, and as it hastens the development and maturing of these buds, as well as of the fruit, basic slag is one of the best manures that can be applied to fruit trees on heavy soils, especially when they are making luxuriant growth. When applied to lawns on such soils it produces good results, though the result of its use is often an astonishing development of clover, where it was not noticed before, it is not recommended for tennis lawns. Autumn and early winter are the best seasons in which to apply it, and the rate from four to six pounds to forty square yards, always sowing it thinly, either in the trenches as digging proceeds, or lightly hoeing or raking over the surface of the soil between successive sprinklings. If sown too thickly there is a risk of its caking together and setting when dry, so that the benefit of its fineness of grinding is lost.

There are various grades of basic slag, but the fineness of the grinding is of more importance than the content of phosphate, assuming that the price is proportionate to the analysis. A fair average sample should be guaranteed to contain a minimum of 35 per cent. of phosphate of lime, while 85 per cent. of it should pass through a sieve with 10,000 holes to the square inch. The best samples are guaranteed to contain a minimum of 42 per cent. of phosphate, of which 80 per cent. is guaranteed to be soluble in a 2 per cent. citric acid solution.

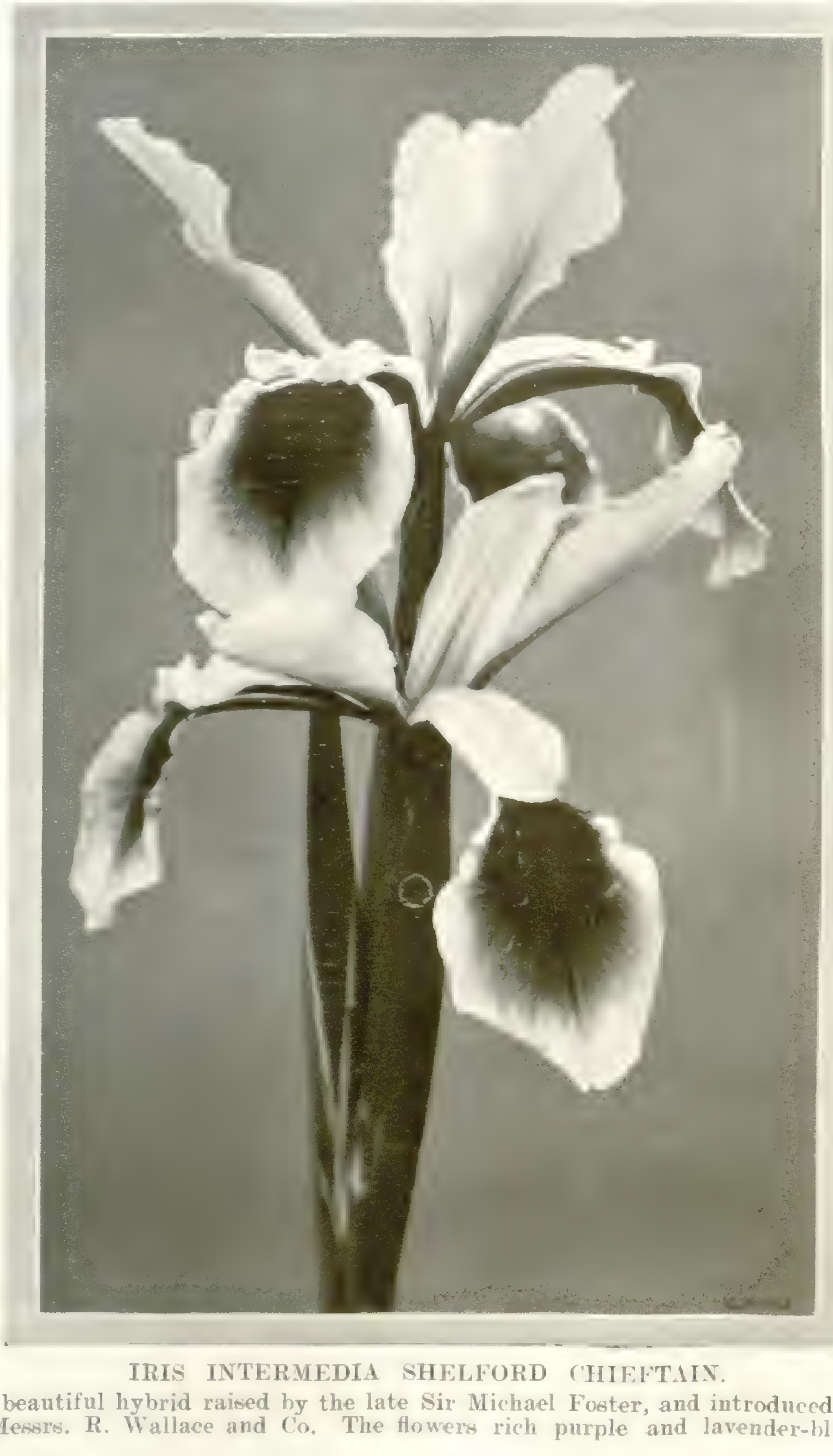
For potting composts this is a good substance to mix with the soil, not only to provide a lasting plant food, but to counteract the tendency to sourness in the pots, a pound to the bushel of soil being a fair amount to use. Though bonemeal is a better substance for this latter purpose, by reason of the nitrogen it contains in addition, the phosphates in it are less easily soluble than those in the basic slag, while the small percentage of free lime in the latter is also useful for pot plants, except in the case of those few families which are lime haters, e.g., the heath family. If kept in a dry place it can be stored for years without any deterioration.

Alger Petts.

The National Rose Society's exhibition fixtures for 1911 are as follows: Metropolitan Show, at the Royal Botanic Gardens, Regent's Park, on Friday, July 7; Provincial Show, at Ulverston, on Wednesday, July 19; Autumn Show, at the Royal Horticultural Hall, Westminster, S.W., on Thursday, September 14.

IRIS INTERMEDIA SHELFORD CHIEFTAIN.

This beautiful and distinct iris was raised by the late Sir Michael Foster, who, in his garden at Cambridge, devoted much attention to the hybridisation of species of iris, and is the result of crossing Iris Cypriana with I. pallida. It is interesting to notice that the flowers of the hybrid are much larger than those of either of the parents, and the plant itself attains a height of three feet or more. The standards are large, and of a very pronounced lavender-blue colour. The falls are exceptionally long, of a rich purple hue, and charmingly veined. The foliage has all the vigour of the best pallida forms, and has a good deal of the grey-green colouring that makes that section so very desirable for borders, as the plants show up well even when not in flower. Altogether, Iris Shelford Chieftain is a capital garden plant, distinct, and beautiful. It was well shown by Messrs. R. Wallace and Co., of Colchester, at the meeting of the Royal Horticultural Society held on July 19 last, when it attracted much attention.



IRIS INTERMEDIA SHELFORD CHIEFTAIN.

A beautiful hybrid raised by the late Sir Michael Foster, and introduced by Messrs. R. Wallace and Co. The flowers rich purple and lavender-blue.

EXHIBITIONS AND MEETINGS.

National Chrysanthemum Society.

The conference held by the above society at Essex Hall on December 5 was a success. The attendance was good, notwithstanding the inclement weather, and there was a beautiful display of late chrysanthemums on this occasion. A large group, composed of big Japanese, decorative varieties in great variety, singles, and tiny pompons was put up effectively by Mr. Phillip Ladds, Swanley Junction. A few of the leading varieties were December Gold, Mdme. Paolo Radaelli, Mensa, Edith Jamieson, and Baldock's Crimson. On the opposite side of the hall Mr. Norman Davis set up a delightful group of clean bright flowers, setting these up in very fine style. December Gold (F.C.C.) was in great form here, and other notable varieties in a charming exhibit were Thorpe's Christmas Rose, Fanny Lemon, Mdme. Rivol, Edith Jameson, Mrs. Rolfe, Framfield Pink, and Francois Blom, as well as Arcturus and Framfield White, both good singles.

Messrs. W. Wells and Co., Merstham, filled a table chiefly with single varieties, and their leading kinds were Cannell's Crimson, Jane Russell, Metta, Caledonia, Crimson Jewel, and Lady Furness (F.C.C.). The Messrs. Wells had also a grand new ivory-white Japanese variety named Mrs. Gilbert Drabble (F.C.C.)

Mr. Thos. Stevenson, gardener to E. Mocatta, Esq., Woburn Place, Addlestone, sent vases of single and decorative varieties, the following being notable sorts: Cissie Rungay, Pictor, and Jack, each of which was commended. A stand of Japanese and incurved blooms, giving evidence of good culture, was submitted by Mr. J. Simm, gardener to W. W. Mann, Esq., Ravenswood, Bexley. Medals were awarded as follows: Silver-gilt, to Mr. Norman Davis, and also to Mr. Phillip Ladds; large silver, to Messrs. W. Wells and Co.; and small silver, both to Mr. Leech and Mr. Mann.

CONFERENCE.

The afternoon proceedings were presided over by the President, Sir Albert Rollit, who made a few remarks commending conferences for their educational value, and suggested that Mr. Norman Davis and Mr. W. Higgs should each read his paper, and the discussion be taken on the two together.

Mr. Norman Davis then read his paper on "The Culture of Japanese Chrysanthemums," which we hope to publish in a future issue.

INCURVED CHRYSANTHEMUMS.

Mr. Wm. Higgs, the famous grower of incurved blooms, followed with his paper—after Sir Albert Rollit had left to fulfil another engagement, and his place was taken by Mr. Thos. Bevan. This was a capital paper, that entered into unusual details, and was well delivered. He said:

In dealing with my subject I propose to give, as far as possible, my own experiences in the culture of incurved chrysanthemums. I must apologise if I mention anything which has been said so many times before on this subject, but, as I am treading on a well-worn path, my shortcomings in this respect will, I hope, be overlooked. To somewhat atone for them, I will endeavour to put before you points in the routine of chrysanthemum growing which are not usually given in the "guide book."

We must remember that throughout the year, from the November of one year to the November of the next, it is our aim to produce a perfect flower. Every part of the treatment of the plant must be in conjunction with that aim. Neglect in attention to the cutting or to the young plant is just as fatal as neglecting the flower. During the summer months the plant must be kept healthy, and its growth must not receive any check. The wood must be well-ripened. These, and many other points like them, all tend to produce large and well-formed flowers.

The keynote to success is careful cultivation day by day, and never one day of neglect.

On an equality with this regularity is the necessity of attending to small matters, and, therefore, if I seem to give undue prominence to a seemingly unimportant phase in the stages of growth in a chrysanthemum, it is because I am bearing this fact in mind.

Chrysanthemums are, in their way, very much like children. Each variety possesses its own little peculiarities. Just as Johnny has a special liking for chocolates, while Tommy's æsthetic taste has an inclination for the consumption of toffee, so Lady Isabel's taste differs from that of Clara Wells. The individuality of each variety must be kept in mind in the treatment of the plant.

Incurveds have always been my favourites. I have studied their growth for many years. On looking back to the old varieties, the Queen family, the Princess of Wales and its sports, the Jeck family, Venus, Refulgence, Princess Beatrice, John Salter, Lady Talfourd, and White Globe, one cannot help noticing the great strides which have been made in size and colour, although, for colour, we have not yet beaten Refulgence as a dark variety, or Jardin des Plantes as a yellow.

Had not Japanese blood been worked into them, incurved flowers would have indeed been much smaller than they are to-day, and we should not have had the brighter colours.

As regards shape, the Queen family of fourteen or fifteen years ago were models of what an incurved flower ought to be. No variety could be considered nearer perfection than a well-grown Lord Alcester or an Empress of India. The Queens were not made much use of for seeding purposes, or we should have had some of the same type now. Amongst all our varieties of incurved chrysanthemums we have not one resembling a Lord Alcester. Taking everything into consideration Clara Wells is the best variety we have at the present time.

We may roughly divide the biography of a chrysanthemum into the following stages:

(1) The old stool, which is instrumental in the production of the cutting.
(2) The cutting itself.
(3) The young plant in its earliest stages.
(4) The growing plant as it is seen in its summer quarters.
(5) The fully grown plant bearing its flowers.

I will now deal with the first of these stages—the treatment of the old plant to produce good, healthy-looking cuttings. Even at this early stage it is well to remember that a good start is necessary to ensure a good finish. If the old stool shows a number of good cuttings it is all well and good. If, however, a variety is shy in producing cuttings some special treatment is necessary. This is best carried out in the following manner: Take some good-quality loam and sift it through a coarse sieve. Mix this with the same quantity of sifted decayed leaf-mould and apply it lightly as a top-dressing. Plants treated in this way not only produce more cuttings but the cuttings which appear are considerably stronger and are more likely to develop into good plants.

When inserting the cuttings the late varieties must receive the earliest consideration. I always insert these as early as the first week in December. Frank Hammond, Mrs. F. Judson, Mrs. J. Hygate, Charles Curtis, W. Pascoe, Mrs. J. Wynne, Duchess of Fife, H. Hearn, Egyptian, Miss Nellie Southam, may all be classed as late sorts, and must be started early.

Next we come to those varieties which require a second crown bud, and which should be inserted during the third week in December. A list of these would include such varieties as Lady Isabel, Mrs. G. Denyer, H. W. Thorp, Mrs. Barnard Hankey, Pantia Ralli, Ialene, W. J. Higgs, Romance, Le Peyron, Amber Beauty, Emblême Poitevine, Topaze Orientale, Triomphe de Montbrun, May Phillips, Miss F. Ashworth, Doris Rayner, G. F. Evans, W. Biddle, Calypso, Hanwell Glory. Other varieties which require a late crown bud might be inserted about the same time. Amongst these would be found Clara Wells, Buttercup, Daisy Southam, and Frank Trestian.

When putting in the cuttings it is as well to sacrifice a little space for the sake of the welfare of the plants. Personally, I always put them singly in thumb pots. If three or four cuttings are put in the same pot it is not only possible, but very probable that the growth of those cuttings will be checked when the first repotting comes. The roots of the plant will be unable to spread in all directions, and they will also become entangled with those of the plant next to it.

Prepare a frame with a bed of sifted ashes for the reception of the "thumbs," a frame where heat can be turned on in severe weather, and the temperature kept fairly constant. Plunge the pots to some little depth in the ashes, and give the cuttings a light syringing to prevent them flagging. Next we come to the first potting, and, of course, the most important point at this stage is the composition of the soil. Equal parts of sifted loam and decayed leaf-mould should be taken, with some silver sand to keep the soil open. On no account should manure of any description form part of the compost, for at this period the chief thing to guard against is getting the plants too strong. Personally, I think that one of the most important reasons why some growers fail to produce the smooth round buds which are necessary to make the perfect flower can be traced to this error. If manure is included as a constituent of the soil the growth becomes too rank altogether, hollow stems are produced, and, generally speaking, the flower which follows the hard, badly-shaped bud, does not open freely.

The earliest plants will be ready for the first repotting in large 60's from the middle to the end of January, while those whose growth is more slow will follow later. After they are all potted up, place the plants back in their places in the frame just as before, except that they should be given a little more room. As they grow larger more light and air will be required, and consequently with each potting they should be placed farther and farther apart. Thus the plants are kept "stocky," and present a bushy appearance to the eye. When ventilating the frames, a little more air may be allowed after the plants have been potted for two or three days. In the beginning of March, when we may say fairly safely that the sharpest of the winter frosts have been left behind, the plants may be transferred to cold frames. Some effective covering must always be kept near at hand in case of a likely cold night. This guard against the frost should be very thick, for a very low temperature is fatal to the young and tender plants. An excellent covering can be made by first covering over the tops of the frames with stout garden mats, and then placing a layer of straw over the mats.

The next shift into 6in. pots will take place towards the end of March, the composition of the soil being the same as before, but the loam should be a little coarser. This second repotting having been completed six or seven days, select the varieties which require second crown buds, and carefully take out the point of each plant. The plants are now beginning to get interesting, for before they are too far advanced we must discern which are the weaker varieties, and plan out for them a different course of treatment. Instead of the usual 6-in. they should be shifted into 5in. pots, for they will never produce exhibition flowers if over-potted.

Special care will also be needed in watering, and a light spraying over regularly every day will be found to be very beneficial. The plants can now be allowed to grow on with careful and regular attention until the end of May, when the most important part of their career occurs. This is the final shift into the flowering pots, 9in. or 10in., according to the characteristics of the growth of the plant. The weaker varieties originally in 5in. pots will now require 9in. pots. All other varieties can be moved into 10in. pots.

The composition of the soil here is of utmost importance. It is best to get it prepared two or three weeks before it is required. Personally, I find that the best method to employ is to mix up the soil in two separate heaps, the chief difference in the composition of the heaps being that one contains manures, while the other does not. It is necessary to have two different strengths of soil, for some varieties, if grown in very strong soil, would produce very rough flowers, which no amount of dressing would make fit for an exhibition board. We may roughly classify all kinds of incurved blooms into two divisions—those which naturally come with a true, narrow incurved petal, and those which, unless specially treated, would probably resemble a small "Jap.," and which have Japanese blood in them. For the sake of clearness we will label the former sorts "weak," and the latter "strong." It naturally follows that in the true incurved varieties the chief aim is to obtain a big bloom, for in nearly every case the flower produced will not be rough and uneven. Hence manure is included in the constituents of the compost for the weak varieties. In the case of the strong sorts the chief aim must not be size alone, it must be the biggest flower that can be obtained, and at the same time the best formed, smoothest, and most incurved. Where before we could almost ignore the shape of the petal, here it becomes the chief factor, and when growing "strong" varieties we must fine them down, as it were, and produce as fine a petal as possible. This also saves a great deal of work with the tweezers later on.

For the weaker sorts the following soil is mixed up: Twelve barrowloads of good turfy loam, three barrowloads of horse manure, which has been treated in the same manner as when preparing soil for a mushroom bed, two barrowloads of decayed leaf-mould, and one barrowload of wood ashes. To this add ¼cwt. of bone-meal, a 10in. pot of soot, and the same quantity of Veltha. The soot and wood ashes supply the carbonaceous matter required by the plant, while the bone-meal contributes the valuable manurial phosphates.

The plants take up the Velthã through the roots and stem to the leaves and rust is prevented to a great extent. I do not wish to make any rash statements, and say that Veltha will keep away rust altogether; but if the rust does attack the leaves when the plants have been so treated, the attack will not be anything like so heavy as if the Veltha had been omitted as a constituent of the compost.

In mixing the soil for the stronger sorts I leave out both the horse manure and the bone-meal, substituting in equal proportions leaf-soil and wood ashes. The other materials are mixed just the same as in the first heap of soil. Having prepared the soil the true incurved varieties must then be chosen for potting, the majority of them in 10in. pots. Amongst these should be found Clara Wells, Mrs. G. Denyer, H. W. Thorp, Duchess of Fife, Daisy Southam, Topaze Orientale, Frank Hammond, Charles Curtis, Frank Trestian, W. Pascoe, Pantia Ralli, Miss Nellie Southam, Mrs. J. Wynn, Amber Beauty, and Romance.

For the poorer soil Buttercup, Lady Isabel, Mrs. Barnard Hankey, Emblême Poitevine, Mrs. J. Hygate, Triomphe de Montbrun, May Phillips, Miss F. Ashworth, Ialene, Doris Raynor, W. J. Higgs, G. F. Evans, W. Biddle, J. Agate, Le Peyron, Calypso, H. Hearn, Miss E. Holding, Godfrey's Eclipse, Souv. de Wm. Clibran, and Egyptian might be selected.

Having knocked out the plant from the small pot, it should be placed in a well crocked pot, the weak sorts having crocks and a layer of inch bones and the rest crocks only. The soil is then placed round the roots, and well rammed down with a piece of wood, shaped specially for the purpose. This ramming is most important, and on no account must be neglected, as it produces short-jointed growth, followed by deep well-formed flowers. It is necessary to leave room at the top of the pot for two top dressings which are to follow, the soil for these consisting of finely-sifted loam and leaf-mould in equal proportions with a little Ichthemic guano. A 60-pot of guano to a bushel of soil. These have the effect of keeping the roots active on the surface. The first top dressing should take place in the middle of August, and the second after the plants are housed in the middle of September. Immediately after the dressing care must be taken in watering so that the soil on the top is not disturbed. Having completed the final potting, the plants are stood out in the open in a favourable position. The sunlight should have free access to them, and if possible a spot should be chosen for their summer quarters where there are no tall trees or high buildings in the neighbourhood.

Watering at this stage needs special care. Very careful attention must be paid to this point for the first fortnight or so after the potting. Overwatering is certain to cause a check in the growth of the plants, and it will take them some considerable time to get over it. Excessive saturation soon turns the leaves yellow, and first-class flowers are cut of the question. Rain water produces the best results, and should be used if procurable.

After a hot dry day a good syringing overhead during the evening will be beneficial. It also helps a great deal to keep down the thrips which do so much damage to the young shoots and buds. Besides thrips the grower has to guard against attacks of mildew, fly, and chrysanthemum rust. As a preventive and a cure for mildew, potassium sulphide has no equal. When dissolved in water, in the proportion of ½oz. of sulphide to one gallon of water, it is very effective. The best method of applying this solution is to stand the plant in an oblique position, so that the pot rests on a stool, then none of the insecticide will fall on the surface of the soil. In the use of any chemical remedy for a disease on the leaves this point must always be borne in mind, the obvious reason being that in the event of the liquid reaching the roots, harm might come to the plant. The solution of potassium sulphide is syringed on to the leaves, thoroughly wetting the underside of every leaf, at the same time being careful not to allow the mixture to reach the soil.

Attacks of greenfly may be warded off by using Abol insecticide in a similar manner, except that the points of each growth should receive a very thorough syringing.

As regards rust, besides including Veltha in the soil, a careful watch must be kept for the earliest signs of spores. These should be treated with paraffin oil, the remedy being applied with a small paint brush of the common or garden variety. Once rust gets the upper hand the leaves suffer, and apparently look as if they have been partially burnt. Consequently the flowers do not open at their best.

Simultaneous with watering comes the question of stimulating the growth with manures—both natural and artificial. There are a great number of the latter on the market, many of them no doubt splendid in their way, and finding many supporters amongst growers of chrysanthemums. Personally, I find guano, sheep manure with an addition of soot, and fresh blood from the slaughter house—all three to be of great value in improving in many ways the condition of the plants and flowers. I commence feeding with sheep manure early in August, with a fairly dilute solution, increasing the strength as the plants get stronger. Watering with solutions of blood or guano should be substituted sometimes for the sheep manure in order to supply salts of all the elements needed for plant tissues in a readily soluble form. Care must be taken not to make the solution of blood too strong, or the plants will receive a check, and even, perhaps, be spoilt altogether. A normal mixture is obtained if half a gallon of coagulated blood is mixed with 25 gallons of water; that is, a 2 per cent. solution.

It will be as well to remember that manurial substances must not be selected or applied indiscriminately. They must contain nutritive material, which is easily soluble in water, and which is necessary to the growth of the plant. The fewer superfluous substances present the better. The elements indispensable for healthy growth are carbon, oxygen, hydrogen, nitrogen, sulphur, phosphorus, calcium, potassium, magnesium, and iron. In the absence of even one of these elements normal development does not take place. The original source of phosphoric acid in manures was bones, but mineral superphosphates have in great measure taken their place. Of the nitrogenous manures, guano is the best, some kinds containing as much as 13 to 14 per cent. of nitrogen, and from 13 to 14 per cent. of phosphoric acid in the form of phosphates. Guano also contains potassium and ammonium salts, and its high manurial value is due to the fact that it is a general fertiliser, yielding all the constituents of plant food in a condition that can be readily assimilated. It imparts a dark rich green to the foliage and promotes the growth of the herbaceous parts of the plants.

Blood contains many of the elements of plant food in a condition easily taken in by the plant, including hœmoglobin—a kind of albumen, which, of course, is nitrogenous; together with the chlorides and phosphates of potassium, sodium, iron, calcium, and magnesium.

Chrysanthemums may be fed with these manures until the flowers are about half-expanded, when the pots will contain sufficient plant food to finish off the blooms, and there will be no need to enrich it till the growth of cuttings is required.

Housing should be commenced about the middle of September and a dry, fine day should be chosen. A few of the earliest buds should be placed under shelter in a shady situation before the average plants are put under glass. This prevents them to some extent from opening as quickly as usual, and they are more likely to be useful on show day. The earliest buds should not appear before August 20. If any are taken before this date they invariably develop into rough flowers, having the appearance of an incurved Jap.

We now come to the most interesting part of chrysanthemum growing, when we have the pleasure of seeing and realising the result of our labours—the reward of ten or eleven months' careful attention when we are able to watch the petals as they unfold. It will be easy to pick out the plants on which the best blooms will probably develop, and these can occupy the best places under glass. The clean, round, perfectly-shaped bud cannot be mistaken, and the plants whose buds are promising poor flowers can be placed together in a less favourable position, unless one happens to be lucky enough to have large flowering houses where every bloom has a good chance. As the flowers expand a slight shade will be necessary to protect the newly-opened, delicate petals from the rays of the sun. The shading should be such that it is easily put up and easily removed, according to the vagaries of the October weather. An even temperature should be aimed at in the houses, for if the thermometer rises too high the petals will reflex, and more labour will be needed with the tweezers. 55 deg. Fahr. during the day time, sinking to 50 deg. at night is a suitable temperature. As regards ventilation, a little front and top air should be left on at night, the amount varying with the outside temperature. A through circulation of air must always be going on, so that no moisture is allowed to condense on the petals.

Before the blooms are fully developed it is sometimes advisable to put a little work on them with the tweezers, and here I will say a few words on the subject of "dressing."

It is necessary to have good tools to work with, so that even the proverbial bad workman will have no excuse except his own carelessness. A good dresser is a real treasure, for his labour might make all the difference between the cup that is, and the cup that might have been. Here the ladies have a good chance to apply their persuasive efforts, and I have heard that some attain the heights of perfection; but rather than tread on dangerous ground — Mum's the word!

Unless one is specially gifted, dressing incurveds needs some years of practice, since the time which can be devoted to it in one year is so limited. A fortnight or three weeks at the most is the usual period at the disposal of the grower. But much progress can be gained under good tuition, and if one knows how, and is persistent, dressing soon becomes easy.

Good dressing often overcomes the great difficulty of getting thirty-six flowers at their best at the same time. Take, for instance, a big flower which is not out. All the short petals in the centre should be carefully taken out with the long forceps, then turning the flower upside down the petals should be gently pressed to fill up the hole in the centre. The badly-shaped petals must be taken out if they have not already been attended to while the flower was on the plant. Then with the small tweezers commence arranging the petals in position from the centre downwards. It is best to take hold of the petals half-way down, then, if a petal is accidentally bruised in the process, other petals which overlap it will cover up the defect. Some flowers require an hour's work spent on them, others much less, the time depending upon how perfectly the bloom has been grown. Experience teaches the grower which varieties can be dressed without much fear of bruising, and which must be left till an hour or so before the judges appear. Some flowers show the least touch, and if these are dressed on the day preceding the show, they will probably be useless as specimen blooms. Most of the darker varieties are easily bruised; but it is useless to attempt any classification, only close contact with flowers can give the necessary knowledge.

*** Owing to the pressure on our space we are compelled to leave over the remainder of the report of the Chrysanthemum Conference until our next issue.

Potato Show, Birmingham.

The exhibition of potatoes in Bingley Hall was very interesting, some 2,650 tubers being staged in the several classes provided, and as the entries were numerous "reserve" cards were awarded in each of the ten classes. There were many bright looking collections, but we have seen them better. Eight competitors staged in the class for twelve dishes of a dozen tubers each, the post of honour being occupied by Mr. W. Coleman, 4, Hunter Street, Buckingham, who was strong with shapely and bright specimens of Dalmeny Beauty, Provost, Scot, Mr. Bresee, Superlative, Purple Perfection, Talisman, King Edward VII., Factor, Up-to-Date, Table Talk, and Queen of the Veldt. The second prize was awarded to the Duke of Portland, Welbeck Abbey, who had White City, Mr. Bresee, Up-to-Date, The Sherwood (new), Sutton's Abundance, Satisfaction, White Kidney, Superlative, Windsor Castle, Factor, and King Edward VII. in excellent condition; and Mr. J. W. Needham, Wildsworth, Gainsborough, was third with Table Talk, Red Kidney, May Blossom, Royal Kidney, Up-to-Date, Chapman, King Edward VII., Eclipse, White City, Evergood, Factor, and Northern Star; Mr. J. Neaverson, Eye, Peterborough, taking the reserve card. For six dishes Mr. Coleman once again headed the competitors, Mr. Needham second, and Mr. Neaverson, third. For two coloured and two white varieties Mr. Coleman led with large, shapely specimens of Mr. Bresee (very fine), Factor, Superlative, and Purple Perfection (a shade dull); Mr. Needham second, his selection being King Edward VII., Evergood, Mr. Bresee, and Factor; Mr. Neaverson third, his dish of Goldmine being truly handsome. In the class for four varieties suitable for farm or field cultivation, there were some thirty dishes, Mr. Neaverson scored a premier with bulky but fairly shapely specimens of King Edward VII., Evergood, Satisfaction, and Langworthy; Mr. Coleman a close second with Superlative, Factor, Talisman, and King Edward VII.; Mr. Needham third. For two dishes of kidney-shaped Mr. Coleman led, putting up Superlative and Factor; Mr. Neaverson second, and Mr. E. Ashley, Irlam, Manchester, third. For two dozen round Mr. Coleman obtained premier honours with Purple Perfection and Provost; Mr. Thomas Bannister, Marston Green, Birmingham, second; Mr. Neaverson third. For one dish of Kidney or long variety, Mr. Coleman first with Superlative, and Mr. Neaverson second; and for a dish of round Mr. T. Bannister was first for Table Talk; Mr. Neaverson second. Mr. Bannister occupied the first place in the class for the handsomest dish with a very pretty dish of Up-to-Date; Mr. Coleman second. There were four entries for new varieties not yet in commerce, and Mr. B. Parker was first with Stors Castle Seedling, a white kidney of the Up-to-Date type; the second prize was awarded to Mr. Needham for Trent Cropper, certainly a handsome white pebble-shaped tuber; the Duke of Portland taking the reserve card for The Sherwood, a flat pebble-shaped white tuber.

The trade exhibits contributed much to the interest of the exhibition. Messrs. E. Webb and Sons, Wordsley, contributed a large and tastefully-arranged stand comprising roots, grass seeds, potatoes, onions, seed corn, and fruit, all of which was of the highest quality. Messrs. Dicksons, Lim., Chester, who had an excellent arrangement of grasses and clover seeds occupying an angle; the King's Acre Nurseries, Hereford, made an attractive exhibit with about five dozen dishes of highly-coloured home-grown apples; and the Agent-General of British Columbia had an exhibit of fresh fruit, in cases and otherwise.

Smithfield Club Show.

The show of fat cattle, roots, implements, etc., held during the week at the Agricultural Hall was necessarily very similar to that of last year and previous years, but it is interesting and gratifying to note steady improvement in both animal and vegetable exhibits year by year, and in regard to the latter, which are of more direct interest to the readers of the Gardeners' Magazine, it may be said that the well-known seed firms who annually put up imposing displays of roots and other produce, staged this year in a manner that leaves little, if any, room for further improvement. Messrs. Sutton and Sons' extensive collection of finely-developed mangolds and swedes was supplemented by choice vegetables, and by examples of insect pests, showing the damage done by each to the particular crop it affects. Printed particulars, with hints on methods of destruction, added value to the exhibit. A capital lot of roots came from Messrs. J. Carter and Co., and some beautiful examples of "Record" onions and other high-class vegetables. Photographs of the new general offices of the firm recently opened at Raynes Park, S.W., were exhibited.

Among the capital lot of potatoes exhibited by Messrs. Fidler and Sons, Reading, Commodore, a round white; Dreadnought, a white kidney of excellent shape and character; and Improved Imperator were among the more conspicuous. Upwards of sixty varieties were shown on this stand. Messrs. E. Webb and Sons, Wordsley, Stourbridge, as is their usual custom, displayed choice onions and potatoes in quantity and variety, thus enhancing the attractiveness of the stand, which, of course contained a grand lot of farm roots and samples of corn. A new potato of handsome appearance and great promise was shown by Mr. Wm. J. Reid, Fordhouse, Montrose, Arran Chief by name, this potato is beautifully even in form and has a quite distinct rough skin that gives the potato almost a netted appearance. Fruit was shown by the Government of British Columbia. From Messrs. Dicksons, Lim., Chester, came apples of both kitchen and dessert varieties, as well as some good potatoes. The stand was decorated with vases of choice perpetual carnations. Messrs. W. Horne and Sons' collection of apples from Cliffe, Rochester, included some splendid fruit of particularly good colour, and the trees shown were very clean and healthy.

Messrs. Harrison and Sons, The Market Place, Leicester, contributed some very good carrots, beetroot, and onions, their Giant Zittau was of excellent type and pretty appearance, the skin being fine and of a golden russet colour. Ailsa Craig was also shown, and we noticed some splendid leeks, the variety being Leicester Hero. Apples from King's Acre Nurseries, Lim., Hereford, were staged in capital style, and the varieties, numbering about 75, were representative of the leading dessert and culinary sorts. Rival, Edward VII., King's Acre Bountiful, and the quite new Admiration were a few of special merit. Another good lot of fruit came from Messrs. Laxton Bros., Bedford. Annie Elizabeth, Fearn's Pippin, Wealthy, High Canons, and Golden Spire were a few among their many kinds.

Scotch seed potato growers were, as usual, well to the fore, and many new varieties were shown, some of which bore great promise.

Colonial Fruit Show.

A fine exhibition of Colonial fruits was held at the Horticultural Hall, Westminster, on December 1,2, and 3, this making the fourteenth exhibition of its kind arranged by the Royal Horticultural Society. The exhibition was opened by Sir Edward Grey in the presence of a large company that included many Colonial celebrities.

Under the auspices of the Government of British Columbia the whole of the orchestra, specially put up for the occasion, was filled from top to bottom and side to side with magnificent apples in cases as packed for the British markets. These were supplied by various growers, and came from the leading fruit districts of the celebrated province. There were altogether twenty-two tons of grand fruit in this extraordinary exhibit. Not only did the province fill the orchestra, but they had scores of cases across the end of the hall, just inside a line of rustic arches and fencing that outlined their limits. Some of the apples staged, either in boxes or baskets, and that at once caught the eye by reason of their size, brilliance, or other good qualities, were Newtown Pippin, Gano, King of Tomkins County, Blue Pearmain (a striking variety), Cox's Orange Pippin, Deux Ans, Grime's Golden, Spitzenberg, McIntosh Red, Jonathan, Baldwin, Ontario Red, Gravenstein, Stark, and Fallawater. There were not, however, a very large number of varieties, and the highly-coloured sorts were greatly in evidence. There were about a thousand boxes of fruits, and the display was one that was at once impressive, a magnificent example of fine culture and splendid packing, and, probably, the largest exhibit of apples ever put up in Europe.

All other displays paled beneath the overpowering exhibit from British Columbia, but New Brunswick put up a large group of apples, and these latter, while attractive, lacked the size and brilliance of the Columbian fruit, and, moreover, gave evidence of the need of improvement in packing; this group was arranged by Mr. A. Bowden, 27, Southampton Street, E.C., the London representative of the New Brunswick Government. Among the best of the apples from New Brunswick were Bethel, Ben Davis, Golden Rennet, Fameuse, Gano, Ontario Red, and Wealthy. Bethel was the variety most largely shown. The London agency of the Kootenay District of British Columbia 7, John Street, Adelphi, had a small, but very fine set of brilliant and clean apples, their samples of Cox's Orange Pippin being unusually plump and bright. A long table of finely grown and well packed apples, all Columbian grown, was arranged by Messrs. Garcia, Jacobs, and Co., 19, Bow Street, Covent Garden.

Opposite the chief entrance the West Indian Committee, 15, Seething Lane, E.C., had a display which included a fine lot of oranges, grape fruits, and bananas, submitted by Messrs. Elder and Fyffes, and a number of bottled fruits and limes from

Dominica, but as the steamer conveying the fruits and vegetables for the Dominica section was delayed, it was not possible for this West Indian island to be properly represented on the first day. Messrs. Astor W. Gardner and Co., Gamage Buildings, Holborn, and Jamaica, sent beautifully packed seedless oranges and cases of large pale green grape fruits—the latter suggested as a cure for influenza. This company had also on view an interesting collection of photographs of fruit culture in Jamaica. The Rosean Valley Fruit Company, 46, Swan Street, E.C., contributed both orange and lime marmalade, made from Dominican fruits.

As usual, the West Indian Produce Association, 4, Fenchurch Buildings, E.C., had an extensive and interesting exhibit. There were bananas, limes, oranges, grape fruits, cocoanuts, sugar cane, and green ginger, crystallised fruits, preserves, and liqueurs in almost bewildering variety, and an assortment of Jamaica cigars, wherewith to "smoke Imperially." West Indian curios in bead work, and a collection of nuts and spices, calabashes, and swizzle sticks, completed the display. Messrs. Westmacott and Co., 150, Leadenhall Street, contributed South African produce, including wines, liqueurs, Cape gooseberry jams, grape jams, calabash pipes, etc.

Mr. W. H. Plowman, one of the R.H.S. officers, and one who has made fruit bottling a close study, exhibited a collection of apparatus necessary for the purpose of bottling fruits, and also samples of fruits treated. On the Saturday afternoon Mr. Plowman gave a lecture on "The Preservation of Whole Fruits." From the Fruit and Cyder Institute, Long Ashton, Bristol, came samples of ciders and a small collection of cider apples, such as Court Royal, Dymock Red, Skyrme's Kernel, Rouge de Treves, Kingston Black, Strawberry Norman, and Chisel Jersey.

AWARDS OF MEDALS.

Gold Hogg Memorial Medal.—To the Government of British Columbia for a collection of apples, comprising over one thousand cases.

Gold Medal.—To the West Indian Produce Association, 4, Fenchurch Buildings, London, E.C., for a collection of West Indian Produce, including citrus fruits, liqueurs, and preserves; to the Exhibition Committee of Dominica, West Indies, for citrus fruits, etc.; to Messrs. Garcia Jacobs and Co., Covent Garden, for British Columbian apples.

Silver-gilt Hogg Medal.—To the Botanic Station, Dominica, W.I., for citrus fruits.

Silver-gilt Knightian Medal.—To the Salmon Arm District, British Columbia, for apples; to Messrs. Randall Bros., Sheffield, New Brunswick, for apples; to Messrs. I. C. Gillman and Son, New Brunswick, for apples.

Silver-gilt Banksian Medal.—To the Grand Forks District, British Columbia, for apples; to the Vancouver Island District, British Columbia, for apples; and to Mrs. Smith, Spence's Bridge, British Columbia, for apples.

Silver Knightian Medal.—To the Government of New Brunswick for fifty boxes of apples; to Mr. W. C. Staples, New Brunswick, for apples; to St. Aroment Estate, West Indies, for lime and lime juice; to West Kootenay District, British Columbia, for apples; to Okanagan District, British Columbia, for apples; to Kamloops District, British Columbia, for apples; to the Kere[illegible] District, British Columbia, for apples; to Jamaica Agency, London, for citrus fruits, etc.; and to Messrs. Westmacott and Co., for Colonial wines, jams, etc.

Silver Banksian Medal.—To Kootenay District Agency, British Columbia, for a collection of apples; to Mr. J. W. Clark, New Brunswick, for apples; to Mr. G. H. Laws, British Columbia, for apples; to Everton Estate, Dominica, West Indies for citrus fruits; to the Wall House Estate, Dominica, West Indies, for limes; to Messrs. Elders and Fyffes, London, for citrus fruits; to Army and Navy Auxiliary Stores, London, for a collection of colonial fruits.

Bronze Banksian Medal.—To Roseau Valley Fruit Company (manager, T. Hankinson, Esq., 46, Swan Street, S.E.), for colonial preserves, etc.; to British Columbian Development Association, for a collection of fruits, books, and pictures.

MISCELLANEOUS AND INDUSTRIAL EXHIBITS.

Silver Knightian Medal.—To Mr. W. H. Plowman, 20, Rampayne Street, London, S.W., for collection of patent sterilizers; to Messrs. McDoddies, Kennington, for dried vegetables.

Silver Banksian Medal.—To the National Fruit and Cider Institute for cider and cider apples.

Birmingham Gardeners' Association.

There was a large attendance of the members at the last meeting, it being the ever-interesting question night. Mr. C. H. Herbert (the vice-chairman) presided. A matter of paramount importance was that of the action of the London County Council in appointing a military officer as Chief Officer of the London Parks and Gardens. After a short discussion, it was unanimously agreed that an expression of disapproval be forwarded by the secretary to the proper quarter. Other questions included: Which kind of flower during the last fifty years has made the greatest advance in improvement? One member stated that, in his opinion, the begonia must be regarded as having made the greatest advance. Others cited the rose and the sweet pea, followed by the carnation, chrysanthemum, and cyclamen. Another question was: How to acquire the highest colouration in the codiæum, Various suggestions were forthcoming, the chief being the use almost intact of a good virgin loam; peat and loam; peat alone; a high temperature combined with dense atmospheric moisture, manurial or otherwise.

Mr. W. Gardiner gave a brief account of his visit to Bingley Hall, and stated that he was especially interested in the potato classes, in which Mr. W. Coleman, Buckingham, was the champion winner with shapely and fine quality tubers. The production of such fine tubers by Mr. Coleman was highly creditable considering that in the Buckingham district the soil is not altogether naturally conducive to the production of high-class potatoes. The secret of success, however, was the judicious preparation of the soil.

Another interesting feature of the meeting was a description of the summer annual outing (in July last) of the members and lady friends to the Cotswolds in West Gloucestershire by Mr. W. Gardiner, the venues being the historic Sudeley Castle, the seat of Henry Dent Brocklehurst, Esq.; Toddington Manor, the seat of Hugh Andrews, Esq.; and Dumbleton Hall, the seat of Mrs. Eyres, splendid estates that almost adjoin. Another object of special interest was the neighbouring quaint and ancient market town of Winchcombe. The discourse was listened to with evident interest, and the essayist remarked that he was urged to give it by the desire that, especially the newer and younger members of the association should be stimulated by the desire to take advantage of such pleasing and instructive visits.

Prior to the ordinary meeting a committee meeting was held for the consideration of the spring programme.

Bournemouth Gardeners' Association.

Mr. J. J. Kettle, of Corfe Mullen, Dorsetshire, gave a very interesting lecture on Tuesday, November 15, on "Some of Nature's Peculiarities." Mr. Kettle is a very keen observer, and has, for many years past, studied the peculiarities of plant and insect life. Mr. W. Reeves presided.

The lecturer referred to the fact that palms and other kinds of plants grew so freely near the seashores of the islands in the Malay Archipelago, and said that seeds were washed from one island to another, and in this way the distribution was continuous. He also drew attention to the night-opening flowers, saying that they were nearly all white, or very light-coloured, so that insects could see and fertilise them. Mr. Kettle said wasps brooded in the latter part of the season were all fertile queens, and they ate green aphides freely. He had watched them in his houses doing so. The pitcher plant obtained its nitrogen in its native home from the dead insects caught in the pitcher-like end of the leaf. The insects could easily crawl in, but could not as readily get out again, because the inside of the pitcher was coated with innumerable fine spines, which all pointed downwards. Thus the dead insects furnished the necessary nitrogen for the plant. The frogbit, a water plant, had roots which went straight down in the water, but only in shallow water did they reach the bottom. In summer time the plants, in masses, floated away in the streams; they possessed tiny runners, at the tips of which small buds formed, and these, in due time, became detached, and sank to the bottom—to the mud. When the warm weather again came these buds grew, and so the plant was reproduced. Mr. Kettle further referred to the peculiarities of the

A MAGNIFICENT DISPLAY OF APPLES.
Exhibited by the Government of British Columbia at the R.H.S. Colonial Fruit Show.

roots of plants and trees, and to the multitude of parasites both in the plant and the animal kingdom. He said the roots of the banyan tree not only penetrated the soil from a considerable height, but they also gradually grew out across rivers, and so formed living bridges.

Altogether, the lecture was both instructive and interesting, and an animated discussion followed. Hearty votes of thanks to the lecturer and chairman closed the meeting.

Reading Gardeners' Association.

Notwithstanding the counter-attractions provided by the prospect of a great political contest in Reading, there was again a very large attendance at the Abbey Hall. The Chairman, Mr. T. Judd, presided, and Mr. T. Tunbridge, The Gardens, Three Elms, Henley-on-Thames, was the lecturer for the evening, his subject being "Winter and Summer Pruning." Apart from being one of the oldest members of the society, Mr. Tunbridge is the "bard" of the association, and, as might be expected, his remarks were punctuated by numerous poetic effusions. The lecturer announced that he had no wish to force his opinions on the experienced gardeners among the audience, and his paper would rather be directed to the younger members and to stimulate a healthy discussion at the close of his remarks. Mr. Tunbridge proved himself a thorough master of his subject, and was listened to with profound attention. He certainly had no reason to be disappointed in the discussion which followed the paper, for it proved one of the best debates which has ever taken place in connection with the society's meetings, and went far to prove that on the question of pruning the "doctors" were largely at variance. Mr. Tunbridge was accorded a hearty vote of thanks at the close of the meeting.

Beckenham Horticultural Society.

On Friday, the 25th ult., with Councillor James Crease presiding, Mr. F. P. Giles, of Messrs. Sutton and Sons', Reading, gave a lecture to a good attendance, entitled "One Hundred Years of Vegetable Improvement," illustrated with lantern slides. The cultural side on this occasion was dispensed with, for, as the lecturer remarked, each class of vegetable could more than occupy the time at his disposal. About a hundred slides were shown, and in all cases either the wild progenitors or very early cultivated types were displayed on the screen, and their evolution as depicted proved exceedingly instructive.

A question was put to the lecturer as to why certain peas "were not as good as they used to be " This, in the opinion of the lecturer, was a matter of stocks, and if supplies were obtained from the right stocks they would be as good as heretofore. On the motion of Mr. Thornton, the hon. secretary, a hearty vote of thanks was accorded Mr. Giles for his excellent lecture.

Lee and Blackheath Horticultural Society.

A meeting was held on November 25 at the Church Street Schools, the lecturer for the evening being Mr. W. P. Bound, and his subject "Present-day Orchid Culture." The lecture was well attended, and was altogether a great success, many points of valuable information being gleaned by the audience from so able a lecturer as Mr. Bound undoubtedly is on orchid culture. He dealt in detail with the culture of many species, especially referring to the necessity of syringing growing plants and the need for cutting off all back bulbs, thereby ensuring longer life and increased vigour. He did not recommend cow manure for calanthes, as, in his opinion, it tended to cause long succulent growths, which were not so productive of flowers as the shorter and hardier growths.

The next lecture will be held on December 16, at the Church Street Schools, the lecturer being Mr. F. Philips, hon. secretary of the Reigate Cottage Gardens and Horticultural Society, and the subject "Vegetables."

Bristol Gardeners' Association.

A meeting for "Questions" was held recently at St. John's Parish Rooms. Mr. Hayball occupied the chair. Questions were written on numbered slips of paper, collected, and again distributed, and the replies given by the respective recipients, the Chairman inviting anyone to add to the replies given. The most debated questions were: Name the best and most economical fumigator. What is the best remedy for canker on fruit trees? Why do we earth up potatoes? The cause of apricot branches suddenly collapsing. The best remedy for blight and mildew on roses. The cause of parsnips rotting on the crowns. Is it beneficial to mulch roses in autumn?

For two dishes of apples Mr. Scott was first, Mr. Springham second, and Mr. T. Clark third. A certificate was awarded to Mr. Hookings for another display of chrysanthemums, and three points granted to Mr. Springham for dendrobiums and chrysanthemums.

United Horticultural Benefit and Provident Society.

The November meeting of this society was held at the Royal Horticultural Hall, Vincent Square, Westminster, Mr. C. H. Curtis in the chair. Seven new members were elected and one nominated. The death certificate of Mr. A. Miles was produced, and the amount standing to the late member's credit, viz., £8 13s. 3d., was paid to his nominee. The sick list was very heavy, the sum of £66 5s. having been paid for sickness since the previous meeting. Three thousand circulars, putting forth the benefits and usefulness of the society, have been posted to gardeners in the home counties, and the committee hope that many young gardeners as a result will join without delay

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
1910. November 27 to December 3.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Nov. 27—Sunday ……	—	40	39	52	28
„ 28—Monday ……	0 54	37	36	42	37
„ 29—Tuesday ……	0 48	31	31	39	29
„ 30—Wednesday..	—	38	37	43	31
Dec. 1—Thursday ….	—	42	42	43	38
„ 2—Friday ……..	—	41	40	41	41
„ 3—Saturday…..	—	39	38	44	38
Means	(total) 1 42	38	37	43	34

Date.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
1910. November 27 to December 3.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Nov. 27—Sunday ……	0·52	36	38	44	23
„ 28—Monday ……	—	39	38	44	36
„ 29—Tuesday ……	trace	37	39	44	19
„ 30—Wednesday..	0·54	37	39	44	29
Dec. 1—Thursday ….	0·05	39	39	44	37
„ 2—Friday ……..	0 12	40	40	44	40
„ 3—Saturday ….	0·38	40	41	44	37
Means	(total) 1·61	38	39	44	31

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention correspondents are requested to distinctly mark the paragraph.

MEDALS AT NORWICH SHOW.—Mr. G. W. Miller, Clarkson's Nursery, Wisbech, writes that he was awarded a silver medal for his group of orchids at the Norwich Show, and not a bronze medal, as stated on p. 942.

PAYMENT FOR GROUPS AT R.H.S. HALL.—T. H., Blackburn: It is not always possible to give answers in the issue immediately following the receipt of the question. A question received late on Wednesday cannot be answered the same week as, except for some very special reason, our pages are closed for the week on Wednesday afternoons. Further, questions may be answered, and the answer in type, and yet be crowded out of an issue by reports of important exhibitions, etc. However, an answer to your question appeared in our issue for December 3, as, doubtless, you have seen.

NEW SEEDLING GRAPE.—A. M., Hull: The grape is a very promising one, but probably it is too like Gros Colmar in general appearance to ever be a great success. It certainly has a better flavour and a less hard skin than the average sample of Gros Colmar, and it appears to colour well. We do not know under what conditions you have grown the vine, but it seems to us that the use of a little more heat would be advisable for the purpose of bringing out the flavour to the fullest degree. We advise you to propagate two or three vines from the seedling and grow these under varied conditions to fully test the value of the variety. Can you tell us what were the parents of your seedling?

PEACHES AND VINES IN SAME HOUSE.—M. C. L., Redditch: Peaches and vines may be grown in the same house, even when planted out, but it is not possible to secure the highest success with either peaches or grapes when these are grown together, because the best conditions for each differ so much at certain seasons. If the peach trees are at one end of the house and the vines at the other, then put a partition across the house between the two crops. With extra valves in the pipes to adjust the heat there should be no difficulty, as to all intents and purposes there would be two houses, one for the peaches and one for the vines. The present season offers a good opportunity of making this alteration.

CAULIFLOWERS.—C. P., Leyton: Give the plants frame protection, but also afford them ample ventilation during all but the severest weather. During prolonged severe frost the frames must be covered unless they contain a row of hot-water pipes that will give just sufficient heat to keep the interior of the frame above freezing point in such a period.

SCOTTISH HORTICULTURAL ASSOCIATION.—A. M., E., Berwick: The objects of the Association are the promotion and advancement of Horticulture in all its branches, and the dissemination of a knowledge of such branches of Science and Art as are connected therewith. Any person interested in the objects of the association is eligible for membership. Ordinary meetings of the association are held at 5, St. Andrew Square, Edinburgh, at 7.30 p.m., on the first Tuesday in each month, excepting January, in which month the annual business meeting is held. A member is entitled to introduce a friend at any of the ordinary meetings. The annual subscription is two shillings and sixpence, payable in advance, on January 1 in each

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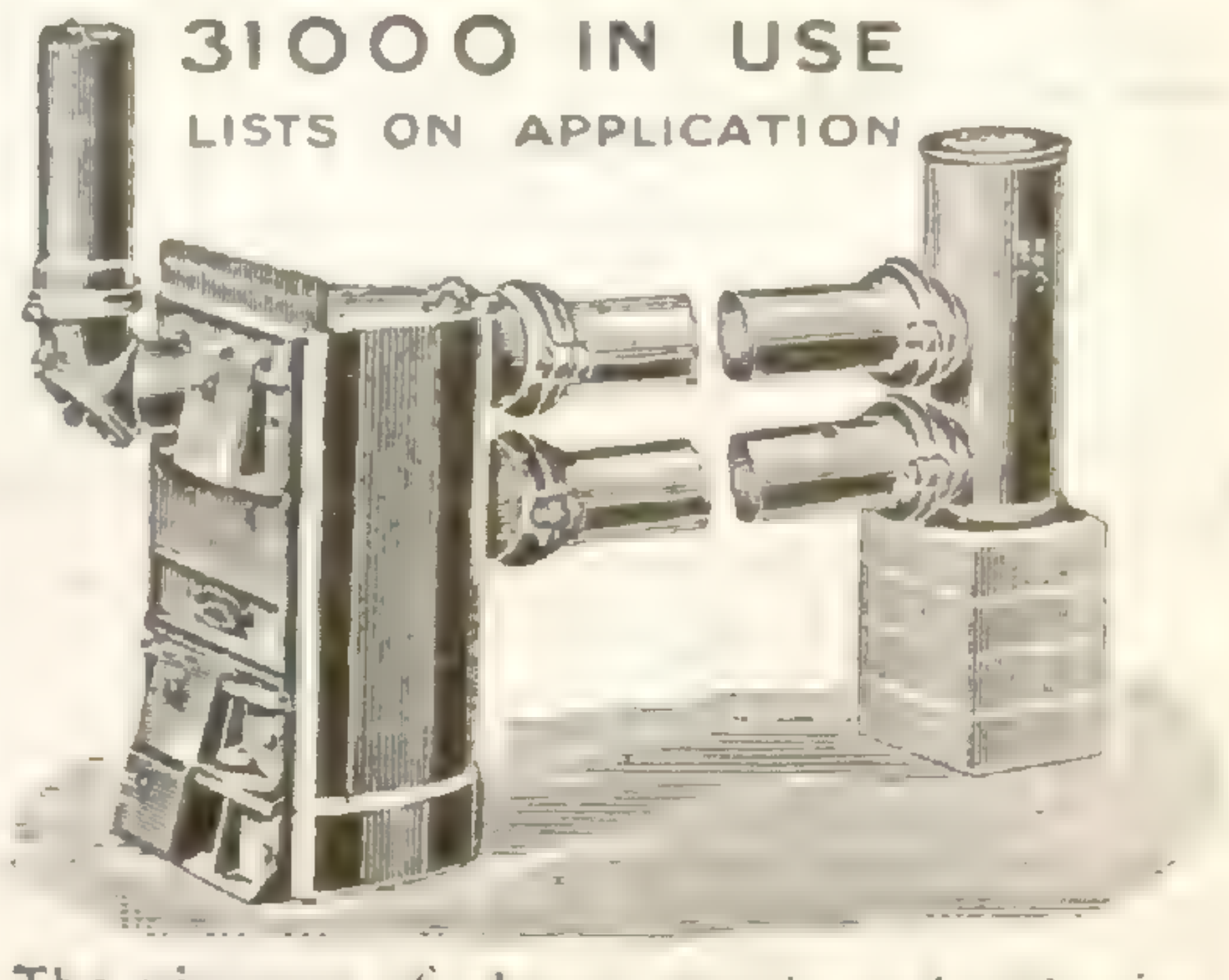

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year. A new member's subscription becomes due on the date of election. Any person may be elected a life member by a single payment of £2 2s., and an ordinary member who has paid ten annual subscriptions may become a life member by a payment of £1 1s. The proposer of a member is responsible for the latter's first subscription. The secretary and treasurer of the society is Mr. A. D. Richardson, 19, Waverley Market, Edinburgh.

DOYENNE DU COMICE PEAR.—E. J. S., Hurstmonceaux: This delicious and very valuable pear was raised in the garden of the Comice Horticole, at Angers, where the original tree first fruited in 1849. Doyenne du Comice is among pears what Cox's Orange Pippin is among apples—the best dessert variety.

WINTER HELIOTROPE.—G. B. T., Durham: The Winter Heliotrope is Petasites (or Tussilago) fragrans, and is a fairly common wild plant in many parts of the country, being frequently found on the higher banks along the Thames Valley, for instance. It is difficult to eradicate once it is established, and therefore in a garden it must be kept within bounds. It flowers in January and February, and its erect spikes of whitish or pale lilac flowers are very fragrant. Some strong crowns should always be potted up as early as possible in the autumn, and kept in a cold frame until the spikes begin to push up, when they should be removed to the greenhouse or conservatory to develop. The Winter Heliotrope is not particularly attractive, but a few plants in flower will disperse a delightful fragrance throughout the conservatory.

BLADDER FERNS.—W. D., Monmouth: The Bladder Ferns are Cystopteris alpina, C. montana, and C. fragilis; they are very beautiful, and deserve cultivation in a moist shady place, where they are sheltered from strong winds and heavy rains.

NAMES OF PLANTS.

W. H. B., Bristol.—1, Maxillaria picta; 2, Asplenium Nidus; 3, Ficus Parcelli.

G. W., Harrow.—1, Cypripedium Leeanum—a fine form; 2, no, not C. villosum, but the hybrid known as J. Howes.

D. M. M., Hever.—1, Quercus Ilex; 2, Berberis Lycium; 3, Phillyræa media; 4, Berberis angulosa; 5, Ligustrum lucidum variegatum.

A. L., Weybridge.—1, Cattleya labiata; 2, Epidendrum cochleatum; 3, Cattleya Bowringeana; 4 and 5, are infertile specimens; send us full-sized fronds at some later date; it is a pteris, and is probably a Doodia.

F. E. C., Harpenden.—1, Cupressus Lawsoniana Allumi; 2, Abies Nordmanniana; 3, Schizostylis coccinea; 4, Rhododendron hirsutissimum; 5, Ramondia pyrenaica (this is probably correct, but, as there are no flowers at present, the plant may represent the white form of the species).

NAMES OF FRUITS.

L. S., Carlisle.—1, Bramley's Seedling; not recognised.

W. W., Littlehampton.—1, Beurre Diel; 2, Beurre Rance.

S. B. F., Cheltenham. — A very small Doyenne du Comice.

C. F. A., Sevenoaks.—1, Tower of Glamis; 2, Bramley's Seedling.

S. H. R., Skipton.—1, Dumelow's Seedling; 2, King of the Pippins.

F. H. C., Bedford.—1, Sturmer Pippin; 2, Golden Noble; 3, Newton Wonder; 4, Fearn's Pippin.

P. T., Warwck.—1, The Queen; 2, Baumann's Red Winter Reinette; 3, Cox's Orange Pippin.

FORTHCOMING ENGAGEMENTS.

TUESDAY, December 13.—Perpetual Flowering Carnation Society's Winter Show at the Royal Horticultural Hall.

THURSDAY, December 15.—Annual Meeting of the National Sweet Pea Society at the Hotel Windsor, commencing at 3 p.m.

TUESDAY, December 20. — Royal Horticultural Society; the Committees will meet at 12 o'clock to consider novelties, but there will not be the usual exhibition.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Steady supplies are offered; business is a little slack at present, but prices are firm.

		s.	d.		s.	d.
Acacia	per pad	6	0	to	10	0
Azalea, white	per doz. bun.	4	0		5	0
Adiantum cuneatum	per doz. bun.	4	0		7	0
Anemones, French	per doz. bun.	3	0		4	0
Arums	per doz.	4	0		6	0
Asparagus	per doz. bun.	9	0		12	0
Bouvardia	per doz. bun.	4	0		5	0
Camellias	per doz.	1	6		2	6
Cattleyas	per doz.	9	0		12	0
Carnations	per doz.	2	0		3	0
,,	per doz. bun.	10	0		15	0
Chrysanthemums	per doz. bun.	5	0		10	0
,,	per doz. blms.	1	6		3	0
Croton leaves	per bun.	1	0		2	6
Cypripediums	per doz. blooms	2	0		3	0
French fern	per doz. bun.	2	6		4	0
Gardenias	per doz.	2	0		3	6
Hyacinths, Roman	per doz. bun.	9	0		12	0
Lapagerias	per doz.	1	6		2	0
Lilium auratum	per bun.	2	0		2	6
,, speciosum	per bun.	1	3		1	6
,, longiflorum	per bun.	2	0		2	6
Lily of the Valley	per doz. bun.	9	0		15	0
Marguerites	per doz. bun.	2	0		4	0
Mignonette	per doz. bun.	1	0		2	0
Narcissus, Paper White	per basket	8	0		10	0
,, Soleil d'Or	per doz. bun.	3	0		4	0
Odontoglossums	per doz. blms.	2	0		3	0
Pelargoniums	per doz. bun.	5	0		8	0
Physalis	per doz. bun.	2	0		4	0
Poinsettias	per doz.	8	0		10	0
Roses	per doz.	2	0		5	0
Smilax	per doz. trails	2	0		3	0
Tuberoses	per doz.	0	4		0	5
Violets	per doz. bun.	2	0		3	0

Fruits.

British Columbian apples are very fine and sell well; other supplies are good and the demand is moderate.

		s.	d.		s.	d.
Apples, English	per bush.	5	6	to	20	0
,, American	per barrel	10	0		30	0
,, Californian	per box	6	0		8	6
,, Columbian	per case	9	0		13	0
,, Nova Scotian	per barrel	10	0		22	0
Bananas	per bun.	3	6		12	0
Cobnuts	per lb.	0	10		1	0
Chestnuts	per bag	10	0		16	0
Cranberries	per case	8	0		10	6
Figs	per doz.	1	0		3	0
Grapes, English	per lb.	0	9		3	6
,, Guernsey	per lb.	0	6		1	0
,, Almeria	per barrel	10	0		15	0
Lemons	per case	16	0		36	0
Melons	each	0	9		3	0
Oranges	per case	7	0		23	0
Pears, French	per crate	5	0		10	0
,, English	per bush.	6	0		9	0
,, Californian	per case	10	0		23	0
Pineapples	each	2	0		5	0

Vegetables.

Supplies are good, but a little shorter than usual this week owing to the weather. Prices are good.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	3	0
,, Jerusalem	per ½-sieve	2	0		2	6
Asparagus	per bundle	4	0		5	0
Beet	per bush.	1	6		2	0
Brussels Sprouts	per ½-bush.	1	3		2	0
Cabbages	per tally	2	6		4	6
Carrots (French)	per doz. bun.	4	0		5	0
Cauliflowers	per basket	2	0		3	0
Celery	per doz. rolls	6	0		12	0
Cucumbers	per flat	6	0		7	6
Endive	per doz.	0	6		1	3
Lettuce, Cos	per doz.	1	6		2	0
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	8	0		15	0
Onions	per bag	5	0		7	0
Parsnips	per bag	2	0		3	0
Parsley	per ½-sieve	1	3		2	0
Radishes	per doz. bun.	1	0		1	6
Spinach	per bush.	1	3		2	0
Tomatoes	per doz. lb.	3	6		4	6
,, Guernsey	per doz. lb.	2	0		4	0
Turnips	per doz. bun.	1	0		2	0
Watercress	per doz. bun.	0	3		0	6

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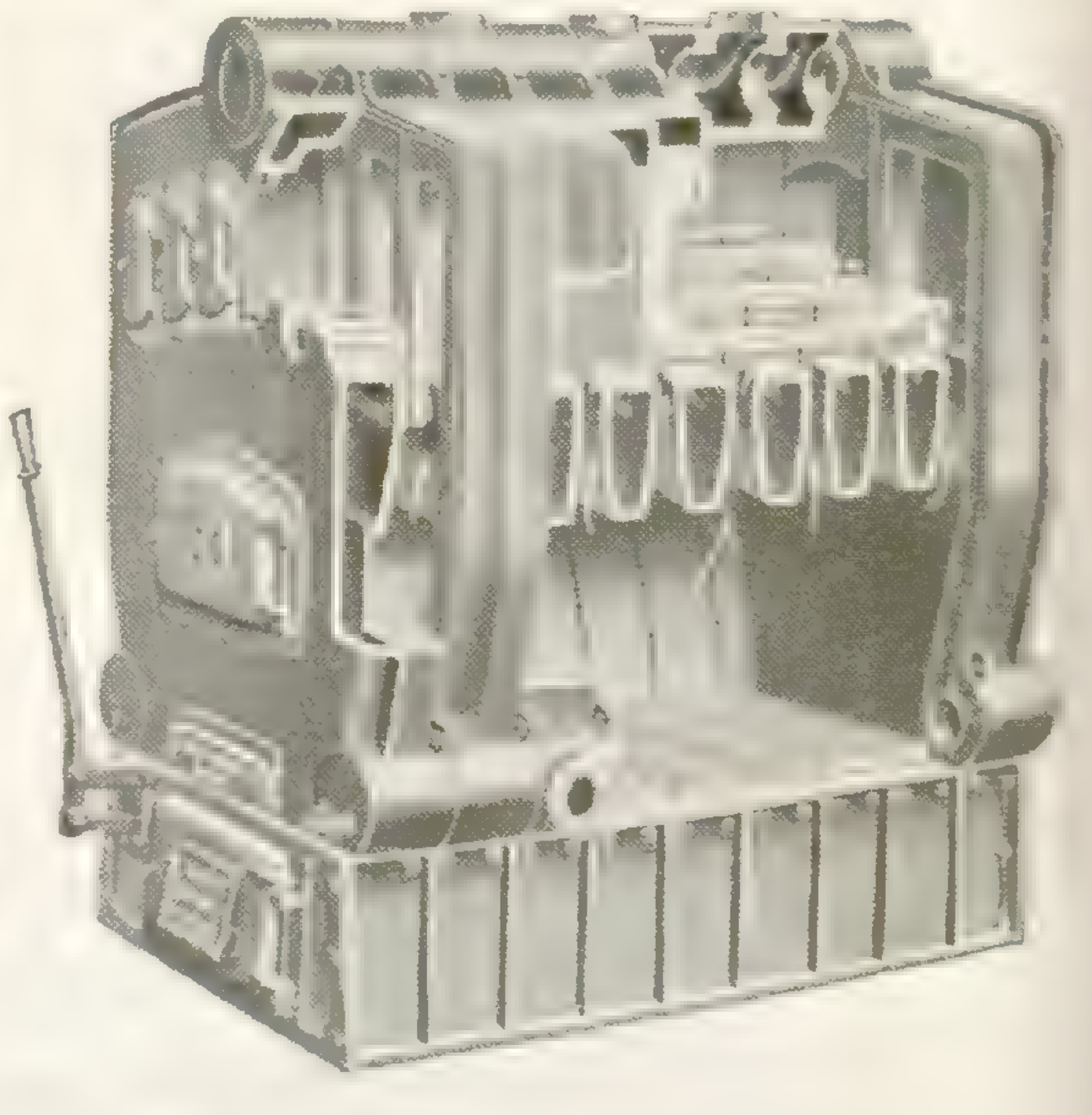

Employment THE GARDENERS' MAGAZINE Register.

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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

MR. E. R. BEVAN highly recommends his late HEAD GARDENER; 13 years in his service; life experience in all branches; most capable and trustworthy; 39; married, one child. H. KING, Rempstone, Corfe Castle.

GARDENER (Head, where several are kept); thoroughly experienced in all branches, inside and out; grapes, peaches, melons, stove and greenhouse plants; four-and-a-half and eleven years' excellent references as head; married, family out. E. STONE, 13, Coniston Road, Addiscombe, Croydon, Surrey.

GARDENER (Head Working), requires SITUATION; experienced in Vines, Peaches, Melons, Cucumbers, Stove and Greenhouse Plants; Flower and Kitchen Garden, Hardy Fruit, etc.; good references; married, no family. W. S., 73, Allen Street, Maidstone, Kent.

GARDENER (Head Working, where two or more are kept); experienced in all branches; 12 years' excellent reference as Head; left own request; age 45; two in family, youngest 15. HUNT, 9a, Bridewell Street, Devizes, Wilts.

GARDENER (Head Working, where two or more are kept); good all round; can be well recommended; married when suited; age 36. PEARCE, 10, Roxwell Road, Shepherd's Bush

GARDENER (Head Working); life good practical experience in all branches, Inside and Out, Early and Late Forcing; excellent references. H. TURNER, 62, Star Road, Peterborough.

GARDENER (Head Working, where one or more are kept, or good Single-handed); experienced Inside and Out; good references; abstainer; married; age 29. W. S., Office of this Paper.

GARDENER (Head Working).—H. ESSAM can with confidence recommend his Foreman, where several are kept; life experience in all branches; age 30; married when suited; excellent references. Address Closes Hall, Gisburn, Clitheroe.

GARDENER (Head Working) requires SITUATION; experienced Vines, Peaches, Melons, Fruit, Flowers, Vegetables; 5 years' good character; married. C. N., Clarence Cottage, Broadbridge Heath, Horsham.

GARDENER (Head Working); age 44; life experience; 21 years' excellent references from first-class establishments; thorough knowledge in all branches; leaving own request; no young children, youngest 14. W. BLOOMFIELD, Staplehurst, Kent.

GENTLEMAN recommends GARDENER (Head of two or three); life experience in all branches; understands formation of new or renovating old gardens; married, one boy 10 years; age 45. PENNELLS, Phœnix Green, Winchfield, Hants.

GARDENER (Head Working).—Mr. WATSON can highly recommend C. WALLIS, where two or three are kept; been here 5½ years as Second of five; age 30; married, one child. The Gardens, Bushey Down, Tooting Common.

GARDENER (Single-handed or otherwise); good all-round man in all branches, or handy man on gentleman's estate; good at either; willing to be useful; active and reliable; good character; age 45; married, one child. OSBORNE, 48, Bradshaw Road, Watford.

FOREMAN or GROWER.—ADVERTISER (27) seeks SITUATION in Nursery, married; life experience Cucumbers, Tomatoes, Chrysanthemums, and general Pot Stuff. A. MARTIN and SONS, Blacknest Nurseries, Crowborough, Sussex.

BARTLE HALL NURSERIES CO., Longton, Preston, desire to recommend their FOREMAN (Working); entire charge or otherwise; Tomatoes, Cucumbers, Chrysanthemums, Mixed Forcing, large scale; total abstainer; competent manager of men; highest references. FOREMAN above.

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C. W. CATT, Esq., will be pleased to recommend his SECOND GARDENER to any lady or gentleman; a thoroughly trustworthy and energetic Man, as Head Working Gardener, where 3 or 4 are kept; his credentials are of the highest order. Full particulars on application. Outwoods Gardens, Duffield, Derby.

SECOND GARDENER seeks SITUATION in good establishment where several are kept; well up in vines, peaches, melons, stove and greenhouse plants, including carnations and chrysanthemums; well recommended. Apply S. C. LOCK, Village Benenden, Cranbrook, Kent.

GARDENER (Under, Inside and Out) seeks SITUATION in Esher or surrounding districts; clean motor car if required; excellent references. C. CULVER, 3, Wotton Cottages, West End, Esher, Surrey.

GARDENER (Under).—E. BATCHELOR, The Gardens, Woodlands, Addlestone, Surrey, seeks SITUATION Outside or Inside good establishment; three years' references; left through death; age 21, abstainer, willing and obliging. Apply as above.

JOURNEYMAN, Outside, or Outside and In, or GARDENER (single-handed); good hand with scythe; age 27; total abstainer; single; good references; free when suited. JAMES BROWN, The Gardens, Otterburn Hall, Northumberland.

UNDER GARDENER and JOURNEYMAN, Inside and Out; 2½ years' present, 3½ previous; age 22; good references. C. G. STEVENS, 10, Clinton Road, Leatherhead.

GENTLEMAN recommends YOUNG MAN, age 22, as Second of four or five; Inside and Out; 7 years' experience; good reference. Apply T. ROGERS, Michelmersh, Romsey, Hants.

IMPROVER.—GEO. PICKER, The Gardens, Hesslewood, near Hull, can recommend HERBERT HESSY, as Improver; had nearly 4 years' experience (Outside and Inside); age 18 years. Apply as above.

ADVERTISER seeks SITUATION in Nursery or Private (Inside or Out); London district until Christmas; experience; good reference. CHAS. COLES, 199, Camberwell New Road, S.E.

LANDSCAPE FOREMAN, being under an Editor on Gardening for a number of years, seeks a SITUATION with Lady or Gentleman to lay out new Garden or improve old; excellent references; married; middle age. W. B., 31, Queen's Road, Horley, Surrey.

GARDENER, 12 years' varied experience, Inside and Out; Vines, Melons, Cucumbers, Tomatoes, Forcing, Propagating, Fern Raising, Palms, etc., Chrysanthemums, Carnations, General Bedding, Mounting, Furnishing, Exhibiting; excellent references; no objection room; trustworthy; single. Particulars, W. SAYWELL, Kew House, Newboro', Peterboro'.

MAN (43) seeks SITUATION in Nursery (Outside or In); experience in chrysanthemums, tomatoes, roses, shrubs; clerical work if required; 3 years' experience; abstainer; good references. B. S., The Laurels, Rock Terrace, Durrington, Worthing.

SITUATION required to look after Pony and Trap, help in Garden, and generally useful; good references; age 21. E. WEBB, Crowsley Park Lodge, Harpsden, Henley-on-Thames.

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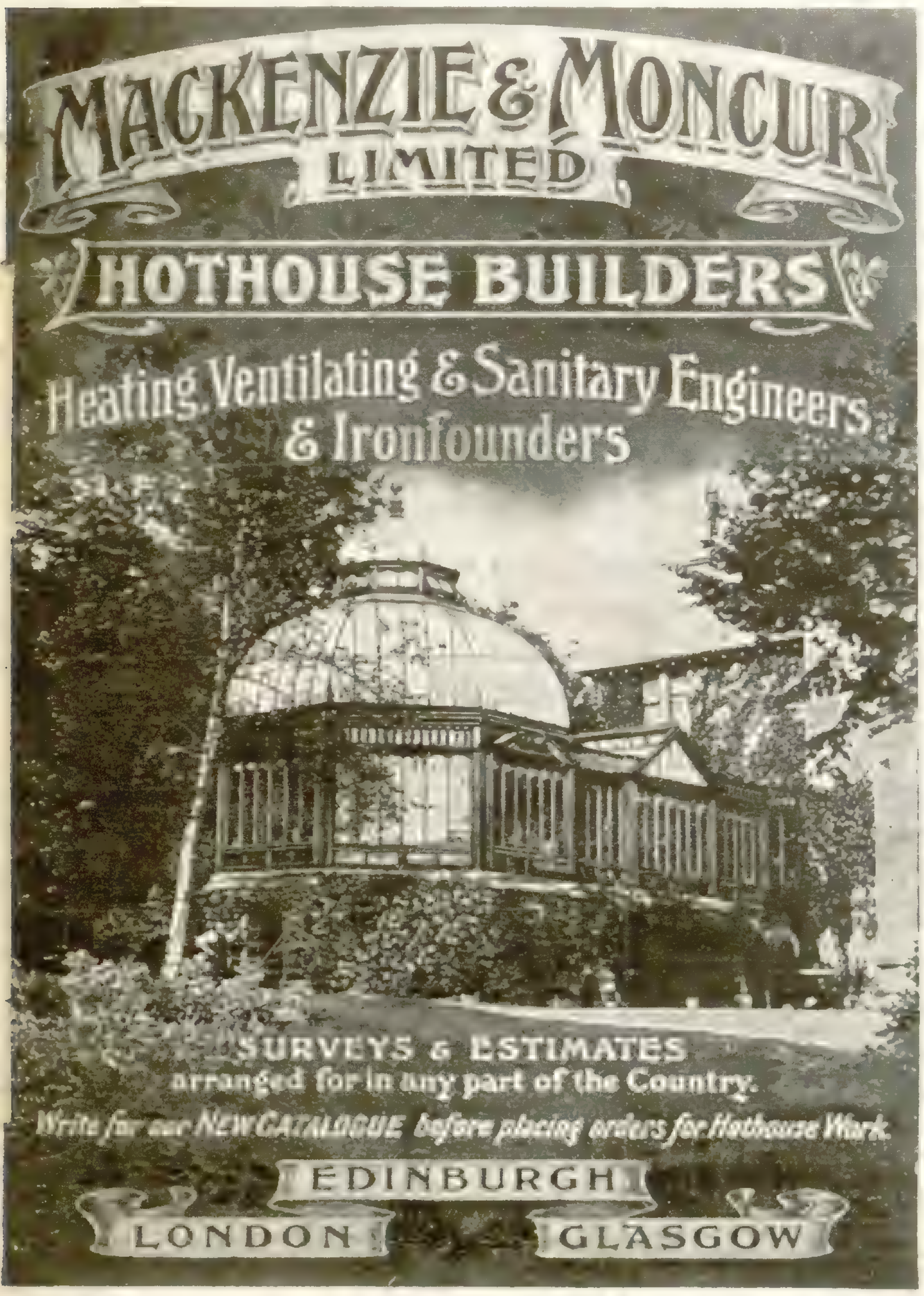

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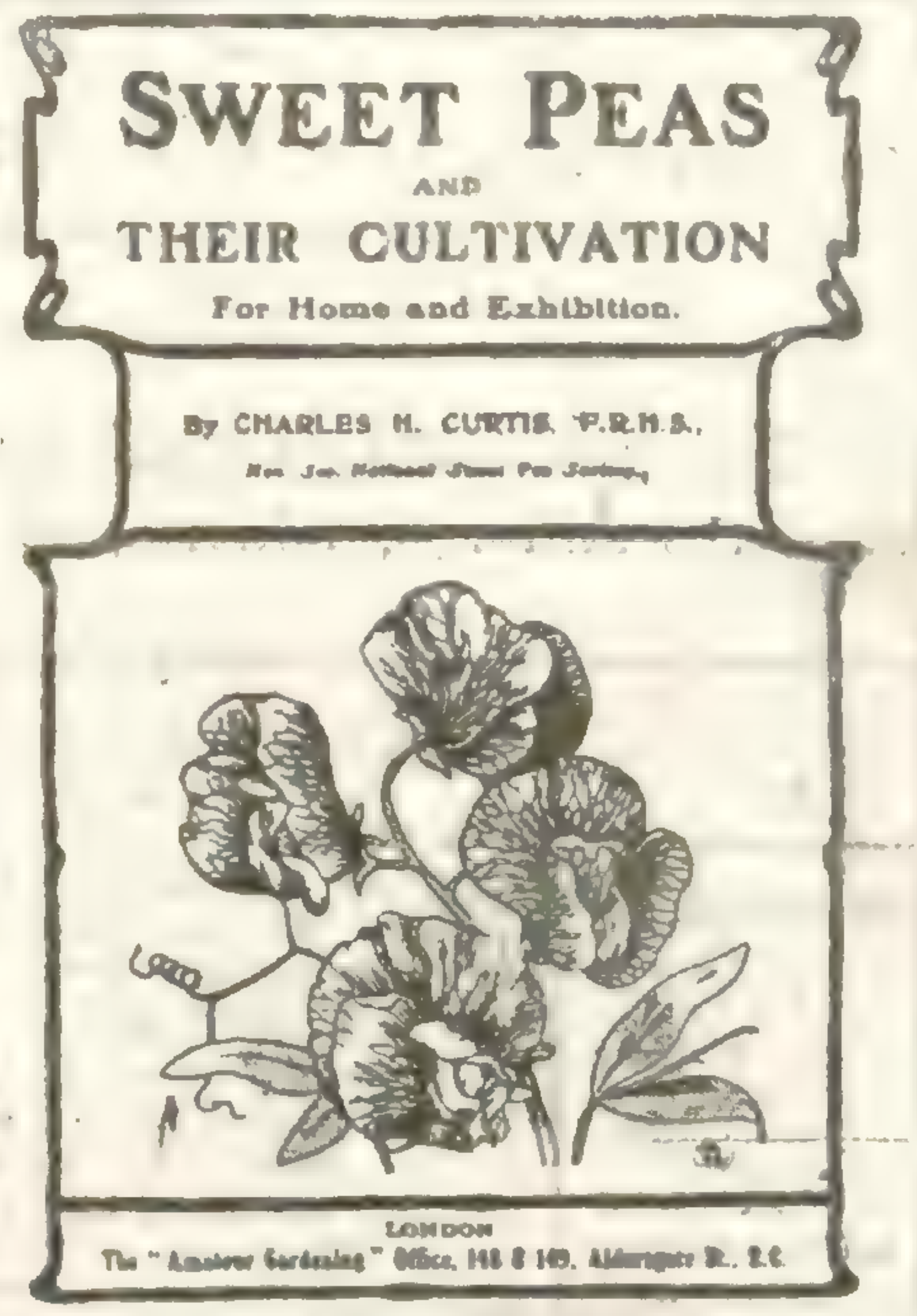

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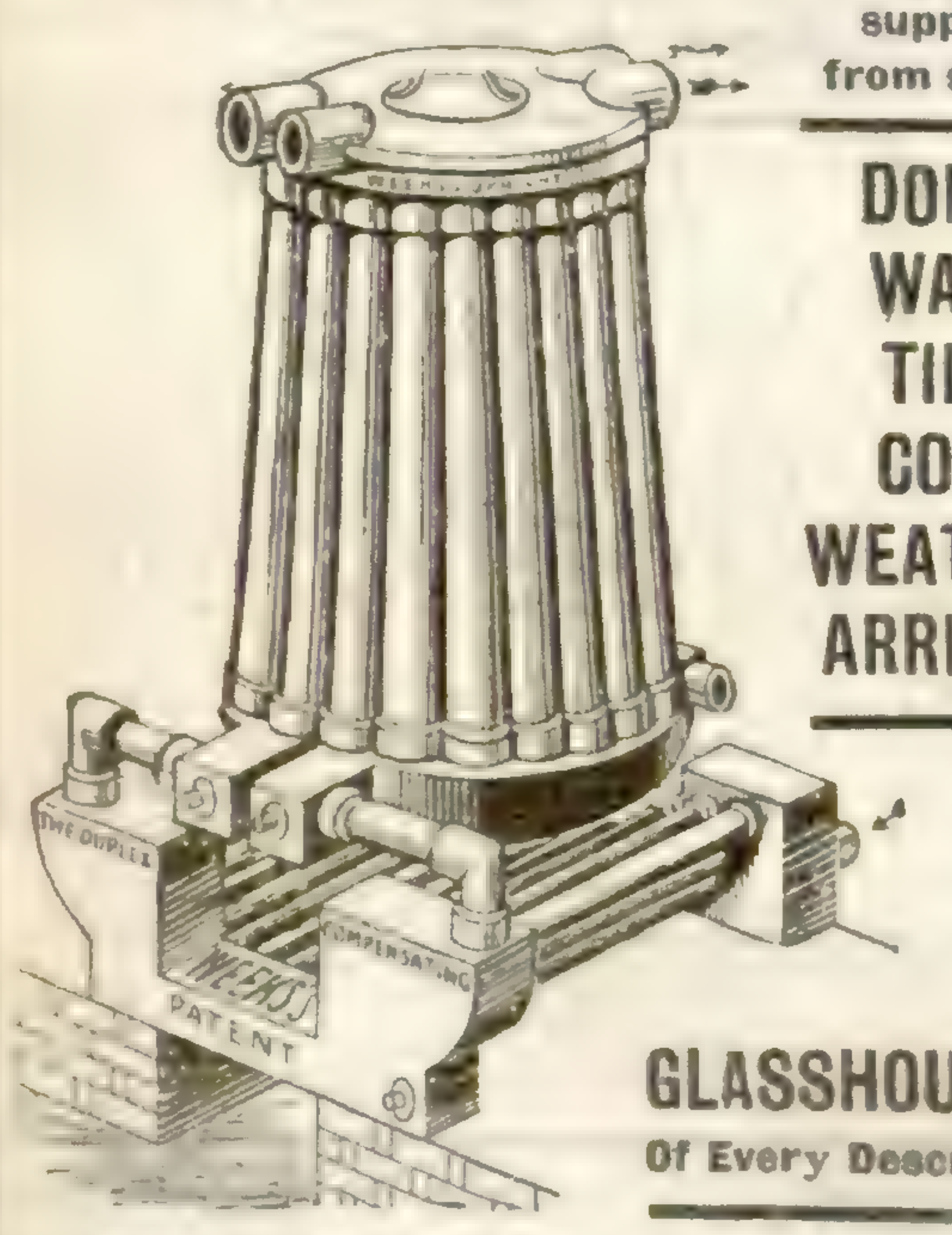

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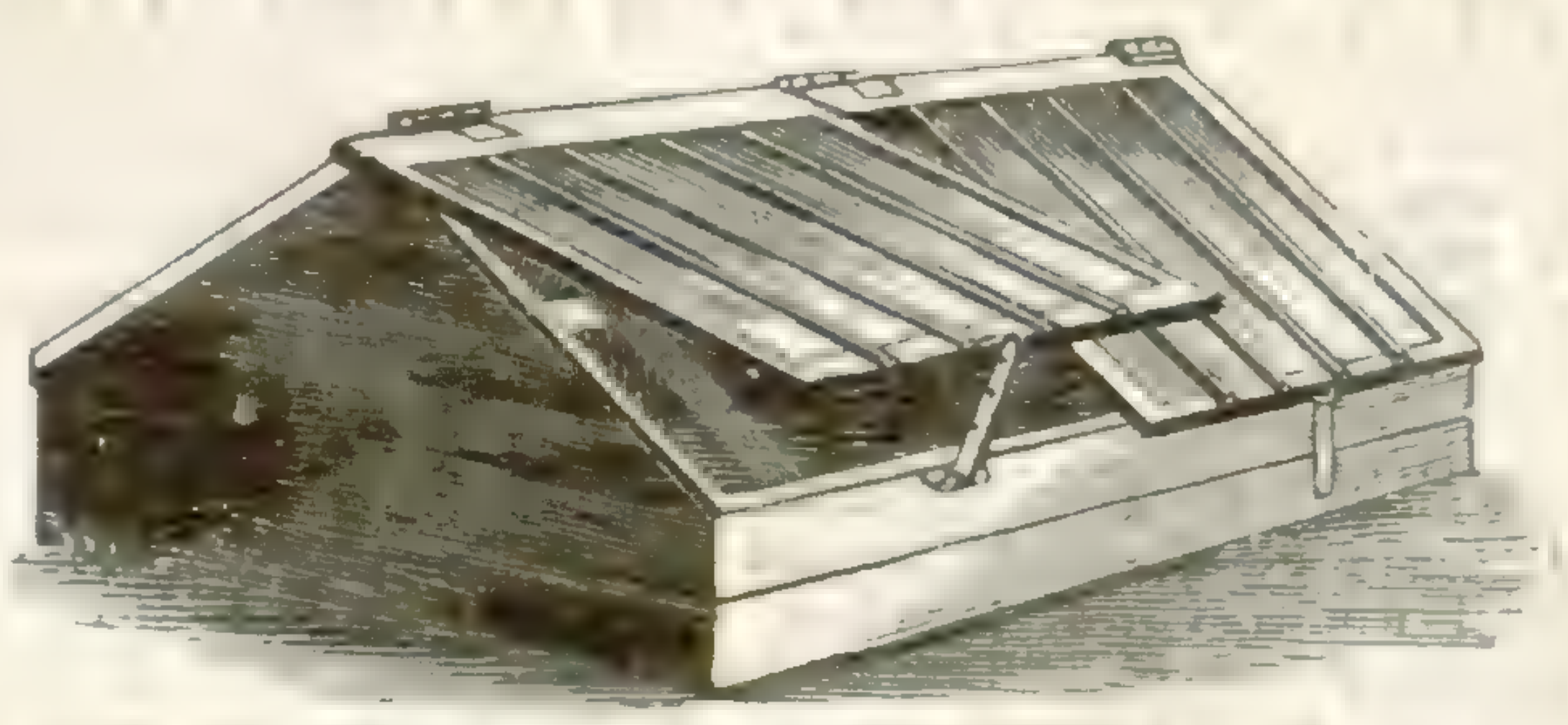

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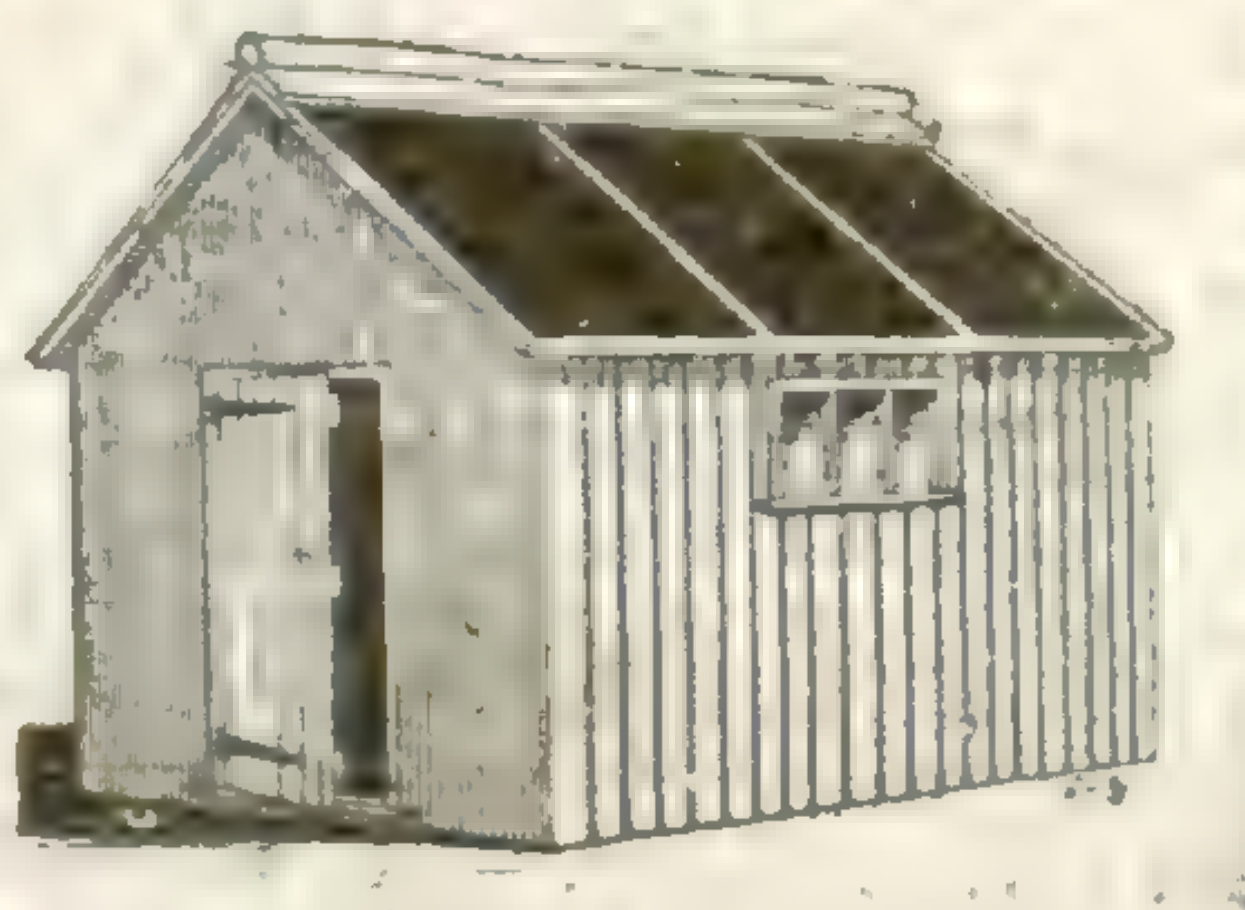

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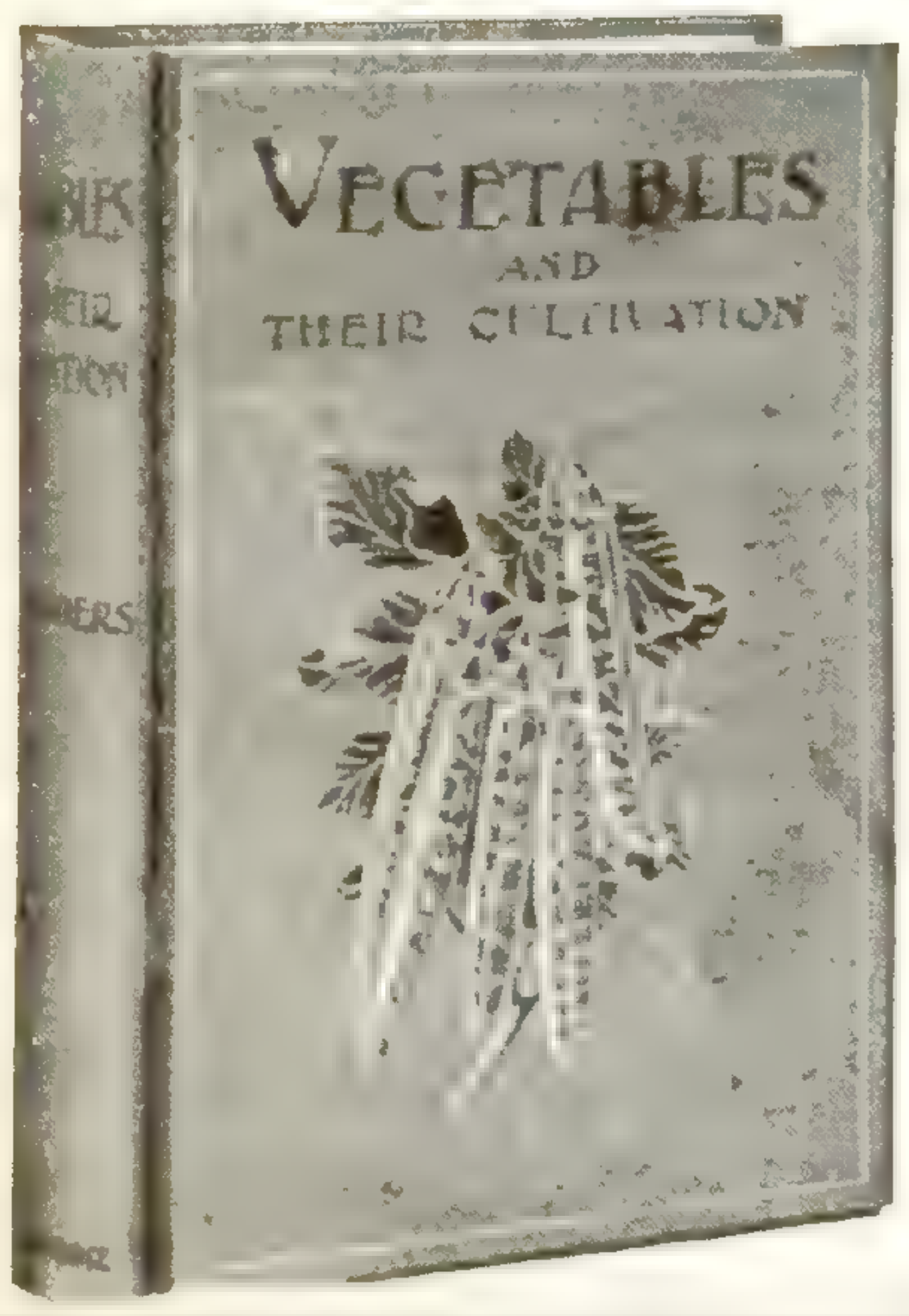

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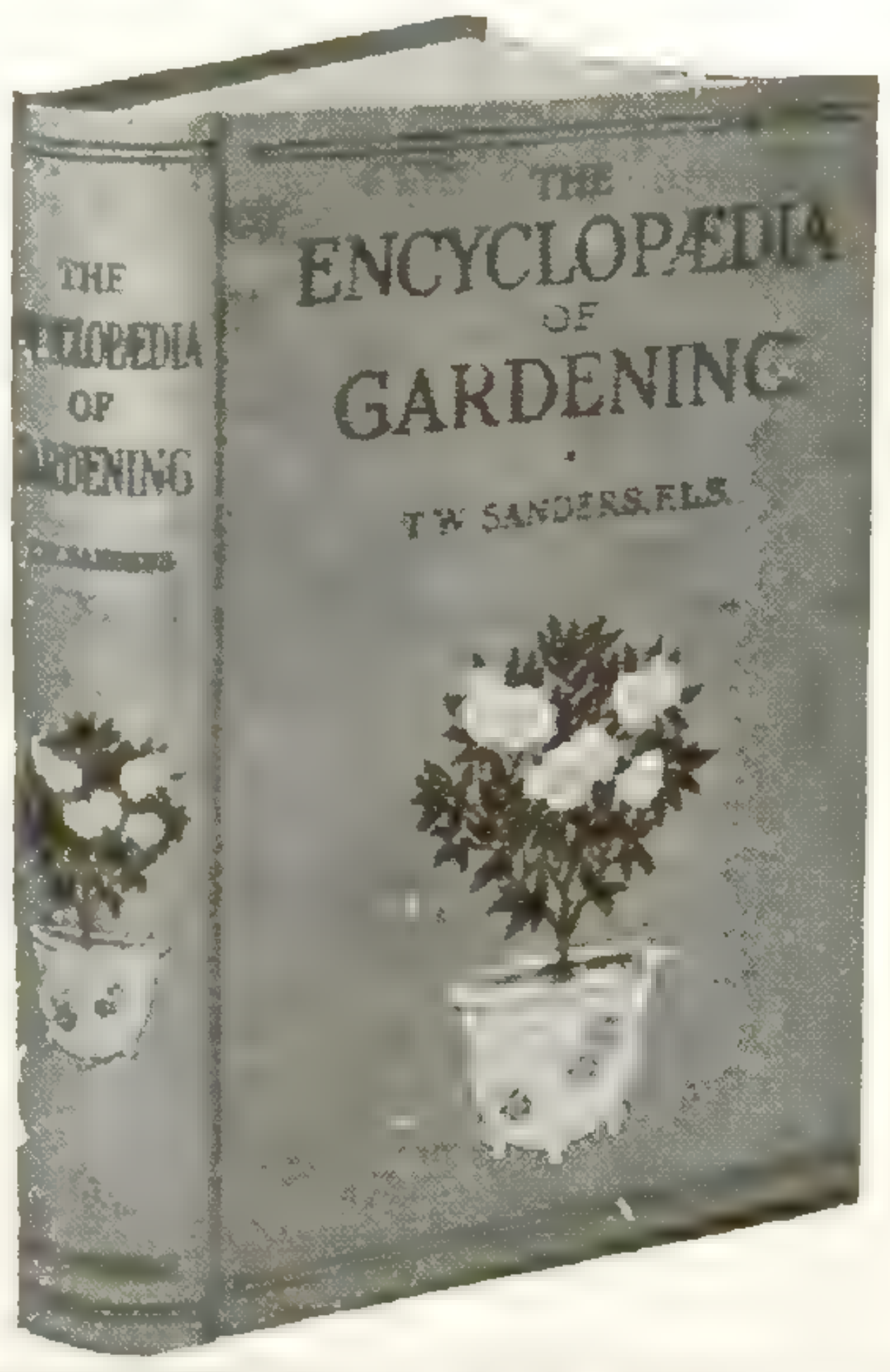

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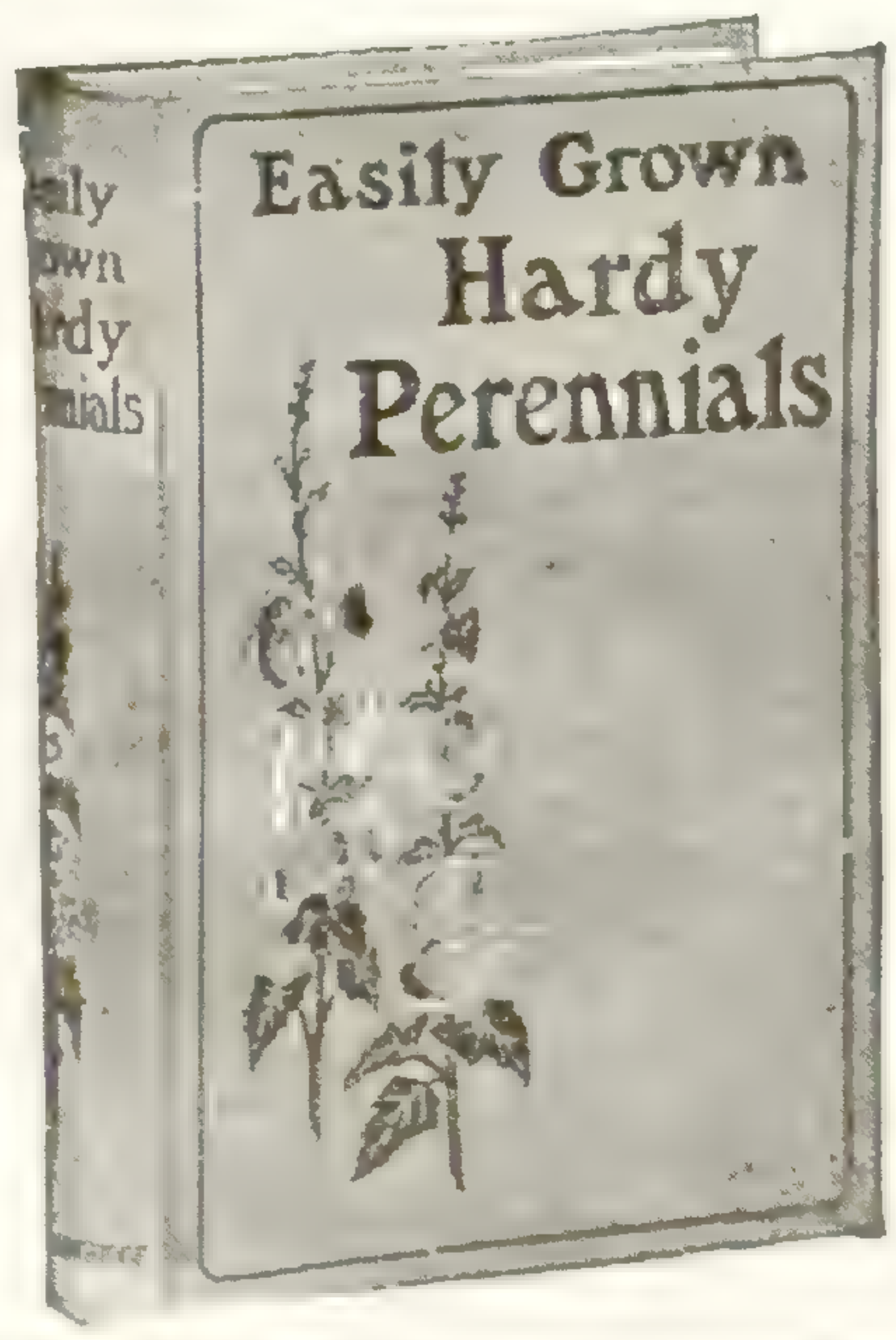

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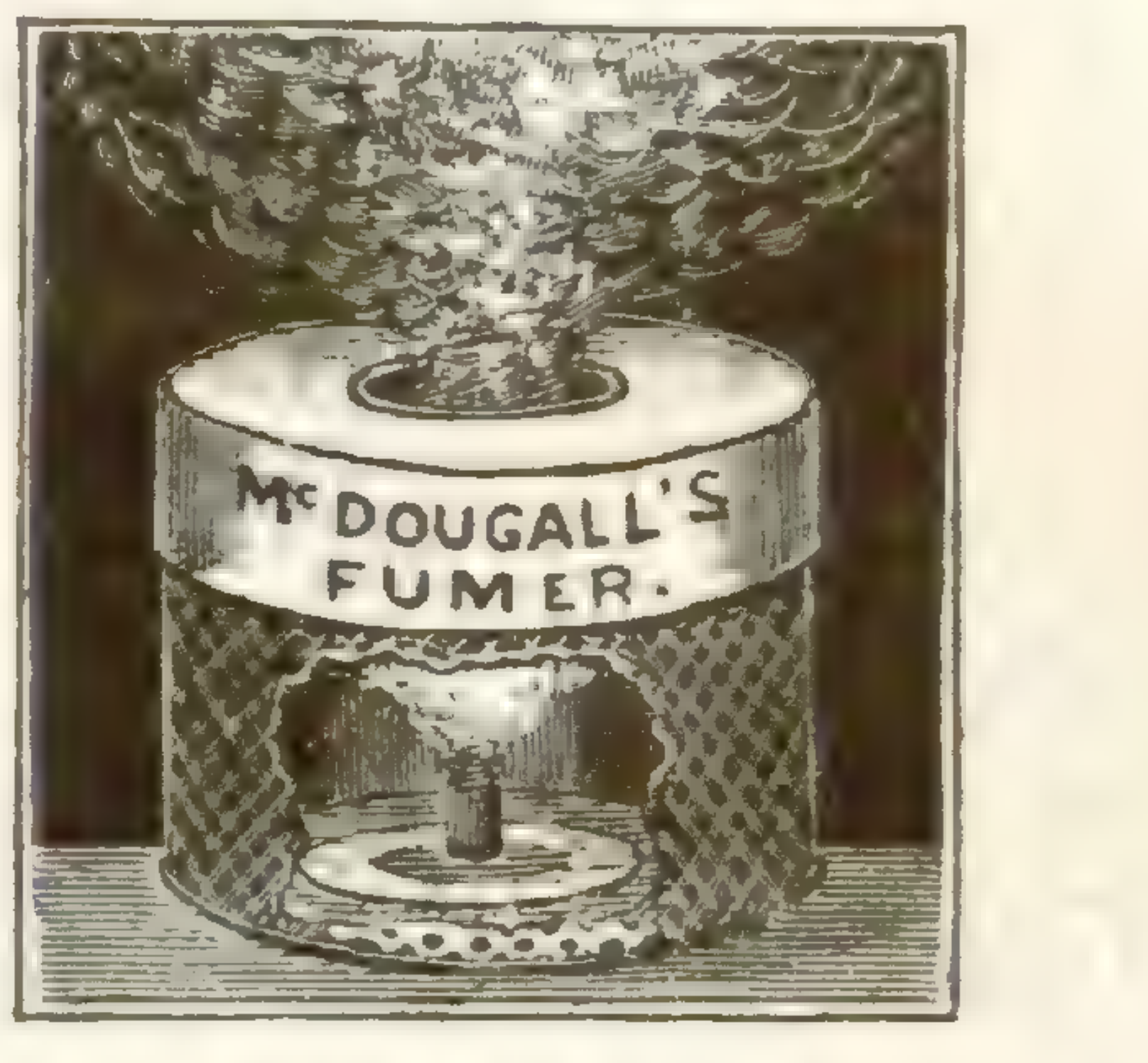

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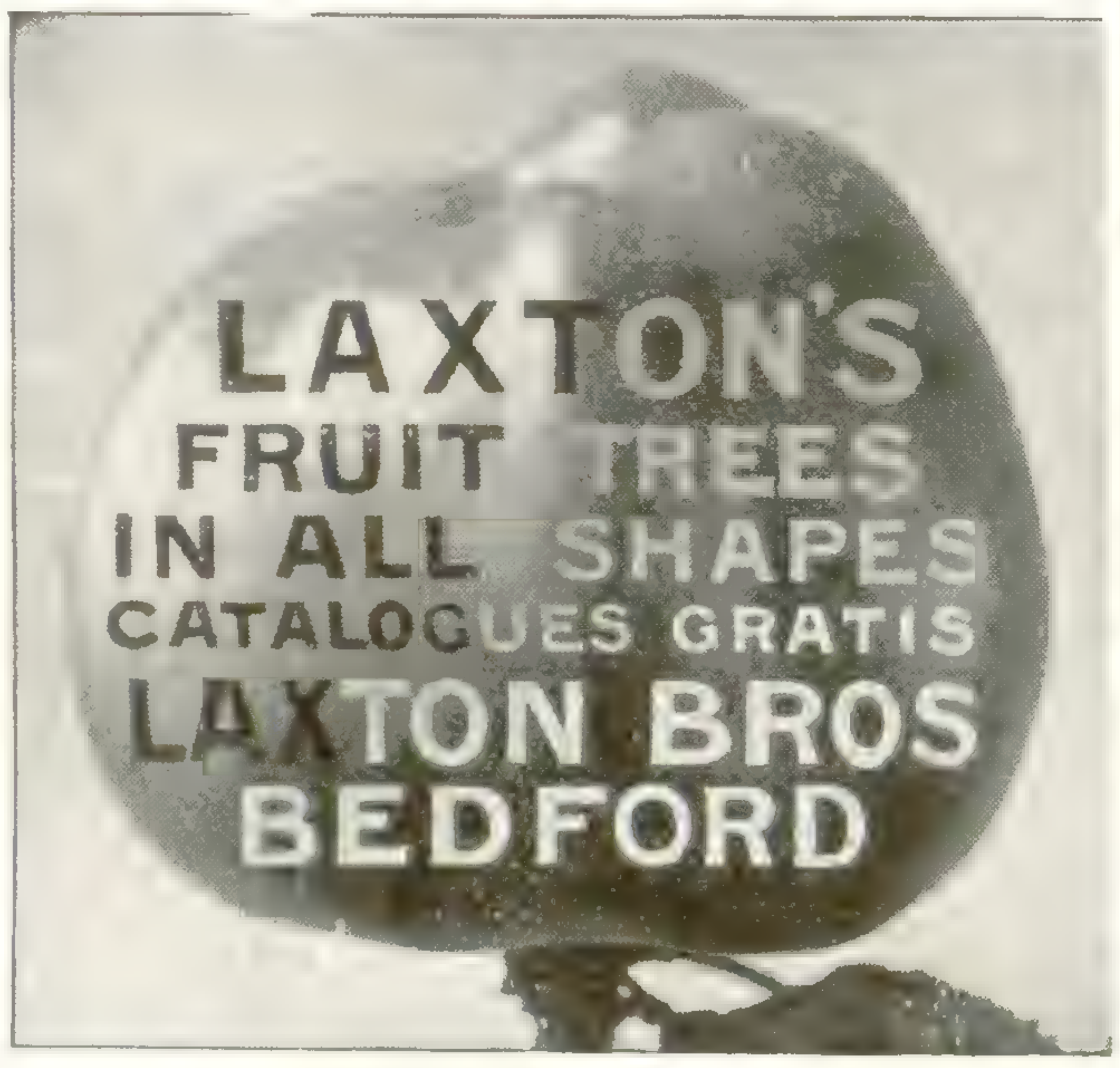

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THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

National Rose Society.

Although the number of members present at the annual meeting of the National Rose Society held on the 8th inst. was somewhat below the high average of the past few years, it was by no means small, and there was certainly no lack of interest in the proceedings. It may be that the elections or the unfavourable weather have influenced the attendance; and it is just possible, as is so often the case when a society is in a flourishing state, some members who have usually attended considered it unnecessary to make a long journey for the purpose of taking part in the proceedings. Whatever may have been the cause of a slight falling-off in the numbers present, more than enough members assembled to show that an immense amount of interest is being taken in the society and its work, and it may be added the proceedings were as usual of the most pleasant character. It would have been surprising had they been otherwise on this occasion, for the Council were able to show in the report presented to the meeting that the year had been one of progress. There had been a large accession of new members, much useful work had been accomplished, and the finances in every way satisfactory. For the first time in the history of the society the Council were able to report that over 1,000 members had joined during the society's financial year, and that the membership is now 4,500 in round numbers, these figures representing a net gain of about 750 members. Mr. G. W. Cook, the treasurer, was able to present a financial statement showing that, with the balance of £427 8s. 8d. from the previous year, the income amounted to £3,404 14s. 4d. Of this amount the sum of £2,299 16s. 6d. was received as subscriptions, and the proceeds of the Metropolitan shows and the contribution of the Wilts Horticultural Society to the provincial exhibition amounted to £320 6s. 6d. The last figures represent a decrease of about £100 as compared with last year, and this falling-off was largely, if not wholly, due to the wretched weather experienced on the day of the Metropolitan show. The principal disbursements were about £1,000 in cash prizes, medals, and plate, £725 10s. 9d. for publications, and £469 16s. 6d. expenses at shows. The Council added £250 to the reserve fund, which has cost the society £1,000. It is so common a practice for horticultural and floricultural societies to carry on their work without a reserve fund that so large a sum as £1,000 appears to be giving rise to a little uneasiness in the minds of some of the members, and it was suggested in the course of the proceedings that with so large a sum invested the Council should devise some additional method of promoting the development of the rose and its cultivation. The suggestion, we are pleased to say, did not find much favour; in fact, there was a remarkable consensus of opinion that for the present it would be wise to refrain from increasing the expenditure to any appreciable extent. It should be remembered that the sufficiency or otherwise of a reserve fund, does not depend upon the actual amount, but upon the proportion it bears to the annual revenues. If this test is applied it is difficult to avoid the conclusion that the reserve fund should be at least £2,000. With so substantial a sum as this in reserve the Council will be able to make new departures with a view to increase the usefulness of the society, and maintain its high position during a year or so of depression should it be experienced. We are suggesting this as an act of common prudence, and not because we are apprehensive as to the future of the society. There is certainly no cause for apprehension, for during the thirty-four years of its history its progress has been continuous. The splendid success achieved by the society is somewhat of a surprise to many who are concerned with the management of associations that have for their object the advancement of horticulture, and we are frequently asked whether it is possible to assign the cause. There is really no difficulty in the matter. The Council, which includes all classes of rosarians, recognises the fact that the object of the society is to extend and improve the cultivation of the rose, and that to accomplish this, the members must be encouraged by means of exhibitions to grow their roses to the highest degree of perfection, and be assisted by means of literature of a useful character, and differing from that obtainable in the usual course. Annually a large sum is expended upon literature, with the result that all the members have in addition to the right of competing at the exhibitions a substantial return for their subscriptions. The importance of this policy is confirmed by the evidence derived from the National Sweet Pea Society, which held its annual meeting on Thursday, and ranks among special societies as second only to the National Rose Society. These two societies agree also in limiting the number of consecutive years during which the presidents hold office, and in both the innovation upon the old practice has been highly successful. In the National Rose Society two years is the limit, and since the death of Dean Hole there have been three presidents, all of whom have done splendid work, and the Rev. J. H. Pemberton, who was elected to succeed the Rev. F. Page Roberts, has shown such marked ability as a vice-president as to prove to demonstration his special fitness for the presidential chair. In presiding at the conversazione which followed the annual meeting, Mr. Pemberton was particularly happy, and contributed in no small degree to the enjoyment of those who were present at this pleasant function, which is becoming increasingly popular.

MR. W. MEASE.

Mr. W. Mease, whose portrait we give in this issue, has long occupied a prominent position among practical horticulturists, and enjoyed the esteem of those who have had opportunities for becoming acquainted with him and his work. We first became acquainted with Mr. Mease when he was in charge of the gardens of Wyncote, Allerton, Liverpool, the residence of the late W. C. Neumann, Esq., and we were much impressed by the evidence these gardens afforded of his skill in the cultivation of the various classes of plants that have a place in an establishment of the first class and of fruit and vegetables.

We have also had occasion to admire the many fine specimens with which he has obtained distinction at the Liverpool flower shows, and, indeed, at other of the northern exhibitions. While at Liverpool Mr. Mease specially distinguished himself as a cultivators of chrysanthemums, and then as now, his flowers were characterised by high quality. Probably, his most notable achievement as an exhibitor of chrysanthemums while at Wyncote, was the winning at Hull in 1887 of the valuable challenge vase and £15 in cash offered for 48 blooms of incurved and Japanese varieties in equal numbers. About two years after this event Mr. Mease was engaged by Alfred Tate, Esq., as gardener at Downside, Leatherhead, and here as at Wyncote, he has given proof of his remarkable abilities. He has necessarily taken an active part in the formation of the extensive and beautiful rose garden which Mr. Tate has created, and the herbaceous borders and other features for which the Downside gardens are famous. We need not refer to the success with which roses are grown at Downside for that is well known, and it is a matter also of common knowledge that Mr. Mease has maintained his position as a cultivator of chrysanthemums, one of his latest successes being the winning of the premier award in the principal class for incurved varieties at the exhibition of the National Chrysanthemum Society last month.

International Horticultural Exhibition, 1912.—The first provisional schedule of the International Horticultural Exhibition to be held at Chelsea in 1912 is on the point of being issued, and will be found of interest, as indicating the character of this great gathering. It requires a closer examination than is now possible for us to give it, and for the present it must suffice to say that the schedule contains 431 classes arranged in twelve divisions. There are: 1, stove plants, (a) groups, (b) specimens, (c) cut flowers; 2, palms, cycads, etc.; 3, orchids; 4, ferns and selaginellas; 5, greenhouse plants, (a) groups, (b) specimens, (c) cutflowers; 6, roses; 7, carnations and pinks; 8, hardy plants, (a) groups, (b) specimens, (c) cut flowers; 9, new plants; 10, fruit; 11, vegetables; 12, miscellaneous. No prizes are yet allocated to the respective classes, but it is stated in a note that the Executive Committee have adopted the following resolutions with regard to them: (1) That the system of prizes adopted should consist in a combination of silver (or silver-gilt) cups and money, together with a diploma. (2) That a single form of cup be adopted and made in a variety of sizes to suit the larger and smaller classes and merits. (3) That the cup adopted should always be engraved with the seal or other official badge of the Exhibition Committee. The schedules may be obtained on application from Edward White, Esq., 7, Victoria Street, Westminster.

New Victoria Medallists of Honour.—The President and Council of the Royal Horticultural Society have conferred the Victoria Medal of Honour in Horticulture on Mr. John C. Cypher, Mr. Thomas Coomber, Mr. C. R. Fielder, Mr. H. B. May, and Mr. A. H. Pearson, all of whom we need hardly say, are in every way worthy of this distinction. Mr. Cypher, whose portrait we had the pleasure of giving in our issue of the 10th inst., has specially distinguished himself as a cultivator and exhibitor of orchids and stove and greenhouse plants, and in the art of plant arrangement. Mr. T. Coomber, who for many years past has been in charge of the Hendre Gardens, Monmouth, is one of the best-known gardeners, and has attained a high degree of fame as a cultivator of fruits, both in the open and under glass. Mr. C. R. Fielder is chief of the extensive and beautiful gardens of North Mymms Park, and, by reason of the excellent work he has accomplished in various directions, occupies a deservedly high position among practical horticulturists. Mr. H. B. May, who is a member of the Council of the Royal Horticultural Society, is one of the more prominent commercial horticulturists, and, as chairman of the Royal Gardeners' Orphan Fund, he has rendered services in the cause of charity on which it would be difficult to place too high an estimate. Mr. A. H. Pearson is a member of the firm of Messrs. J. R. Pearson and Sons, Lowdham, and has throughout his business career devoted special attention to hardy fruits, on which he is a high authority. Mr. Pearson was for many years a member of the Royal Horticultural Society's Council. We have given the portraits of all these gentlemen, and, with the exception of Mr. Coomber, within a comparatively recent period.

Plant Physiology and Pathology.—A Chair of Plant Physiology and Pathology has been founded in connection with the Imperial College of Science and Technology at South Kensington, and at the recent meeting of the Governing Body it was resolved to invite Professor Friedrich Czapek, of the Prague University, to accept the Professorship, and to at once make the necessary preparations for providing the accommodation required for the new department. Professor Czapek enjoys a high reputation as an authority on the physiology and pathology of plant life, and has devoted special attention to the bio-chemical aspect of these two important subjects.

Chrysanthemum Shoreham Pink.—We are informed by Mr. R. A. Witty, secretary of the National Chrysanthemum Society, that at the recent meeting of the Floral Committee of the society, it was agreed that the name of the single variety which received a first-class certificate on November 21, as Pink Delight should be altered to Shoreham Pink.

Kew Bulletin.—The current issue (No. 9, 1910) is of much interest to botanists and practical horticulturists. It contains, among other subjects, a paper by Mr. G. Massee, on the Crown Gall disease, and a descriptive list of the hybrid plants raised at Kew. The list is a rather lengthy one, and includes begonias, calceolarias, cheiranthuses, cytisus, disas, gladioli, primulas, rehmannias, rhododendrons, senecios, strelitzias, and streptocarpus. There is a short list of crosses that were made, but were unsuccessful, among them being Primula sinensis x P. obconica, P. sinensis x P. verticillata, P. sinensis x P. vulgaris, P. obconica x P. malacoides, and P. obconica x P. megaseæfolia. There is also an interesting paper on Agave lurida from the pen of Mr. J. R. Drummond.

Honour to Mr. E. Mawley, V.M.H.—The decision of the Council of the National Rose Society to confer upon Mr. E. Mawley, V.M.H., the Dean Hole Medal, which was founded a few years ago for the recognition of special services rendered in the cause of the rose and its cultivation, was a highly popular one with the members present at the annual meeting, which was held at the Westminster Palace Hotel on the 8th inst. The announcement that the Council had conferred this honour upon Mr. E. Mawley evoked the warmest expression of approval, and when he rose to receive the medal from the Rev. F. Page-Roberts, the retiring president, the outburst of applause was such as to show that Mr. Mawley's long and arduous labours as honorary secretary of the society are fully appreciated by the members. The fund which bears the cost of this medal was raised as a memorial to the late Dean Hole, and the first recipient was the Rev. J. H. Pemberton, the new president of the National Rose Society, who was presented with it at the annual meeting last year.

Horticultural Educational Exhibition and Conference, 1912.—The Executive Committee of the International Horticultural Exhibition, to be held in 1912, announce that they are especially desirous of holding a Horticultural Education Exhibition and Conference in conjunction with the main exhibition for the purpose of drawing attention to the wonderful improvements that have been effected in plants during recent years, and to the different ways and methods by which the improvements have been obtained. Also to bring into prominence the different methods of training young horticulturists in this country, on the Continent of Europe, and in America, and the excellent work that is being done by horticultural instructors working under the different County Councils. A strong committee, it may be added, is being formed for the purpose of carrying out the details of the conference.

Wimbledon Common Extension.—We regret to learn that an endeavour is to be made by the more extreme members of the Wimbledon Town Council to have rescinded the resolution by which that body, in accordance with the almost unanimous vote of the ratepayers at a town's meeting, agreed to contribute £10,000 to the fund for the extension of the Wimbledon and Putney Commons. Councillor E. E. G. Williams, one of the recently appointed members of the Council, has given notice that he will move: "That, in view of the fact that support was given to the proposal for contributing out of the rates to the Wimbledon Common Extension Fund on the understanding that the Surrey County Council would also contribute, and that the Surrey County Council has now declined to contribute, this Council will not proceed further with the proposal for a contribution from the rates of Wimbledon, and hereby rescinds the resolution of October 26, 1910." To meet the objections of some South Wimbledon opponents to the scheme, Mr. Richardson Evans, the hon. secretary to the fund, has offered to defray the expenses of holding a public meeting in the south to discuss the scheme and also the Council's contribution.

Yorkshire Gala.—The schedule of prizes offered for competition at the horticultural exhibition to be held at York on June 14 and two following days has been issued, and is as usual comprehensive in scope, and the prizes are liberal. There are two classes for groups of miscellaneous plants in or out of bloom, and in that for groups occupying an area not exceeding 300 square feet the prizes aggregate £70, and in that for groups occupying an area not exceeding 200 square feet the prizes amount to £34. The class for a group of hardy plants and flowers with a background of decorative plants, bamboos, etc., with a pool of water containing nymphæas and other aquatics, should be remarkable both for its interest and attractiveness. The prizes aggregate £40, and prizes amounting to £25 are offered for a display of hardy flowers. The classes for tables of plants and cut flowers and orchids should also form attractive features, and it would be well were such classes to be included in schedules more frequently than is at present the case. Roses, carnations, fruits, vegetables, and indeed nearly all the principal subjects available for exhibition in June have liberal provisions made for them, and four gold medals will be awarded to nurserymen's collections contributed to the non-competitive class.

Metropolitan Open Spaces.—At the December meeting of the Metropolitan Public Gardens' Association, it was agreed to lay out the eastern portion of Bow Churchyard if its maintenance could be secured. Progress was reported with regard to schemes for the acquisition of the Ironmongers' Almshouses and Garden, Shoreditch, the money required in this case having been practically secured, and for the extension of Wimbledon and Putney Commons and the purchase of portions of the Grange estate, Kilburn. A letter was read from the Council of the Royal Borough of Kensington stating that they were again desirous of utilising the services of the association in superintending the pruning and lopping of the trees in the streets and roads of the borough, and it was agreed to accede to this request. A grant of £105 from the Drapers' Company was announced.

November in the North.—The outstanding feature of the weather experienced during the past month has been the abnormal rainfall. Without the city proper, writes our Aberdeen correspondent, the quantity of rain, sleet, and snow that fell was fully 6 1-3 inches, which, with one exception, that of 1905, when it was exactly 6½ inches, is the largest recorded during the last 40 years. The average rainfall in November for the last 40 years is fully 3 inches, the lowest being in 1881, when it was rather less than 1 inch. We had snow on four days, but slight; the ground being partially white on the 12th, and again rather more so on the 16th, and still more so again on the 19th, when we had fully an inch of snow, which lay all next day but had disappeared by the afternoon of the 21st; and there was sleet on other three days. We had frosty mornings on at least 12 days, and perhaps more faintly on a few others, but we experienced no severe or steady frost. The greatest rainfall was on the 7th, when fully an inch was registered, and the rivers were in flood. Rain fell in measurable quantities on at least 16 days, with the result that the land has been so wet as to seriously affect the work on the farm. The wind blew oftenest from the north-west, with an occasional veer to south-east, but there were many quiet days, and some even quite calm, and an entire absence of strong gales. The temperature was generally low or chilly, except in the sun, with a cloudy sky on some 12 or 14 days, and a good deal of sun on about the same number.

Peter Barr Memorial Fund.—Bearing in mind the considerable sum of money that would have to be invested for the purpose of providing a gold Peter Barr Memorial Medal annually, to be awarded in connection with work among daffodils, the Executive Committee of the above fund recently resolved to obtain a Peter Barr Memorial Cup, to take the place of the proposed medal, and to be held for one year by the person honoured. This will still carry out the principle of the original idea, it will obviate the necessity of forming a memorial trust, and will permit of a larger sum being handed over to the Royal Gardeners' Orphan Fund. The Barr Memorial Fund will not be closed immediately, therefore those who have not already dore so are invited to send their subscriptions to the treasurer, Mr. H. B. May, V.M.H., Chingford, Essex.

MODERN COMMERCIAL FRUIT CULTURE.

(Concluded from page 978.)

Diseases

Unfortunately, with the growing number of orchards and fruit plantations there has come the liability of diseases taking almost an epidemic form. In the old days if disease broke out on a farm, it was, comparatively speaking, isolated, but now, with so many farms and orchards close to each other, as well as the practice of general sale and exchange of fruit tree stock, disease is much more difficult to confine to the original outbreak. Every fruit grower knows, for instance, how easy it is to introduce mussel scale and American blight into the orchard by means of some trees bought, perhaps at some fruit tree sale, or obtained from a nursery where they were not careful to keep the nursery stock clean from these pests.

Notwithstanding the many County Council experimental gardens, research departments attached to horticultural colleges, as well as private experimental places like Woburn, all of them at work on the problems besetting fruit culture, there are several diseases of which no cure, certain or practicable, has yet been found.

Take the silver leaf disease attacking plum trees. It is only within the last ten years that this disease has assumed the proportions it now has, yet it now increases with such virulence that whole orchards are infested with it, and all the hope one of our best investigators can give is, that some affected trees may recover, and some badly affected will die; that all remedial measures, such as inoculating the trees with sulphate of iron, or dressing the surrounding soil with it, are of little, if any, avail; that the only thing to do is to keep the trees in a healthy condition, and (I suppose) cut out all dead wood. Here is a fungus fruiting on any dead wood, not only of fruit trees, but forest trees as well, whose myriads of dust-like spores are capable of infecting any tree, apple or plum, on which there is a wound by which they can obtain entrance. Think what this means on trees which, of necessity, have to be pruned, and, in some cases, have the lower boughs sawn off; what labour is involved in protecting the cuts with an antiseptic paint of some sort—the only course to take where the disease is present.

Take another case—the gall mite in black currants, causing the big bud disease. Here is a pest which has had the effect of wiping black currant growing out in some districts, and bids fair, unless some remedy is shortly found, to put a stop to the industry all over the country. Yet, in the face of it, we are absolutely powerless, with no remedy save the precautionary measure of procuring clean stock of varieties least liable to the disease, coupled with hand picking of the affected buds when few, and the destruction of the bushes when this course becomes ineffectual owing to the numbers.

These are only two out of a number of diseases against which we have no remedy that is really practicable and effective. Others are the brown rot of apple, plum, and cherry; "die-back" disease of gooseberries; botrytis fungus, attacking all sorts of fruits, particularly raspberries and loganberries. Even with those diseases for which spraying is the accepted remedy the trouble does not end then, for spraying is a very expensive business, and one requiring a great deal of skill and attention, and it is easily possible to spend more in this way in materials and labour than the fruit is worth when matured. So great has been the want of success with spraying, partly from the faults of the fruit grower and his employees, and partly because far too much is claimed for the various specifics by their makers, that there is a serious danger of a revolution on the part of fruit growers from a feeling in favour of spraying to a distinct opposition to it for any and every purpose.

As I said before, to my mind these various diseases now attacking all the various fruits we grow, with more or less severity, make all the difference between profit and loss in fruit growing; further, it often depends upon one's quickness in discovering the outbreak at the very first, and taking prompt measures in dealing with it, whether one is successful in fighting the disease or not. This continued fighting with adverse circumstances of diseases and so on calls for traits of character uncalled for in the past, when the margin of profit was much higher and allowed for greater losses.

In the first place, the successful fruit grower of to-day must be a keen business man, able to seize advantages of buying in the cheapest market, of disposing of his produce to the very best advantage; he must be a good manager of men, able to control them well, and get the best results possible from their labour. Further, he must be endowed with the keenest observation to detect at once the outbreaks of disease,

A considerable knowledge of botany, chemistry, and zoology, among the sciences, as well as some knowledge of mechanical engineering are necessary equipments, unless he wants to pay considerably for expert assistance in these days of spray fluids and spraying machinery, and intensive manuring. Even with all these qualities, with much capital invested, and working hard at his business from daylight till dusk, it is often probable that he earns such interest on his capital and return for his labour as would be considered wholly inadequate in many a commercial pursuit.

What the industry wants in my opinion, is, first, a stop put to the reckless journalism, which magnifies profits without giving any hint of difficulties, so as to check the rush into fruit growing of people who are totally unfitted for it, and who only serve to throw more medium fruit upon an already overstocked market; secondly, cheapening of cost of transport, etc., so that the cost of distribution is not so great, and that the price paid by the consumer should not be quite so disproportionate to the price received by the grower, as at present; lastly, and perhaps the most important point of all, more sympathetic assistance from the State.

The Board of Agriculture is not, and cannot be, under present arrangements, of much use to horticulture. What is required is either an entirely separate set of officials under the present Board, or the formation of a distinct Board of Horticulture. Further, the officials should be practical men, in intimate acquaintance with all the various industries connected with horticulture, not bureaucrats, inseparably connected with red tape and sealing wax. There should be State experimental orchards and gardens all over the country, under charge of skilled experimenters and scientists, to investigate the problems which beset growers, and strive to find means to overcome them, not to carry out freak experiments of no value to the industry, as often happens nowadays.

FRANK HAMMOND.

PERPETUAL CARNATION SOCIETY.

There was an extremely beautiful display of perpetual carnations at the Royal Horticultural Hall on Tuesday, December 13, on the occasion of the above society's winter show. The competition was about on a par with previous efforts, but the quality of the flowers showed a distinct advance. There was a falling off in the trade displays, due chiefly to the lateness of the date, as at the present time most growers need all their flowers for the supply of the market. The show was very well managed, Messrs. H. Mathias, Brunton, and Hawes all fulfilling their duties admirably.

OPEN GENERAL CLASSES.

For the best three vases, twelve blooms of each, of British novelties, Mr. C. Engelmann won first prize with good examples of Carola, Rex, and Harlequin; Mr. Lancashire came second with Emperor, Carola, and Rose Doré. The American Challenge Cup for three vases of American varieties was won by Mr. W. E. Wallace with Dorothy Gordon, May Day, and Pink Delight, the latter a delightful variety; Mr. C. Engelmann second with Pink Delight, May Day, and Afterglow.

The Covent Garden bowl and silver-gilt medal, offered for two varieties of market carnations, each represented by a box of twenty-four blooms, packed for market, and a vase each of thirty-six blooms, produced a fine competition between three growers. Mr. W. E. Wallace, Eaton Bray, won the coveted award with superb flowers of Delight and White Perfection—a beautiful exhibit. Mr. C. Engelmann won second prize with Carola and Regina.

LARGE VASES, OPEN CLASSES.

In the open classes twenty-five blooms had to be shown in each vase, one variety only. For a vase of Enchantress, or variety of similar colour, Mr. W. E. Wallace, Eaton Bray, scored with superb flowers of Enchantress; Mr. G. Lange, Hampton, second; and Baroness Mdme. de Brienen (gardener, Mr. L. J. Harrison), Clingendaal, The Hague, third, each with Enchantress. In the class for Mrs. Burnett or similar variety, Mr. W. E. Wallace led with Delight, and was followed by Mr. Engelmann, who showed a seedling, and Mr. W. H. Lancashire, Guernsey, who came third with Mrs. H. Burnett. There were five entries of Rose Pink Enchantress or similar variety, and here Mr. W. E. Wallace was first with blooms of superb colour; Mr. G. Lange second, and Mr. Lancashire third, all showing Rose Pink Enchantress. For a vase of blooms of the Lawson type Mr. Lange scored with Mrs. C. W. Ward, Mr. Engelmann coming second with Rosa.

In the scarlet class there were five competitors, and Mr. Wallace was again to the front, this time scoring with Britannia; Mr. W. H. Lancashire second with a splendid vase of Beacon, and Mr. G. Lange third with Scarlet Glow. There were five entries of white varieties, and here Mr. Lange scored with White Perfection in good style; Mr. Wallace second with White Enchantress, and Messrs. W. Wells and Co. third with White House. The best twenty-five flowers of a crimson variety were of Carola, shown by Mr. C. Engelmann, Saffron Walden; Mr. Lancashire second with President. The best twenty-five blooms of a self of any other colour than that already specified, came from Mr. Lancashire, who exhibited Mikado; Mr. C. Engelmann second with the same variety. For a vase of a fancy variety, Mr. C. Engelmann led with bright blooms of the attractive red and yellow Harlequin; Mr. Lancashire second with Emperor.

Mr. H. Burnett, Guernsey, led for a variety not yet in commerce with an unnamed large-flowered rose-pink variety; Messrs. W. Wells and Co., Merstham, second with White House. The best dozen blooms of J. Whitcomb Riley came from Mr. W. E. Wallace, who won the chief prize given by Messrs. E. G. Hill and Co., Richmond, Indiana, U.S.A.; Mr. G. Lange and Mr. C. Engelmann were placed equal second for this yellow variety. Messrs. F. Dormer and Co., La Fayette, Indiana, U.S.A., gave prizes for Scarlet Glow, and these were won in order by Mr. W. H. Lancashire, Mr. W. E. Wallace, and Mr. G. Lange.

FLORAL ARRANGEMENTS, GROUPS, AND PLANTS.

Baskets of carnations were particularly beautiful, and premier award was easily won by Messrs. R. Felton and Son, Hanover Square, W., with a delightful basket of Britannia and White Perfection; Mrs. K. F. Hammond, King's Road, Sloane Square, second; and Mrs. Alex. Robinson, Norhyrst, Park Hill, Carshalton, third. There were six competitors in the class for a dinner-table decoration of carnations, and here Mrs. A. Robinson, who used Enchantress blooms, and had a rather novel low centre, was first; Mr. F. G. Bealing, Bassett, Southampton, second, with an arrangement of the Mrs. Burnett variety; and Miss F. Museuth, Church Street, Wolverhampton, third.

Premier award for a vase of thirty-six blooms, any one or more varieties, arranged for effect, was won by Mr. W. E. Wallace, who staged a lovely vase of May Day and Carola, thus winning the piece of plate offered by Mr. Felton; Mr. H. J. Dudney, Erith, second; and Mr. H. Burnett third. Messrs. R. Felton and Son scored for a bouquet of carnations, with Mrs. K. F. Hammond, Sloane Square, S.W., second, and both used the variety Mrs. H. Burnett. Mrs. Hammond led for gentlemen's buttonhole bouquets; Mr. A. Grubb, gardener to C. F. Raphael, Esq., Porter's Park, Shenley, second; and Mr. Johnson, gardener to Lord Burnham, Hall Barn, Beaconsfield, third. The Messrs. Felton led for ladies' sprays, followed by Mrs. Hammond and Mr. Bealing.

There was but one entry in the class for a group of perpetual carnations, and this was set up by Mr. P. Wilkinson, gardener to Sir Daniel Gooch, Bart., Hyland's Park, Chelmsford, who now holds the Lord Howard de Walden silver-gilt cup for the ensuing season. The display was a fairly good one, and well arranged. Mr. A. E. Usher scored for six plants with finely-grown specimens; Mr. J. Vert, gardener to Lord Howard de Walden, Audley End, Saffron Walden, second. Mr. Usher also led for three plants, and was followed in order by Mr. A. Grubb and Mr. Vert; a capital and useful class.

AMATEURS.

In the colour classes, six blooms in a vase, Mr. G. West, The Priory, Old Windsor, led in the Enchantress class, with Mr. Usher second, and Mr. Grubb third. In the Mrs. Burnett class, Mr. J. Vert won first prize, with Mr. Usher second, and Mr. Johnson third, all showing Mrs. Burnett. In the rose-pink class Mr. J. Vert led, with Mr. Usher second, and Mr. Paskett, gardener to E. J. Johnston, Esq., Burrswood, Groombridge, third, all showing Rose Pink Enchantress. For flowers of the Lawson type Mr. J. Vert scored with Superior; Mr. Usher second with Enchantress; and Mr. Johnson third. In the white class Mr. Usher came to the front with the beautiful White Perfection; Mr. Vert second with White Enchantress, and Mr. Paskett third. The class for scarlet flowers brought out seven competitors, Mr. Usher scoring with Britannia, and followed by Mr. G. Johnson and Mr. G. West. Mr. Usher was to the front in the crimson class with Carola; Mr. Vert and Mr. Grubb second and third respectively. For any other self colour, Mr. Usher led with the pretty Rose Doré, and in the fancy class the same competitor scored with Imperial.

Dr. Kyffen's prizes for a dozen blooms in not less than six varieties, were won in order by Mr. J. Vert, Mr. A. E. Usher, and Mr. G. Johnson, each of whom showed well. The Engelmann Challenge Cup, six flowers of Carola or Vinca, or the two mixed, was won by Mr. Usher with particularly fine examples of Carola; Mr. Grubb second, and Mr. P. Wilkinson third. For the best bloom with long stems of Carola, the prizes fell respectively to Messrs. Usher and G. Boyd, and for the best bloom with long stem of Vinca, Messrs. Usher and F. May won the awards. Mr. T. H. Plowright, Trinity Place, Windsor, had the best three flowers of May Day, the best three of Winsor, the best three of Mrs. T. W. Lawson, the best three of White Lawson, and the best three of a scarlet variety—O. P. Bassett. Mr. W. E. Merrett, Atworth, Melksham, scored for the best three flowers of Rose Doré, and the best three of Helen Gould.

There was, unfortunately, only one exhibit of a collection of cut carnations arranged on a space 6ft. by 3ft.; this was a beautiful one, set up boldly by Mr. A. E. Usher, gardener to Sir Randolf Baker, Bart., Ranston, Blandford, and it secured the gold medal and first prize. He had an arch of fine flowers, below which were stands and vases of Enchantress, Harlowarden, Britannia, Winsor, Rose Doré, Robert Craig, and White Perfection. Messrs. S. Low and Co.'s prizes for six blooms of any one or more specified varieties were won in order of mention by Mr. A. Grubb, Mr. J. Vert, and Mr. Usher, the first-named showing Rival. Mr. Burnett's prize for six blooms was won by Mr. Vert with the lovely Mrs. Burnett, while in the maiden class for six blooms Mr. F. Norman, Moor Place, Much Hadlow, led, followed by Mr. F. May, Houndswood, Radlett.

NON-COMPETITIVE.

A grand exhibit was staged by Mr. C. Engelmann, Saffron Walden, across the top end of the hall. Thousands of beautiful flowers were set up in vases of varying size and height, and in tall stands. The central feature was a pyramid of Enchantress, flanked by Elektra Regina and a number of seedlings of heliotrope and yellow varieties. Rex, Winsor, the big Carola, White Perfection, Mikado, Britannia, O. P. Basset, and Scarlet Glow were varieties largely and finely shown on either side beyond the fine central grouping. Mr. H. Burnett, Guernsey, put up a large group of superb flowers, superb in size, substance, and colour. It was a grand exhibit of high-class blooms of R. F. Felton, Mrs. H. Burnett, Britannia, Mrs. W. J. Hunter, Orpheus, Snow Queen, After Glow, Marmion, Mrs. C. F. Raphael, Mikado, White Enchantress, Rose Dore, Mrs. C. W. Ward, and Scarlet Glow.

Facing the entrance Messrs. Stuart Low and Co., Bush Hill Park, Enfield, put up a very elegant and tastefully-arranged exhibit, associating their flowers with palms and ferns. In the central grouping the varieties Mrs. Burnett, the white Marchioness of Linlithgow, and Lady Alington were conspicuous, while in the flanking displays Britannia, Roseate Dawn, Rose Pink Enchantress, J. W. Riley, Regal Mauve, White Perfection, Fire Glow, Mrs. T. M. Crook — crimson, splashed on deep rose—and Colossus attracted most attention. Messrs. W. Wells and Co., Merstham, contributed a group of single and late decorative chrysanthemums. Mr. G. Lange, Hampton, set up about two dozen vases of carnations, the best being Winsor, White Perfection, Mikado, Enchantress, and Admiration.

MEDALS.

Gold.—To Mr. Grubb, gardener to C. E. Raphael, Esq., Porters' Park, Shenley; Mr. H. Burnett, Guernsey; Mr. C. Engelmann, Saffron Walden; and Messrs. Stuart Low and Co., Enfield.

Silver.—Mr. G. Lange, Hampton.

CERTIFICATES AND AWARDS.

British Varieties.—First-class Certificate to Lady Alington, from Messrs. S. Low and Co., Enfield; to R. F. Felton, from Mr. H. Burnett, Guernsey.

Award of Merit.—To Rex, from Mr. C. Engelmann, Saffron Walden; to Mrs. T. M. Crook, from Messrs. S. Low and Co., Enfield.

American Varieties.—These are selected from the whole show by the Floral Committee, and not credited to any particular exhibitor:—First-class Certificates to Mrs. C. W. Ward, Pink Delight, Scarlet Glow, Niagara, and White House.

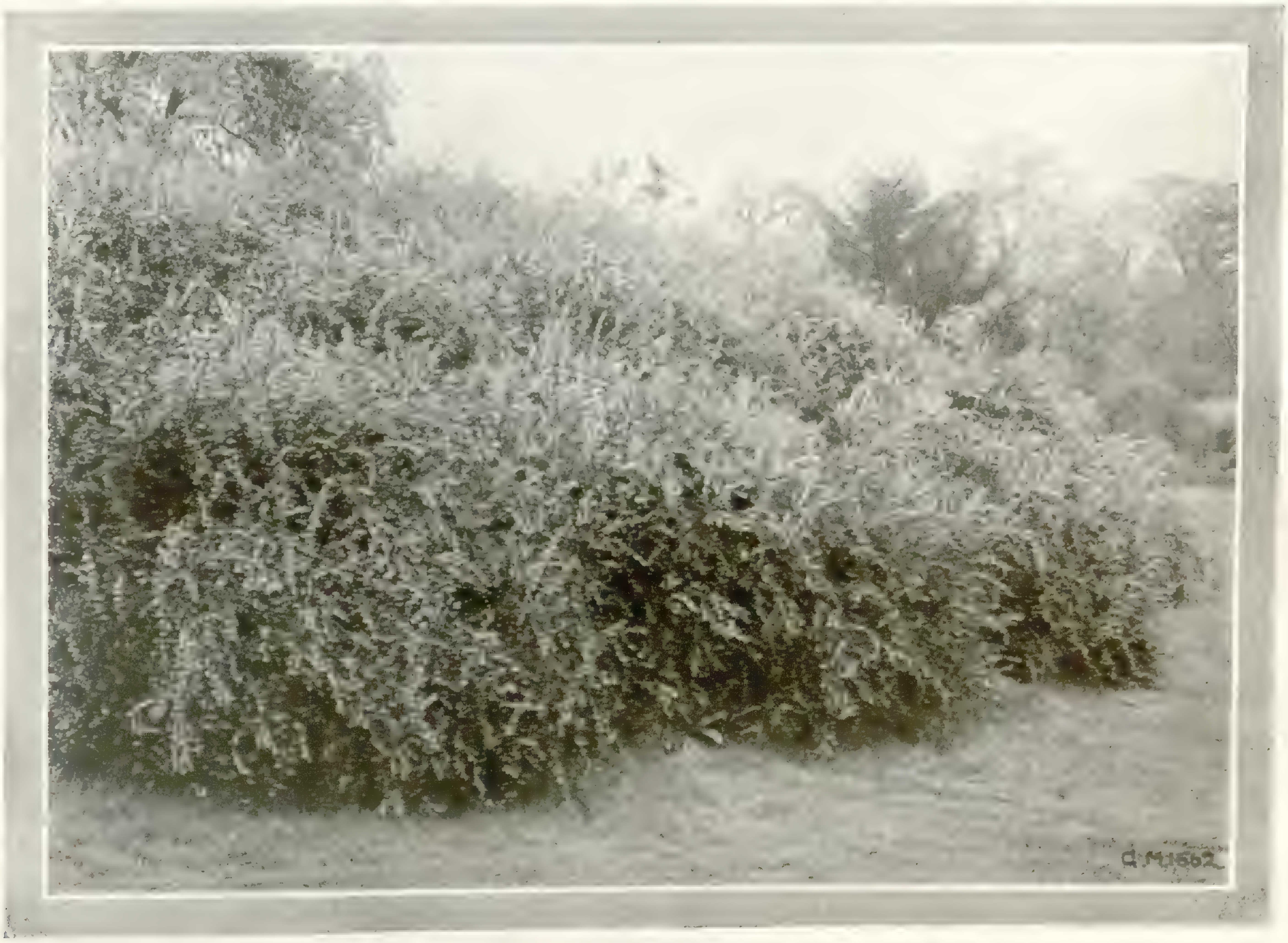
"CARNATIONS, PICOTEES, AND PINKS" will tell you plainly how to propagate and grow these favourite flowers to perfection. The work is freely illustrated with plates of leading varieties, and explanatory diagrams as to layering, taking cuttings, fertilising blooms, etc. Price 2s. 6d. net, by post, in box, 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

USEFUL AND SHOWY BARBERRIES.

The genus Berberis is made up of a large number of evergreen and deciduous species, many of which are of decorative value, either on account of their showy flowers or fruits, their evergreen foliage, or a combination of all these good qualities. No good purpose would, however, be served by attempting a description of all the species, therefore, in the appended notes, attention is directed to a few of the most noteworthy only.

Barberries are, as a rule, very satisfactory shrubs to grow, for they succeed under very varied conditions, and, though the best results may be looked for from those which are growing in good loamy soil, such is not absolutely essential to success, for fairly good returns may be expected from plants which are growing in poor soil. One kind, B. aquifolium, is an excellent subject to plant beneath trees, for it stands the shade and drip well. On the other hand, it gives excellent results when exposed to bright sunlight.

Taken as a whole, the species give the most satisfactory results when increased from seeds, but kinds like B. stenophylla must be propagated from cuttings, layers, or off-shoots. Cuttings root most satisfactorily when made from pieces of partially-ripened wood four inches or so long during late July and early August, dibbled into a bed of sandy soil in a close but cold and shaded frame. They must be left undisturbed until the following spring when a good idea may be formed of the way the roots are progressing by the appearance or absence of young shoots. When well rooted they may be transferred to nursery borders without delay. In passing in review a selection of the best kinds the following possess merits which warrant them special attention.



A GROUP OF BERBERIS STENOPHYLLA AT KEW.
A fine hybrid bearing a profusion of orange-coloured flowers.

B. stenophylla.

Not only is this the foremost of all the barberries for general decorative worth, but it is one of the best of all flowering shrubs. In the first place, it is a very distinct evergreen, its tiny deep green leaves stamping it as quite different from any other; then there are few shrubs which blossom more profusely, the orange, sweet-scented flowers being borne in racemes from almost every leaf axil on the previous year's growth. In addition, it is of good habit, grows freely, and is suitable alike for a specimen bush in a prominent place on a lawn, a group in a shrubbery, or a large informal mass in park, pleasure grounds or wild garden. The accompanying illustration gives a good idea of the decorative value of the shrub when growing in a large informal mass. The group shown in the photograph may be seen near the flagstaff in the Royal Gardens, Kew, and about the gardens many smaller groups may be noted.

B. stenophylla is of hybrid origin, its parents being the two Chilian species, B. empetrifolia and B. Darwini. Under natural conditions it attains a height of 8ft. or more, and grows into a shapely bush, without pruning. Young plants may be transplanted without trouble, but older examples are difficult to re-establish if they have much root disturbance. The flowering period is April and May, and the blossoms are followed by roundish, blue-black fruits. If seeds are sown, many curious-looking plants may be raised, which show all kinds of leaf variation between the hybrid and its parents. It is, however, rarely that a seedling is raised which approaches B. stenophylla in general worth.

B. Darwini.

This is another barberry of sterling merit. It is a native of Chili, and is distinguished from the last-named by its stiffer and more upright habit and by its rounder and wider leaves with spiny margins. Like the foregoing, it is evergreen and an excellent shrub for lawn or for shrubbery. In point of hardiness it is somewhat inferior to B. stenophylla, though it will grow satisfactorily in all but the coldest parts of the country. As a rule, it is found from six to eight feet high, though on one occasion a plant at Kew, which had been drawn up in a shrubbery, was measured and found to be 18 feet high. The orange-coloured flowers are borne during April and May, and they are succeeded by blue-black fruits which are very conspicuous. Some difference is noticeable in the colour of the flowers for, though the standard colour is a bright orange, plants may be noted with flowers approaching a lemon shade, and others which have almost a scarlet tinge.

B. Wallichiana.

As is the case with the two foregoing plants, this is an evergreen shrub, and is well worth cultivation on that account, as well as for its pale yellow flowers in May and its dark-coloured fruits at a later date. It is a native of the Himalayas and China. Plants from the Himalayas grow about 3 feet high, and form dense bushes 3 to 4 feet through, with oblong leaves a couple of inches or so long. From China, however, a much freer growing form has been introduced. This is of less dense habit, with larger foliage, and grows considerably taller. In general appearance it agrees closely with the variety latifolia, which is occasionally met with in gardens. A peculiarity of B. Wallichiana is that the leaves of some plants have a glaucous undersurface, whilst on other plants the leaves are quite green. A pretty little dwarf variety, suitable for rockwork, is known under the name of pallida.

W. Dallimore.

(To be continued.)

FRUIT HOUSES.

The British gardener has added considerably to his laurels since the horticultural engineer and builder of fruit houses adopted the carefully-planned suggestions he was able to make after years of practical study. The combined forces may be said to have produced perfect conditions for the successful culture of all those kinds of fruit that English gardeners are past masters in the art of producing. There is an individuality about the successful fruit grower that commands respect; he must work hard, think clearly, and act wisely, then his trees, being living subjects, will respond to that thoughtful and persevering care which he so willingly bestows upon them.

Of all the branches of horticultural science none call for greater continual effort than that required for the production of regular supplies of fine fruit. Soil, insects, fungoid diseases, pruning, watering, cropping, and ventilating are all matters of the utmost importance, and to be successful all these, and other minor details, must have thoughtful care. In some cases express methods of culture are taken up, and when such is the case the life of fruit-bearing trees may be a short but prolific one. Fruit houses are at certain seasons useful shelters for other occupants. Their style or shape may be span-roofed, lean-to, or three-quarter span, and curvilinear.

Orchard house cultivation has increased wonderfully in late years, and nothing could be more suitable for the reception of trees in pots than a light, strong, well-built and ventilated span-roofed house. The kinds of fruits grown mainly in pots are pears, cherries, peaches, nectarines, choice apples, plums, and sometimes apricots and figs. There are many points in favour of these cultures, more especially where a succession of good fruit is needed rather than a large quantity at any one time, only it must be remembered that the culture of fruit in this manner is a keen test of a grower's skill, and only those who are ever-watchful will produce juicy and fleshy specimens from pot trees. A large house in three divisions is of more practical use than one without any partitions, because of the different treatment required by the trees at varying stages of growth. Sometimes bush trees are profitably planted in borders along the sides of span houses, the centre bed being occupied with peaches and nectarines grown in pots. I have in mind many such structures that have annually produced fine fruits for very many years. Such cool houses are very useful for chrysanthemums after the peaches and nectarines have finished their fruiting, had their annual repotting, and are enjoying open-air treatment until such time as it is thought necessary to restart them for another season's crops.

Span-roofed houses should be at least five feet high from the ground to the eaves, for fruit trees, with a minimum width of eighteen feet. No wiring is necessary for pot-grown trees. Ample ventilation should always be provided for orchard house fruits, and if large trees are grown the doors must be large, to allow for their removal without damage. Spandrils for attaching to the main rafters at the ridge, and brackots for securing the eaves and front uprights, will do away with the need for interior uprights for houses of the width named. If larger and wider houses are required light, strong principals and upright supports will be wisely employed to strengthen the roof.

Lean-to or three-quarter span houses are very suitable for vines, peaches, nectarines, figs, and other fruits. Perhaps it is the favourite form of house in most private establishments, as it lends itself to various methods of planting and training, and, not being so exposed, is not so much affected by strong winds. The width of roof to be obtained where a good back wall exists is also important where a large training roof-space is sought after. Peaches and nectarines, fan trained, must have a suitable trellis fixed eighteen inches or so from the glass, and if the back wall is to be utilised for trees the front trellis must curve downwards, and not go beyond the pathway, so that sufficient light and sun may reach the wall trees.

Before building fruit houses, the position and subsoil will have been examined, and especially so if borders are to be formed for the trees. In all cases it is very necessary to be quite certain that the borders do not act as cesspools for the surrounding ground, otherwise fungoid diseases and an unhealthy growth result. Many gardens have three houses arranged for a succession of fruits, and these are frequently supplemented with wall cases to extend the season. Plenty of ventilation must be provided for both at front and at the top. Lever workings to open ventilators the length of each house are best fixed near the door and pathway; they should be made to work easily, and open the ventilators as widely as possible. In smaller gardens, where it is only convenient to have one house, and a succession of fruit is desired, more varieties may be grown by wiring from the back wall to iron standards fixed about three feet six inches from the front of the house. Five feet apart is a good distance for trees trained across in this manner. The pathway may, in such cases, be close to the front lights and wall. Firm soil, not too rich, and thin training of the branches are necessary with these cultures.

I have seen vines growing in all manner of structures, and have sometimes wondered at the results. Vineries are very important to the majority of English gardens, for grapes are needed over as long a season as possible, and this can only be accomplished when good watertight and airy sructures have been erected, and satisfactorily heated so that all dampness may be expelled. Houses of a rather lofty build are the best for keeping fruit in, and as such structures allow of the vines being trained two feet to two feet six inches from the glass, the foliage is frequently very healthy, and provides shade for a long time after the fruits are fully ripe. The worst enemies to long keeping are red spider, thrips, mealy bug, and closing the houses with a rising temperature so that condensation of moisture settles upon the ripe berries. Early vineries are usually lean-to, and the angle may be more acute for the earliest crops, and also in districts further north, where more rain falls. For keeping fruit a long time the span-roofed house is possibly the best, as it allows for more air during very moist, warm weather.

If vine borders are preferred both inside the house and outside also, arches of brick must be formed along the front to allow the roots free access. Several firms of repute have specially manufactured standards for carrying the fronts of fruit houses when borders are to be formed in the way named. The main rafters of vineries must be strong and well braced, so that the straining of the wires and the weight of the crop may not affect the roof in any way. Span houses, with the pathway down the centre, will be heated on either side, close to the border, or within six inches or so of it; two rows of four-inch piping on each side will heat very narrow houses, but those from eighteen feet to twenty-four feet wide will require from six to eight rows, two rows on either side of the house, and two on each side of the centre pathway. Lean-to houses are certainly warmer than span structures, and should they be required for early crops three rows of four-inch pipes should be arranged near the front, with two rows on the border side of the pathway, and parallel with it. The path in lean-to or three-quarter span is usually about three feet wide, and eighteen inches from the back wall.

When very early grapes are desired pot culture is still practised, with varying success, and the type of house used for early melons or other forcing crops can be made convenient for growing them. In such structures the pots are easily plunged in fermenting material, which keeps the soil in a more uniform state, and such houses have the additional bottom warmth from the hot-water pipes below the bed, which should prevent sudden changes of temperature. In nearly every garden vineries have both brick and glass fronts; the latter is not necessary if cost is a great consideration. Wood ventilators, built into the brickwork, are much cheaper, and it is only on account of appearance that glass fronts score in gardens. Gun metal hinges for lights and latches for doors are superior to steel or iron, and oak sills are necessary for doorways, to stand hard wear. All soft water should be saved, and if each house is to collect its own, good cement and brick tanks may be excavated, and built under the pathways in the case of vineries and peach houses.

In the rarer cases of entirely new gardens, or the demolition of old mixed systems, ranges are built to combine glass houses for growing and showing plants and fruits to perfection, and also suitable potting sheds, soil sheds, mushroom houses, and boiler accommodation. A good high wall, running from east to west, would, in all such cases, be of great value, as, in addition to the boilers and sheds being erected on its north side, it is useful to cut off the frame ground and preparing quarters from the more important site of the garden proper. Very frequently a good span range may run from either end, north to south, thus forming two wings, or if a centre span is added the letter E will be represented on the ground plan. When no wall exists, or is desired, span houses may be usefully connected up by a corridor running east to west; the bays between the houses running north to south form very useful shelters, or areas for frame accommodation.

What may be termed general-utility types of structures for fruit growing are extensively employed by the trade and market growers, and although shorn of all embellishments, either outwardly or in the interior, they are nevertheless congenial to the general health of the occupants, having few harbours for pests, and fewer surfaces to keep moist. They are paying concerns when properly managed, and as such serve their purpose.

Charles Foster.

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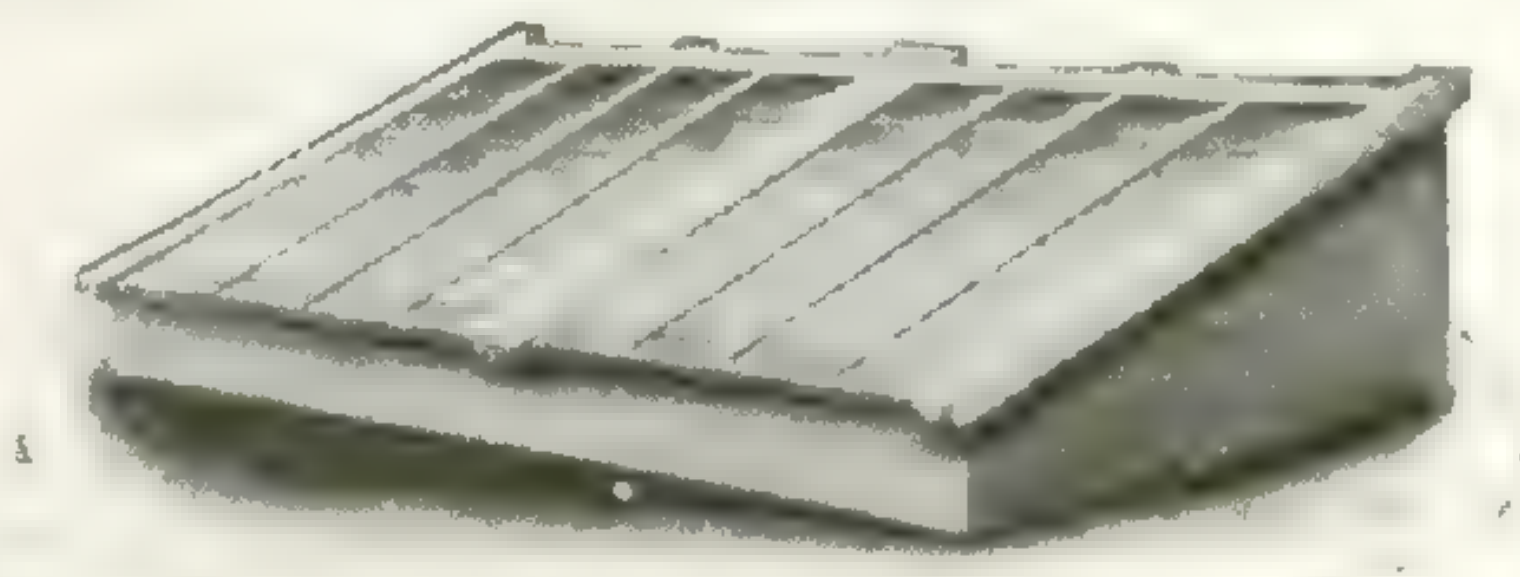

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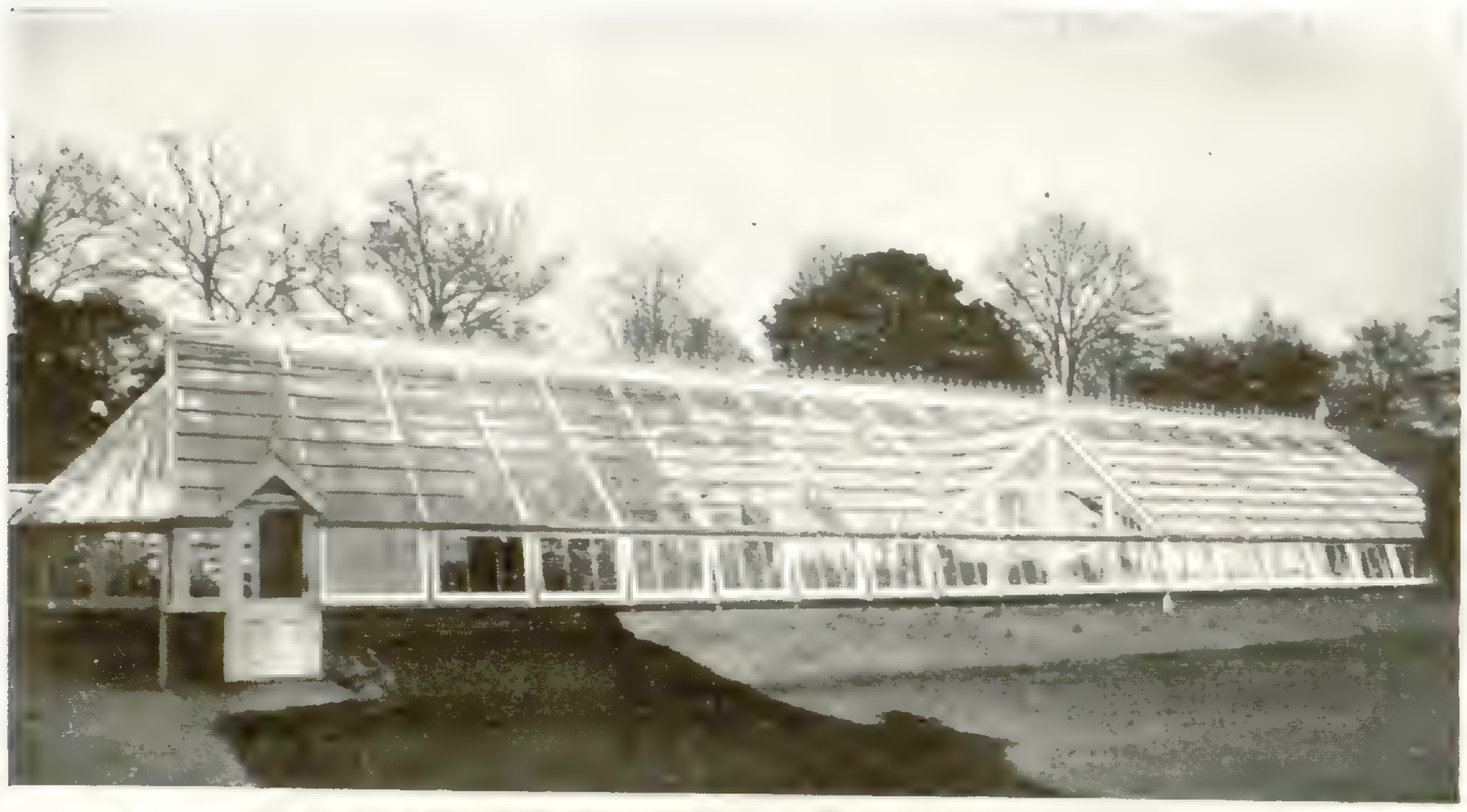

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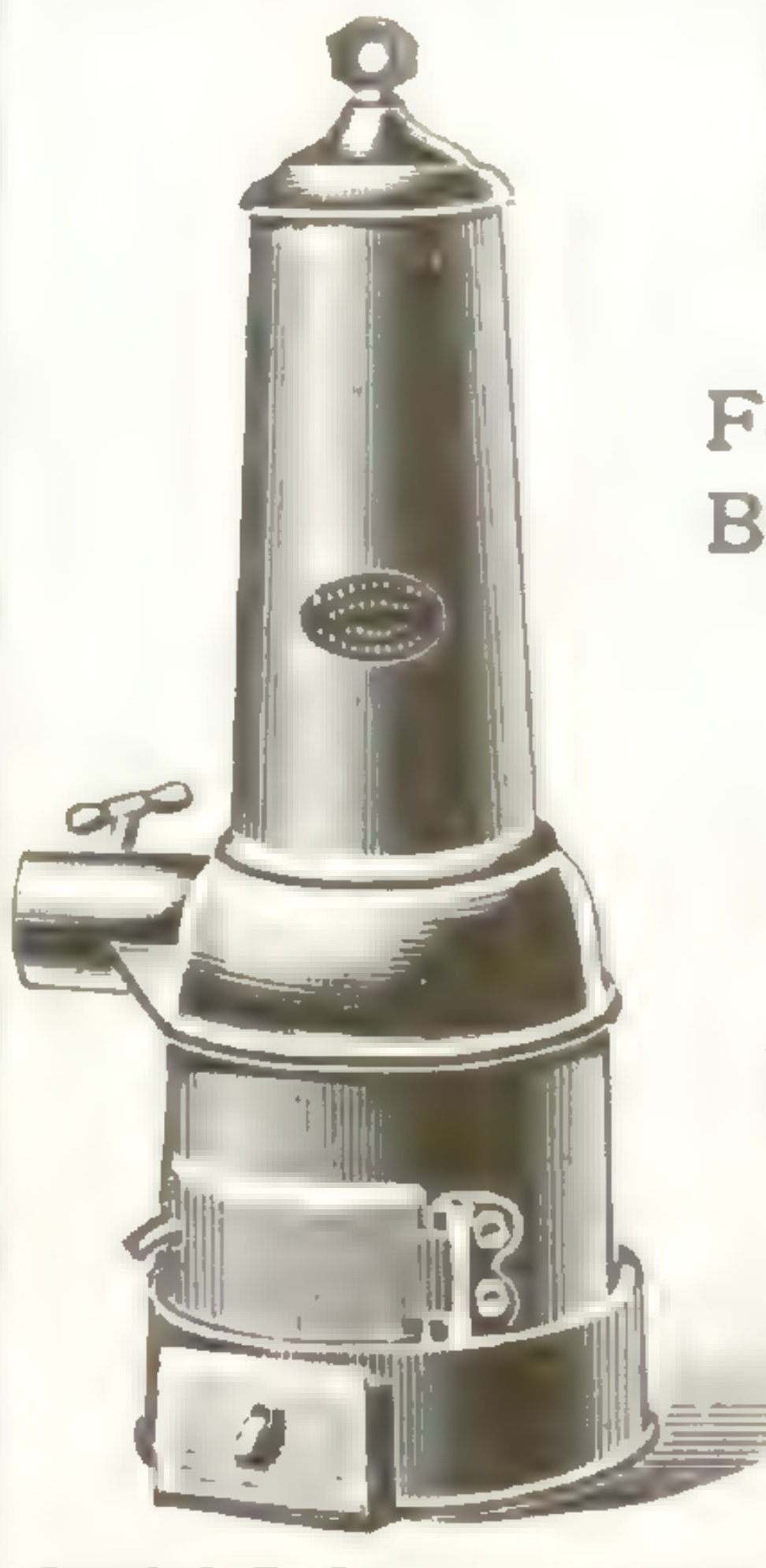

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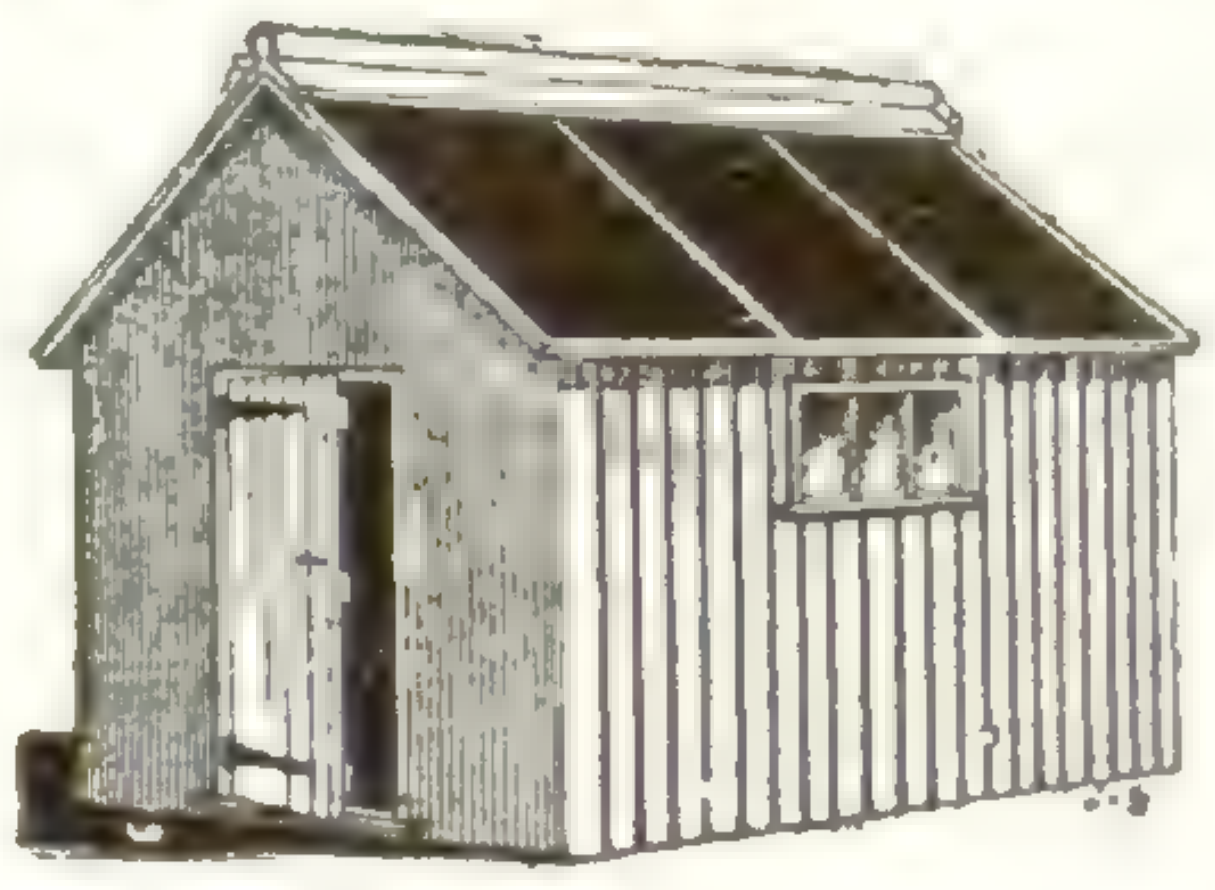

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GARDEN FRAGRANCE.

There are some questions in the general planning of gardens which are pressing for a satisfactory answer, and the question of garden fragrance is one of these. Too often we plant only for colour effects, for harmonious blendings, for expressive contrasts, forgetting that one of the greatest assets in the making of a successful garden is the proper appreciation of fragrant flowers and plants.

Bacon, in his essay on gardens, gives a high place to fragrance. Consider this: "And because the breath of flowers is far sweeter in the air, where it comes and goes, like the warbling of music, therefore nothing is more fit for that delight than to know what be the flowers and plants that do best perfume the air." Expressive, and fully deserving of appreciation from all who have the care of gardens, or the love of gardens, in the heart.

In the short list which the philosopher gives of plants that bestow their fragrance upon every breath of the breeze that blows, we note the violet, the musk rose, sweet briars, wallflowers, pinks, and carnations (or the clove gilliflowers, as the old rendering has it), the blossoms of the lime tree, and honeysuckles. At such a choice no one can cavil, and while we in English gardens can make full use of the old-time favourites, we have the additional advantage of possessing a far wider choice of fragrant subjects than Bacon and his contemporary garden lovers ever dreamed of.

Bacon mentions (rather wistfully, perhaps) the perfume of bean flowers, regretting that "they are flowers of the field," and whoever knows the pleasure of a country life knows the delight afforded by acres of bean blossom in early summer. With them one associates the aroma of new-mown hay, and the August fragrance of the clover fields, and surely Nature affords no higher pleasure than these fragrant delights.

Ofttimes the desire for a manifest display of colour rings the death knell to fragrant plants. The vivid geraniums are gorgeous, but give no fragrance to the air. Begonias are the same. Dahlias, pentstemons, asters, nemesias, and other glowing groups of plants are sadly deficient in the needful quality, and where these are largely used I would advise some highly fragrant subjects be associated with them. If we could persuade the majority of gardeners to bestow as much care upon the scented annuals as they do upon many scentless ones, the summer garden would be more replete with fragrant zephyrs, a place to live and revel in.

Stocks should be always largely grown, a series of beds giving a wonderful odour and a charming display. The sweet alyssum in its best forms should be used by the hundred and thousand, Nicotiana affinis, and the night-scented stocks should in every garden of any pretensions. Tulips and narcissi should be chosen for fragrance, as well as for beauty of form. Certain forms of the pansies, irises, lilies, and azaleas are far more fragrant than of their brethren. Seek them out, and give them a position of honour. The lemon-scented verbena, daphnes, myrtles, lilacs, and jasmines give additional wealth, and as for the deutzias, philadelphus, the range of charmingly scented roses, honeysuckles, and the old-world southernwoods, rosemary, balms, allspice, and winter heliotrope, words fail to express their value in the garden of sweet odours. Even the modest mignonette would of itself exhaust the energies of the best prose writers in an effort to fully describe its charms.

I have not attempted to give a descriptive list of sweet-scented plants, my purpose being solely to emphasise the importance of the subject, and in this I shall doubtless be aided by all lovers of the garden. That there is a danger of losing a great measure of the "old-time fragrance of the garden," must be fully apparent to all. In the race for novelties, for flowers of more majestic proportions, or of ideal form, there is the risk of gaining one point and losing a more important one. Already we have too many scentless roses; several highly-admired carnations lack this needful attribute. Certain strains of pansies are practically devoid of fragrance, and even many of the larger varieties of Viola odorata (the sweet violet) are greatly deficient of the violet's greatest charm. It is for the garden lover to assist in rectifying these faults of the commercial grower. Of the novelties among the fragrant flowers choose only those which retain the delicious fragrance of the old-world forms. In shrub planting, secure a sufficiency of those forms which will scent the air, and plant them freely for the good of the garden.

A bower of honeysuckle and jasmine, an avenue of mock orange or scented thorns, a rose garden where roses are grown for perfume, or a pathway in the wild garden where one can tread the scented thymes, mints, etc., underfoot, and rejoice in the aromatic sweetness, are but a few of the phases of delight one finds in the search for garden fragrance.

P. S. Hayward.

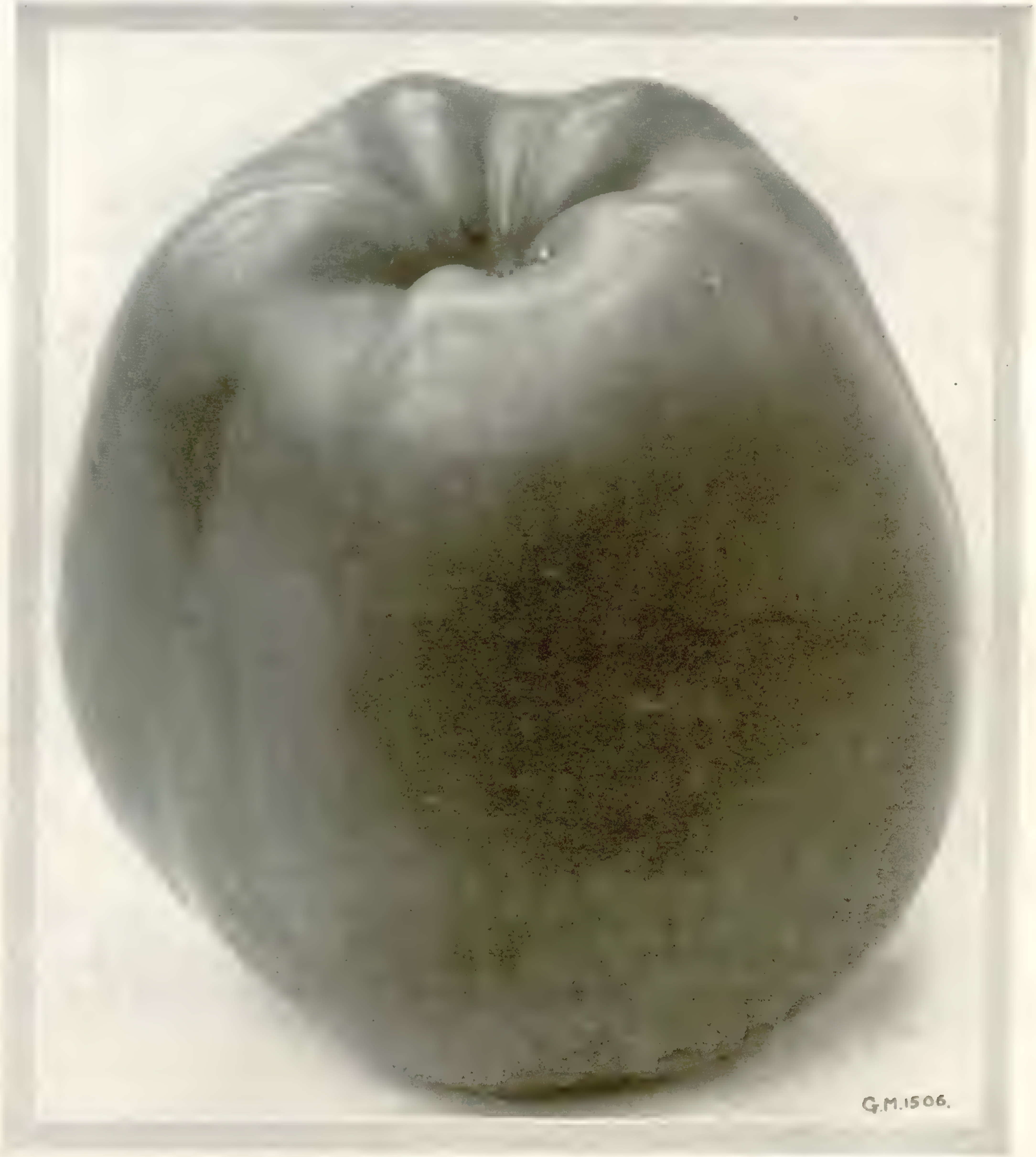
A GOOD COOKING APPLE.

◆

Lord Derby.

This apple is known also as London Major, a name, however, seldom used. I do not know anything of its origin, but it has been in existence at least forty years, probably more. In appearance it much resembles Gloria Mundi, which is at least a century old. Lord Derby is a first-class kitchen apple in use up to Christmas, and one that should be more grown, as it succeeds generally where most other sorts do, crops freely, and grows to quite a large size. It is, perhaps, not so attractive as some because of its prominent ribs or crowns, which stand out toward the eye, and detract somewhat from its appearance. The colour, too, a dense dark grass green, is not attractive, and that means much in a kitchen apple with those who are not conversant with the individual quality or peculiarities of certain varieties, either in colour, growth, cropping, or quality. In a market apple a fine outward appearance has much to do with its success. Where Lord Derby is known there is no trouble at all with its sale, and it should be much better known than it is. When kept its green skin changes to a golden hue, displaying then its few russet dots, with an occasional line of the same colour, but as a rule it is quite yellow when kept. The tree is of hardy growth, and, owing to its upright habit, is best suited for bush culture.

E. Molyneux.



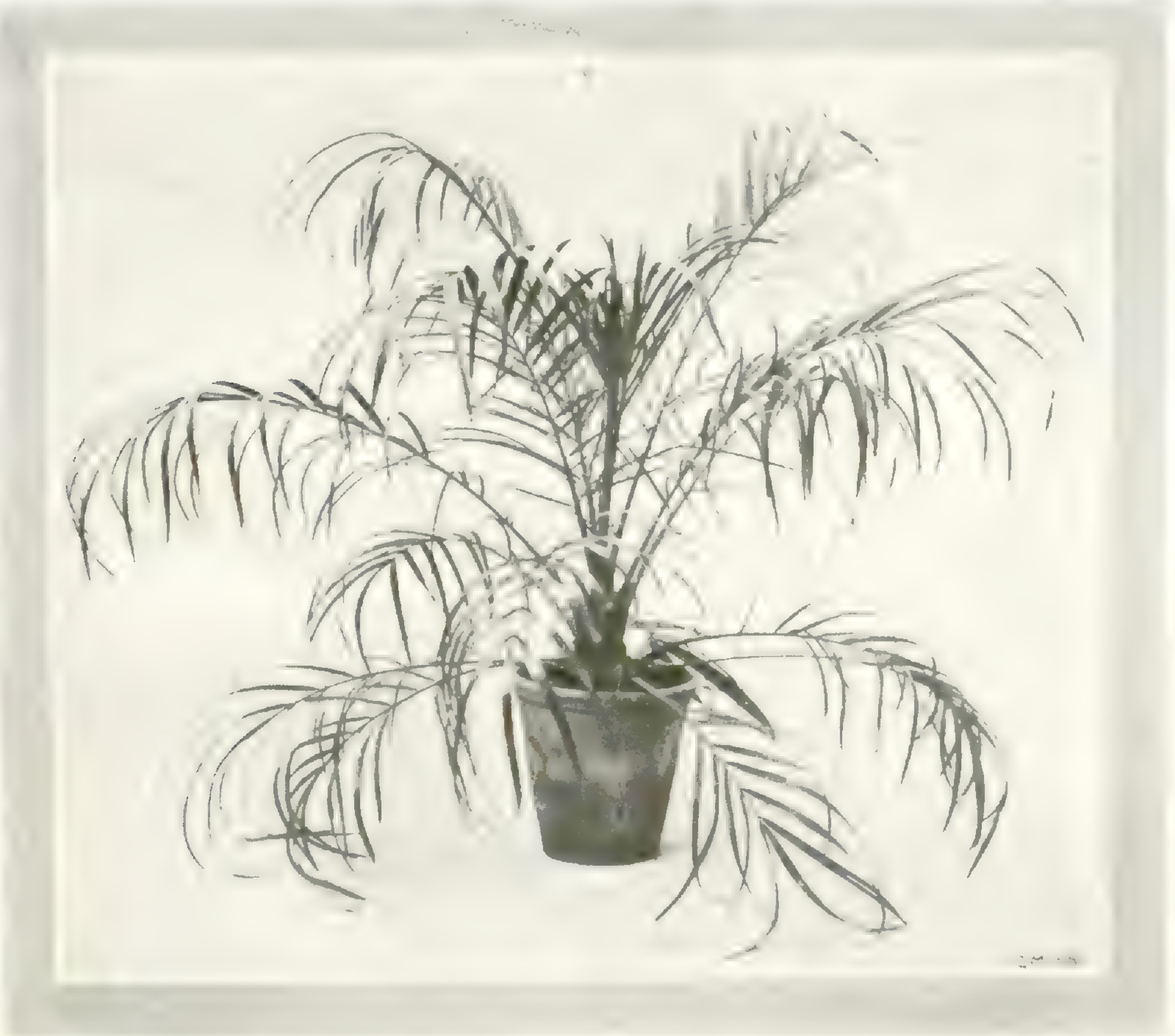
COOKING APPLE LORD DERBY.

HARDY PLANT CHAT.

◆

Campanula latiloba.

This old bellflower does not appear to be so largely cultivated as a number of years ago, or, at least, the proportion of gardens in which it is to be found is smaller than at one time. In all likelihood the improvements effected in the fine C. persicifolia have tended to throw C. latiloba, still known as C. grandis, into comparative neglect. But I always think that it is a really fine plant when well treated, and that the indifference with which it is frequently viewed is due to the fact that the most has not been made of it. When properly cultivated this campanula is a truly handsome flower, the white variety especially being an excellent ornament of the border of hardy flowers. It is a stately plant, this bellflower, and is very fine indeed, when grown as it should be, and sending up stems three or four feet high clothed with large open saucer-shaped flowers of a fine blue or a wax-like white—wax-like in texture and glossiness, but purer in colour, and arranged, a little stiffly perhaps, along the stem.



PHŒNIX ROEBELINI.

The secret of true success with C. latiloba is to divide it annually, or, at least, every two years, as, if left alone, it will make mats of small leaves, and will only send up a very few spikes for the size of the plants. If divided and replanted in rich, well-manured soil, the plant will be certain to please the admirer of the stateliest campanulas—flowers which ever appeal to the gardener by their presence and their beauty.

The Cupidone.

Occasionally one sees what may be called a "fuss" made about the Cupidone, as Catananche cærulea is called by many, but it is as well for those who care for hardy flowers to know how far this is justified. So far as the value of the cut flowers are concerned, this is a plant which may be cultivated, inasmuch as the blue flowers of the type, and the blue and white ones of the variety called bicolor, are extremely useful, though small, while the fact that they last long when cut adds to their value. But I never think the cupidone of much appearance in the garden, as the long, thin stems are out of proportion to the size of the blooms they carry. Then I haven't found the plants so hardy as one would like, and have occasionally lost them in very hard winters when cultivating them in a cold garden.

Tyermann's Marsh Marigold.

I often think, as I see the golden flowers of the single and double marsh marigolds, of the lines of Tennyson, where he says: "The wild marsh marigold shines like fire in swamps and hollows gray," and reflect that we do not sufficiently admire the single-flowered forms in our gardens, but are inclined to lavish our affection upon the double varieties. These are very fine, and last longer in perfection than the singles do, but they have a lumpiness inseparable from blooms such as these are, while the single ones have more elegance of form. The singles are, however, too common in many parts of the country to be sought after as garden flowers, but there is, I consider, room in the garden for one or two of the finer form or with larger flowers than those of the ordinary Caltha palustris.

This desideratum is now obtainable in the form of Caltha palustris Tyermanni, which is offered by the trade, and is, so far as I know, the finest single variety in cultivation. It is a handsome plant in every way. The flowers are large, and of a splendid golden-yellow, and their fine form renders them especially acceptable to many. The plant itself is partly prostrate, and the flowers are freely borne.

Of course, the fact that the marsh marigold is a lover of the water, and does best with its "feet" in that element, makes it less effective in the dryish border, but in one which is not too dry it will give flowers of fair size, and the plant will grow fairly well. Tried, however, in a foot or so of water, it will astonish those who see it when they find how effective this variety of an old favourite wild flower will become.

Papaver orientale Jenny Mawson.

Those of us who frequent the Temple Shows and other exhibitions where hardy flowers are largely shown can well recollect the changes which have come over the Oriental poppy within recent years. We can remember the advent of such a flower, for example, as Blush Queen, now almost relegated to the rubbish heap, and how we found what seemed the acme of perfection in the way of scarlets in the grand P. bracteatum, not yet easily superseded by the many fine scarlets we now have. But it is in the softer shades that the change is more noticeable, and we must all have followed with increasing delight the fresh introductions of several raisers.

Defects have been eliminated and colours made brighter and clearer, and thus the whole standing of the gorgeous and exquisite Oriental poppy has been elevated. In Jenny Mawson we have one of the most beautiful of all. It gives us truly lovely flowers of a beautiful salmon-rose, well supported on stout stems, and yet possessing all the delicacy of texture and the apparent fragility we always associate with the poppy. I have grown it for a few years—before it found its way into trade circles, in fact—and I annually admire its lovely flowers, and congratulate myself upon the possession of this exquisite poppy.

S. Arnott.

PHŒNIX ROEBELINI.

Many of the date palms are very suitable for conservatory decoration and other purposes, but very few are sufficiently elegant in a small state to be used on the table. One species, however, is useful in this respect, and has an elegance that places it in the front rank of decorative palms. This is Phœnix Roëbelini. For many years this palm was very scarce in cultivation, but latterly it has been raised from seeds in fair numbers, so that now it can take its place with Cocos Weddelliana and Geonoma gracilis for table decoration. That it will not suffer by comparison a glance at the accompanying illustration will show: this represents a plant recently exhibited by Messrs. W. Cutbush and Son, Highgate, one of very many beautiful specimens in 40-sized pots.

Phœnix Roëbelini is a native of Siam, and was introduced into this country by M. Roëbelini, of Manilla, and it was first submitted to public notice at Messrs. Protheroe and Morris's sale rooms in the autumn of 1889. The next time it made its appearance in public was at a meeting of the Royal Horticultural Society, held on March 11, 1890, when it was exhibited by Messrs. B. S. Williams and Son and by Messrs. Sander and Co., and was awarded a First Class Certificate. It is a slow-growing and dwarf species, and needs stove culture.

Digging and Trenching.—On all light land this work should be pushed forward with all possible speed. Ground of a retentive nature can be treated likewise should dry and frosty weather set in. When trenching, place the green and long manure in the bottom of the trench, and the decayed manure under the top spit; leaves and grassy material can with advantage be used in the bottom trench also. When digging or trenching at this season always leave the surface in as rough a state as possible. To gain this end we should never shovel out when trenching, but rather take an extra "draw," or "spit," with the spade or fork to reach the arranged depth, whether bastard trenching or double digging. The whole of the soil will remain much more porous treated so.—G. E.

NEW PLANTS, ETC.

VANDA CÆRULEA BLUEBEARD.

A very beautiful and large-flowered variety of this increasingly popular vanda. The flowers are shapely as well as large, and the colour is clear rich blue, with some paler markings between the veins, while the lip is intense violet-blue. A.M., R.H.S., December 6. Lieut.-Colonel Sir G. Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

CYPRIPEDIUM WATERLOO.

A large and very bold cypripedium, derived from C. Mrs. Mostyn and C. Ranjitsinjhi. The big white dorsal sepal has a large bright purple base, and the petals and lip are yellowish-green, shaded with rich brown. A.M., R.H.S., December 6. Mr. E. V. Low, Vale Bridge, Haywards Heath.

ODONTOGLOSSUM CERES PLUMPTON HALL VAR.

This is a delightful hybrid between C. Rossi and C. Rolfæ, and is the finest form of this hybrid yet seen. The flowers are of fair size, and have white sepals and petals, barred over the basal half with red-purple. The broad and conspicuous lip is rose-pink. A.M., R.H.S., December 6. W. R. Lee, Esq., Plumpton Hall, Heywood, Lancs.

ODONTOGLOSSUM ROUGE DRAGON.

A handsome odontoglossum, obtained from O. Phœbe and O. ardentissimum. The spike shown was a large one, and carried shapely flowers, pale rose, with whitish tips, and very heavy crimson blotches. A.M., R.H.S., December 6. W. R. Lee, Esq., Plumpton Hall, Heywood.

CHRYSANTHEMUMS.

December Gold.—A splendid Japanese market variety of excellent size, graceful form, and refinement. The blooms and petals are firm, and travel well. The colour is very deep gold, some flowers being lightly flushed with orange, thus intensifying the shade. F.C.C., N.C.S., December 5. Mr. Norman Davis, Framfield.

Lady Furness.—A charming single variety, with rounded flowers of fair size. The colour is bronzy-buff with a salmon flush and a paler zone round the centre. F.C.C., N.C.S., December 5; A.M., R.H.S., December 6. Messrs. W. Wells and Co., Merstham.

Mrs. Gilbert Drabble.—This is a very fine ivory-white exhibition Japanese variety. The blooms have depth, grace, breadth, and solidity. The florets droop somewhat, and curl up prettily at the tips. F.C.C., N.C.S., December 5; A.M., R.H.S., December 6. Messrs. W. Wells and Co, Merstham.

Cissie Rungay.—A very pretty single variety. Commendation, N.C.S., December 5. Mr. Thomas Stevenson, Woburn Place Gardens, Addlestone.

Jack.—A bright single variety of great decorative value; the flowers are chestnut-crimson and gold. Commendation, N.C.S., December 5. Mr. Thomas Stevenson, Woburn Place Gardens, Addlestone.

Phœbe.—A decorative variety of rich pink colour; probably a good market sort. Commendation, N.C.S., December 5. Mr. H. W. Thorp. Worthing.

BEGONIA GLOIRE DE LORRAINE ROCHFORD'S VAR.

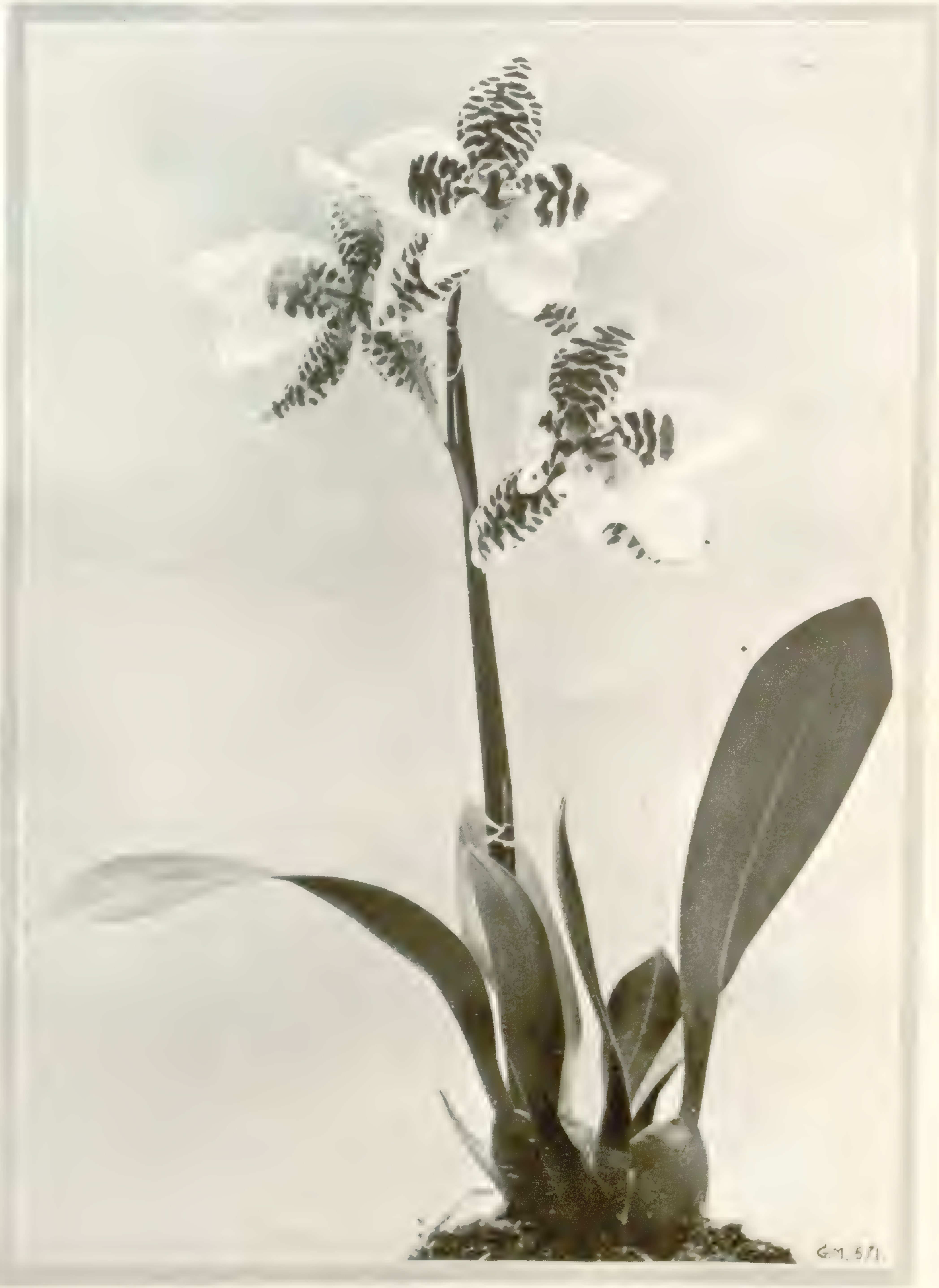
In this variety the colour of the flowers is far richer and deeper than in any other of the sports yet placed before the public. There is a red or crimson flush over the deep rose ground colour, and doubtless under artificial light the shade would be particularly effective. A.M., R.H.S., December 6. Messrs. Thomas Rochford and Sons, Broxbourne.

HONESTY.

This hardy, old-world plant (Lunaria biennis) is still worth growing, though some object to the magenta colouring of its so-called crimson and purple varieties. The white form, however, is so weed-like and characterless in appearance, in my opinion—though many take the opposite view—that I never grow any but the brighter varieties, taking care not to let them flower where their colour will clash with that of anything near it, as it will do with flowers of a red or purple colour, such as wallflowers, aubrietia, red tulips, and the like. It has the great merit of growing practically anywhere, alike in sun or shade, in the driest as in the wettest places, though in the last-named it sometimes comes through a severe winter badly. It reaches its greatest perfection on light chalky soils. As it will produce some effect where few other things will thrive we need not give up good situations to it.

It is a true biennial, no sowing, however early, producing flowers the same season, while the finest flowering plants of all are produced by those which fail to flower the year after they are sown. It is only worth a place in the flower garden proper when well grown, and a little care should be used to obtain large plants by sowing the seed early in the spring, and thinning out the seedlings. It should be sown every spring, as it cannot always be trusted to sow itself, at least where one wants it, possibly because of its large seeds, and it is a typical crucifer in its dislike of being transplanted. It need not be pulled up when flowering is over, as it does not become untidy, and the seed pods look rather handsome during the summer, besides being useful for winter decoration when mixed with winter cherries, gladwyns, and other kinds of berries. It is essentially a plant for the wild garden, in shady situations amongst trees and shrubs, and on dry banks.

Alger Petts.

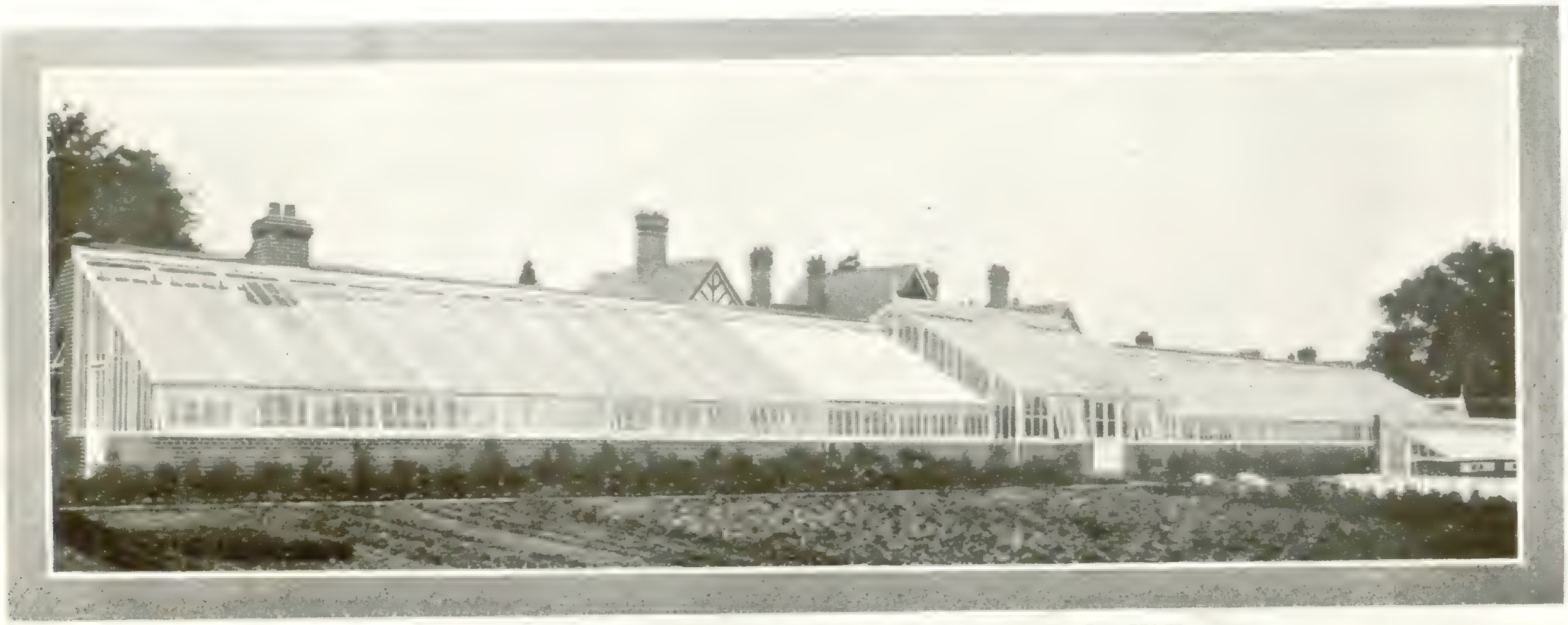


ODONTOGLOSSUM CERES PLUMPTON HALL VAR.
Flowers white, with red-purple markings and rose-pink lip. A.M., R.H.S., December 6. W. R. Lee, Esq., Plumpton Hall, Heywood, Lancs.

"CHRYSANTHEMUMS AND HOW TO GROW THEM FOR EXHIBITION," by J. B. Wroe.—Full details on timing and stopping for Northern, Southern, and Midland growers, selections of the best varieties, illustrated instructions on taking the buds, cuttings, staging, etc. Prices 1s. net, by post 1s. 2d.; cloth, 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

DESIGN IN FRUIT HOUSES.

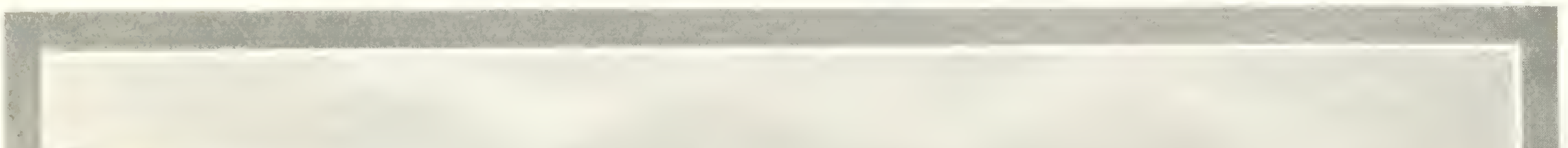
For the purpose of adding to the utility, which is great, of the article on fruit houses, that Mr. Charles Foster has contributed to the present issue, we have thought it desirable to illustrate a few structures that have been built in different parts of the country within a comparatively recent period. The houses have been erected by some of the leading firms of horticultural builders, whose work is well known for elegance of design and the excellence of materials and workmanship, and accordingly represent fruit houses of the highest class.



A RANGE OF FRUIT HOUSES WITH PLANT HOUSE.
Erected by Messrs. Messenger and Co.

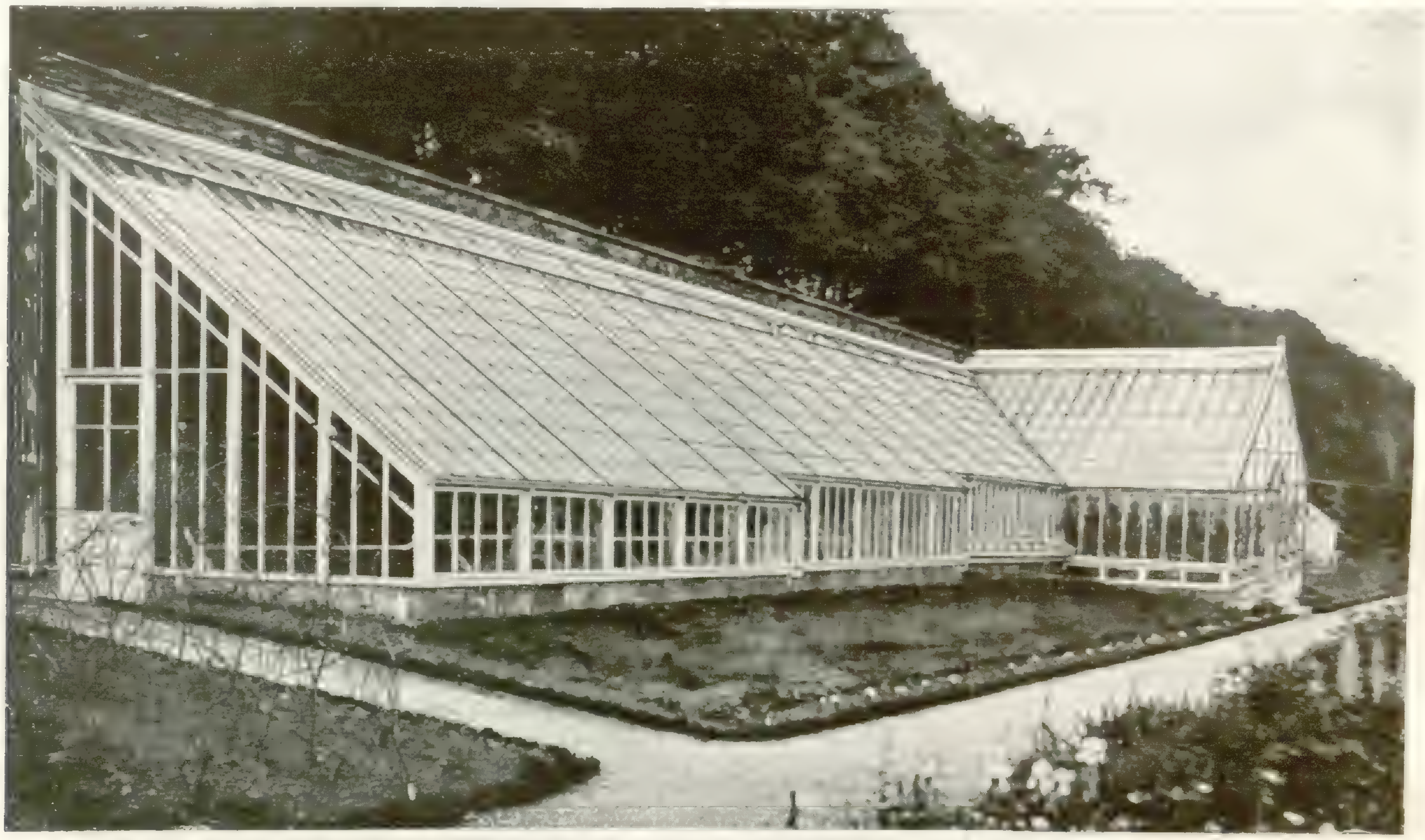
In visiting gardens in different parts of the United Kingdom many examples of the excellent work of Messrs. Messenger and Co., of Loughborough, have come under our notice, and while in no way wishing to suggest that the range herewith illustrated is the best of these, we would direct special attention to it as one that has much to recommend it. Here we have lean-to vineries, peach houses, and other structures devoted to fruit culture adjoining each other, an arrangement that readily admits of those in charge passing from one to the other without loss of time, a point of no small importance early in the spring when there is a rapid change in the weather conditions, and the growth is so tender as to be highly susceptible to injury from outbursts of sunshine, or a lowering of the temperature outside, and the ventilation has to be regulated with the greatest degree of nicety. Moreover, this arrangement permits of the houses being entered without the admission of cold currents of air, and of the whole of the structures being heated from a single boiler if so desired. The range, it will be seen, is broken up by a half-span house which can be utilised in the cultivation of flowering and ornamental-leaved plants, or be devoted to the various classes of fruit. For example, grapes, peaches, nectarines, or figs may be planted in borders, and have their growths trained to trellises, as in the case of span-roof houses occupying similar positions, or they may be utilised for pot trees. On several occasions, when visiting gardens in which the glass structures have been erected by this well-known firm, we have found the span-roof houses forming part of ranges devoted to the growth of fruit trees in pots, and these have not only been distinct and interesting features, but the trees have contributed their full share to the fruit supplies. We need hardly say that the system of ventilation is of the best, both as regards the regulation of the admission of air in accordance with the requirements of the occupants of the houses, and the rapidity with which the ventilators can be opened and shut, a point of much importance early in the year.

If there had been an occasion to institute comparisons between the relative merits of the various kinds of fruit houses that have a place in gardens, it would unquestionably be necessary to assign the most prominent position to those devoted

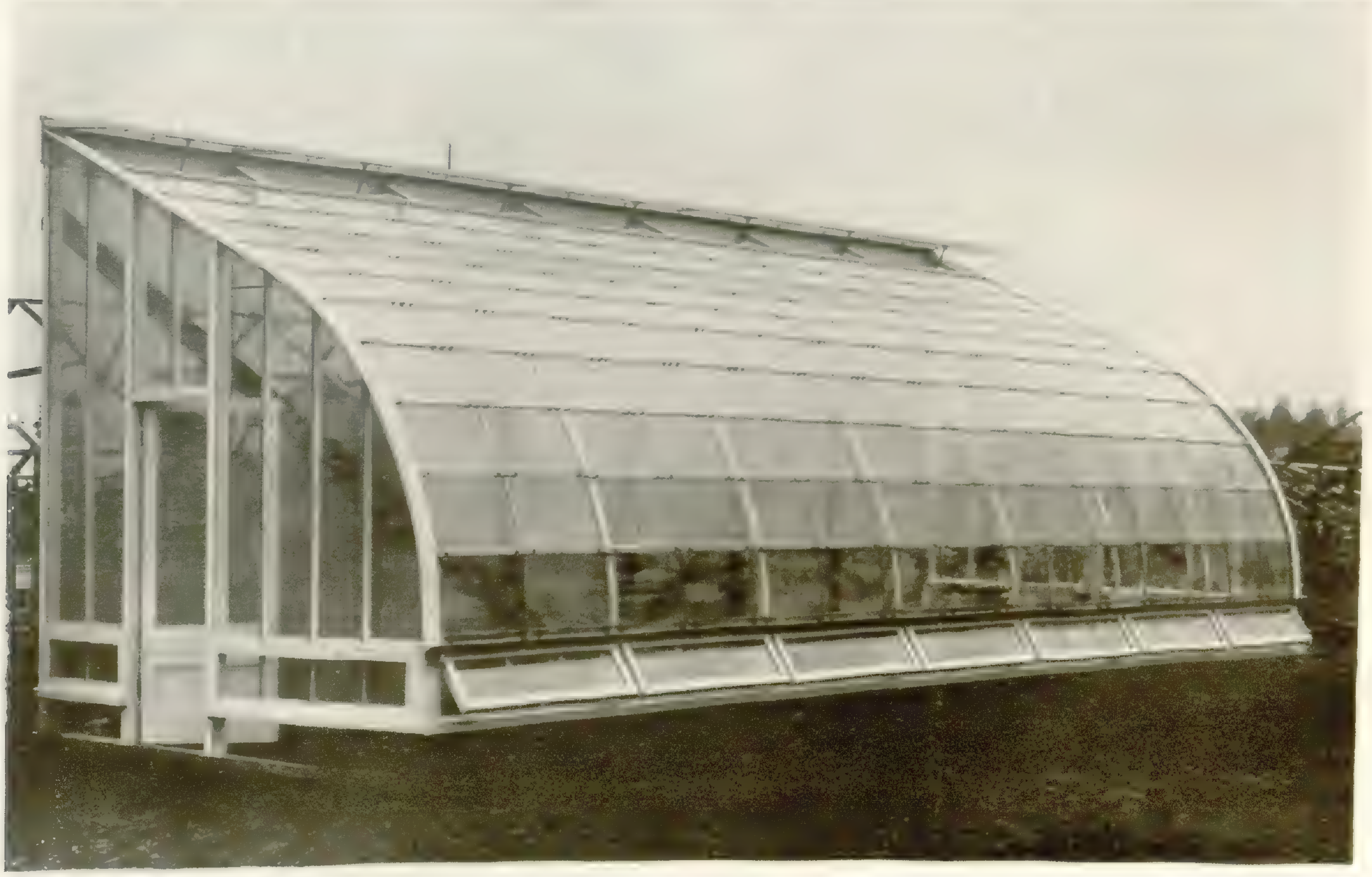


A RANGE OF VINERIES.
Erected by Messrs. A. Richardson and Co. in the Gardens of Syon House, Isleworth.

to the production of the supplies of grapes. Peach houses would probably rank next in importance, and, having regard to their rapid increase, it may be that in a few years hence they will, in point of numbers, more closely approximate the vineries than is now the case. For the present, the latter enjoy the pre-eminence both as regards numbers and utility. This is in a large measure explained by the fact that grapes may be had in the best possible condition over a longer period than any of the other fruits grown under glass, and in some degree by the greater popularity of the fruit. Having regard to the facts thus briefly stated, it is evident that vineries are essential to the proper furnishing of gardens in which fruit culture under glass is conducted, and that their selection, furnishing, and management form by no means the least important of the duties of the general body of gardeners. This being the case, the illustration given herewith of the remarkably fine range of vineries recently erected by Messrs. Richardson and Co., of Darlington, in the gardens of Syon House, the seat of the Duke of Northumberland, can hardly fail to prove useful. At one time iron houses predominated in these gardens, and in calling these to mind, it is impossible to avoid being impressed with the advances that have been made in the construction of glass-houses of late years. The illustration shows that the vineries in the Syon House gardens are elegant in design and spacious, and we would add that the arrangements for heating and ventilation are as nearly perfect as one can hope to see them. We have seen in other gardens vineries built by this firm, and, if some have differed in design they have all been equally elegant and adapted to the production of grapes of the highest quality. Many structures for the production of other kinds of fruit have come under our notice which have been so admirable in design and construction as to well deserve special mention. Space, however, will not



A RANGE OF LEAN-TO FRUIT HOUSES WITH SPAN-ROOF PLANT HOUSE IN CENTRE.
Erected by Messrs. Mackenzie and Moncur at Dalmeny Park, Linlithgowshire.



A CURVILINEAR ORCHARD HOUSE.
Erected by Messrs. Saunders and Biss.

admit of our doing more than refer to the numerous fruit and other houses that have been built by Messrs. Richardson and Co. in the Royal Horticultural Society's Wisley Gardens, which are especially deserving of attention.

The range of fruit houses erected by Messrs. Mackenzie and Moncur, of Edinburgh, in the gardens of Dalmeny Park, Linlithgowshire, the seat of Earl of Rosebery, and herewith illustrated, affords an excellent example of a style of arrangement that should be adopted when, as in this case, a considerable number of houses can be built to adjoin each other. It will be seen from a glance at the illustration that the structures, while substantial, are sufficiently light in construction to allow the grapes, peaches, and other fruits to receive the maximum amount of light throughout the various stages of development of growth and fruit. The range consists of six lean-tos and one span roof, the latter being deserving of attention for its value in breaking up the uniformity characteristic of a long range of houses of exactly the same height and thereby improving the general effect. The span-roof division is found especially useful in most gardens for the cultivation of palms and other tall-growing plants remarkable for the beauty of their foliage or elegance of appearance required for indoor decoration, but it could, of course, be used as a vinery or fig or peach house if so desired. This is a fine example of the fruit houses built by this well-known firm, and in directing attention to them as especially suitable for gardens generally, we must not lose sight of the fact that they represent but one of the many different forms of houses built by the firm.

The system of zinc bar dry glazing introduced by Messrs. Saunders and Biss, of Exeter, upwards of a quarter of a century ago, has proved so admirably adapted to fruit houses of all kinds, as indeed to other classes of horticultural structures, that it continues to steadily increase in favour among owners of gardens and among also those engaged in the management of gardens. It is claimed for this system of glazing that, as the zinc sash bars cause but little obstruction to the passage of light, the fruit trees are placed under the most favourable conditions for perfecting their growth and bringing their crops to maturity, and that in like manner ornamental plants are able to attain their highest state of development. Also, that, as no putty or paint on the outside of the roof is used, the cost of maintenance is materially reduced. Briefly stated, the roofs glazed in accordance with this system consist of rafters of a strength carefully adjusted to the length of the roof, and these support strips of deal, which are fixed at a distance apart that is regulated by the length of the squares of glass used in covering the roof. These latter are held in position by the zinc sash bars, which are fixed at the ends to the cross-pieces. When the sash bars are in position the glass is slid into the grooves or clips, and made secure by means of two simple yet ingeniously devised clips, one of these, as shown in the accompanying illustration, being placed at each of the lower corners. The system of zinc bar dry glazing does not place any restriction upon the taste or judgment of the designer, as exemplified by the various forms of structure that have come under our notice when visiting gardens. Span roof, half-span, and lean-to structures for the various kinds of fruit that are usually grown under glass are erected by the firm, and, judging by the results, answer their purpose admirably. We have selected for illustration an orchard house, with a curvilinear roof, which not only shows the manner in which the houses are glazed, but it represents a form of house that has much to recommend it as an aid to the production of abundant supplies from pot trees of peaches, nectarines, plums, pears, and other fruits usually grown in the orchard house. With an unbroken area of glass from the apex to practically the ground level the trees enjoy uninterrupted light, and the arrangement of the ventilators is such as to admit of a free circulation of air being maintained.

PROBLEMS UNDER CANVAS.

Inconsistency seems to be the outstanding feature of Mr. E. Molyneux's recent criticism of my recent article under the above title, for in one part thereof he observes that judges should carry out the published stipulations to the letter, and in another he allows a secretary to accept entries at the last minute in face of published stipulations that these should be sent in at a certain time.

Your correspondent seems to have a poor opinion of his fellow-gardeners, for he says, "Too often the professional in committee-men shows too plainly that position in the prize list is nothing to him outside the monetary value of the prizes." Perhaps there is some reader of the Gardeners' Magazine, a professional gardener, an exhibitor, and member of a show committee, who can say a word in answer to the above strong charge. For the special information of Mr. Molyneux, who appears to have a marked capacity for jumping at conclusions, I would say that my experience as a judge at what he calls ordinary shows, both single-handed and with others, is not so limited as he thinks, and I suggested the point cards for collections as the result of that experience. I am quite aware that in a good many cases it is not necessary to point collections in order to arrive at a correct decision in the awards, but there are numerous instances where such a course is necessary, and, irrespective of absolute necessity, I recommend it all the same, not for the purpose of appeasing disappointed exhibitors, but in order to indicate to them where their weak points lie. This information, I contend, is nothing more than an exhibitor's due. Mr. Molyneux talks about wasting valuable time, but it would not take as long to jot down points on cards provided for the purpose as it would to hang around after the awards are made for the purpose of explaining matters that exhibitors do not understand, and it very often happens that when an exhibitor is looking for the judge in order to have that two-minutes' conversation with him, which your correspondent suggests, the judge has gone home, or is engaged elsewhere.

I do not know what Mr. Molyneux means by saying that "too often awards are made on a basis that requires much more explanation than such judges can give." Surely if a man cannot explain the reason why he gives a certain decision he is not competent to judge, and is like the umpire in the village cricket match who when pressed to explain a decision observed, "I'm umpire, and when I say out, why out he goes."

In reference to the debatable point brought forward in the article which started this discussion, does Mr. Molyneux contend that flowers of every shade of colour which one gets from a packet of seed, of such an annual as Phlox Drummondi, for instance, are distinct varieties? H.

Hardy Clethras.—For a cool, moist spot such as azaleas and rhododendrons delight in, the Clethras are well suited. One great recommendation is the fact that their sweet scented blossoms are borne at the end of the summer and early autumn. They belong to the same order as the azaleas and rhododendrons, but are in general appearance widely removed therefrom. They all form open bushes, usually from 3 to 5 feet in height, clothed with rough leaves, thin in texture.—W. T.

DEEP CULTIVATION.

The leader on page 951 on the above subject is opportune, and so covers the whole range of practical knowledge and methods of carrying it into effect that there seems little to add to what is already so well said. In vegetable culture especially is the value of deep cultivation apparent. When we see the plot of ground on which the giant onions are grown gradually rising above the surface level until the soil is quite a yard higher than the surroundings, there is no disguising the fact that deep cultivation is important, because in the first place there is this yard of added material in addition to the yard below that has been trenched previously. It is common practice now to grow the onions on the same plot for many years. In the same way can potatoes be grown quite successfully on the same site for thirty years at least. Although it has become a recognised practice to plant and sow various crops in rotation there is not the necessity for this changing of crops annually that many would have us believe. The point that must not be forgotten is to return those constituents to the soil that the previous crop has carried away, because plants do not live upon the soil itself, but upon what it contains.

Of course, the manner in which deep cultivation—trenching—is carried out, so much depends upon the kind of soil a person has to manage. I am a staunch believer in trenching heavy soils, but I do not agree with the few who advocate bringing the subsoil to the surface. No advocate of the latter method has yet given a practical common-sense reason for so treating soil; they tell us to do so, and leave the pupils to work out their own salvation. I know there are some who advise and carry out the teaching, but how do they carry it out. Why, they cover the surface so thick with compost (of the kind described in the leader) for the first season that plant life does not need to exist upon the subsoil from the bottom of the trench, because the surface dressing is so ample, and when this is dug over after the crop is taken, the late subsoil is converted into a good medium for plants, and as time for the second crop comes round the same surface-dressing is practised. This method is quite of a practical character, but who beyond the rich can practise such a method?

This is not sound teaching for those who are handicapped. Far better keep the subsoil at the bottom adding to it light material as often as possible. Trenching is not practised because it provides an additional source of plant food, but because it not only warms the soil by the admission of air, but provides a quick means of drainage, which is a boon in some soils where the hard pan of subsoil prevents percolation of surplus water, thus setting up a basis for canker in fruit trees, disease in larch timber, and general stagnation in all growth. The non-practical person will hardly believe how the trenching of soil affects the growth and quality of larch trees; nine-tenths of the canker among the trees is mainly due to a subsoil that is not congenial to growth. Strange as it may seem to some, gardeners especially, the trenching of soil is distinctly injurious to the wheat crop. This plant must have a firm basis for growth; a loose soil beyond 9 inches deep induces a too gross growth, which results in abortive ears, owing to the production of too much straw; maturity in the wheat plant is a necessity, and gross growth prevents this. So farming practice sometimes differs from that of the horticulturist. E. Molyneux.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

WINTER-FLOWERING PLANTS.—It frequently happens that the greatest demand for plants in flower in private gardens is during the months of December, January, and February. Forced bulbs cannot be used for all purposes, but many of the commoner kinds of orchids are available for this season. I have already pointed out the advantages of the winter-flowering cypripediums, which carry us over the period above-mentioned. We have also the deciduous calanthes, and such familiar forms as C. vestita and C. Veitchi, are grown extensively for this purpose, even where there is no pretence to cultivate orchids. There are two others that may be added to the above-mentioned kinds, for they are in every way worthy of consideration; these are Calanthe William Murray and C. Bryan. It is generally found that these give more satisfaction than can be obtained from C. vestita.

CŒLOGYNE CRISTATA, where grown in pans or small pots, is useful for decorative purposes, and the larger specimens furnish a supply of cut flowers during January or February. The plants of the different varieties of this species should now be placed in an intermediate temperature, or even warmer conditions should the flowers be required earlier, and the necessary encouragement afforded to assist them to develop, and expand their flowers. In the neighbourhood of London and other large towns, where fogs and impure atmospheric surroundings have to be contended with, C. cristata is not an easy subject to deal with. There is nothing more detrimentally affected by fogs. The flower scape, should it be in a forward state, turns black, and becomes filled with moisture, which generally destroys the flowers. We used to find it desirable in the London area to keep the cœlogynes as cool as possible until the middle of February, so that by retarding them the blossoms escaped the disastrous effects of fog.

DECIDUOUS DENDROBIUMS. — The great advantage of growing a number of plants of the different kinds of dendrobiums is that one is able to maintain a succession of flowers from January to late in the spring. Many of the plants that finished their growth early in the autumn are at present showing their flower buds, and they need but little encouragement to induce them to develop rapidly. The danger with the early-flowering plants is a too liberal treatment, therefore care must be observed not to give too much heat or excess of root moisture until the flower buds are to be distinctly seen. Extreme liberal treatment before this period turns the flower buds into growths, so that young plants are produced instead of flowers. If the most forward kinds are selected at regular intervals there is little difficulty found in keeping up a succession of flowering plants.

LYCASTES, such as L. Skinneri, L. Deppei, L. aromatica, L. plana, L. gigantea, etc., will have their flower buds in different stages of development, and by careful treatment they may be induced to give flowers over a lengthy period, as the flowers are exceedingly durable. The white Masdevallia tovarensis is a charming plant for edging groups, and is exceedingly useful for cut flower purposes.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

CALADIUMS.—For the convenience of removal for house washing, etc., and for ease in storing, it may be advisable to shake the caladium corms out of the soil, and store them carefully in dry sand, and, if the boxes or pans are placed where there is no danger of moisture, there will be no fear of rotting during the rest of the winter months. This system of storing is particularly adaptable for the small growing varieties, such as C. argyrites, C. minus erubescens, etc., etc., but neither must be removed from the warm house.

ACHIMENES.—These are quite dormant by now, and may be accorded the same treatment as caladiums, storing the small corms in shallow pans or saucers. Gloxinias may also be served in the same way, though here again boxes may be used, and the two latter subjects may with advantage be removed to a warm dry shed. This will save a great deal of time shifting them about when the time comes for washing the houses, and where they are left under stages, etc., they are very apt to get a good wetting, with the result that they commence growing again long before they are required.

FLOWERS. — When poinsettias are cut down they may be removed to a cooler house, thereby making room for any batches of lily of the valley, hyacinths, spiræa, etc., that may need forwarding for Christmas and the New Year; at this season house parties, etc., prove a great drain on the resources of the plant houses, so that every effort should be made to keep up an adequate supply.

ADIANTUMS.—Where these are grown in the stove during the greater part of the year it is advisable to give them a rest, and the present is about the best time to do this, so that all those that are not actually throwing up young fronds may with advantage be removed from the stove to a drier and cooler house. This hardening will not be in any way detrimental to the fronds that are in good condition on the plants, and these may be cut as required, after which the plants may receive rather less water for a time, and if kept in this state till about the end of January they will be in good condition for potting on or splitting up, and will then grow all the better for this short period of rest.

CROTONS, DRACÆNAS, acalyphas, aralias, panax, etc., that may have been used in the house, and have lost their leaves somewhat, should, if required for stock purposes, be cut down on returning them to the stove. If they are thoroughly cleansed, and kept fairly dry for a time, they will soon begin to push forward young shoots, which will make good cuttings for February striking, though in the case of the aralias they will need to be worked on to stock plants of Aralia Guilfoylei or A. reticulata, either of which strike very easily, and if a few cuttings of these two latter are put in from time to time during the year, a good stock of those beautiful table plants, A. gracillima, A. elegantissima, or A. leptophylla can be kept up by grafting. These last three may be struck from cuttings, but it is a very slow process, and such plants bear no comparison with those that are grafted. — Thomas Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

SUCCESSIONAL AND LATE FIGS. — These, and the houses containing them, should be now thoroughly cleansed upon the lines recently directed for early forced trees. If the disbudding and stopping of shoots was in due season skilfully executed, there will be but little pruning to attend to, and in cases where these details of management have been neglected the pruning required will chiefly consist of removing weak and badly-placed shoots, and immature points of those reserved. These failings usually result from the shoots being allowed to become crowded, or from the structures being in unsatisfactory positions, or imperfectly ventilated, whereas shoots kept properly thinned, and their leaves well exposed to air and light, become sturdy, well matured, and fruitful. Trees that have made unsatisfactory strong, pithy growths are unlikely to produce good first crops of fruit, and the evils should be corrected by attention to root-lifting and pruning, fresh compost, and the rectifying of imperfect drainage. During the time the trees are at rest the temperature of the house should be kept cool, merely excluding frost, and the borders be given no more water than is sufficient to preserve the soil in a slightly moist state.

EARLY VINES IN POTS.—As the growths advance gradually disbud the surplus ones leaving the completion of the operation until the best bunches can be discerned; meanwhile remove from each lateral any surplus bunches it may carry, and when the laterals are of sufficient length stop them at two leaves beyond the bunches, the sublaterals at one leaf, and merely keep them from contact with the glass until they are strong enough to be safely secured to their trellis. The vine's reserved sap having at this stage become exhausted, closer attention to watering, with tepid water, will be necessary, with the addition of weak supplies of liquid manure, or light top-dressings of suitable artificial compounds. The night temperature should now be about 60 deg., and that by day 10 deg. higher. On fine days, at closing time, spray the vines overhead with tepid soft water, and maintain a moderately moist atmosphere by damping the floors, etc.

VINE BORDERS. — Grapes of the best quality are produced by vines growing in borders that are in various respects widely dissimilar, therefore a would-be cultivator of the vine need not hesitate to plant, or despair of obtaining good results, even if circumstances do prevent him from fully carrying into practice the advice concerning them usually recommended by good practitioners. If borders have not already been made for vines to be planted next spring, they—preferably inside ones—should be now attended to, in order that they may become consolidated and warm before planting time arrives. It is invariably a good practice to concrete the site, and with a view to prevent an accumulation of water, place upon it a suitably-arranged four-inch tile drain, then place over the whole surface of the concrete one foot of brick or stone rubble, covered with turves with their grass side down. Upon this foundation place from 2½ft. to 3ft. of compost, sufficiently dry to admit of its being made tolerably firm by treading, without its becoming pasty. It is also advisable to make the border in sections of about 4ft. in width, until the space is filled as required. A good compost consists of roughly-broken turfy loam, free from wireworm, and taken in preference from chalky or limestone formations, to which, according to its texture, should be added in a greater or lesser degree finely broken-up old mortar rubble, wood ashes, or carefully charred suitable garden refuse and finely-crushed bones.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

PARSNIPS.—These are always superior in flavour if left in the ground for some time to come, but as the season advances continuous frosts may be expected at any time, and it is then very advisable to take up a quantity for use, and store in a cold place where they will be easy to get at.

JERUSALEM ARTICHOKES can be treated as advised for parsnips on light soils, but where growing in cold, heavy soils they are better dug and placed in small mounds free from slugs and frosts.

TOMATOES.—The strongest of the young seedlings will require potting, and the others can remain in thumb pots until the New Year; do not over pot. Replace them on a shelf near the glass in a temperature of 55 degrees, or thereabouts, and keep them rather dry. Fruiting plants should be subjected to the same treatment, and once a week will be found quite often enough to apply water.

CUCUMBERS that are fruiting must at this season be cropped very lightly, and the fruits cut early to maintain the health and energy in the plant so essential for the next two months, maintain a humid temperature from 60 to 65 degrees.

MINT AND TARRAGON.—Continue to introduce batches into the forcing pit or warm greenhouse. Boxes are serviceable for the reception of the roots. Mustard and cress, endive, dandelion, chicory, and seakale should be introduced in plenty for the approaching festive season, and the New Year.

GENERAL.—Remove all leaves, and all remains of crops to the rubbish heap, and make the paths and spare plots as neat and tidy as is possible until digging, etc., can be accomplished.—George Ellwood, Swanmore Park Gardens.

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EXHIBITIONS AND MEETINGS.

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National Chrysanthemum Society.

(Continued from page 984.)

We now come to the last stage of my lecture—that of staging the flowers for exhibition. This is more important than it appears to be on the surface, and prizes have been won and lost in close competition on staging alone. The largest flowers must be placed at the back and the colours should be arranged as artistically as possible. Clashing of hues must be guarded against, and at the same time as much variety as possible must be aimed at. If the back row contains good deep flowers arrange them so that the top of the second-row flowers just covers the bottom of the back-row flowers. The front-row blooms should be well clear of the board, but at the same time must not be staged too high. All the flowers should be evenly arranged, so that if a string were held in a taut position horizontally over the top of the stand, each flower would just touch the string. Staging incurveds and staging Japanese are quite different matters, and considerably more patience and time is needed on the former than on the latter. Where in Japanese careless arrangement often adds to artistic merit, in incurveds it would be fatal. All through the plant's existence neatness is the great aim.

I will now give a list of what I consider to be the best selection of thirty-six incurved varieties at the present time. In this selection I have considered all the points which go towards perfection in exhibition blooms; but, as some growers invariably meet with success in some varieties, while others experience better results in the culture of totally different varieties, I shall not attempt to keep closely to any order of merit. For if three or four flowers are similar in petal, and are about equal in size, it is simply a matter of opinion as to which is the best of the batch:

Clara Wells.
Buttercup.
Ethel Thorp.
Lady Isabel.
Mrs. G. Denyer.
Mrs. Barnard Hankey.
Duchess of Fife.
Emblême Poitevine.
Daisy Southam.
J. Wynne.
Romance.
Frank Hammond.
Topaze Orientale.
C. H. Curtis.
Triomphe de Montbrun.
May Phillips.
Frank Trestian.
W. Pascoe.
Pantia Ralli.
Fanny Lemon.
Miss Nellie Southam.
W. D. Parkins.
W. J. Higgs.
G. F. Evans.
Boccace.
Mrs. J. Wynne.
Souv. de Wm. Clibran
W. Biddle.
Godfrey's Eclipse.
Le Peyron.
Calypso.
H. Hearn.
Amber Beauty.
Egyptian.
J. Agate.
Ialene.

Buttercup will produce splendid flowers if the cuttings are inserted at the end of March. The plants are allowed to grow naturally, and the first bud which appears is taken, only one flower being grown on each plant. In this case the final potting will be delayed, and a six-inch pot is used.

Mrs. Hankey can be grown in a similar manner, except that the young plants are stopped when they are about three inches high, and then the first bud is taken.

While I am speaking on the indivdual treatment of certain plants, I will also add that

Frank Hammond should be stopped the first week in May, or it will be too late for any exhibition.

Egyptian forms its first crown bud rather late, usually about the first or second week in September. Consequently it should be given a higher temperature than the average variety.

One of the great disadvantages which at present attends the culture of the incurved chrysanthemum is that the dates of most of our exhibitions are too early to be consistent with the full development of the majority of our incurved exhibition varieties. The ideal time for a show is a date a day or two before or after November 15. It really seems a great pity to have to pull out the centres of a great many sorts, for under these conditions they cannot possibly be shown to greatest advantage.

Having come to the end of my lecture, I should like to remark that of late years fewer incurveds have been exhibited at our shows. The true cause of this is rather difficult to determine. It may be that they require more care and attention, more skill in staging and dressing than Japanese, or it may be that they are losing favour with the public. We have now reached a period when popular sympathy is with the Jap., and the single is rapidly gaining the admiration of flower-lovers. A great many people prefer decoration to the formal incurved showboard. But in spite of these drawbacks, I feel sure that if incurved chrysanthemums do gradually assume the fourth place, it will be due to lack of interest, not amongst the public, but amongst the growers. Personally, I should like to see many more entries in the incurved classes of our exhibitions. Interest in them would then revive, their culture would advance more rapidly, and raisers would be encouraged to produce more new sorts every season. At the present time the number of new varieties brought out each year is lamentably small. I believe I am right in saying that the Floral Committee have labelled only one new incurved F.C.C. this season—Ethel Thorp. If we go on at this rate, the progress of cultivation of incurveds will be much slower than that of Japs. and singles. Therefore, let us do all we can to further the advance of one of the most beautiful flowers it is possible to cultivate.

During the remainder of the time at our disposal, I shall be pleased to hear the opinions of those whose experiences have been different from my own, and if any part of my lecture has not been quite clear I shall be pleased to answer any questions on the subject.

DISCUSSION.

Mr. Higgs, in answer to questions, said he would commence to remove the centres of incurved blooms three or four days before the show. Mr. Moorman asked a question concerning damping, but Mr. Higgs averred that incurved blooms suffered little from damp, but Daisy Southam and C. H. Curtis sometimes gave a little trouble. Mr. Ladds said that Emblême Poitevine would damp even during transit in boxes from Swanley to Covent Garden, and asked for a reason for this. Mr. H. J. Jones suggested immaturity of wood, but Mr. Ladds suggested that the hairy excrescences on the petals might bruise neighbouring flowers. Mr. Thomas Stevenson thought that as the flowers were placed in water before being packed they then sweated during their journey. Mr. P. Cragg said that the use of superphosphate in cultivating varieties predisposed to damping would check this tendency in a remarkable manner, and he had found under this treatment (at intervals of three weeks) Emblême Poitevine travelled well.

Mr. Felton expressed his sorrow that so few incurved blooms were now upon the market. Mr. Moorman said that the old mixed classes of Japanese and incurved were responsible for the lack of interest in the latter, as the comparison of the two sections was "odious." Mr. Ladds said that quality for quality incurved blooms realised less money than Japanese. Mr. Thomas Stevenson, Mr. Wells, and others said that the use of vases instead of boards had almost ousted the incurved, moreover, the cost of carriage of long-stemmed blooms——Here both Mr. Jones and Mr. Davis interposed, stating that cultural matters only were under discussion.

A very hearty vote of thanks was accorded to Mr. W. Higgs, and then Mr. Davis came up for cross-examination, but Mr. Davis is such an expert, and had given such a lengthy paper that comparatively few special points were brought out. He considered damping due chiefly to immature growth. Asked whether weak Japanese varieties might be grown two in a pot with success, Mr. Davis said he preferred smaller pots for each plant. Mr. Stevenson thought a very highly matured or ripened wood did not produce the finest flowers, and he endorsed Mr. Davis's remarks that novices should confine their attention to first-crown buds. Mr. Davis said he had a distinct objection to top-dressing in any form, or rather, he found no good results from such treatment.

Mr. P. Craig, who grows largely for market, said they so prepared their soil for chrysanthemums that it should keep the plant going from first to last, arranging the food material to cover the whole period. Mr. Davis said that he could produce twenty good market blooms on a plant with half the manures he would have to use to produce three high-class specimen exhibition blooms.

A vote of thanks to Mr. Davis for answering questions brought the afternoon session to a close.

The evening session of the conference commenced at 6.30. Mr. Thos. Bevan presided, and there were between fifty and sixty members present.

The first paper was by Mr. H. J. Jones, as follows:

METHODS OF EXHIBITING JAPANESE AND INCURVED CHRYSANTHEMUMS.

It is no easy matter to suggest better methods of exhibiting large and handsome exhibition blooms of high quality, owing to the fact that those now in practice have been brought to such a high state of perfection by many of our leading exhibitors. I have a few suggestions to make, which I hope will receive the favourable consideration of this meeting, and will, I trust, be put into practice at future exhibitions.

Before going into this matter, however, it may be well for us to consider what are the points that count in an exhibitor's favour in close and severe competitions. If I understand this question rightly, it is the aim of every grower who exhibits the results of his cultural skill to set up his blooms to the very best advantage. Not seldom, prizes are awarded to growers who arrange their blooms most advantageously, and in such cases an exhibitor with better blooms often finds himself in the second position.

Where the pointing of exhibits is not observed by judges at chrysanthemum shows, an exhibitor who makes the most of the colours of his blooms and studies their skilful arrangement in his stand, frequently scores over his rivals having heavier flowers, but who fail to recognise the value of this consideration. No one can deny that an exhibit that is made to present a bright and attractive appearance often impresses the judges most favourably, although heavier blooms of less pleasing colours, and less attractively set-up, are shown in competition with them.

Quality, however, should always come first, but quality ought not to mean mere size of bloom only, as many growers are disposed to think it should. Quality represents all that is best in a flower. An exhibition chrysanthemum bloom of good quality should be of large size, even form, of good colour, deep in proportion to its breadth, and when finished, of perfect contour. Therefore, when considering the question of methods of exhibiting Japanese and incurved chrysanthemums, it is of the highest importance that the foregoing points should be carefully observed.

With the object of ensuring that blooms of good quality are displayed at their best, so that all these points may be seen by both judges and the public at our shows, they should be arranged, or rather exhibited, so that quality of bloom may have the fullest opportunity of being seen and recognised. It is only by these means that an exhibit can be judged fairly, and justice done to those growers who have laboured for many months to bring their blooms to such a state of perfection, therefore, regulations or conditions for staging blooms should be framed so that this object is attained.

Whilst a great deal of prejudice appears to exist in the minds of some of those who are responsible for the government and control of our leading shows in regard to exhibiting blooms on boards, those who are best qualified to express an opinion are strong in their views that blooms skilfully set up on boards enable both judges and others to see and compare the respective flowers better than any other method now in use. The quality of the blooms is apparent to everyone who can judge the value of these flowers, and growers who are exhibitors, generally speaking, are more satisfied with the decision of the judges in such cases.

I am aware that this method of exhibiting blooms has been described as monotonous, but, does not the same remark apply with equal force to blooms staged in vases, as now exhibited at all the leading shows. In my opinion, the method of exhibiting large Japanese and incurved blooms in vases leaves much to be desired. Three or five blooms arranged in one vase, as now generally practised, is distinctly detrimental to the cultivation of the chrysanthemum in its widest sense. The difficulty is to arrange the flowers satisfactorily. The vases that are usually provided at our shows are quite unsuited for the purpose, and it is next to impossible to adjust the blooms in such a fashion as to display the full proportions and true character of each individual specimen satisfactorily. The larger the flowers, the more difficult are they to arrange effectively. A point not to be overlooked is the fact that, in encouraging the vase classes, as now constituted, the number of varieties at our exhibitions is of an extremely limited character.

The leading class at the great November festival at the Crystal Palace is for twelve vases, each vase to contain three blooms of one variety, i.e., twelve varieties only, out of the many hundreds of varieties that are generally cultivated. The N.C.S. cannot regard itself as really promoting the cultivation of the chrysanthemum, when one of its leading classes is confined to an exhibit of twelve varieties only. Another most important fact in connection with the limited numbers of varieties staged in the vase classes is the practice of staging only the giant varieties to the exclusion of many handsome varieties of beautiful form and grand quality. Growers have come to recognise that the judges pay more than proper respect for mere size, and on this account only the largest varieties are exhibited, and in a series of entries varieties are duplicated, triplicated, and so on correspondingly with the number of exhibits staged. As an instance of what I mean, how frequently do we see vases of Hon. Mrs. Lopes, Lady Talbot, F. S. Vallis, Reginald Vallis, Mdme. Paolo Radaelli, Mdme. G. Rivol, etc., exhibited in the vase classes, simply because they are the largest, and most impressive in consequence. Surely there is equal quality recognisable in varieties such as W. Gee, Frank Payne, Mrs. G. Mileham, Mrs. C. Beckett, Superb, Mrs. Trevor Williams, Captain Julian, Evelyn Archer, Keith Luxford, W. Beadle, etc., etc. Until quality of equal value is recognised in these rather smaller flowers, we shall not be doing what is fair and just to the chrysanthemum while so many beautiful varieties like these are practically excluded from the vase competitions.

Far better would it be to encourage the exhibition of large flowers of good quality in individual vases. We do not want so much repetition of varieties in the different exhibits, rather should we desire to encourage the cultivation of a greater number of varieties. This would have the effect of taxing the skill of the cultivator, and would ensure the representation at our shows of a greater number of varieties, which would also have the effect of making our chrysanthemum shows far more interesting for this reason.

The vase classes as at present constituted provide for the exhibits to be arranged in long straight lines, and somewhat top-heavy arrangements. Between the vases are unduly big, unlovely blank spaces, of which no advantage is taken, and there is a distinct loss in not providing something to remove the barrenness of this system of arrangement. I therefore return to my recent suggestion of exhibiting large blooms individually in vases. I know of no method to equal this for representing each individual flower in its true character, and, after all, this is the aim of every exhibitor, and is one of the chief objects which chrysanthemum societies are created to foster.

This system of setting up individual blooms appeals very much to an exhibitor with original ideas, as he can dispose and adjust his blooms individually in such a fashion that an exhibit as a whole can be made a thing of beauty. Such a method of exhibiting would have the effect of simplifying the work of exhibitors when they reach the show, as the setting up of blooms in position could be done much more easily, and the full beauty and quality of each specimen could be determined with comparative ease. This method would practically allow of a diversity of arrangement, and, doubtless, would have the effect of bringing into prominence something novel and that might be quite worthy of emulation.

As an illustration of decorative effect achieved when the exhibitors have had the opportunity given them, I would point to the exhibition of single varieties at the great show at the Crystal Palace in November last. Which was the most pleasing and artistic— the table of singles arranged according to the exhibitor's taste, or twelve varieties of singles set up in the orthodox straight rows? I maintain that the table was a great advance.

I would, therefore, suggest that classes be created either for groups of cut chrysanthemums, a given table space, or of a specified number of blooms, leaving it to the originality of the exhibitor to make the most of his space. There is latent artistic ability in many of our best exhibitors, and I feel sure if such classes were made, and suitable prizes offered, we should see some really artistic methods of grouping large flowers, and the unrivalled beauty of the "Autumn Queen" would be displayed at its best.

As an illustration of what I wish to convey, I cannot do better than refer to a class provided at the show of the Dulwich Chrysanthemum Society. I was much struck with the exhibits in this competition. The class in the schedule provides for "A table of chrysanthemums, any varieties, 4ft. by 3ft., to face three ways, arranged with foliage plants." This class gave some of the most beautiful exhibits of large chrysanthemums I have ever had the pleasure of judging. It is a method that should be adopted by every chrysanthemum society that desires to be up-to-date, and to prove the decorative worth of big blooms. Exhibits of this character, and others of a kindred nature would be heartily appreciated by the general public, and they would result in serving the purpose of object-lessons to those who are at a loss to know how to arrange big blooms of high quality. Whilst I justly praise the method of our forward affiliated society; the competitions suitable for our national show should be altered or modified in some respects.

I would suggest that classes respectively for twelve, twenty-four, or forty-eight blooms, more or less distinct, should be set up in this way for effect. Classes for both Japanese and incurved blooms could be provided, and their value as decorative material proved in no mean degree. The blooms could be set up individually in vases, and be disposed in any manner that the exhibitor in his discretion thinks well. Disposed in pleasing and artistic fashion amongst the blooms, foliage plants or cut foliage should be arranged effectively. An extremely simple utensil for exhibiting in this fashion is the "Godfrey tube." This contrivance can be inserted in the ball of soil of the pot foliage plants if desired, and the work of arrangement simplified by those means. Exhibits staged in this manner are fraught with great possibilities. More space would be required at our show for the respective classes, and in the aggregate, the exhibition would appear to be much larger and certainly would be more comprehensive in its character. A lesser number of classes would be needed, so that, were larger prizes necessary in order to encourage competition in the new classes, the money saved on the classes that had lapsed would provide the further sum needed for the new classes.

I can imagine the effect of a show embracing a series of classes staged in the manner that I have suggested. It would be a revelation, and would please everyone. The admirer of big blooms would see the chrysanthemum at its best, associated with foliage plants or cut foliage that would enhance their beauty, and the strongest opponent of the big bloom cultivation would have no argument to use because the handsome flowers would be represented in such charming fashion.

The exhibits facing three sides, as suggested, would necessitate a space being allowed between each exhibit: this would have the effect of making them more attractive, and would result in a really beautiful artistic display.

DISCUSSION.

Mr. Felton agreed with Mr. Jones' suggestion of setting up big blooms singly in vases, set up among foliage and foliage plants. Mr. D. B. Crane deplored the comparative lack of variety at chrysanthemum shows, because of the frequency with which the very largest blooms are displayed; he hoped some of the equally beautiful but rather smaller varieties now in existence would be better represented. Mr. Ladds suggested that the Floral Committee should classify varieties as extra large, large, and medium, and follow this up by arranged classes for the sections. Mr. Jones asserted that the vase classes were killing the trade, and if the trade failed to receive support then chrysanthemum shows would suffer, the one was dependent upon the other. Mr. Davis deplored the present tendency of the executive towards decorative varieties. The English gardener, he considered, thought more of the flower as a florist's flower, while the French gardener considered flowers for their decorative beauty. He stated that chrysanthemum shows were failing, and had failed, because they had done away entirely or largely with show boards. He thought the shows should be divided into two parts, i.e., the cultural side and the art or decorative side. Mr. Wells thoroughly endorsed the views of both Mr. Jones and Mr. Davis, and pointed out that while an amateur could easily bring his six or twelve blooms on boards to a show with ease, he could not, for reasons of expense, etc., bring an equal number of long-stemmed flowers.

Mr. Stevenson urged that the society should lay down rules for judging; he believed that the withdrawal of boards was spoiling shows, chiefly because of the immense expense incurred by the carriage of long-stemmed blooms. Mr. Stevenson further remarked that a medium-sized variety of refined form should, if at its best, receive full points, just as a fine bloom of a big variety should. Mr. Crane pointed out that the Floral Committee was formerly accused of being too generous, but now it was accused of being too niggardly—this was interesting. The Chairman referred to the beautiful arrangements of big blooms at Paris, etc., and indicated what a wonderful display of a wide range of varieties without offering any cash prizes whatever. He said that these long-stemmed flowers were packed dry in light boxes, and not carried upright in water, and the method appeared to be very successful. In his remarks, he showed that his sympathy was with vase classes against the board classes. Mr. Ladds wanted to know how the French people packed and carried their long-stemmed in such easy fashion as suggested by the chairman—but no answer was forthcoming.

Thanks were then accorded to Mr. H. J. Jones.

USE OF LARGE BLOOMS IN FLORAL DECORATION.

Mr. Felton, who had this subject in hand, dealt with it rather humorously, but he said that all chrysanthemums were useful for some kinds of floral decoration, as they gave a wonderful range of colour and variety. They also give an immense graduation of shade in each colour, and that was why it was so invaluable for floral arrangements, and permitted delightful combination. He said he had never seen a pink chrysanthemum, though custom had sanctioned the use of the colour description. Why, he said, should the chrysanthemum be the only flower condemned because of its size? He said that it was the masses of soft, poorly-grown, and poorly-packed chrysanthemums that were killing the trade, and making so many people disgusted. High culture was the great need all round. "Do not grow more than you can grow well" was a dictum that Mr. Felton laid down with great emphasis, and one which he elaborated at some length. "Everything that is artistic is proportionate" was another aphorism. Huge blooms were not suitable for small tables, nor were small ones suitable for huge and bold arrangements. "A big bloom badly grown is a floral monstrosity" was another quaint remark. Blooms about six inches across were, he considered, the size most generally useful to florists. Regarding sprays of chrysanthemums, Mr. Felton illustrated his remarks by selecting good and bad sprays, and showing that certain varieties are good and others useless for this purpose, and this demonstration was greatly appreciated. He thought the small flowers sent to market should not be poor flowers of really large varieties, but those that naturally have small flowers: Lizzie Adcock, Clinton Chalfont, Source d'Or, Tuxedo, Cullingfordi, Mr. Gilbert, Heston White, Allman's Yellow, Framfield Pink, Princess Victoria and its sports, Victor Lemoine, and Putney George. He asserted there was no place for rubbishy flowers or varieties, and growers for market were largely to blame for filling the market. Felton's Favourite, Dazzler, December Gold, Mdme. T. Panckouke, Freda Bedford, W. J. Crossley, and Western King he gave as excellent medium-sized flowers. Clara Wells, Mrs. J. Hygate, Nellie Southam, Buttercup, Pantia Ralli, and Frank Tristrian he characterised as excellent incurved varieties for decoration. Algernon Davis, F. S. Vallis, Mdme. Rivol, Mdme. P. Radaelli, W. Iggulden, W. Jinks, Mrs. Lopes, Lady Talbot, and Bessie Godfrey were among the varieties he considered the best for the largest Japanese blooms. Mr. Felton then described a fine decoration he recently carried out at the Connaught Rooms with big grandly-grown chrysanthemum blooms.

The Chairman asked Mr. Felton how he used big blooms, and he pointed to a huge vase of big blooms with a few smaller ones below them, arranged in a hall by Mr. Leech, as a good example—a fine compliment to Mr. Felton. He thought the modern single chrysanthemums were inclined to be too large; Mensa was quite large enough for decorative value. A vote of thanks was accorded Mr. Felton.

LATE-STRUCK JAPANESE CHRYSANTHEMUMS FOR EXHIBITION.

The above was the title of Mr. Thomas Stevenson's excellent paper, the last of the session. We hope to publish this in extenso shortly.

It was 8.30 by the time Mr. Stevenson had finished. A few questions were put and answered, chiefly with respect to training and stopping. Messrs. Ladds, Davis, Howe, H. J. Jones, and others took part in the discussion. A vote of thanks to Mr. Stevenson and one to the chairman concluded the proceedings.

Bournemouth Gardeners' Association.

At the fortnightly meeting held on December 6 an exhibition of Begonias Gloire de Lorraine, and zonal pelargoniums was held. Some really splendid specimens of begonias were staged; the plants weighed down with blossom, and the trusses large. Mr. Pearce was first with a heavily-flowered plant, Mr. W. Shave coming a close second with a beautifully-trained specimen, and Mr. Nippard third with a smaller, but well-flowered plant. Mr. Pearce also exhibited five large plants, but little inferior to the one he had in the competitive class, and was deservedly awarded a first-class certificate. Mr. Nippard was first-prize winner in the class for six varieties of zonal pelargoniums, three trusses of each, arranged in vases with any foliage. The blooms were large and very fresh, the varieties being Souvenir de Mirande, Dryden, General Wolseley, Lady Brook, Mark Twain, and Andrew Lang.

The potatoes shown by the hon. secretary, Mr. J. B. Stevenson, were very fine ones, and showed that large, clean tubers could be grown in the light soil of Bournemouth without even the addition of heavy dressings of manure. A hearty vote of thanks was passed to Mr. Stevenson for bringing the potatoes. He also staged some well-coloured Golden Noble apples.

The evening was devoted to questions and answers, and proved to be a highly interesting and instructive one. Questions were written on slips of paper by the members present, placed in a box, and then read as taken out by the chairman. Many questions were dealt with. We can only refer to one or two here, but all were of interest. In replying to the question as to the best treatment of Impatiens Sultani, Mr. Stevenson said he sowed the seeds in March and planted out the resultant plants about the middle of June as bedding-out plants in the public gardens, and they were a decided success. The best method of propagating Begonia Gloire de Lorraine was another question of interest. Nearly all the members present favoured propagation by leaves, retaining the leaf-stalk to prevent the leaf damping through contact with the soil. Other questions were, "What is a decorative chrysanthemum?" "Which is the best way to feed chrysanthemums?" "Did the common privet attract white fly?" and "Should tomatoes be fed with cow manure?" Mr. Richards ably presided, and was heartily thanked at the close of the meeting.

National Rose Society.

The annual general meeting of this flourishing national floricultural society was held on Thursday, December 8, in the Norfolk Room of the Westminster Palace Hotel, Westminster. There was a good attendance, presided over by the outgoing president, the Rev. F. Page Roberts. Notable members present included: The Rev. J. H. Pemberton, Rev. F. Burnside, Rev. F. Powley, Dr. Williams, Dr. Shackleton, Mrs. Mawley, Mrs. Page Roberts, and Messrs. C. E. Shea, G. Gordon, H. Molyneux, G. W. Burch, G. W. Cook, G. Bunyard, G. Paul, W. Taylor, E. F. Hawes, — Doncaster, J. Collingridge, Conway Jones, W. Easlea, J. Mattock, G. Prince, H. Dennison, Cecil Cant, H. Mount, — Prior, R. Harkness, Frank Cant, E. J. Holland, A. Tate, R. F. Felton, J. T. Strange, H. Darlington, etc.

The meeting was opened with the usual formalities. Dr. Williams and Mr. B. Cant were appointed scrutineers of the ballot. The Rev. F. Burnside asked to be replaced as a vice-president of the society, and Mr. A. Hill Gray as a judge, and said that both he and Mr. Gray had for long supported the society, and continuously exhibited, and also secured new members. While the ballot was being taken, Mr. Mawley read the annual report, and Mr. G. W. Cook the financial statement, which were practically as follows:

REPORT OF THE COUNCIL FOR 1910.

In presenting their report for the past year the council direct attention to the fact that for the first time in the history of the society the number of new members has reached 1,000. This is most encouraging, as it shows that the number of amateurs keenly interested in rose culture is still on the increase, and that they find the publications and other advantages offered by the society helpful to them.

The Metropolitan exhibition, now one of the recognised attractions of the London season, was again held by the kind permission of the president and council of the Royal Botanic Society in their gardens in Regent's Park. It took place this year on July 8, and proved the largest but two the society has yet held. The most noteworthy feature of the show was the great interest taken in the new seedling roses, for the exhibition of which a separate tent had been for the first time provided. In carrying out the arrangements for the exhibition the council, as in previous years, were well supported by the officers and staff of the Royal Botanic Society.

The provincial show was held at Salisbury on July 13. This was also a successful exhibition, and the average quality of the blooms was very good. The arrangements for the exhibition were admirably managed under the able direction of the hon. secretary of the Wilts Horticultural Society, Mr. L. J. Sly.

The autumn exhibition, the seventh of the series, again took place in the Royal Horticultural Hall, Vincent Square, Westminster. The average quality of the exhibition roses was not quite as good as at some previous autumn shows, but there were several striking displays of decorative roses, and the large representative groups against the walls have never before been better or more tastefully arranged.

Her Majesty Queen Alexandra, the Royal patroness of the society, has for several successive years honoured the society, and marked her interest in its doings by paying a visit to the Metropolitan show. These visits have always been keenly appreciated by the council and members generally. This year, owing to the lamented death of his late Majesty King Edward VII., our Royal patroness was unable to be present. The address of condolence presented by the council on behalf of the society was graciously acknowledged by her Majesty.

Early in the year fresh rules for judging new seedling roses and distinct sports were drawn up, and appear to have given greater satisfaction than any previously framed.

The council have not only promised a donation of £50 towards the prizes offered in the rose section of the International Horticultural Exhibition in 1912, but at the request of the committee submitted a schedule of the rose classes they considered most suitable considering the time of year when the show will be held.

The 1910 edition of the "Enemies of the Rose," and the "Rose Annual for 1910," were distributed to the members in April, while the 1910 edition of the "Hints on Planting Roses" was sent them in September. Our warmest thanks are due to the members of the Publications Committee, who have devoted so much time and care to these publications so helpful to members.

At the last annual general meeting the Dean Hole Memorial Medal was presented to the Rev. J. H. Pemberton, vice-president of the society, for his services, extending over more than thirty years, on behalf of the rose and the National Rose Society.

The council record with regret the death during the year of Mr. John Cranston, one of the original founders of the society. He was for many years a member of the General Committee, and was greatly respected and beloved by all who knew him when head of the King's Acre Nurseries, Hereford. Mr. Cranston in the early days of the society was the most frequent winner of the first prize in the leading class for nurserymen

During the past twelve months 1,050 new members have joined the society, or 150 more than in 1909. Allowing for the losses by death and resignation, the total number of members is now 4,584. Taking the year as a whole, nearly three new members a day have been, on an average, added to the list of membership.

	1905.	1906.	1907.	1908.	1909.	1910.
Number of Members......	1,637	2,034	2,484	3,150	3,797	4,584
Net increase since Previous Year .	329	397	450	666	647	787

As in the previous year, fifty-five rose and other horticultural societies are in affiliation with our society.

The Metropolitan Exhibition of 1911 will take place in the Royal Botanic Gardens, Regent's Park, on Friday, July 7. The provincial show will be held at Ulverston, in conjunction with the North Lonsdale Rose Society, on Wednesday, July 19. It will be then ten years since the society last held an exhibition in that district. Arrangements have been made with the Royal Horticultural Society to hold the autumn show in the Royal Horticultural Hall, Vincent Square, Westminster, on Thursday, September 14.

During the coming year the following publications will be issued to the members: The "Rose Annual for 1911," the new edition of the "Handbook on Pruning Roses," and the new edition of the "Official Catalogue of Roses."

The council tender their best thanks to all those who have again so kindly presented special prizes, as these special prizes always contribute so much to the interest of the exhibitions. They also acknowledge with thanks the good work done by some of the hon. local secretaries, and especially desire to mention Mr. H. E. Molyneux (Purley), Mr. R. E. West (Reigate), and Dr. A. H. Williams (Harrow), and more particularly Mr. R. E. West, as having been the most successful in obtaining new members. The council also gratefully acknowledge the continued kind interest taken by Miss Willmott, V.M.H., in all matters concerning the welfare of the society.

SUMMARY OF RECEIPTS AND PAYMENTS
FOR THE YEAR 1910.

1909 Dec. 1.			
To Balance at Bankers			£427 8 8
Do. in hands of Hon. Treas.			9 1 10
1910—Nov. 30.			
To Subscriptions		£2,289 6 6	
,, Life Member ...		10 10 0	
			2,299 16 6
Proceeds of Shows—			
Summer	£211 3 6		
Autumn	29 3 0		
		240 6 6	
Wilts Horticultural Society Contribution, Provincial Show		80 0 0	
			320 6 6
Affiliated Societies			76 13 6
Advertisements in Society's Journals			120 14 4
Sale of Society's Publications			92 4 6
Special Prize Donations (exclusive of Plate)			23 18 0
Interest			
Consols		20 13 4	
Deposits		8 7 1	
			29 0 5
Conversazione Tickets			5 10 1
			£3,404 14 4

Reserve Fund—
Consols, 2½ %, £1,194 1s. 7d. Cost £1,000.
Market value, November 30, 1910, £951 10s. 8d.

GEO. W. COOK,
Hon. Treasurer.

1910—Nov. 30.		
By Publications		£725 10 9
Printing, Stationery and Advertising ...		197 3 9
Postages, Telegrams, and Sundry Expenses		244 7 3
Hire of Room for Meetings and Expenses of Conversazione		29 13 6
Honorarium to Hon. Secretary		100 0 0
Assistant Secretary and Assistant Treasurer (£80 and £60)		140 0 0
Auditor's Fee		15 15 0
Expenses at Shows—		
Summer ..	£455 15 3	
Autumn ...	14 1 3	
		469 16 6
Royal Botanic Society		25 0 0
Prize Moneys—Royal Botanic, Provincial and Autumn Shows		689 12 0
Purchase of Plate, Medals, etc.		153 2 9
Purchase of Consols Reserve Fund		250 0 0
Balance at Bankers		364 12 10
		£3,404 14 4

I have compared the foregoing Statement with the books and vouchers, and hereby certify the same to be correct.

The Cash Balances and the securities representing the investment of the Reserve Fund of the Society have been verified by me.

CHARLES BRANNAN,
Chartered Accountant.

Mr. Cook said that the society only owed £40, all told, and against this were assets of about £146. There were 573 prizes offered at the several shows, and there were only 163 prizewinners. £1,305 was expended on shows and prizes, and £344 4s. 6d. received as gate money, prize money, etc., or, in other words, the shows cost the society about £1,000, and the publications about £580. The latter went to every member, but the prizes to only 163 members.

The President made very few remarks in moving the adoption of the report and balance-sheet, and the motion was seconded by Mr. H. E. Molyneux, who paid a high compliment to the treasurer. Mr. Molyneux thought the Finance Committee might consider the question of expending more money in the cause of the rose, and find some special method of advancing roses and rose cultivation,other than those already adopted. Mr. C. E. Shea said if the council suggested methods the Finance Committee would have to consider ways and means. He agreed that a big reserve was not needed, and after a reasonable amount was put by the question of spending the balance in advancing the interests of the society should be considered. Mr. Holland thought the reserve fund should be made a substantial one, in view of possible bad times, and he pointed out that the great increase of income was due to the large accession of members. A proper balance must be drawn between expenditure on exhibitions and on publications—the two being necessary.

The motion was then put, and carried.

An honorarium of £100 was voted to Mr. Mawley, the hon. secretary, on the motion of Mr. G. W. Cook and Mr. C. E. Shea. Mr. Mawley returned thanks, and had a very hearty reception when so doing.

A motion to alter and add to the rules in such a way as to secure the retirement of a part of the council annually was down in the name of the Rev. J. H. Pemberton, but was withdrawn. Another motion referring the subject to the General Purposes Committee to report upon to the council, so that the matter could be arranged, and be in working order before the next annual general meeting was adopted. Various speakers considered the retirement of part of the council and officers annually would provide opportunities for the election of newer members, and the infusion of new life into the governing body.

Mr. G. Bunyard and Mr. Pinches moved the thanks of the society to the officers and members of council, and Mr. Mawley suitably responded. The President having notified that the house list of members had been elected, with the addition of the Rev. F. Burnside to the vice-presidents, he then, in a few appropriate remarks, concerning the wonderful work done by the hon. secretary, then presented on behalf of the society, the Dean Hole Memorial Gold Medal to Mr. Edward Mawley. Mr. Mawley suitably responded, and said that he very gratefully appreciated the award made—the most coveted one in the rose world.

Mr. G. Gordon moved a vote of thanks to the Rev. F. Page Roberts, for his presidency, and said that he thought Mr. Page Roberts had combined all the good qualities of the three that had preceded him. Mr. Darlington seconded the motion, and it was carried with hearty unanimity. Mr. Page Roberts very humorously replied, and said he had had an easy task, and a pleasant one, in the presidential chair. He had reluctantly accepted office, and he now as reluctantly retired from the honourable position. He then asked the Rev. J. H. Pemberton, the newly-elected president, to take the chair, which he did, and thanked the meeting for his election.

National Vegetable Society.

As briefly intimated in our issue of the 10th inst., the annual meeting of this newly-constituted society was held at the Horticultural Hall on the 6th inst., Mr. Alexander Dean, V.M.H., occupying the chair. Mr. E. G. Quick, the hon. secretary, having read the notice convening the meeting,

The Chairman moved the adoption of the report, which, having been distributed to the members present, was taken as read. He said he had much pleasure in moving the adoption of the report because it showed that much excellent work had been accomplished, and those who were actively interested in vegetables and vegetable culture fully appreciated the work that had been done by the society. The report, as the members would see, contained much information relating to the trials, and he felt that the members generally should feel grateful to the firms who had supplied the seeds, and also to those by whom they were carried out. The show, he said, gave great gratification to all who had an opportunity of seeing it, and the magnificent display that was produced justified their looking forward with a spirit of hopefulness to the future. The membership was considerable, but it was not sufficient for a society engaged in such important work as that which the National Vegetable Society had undertaken, and he urged those who were interested in the society and its work to bestir themselves and bring in new members. They had received generous support from the seed trade, and the heartiest thanks of the society were due to the firms who had contributed special prizes, and also to the noble president, the Duke of Portland, and other donors of special prizes. Mr. O. Thomas, V.M.H., the vice-chairman, seconded the motion for the adoption of the report, and said he fully shared in the gratification that had been expressed by the chairman with regard to the splendid results of the first year's work. He trusted that the seedsmen and other friends would support the society with the same degree of liberality next year as in that which was passed. After a short discussion, the report was adopted.

Briefly summarised, the report was as follows:

During the autumn of 1909 and the spring and summer of 1910, trials of cabbages, autumn-sown onions, and early potatoes have been made, and full reports of the results of these have been published in the horticultural press. These trials were conducted respectively at Twickenham, Middlesex, Sutton Green, Surrey, and Romford, Essex, and the committee's warmest thanks are given to Mr. W. Poupart, Marsh Farm, Twickenham, for his great kindness in so admirably conducting his trials; to Mr. Charles Foster, the Times Experimental Station, Sutton Green, Surrey, for similar and most valuable services; and to Mr. G. Hobday, Romford, for his trial of cabbages.

An exhibition of vegetables was held in the Royal Horticultural Society's Hall on September 28 last, when the finest display of vegetables ever seen in this country was produced, and the committee have much pleasure in reporting that from every standpoint the show was an unqualified success. Visitors, although not so numerous as the committee would have liked, were present in fairly large numbers, and considerable interest was taken in the various exhibits that were staged on that occasion. On every hand earnest hopes have been expressed that a similar exhibition will be held annually.

Considering this is the first year of the society's existence the finances are in a sound condition. The total receipts for the year were £229 14s., and the total expenditure £201 8s. 6½d., leaving a balance in hand on September 30, of £28 5s. 5½d.

The total number of members of the society, including vice-presidents, is now 166, and the committee earnestly hope that every member will try and obtain at least one other new member By this means the membership of the society would be rapidly increased, and the committee would then be able to undertake more work for the benefit of vegetable growers in general.

Trials of early cauliflowers, early peas, beetroots, carrots, as well as onions to be sown under glass, and subsequently transplanted, have been arranged for the ensuing year. These will be conducted with the same impartiality as has characterised the trials which have been held during the past year.

Owing to the Royal Horticultural Society having selected September 26 for their vegetable show next year, the committee have arranged for the annual exhibition to be held at the Horticultural Hall on Wednesday, August 30.

To the donors of special prizes, and particularly the President, his Grace the Duke of Portland, the committee desire to tender their best thanks, and the warmest thanks are due to the treasurer, Mr. G. Wythes, V.M.H., for the efficient and valuable services he has rendered. The work of the hon. secretary, Mr. E. G. Quick, has been arduous in the extreme, and the sincere thanks of the members in general are due to him for the efforts he has made in furthering the interests and work of the society. As a slight recognition of his valuable services, the committee recommend that an honorarium of ten guineas be granted to Mr. Quick. The committee also desire to thank Mr. Pinches for kindly assisting in examining the accounts in conjunction with the chairman.

The election of officers and members of committee was then proceeded with, and in the result the Duke of Portland, K.G., was re-elected president; and Mr. A. Dean, V.M.H., Mr. O. Thomas, V.M.H., Mr. George Wythes, V.M.H., and Mr. E. G. Quick were re-elected chairman, vice-chairman, treasurer, and secretary respectively. The members of committee were also re-elected, and Mr. Horace Wright, Mr. Gentil, and Mr. Grubb were added to the committee. Messrs. Pinches and W. Wilson were elected auditors.

Mr. E. G. Quick stated that, judging from the promises he had received, the seed firms would support the society even more liberally than in the past year. In addition to those whose names have been mentioned, Mr. E. Beckett, V.M.H., Mr. George Gordon, V.M.H., Mr. W. A. Cook, Mr. J. Harrison Dick, Mr. F. W. Harvey, Mr. J. Jaques, Mr. H. Markham, and Mr. Mortimer took part in the proceedings, which were brought to a close by a hearty vote of thanks to the chairman.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, December 6.

Present: E. A. Bowles, Esq., M.A., F.L.S., F.E.S. (in the chair), Messrs. W. C. Worsdell, A. Worsley, G. Gordon, J. T. Bennett-Poë, J. Fraser, J. Odell, and F. J. Chittenden (hon. secretary).

FRUITS OF EUCALYPTUS AND ALLIED PLANTS.—Mr. Worsdell showed the fruits of Eucalyptus ficifolia, in which they are quite simple; E. cornuta, where they are partially united; syncarpia, where they are formed from five or six fused flowers; and Agonis flexuosa, where they are very densely aggregated. The fruits, which had been collected by Mr. Worsdell in South Africa, showed in an interesting fashion the variation in fruits which may be seen in nearly-allied plants.

STACHYS AMBIGUA. — Mr. J. Fraser showed specimens of this plant, a hybrid between S. sylvatica and S. palustris, and commented upon the characters wherein it differed from its parents.

KALE WITH SURFACE OUTGROWTHS.—Mr. Bowles showed a leaf of Scotch kale from Mr. Cowan, of Penicuik, with outgrowths from its upper surface somewhat like those often seen in cabbage and termed ascidia. In the present case, however, the growths were fringed at their edges and considerably crisped.

TAR-WATER AND PLANTS.—Mr. F. Kitley, of Bath, sent two plants of coffee, one of which had been watered with tar-water a few times, the other not. The former showed much more vigorous growth, the latter had apparently not been quite equal to the former at the start and had been stopped. While it is probable that tar-water would have some such effect as was shown, the committee thought that the particular specimens were hardly comparable with one another.

Highcliffe Gardeners' Association.

A lecture on "Vegetables for Large and Small Gardens" was given by Mr. George Garner on Monday, December 5, before the members of the above association.

Mr. Garner first dealt with the matter of treatment of soils, strongly advocating the trenching of ground, especially where it is of a clayey nature.

The applications of organic and artificial manures were also dealt with. The lecturer recommended cultivators to freely manure heavy soils in the autumn with farmyard manures, but to defer the application of such manures until the spring in the case of light or sandy soils. He also gave a list of manures suitable for various crops as follows: For potatoes, in addition to farmyard dung, 2lb. sulphate of ammonia, 4lb. superphosphate, and 2lb. kainit per 40 square yards of ground. Tomatoes, not much of any organic manure, but 3ozs. of superphosphate to each bushel of compost and a 6in. potful of wood ashes, also a teaspoonful of superphosphate to each plant once a fortnight while the plants are bearing the fruits. Onions, fowl manure in the autumn at the rate of 2 pecks per square yard of ground and 1 peck of lime per square yard. In the spring, or just prior to the sowing of the seeds, a good sprinkling of soot. When the crops are growing freely, and while the soil is in a moist condition, 2 ozs. of superphosphate, 1oz. of kainit, and a similar quantity of nitrate of soda per square yard. One application of nitrate will be sufficient.

In the case of root crops such as carrots, parsnips, and beetroot, no green manures should be used late in spring; but the ground should be well manured with well-rotted material during the autumn, said the lecturer. Intercropping, rotation cropping, the treatment of winter greens, potato disease, peas and beans, were other subjects dealt with, and at the close of the lecture Mr. Garner gave a concise list of varieties of vegetables to grow.

A discussion took place, and hearty votes of thanks to the lecturer, and Mr. Wheeler, who ably presided, brought a very pleasant evening to a close.

This association is comparatively young, but it is rapidly becoming very strong, and is doing good work in the Christchurch district, which is noted for its many fine gardens.

Woolton Gardeners' Society,

The usual meeting of this society was held on the 8th inst. in the Mechanics' Institution, Mr. W. D. Skinner being voted to the chair.

The lecturer and demonstrator was Mr. W. H. Paine, Kildare, Ireland, who selected for his subject "Alpine Plants and their Culture." A large number of specimens were under review, and their native habitats were given, the means of propagation by seed, cuttings, divisions, etc., were shown and explained. The kinds suitable for pot or rockery culture were given, after which a miniature rock garden was constructed and planted, advice being given as to the most suitable positions for the various kinds of plants that were submitted. A selection was given of plants that were proved to be quite hardy in the Emerald Isle, and yet that required the protection of the greenhouse in this country. Bulbs, although not treated upon, were stated to give most successful results in rock gardens. On the motion of the chairman, seconded by Mr. R. G. Waterman, a cordial vote of thanks was tendered to Mr. Paine for his valuable and interesting lecture.

Shrubby Veronicas.—These are extremely pretty in the autumn, and where they are hardy outside they form handsome bushes. Where the winters are too severe for them to be treated in this way, these veronicas form a welcome addition to greenhouse flowering plants. Neat examples may be grown in pots five inches in diameter, or fair sized bushes may be obtained by using larger pots. There are now many varieties, varying in colour from pure white to rich purple. Besides these, some of the shades of crimson and of pink are very pleasing. Being so hardy, these veronicas can, of course, be stood out of doors throughout the summer months.—W. T.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention correspondents are requested to distinctly mark the paragraph.

POTATO EXPERIMENTS.—E. G. J.: The National Potato Society was dissolved nine years since. It may be that you mean the National Vegetable Society, and if this be so the secretary's name and address is Mr. E. G. Quick, Kelmscott, Harrow View, Wealdstone, Harrow.

USE OF GAS-LIME.—Mr. G. Chambers writes from Southampton: "I wish to heartily thank you for the information I have obtained from your valuable paper, more particularly with regard to advice on the use of gas-lime. I have been using gas-lime in my garden, the soil of which is very wet in the winter, resting as it does on a clay subsoil. I was always, previous to its use, troubled with club-root, sometimes losing nearly all my broccoli and cabbage plants during the summer months. The district in which I reside is much subject to this disease. For two years I have used gas-lime, giving a good dressing two or three months before the planting time, and with excellent results. I find the gas-lime has a most favourable influence upon the growth, and this year many plants range from two to three feet in height." We are pleased to hear of our correspondent's success in his endeavour to checkmate the club-root, and are much obliged to him for his note, as it may induce other readers to take advantage of the aid gas-lime is able to render in preventing the spread of the disease.

NOVELTIES AT WESTMINSTER.—H. W., Shotley: The Royal Horticultural Society's Floral, Fruit, and Orchid Committees meet at the Horticultural Hall fortnightly, and carefully consider the merits of novelties that are submitted to them, and award first-class certificates and awards of merit to such as they consider worthy of distinction. First-class certificates are not awarded by the Floral Committee to varietal forms. The dates and times of the meetings are given in the GARDENERS' MAGAZINE week by week. If you write to the Rev. W. Wilks, M.A., secretary of the Royal Horticultural Society, Vincent Square, Westminster, London, S.W., enclosing stamp for postage, you will obtain official information relating to the exhibition of novelties.

OUTDOOR VINES.—Enquirer, Hampshire: The grape vines, if growing against a wall may be trained horizontally or upright, as you may prefer, or they may be trained diagonally. In either case the principal rods should be from twenty-four to thirty inches apart. If they are growing in the open it is a very good plan to train the main rod horizontally at a distance of about fifteen inches from the ground, and take up about four rods from it at a distance of two feet or thirty inches apart, and train them up stout stakes. The stakes should stand between four and five feet out of the ground. The vines should be trained horizontally previous to growth commencing, and when it has commenced all the buds on the underside should be rubbed off. The strong buds on the upper side at the requisite distances apart should be selected, and the others be removed. Four upright canes to each rod will be sufficient. Without exact information as to the strength of the canes of your vines it is not easy to speak definitely, but we are inclined to the opinion that the best course will be to cut the canes back to a prominent bud a few inches above the surface of the soil, to remove all the growths but

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RESULTS.

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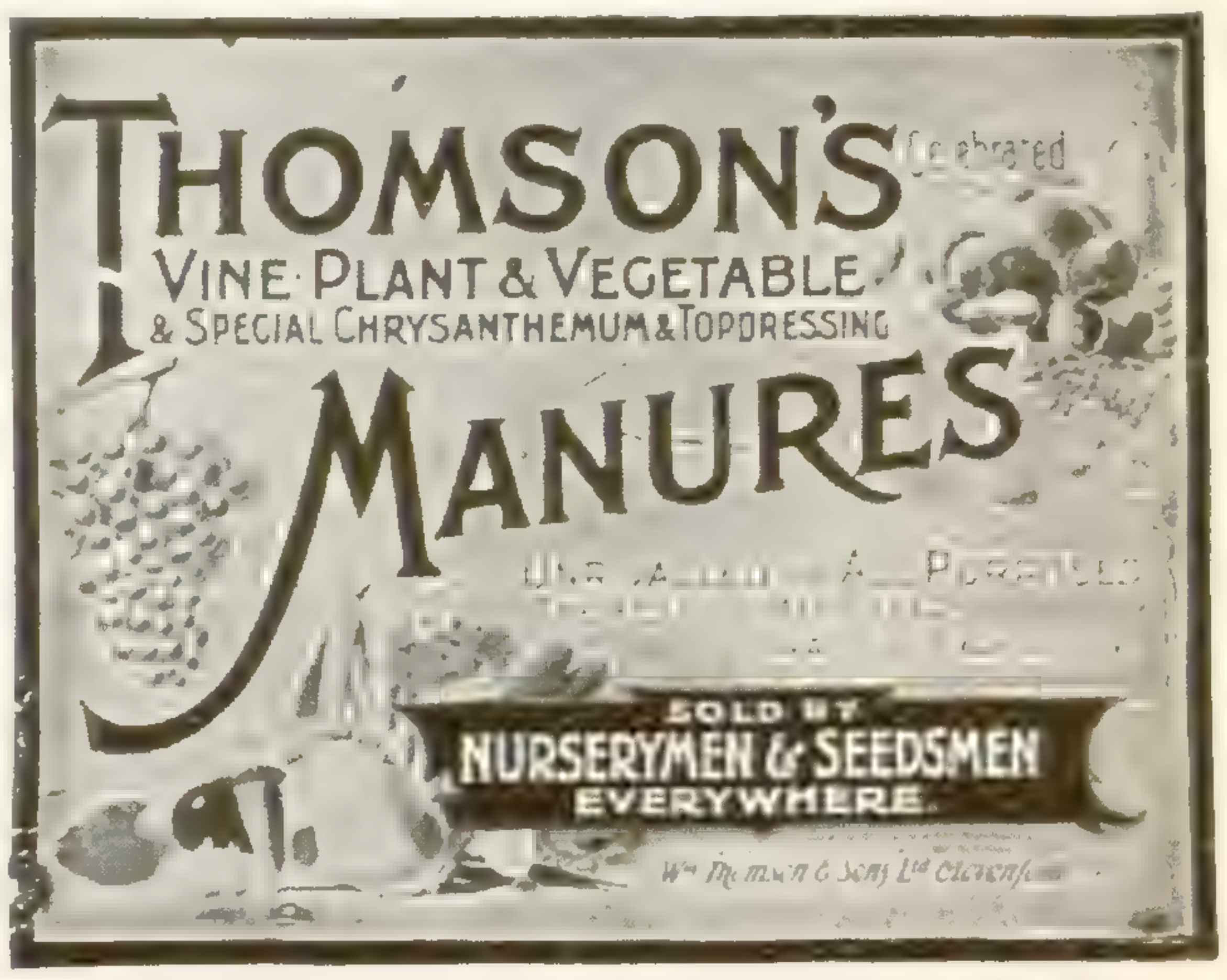

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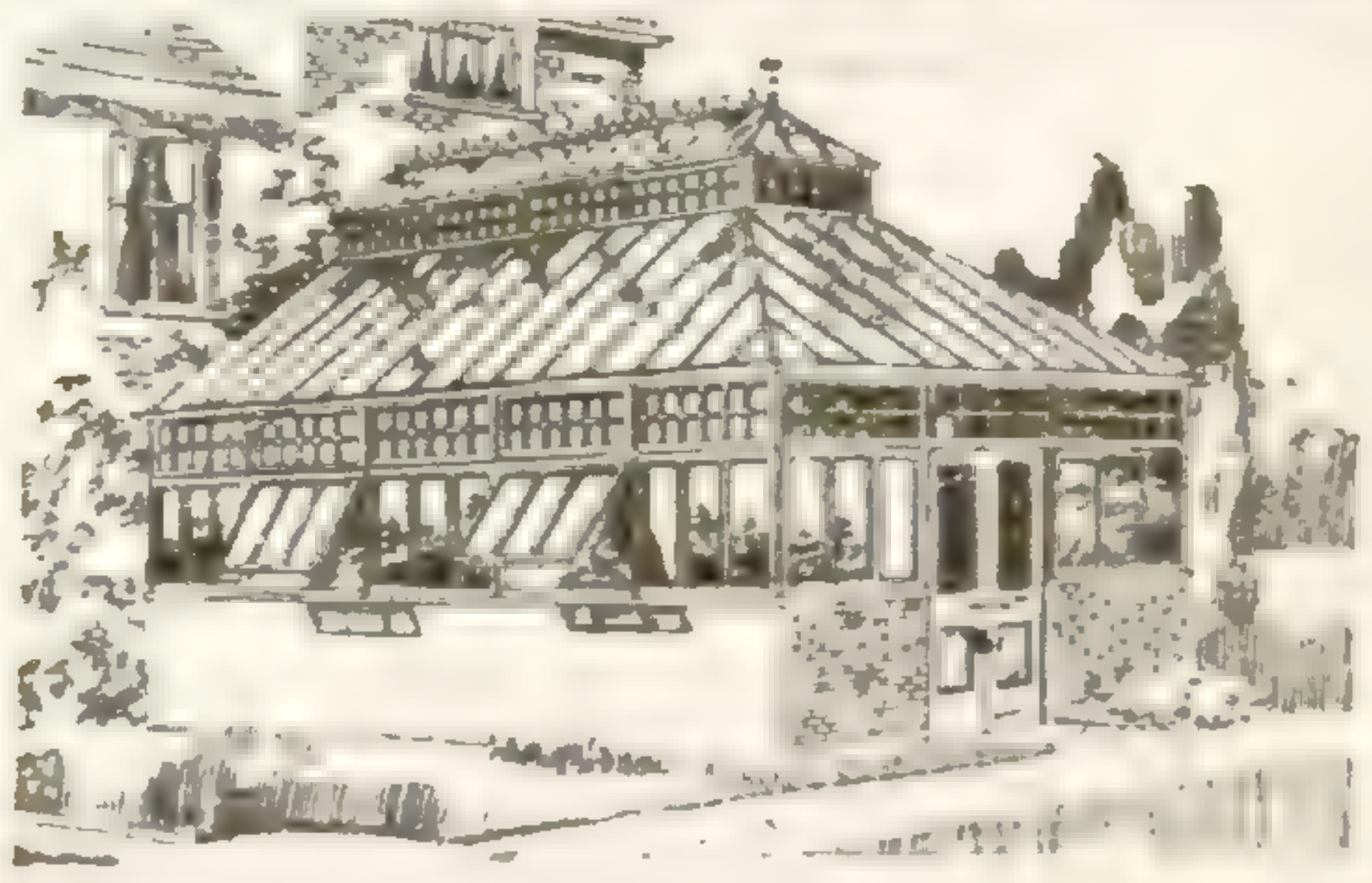

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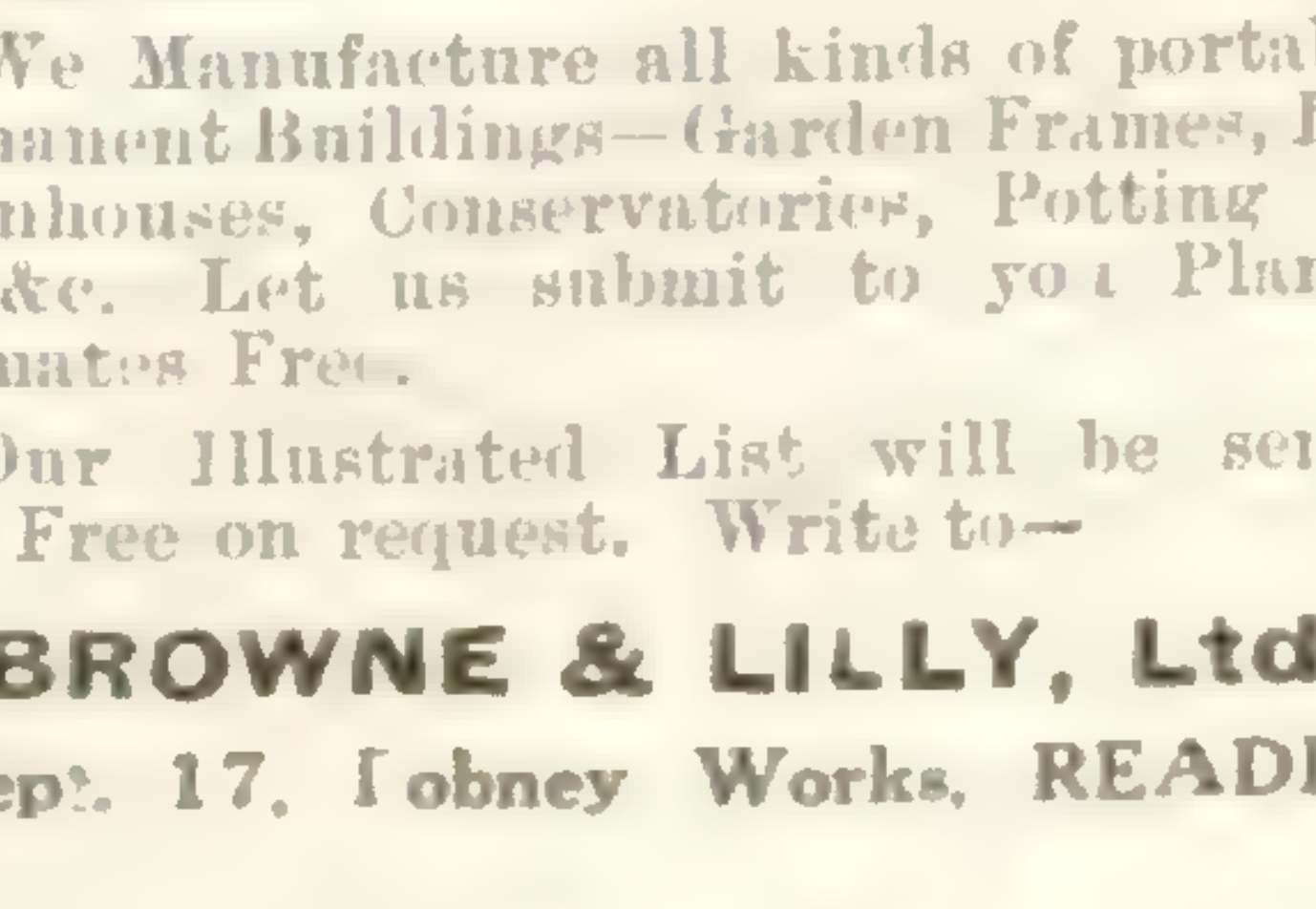

one from each vine, and to train the cane to upright stakes about eight feet high, and nip out the growing point when they reach the top. This will induce them to swell up the lower buds, and ripen more satisfactorily during the summer. They can then be trained horizontally in accordance with the suggestions made. The laterals should be thinned in spring, and those remaining stopped during the summer two or three leaves beyond the bunch. Grape vines growing in the open invariably fail to ripen satisfactory crops when the growth is not carefully regulated.

HYDRANGEA PANICULATA GRANDIFLORA.—Anxious Enquirer, Hampshire: Lift the plants at once and cut the growths back to a prominent bud within a few inches of the base. Put them in pots proportionate to their size, and use good turfy loam, to which small proportions of well-rotted manure and leaf-mould have been added. Plunge the pots to their rim on a bed of coal ashes, and attend carefully to the watering. They will require very little water until growth commences in the spring, but the soil must be maintained in a moderately moist state.

PROGENY OF BRUSSELS SPROUTS.—F. B., Woodford Green, writes: "In the spring of 1908 I put out a bed of Brussels sprouts, and among them was a plant tha only grew to about one-half the height of the others, and produced a large cabbage on the top, but had no sprouts on the stem. The cabbage was cut and used, and I then moved the stem to another part of the garden, and let it run to seed that year. In February last I sowed some of the seeds in a box, and the plants raised therefrom were put out at the same time as the Brussels sprouts raised in the usual way. Some are Brussels sprouts, some are Cottager's Kale, and some have the cabbage head like the plant from which the seed was saved. I should be glad if you would tell me if this is anything unusual." It is not usual for Brussels sprouts raised from seed obtained from a carefully selected stock to produce plants bearing large cabbage-like heads, although, breaks do occasionally occur. But in the case of brassicas raised from seed that has been saved at home without special precautions being taken to prevent cross-fertilisation with other types, it is a quite common occurrence for the resulting crop to show a remarkable divergence of character. Two or three years ago a friend of ours saved seed from two or three specially fine plants of Brussels sprouts, and the following year, instead of having one of the finest breadths of Brussels sprouts, as he anticipated, notwithstanding our warning, he had a quarter containing Brussels sprouts, savoys, cottager's kale, Scotch kale, purple kale, cauliflowers, and several other types. Our friend had overlooked the fact that although he only had Brussels sprouts growing in his gardens, his neighbour had stray plants of other kinds, and that bees will fly long distances in search of food when the plants are widely scattered, and pollinate the flowers they visit.

DISEASED PARSNIPS. — Observer, Surrey: Your parsnips suffered during the growing season from Parsnip Mildew, which is caused by the fungus known as Peronospora nivea. The roots that have been so injured by the attack as not to be fit for consumption should be burnt, for the purpose of destroying the resting spores. If they are thrown on to a rubbish heap, and the material when decayed spread over the quarters previous to their being dug or trenched, it may be that soil free from the fungus will be infected. The peelings of such roots as are used should also be burnt, and not be thrown on the rubbish heap, or be used in pig feeding. A spraying with Bordeaux Mixture on the first evidence of mildew would probably be useful in preventing it spreading over the plants. As your soil is heavy a good dressing of lime to the quarters in which the parsnip crop is to be grown would be beneficial. The lime should be applied previous to the ground being dug, and it should be well mixed with the soil in the process of digging.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Supplies are rather liberal and with a good demand prices are well maintained.

		s.	d.		s.	d.
Acacia	per pad	6	0	to	8	0
Azalea, white	per doz. bun.	4	0		5	0
Adiantum cuneatum	per doz. bun.	4	0		6	0
Anemones, French	per doz. bun.	3	0		4	0
Arums	per doz.	4	0		6	0
Asparagus	per doz. bun.	9	0		12	0
Bouvardia	per doz. bun.	4	0		5	0
Camellias	per doz.	1	6		2	6
Cattleyas	per doz.	9	0		12	0
Carnations	per doz.	2	0		3	6
,,	per doz. bun.	10	0		15	0
Chrysanthemums	per doz. bun.	5	0		10	6
,,	per doz. blms.	1	6		3	6
Croton leaves	per bun.	1	0		2	6
Cypripediums	per doz. blooms	2	0		3	0
French fern	per doz. bun.	2	6		4	0
Gardenias	per doz.	2	0		3	6
Hyacinths, Roman	per doz. bun.	9	0		12	6
Lapagerias	per doz.	1	6		2	0
Lilium auratum	per bun.	2	0		2	6
,, speciosum	per bun.	1	3		1	6
,, longiflorum	per bun.	2	0		2	6
Lily of the Valley	per doz. bun.	9	0		15	0
Marguerites	per doz. bun.	2	0		4	0
Mignonette	per doz. bun.	1	0		2	0
Narcissus, Paper White	per basket	8	0		10	0
,, Soleil d'Or	per doz. bun.	3	0		4	0
Odontoglossums	per doz. blms.	2	0		3	0
Pelargoniums	per doz. bun.	5	0		8	0
Physalis	per doz. bun.	2	0		4	0
Poinsettias	per doz.	8	0		10	6
Roses	per doz.	2	0		5	0
Smilax	per doz. trails	2	0		3	0
Tuberoses	per doz.	0	4		0	5
Violets	per doz. bun.	2	0		3	0

Fruits.

The supplies of apples are fairly good, the British Columbian fruit predominating.

		s.	d.		s.	d.
Apples, English	per bush.	5	6	to	21	0
,, American	per barrel	10	0		30	0
,, Californian	per box	6	0		8	6
,, Columbian	per case	9	0		13	0
,, Nova Scotian	per barrel	10	0		22	0
Bananas	per bun.	3	6		12	0
Cobnuts	per lb.	0	10		1	0
Chestnuts	per bag	10	0		16	0
Cranberries	per case	8	0		10	0
Figs	per doz.	1	0		3	0
Grapes, English	per lb.	0	9		3	6
,, Guernsey	per lb.	0	6		1	0
,, Almeria	per barrel	10	0		15	0
Lemons	per case	16	0		36	0
Melons	each	0	9		3	0
Oranges	per case	7	0		23	0
Pears, French	per crate	5	0		10	0
,, English	per bush.	6	0		9	0
,, Californian	per case	10	0		24	0
Pineapples	each	2	0		5	0

LONDON POTATO MARKETS.

With moderate supplies late prices have been maintained.

		s.	d.		s.	d.
British Queen	per ton	70	0	to	80	0
Sharpe's Express	per ton	65	0		80	0
Epicure	per ton	65	0		75	0
King Edward	per ton	70	0		80	0
Maincrops	per ton	90	0		100	0
May Queen	per ton	70	0		75	0
Up-to-Date	per ton	80	0		85	0

Presents for Christmas and the New Year. — It is generally conceded that no more welcome present could be made to a friend than a good book. Of good books there are many, and those devoted to gardening have special claims for consideration from those who contemplate making presents to their friends. With a view to assist onr readers in the making of a selection, we suggest that they obtain the catalogue of books for garden-lovers, issued by Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London, E.C. The catalogue includes works on the flower garden, the greenhouse, vegetables, hardy perennials, carnations, chrysanthemums, window gardening, and many other subjects. Especially worthy of mention for its great value is the "Encyclopædia of Gardening," which should be in the hands of all who take an interest in gardening, whatever may be the trend of their taste. The catalogue, we would add, is sent post free.

PROFITABLE FRUIT GROWING for Cottagers and Small Holders of Land.—By John Wright, V.M.H. A Gold Medal Essay, written for the Worshipful Company of Fruiterers. Fully illustrated. Price 1s., by post 1s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
1910. December 4 to December 10.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Dec. 4—Sunday	0 42	43	43	53	39
,, 5—Monday	0 6	51	48	52	43
,, 6—Tuesday	—	45	45	50	45
,, 7—Wednesday	—	47	46	50	42
,, 8—Thursday	—	47	45	51	45
,, 9—Friday	0 6	49	46	50	47
,, 10—Saturday	0 6	47	45	51	47
Means	(total) 1 0	47	45	51	44

Date.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
1910. December 4 to December 10.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Dec. 4—Sunday	0·22	40	41	44	36
,, 5—Monday	0·03	43	41	44	41
,, 6—Tuesday	0·02	44	42	44	41
,, 7—Wednesday	—	43	43	45	3[illegible]
,, 8—Thursday	0·34	43	43	45	39
,, 9—Friday	0 59	44	43	45	43
,, 10—Saturday	0·23	45	44	45	41
Means	(total) 1·43	43	42	44	39

FORTHCOMING ENGAGEMENTS.

TUESDAY, December 20. — Royal Horticultural Society; the Committees will meet at 12 o'clock to consider novelties, but there will not be the usual exhibition.

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GARDENER (Head, where several are kept); thoroughly experienced in all branches, inside and out; grapes, peaches, melons, stove and greenhouse plants; four-and-a-half and eleven years' excellent references as head; married, family out. E. STONE, 13, Coniston Road, Addiscombe, Croydon, Surrey.

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GARDENER (Head Working, where two or more are kept); experienced in all branches; 12 years' excellent reference as Head; left own request; age 45; two in family, youngest 15. HUNT, 9a, Bridewell Street, Devizes, Wilts.

GARDENER (Head Working, where two or more are kept); good all round; can be well recommended; married when suited; age 36. PEARCE, 10, Roxwell Road, Shepherd's Bush.

GARDENER (Head Working); life good practical experience in all branches, Inside and Out, Early and Late Forcing; excellent references. H. TURNER, 62, Star Road, Peterborough.

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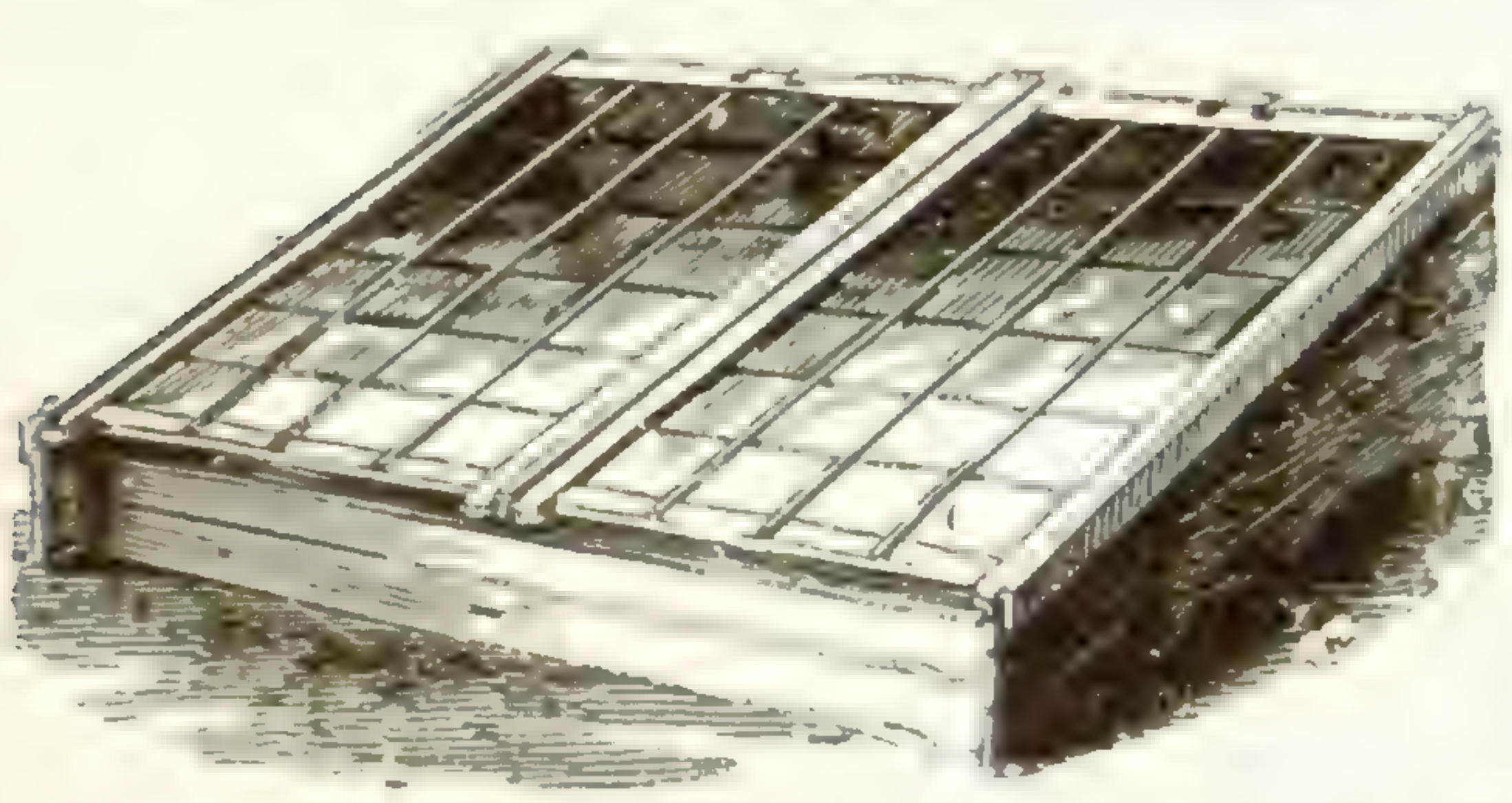

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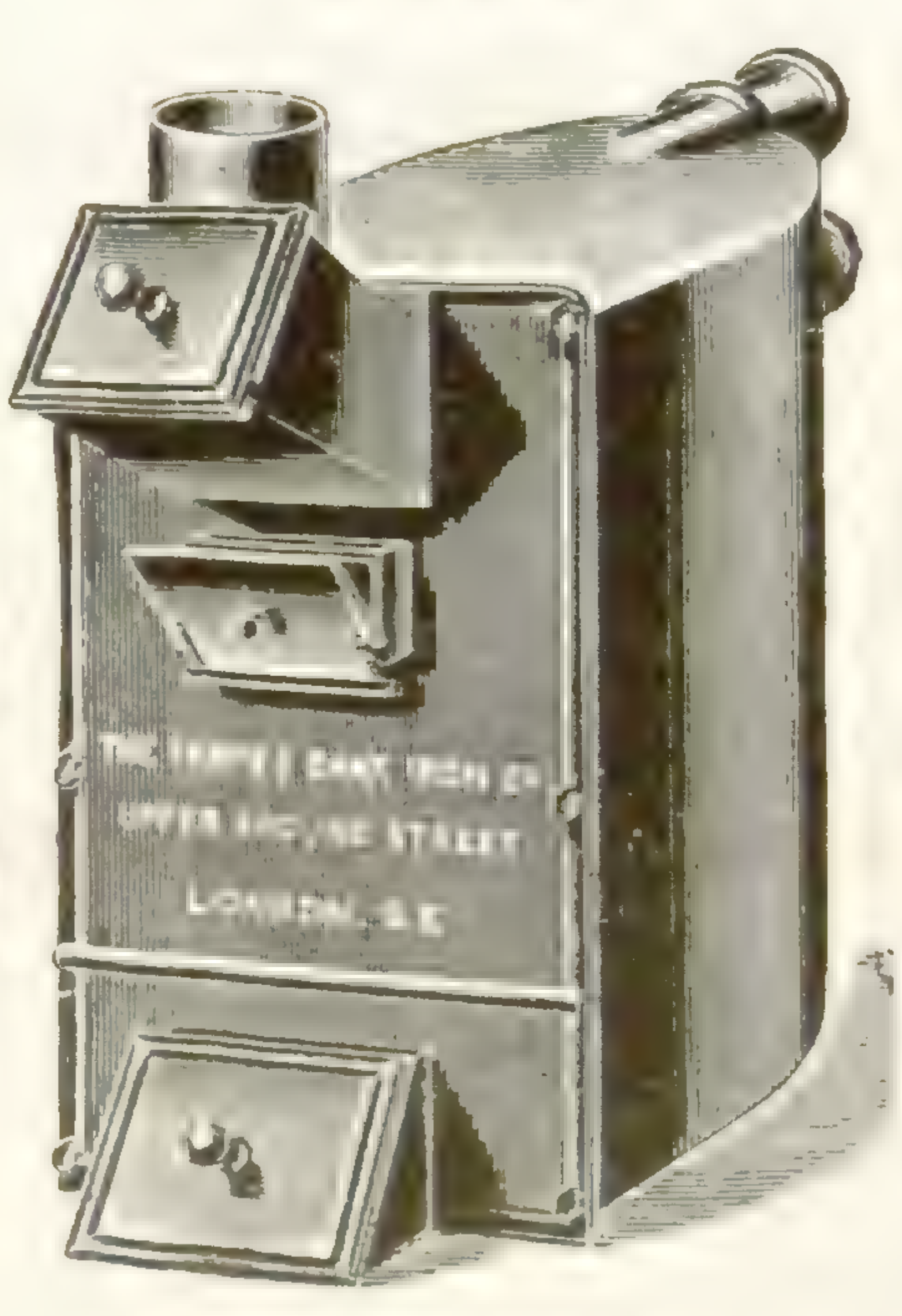
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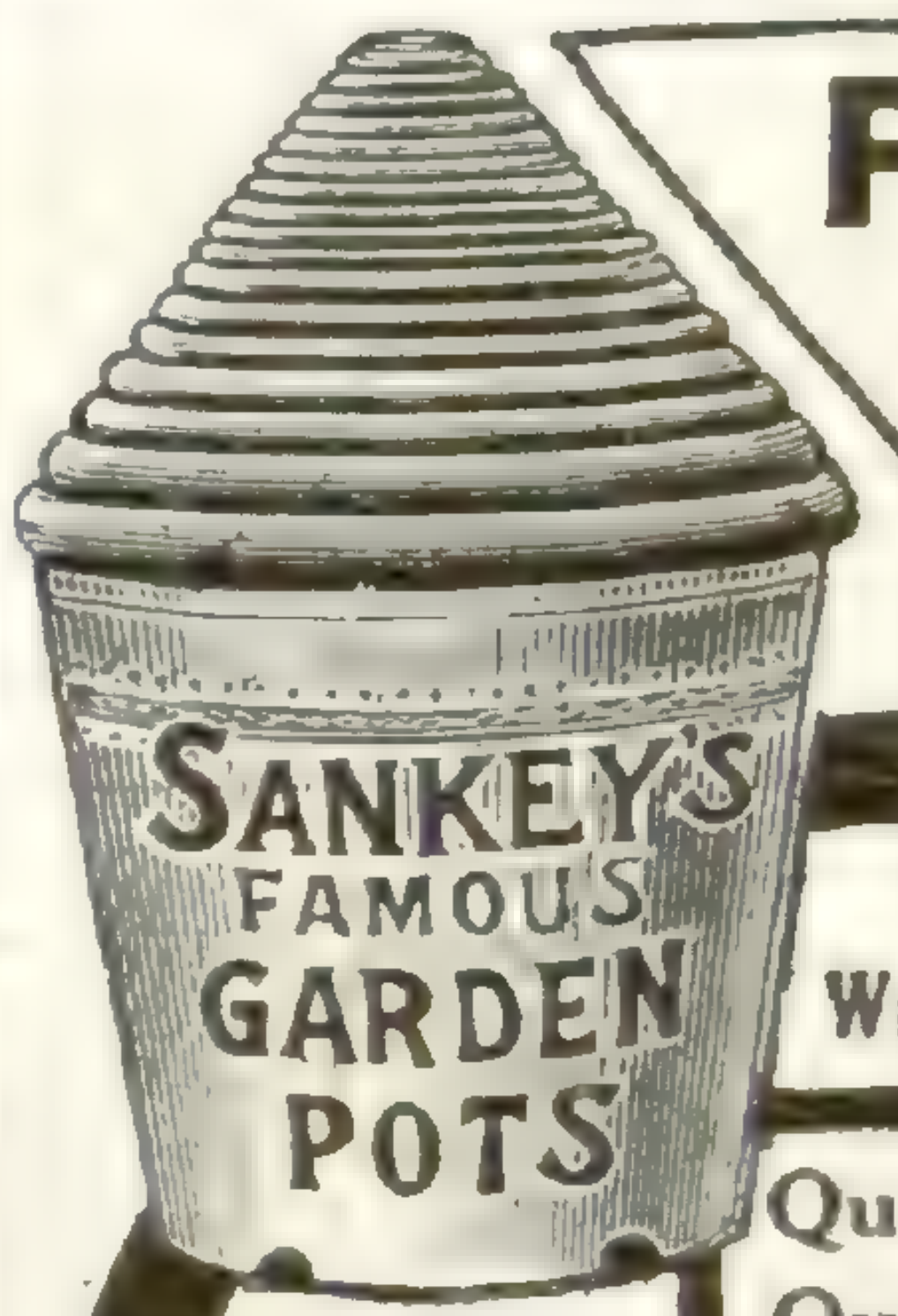

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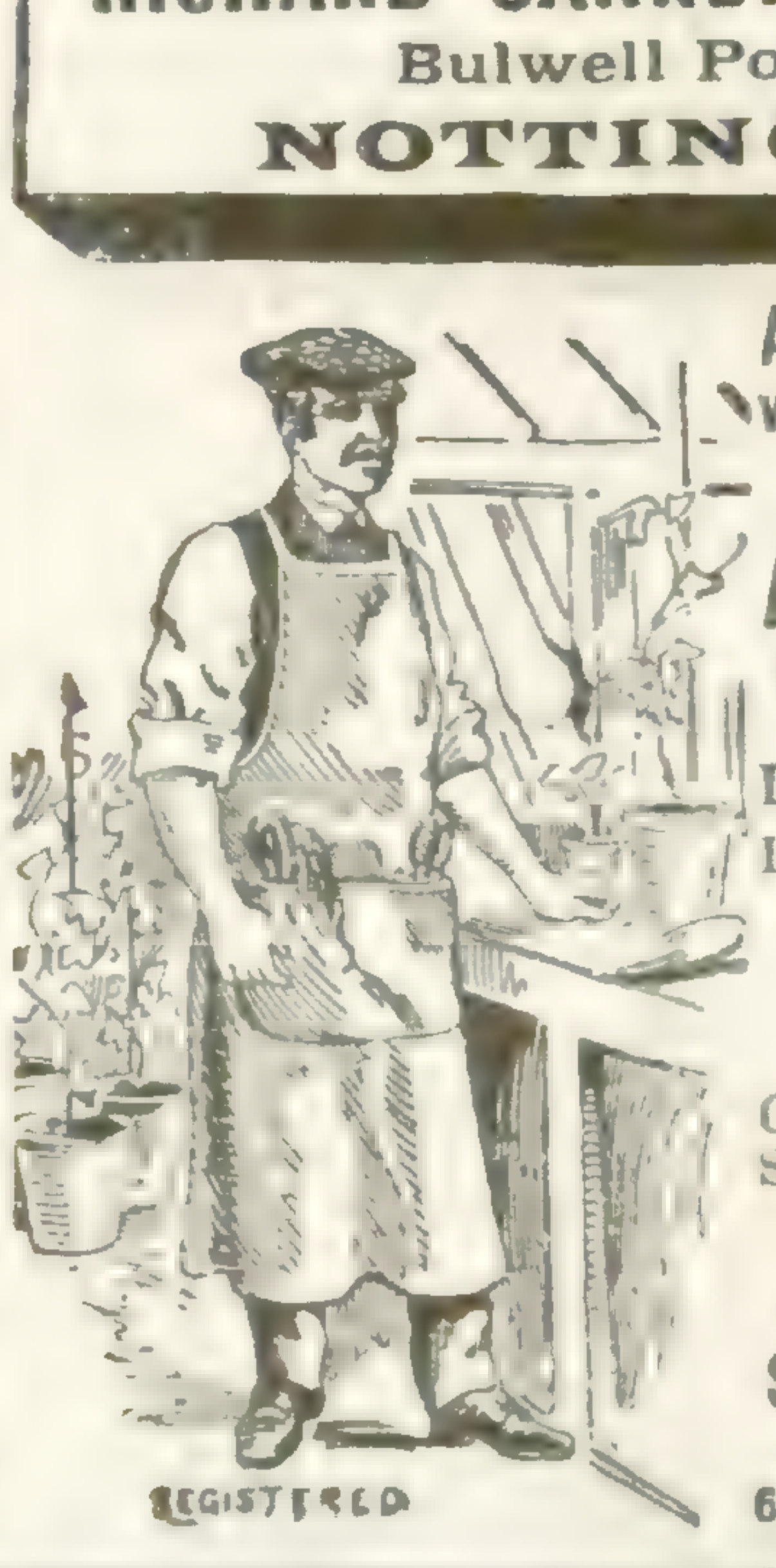

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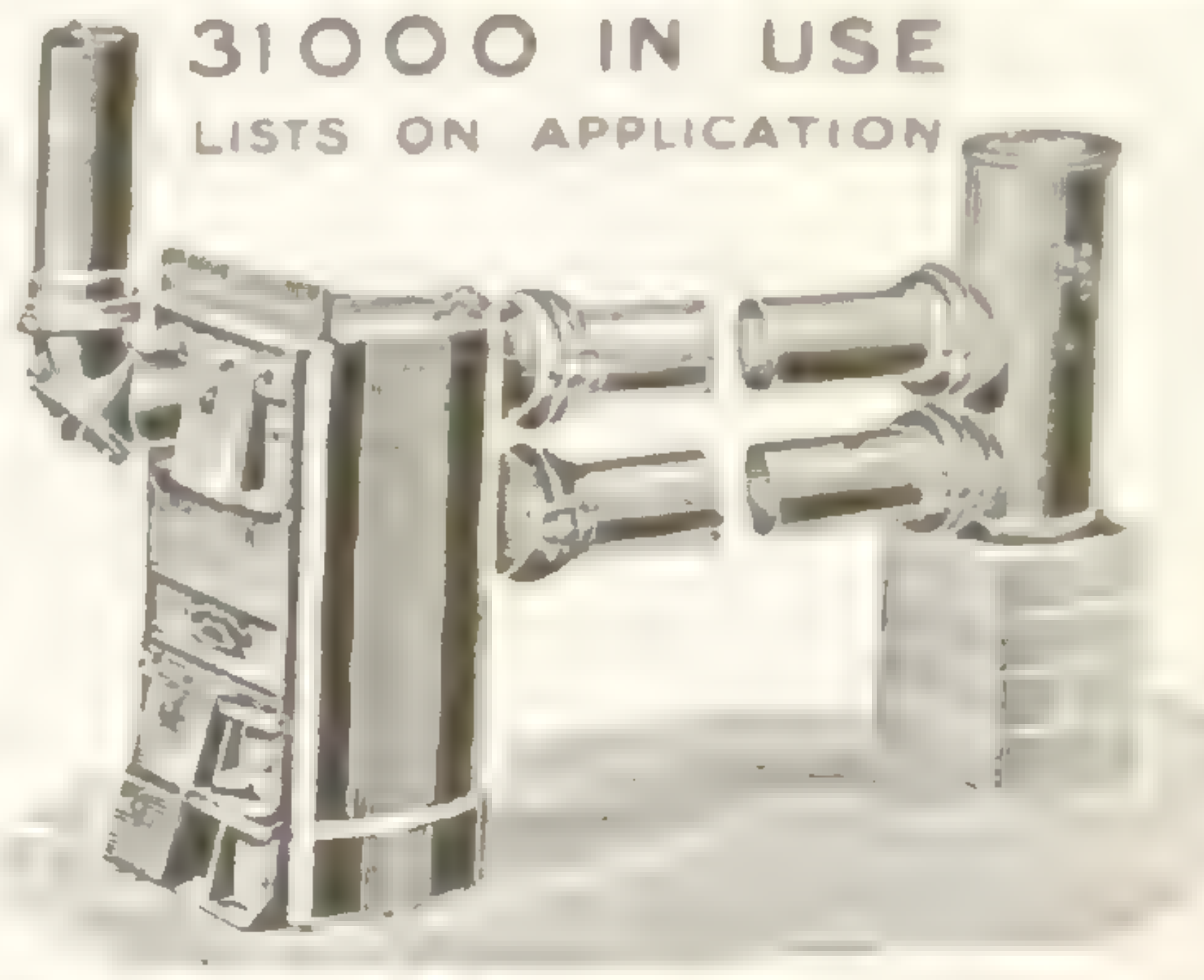

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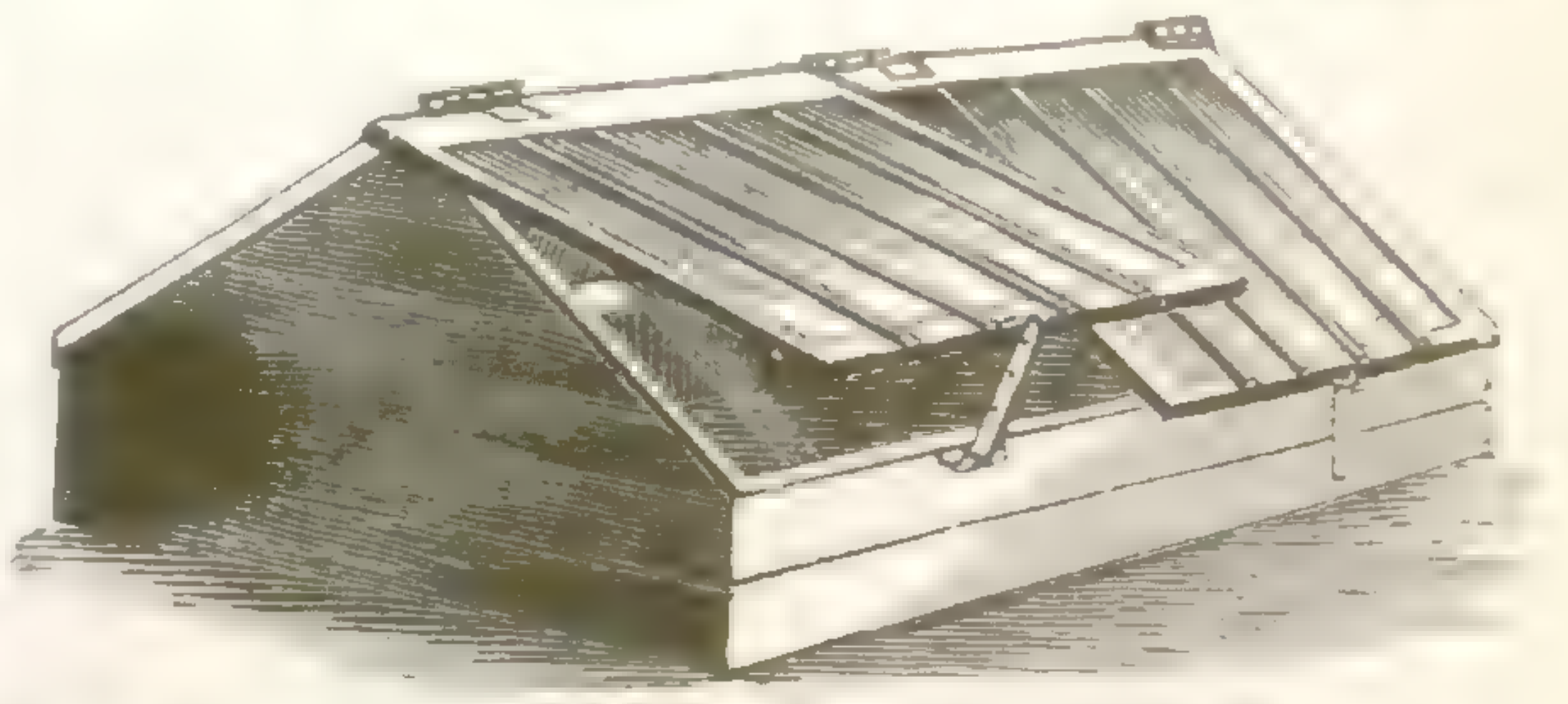

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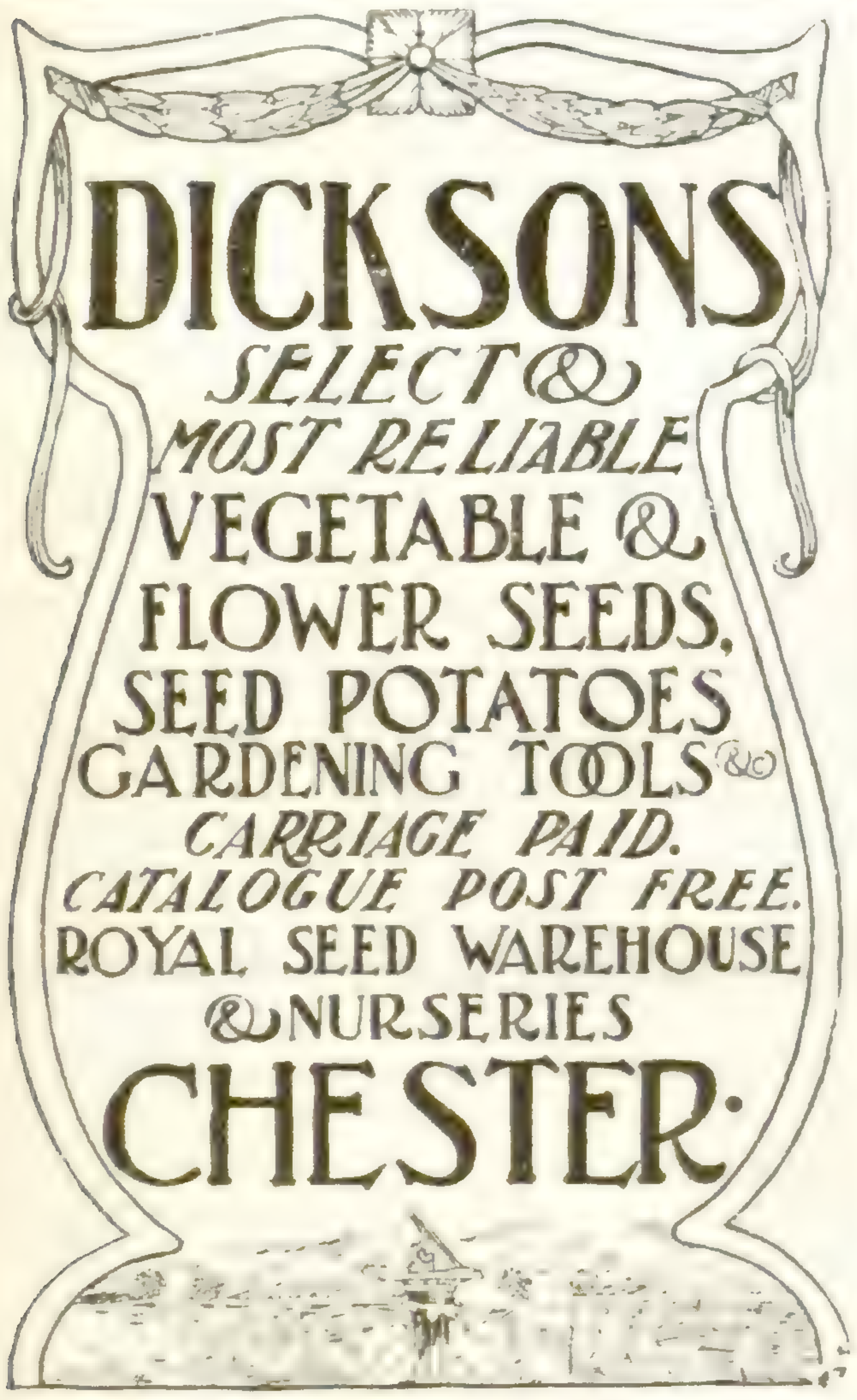

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VOL. LIII.—No. 2,982. SATURDAY, DECEMBER 24, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

Records.

By records we do not intend to convey the idea of unprecedented achievements, a meaning to which the world of late years has improperly confined the word, but that due registration of discoveries and ascertained facts upon which the whole structure of our knowledge is based. Beyond all doubt, an immense amount of such possible building material has been lost in the shape of observations made and merely committed to memory, or, if recorded in such a shape as to be available to others as stepping stones to further research, have never reached the public owing to ignorance on the part of the observer's descendants, and consequent destruction as so much waste paper, or to their being so much in advance of their age as to be above the heads of their contemporaries, and consequently ignored. In the case of Mendel we have a salient instance of this, since though his wonderful paper was read to a local society at the time it was written it evoked no attention, went no farther, and was only, as it were, disinterred many decades later when De Vries came across it accidentally when following up the same line of research and seeking for any records which might assist him. In the case of Darwin, too, his epoch-making records ran, to a certain extent, a similar risk, since it was only when Wallace hit upon the same theory of natural selection as Darwin had been quietly working out for years, that the latter was induced by his scientific friends to put his records before the Linnean Society, and so to establish his priority; and it is a lasting proof of the nobility and modesty of both men that the two papers were read together on the one and the same memorable evening without a shadow of rivalry or self-seeking on either side, Wallace at once assigning pre-eminence and priority to his great co-discoverer. On studying Darwin's works, especially "Animals and Plants under Domestication," we cannot but feel what a pity it was that Mendel's theory did not come within his ken, since over and over again we feel how valuable a key it would have proved in his hands to many of the facts upon which in its absence he could only theorise, but could not fully bring into concordance with his main thesis. Had Mendel's paper figured in the Linnean records, doubtless the two great scientists would have come together, Darwin's work would have been extended, and the world would have been reaping the benefit of Mendel's labour as well for the past half century, instead of groping unprofitably in the dark for laws which have only recently been expounded and exploited on ever wider and more profitable lines. What a flood of light would Mendel's demonstrated facts have thrown on Darwin's "Hypothesis of Pangenesis," for instance, to say nothing of his general speculations on the phenomena of hybridity and reversion. Happily, in these days, there are far greater facilities for the registration of records, and their collection in such a form that the student or the professor who follows some special line of research has little or no difficulty in ascertaining what has been already done in that particular line, and thus avoiding the risk of taking infinite pains, to find out eventually that he has been forestalled. On the other hand, he is enabled to know whether he is really on the track of something new, and thus be stimulated to pursue his course with the greater application and energy. The moral of all this, however, is that it is in the power of every student of nature, the gardener and horticulturists specially included, to add his mite to the storehouse of knowledge if only he keeps his eyes open, observes carefully and systematically, and, above all, keeps records of all facts which strike him as out of the ordinary. Let him read such books as Darwin's "Movements and Habits of Climbing Plants," and "Insectivorous Plants" as examples showing how intelligent and continued observation of the phenomena presented may lead to an appreciation of the laws governing them. There in the simplest possible language, not in pedantic scientific jargon, he will find a mass of information touching upon plants with which he is already superficially familiar and whose peculiarities he can test for himself. Nature is inexhaustible, and it will be strange if, after such study and confirmation, he does not find within his ken some little line of investigation which he can follow up by himself, and possibly from such small beginning, be able to say at the end, "I have not lived in vain." To that end, however, careful records must be made, and nothing left to mere memory which will inevitably perish with him and benefit no one.

MR. W. HIGGS.

Mr. W. Higgs, whose comprehensive paper on the cultivation of incurved chrysanthemums for exhibition created so much interest at the recent conference held by the National Chrysanthemum Society, has long devoted special attention to this important section, and in the production of blooms for exhibition has achieved so high a degree of success as to occupy a position that might well be regarded as unique. That Mr. Higgs is fully acquainted with every detail essential to the production of incurved blooms in the highest state of development was evident in his paper, which we have had the satisfaction of publishing. He has afforded evidence upon this point in a still more conclusive manner by the large number of prizes he has been successful in winning at the more important of the chrysanthemum shows held in the United Kingdom. For a long series of years he was the winner of the Holmes' Memorial Cup offered by the National Chrysanthemum Society in the great class for forty-eight incurved blooms, and one knows not how long he would have continued to obtain this high distinction had he not resolved a year ago to retire from this important competition. Successful as Mr. Higgs has been in the cultivation and exhibition of incurved chrysanthemums, he has not by any means devoted his attention exclusively to them. On the contrary, he has proved a formidable competitor with the more showy Japanese varieties, and in 1905 he was successful in winning the Holmes' Memorial Cup for Japanese as well as for incurved, a feat not easy of accomplishment having regard to the keenness of the competition. On another occasion that we can call to mind he carried off, at an exhibition of the National Chrysanthemum Society, a valuable silver cup offered as the first prize in a class for twenty-four Japanese, in which there were twenty-two competitors. Mr. Higgs has been nineteen years head gardener at Fetcham Park, Leatherhead, the residence of J. B. Hankey, Esq., and during this period he has won first prizes at Hull, York, Batley, Bolton, Liverpool, Sheffield, Kingston, Bradford, Manchester, Bristol, Portsmouth, Winchester, and numerous other centres. The plate shown in the accompanying illustration includes two Holmes' Memorial Cups, two tea services, and cups won at Batley, Manchester, Liverpool, Kingston, and the National Shows. Although we have only referred to Mr. Higgs' work in connection with chrysanthemums, it must be said that his ability is not less marked in other of the departments of the extensive gardens under his charge.

Richmond Hill View.—When some years ago the Marble Hill estate at Twickenham was purchased by the local authorities for the purpose of preserving the view from Richmond Hill, a successful effort was made to place restrictions on building on certain adjacent riverside lands. The river frontage of Orleans House was included in the scheme, but a large portion of the estate was left in the market for possible building operations. It is therefore a source of satisfaction that the postponement of building operations for many years on a considerable area of the estate has been secured by the sale of the mansion and about half the land for the purposes of an important institution. Orleans House is one of the best known seats in the south-west of Greater London, and has a history extending over several centuries. In 1567 it was according to Lysons, let to Sir Thomas Newenham, and in the Parliamentary Survey of 1650 it was described as a "Pleasant and delightful tenement, about 20 poles from the river, built partly with timber and Flemish wall, with comely chambers; the gardens not only are for pleasure, but exceedingly profitable, being planted with cabbages, turnips, and carrots, and many other suchlike creatures."

Royal Horticultural Society's "Journal."—The second part of Volume XXXVI. of this publication has been issued, and contains much to interest those taking an active interest in horticultural matters. The contributions by the Rev. G. Henslow, F.L.S., V.M.H., on survivals among plants of the past, and the origin and history [illegible] vegetables, will appeal to scientists, while the paper by Mr. Praeger on the wild flowers of the West of Ireland will be of interest to botanists, and the papers on pansies and violas by Mr. W. Cuthbertson and Mr. J. Grieve; the building of rock gardens, by Mr. Clutton Brock; little-known grapes, by Mr. A. C. Smith; and the gardens of Athens, by Mr. D. S. Fish, are deserving of the attention of the general body of garden lovers.

Gloucester Rose Society.—We are pleased to learn that this society, which now devotes a large share of attention to sweet peas, as well as roses, has just completed a successful year. From the report presented to the annual meeting, over which Mr. Conway Jones presided, we learn that the year's work resulted in a balance on the right side and that the exhibition was highly successful. It was resolved to hold next year's show on Tuesday, July 4, and that an additional sum of £25 should be placed at the disposal of the schedule for the purpose of increasing the prizes for roses and sweet peas, with a view to attract both professional and amateur growers from a distance.

"**The Gardeners' Year Book for** 1911" is now published, and it will be found that, although the work has reached the fifty-third year of publication, it possesses the freshness and vigour characteristic of youth, and that additions have been made which render it even more useful than in past years. The established features have been maintained, with such revision as has been found necessary to bring them abreast of the advances that have been made in all departments of horticulture. The more important of the additions are the sections devoted to annual and biennial flowers and beautiful flowering shrubs. With these additions, the book becomes a complete encyclopædia of what to grow and how to grow the plants, flowers, fruits, and vegetables essential to large and small gardens. We shall take an early opportunity of referring to the "Gardening Year Book for 1911" more fully than is now possible, and in the meantime would add that it is published by Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C., price 1s., post free 1s. 3d.

Market Growers and the Waverley Market.—The question of transferring the vegetable market from the Waverley Market to the site of the old gasworks in New Street, Edinburgh, has recently been raised at a meeting of the Edinburgh Town Council, and the growers around the city are greatly alarmed at the prospect of the transfer of the market. A largely attended meeting was held the other day to protest against the proposal, and in the course of the meeting Mr. David King of Gorebridge, who presided, declared that to shift the growers from the Waverley Market to the Gasworks site would ruin their business. Councillor Chesser somewhat allayed the fears of the growers by stating that he felt they were a little over-alarmed about the matter. Mr. Paton, the City Chamberlain, who was present stated, that the Waverley Market was very profitable to the City. During the past year it had earned a net profit of £2,500, and the bulk of that had come not from the market gardeners, but from others who had rented the market for concerts, etc. He expressed the hope that as in the past the growers would not place any unreasonable obstacle in the way of the profitable utilisation of the building.

Potato Crop in Great Britain.—A preliminary statement has been issued by the Board of Agriculture showing the acreage under potatoes in Great Britain in the current year, and the estimated total produce and yield per acre. The area in England was 376,834 acres, and the estimated produce 2,467,179 tons, or an average of 6.55 tons per acre. In Scotland the area was 136,837 acres, and the estimated produce 878,300 acres, or an average of 6.42 tons per acre; and in Wales the area was 26,013 acres, and the estimated produce 132,810 tons, or an average of 5.11 tons per acre. The total area for Great Britain was 539,684 acres, the estimated yield 3,478,289 tons, or an average of 6.45 tons per acre. These figures represent a material decrease in the area and estimated produce, and a slight increase in the average yield per acre.

Prizes for Platform Gardens.—The competition for the prizes offered by the Midland Railway Company for the most attractive gardens at the stations on its system was this year unusually severe, for the number of competitors was large and the gardens generally were of a high order of merit. The awards made during the past summer have been just confirmed by the Board of Directors, and the four gardens that obtained premier honours were those at Morecambe, Five Ways, Malvern Wells, and Alcester. Next in order of merit were those at Borrowash and Defford. A large number of other gardens received prizes of various grades. Altogether the awards amounted to £325.

Penarth Rose Society managed, in spite of very untoward weather on its show day in July last, to make its income balance expenditure, the sums on both sides of the balance-sheet being exactly £235 4s. 10d. The Earl of Plymouth is president for the ensuing year, and Mr. H. Gerhold will continue to act as secretary to this very enterprising society. The exhibition of 1911 will be held on July 5.

Proposed Osier Cultivation in Scotland.—Mr. G. G. Esslemont, of the Aberdeen and North of Scotland College of Agriculture, and Mr. William Dawson, of the forestry department of Aberdeen University, have been appointed to report on the cultivation of osiers in the crofting districts of Inverness-shire. The cultivation of osier beds is recognised as a profitable form of industry, which has passed largely into the hands of Continental growers. The various kinds of willow thrive in ground unsuited for any other kind of crop. In the Highlands of Scotland there is no reason why osiers should not be cultivated. They are to be found to a considerable extent in the Fens of Lincolnshire and in the North of Ireland, and they appear to pay the growers. There is a fairly large outlet for all kinds of willows for basket-making and other forms of manufacture, and that being so, there seems no reason why Scottish smallholders should not have a try. A committee of Highland gentlemen has been appointed to help in the work of Messrs. Esslemont and Dawson.

A Gardeners' Protection Association.—Rarely, we think have gardeners combined to form an association with the avowed purpose of guarding their interests and safeguarding "the gardeners of the district against the depredations which take place." Such an association is being formed at West Melton and Wath, and the members are chiefly residents in the district who are allotment holders. Officers and committee have been appointed, and a general meeting is to be held at Winterwell on December 3 for the purpose of adopting rules, etc.

Poisoning of Animals by Potatoes.—Two cases of poisoning of farm animals caused by raw potatoes are reported in the "Berliner Tierarztliche Wochenschrift," and these emphasise the importance of exercising care in feeding farm stock with considerable quantities of potatoes. In one case a herd of cattle developed symptoms of poisoning after being fed on a large quantity of raw tubers, and in the other two cows were taken ill after a meal of parings of potatoes, these also being uncooked. It is suggested that to avoid the risk of poisoning animals fed with potatoes, the tubers should previously be cooked. This, however, is not so sure a safeguard as is assumed by some writers, for on turning to the Journal of the Royal Agricultural Society for 1897, we find a case recorded of eleven horses dying within three days under exceptional circumstances, and the cause of death being traced to their having been placed on a diet of steamed potatoes. It was in this case established beyond doubt that the death of the animals was not due to mineral poison or infection, and it was thought probable that the poison was some organic substance generated by the bacteria or fungi which were growing in the decaying tubers.

Sale of Poisonous Insecticides.—The conditions under which insecticides of a poisonous nature can be sold by nurserymen and seedsmen are of a very unsatisfactory character, and greatly in need of improvement. We had a further proof of this in the appeal heard in the King's Bench Division by Mr. Justice Darling and Mr. Justice Bucknill, on the 14th inst. This was an appeal from the decision of the County Court Judge, sitting at Kingston. The Pharmaceutical Society brought an action against Mr. James Nash, Jun., of Wimbledon, to recover the sum of £5 as a penalty for selling poison contrary to the provisions of the Poisons and Pharmacy Act, 1908. In March last a person employed by the Pharmaceutical Society called at the shop in Wimbledon, where Mr. James Nash, Sen., carries on the business of nurseryman and florist, under the style of Messrs. James Nash and Sons. This person asked for, and was supplied with, a half-pint bottle of XL-All Insecticide, which contained nicotine, a poisonous vegetable alkaloid, within the schedule of the Pharmacy Act, 1908. He was served by Mr. James Nash, Jun., who is an assistant to his father, and was not licensed under the Act. Mr. Nash, Sen., who is licensed, was not in the shop at the time. Under section 15 of the Pharmacy Act, 1868, the society can sue by way of penalty any person other than a pharmaceutical chemist who sells poisons; but by the Poisons and Pharmacy Act, 1908, section 2, section 15, of the Pharmacy Act, 1868, is not to apply in the case of "poisonous substances to be used exclusively in agriculture or horticulture for the destruction of insects . . . if the person so selling is duly licensed for the purpose by a local authority." It was contended on behalf of Mr. Nash, Jun., when the case was heard before the County Court Judge, that as the assistant of a person duly licensed under the Act, he was entitled to sell the insecticide. The County Court Judge gave judgment for the society, and in the course thereof said that as Mr. Nash, Jun., was not licensed to sell poisons under the Act of 1908, he had become liable to the penalty claimed. The latter appealed, but at the hearing on the 14th inst. their Lordships affirmed the judgment.

Poisons and Pharmacy Act, 1908.—Since writing the paragraph immediately preceding, relating to the sale of poisonous insecticides, we have received the following letter from Mr. G. H. Richards, who, as is well-known, took an active part in the proceedings which resulted in the passing of the above Act: "On Wednesday, the 14th inst., a doubtful point in connection with the Poisons and Pharmacy Act was settled by the Judges in the Divisional Court. Their decision was as follows: Under the Act of 1868, only a qualified pharmacist could sell poisons, not an unqualified assistant; and it therefore followed that under the amended Act, 1908, only a person licensed by the local authorities could sell poisonous compounds for horticulture and agriculture. Managers and assistants were not entitled to sell unless they held a separate licence. It is to be hoped that nurserymen and seedsmen holding licences under this Act will now take special warning from this decision, and not allow their assistants to be trapped. I am sorry to say that only within the last ten days several agents have been threatened with penalties for not affixing their name and address on the bottles, but as the purchasers were strangers, they should not have been supplied." Mr. Richards informs us that the Traders in Poisons Society are now going to approach His Majesty's Privy Council, asking for greater facilities for obtaining licences, and at less expense, so that assistants can obtain licences to sell (under the head licensee) at a nominal charge.

DECORATIONS WITH EVERGREENS.

Festivities at Christmas are very tame without decorations of evergreens, which can be used in many forms, and in all they are effective if taste is shown in their use. Wreaths and festoons are perhaps the best ways in which to use them, and in pruning such kinds as bays, hollies, cupressus, buxus, euonymus, gaultherias, and ivy, the nice pieces should be saved for this purpose. Sprays of Cupressus sellaginoides are most useful, as are those of variegated holly. Also Skimmia Fortunei and S. japonica, especially in a season like the present, when holly berries are scarce. We have at Leonardslee some thousands of hollies, but those with a good supply of berries could be counted on the fingers of one hand. Therefore, sprays that can be spared without crippling the trees should be cut at once.

SOME OF THE TROPHIES WON BY MR. W. HIGGS
At the Exhibitions of the National and other Chrysanthemum Societies.

Wreaths may be made on wet afternoons, as with simple instructions the men and boys soon become adept in the work. In the first place the material should be cut up in nice and convenient pieces in order that the work may be proceeded with in an expeditious manner. Measure the length of the wreath required, and then allow sufficient rope or string for tying at either end. Make both ends fixtures, and start at one end, and lay all the pieces of evergreen and berries one way, and the same thickness throughout. These wreaths look very pretty if done neatly.

Large entrance or inner halls, present a pleasing appearance, with four of these fixed in the centre, and then gracefully looped up at the corners, one in each, where a large circular wreath should receive the end. A lamp may be suspended from the centre, and from this may depend a bunch of mistletoe, this being supported by thin silver wire. If there be pillars a small wreath should be entwined around them, with one or two small flags at intervals of three feet or so, or pink and coloured paper can be used effectively. Paper flowers are now made so well, and are so cheap, that they can be freely used with good effect. They are really better than real flowers if the latter are not placed in vases, which they should always be. Small tin vases can be easily made to order of various shapes and sizes for the different purposes and positions. Nothing is more unsatisfactory than to see flowers dead and dying in decorations. I have seen church decorations with the flowers dead before the service began. These vases can be made by any smith or tinman, and last a considerable time if after use they are dried and dipped in paraffin and kept in a convenient place.

Large palms are useful for placing in recesses, or for openings or arches, and well-developed examples can hardly be put in the wrong places. Stood on pedestals that are of good height they are always effective, with Asparagus Sprengeri and a few pots of lily of valley at the base. Long trails of ivy are always useful, and can be worked in with good effect.

W. A. Cook.

Browallia speciosa major.—This may be sometimes seen bedded out in the summer, while, given a winter temperature of 50 degrees to 65 degrees, it will flower continuously at that season. Like most of the other browallias, it is a native of the elevated regions of South America, and has now been grown in this country for some years. The flowers, which are freely borne, are a kind of bluish-purple colour. It can be easily raised from seeds or struck from cuttings as readily as a fuchsia, while it will thrive in any ordinary potting compost.—W. T.

JAPANESE CHRYSANTHEMUMS FOR EXHIBITION.

The following paper was read by Mr. Norman Davis at the Conference recently held by the National Chrysanthemum Society at Essex Hall.

Many kind friends often tell us that the exhibition chrysanthemum blooms are already too large, and they do not want to see them develop any farther; but I hold, that all other qualities being equal, no flower, whatever it may be, chrysanthemum, rose, or anything else, can be cultivated to too large a size. Development is the soul of the gardener's work, and nothing can, or should, stay it. It is for us, however, both individually and as a society, to maintain a high standard of development, so that each step forward is only complete when all qualities are perfected, not only in the blossom, but the habit and vigour of the plant that bears it.

I think that sometimes our judges, both at our exhibitions and on the Floral Committee, do not give the fullest consideration to all the points required to maintain the highest standard of perfection. When, about nineteen years ago, some of the leading spirits of the society secured for us those handsome Holmes' Challenge Cups which have ever since been such a source of interest at our shows, it was thought by some of us that any new class in connection with these cups should be formed with the object of bringing out more variety of colour and form than was possible under the restricted conditions of the competitions then prevailing. Our largest class for Japanese was one for twenty-four blooms, and those in eighteen varieties only. Not without considerable opposition a class for forty-eight distinct varieties in the Japanese section was instituted, and although it was a big jump from eighteen to forty-eight, the class was an immediate success, and gave great impetus to exhibitors and raisers alike, by reason of the greater variety that could be shown. Now, however, with the large number of raisers we have, there is almost unlimited choice, with the result that size once again largely dominates our exhibits, to the exclusion of many beautiful forms and colours.

Successful exhibiting is the result of good all-round cultivation, and looking after little points that mean so much in the end; although, on the other hand, we are sometimes unnecessarily elaborate in our details. In the choice of cuttings, I am not so much concerned about the size of them as I am about the stock from whence they are taken. When we consider that the life of an exhibition variety is but a few years, and it is often two or three years before we see it at its best, I think there is material advantage in selecting our cuttings from those plants only that give perfect blooms, which, at the same time, will probably be the healthiest plants. If this was done systematically I think varieties would keep up their vigour for a much longer period. And in this direction also, I think resting the stock now and then for a season must help to keep up the quality of the flower. By resting I do not mean a process of starvation; that is, propagating from some low grade stock year after year which has never known the influence of cultivation, but I mean just providing an extra plant or two from your own cultivated stock, and giving natural treatment in the open ground for a season.

It may be well at this point to call your attention to what, in my mind, is the most important factor in cultivating these plants, namely to ensure perfect maturity, without which it is impossible to build up huge blooms. In this matter we have to consider how far we can create a luxuriant growth and yet mature it in proper time, so that when the period of bud formation comes round the plants are ready to go on with the function of flower building. Now, before we proceed farther, let us study the general growing principles governing this process of flower building, that is, transforming those thin flowers natural to the terminal growths into those immense blooms you wish to secure. In the first place, we have to create the plant, and then mature it; and it is on this little word "mature" that the whole of our ultimate success depends. The function of the plant's life is two-fold: (1) To build up its stems and branches; and (2) to develop its flowers; and it can only perform to the full this second function, after it has completed the first. Maturity does not altogether mean the ripening of the growth, but rather the completion of its active root growth, for when that has been secured the ripening process naturally follows. Thus, in the treatment of our plants, we have to consider all the points in relation one with another. At the commencement you determine which bud you wish to secure, and the date you expect it to form, and in relation thereto you must ensure that the plant is then ready to go on with its development.

If the plant has to complete a considerable amount of root action it is not in a condition for you to stop its growth for the purpose of securing your buds, for growth and root action should be equal. To secure this is a matter of root restriction, that is, size of pot used. According to the bud you take, so must you regulate your pots. In dealing with different varieties, however, you often find that one variety will make more root action in six months than another will in nine, so that it will not be inconsistent in sometimes we use a larger pot for a "first crown," than in some other cases we use for a "second crown," or even for a "terminal growth." Here we find the skill of the grower. He knows, to some extent, he can create a luxuriant growth, and yet have it matured in time for bud selection. To over-feed or over-pot frustrates our intentions, and failure more or less is bound to ensue.

It is well known that the doubling of flowers is mainly caused by restricted root action, and it is only this principle we apply to our chrysanthemums. Botanists tell us that "florets" are but the modification of foliar leaves, and this might be difficult to understand but for the facts before us. We have a variety giving us on its terminal growth a thin flower of some fifty to a hundred florets; we curtail a part of its growth by stopping at the second crown, and we then have a flower of, say, seven or eight hundred florets; or we curtail still further and stop at the first crown, and we obtain a flower with perhaps twelve to fifteen hundred florets. Thus we have the principle of flower building, but, of course, this is only an illustration. It may be that a variety is naturally double on its complete growth, and it would be folly in such a case to curtail so much as to attempt to develop a crown bud, which, if it opened at all, would be a mass of short florets without shape or form; and thus we get the principle of bud selection.

As I have to deal mainly with this one particular section, viz., the Japanese, there will be no need for me to do more than glance at the general details of cultivation. Our first thought is naturally soil, and I think we treat this too much from the point of view of its being simply a medium for feeding the plant, whereas the first use of the soil is to hold fast the plant. With a light soil, however rich in plant food, we cannot expect a steady, even growth. Such a soil requires an undue quantity of water, as it has no holding power, therefore a good stiff holding soil is essential, independent of its feeding properties. Providing it is rendered thoroughly porous, the nearer to clay a soil is the better chrysanthemums like it. Many growers are far too elaborate in the matter of drainage, in my mind, greatly to the detriment of the plant. Of what earthly use some 2in. of crocks are is a puzzle. I never use more than four pieces of crock to the largest sized pot, and in the early stages nothing beyond a piece of dry manure. There is then no breaking of roots to get the crocks away. I think that the bottom of the pot is just where the plant seeks nourishment. If instead of using a lot of fine silver sand you kept the soil open with ordinary ashes from the ashbin or stokehole, you would have little trouble about drainage; I use nothing else except what I put in as food, and I rarely have a pot clogged for want of drainage.

As already intimated, size of pots should be according to what the plants are called upon to do. Very few crown bud varieties require any larger than a 10in. one, in fact, the majority only 9in. Generally, plants should have three shifts from the thumb pots, or two from the 60's or 3in., but there are many of the stronger growers on which we are able to secure later buds, and if we get them well on in the earlier stages, they will very well take a fourth shift. If this can be given with certainty of perfect maturity, you will increase the size of your bloom considerably. Under this treatment, however, where you would have used a 10in. pot for a final, you use only an 8½in. or 9in.; and for the extra shift an 11in. or 12in. This extra shift, when for a second crown bud secured late in August, need not be given till late in June. This is a far better plan than the method of top-dressing—a practice I have little faith in.

FEEDING.

Japanese varieties will take more food, generally, than any other section, being of a grosser growth. We feed moderately in the early stage, increasing it during active growth, and gradually reduce again after the main growth is completed. To get full advantage of the food we give, the soil should be in proper condition, and of the right texture as already explained. These are the points:—We divide our nourishment. Some we put into the soil, and we complete the process of feeding in the form of liquids. For mixing with the soil I recommend to each barrowload (three bushels) of soil: bone-flour, 1 quart; burnt refuse, about 1 gallon; Peruvian guano, ½lb.; soot, 1 quart. The guano best for our purpose is a low grade, having only a moderate amount of nitrogen, but rich in phosphates and various salts. In potting, except for the very small stage, I do not see why the soil should not be of the same texture, and supplied with the same food all through. Many who write upon this subject seem to think that it is only for the final potting that properly prepared soil is required, for it is only at this stage that they give details for composts. But we want to get luxuriance into our plants from the commencement. For later feeding proceed in the same way: a little in the early stage, increasing as growth goes on. I am reluctant to recommend any particular compounds, of which there are many excellent preparations on the market, especially as I rarely use any preparations of which I do not know the complete nature. Personally, I have used for many years little else than Peruvian guano. It is rich in all those elements needed for hard and mature growth, and we can use it with so much more confidence than highly concentrated preparations, that I have always great confidence in recommending it to others.

In giving liquid manure we must take into consideration the fact of what we have already put into the soil, so that after each potting it is best to stay liquid food for a week or so. Guano, as a general food, should be used at the rate of one ounce to the gallon for the earlier stages, increasing it to two ounces when in the 5in. or 6in. pots and in the finals, till bud formation, then reduce again to one ounce, which continue to the finish. This, however, is not a complete course of food, as during active growth, that is, after the small stage until we stop growth, the plants require a larger supply of nitrogen than we find in the guano. This can very well be supplied by the liquid from fresh horse droppings and soot, either given separately or the guano added to it. In the latter case the guano is given in less quantity. Failing this, sulphate of ammonia or nitrate of soda at the rate of a half-ounce to the gallon given once, to two applications of guano, one or the other twice a week. After the blooms show colour discontinue the stimulants, only giving the guano, except for an occasional dose of those special chemicals referred to when treating upon colour.

(To be continued.)

HOME-GROWN BANANAS.

It has often been a matter of surprise to me that the handsome Musa Cavendishi is so seldom seen in gardens in which there would be no great difficulty in providing the accommodation necessary for its successful cultivation. As so well known, it is comparatively dwarf in growth, so that a very lofty structure is not necessary; its leaves attain a large size and give a tropical appearance to the structure; and the fruits, which are borne in huge clusters, one on each plant, are, when they have attained full maturity, simply delicious. Home-grown bananas are very different to those from the Canaries and the West Indies, and procurable at the fruiterers, although these are a boon to those who have no conveniences for the cultivation of the Musa, more particularly to town dwellers, who have to purchase the whole of the fruits they require. A cluster of well-ripened home-grown bananas is always an acceptable addition to the dessert, and in consequence of the many ways they can be used in the culinary art, they are eagerly sought after by the cook.

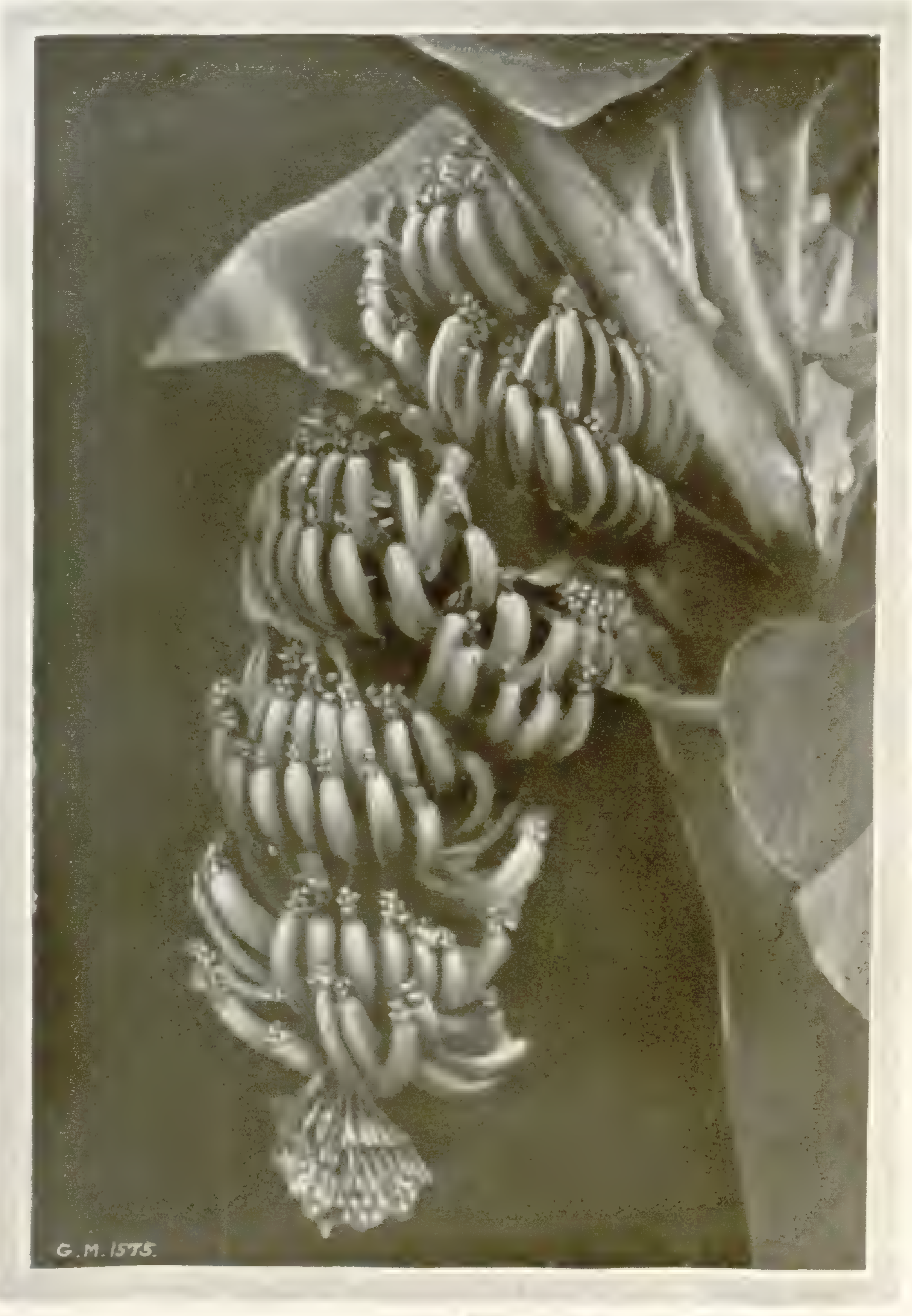
The culture of Musa Cavendishi is really quite simple. A commencement is made by obtaining strong suckers, which should be put in fairly large pots, a compost, consisting of loam, well-rotted manure, bone-meal, and lime rubble being used. When rooted the suckers should be transferred to a bed made up in a roomy house in which a stove temperature can be readily maintained. This bed should range from fifteen to eighteen inches deep, and should rest upon a good depth of drainage materials, and these must be connected with a drain to carry the water that passes through them out of the house. An efficient drainage system is essential, because during the heat of summer large quantities of water are required, and were provision not made for carrying off the surplus moisture the soil would become sour. The bed should be formed with good fibrous loam, with a sprinkling of bone-meal and lime rubble.

The planting should be done in July or August, as when the plants are put out during those two months they will develop fruit during the following summer. This is a point of importance, because, according to my experience, the bunches developing during the winter months are not so good as those attaining development during the summer. This difference is not surprising considering the great difference in the amount of light and solar heat in the two seasons. In a few weeks after planting they begin to grow away freely, and require plenty of heat and a liberal degree of moisture, both in the atmosphere and at the roots. A good soaking of liquid manure once a week is also highly beneficial. Use the syringe freely during bright weather, taking care not to damage the leaves, which are very brittle. As a matter of course, the syringing must be done at such times as to avoid the risk of the leaves being injured by the rays of the sun when wet.

The suckers that will spring up around the base of the plants must have attention, and the best course is to remove all that appear until the fruit is well developed, when the best placed one to each plant should be selected to take the place of the fruiting stem when it has brought its fruit to perfection and is cut away. The suckers not required will be removed. During the summer months screen the leaves from the direct rays of the sun, but avoid a dense shade, as that has a tendency to weaken the foliage and make it flabby. When fully developed cut the bunch and suspend it in a dry fruit room to ripen, and use the fruits as they ripen. The bunch of which I send you a photograph, is one that has been produced in the gardens here [Dunorlans, Tunbridge Wells] during the past summer, and was cut a short time since.

When the bunch is removed the stem is cut away, and a little of the soil is taken from the surface of the bed, and replaced with a compost prepared as advised for making the bed. After a few years it is advisable to clear away the old bed and replace it with wholly new material, and new plants. With so much water the soil soon becomes sour, and when that happens the growth is not satisfactory. Musa Cavendishi is liable to the attacks of thrips and scale, but by carefully syringing at intervals with an approved insecticide these pests are easily kept in check.

E. H. Caterer.



[Photo: J. Richards, Tunbridge Wells.

A FINELY DEVELOPED BUNCH OF BANANAS.

Gladiolus Baron Joseph Hulot.—There are now a great many varieties of gladiolus with flowers of a more or less bluish shade. One of the oldest, and at the same time still one of the most striking, is Baron Joseph Hulot. It is not a strong grower, but is for all that of good constitution. Belonging as it does to the Lemoinei race, even comparatively small bulbs will produce a good spike of blossoms. The colour is a kind of rich bluish-purple, so distinct from most outdoor flowers.—W. T.

CHRISTMAS FRUITS.

As we look into the fruiterers' and greengrocers' shops at the present time, we cannot but be struck by the small proportion of English fruits exhibited for sale, and at the high prices asked for the various kinds. As an example, for good cooking apples of the Bismarck, Bramley's Seedling, Wellington, and Blenheim Orange varieties, 7s. per bushel is being asked. I heard the other day of a sample of Lane's Prince Albert being sold for 20s. per bushel, and for a good sample of Cox's Orange Pippin 27s. per bushel was obtained, the same prices being offered for a further supply up to Christmas.

When bread, potatoes, and apples are fairly plentiful and cheap, the labouring classes can generally manage to pull through the winter pretty comfortably. What more appetising dish can be set before a family of hungry children than a good big apple pudding, or well-made baked apple dumplings. I have frequently seen a farm labourer sitting on a hedge bank with a hunch of bread and cheese for his dinner, washed down with a little cold tea, but what a difference to the enjoyment of the meal will be made if the bread and cheese can be followed by a capitally baked apple dumpling! But no such luxury awaits the labouring man this Christmas with apples at 4d., 5d., and 6d. per pound.

Pears are usually a delicacy at Christmas, but this year English fruits are most difficult to obtain. I know of an instance where fruits from a wall tree were sold for 6s. per doz. in the green state, as they hung. French pears are being sold at 6s. per case of twenty-four. Nova Scotia varieties of apples are fetching in the market from 15s. to 23s. per barrel of 126 lbs., and Canadian Blenheims are as high as 21s. to 25s. per barrel.

English grapes are priced at 1s. per pound for Colmars to 4s. per pound for Muscats, and 6s. per pound is being given for extra good bunches. That popular Christmas grape, the Almeria, is about double its usual price, from 20s. to 25s. per barrel of 60 lbs. being asked wholesale. Oranges promise to be fairly cheap; Denias and Valencias are quoted at 10s. 6d. to 15s. 6d. per case of 420, and up to 24s. per case for extra large varieties; Malagas, Jamaicas, and Jaffas are priced at 10s. to 12s. per case, but up to the present time all these fruits lack an attractive colour. Malaga lemons are priced at 40s. per case of 420.

All kinds of nuts are exceptionally dear; Brazils are quoted up to 60s. per cwt.; chestnuts, 18s. per bag of about 1½ cwt.; cobnuts, 1s. to 1s. 6d. per lb.; walnuts (Grenobles), 9s. per bag of 16 lbs.; and Barcelonas are 34s. per bag of 1¼ cwt. English tomatoes are gradually becoming scarcer, and the quality is decreasing, but tomatoes from the Canary Islands are plentiful, and the quality shows an improvement.

J. J. Willis.

PERPETUAL CARNATION R. F. FELTON.
Flowers rose-pink. F.C.C., December 13, Perpetual Carnation Society.
Mr. H. Burnett.—(See New Plants.)

For pretty gardens and lovely flowers read The Flower Garden, by T. W. Sanders, F.L.S. An up-to-date work on the formation, planting, and management of the garden, with description and cultivation of flowers and plants adapted for outdoor culture. Price 7s. 6d. net, by post, in box, 8s., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

PROTECTION FOR ROSES.

As winter weather approaches the annual question respecting the need of, and methods for, protecting our roses crops up. I know of some cases where, a few years ago, the roses were wrapped up in straw and bracken until the heads of standards were almost as well packed as if the plants had to be despatched on a journey. Mats were placed over climbers, on walls and fences.

As experience comes we find such over-protection almost as bad as none at all, because the wood is induced to make premature growth, unless the weather continues severe. Much depends upon the variety, and we now have little need to grow those of extra tender constitutions with the excellent selection of almost any desired colours available. Not only have the teas and noisettes proved considerably more hardy than was imagined a quarter of a century back, but we have now a race of hybrids from the more hardy perpetuals that all assists in the direction of frost resistance.

Position and district also need consideration. What will be needed in the North, or exposed places in the Midlands, can often be dispensed with elsewhere. One cannot give any definite guide, and I know of many who never protect roses in the slightest degree. It is the happy mean that should be aimed at here, taking into consideration the variety, district, and aspect. To my mind, very little protection is necessary in the majority of cases.

Then as to the material used. Bracken, strawy litter, and other substances, easily drifted by wind, are almost useless, because a steady, or what I may perhaps be allowed to style a quiet frost, does very little harm. The worst is a keen frost-laden wind, and in this latter case the dry litter would certainly be blown off from the wood we wished to protect, and so lose its efficacy. Another objection to such material is that rain or snow can so press it around the roots or base of the plants, that a wet mass is the only result, and, I take it, few will dispute that wet and frost combined are doubly harmful. It is for this reason I do not favour the use of well-rotted manure as a winter dressing too near the base of the plants.

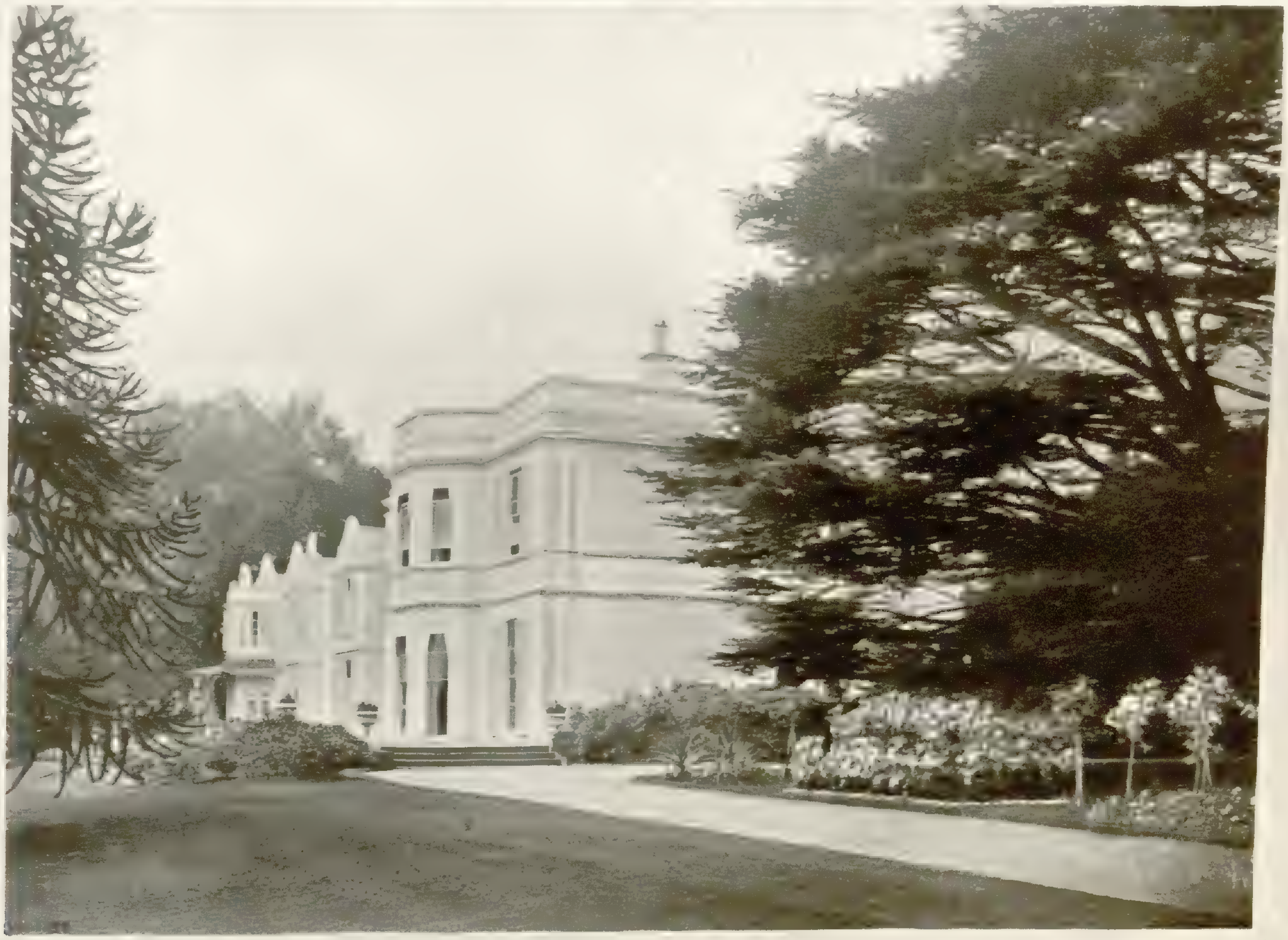
My own choice would be boughs of birch, spruce, or other firs, anything that will break the wind. These may be stuck into the ground, and will not blow away into odd corners at the very time their protection is most needed. They are easily fixed upon the windy side, and as readily removed, while they do not hold water or have the messy untidy appearance of litter or bracken. They can be kept in readiness and used when wanted. In the case of standards, none but the hardiest should be grown in this form unless a sheltered position is accorded them. Bracken among and around the heads is the only thing to be seen here, but it must be tied up securely to be of service. Not much is needed, and being kept from contact with the ground it will be dry during frosty periods.

There is no doubt the best plan for dwarfs is to draw up a fair amount of the surrounding soils to the base of the plants. This, at any rate, protects in the most effectual manner all bottom eyes, and also has the great advantage of keeping them drier. I do not mean to decry all mulching, but to warn against moisture-retaining material being in touch with the base of the plants, which, I feel certain, does more harm than good.

A. Piper.

WARREN HOUSE, STANMORE

Right away up the hill from the little one-platformed station of Stanmore, in Middlesex, and about a mile and a quarter from it, stands Warren House, the residence of Mrs. Bischoffsheim. The gardens are extensive, beautiful, and diversified, and set in a well-wooded estate of about three hundred acres. Being at a considerable elevation, the house and gardens command extensive views over extremely pretty country, with the whole of the western side of London in the distance, ranging from the Alexandra Palace in the north to the White City in the south. From such a position as this, the mighty Metropolis, softened into beauty by distance, becomes a splendid background for many miles of charming scenery.



[Photo: H. N. King.

WARREN HOUSE—GARDEN FRONT.

The trees and shrubs form one of the outstanding features of interest in the gardens of Warren House. A grand old Cedar of Lebanon occupies a commanding position quite close to the mansion, while a magnificent Golden Queen holly, the largest I have ever seen, has a fine Araucaria imbricata as near companion. On the outskirts of the pleasure grounds there are numerous tall and clean-stemmed Scots firs that make an admirable framework for the picture composed of masses of rhododendrons, azaleas, lilacs, and roses so effectively grouped around the widespread lawns.

French and Dutch Gardens.

To the northward of the mansion, and extending for some distance in a line with the garden front, is a broad gravel pathway, and on the inner side is an equally long and straight border or bed, about four feet wide. In the summer this is gay with begonias, while for a spring display it is filled with forget-me-nots, margined with yellow pyrethrum. Down the centre of this long bed are low, close-headed standard box trees. But this bed or border serves chiefly as a setting for the French garden that extends right along to and under the old cedar. The design of this garden is difficult to describe. It is formal, of course, but in each section the beds start from one of two points, and their flowing curves extend over a considerable area. All the beds are outlined with narrow box edging, set in bright clean gravel, and filled with broken charcoal of a distinctly blue colour.

Mrs. Bischoffsheim's able gardener, Mr. McIntyre, who has had an unusually wide experience of landscape gardening and garden design, is chiefly responsible for this French garden, and it embodies some features seen in Continental gardens he has visited. Such a garden gives some colour even in the dark dreary days of winter, while its extension under the widespread limbs of the giant cedar, where plants will not grow, is a distinctly novel idea.

Farther from the house the Dutch garden yields another surprise, as it is screened from general view by trees and an undulating hedge of Portugal laurel on the one side, and by a range of glass-houses on the other. Box, yew, and holly, green and golden, are the subjects used in this extensive display of topiary work. With the exception of a few quaint figures, the shrubs are clipped into strict geometrical designs, and all are set in and surrounded by a closely cut lawn. Between the Dutch garden and the neighbouring range of glass-houses is a splendid wide border of roses. Here, within a neat edging of box the Queen of Flowers makes a grand display in great variety all through the summer and autumn.

Herbaceous and Water Gardens.

The grouping of certain classes of plants or the arrangement of various styles of gardening in certain parts of the garden, so that each feature is more or less complete in itself, are now very frequently practised in the design of new gardens or the remodelling of old ones. There is very much to be said for this method, especially in gardens of considerable size where each section may have ample room and yet not detract one whit from the restfulness and beauty to which a garden as a whole owes its greatest charm. At Warren House the several notable features are cleverly arranged; each seems to have had just the right position assigned it so that no one intrudes in the smallest degree on another. Although wide undulating borders of herbaceous plants are being planted near the pavilion at the commencement of the fine golf course in the park, the herbaceous garden proper is not right out in the open, as in so many instances. It is a broad, sheltered spot bounded by low hedges of yew. Two wide borders are separated from each other by a broad grass walk. Here the flowers may be inspected in comfort. Good old-fashioned flowers are mostly employed in this garden, and right well they thrive.

Near the herbaceous garden is a long formal pool, in which the choicer water lilies and other aquatics are planted. This is margined with moisture-loving subjects, notably irises in variety, and the whole presents a pleasing and effective picture in the summer season.

The Roses and the Vistas.

In a comfortable spot, sheltered, but not overshadowed by trees, and where it can be well overlooked from the terrace walk, is the rose garden. An enormous number of rose trees have gone to the proper furnishing of this garden. It is a large rose garden, with the geometrical beds cut out of the turf. There are pavilions and pillars covered with the finest of rambling varieties.

while standards and dwarfs of the best of the H.P. and H.T. varieties fill the beds among and around these prominent features. I should like to have seen this rose garden when at its full summer beauty, for it must have been a wonderful and fragrant picture. Near the rose garden is a very light pergola or rose walk, with Crimson Rambler and Dorothy Perkins growing up the supports and along the chains in a way that shows their appreciation of the position they occupy, and gives evidence of their intention to clothe the pathway with flowers in a season or two. Towards the margin of the lawn in which the rose garden is set, a series of tall standards of Wichuraiana roses weeping standards—have been planted recently, and in due course they will add their quota of floral loveliness to this part of the garden.

FLOWER BEDS IN THE WARREN HOUSE GARDENS. [Photo: H. N. King.

When, nearly two years ago, Mr. McIntyre took charge of the Warren House gardens, the beautiful piece of woodland to the north-east somewhat troubled him. His early experience in forestry told him that the undergrowth should be cleared or thinned severely for the sake of the trees. As game was not preserved in the wood he soon obtained permission to effect a clearance. During the progress of this work he was struck with the stateliness of the many fine oak, beech, and lime trunks, and conceived the idea of cutting broad walks right into the heart of the wood from various points, so as to create interesting and charming vistas. After a good deal of thoughtful planning his project was placed before Mrs. Bischoffsheim, who, taking a keen personal interest in every part of her garden, at once entertained the idea, and entered heartily into its consummation. She obtained a fine statue of Diana the Huntress, and also four wonderful old curved stone seats, finely carved, and with these formed the objective in the centre of the wood, to which five vistas now lead.

Not more than half a dozen trees had to be removed, and now the beauty of the woodland is revealed to all who pass along these long, straight, hornbeam-hedged pathways, while from the central viewpoint the house and five distinct glimpses of the garden can be seen.

The Glass Houses.

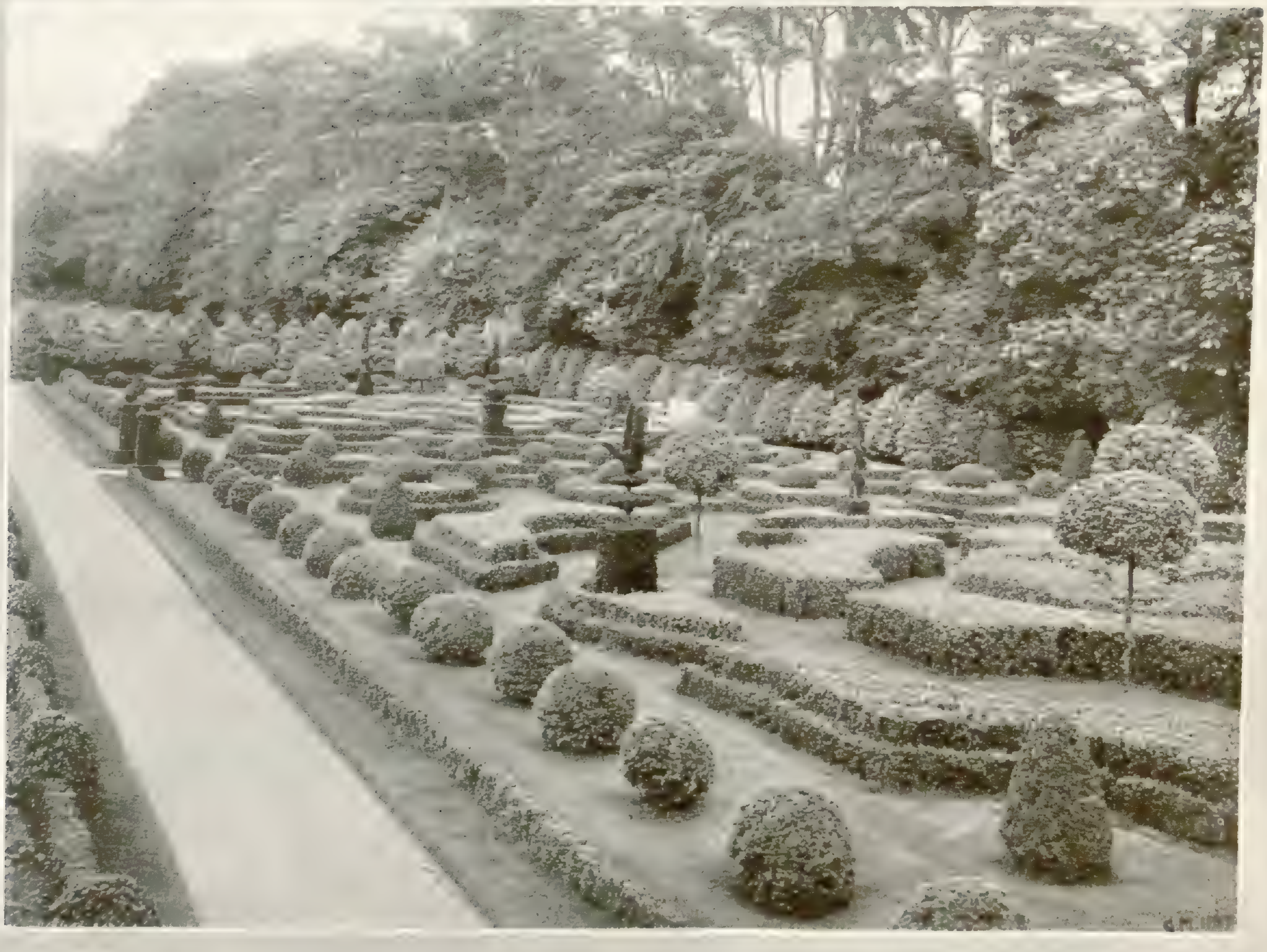
As one of the leaders of society Mrs. Bischoffsheim entertains largely at Bute House, in South Audley Street, S.W., as well as at Warren House, and consequently there are great demands upon the gardens for fruits, flowers, vegetables and plants. This means the upkeep of extensive fruit and kitchen gardens, but, unfortunately, the outdoor fruit crops at Warren House have been almost a total failure this year.

The glass department is a very large one, consisting of about forty fruit and plant houses. There is an orchard house about eighty yards long devoted chiefly to cordon pears, plums, sweet cherries, and dessert gooseberries, trained to cross trellises. Two houses are filled with cattleyas and lælias, species and hybrids, and there are numerous young seedling orchids in which Mrs. Bischoffsheim is taking a close interest. Two houses are occupied by odontoglossums and the cooler oncidiums, one shelters a batch of the glorious Disa grandiflora—an orchid that is probably managed better and in larger numbers at Warren House than in any other garden in the kingdom. A new house is set apart for the blue-flowered Vanda cærulea, there are three houses of tree and Malmaison carnations, nine vineries, many peach and fig houses, and stoves and forcing pits, and a very big, massively built winter garden furnished with araucarias, palms, bamboos, dracænas, and other elegant foliage plants, and providing an admirable place for afternoon tea at any season of the year.

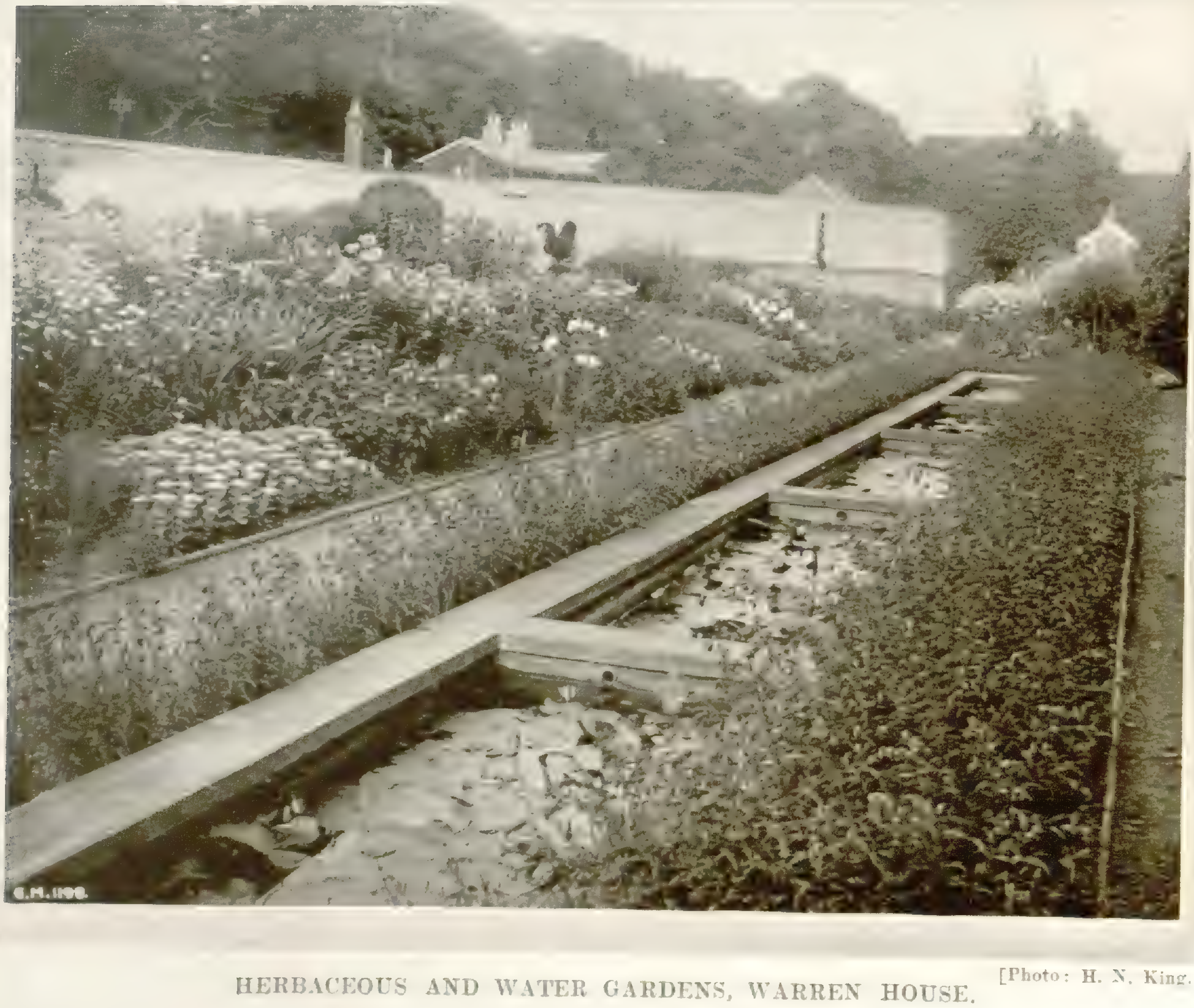
A high standard of excellence is maintained throughout the establishment, and skilful culture, with its attendant handmaidens, order and scrupulous cleanliness, are evident everywhere. In the model farm, with its herd of pretty Alderney cattle, and in the various workshops, the same businesslike procedure is seen. But Mr. McIntyre is not quite satisfied that high-water mark has yet been reached, though he believes it can be attained when the various alterations in hand are completed, and when he and his staff of between forty and fifty hands will be able to devote still more attention to those minor details that put the finishing touch upon good gardening. For the present, however, both employer and employed may be justifiably proud of the Warren House gardens and the position they occupy in the horticultural world.

Charles H. Curtis.

Hippeastrum aulicum. — We generally look upon the spring months as the flowering period of the hippeastrums, which, as far as most of the garden forms are concerned, is quite correct, but this species blooms, as a rule, during the autumn and early winter. The flowers are of a deep red, veined with crimson, and shaded in the centre with green. The segments are unusually pointed, and are not, as in the better forms of hippeastrum, equidistant from each other, the upper and lower ones being divided by a considerable space. It is a native of Rio de Janeiro, and has been long in cultivation. Some individuals are, from a decorative standpoint, much superior to others. Owing to the irregularly shaped flower and pointed segments, Hippeastrum aulicum has been but little employed by the hybridist in the production of new varieties. —W. T.



FRENCH GARDEN, WARREN HOUSE. [Photo: H. N. King.



HERBACEOUS AND WATER GARDENS, WARREN HOUSE. [Photo: H. N. King.

USEFUL AND SHOWY BARBERRIES.

(Concluded from page 993.)

B. aquifolium.

This is, perhaps, better known to some people by its synonym of Mahonia aquifolium. Its pinnate evergreen leaves and terminal racemes of yellow flowers, which appear in March, are well known to garden lovers, for the species is one of those good natured shrubs which thrive almost anywhere where a plant may be expected to grow. A native of Western North America, it has been in cultivation for about 90 years, and several well-marked varieties have developed from it. Under ordinary circumstances it grows 3 to 4 feet high, though it may attain double the height, and form a bush 12 feet or more across. A peculiarity of the plant is that during winter some of the leaves take on rich hues; bronze, red, and scarlet all being represented. Good varieties are fascicularis, Murrayana, undulata, and macrophylla. In America the dried fruits are known as Oregon grapes.

B. aristata.

This is a deciduous species from the Himalayas. It is of strong habit, and forms a bush 12 to 16 feet high, and as far across. Where plenty of room is available it forms a handsome lawn specimen, whilst it is an excellent subject to plant in the back of a shrubbery where an unsightly object has to be blocked out. The flowers are pale yellow, and are succeeded by bunches of conspicuous purplish fruits which are coated with a glaucous bloom.

B. buxifolia.

A sub-evergreen species from Chili and of upright habit, this is clothed with dark green box-like leaves, and bears during April and May rich orange-coloured flowers from the leaf axils. Mature plants are from 6 to 8 feet high, but it may be kept dwarfer by pruning. A dwarf variety called nana may also be obtained.

B. japonica.

This native of China and Japan is an evergreen of commanding appearance when well grown. It must, however, be planted in a permanent position whilst quite small, for it is very impatient of root disturbance. Its principal asset is its large pinnate leaves, which are composed of about nine large thick leaflets, and are up to 15 inches in length. The yellow flowers are borne in terminal inflorescences in March, and are followed by blue-black berries. It grows 5 or 6 feet high.

B. Thunbergi.

This Japanese deciduous species has three periods during which it is very attractive. In April and May its pale yellow flowers are pretty; later on scarlet fruit forms an attraction; whilst in autumn the leaves colour brilliantly before they fall. Growing 3 to 4 feet in height, it forms a dense bush, and is a suitable plant for the front of a shrubbery.

B. vulgaris.

The common Barberry of our hedgerows must not be passed by without notice, for its racemes of coral-red fruits in autumn are unsurpassed in beauty by those of any other ornamental fruited shrub. It may be grown almost anywhere, and is excellent for places where a strong, vigorous bush is required, for its intensely spiny stems are proof against attacks by man and beast. Flowers are borne in May, and the fruits ripen during August and September. There are varieties in quantity, but few are worth growing. One with purple leaves serves as a subject for beds of coloured foliage shrubs, whilst the white-fruited form is somewhat of a rarity.

W. Dallimore.

MISTLETOE.

The common Mistletoe (Viscus album) is so popular at this period of the year that Christmas festivities can scarcely be carried on aright if it is missing from the decorations of the home. This popularity is doubtless due, in a large degree, to the many legendary traditions which centre round the plant, for from a mere decorative standpoint there are many shrubs which have more to commend them. Its use is probably a relic of pagan times, and from being a plant round which all sorts of superstitions gathered, it has gradually relinquished its claim of being able to protect the wearer from all kinds of evils, to assume a character of purely sentimental significance.

There is an old Scandinavian legend associated with the mistletoe from which its present use as a "kissing bush," in house parties may have been derived. This may be found in "Folkhard's Plant Lore," and runs somewhat as follows: "Baldr (the Apollo of the North) was rendered by his mother Frîgg, proof against all injury by the four elements, fire, air, earth, and water. Loki, the evil spirit, however, being at enmity with him, fashioned an arrow out of mistletoe (which proceeded from neither of the elements), placed it in the hands of Hödr, the blind deity, who launched the fatal dart at Baldr, and struck him to the earth. The gods decided to restore Baldr to life, and, as a reparation for his injury, the mistletoe was dedicated to his mother Frîgg; whilst to prevent it being again used adversely to her, the plant was placed under her sole control so long as it did not touch the earth, the empire of Loki. On this account it has always been customary to suspend the mistletoe from ceilings; and so whenever persons of opposite sexes pass under it, they give one another the kiss of peace and love in the full assurance that this plant is no longer an instrument of mischief."

Though it is of a parasitic character, an old West Country legend informs us that this has not always been the case, but that at one time it was a goodly forest tree. The wood, it is stated, was used to form the cross on which the Saviour was crucified, consequently the tree was condemned for evermore to flourish only as a bush, and that at the expense of some other tree.

That it is not fastidious regarding its host is very evident, for, though it is most frequently found on the apple, it is quite at home on lime, poplar, willow, and other trees. It sometimes occurs on the oak, but less frequently than on several other trees. This comparative scarcity on the oak may have been the reason for the Druids holding mistletoe grown on the tree in high esteem. From old books we learn that when mistletoe was found growing on oak the Druids repaired to the tree, clad in white garments, taking with them two white bulls, a golden pruning-hook, and a sheet. The high priest ascended the tree and cut the mistletoe with the golden hook. It was caught in the sheet held below, for if it was allowed to touch the earth its virtue departed. The bulls were then sacrificed, and, after the feasting was over the mistletoe was divided amongst the people, whom it protected from witchcraft and various other ills as long as it was worn. Though it might naturally be supposed to have been an enemy of witches, yet it entered into their pharmacopœia, and we are told that witches used the berries with those of the holly, yew, and the acorns of the oak to prepare a chain which, if put under the pillow of a maiden, who must go to bed before twelve at night, would reveal to her much that she was desirous of knowing relative to her sweetheart and the result of her love affairs. Another way of obtaining an insight into a person's future was to gather fresh mistletoe berries, not exceeding nine in number, these were to be steeped in a liquid composed of equal proportions of wine, beer, vinegar, and honey, and taken as pills without having food before going to bed. The person was advised to go to bed early, and the charm worked most effectively on Christmas Eve, or on the first and third of a new moon. In some parts of the Midlands a practice existed at one time of offering a branch of mistletoe to the first cow that calved after New Year's Day in order to keep bad luck away from the dairy throughout the year.

It was possible in olden times to produce a medicine cheaply, which was warranted to cure all ills. This was done by soaking mistletoe in water and drinking the latter. We can only imagine that people must have been easily satisfied in those days, for some of the old herbalists tell us that mistletoe berries made superior birdlime to holly, whilst they are very decisive as to the evil effects which ensue if birdlime is taken as a medicine.

However mistletoe came to be so popular matters little; the side of the question which troubles most people is the fear that its popularity should wane, for in some districts of England, particularly Herefordshire, Gloucestershire, and Worcestershire, immense consignments are sent to the various large markets every year, whilst it is sent from Normandy also in large quantities. In some parts of the country it is difficult to keep mistletoe from spreading right through an orchard, whilst in others there is almost an equal difficulty in inducing it to grow at all. It appears to find most satisfactory conditions where the atmosphere is humid, and the temperature moderately warm. In such places, berries rubbed into a rough place on the bark, or into a fork between two branches, is quite sufficient to start a growth. A section cut through a branch on which mistletoe is growing will reveal the curious growths called "sinker roots," by which the parasite obtains nutriment from the host. When a colony has been started it may be found that no berries will appear. This will possibly be due to one sex only being represented, for it must be understood that male and female flowers are borne by different plants.

W.

Abutilons.—Among the greenhouse plants of which flowers may be obtained during the winter, and, indeed, throughout the greater part of the year, must be included the different garden varieties of abutilon. They may be grown as bushy plants, from two feet high, and upwards, or as tall standards, in which way their strictly pendulous blossoms are seen to advantage. For the same reason they are well suited for training to the roof of the greenhouse, while their quick growth stands them in good stead for furnishing the pillars or back wall of the same structure. There is a long list of varieties, but many of them greatly resemble each other. A good selection is Boule de Neige, white, Sanglant, red; Golden Fleece, yellow; and rosæflorum, pink.—W. T.

A GOOD COOKING APPLE.

Norfolk Beauty.

This apple is said to be a chance seedling from Warner's King and Waltham Abbey Seedling, originating in Norfolk. It was introduced by Mr. W. Allan, gardener to Lord Suffield, Gunton Park, about ten years ago. Undoubtedly it possesses points that remind one very much of these two sorts. In shape it follows the latter more closely, being like it in the eye and not so flat as Warner's King, while being more rounded near the apex than that old favourite. In colour it more resembles Waltham Abbey Seedling, with a deep yellow skin when kept awhile, and generally showing traces of the russety specks of that variety. At times it shows a slight trace of the faintest red on the sunny side, but it is seldom that this happens as in the case of its other parent, Warner's King. D. T. Fish is said to be synonymous with Warner's King, and I have not been able to detect any difference in the two (having grown them both side by side for many years) except in the question of colour, and this slight tinge of red comes out in fruit of D. T. Fish, whereas I have not seen it in Warner's King; therefore this tint may come to Norfolk Beauty through its parent.

I look upon Norfolk Beauty as a distinct and desirable culinary apple that will eventually take the place of both Warner's King and Waltham Abbey Seedling. The former, I regret to say, appears to be so weak in its constitution of late that we do not obtain the heavy crops from it that we were wont. The fruit, too, seems much more liable to "scab," and certainly the trees are much more affected by canker than formerly. This is not my experience only, but one shared by many growers, especially in Kent. Waltham Abbey Seedling is too shy in bearing, therefore of little value.

The great point in Norfolk Beauty is its consistency in cropping. I have many times seen the original tree at Gunton Park in summer, and never saw it without a good crop, even when apples were generally scarce. The tree is not an excessive grower, but quickly forms fruiting spurs if not pruned too closely. In all forms of growth it is a success, especially as a half-standard, enabling other crops to be grown between it conveniently. As to its season or its keeping qualities, I am a little puzzled. When I first saw it the fruit kept finely until the middle of January, or a little later, but during the past four years the difficulty has been to keep it until November. The cold sunless seasons experienced may have had much to do with what I hope is not a permanent defect. In any case, I look upon Norfolk Beauty as a distinct and good addition to an already long list of kitchen apples.

E. MOLYNEUX.

Norfolk Beauty in Scotland.

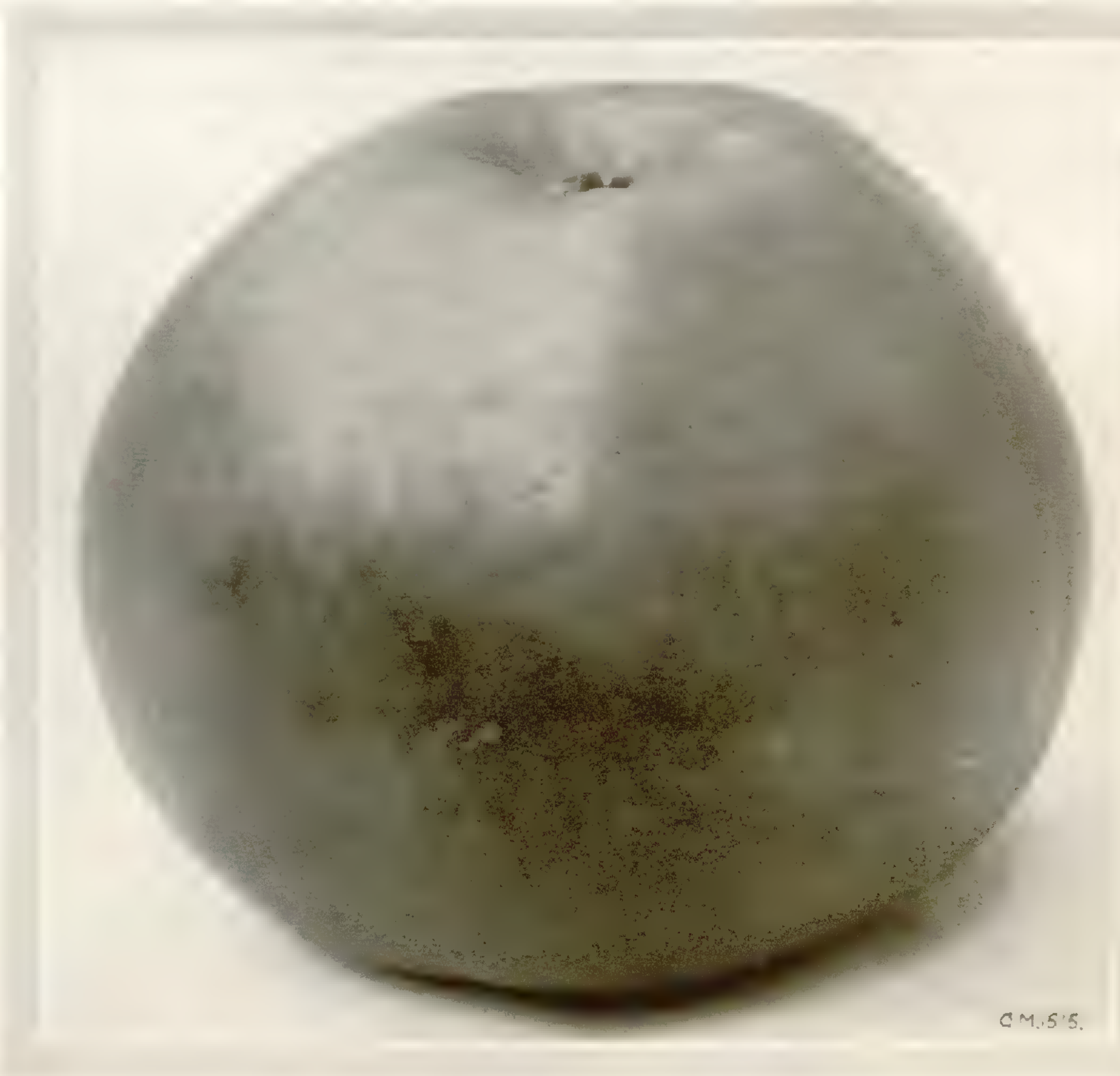
A few years' experience of this comparatively new variety, from the maiden plant to the fruiting stage, gives convincing proof that it is certain before long to become very popular in the northern parts of the kingdom, as it is already in the south. Grafted upon the paradise stock it grows with easy freedom, and planted in the open garden soon makes a very shapely bush tree, without much attention by way of pruning or training being required.

At an age of from three to five years fruiting begins, and, so far as can be ascertained at present this is continued with good regularity afterwards.

In form and size the individual fruits very closely resemble those of Warner's King, but the general contour is rather more even, and the blemish that so frequently appears beneath the surface upon large specimens of the last-named have, so far, never been a prominent feature in this.

While growing, and until the time arrives for gathering, except in the case of wall-trained trees, the fruits continue green, but, after being stored for a few weeks, this is gradually replaced by rich deep yellow over the whole surface, and so remains for a long period.

As a culinary fruit Norfolk Beauty is in season from October until February or even later, when the autumn weather is favourable, thus allowing of thorough maturity being possible of attainment while yet the fruit is upon the tree.



COOKING APPLE NORFOLK BEAUTY.

For exhibition it is sure to be largely grown in future, it having three very essential qualities—size, form, and high and distinct colour to recommend it.

JAMES DAY.

Aucuba japonica vera.—Of the female aucubas, that is to say the berry-bearing forms, one of the very best is that grown generally under the above name. It is much less vigorous in growth than some of the others, being of a freely branching habit, and with rich shining green leaves. Even on small examples the comparatively large bright scarlet berries are borne in great profusion. Grown in pots, it is particularly valuable for decorative purposes under conditions where more delicate subjects would be liable to injury. Delightful groups of this particular form may be often seen at the autumn and winter meetings of the Royal Horticultural Society. In order to obtain the very best results artificial fertilisation is necessary, but out of doors a close association of the berry and pollen bearing forms will ensure a good crop of berries.—W. T.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CATTLEYAS AND LÆLIAS AND THEIR HYBRIDS.—Some of the early-flowering cattleyas, such as C. Trianæ and C. Percivaliana, among the species and numerous hybrids, will have their flowers advancing rapidly. Very often difficulties are experienced at this season of the year, when high winds are prevalent, in retaining the flowers in a satisfactory condition after they have become fully expanded. An excess of atmospheric moisture, with a low temperature, will be almost certain to cause damp-spotting of the floral segments. In some cases it may be only minute, in others the disfiguring spots will render the flowers absolutely useless. It is not an easy matter to avoid these, for when the conditions suitable for the expanded flowers are provided, one is liable to have unsatisfactory results from the buds expanding, while other plants may have growths developing which would suffer from dry conditions. It is desirable, therefore, to retain the flowers in good condition by devoting a portion of the house to them in which the damping, to some extent, may be prevented. Where a house is set apart for plants in bloom the difficulty is practically disposed of, as the necessary conditions are thus more readily provided.

THE MEXICAN SECTION OF LÆLIAS, and more especially L. anceps, will be expanding their flowers, the blooms of the normal coloured form being the first to attain full development. The whole of the numerous L. anceps varieties are exceedingly useful for house furnishing and decorative purposes. Providing the plants are kept out of direct cold draughts they take no harm in a cool dry room while in flower. In using them for cut flower purposes they do not last well unless the plants have been subjected to a cool temperature for a few days before they are cut; this is perhaps more remarkable in the coloured than in the white varieties. Such varieties as L. a. Dawsoni, L. a. Schrœderæ, L. a. Williamsi, L. Stella, and L. a Sanderiana will have their buds in an advanced stage of development. The flowers of these are especially liable to damp-spotting. A good method to overcome the difficulty with these is to remove them to the resting house. Cooler conditions, accompanied by a corresponding reduction in the atmospheric moisture, are desirable for the plants as soon as the flowers have become fully expanded, and this also will suffice to prolong the season of flowering.

MEXICAN LÆLIAS.—The whole of the Mexican lælias should be placed under resting conditions immediately the flower scapes have been removed. Only sufficient root moisture will be necessary to retain the pseudo-bulbs and foliage in a plump state during the whole of the season of rest. The white varieties especially require a thorough ripening to induce them to bloom satisfactorily. Repotting is best deferred until the new roots make their appearance, and the plants are starting into new growth. The plants should be examined for scale at this season, for if not dislodged without delay they will injure the new growth early in the season.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CHRYSANTHEMUMS.—Stock plants for the production of cuttings should be placed in a light frame or glasshouse to ensure sturdy growths. Cuttings of many varieties should now be inserted and the insertion of others should be effected as soon as they are available. A suitable place in which to root the cuttings is a small frame placed on the staging in a cool house. The cuttings should be inserted in a light sandy compost in small pots. A suitable mixture of soil consists of two parts leaf-soil and one part fine loam, with a plentiful addition of sharp sand. Press the soil moderately firm, and insert the cuttings with the least possible delay.

PLANTS IN FRAMES.—At every opportunity when the weather is favourable plants in frames should be examined. Watering should be done with care, as many of the plants are comparatively inactive at the roots in mid-winter, and need very little moisture. Those in a more active condition, such as calceolarias, humeas, marguerites, and cinerarias, should be allowed plenty of room between the pots, and be watered whenever necessary, for they must not be allowed to become dry at the roots.

FREESIAS are making satisfactory growth, and, having filled their pots with roots, they should be given occasional waterings with weak liquid manure. These bulbs do best on shelves near to the glass. The flowers, even if few, are much appreciated in the drawing-room for their delightful perfume.

ROSES IN POTS.—These should be pruned and brought forward in batches according to requirements. If placed in a moderately warm greenhouse they will readily start into growth, but in view of unfavourable weather continuing it would not be practicable to hasten their growth by increasing the temperature beyond 45 or 50 degrees. Spray the plants on fine mornings, but do not apply much water at the roots until they are in active growth.

SALVIAS.—As these pass out of bloom select a few of the best, shorten the growths, and syringe with some suitable insecticide. Afterwards place them where they will have the advantage of a moist atmosphere. When the new growths are two or three inches long they may be used as cuttings.

ZONAL PELARGONIUMS that are now in bloom will need to be watered with great care. Keep them rather on the dry side, as pelargoniums can stand drought in the winter without injury. On fine days a free circulation of air will dry up the moisture and maintain a fresh atmosphere.

CARNATIONS.—When good cuttings of the tree and winter flowering varieties can be obtained, they should be inserted with a view to raising plants for flowering next autumn and winter. By propagating the plants early they will have a longer season of growth, and this will permit of extra stopping, which will be especially useful in varieties not naturally of a bushy habit. The best cuttings are obtained from basal shoots pulled from the plants with a portion of the old wood attached, the cuttings being about three inches long. Insert the shoots singly in thumb pots, or around the sides of three-inch pots. Use a mixture of sifted loam three parts, and leaf-soil one part, adding plenty of sand; make the cuttings very firm in the soil, and plunge in a frame with a bottom heat of 65 to 70 degrees, and maintain a moist atmosphere. If the cuttings are given one good watering previous to the pots being plunged, they will not require water until the roots are formed, which will be a month to six weeks.—W. Staward, Preston Hall Gardens.

THE FLOWER GARDEN.

YELLOW-BERRIED HOLLIES are by no means plentiful, and are seldom met with; whilst the commoner kinds are plentiful everywhere. A specimen in the grounds here of the yellow-fruited variety is most attractive as a shrubbery plant, and at once arrests the attention. This variety affords a pleasing change to the scarlet varieties, and produces its berries in the greatest profusion year by year.

EVERGREEEN SHRUBS might still be planted during open weather, and especially if they have not to undergo a long journey, and are plentifully supplied with roots. Under no circumstances must they be allowed to remain for any length of time with their roots uncovered, for they suffer greatly by such exposure, whereas by careful and timely attention new roots quickly push forth after planting, and the shrubs speedily become semi-established in their new quarters.

HERBACEOUS BORDERS should receive due attention now that most of the perennial plants are cut down; a suitable top-dressing, such as decayed stable manure, leaf-mould, or decayed loam, should be spread over the surface of the soil, and be carefully pricked in with a fork. The dressing should not be dug in with a spade, as such an operation cannot be too strongly condemned. On cold, wet soils the dressing might be left on the surface of the border until the spring, but not for any length of time after the plants show signs of new growth, when care must be taken not to damage these whilst the operation of digging in the dressing is in progress.

CLEMATIS of all the Jackmanni type may now be pruned and top-dressed; the growths should be shortened back to within a few inches of the level of the ground; one of the best dressings we know if is cow manure. Apply a good dressing, as it is well nigh impossible to make the soil too rich for so gross a feeder as the clematis.

BORDER CARNATIONS now occupy an important place in most gardens, and through stress of circumstances they often occupy places in the herbaceous border. To do them justice and grow them well they should, whenever practicable, be planted by themselves in separate beds or borders. Timely attention to the preparation of the soil should be made, so that it may be in proper working condition when the time arrives for planting. Although carnations delight in a deep, rich, loamy soil, yet with proper care and preparation satisfactory results will be obtained in a much poorer soil. On light or sandy soils, mulching with short, or decayed manure, soon after the plants start into growth, will aid greatly in keeping them in health, and in giving a succession of bloom. It is quite certain that a sandy soil is more productive of roots than a cold, heavy soil would be, consequently plants growing under such conditions and under good management cannot fail to produce plenty of bloom. Carnations now in frames should be occasionally looked over, and all decaying foliage carefully removed. Should the surface of the soil have become green, it should be stirred with a pointed label, or rubbed over with the fingers. A sharp look-out should be given for green-fly, which, even during the winter months, will make its appearance if the weather is mild. Water should be given very sparingly for some time to come, and upon every favourable opportunity give the plants an abundance of fresh air. A stagnant moist atmosphere is fatal to the successful cultivation of carnations of any kind, and should be carefully avoided, especially where rust is inclined to be prevalent.—W. Hedley Warren, Aston Clinton Gardens.

HARDY FRUITS.

CRAB APPLES.—Usually these fruits are not appreciated to their full value, and consequently trees are not planted in many places. Apart from the utility of the fruit, they form beautiful ornamental trees; in the spring they flower profusely, and their bright-coloured fruits are most attractive in the autumn months. The fruit when ripe has a brisk acid flavour, and is in great demand for making preserves. The crab apple is easily cultivated, and will thrive and bear good crops of fruit when planted in any ordinary garden soil, in fact it will grow in soils and situations where it is impossible to grow other kinds of fruit. Standard grown trees are to be preferred to any other form of training. The trees require very little pruning; all that is necessary is to thin out and regulate the branches in a judicious manner. There are many varieties to select from, and the following can be thoroughly recommended; Pyrus baccata (the Siberian crab), both the red and yellow varieties; Victoria, and Mrs. John Seden. These are all upright growers, and soon form handsome heads, and give good returns. The planting of crab apples should not be confined to the fruit garden proper, for they produce a charming effect when they are associated with other flowering and ornamental trees and shrubs in the pleasure grounds.

PRUNING CORDONS. — The leading shoots should be left as long as possible, but at the same time it will be necessary to shorten them sufficiently to ensure the buds to break evenly. It should be borne in mind that where the undue shortening of the leading shoots is resorted to this only induces stronger growths, and the formation of but few, or any, buds will be the result: the side shoots should be cut back to two or three buds, in the ordinary way. When pruning operations are finished the trees should be sprayed with some approved winter wash, and the work of refastening them can be proceeded with.

GENERAL WORK.—Well-ripened shoots should be selected if any grafting has to be done in the spring. These should be tied up in neat bundles, with their names attached, and heeled in under a north wall until required for use. Any trees which have to be grafted can be headed back at the present time and the branches consigned to the fire-heap. It is a wise plan when heading large trees back at this season of the year to leave the branches which have to be operated upon fully six inches longer than is required. This will necessitate, at the proper time for grafting, their being shortened back to their proper length, when it will be found that the bark and wood is in a fresh green condition. This will materially assist in grafting operations being carried out successfully. Lose no time in having all fruit plantations cleaned up, and if the weather permits lightly fork over the surface soil, and mulch the trees without delay. Generally speaking, fruit is not keeping well this year, so strict attention should be paid to the removal of all fruits that show the least sign of decay. Keep an even temperature in the fruit room at all times to avoid condensation of the moisture in the atmosphere.—Henry R. Farmer, Cardiff Castle Gardens.

USEFUL GUIDE TO GARDEN WORK.—A handy all-round guide to work in the garden month by month is the Gardening Year Book, by George Gordon, V.M.H., price 1s. net from booksellers, or by post 1s. 3d., from W. H. and L. Collingridge, 148, Aldersgate Street, London. The book is freely illustrated, and the cultural details thoroughly practical and up to date.

NEW PLANTS, ETC.

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ODONTOGLOSSUM CERES MAGNIFICUM.

This is by far the finest of the forms of the charming hybrid between O. Rossi majus and O. Rolfæ. It differs from the other varietal forms in having the sepals almost covered with crimson blotches and spots, while the colouring on the petals is very rich and ample. The lip is pale rose. F.C.C., R.H.S.; December 20. Messrs, Charlesworth and Co., Haywards Heath.

ODONTOGLOSSUM WARSCEWICZI LEUCOCHILUM.

A very distinct variety of an old species. In this instance the sepals and petals are deep rose, edged with white, and the big lip has a crimson-purple base, and a broad border of pure white. A.M., R.H.S., December 20. Messrs. Charlesworth and Co., Haywards Heath.

CYPRIPEDIUM DANTE ROTUNDIFLORA.

An interesting hybrid between C. Hera Euryades and C. Charlesworthi. The flower is of rounded outline. The dorsal sepal is blush white, with a rosy stain over the base; the petals are green and pale purple, and the lip brownish. A.M., R.H.S., December 20. Lieut.-Colonel Sir G. Holford, Westonbirt, Gloucester.

LÆLIO-CATTLEYA PAULINE.

A pretty hybrid between L.-c. Ophir superba and C. labiata alba. The flowers are of moderate size, and there were five of them on the spike. The petals and lip point forward rather much. The flowers are bright cream colour, with light bluish purple marks on the centre and apex of the lip. A.M., R.H.S., December 20. Lieut.-Colonel Sir G. Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

CYPRIPEDIUM GASTON BULTEEL.

A fine cypripedium, with a very broad dorsal sepal; white, tinged with rose, and with crimson veinings. The sepals are green, with crimson lines, and the lip is of similar colour, but darker. A.M., R.H.S., December 20. Mr. E. V. Low, Haywards Heath.

CARNATIONS.

Lady Alington.—A large and well-formed British seedling of the perpetual type; the colour is clear soft salmon-pink. F.C.C., P.F.C.S., December 13. Messrs. Stuart Low and Co., Enfield.

R. F. Felton.—A very large perpetual-flowering variety of good form and substance; the colour is rich bright rose-pink—a beautiful self. F.C.C., P.F.C.S., December 13. Mr. H. Burnett, Guernsey.

Rex.—In this perpetual variety the flowers are very decidedly fringed. They are of good size, and the colour is bright pink. A.M., P.F.C.S., December 13. Mr. C. Engelmann, Saffron Walden.

Mrs. T. M. Crook.—A large perpetual-flowering variety with broad, lightly-fringed petals. The ground colour is deep reddish rose, but this is heavily flaked and speckled with bright crimson. A.M., N.S.P.S., December 13. Messrs. Stuart Low and Co., Enfield.

CHRYSANTHEMUM EMILY SMITH.

A beautiful single variety that comes well in spray form, and is of highly decorative character. The blooms are of good form, the florets of even width throughout until they reach the rounded point. The colour is rich and bright yellow. A useful variety for so late in the season. F.C.C., N.C.S., December 19. Mr. Phillip Ladds, Swanley Junction.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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National Sweet Pea Society.

The annual meeting of the members of this society was held at the Hotel Windsor, Westminster, on Thursday, December 15, at 3 o'clock. There were about a hundred present, including several ladies, and the President, Mr. N. N. Sherwood, V.M.H., was in the chair. That the members take the closest interest in the society's work was evident throughout the proceedings, and by the fact that so many attended in spite of the dreadful weather prevailing.

After the usual formalities of such a meeting, the Hon. Secretary read the report and financial statement for the year 1910, which was practically as follows:

REPORT OF THE COMMITTEE FOR THE YEAR 1910.

During the year 1910 sweet peas behaved much better than in 1909, and flowers were produced in great beauty and profusion by practically all who cultivated thoroughly. There were numerous complaints regarding "streak" and other evils, but these were not so frequent as in 1909. Comparatively few new sweet peas were offered early in the year, and probably this had the effect of reducing the enthusiasm of those amateurs who love novelties.

The membership of the society shows no great increase upon that of 1909, because the accession of one hundred and sixty-six new members is heavily discounted by the losses. In many instances it would seem that if members do not pay their subscriptions early in the year, they ignore subsequent reminders of their indebtedness, and so fall out of the ranks. Remembering how widespread is the love for and culture of sweet peas, it cannot be allowed that the Society has yet reached the high-water mark of membership. The committee feels that, considering the good work the society has done, and is capable of doing, the members should make a point of securing new adherents to the society. There are now about one thousand members, and one hundred and nine societies in affiliation.

Financially the society is in a very satisfactory position. Fifty pounds were placed on deposit early in the year, out of the balance from 1909, and it has not been necessary to touch that sum. Indeed, a further sum of fifty pounds has been placed on deposit, every liability has been discharged, and a substantial balance is carried forward.

The experiment of holding a two days' exhibition at the Royal Horticultural Hall proved most successful. The display was a particularly fine one, competition being keen and the flowers good. Every vase was filled up with water at the close of the first day, and as a result the flowers remained in excellent condition throughout the second day. The takings at the doors exceeded expectations, therefore the committee has felt justified in arranging for a two days' show at Westminster in 1911, and the dates fixed are July 11 and 12.

After winning it at Dublin in 1908, and at Saltaire in 1909, Mr. Thos. Stevenson won the Provincial Cup (presented to the society by Mr. Ernest J. Edwards), at Luton, in 1910, and so the handsome cup has passed into the possession of his employer, E. Mocatta, Esq., while Mr. Stevenson has three gold medals to prove his success.

Beautiful weather favoured the society on the occasion of the outings. One trip was to Feering, where, at the invitation of the President, Mr. N. N. Sherwood, V.M.H., a large number of members inspected the extensive trials of sweet peas and other flowers grown by Messrs. Hurst and Son. Mr. Sherwood's delightful private garden at Prested Hall was a further attraction, while in the matter of hospitality—well, it was characteristic of the Sherwood family. Later in the day the members visited Messrs. Dobbie and Co.'s grounds at Mark's Tey, and inspected another fine lot of sweet peas. On July 14 numerous members of the society proceeded to the Times Experimental Station, Sutton Green, Guildford, to inspect the society's trials. The sweet peas were in grand condition, and the trials of intense interest. Lord and Lady Northcliffe very kindly provided luncheon and tea, and also threw open their charming gardens at Sutton Place for inspection—kindnesses that were very highly appreciated.

The trials were conducted by Mr. Chas. Foster, at Guildford, to the great satisfaction of both the Floral and the General Committee. There were two hundred and forty-two novelty trials and seventy purity trials. All those who sent stocks for trial were furnished with a copy of the Proceedings of the Floral Committee, and similar copies have more recently been sent to every member of the society. The members of the Floral Committee again lent experience and gave their time to the society, and accomplished a large amount of good work. The thanks of the society are hereby tendered to them. The result of their labours is already in the hands of the members, and much of it has proved of immense value to seedsmen and amateurs in many other lands than our own.

At the dinner held on the first day of the exhibition in 1910 there was a very general and hearty expression of opinion that the members should recognise in some tangible fashion the many services ably rendered by Mr. Chas. Foster in his capacity of Superintendent of the society's Trials, and also the many gracious acts of kindness and hospitality extended to members by Mrs. Charles Foster, both at Reading and at Sutton Green. To give effect to this opinion a small committee was formed, consisting of Messrs. N. N. Sherwood, W. Cuthbertson, W. P. Wright, Robert Sydenham, and T. Stevenson. A substantial sum has been voluntarily subscribed, and a canteen fitted with silver purchased for presentation to Mr. and Mrs. Foster.

The horticultural world is looking forward with keen expectation to the great International Horticultural Exhibition to be held in the grounds of the Royal Hospital, Chelsea, in May, 1912. The National Sweet Pea Society has offered £25 to the promoters of this exhibition, and will guarantee a further £25 in the event of a financial loss on the undertaking. Mr. N. N. Sherwood has promised a fine silver cup for sweet peas, and the society has further offered one of its gold medals. Messrs. Walter P. Wright and Chas. H. Curtis are the society's representatives on the General Exhibition Committee, and other sweet pea celebrities who are either on the Executive or General Committee include Messrs. N. N. Sherwood, V.M.H., W. Cuthbertson, J. Green, R. H. Pearson, A. W. Sutton, V.M.H., G. Gordon, V.M.H., Robt. Sydenham, Chas. Foster, Horace Wright, E. Molyneux, V.M.H., J. S. Brunton, E. Laxton, F. W. Harvey, and E. F. Hawes.

The society's Editors promise, among others, the following items in the "Sweet Pea Annual" of 1911: Report of the Floral Committee; Annual Report and Balance-sheet for 1910; Conference Proceedings; Audit of the London show; Report of the Pathological Committee; Prize-winners at the London Show; Lavender Sweet Peas, by Mr. Thos. Stevenson; Sweet Peas in British Columbia, by Mr. S. B. Dicks; The Bibliography of the Sweet Pea, by Mr. C. Harman Payne; Notes on the Guildford Trials, by Mr. Chas. Foster; The Prices of Sweet Peas, by Mr. W. Lumley; The Society's Outings, etc.

The Committee wishes to gratefully acknowledge its indebtedness to the Horticultural Club for the loan of its room for committee meetings, and to place on record its appreciation of services rendered by the Horticultural Press.

FINANCIAL STATEMENT FOR THE YEAR ENDING NOVEMBER 30, 1910.

Receipts.	£	s.	d.
Balance brought forward from 1909	£84	18	9
Subscriptions, 1909	14	11	0
Subscriptions, 1910	301	3	3
Subscriptions, 1911	11	2	2
Fees from Affiliated Societies, 1910	52	10	0
Fees from Affiliated Societies, 1911	0	10	6
Prizes Presented for 1909	30	4	0
Prizes Presented for 1910	70	18	0
Charges for Trials at Guildford	46	15	0
Hire of Space, London Show, 1909	0	10	6
Hire of Space, London Show, 1910	6	0	0
Extra Entries for London Show	0	10	0
Tickets for London Show	4	7	0
Gate Money at London Show	65	8	6
Hire of Vases for London Show	8	11	0
Sale of Annuals, Back Numbers	1	3	11
Sale of Annuals, 1910	19	7	4
Sale of Guildford Trial Lists	2	17	11
Sale of Catalogue of Sweet Pea Names	0	6	0
Advertisements in Annual and Schedule	44	12	0
Advertisements in Annual and Schedule 1911	1	15	0
Interest on Deposit Account	0	14	0
	£768	10	10

Expenditure.		£	s.	d.
Advertisements in Horticultural Press		5	6	0
Purchase of Vases		3	12	0
Purchase of Medals		51	16	5
Engraving Medals		1	10	8
Preparation of Audit		3	3	0
Financial Audit		2	2	0
Trials Expenses, Guildford		15	15	0
Trials Expenses, 50 % Purity Trial Charges		8	10	0
Trials Expenses, Postages		0	16	9
Trials Expenses, Labels		0	19	5
Trials Expenses, Floral Committee Hotel	£9 19 0			
Trials Expenses, Floral Committee, Fares	12 0 10			
		21	19	10
Printing and Stationery		195	3	7
Honorarium to Secretary		32	10	0
London Show—Prizes		91	0	0
London Show—R.H.S. Hall Charges		11	15	0
London Show—Labour, Police, Doorkeeper, etc. (two days)		10	19	9
London Show—Hire and Carriage of Plants		2	17	0
London Show—Clerical Assistance		2	2	0
London Show—Dinner to Committee, Judges, etc.		16	13	3
Luton Show (Provincial Cup Class) Prizes		2	16	0
Expenses of Outings		1	18	8
Expenses of Outings, Photos		3	0	0
Postages, Carriage, Telegrams, etc.		46	1	11
Commission on Advertisements		4	8	6
Annual Meeting and Conference		2	2	0
Photo Block of President, for Annual		0	5	0
Hire of Safe—National Safe Deposit		2	0	0
Bank Charges		0	8	4
On Deposit at Bank		100	0	0
Balance in Hand—Cash at Bank	£160 10 0			
Less Outstanding Cheques	33 11 3			
		126	18	9
		£768	10	10

The President, in moving the adoption of the report and financial statement, referred to the great work done by the society in the few years of its existence, and to the splendid financial position now arrived at. He was proud of the progress made during his year of office. Mr. Alexander Dean, V.M.H., seconded the motion, and in doing so remarked upon the great evidence of progress shown both by the report and the excellent financial position. He was glad that comparatively few (five) awards had been made to new sweet peas, and hoped that the Floral Committee would always be particularly careful in hall-marking a variety. He congratulated the Messrs. Dobbie on securing three of the awards. Referring to the International Exhibition of 1912, Mr. Dean said that, though few sweet pea flowers from out of doors could be expected, he hoped the traders and wealthier amateurs would combine to place before the world on that occasion a good representation of the flower in its many varieties from under glass. The motion was carried unanimously.

Thanks to the various officers and committees were proposd by Mr. George Gordon, V.M.H., and Mr. F. H. Chapman. Lady Northcliffe was elected president for 1911 on the motion of Messrs. S. B. Dicks and T. Want; this is the society's first lady president. Mr. John Collingridge moved the reelection of Mr. Edward Sherwood as treasurer, and pointed out that the Sherwood family had always been intimately associated with the financial work of the society; this was seconded by Mr. Alex. Malcolm, and carried. Mr. G. W. Leak, Wisbech, was, on the motion of Messrs. H. J. Wright and C. W. Breadmore, unanimously elected chairman of committee for the year 1911, and on the motion of Messrs. Andrew Ireland and J. Harrison Dick, Mr. Richard Gluyas was re-elected auditor of the society's accounts.

Mr. W. Cuthbertson moved that Mr. Chas. H. Curtis be re-elected hon. secretary of the society, and that he be presented with a honorarium of 60 guineas for his services during 1910. He eulogised the services of the hon. secretary, who, he said, was ably assisted in his work by Mrs. Curtis. He also pointed out that the society had not yet even acknoweldged the services rendered by Mr. C. H. Curtis and Mr. Horace J. Wright as Editors of the society's "Annual." Mr. J. S. Brunton seconded the motion, and it was carried with acclamation. Mr. T. Stevenson moved, and Mr. F. W. Harvey seconded, "That the General Committee consist of thirty-six members, with an additional eight provincial corresponding members, the latter to be added by the elected General Committee, and not subject to the rule as to two attendances per year." This was carried, and after the ineligible member had been struck off, and further members nominated, the meeting proceeded to ballot for the committee, Messrs. Brunton, Stevenson, Hawes, and Herbert Jones acting as scrutineers. Later in the meeting the result of the ballot showed that nearly all the old and eligible members were re-elected, with the addition of Dr. Phillips, Major Cautley, Messrs. F. W. Harvey, Arthur Hallam, H. E. Bide, and Lionel P. Perkin.

At this stage of the proceedings the President said that he had now to perform the most pleasing duty that fell to him in his year of office, and that was to acknowledge on behalf of the members, the services rendered the society by Mr. Chas. Foster as superintendent of the trials, and the kindnesses extended by Mrs. Chas. Foster. He reviewed the work of the trials at Reading and at Guildford, and showed how they had grown from 150 rows to about 380 rows, and that the sweet peas had always been finely cultivated. The idea of presenting Mr. and Mrs. Foster with a testimonial was a spontaneous one. Mr. W. Cuthbertson had been the prime mover in securing a tangible expression of the members' wishes, and a sum of about £40 had been subscribed. A case of solid silver table silver had been purchased, and still a little remained for the purchase, he suggested, of a piece of jewellery for Mrs. Foster's personal wear. His one regret, and one in which all would join, was that owing to recent severe illness it was impossible for Mr. Foster to be present that afternoon. They were all glad to hear he was progressing favourably, and glad that Mrs. Foster was there to receive their gift. He then formally handed over the case of silver amid the applause of the members. On behalf of Mrs. Foster and her absent husband, Mr. Horace J. Wright returned thanks for the beautiful present.

Mr. Walter P. Wright, speaking at some length, and stating that he believed there was some need, as well as a fairly general wish, for an alteration in the composition of the society's Floral Committee, moved, as an instruction to the General Committee, that the Floral Committee consist of eighteen members, nine traders and nine amateurs, principals to be eligible, with the addition of a chairman elected by the General Committee from outside the other members of the Floral Committee. Mr. Lumley seconded the motion, and caused a little amusement by suggesting what was almost an amendment to it. Mr. C. W. Breadmore, Mr. Cuthbertson, and others spoke, and the motion was carried, with only four dissentients. A further instruction, proposed by Mr. J. S. Baker, and seconded by Mr. C. W. Breadmore, was to the effect that no member on the amateur side of the Floral Committee should be in any way connected with the selling of any sweet peas. This was carried by 29 votes to 23.

The declaration of the ballot, as above stated, and a vote of thanks to the president for presiding concluded the proceedings.

EXECUTIVE AND FLORAL COMMITTEES.

The meeting of the General Committee, following the annual meeting, occupied a larger amount of time than usual. We are at liberty to state that Messrs. Hugh Dickson and H. J. Digges, for Ireland; Messrs. A. Malcolm and F. S. Halley, for Scotland; Messrs. Martin Hitchins and C. F. Faulkner, for England; and Rev. J. Jacob and H. A. Gerhold, for Wales, were the eight provincial corresponding members elected to join the General Committee. The members elected to constitute the Executive Committee were Messrs. C. W. Breadmore, W. Cuthbertson, W. Deal, G. B. Dicks, C. Foster, E. F. Hawes, E. W. King, R. H. Pearson, Herbert Smith, Thomas Stevenson, W. J. Unwin, G. F. Drayson, W. Lumley, and H. A. Perkin, with Mr. Walter P. Wright ex-officio as chairman of Floral Committee—to which position he was unanimously elected.

The Floral Committee was elected as follows: Messrs. E. H. Christy, G. F. Draysen, Robert Hallam, Thomas Jones, H. H. Lees, A. Malcolm, H. A. Perkin, Thomas Stevenson, and Commander Humphery, as amateurs, with Messrs. R. Bolton, J. M. Bridgford, William Deal, S. B. Dicks, George Herbert, Andrew Ireland, Herbert Smith, A. G. Stark, and W. J. Unwin as traders.

DINNER.

Half an hour after the appointed time, owing to the protracted proceedings, about four dozen members and Press representatives gathered at dinner, under the chairmanship of the society's treasurer, Mr. Edward Sherwood. This was a pleasant little function, and many little differences of opinion were amicably adjusted between the soup and the dessert. The loyal toasts followed, and then the Chairman proposed "Success to the N.S.P.S." in a brief and bright speech, and to this Mr. G. W. Leak, the new chairman of committee, responded.

THE CONFERENCE.

Shortly after seven o'clock Mr. G. W. Leak took the chair, and opened the conference proceedings. In the absence of Mr. Walter P. Wright his contribution on "Judging Sweet Peas" was read by the hon. secretary, Mr. C. H. Curtis.

Mr. Thomas Stevenson said that justice was not always meted out to sweet peas, because many people did not know how to judge them. He believed in putting quality before size, and suggested that the range of colours in a dozen or more bunches should receive more consideration than at present. Six to eight points per bunch would, he thought, be more workable than Mr. Wright's suggested twenty-four. Mr. Malcolm was in favour of double standards, and also the admission of haulm attached to the flower spikes. Mr. J. Fraser objected to the crowded bunches seen at so many local shows, and to the difficulty in distinguishing between some varieties if they were mixed in a vase. Mr. Weston thought some standard was needed for the blending of colours, and Mr. Usher felt that "arrangement" should not carry undue weight over quality. Mr. Felton believed that if the flowers were of fine quality that would outweigh all else; he acknowledged a preference for flowers set wide apart on the stem over those closely placed near the top of the spike.

Mr. Breadmore objected to the use of attached haulm, he thought twenty stems made an ideal bunch, and said colour blending should count, but it was difficult to estimate, because a competitor on either side or at the back of one's own set might so dispose his colours that they heavily discounted your own. Mr. S. B. Dicks plumped for quality, and urged that every other property should be quite subservient to it. Mr. W. Cuthbertson said he never counted the number of spikes per vase—it was too much work to impose upon a judge. He thought six points per vase a suitable number to work with, giving it to the best vase in class, and then working through the exhibits with the maximum vase as a standard. Mr. Christy and Mr. W. J. Unwin were in favour of double standards, but Mr. T. Stevenson thought they were evidence of coarseness.

Mr. Leak had to leave at this point, and Mr. H. J. Wright, who took the chair, summed up the discussion. He objected to coarseness of flower stem, and said that crowded bunches too often secured awards. He hoped a reasonable scheme for judging would be arrived at some day.

The next paper was by Mr. George Herbert on "Sweet Pea Cultivation."

Mr. Ireland opened the discussion, and entered a strong protest against any other method of staking than that of hazel sticks; he also objected to the excessive trenching and manuring so often practised, and also to the single or "tomato stem" method of culture, wherein all laterals were suppressed, and a flower spike or two found at the top of a bamboo stem. He advocated autumn sowing in pots, the pots plunged in ashes in a cold frame, and given abundance of ventilation. A foot apart he thought sufficient space in the rows for most varieties. Mr. Malcolm referred to the great success in germination he had obtained by sowing in sand, or by merely placing seeds on the top of the soil and barely covering them with sand. He had never suppressed the lateral growth in sweet peas even for exhibition purposes. Various expressions of opinion as to the merits of deep trenching were given by Messrs. H. A. Perkin, R. Felton, A. Usher, and Burt, but the general opinion was in favour of deep trenching. Mr. C. H. Curtis pointed out the difficulty of obtaining hazel, or other good pea stakes in the suburbs of large towns. To meet the case Mr. Unwin suggested the use of garden netting hung from wires, and referred to the use of wide-meshed wire by the Messrs. Bath. Mr. G. Pain said he had used frames made of battens and wire netting in place of hazel sticks, and with great advantage. Mr. de Merrell, Mr. Drayson. Mr. Tigwell, and Mr. L. Whitbourne all took part in the discussion. Mr. Herbert replied to questions raised, and the Chairman wound up the debate.

Hearty votes of thanks were accorded to Mr. W. P. Wright and Mr. George Herbert for their papers.

CODE OF JUDGING.

At the conclusion of the papers and discussion Mr. William Cuthbertson proposed, and Mr. R. Bolton seconded, that the following code of judging sweet peas be recommended for general use. The motion was carried unanimously:

(a) When starting, count the exhibits in each class with the secretary's assistant, to make sure none is omitted.

(b) Count the number of vases.

(c) See that the exact number of varieties specified in the schedule are present in each exhibit.

(d) Make a preliminary survey, and rule out those stands that are palpably defective, in order to be able to concentrate attention on the eligibles.

(e) Look through the vases in the selected stands for mixed types.

(f) Be prepared to make the awards on freshness, number of flowers per stem, size of flowers, disposition, and blending of colours. Compare vases of the same varieties side by side.

(g) Give a maximum of 6 points per bunch. This maximum to be allocated to the best bunch, or bunches, in the stands, and then point the other bunches, by half points if necessary, working downwards from the maximum. In awarding these points due regard must be given to freshness, quality, and size of the flowers, as referred to above.

(h) It is also recommended, where necessary (i.e., when the bunch pointing brings an equality, or nearly so) that 6 points extra be taken as a maximum for arrangement and blending of colours, the points so obtained being added to the total bunch points.

(i) Double-standard flowers should not be discounted.

National Chrysanthemum Society.

There was a very small attendance of the Floral Committee at Essex Hall on December 10, and very few exhibits. Mr. P. Ladds and Messrs. W. Wells and Co. each staged a few vases of single and late decorative varieties, and the former secured a F.C.C. for the bright yellow Edith Smith, a single variety of great beauty.

There was a large attendance of the General Committee at 7 p.m. on the above date. It was reported that no progress had yet been made with negotiations concerning dates for exhibitions at the Crystal Palace next year. Receipts to date were £526 7s., and expenditure £431 2s. 5d., leaving £95 4s. 7d. in hand. The society has now £50 on deposit, and its liabilities seem to be about £50, so that the prospects are that between £40 and £50 to the good will remain at the end of the season.

Mr. D. B. Crane reported upon the visit made by the Floral Committee to Messrs. H. Cannell and Sons' and Mr. Philip Ladds' establishments at Swanley, to inspect late varieties. Thanks were accorded to all concerned for their courtesy and hospitality. The question of publishing the proceedings of the conference held recently was raised, but the matter was deferred to the next meeting. The dates of Executive and Floral Committee meetings were provisionally fixed, but left for confirmation, or otherwise, at the January meeting.

The Floral Committee dinner was fixed to take place after the Executive Committee meeting on February 20, 1911, the committee to be held at six o'clock, and the dinner at 7.30. Thursday, November 23, 1911, was suggested as the date of the annual dinner of the society in the coming year. Three new members were elected, and Mr. J. H. Witty and Mr. D. B. Crane were nominated for an Honorary Fellowship, and Messieurs Viger, Maxime Rocheterie, and Albert Truffaut, of France, were also similarly nominated.

Royal Horticultural Society.

There was no exhibition on December 20, but all the committees met. The Floral and Fruit Committees had little else to do but sign their names and wish each other the compliments of the season, but the Orchid Committee had a good deal to do, and granted four Awards of Merit and one First Class Certificate.

Messrs. Charlesworth and Co., Haywards Heath, brought up Miltonia Warscewiczi var. leucochila, with a broad white margin round the brown and purple base of the lip; a fine plant of Lælio-Cattleya Sunray superbissima, with a splendid spike of nineteen flowers; and Odontoglossum Ceres magnificum, a beautiful flower. Mr. F. Hopkins, gardener to Francis Wellesley, Esq., Westfield, near Woking, submitted Lælio-cattleya Ophir Westfield var., very bright deep yellow; Cypripedium Etoniense, with a pair of huge blooms, and C. Lady Gainsborough, a bold flower of C. Mrs. Mostyn type, and C. Waterloo.

From Westonbirt, Mr. H. Alexander, grower to Lieut.-Colonel Sir G. Holford, brought up a fine form of Cypripedium Rossita, a seven-flowered specimen of C. Actæus var. Undine, and Lælio-cattleya Pauline (L.-c. Ophir superba and C. labiata alba), with five large creamy flowers. Mr. Hale, gardener to Samuel Larken, Esq., Ridgeway, Haslemere, brought up Odontoglossum Harryano-crispum, Miltonia Bleuana grandiflora, and Lælio-cattleya bella superba. Messrs. James Veitch and Sons, Chelsea, showed Cypripedium Clionia, with four [illegible] attractive blooms, C. May, a new and distinct hybrid between C. glaucophyllum and C. Euryades maculatum, and C. insigne Crusader.

Mr. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Reigate, showed a plant of Odontioda Bradshawiæ, with a branching spike that was about a yard long, and had seventeen open flowers of brilliant hue, besides a number of buds.

Mr. Hunt, gardener to Pantia Ralli, Esq., Ashstead Park, Leatherhead, exhibited Cattleya Dusseldorfi Undine Ashstead Park var., with two chaste blooms.

Messrs. Armstrong and Brown, Tunbridge Wells, showed several cypripediums, C. Fairrieanum crosses that included a pair of C. vexillarium type named C. Dauphine and C. Amboyna, the former of best form and the latter of finest colour—rich rose on dorsal sepals and petals; and C. Corunna, the latter a cross between C. Leeanum and C. Fairrieanum. Mr. E. V. Low, Haywards Heath, exhibited Cypripedium Gaston Bulteel, a fine broad and bright flower.

A variegated leaved Primula sinensis from Mr. A. Card, Blue House, New Maldon; a crimson-scarlet amaryllis from Mr. F. W. Hamilton, East End, Lymington; a rather floppy single chrysanthemum from Mr. H. Woolman, Olton Road, Shirley, Warwick; and a vase of the pale yellow single chrysanthemum Peter Barnes, from Messrs. W. Wells and Co., Merstham, were all the subjects the Floral Committee had to deal with.

From the R.H.S. gardens, Wisley, came up a series of heads of forced dandelion to show their value for salading. The varieties were Improved Broad Leaved (Barr and Sons), Early Improved, very free (J. Veitch and Sons), Broad Leaved (J. Carter and Co.), Moss Leaved (Toogood and Sons), Thick Leaved (Sutton and Sons), Broad Leaved (Sutton and Sons), and Early Cabbaging (Toogood and Sons). The broad-leaved forms were in very fine condition.

Dundee Horticultural Association.

FREE-FLOWERING CHRYSANTHEMUM CONFERENCE.

This interesting conference was held in the Technical College, on the evening of the 8th inst. Mr. John Campbell presided, and called upon Mr. James Bethel, The Grange Gardens, Monifieth, to open the conference. In doing so Mr. Bethel took occasion to speak of the many horticultural conferences which had been held, to his own knowledge, during the last twenty years. One thing which struck him about these conferences was the entire absence of selfish motives by the promoters, and that debate was calculated to inspire and educate mankind to beautify the world around them, and make the earth yield her increase.

The association had already held an Early-flowering Chrysanthemum Conference, and had debated the various phases of big bloom cultivation, so that it was appropriate to have a Free-flowering Conference, as this was, after all, the most important section, and the most popular, from a decorative point of view. He grew about 500 free-flowering plants in the various groups of colours, such as white, yellow, bronze, red, purple, and crimson, pink, etc., his object being to maintain a continuous display of each group of colour from October to February. In naming the varieties in their order of flowering during the period mentioned Mr. Bethel gave some practical hints on their cultivation and decorative value, and of many of the varieties he held up blooms from his exhibit on the table, which added considerable interest to his remarks.

The following white varieties were his choice: White Quintus, J. W. Scott, Lady E. Smith, Felton's Favourite, Madame Gustave Henry, Mrs. C. Beckett, Miss Cloy Frick, Madame Ferlat (inc.), Moneymaker, Niveus, Western King, Nellie Pockett, and Heston White. His best white singles were White Pagram, Purity, Alfred Graysmark, Miss A. Abbot, Mrs. H. Herbert, etc. Yellow and bronze shades: Soleil d'Octobre, Yellow La Triomphante, Lizzie Adcock, Mrs. Greenfield, Hon. Mrs. A. Acland, Mrs. W. Knox, Cheltoni, and Romance (inc.), Bronze Le Pactole, Soleil d'Octobre, Kathleen Thomson, Source d'Or, Charles Davis, Bronze Fabire, and Bonnie Dundee. In singles Solarine, a locally raised cream variety in the way of Purity; R. N. Parkinson, Kitty Bourne, Bronze Pagram, Miss Briggs, Winnie Sherring, and Mary Richardson.

In red and crimson, and kindred shades, Market Red stood highest, in his opinion. Mons. Wm. Holmes and Roi de Brecons were earlier, and Mrs. T. Dalton and Matthew Hodgson were much later. In single varieties of these shades Dickson's Ruby was commended for table decoration; Felix was red, spangled with gold, and King of Siam darkest of all. Among single pink varieties Edith Pagram was supreme, although he (the speaker) found Emily Wills and Florence Owen excellent for table decoration, while Miss Annie Harrison and Roufell Beauty were quite distinct and useful. The decorative forms in pink shades were heralded early by O. J. Quintus, then Rubus and Caprice du Printemps, La Triomphante, Viviand Morrel, G. Mileham, Miss Olive Miller, O. H. Broomhead, Miss Dorothy Dewar, Mdlle. Melaine Fabire, Kitty Gulliver, and Framfield Pink, the two last-named ones he had never had success with, and would like to hear the experience of others with them.

Mr. Thomas Brown, Balcairn Gardens, also addressed the members, dealing with cultivation, and giving a list of the best from his own collection, which mainly corroborated what Mr. Bethel had already said. His exhibit mainly consisted of the Pagram family, and some other good single varieties, as well as a good example of Felton's Favourite not disbudded.

A good discussion ensued, when many helpful hints were disclosed, and a very profitable evening spent, the closure being applied by a vote of thanks to Messrs. Bethel and Brown, proposed by Mr. Alexander MacRae.

National Dahlia Society.

There were about nineteen persons present at the Hotel Windsor on December 20, when the President, E. Mawley, Esq., V.M.H., opened the proceedings at 2.45. The minutes of the previous annual meeting were read and signed.

The report of the committee, read by Mr. E. F. Hawes, made reference to the Dahlia Conference, the exhibitions at the Crystal Palace and at the Royal Botanic Gardens, both of which were successful. Nearly two hundred dahlias were submitted for awards and twenty-four certificates were awarded. Reference was made to the trials at Messrs. Cheal's Nurseries, to the society's literature, and to the valuable assistance rendered the society by the horticultural press. Twenty new members were added during the year.

The balance-sheet showed a turnover of £215 17s. 3d., with a small balance on the right side of 19s. 11d.

Mr. Mawley, in moving the adoption of the report and balance-sheet, regarded both as very satisfactory, especially as all prizes have been paid in full, and the conference proceedings published. The latter he considered an excellent bit of work. There was evidence, he considered, of steady progress all round.

Mr. G. Gordon, V.M.H., hoped the committee would arrange for a conference in the coming year; and he expressed his pleasure at the advances made in connection with dahlias for garden decoration; and, in view of the need for creating a substantial balance at the bank, suggested the desirability of holding one instead of two shows, or reducing the amounts offered in prizes, or in some way securing an increase of income. Mr. Joseph Cheal said it was necessary to consider the question of finance, but the matter had been discussed in committee, and the trade would be asked to increase their support. He said it was proposed to classify competitors in future, and arrange for more small classes. The motion was then carried.

A vote of thanks was accorded the retiring officers and members of committee on the motion of Messrs. Davison and R. H. Pearson. It was agreed to hold the annual meeting in future on the occasion of the last R.H.S. meeting in November. The office of Chairman of Committees was established. Some discussion turned upon a proposed enlargement of the Executive Committee from twelve to eighteen members, and Mr. Riding's motion to that effect was eventually carried, in the hope that there might be a better attendance. Mr. Mawley was re-elected President on the motion of Messrs. J. Green and G. Gordon. Mr. J. Green was added to the list of vice-presidents. Mr. George Gordon, V.M.H., was elected Chairman of Committees. Messrs. H. Peerman, H. Shoesmith, G. Davison, and G. Langridge were added to the General Committee. Mr. E. F. Hawes was re-elected hon. secretary, Mr. J. Green as hon. treasurer, and Mr. W. Stephens as hon. auditor. A vote of thanks to the President for presiding closed the proceedings.

The Perpetual Flowering Carnation Society.

The annual meeting and dinner of the above society was held at Anderton's Hotel, Fleet Street, London. Mr. J. S. Brunton presided at both functions. At the close of the dinner the annual meeting commenced, and, in moving the adoption of the report, the Chairman spoke in glowing terms of the rapid strides that had been made in improving the form, colour, and quality of the flowers of the perpetual carnations. This was ably seconded by Mr. S. Mortimer, and, with the addition to the report of a paragraph stating that the society had contributed £20 to the prize funds of the International Horticultural Exhibition, 1912, was carried unanimously. Votes of thanks to the retiring officers and committee were proposed, and carried with acclamation. Lord Howard de Walden was re-elected president, and the retiring vice-presidents, with the addition of T. S. Turnbull, Esq., Lady Derby, Baroness M. De Brienen, and Dr. Moewes, were re-elected. Mr. J. S. Brunton was re-elected chairman; Mr. S. Mortimer, vice-chairman; Mr. L. J. Cook, hon. treasurer; Messrs. H. Mathias and E. F. Hawes, joint hon. secretaries; and Messrs. C. H. Curtis and R. Pinches, auditors. As the result of the ballot for six members of committee, Messrs. A. F. Dutton, C. Engelmann, F. W. Harvey, A. Smith, F. Fitch, and J. Vert were elected. At a meeting of the General Committee, held at the close of the annual meeting, the members of the Floral Committee were re-elected en bloc for the coming year, with Mr. W. H. Page again as chairman.

East Anglian Horticultural Society.

The annual meeting of this society was held in Norwich on the 14th inst., Mr. Lewis Smith, Shotesham Hall Gardens presiding. The annual report, as presented by the secretary, Mr. W. L. Wallis, Royal Arcade, Norwich, showed that the past success had been well maintained. The total membership now stood at 331, comprising head gardeners, amateurs, and under gardeners. The financial status was sound, the report stating that there was a balance in hand of £134 8s. 11d. It went on to state that essays, lectures, etc., had been well attended, followed by good debates. The monthly competitive exhibits had provided some keen contests. Many members from time to time brought up choice or rare subjects, which always added interest to the meetings.

Following upon this the election of officers took place. Mr. L. Smith, according to rule, takes the office of president. Mr. W. Rush, gardener to F. P. Hinde, Esq., Thorpe, was elected vice-president by a large majority. Mr. W. L. Wallis was unanimously re-elected secretary. Mr. Charles Daniels was elected treasurer, and Mr. J. F. Betts and Mr. H. [illegible] auditors. The following were elected to fill the vacancies which occurred upon the committee: Messrs. W. Shoesmith, C. Matthews, J. C. Abel, D. Howlett, G. Moore, E. Greene, S. Hunt, and E. Grand. The list of competitive essays, also lectures and papers for 1911, was gone through, and adopted, and the items speak well for another good educational year.

The exhibition for the evening was a most comprehensive one, and well filled. Mr. Frank Neave, Lingwood, was congratulated for his display of pansies and polyanthus, which reminded one more of April than December. Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., Cringleford, brought up a fine Begonia Gloire de Lorraine and a grand cypripedium. There were still some grand apples and pears.

At the close of the business Mr. J. Clayton, who has the honour of being upon the local committee, announced the action of the Royal Agricultural Society in connection with the summer horticultural show at Norwich, which action met with approval.

OBITUARY.

MR. R. MAWSON.

Mr. Robert Mawson, proprietor of the Lakeland Nurseries, and brother to Mr. Thomas H. Mawson, died, at the age of 46, at his residence, at Windermere, on the 15th inst., after an illness extending over a year. The deceased was the second son of the late Mr. John William Mawson, seed merchant and florist, of Ingleton, Yorkshire, whose widow later removed to London, where each of the three brothers received a thorough professional and practical training with some of the best known nurserymen and landscape gardeners, the eldest brother having for two years previously studied architecture. Returning North 26 years ago, they began business at Windermere, and five years later the two younger brothers, Isaac and Robert, became sole owners of the nursery business which they had established. The younger brother dying nine years ago, the business came into Mr. R. Mawson's hands. Mr. Robert Mawson, who made no profession of any special knowledge as a garden architect, possessed a thorough acquaintance with every phase of garden construction, and carried out much of the work designed by his brother.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea level, 150 feet.

Date. 1910. December 11 to December 17.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Dec. 11—Sunday	2 12	48	47	52	47
,, 12—Monday	—	47	46	51	46
,, 13—Tuesday	0 6	50	47	51	45
,, 14—Wednesday	1 6	49	47	51	47
,, 15—Thursday	1 48	49	49	54	48
,, 16—Friday	0 30	54	53	55	43
,, 17—Saturday	0 12	45	43	47	45
Means	(total) 5 54	49	47	51	46

Date. 1910. December 11 to December 17.	Rain.	Temperature of the Soil At 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Dec. 11—Sunday	0·09	45	44	45	43
,, 12—Monday	0·44	45	44	45	41
,, 13—Tuesday	0·22	45	44	46	40
,, 14—Wednesday	0·62	45	44	46	43
,, 15—Thursday	0·50	46	45	46	44
,, 16—Friday	0·25	45	45	46	36
,, 17—Saturday	trace	45	45	46	40
Means	(total) 2·12	45	44	45	4

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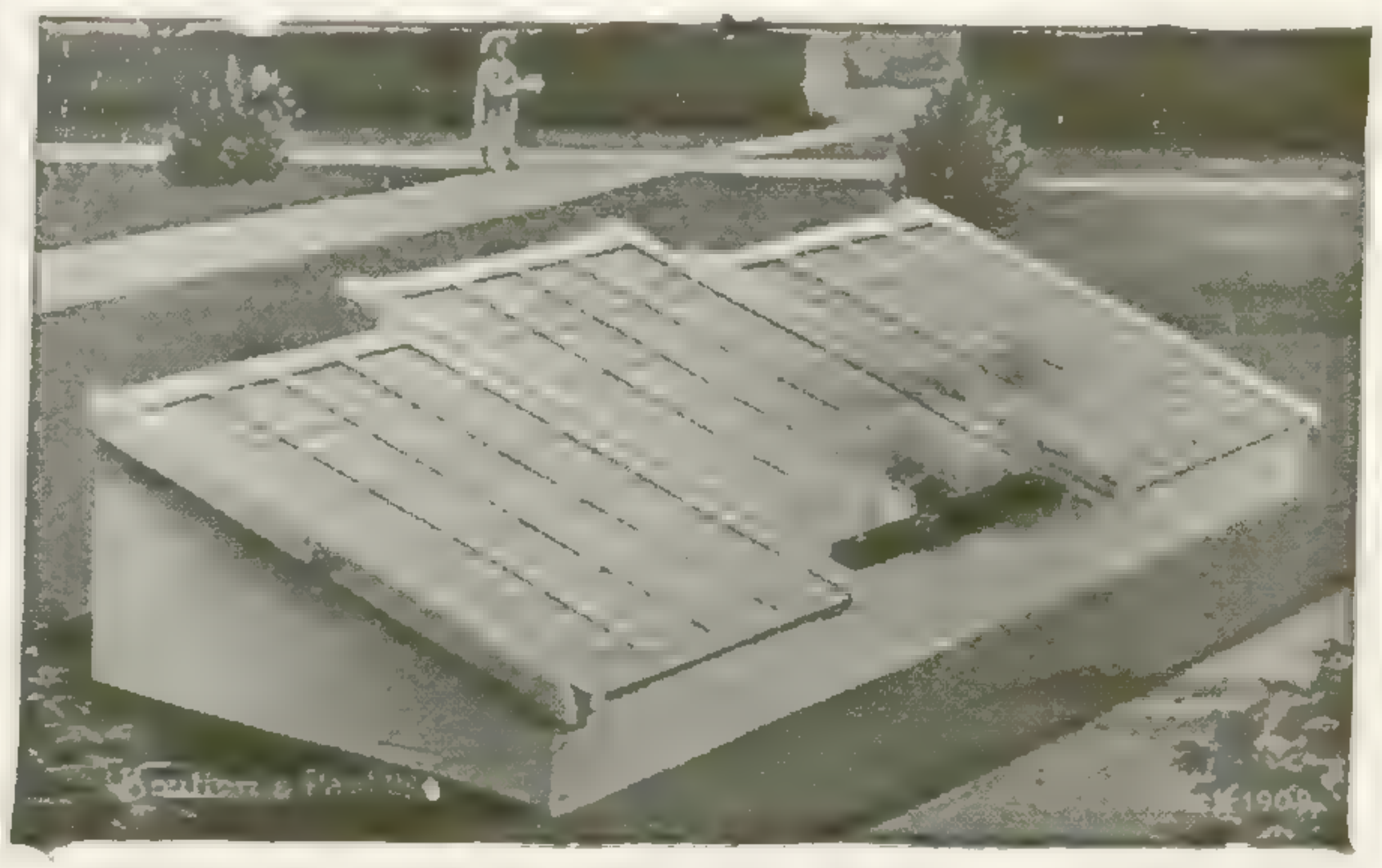

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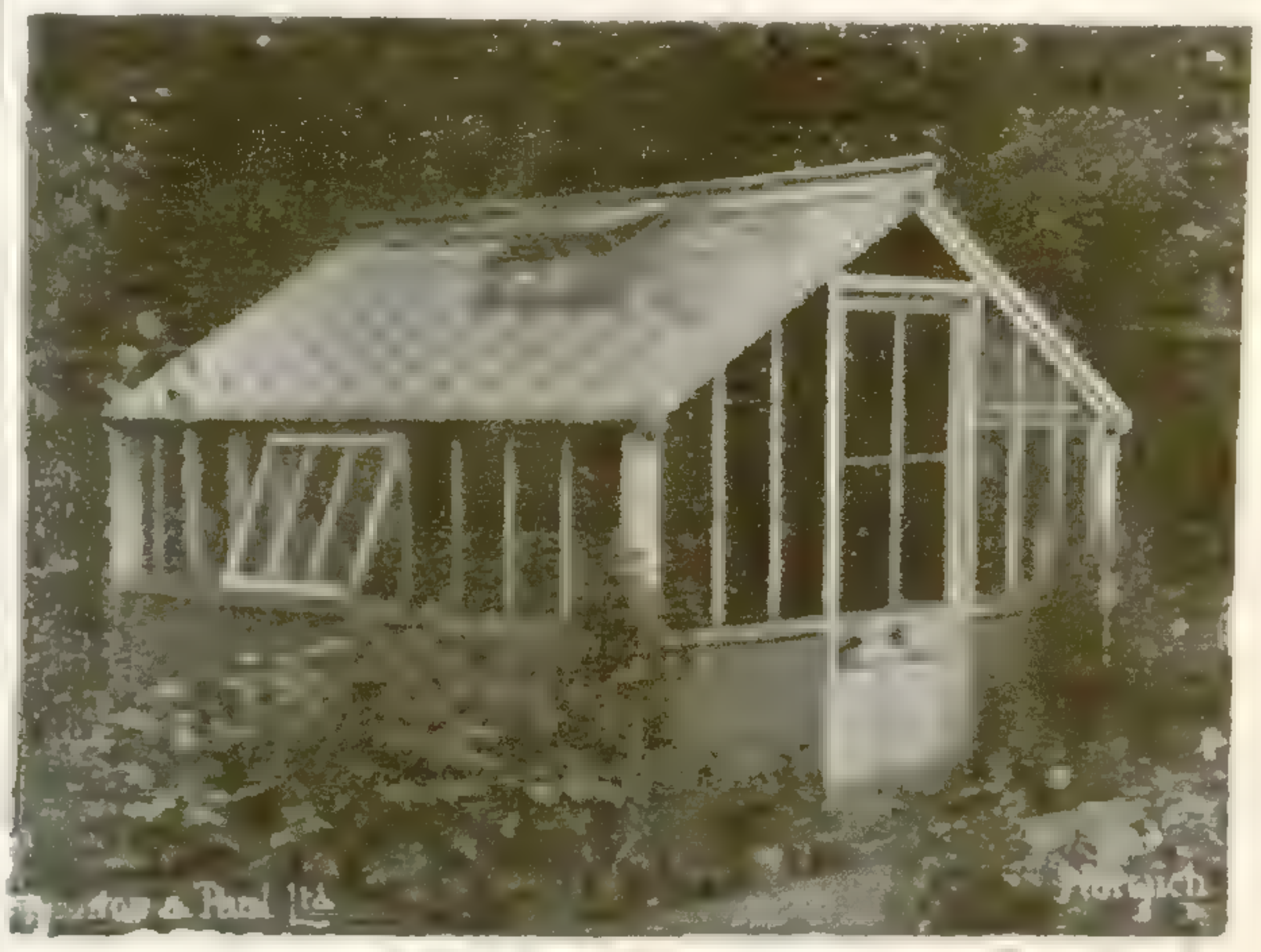

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ANSWERS TO CORRESPONDENTS.

PLANTING DAFFODILS. — Amateur: Yes, you may plant daffodils during the Christmas holidays, with the assurance of their flowering, provided they are varieties having large bulbs, such as those of the Emperor, and the bulbs were well ripened. We have, for experimental purposes, planted bulbs of Emperor as late as the middle of January, and have obtained good flowers from them, although not equal to those produced by similar bulbs that were planted in the previous October. Varieties belonging to the Barri and poeticus types have small bulbs, and are seldom satisfactory when planted so late in the season, a considerable proportion of the bulbs usually failing to bloom. It is in all cases advisable to plant daffodils early in the autumn, because late-planted bulbs, although they may bloom satisfactorily, will not make such a robust growth in the season, and produce such large, well-matured bulbs.

POTATO SETS.—R. F. M.: The tubers of the early potatoes that are of "ware" size may with advantage be cut before they are boxed up preparatory to their being started into growth. To quickly dry up the moisture on the cut portions dust these with slaked lime.

SHRUBS FOR FORCING.—R. B. S., Sussex: The number of hardy shrubs that can be successfully forced for the decoration of the conservatory and the supply of cut flowers is considerable, but in your case the preferable course will be to limit the selection to a few of the best. We would suggest that for this season you confine your attention to Azalea mollis in variety, deutzias, rhododendrons, and lilacs. If you force a goodly number of plants of each, and handle them carefully, you will have a plentiful supply of flowers. Seedling plants of Azalea mollis are in every way suitable for forcing, provided they are established in pots, and are well furnished with flower buds, and if obtained from a good nursery will yield a wide range of colour. Rhododendrons with white and red flowers are preferable for flowering under glass, and, as in the case of the azaleas, they should be well furnished with flower buds, a point not difficult to determine, as the buds are now prominent. The lilacs, to ensure success in flower production, must be well established in their pots, and two excellent varieties flowering under glass are Charles X., a fine variety with rose-lilac coloured flowers, and Marie Legraye, pure white; Rubra de Marley, a bright lilac-coloured variety, that originated on the Continent many years ago, is of much value for forcing, and also for growing in the open, although it has not found much favour in this country at any period of its history. Deutzia gracilis is still the best of the deutzias for forcing. It will be advisable to purchase strong plants of the respective kinds, and to commence with a moderate temperature. As you have not had much experience, we suggest that you let January be well advanced before you subject the shrubs to fire heat, and then, having gained experience, commence in the winter of 1911-12, either before or immediately before or just after Christmas.

UNHEALTHY CATTLEYAS.—T. S. H., Norfolk: We are afraid you have not followed the advice given by Mr. H. J. Chapman so closely as you should have done with regard to the use of leaf-mould in potting mixtures for orchids. However that may be, you have used a large proportion of leaf-mould, and supplied the plants liberally with water, with the result, judging from the plant you have sent for examination, of the material having become pasty and sour, and the roots that are within the pot have perished. We have seen many other plants in precisely the same condition as yours, but not always growing in a mixture of which leaf-mould has formed a part. All the plants in the condition of the one before us, or, indeed, approaching thereto, should be taken out of the pots, have the whole of the material removed from about the roots, and every root that is dead, or showing signs of decay, be cut clean away. Then repot, using pots of the smallest possible size, and peat fibre, to which nodules of charcoal and small crocks have been freely added. The material must be kept only slightly damp until the new roots are beginning to run freely in the mixture.

DRIED UP COB NUTS.—M. A., Essex: It is possible that the shrivelling of the kernels of the cob nuts may be due to their having been gathered before they had reached the proper degree of maturity; but as you have kept them since they were gathered in the upper part of the house we have little doubt as to it having been caused by a dry atmosphere. The proper method of keeping cobs and filberts is to pack them lightly in large jars, cover with closely-fitting lids or pieces of board, and place them in a cellar. Under these conditions they will keep in excellent condition until the winter is well advanced. If you put the nuts you have in a jar and place it in the cellar they will improve materially in a fortnight or so.

AMERICAN BLIGHT.—J. K. B., North Hants: Your apple trees are badly infested with American blight, or woolly aphis, which is one of the most troublesome pests with which the fruit grower has to contend. The most effectual method of ridding the trees of the pest will, in your case, be to well work into the crevices in which the colonies have become located, rather strong paraffin emulsion with a hard brush.

GRAPES FOR AN INVALID.—M., Liverpool: It is somewhat difficult to say which are the best late grapes for an invalid, as the tastes of invalids, as of other persons, differ materially. The showy, tough-skinned Alicante may be ruled out at once, and the large-berried Gros Colmar is of doubtful merit for the purpose, for unless the fruit is ripened in a relatively high temperature it is watery, and indifferent in flavour. Lady Downes and Lady Hutt are both richly-flavoured grapes that would probably be found the most useful.

NAMES OF PLANTS.

S.—Your cypripedium is a poor form of C. insignis.

R. B., Manchester.—1, Maranta Kerchoveana; 2, M. Baraquini.

F. B., Sussex.—1, Arbutus Croomi; 2, Andromeda floribunda; 3, Gaultheria procumbens.

W. S., Suffolk.—The blooms are not sufficiently developed to admit of their identification. Moreover, they are sent without numbers.

R. WILSON.—Your ivies are: 1, Hedera spectabilis aurea; 2, H. chrysophylla; 3, H. maculata latifolia; 4, H. Rægneriana; 5, H. digitata; 6, H. pedata.

T. B. Kent.—1, Acrostichum drynarioides; 2, Doodia aspera multifida; 3, Blechnum polypodioides; 4, Asplenium monanthemum; 5, Pteris moluccana.

S. P., Yorkshire.—1, Begonia Sutherlandi; 2, B. Ascotensis; 3, B. fuchsioides; 4, B. nitida. These begonias are not without their attractions, but they are so inferior to the newer winter-flowering varieties that we suggest you considerably reduce your stock of the kinds of which you send us specimens, to make room for some of the forms of Gloire de Lorraine, and the varieties of which Mrs. Heal is a good type.

NAMES OF FRUIT.

L. C., Alverstoke.—1, Calville Rouge d'Automne; 2, Bramley's Seedling.

W. S., Huntingdon.—1, King of Tompkin's County; 2, Court of Wick.

T. H. P., East Hoathley.—1, Hawthornden; 2, Lady Henniker; 3, Tower of Glamis.

K.—1, Le Lectier; 2, Hacon's Incomparable; 3, Beauty of Stoke; 4, Not recognised, probably a local seedling.

MARKETS.

◆

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Adiantum cuneatum	per doz. bun.	4	0		6	0
Anemones, French	per doz. bun.	3	0		4	0
Arums	per doz.	4	0		6	0
Asparagus	per doz. bun.	9	0		12	0
Bouvardia	per doz. bun.	4	0		5	0
Camellias	per doz.	1	6		2	6
Cattleyas	per doz.	9	0		12	0
Carnations	per doz.	3	0		4	6
,,	per doz. bun.	12	0		15	0
Chrysanthemums	per doz. bun.	6	0		10	6
,,	per doz. blms.	3	0		4	6
Croton leaves	per bun.	1	0		2	6
Cypripediums	per doz. blooms	2	0		3	0
French fern	per doz. bun.	2	6		4	0
Gardenias	per doz.	2	0		3	6
Hyacinths, Roman	per doz. bun.	9	0		12	0
Lapagerias	per doz.	2	0		3	0
Lilium auratum	per bun.	3	0		4	0
,, speciosum	per bun.	2	0		2	6
,, longiflorum	per bun.	2	0		2	6

Fruits.

The supplies are good and the demand is brisk.

		s.	d.	s.	d.
Apples, English	per bush.	5	6	21	0
,, American	per barrel	10	0	30	0
,, Californian	per box	8	6	10	0
,, Columbian	per case	9	0	13	0
,, Nova Scotian	per barrel	20	0	24	0
Bananas	per bun.	3	6	12	0
Cobnuts	per lb.	0	10	1	0
Chestnuts	per bag	10	0	15	0
Cranberries	per case	9	0	10	0
Grapes, English	per lb.	1	0	4	6
,, Guernsey	per lb.	0	6	1	0
,, Almeria	per barrel	10	0	14	0
Lemons	per case	15	0	20	0
Melons	each	0	9	3	0
Oranges	per case	10	0	20	0
Pears, French	per crate	5	0	10	0
,, English	per bush.	6	0	9	0
,, Californian	per case	10	0	20	0
Pineapples	each	2	0	4	6

CATALOGUES RECEIVED.

MESSRS. SUTTON AND SONS, READING.—Sutton's Amateur Guide in Horticulture was the first of the seed catalogues for 1911 to reach us, and is, as usual, highly interesting and useful. It forms a substantial and attractive volume in which are described and the greater part illustrated, all the finest of the types of useful and ornamental plants that are usually raised from seed. The Guide is rendered additionally attractive by several finely executed plates of the firm's specialities, photographed in their natural colours.

MESSRS. JAMES VEITCH AND SONS, LIM., CHELSEA.—The catalogue of seeds issued by this firm is comprehensive, admirably arranged and attractive. It is freely illustrated, and the illustrations of the various types of flowers and vegetables are, as usual, admirably executed. With their seed catalogue Messrs. Veitch have issued a comprehensive catalogue of chrysanthemums.

MESSRS. DOBBIE AND CO., EDINBURGH.—In addition to a complete catalogue of the various kinds of seed required in the garden in the production of beautiful displays of flowers and vegetable crops of high quality, the Messrs. Dobbie include in their substantial publication lists of dahlias, violas, and other classes of flowers with which they have long been closely associated.

MR. G. H. MACKERETH, ULVERSTONE.—The seed catalogue for 1911 issued by Mr. Mackereth is well arranged, and contains selections of all the flowers and vegetables in general request, with illustrations of the more noteworthy types. The catalogue is remarkable for the completeness of the lists of new and old sweet peas, the names of the leading novelties being accompanied by notes at once interesting and useful.

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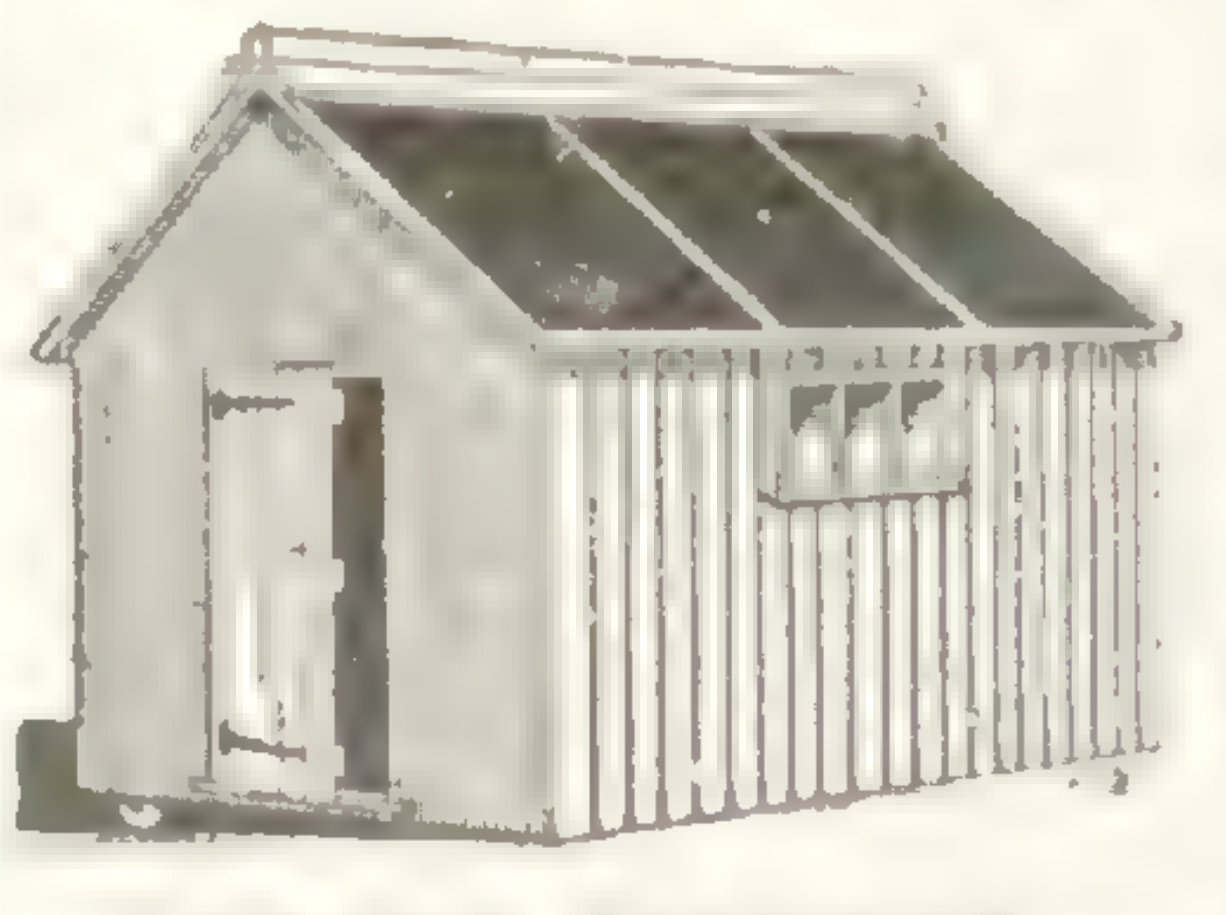

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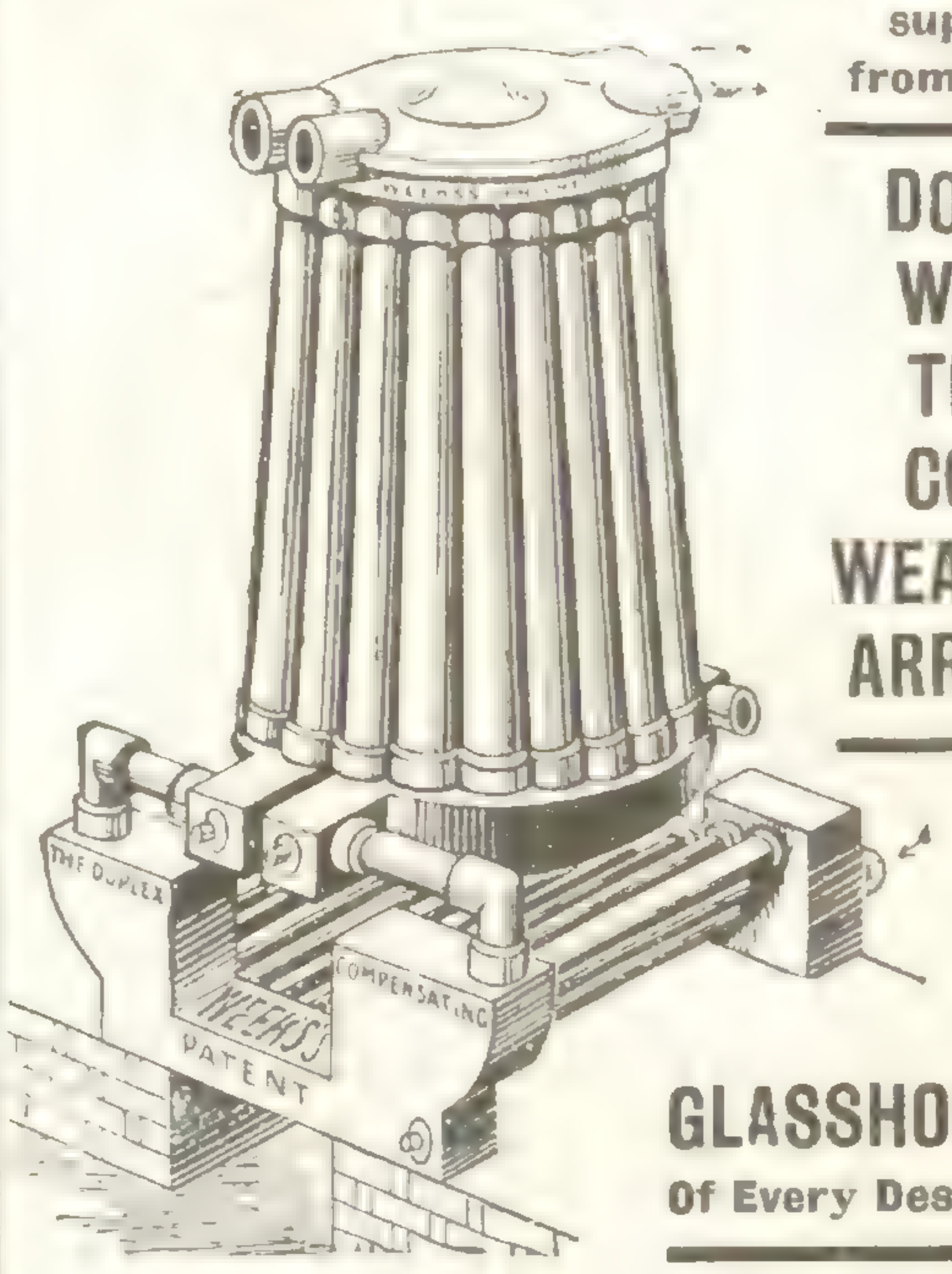

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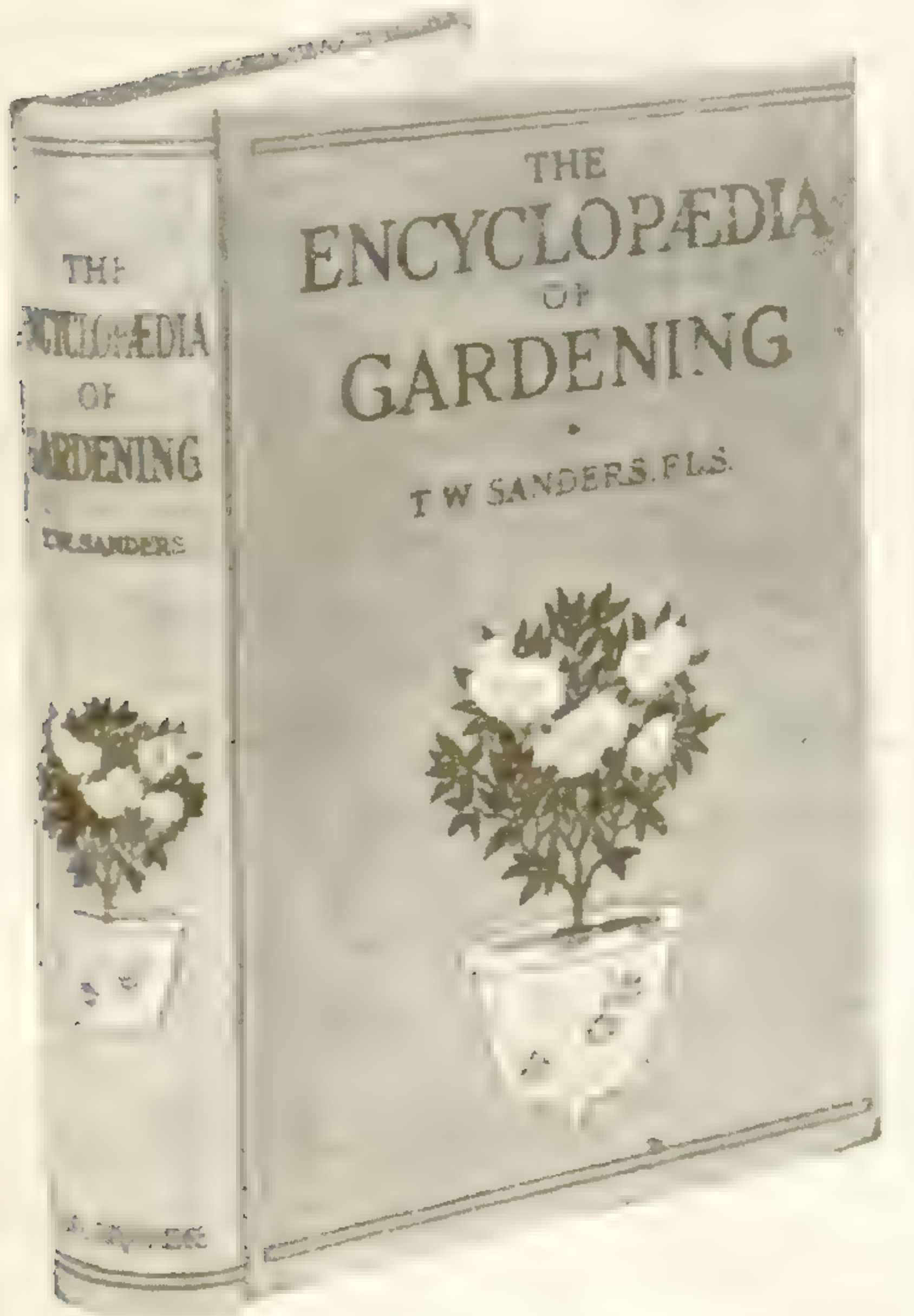

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For full advertisement see page 1041.

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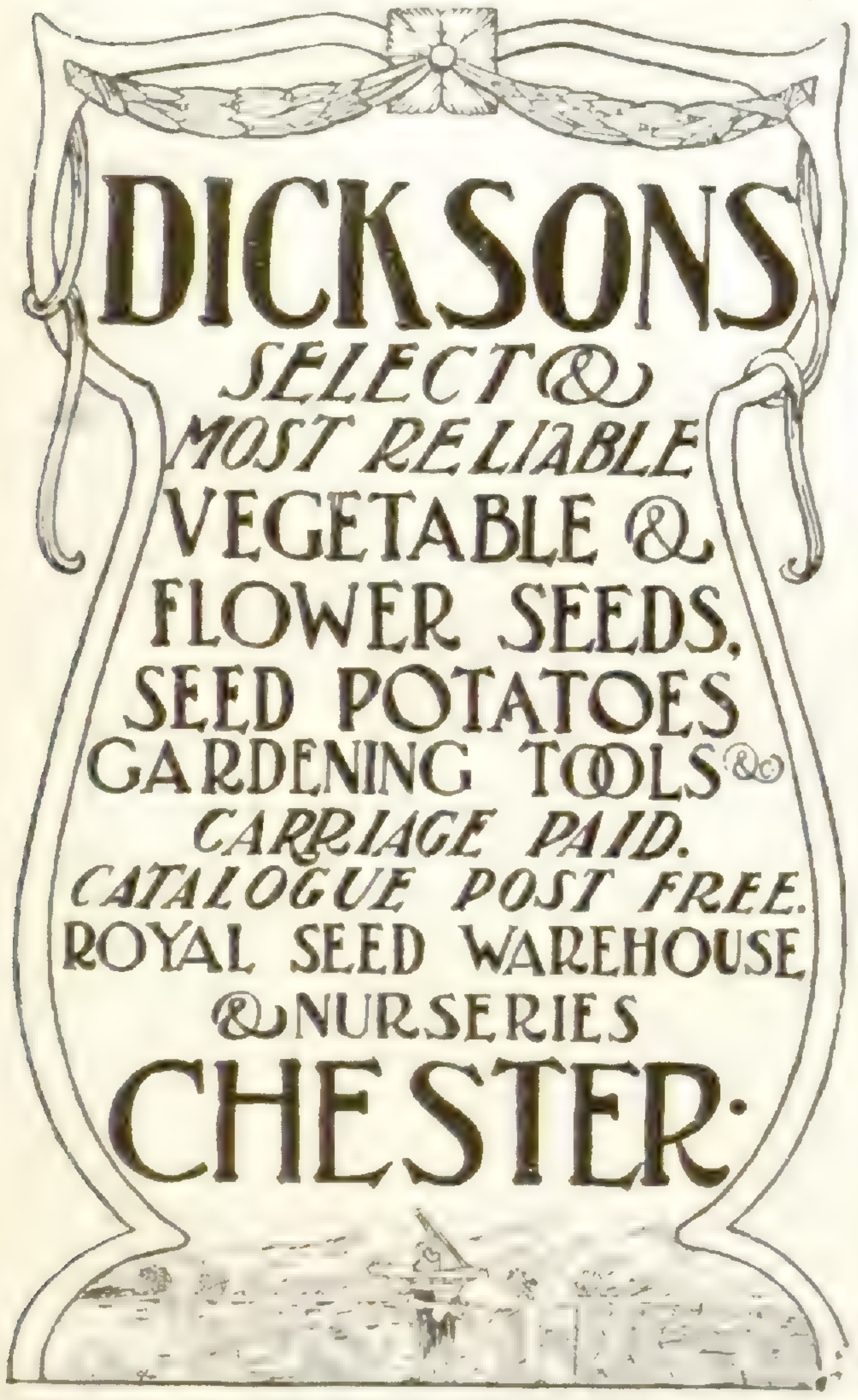

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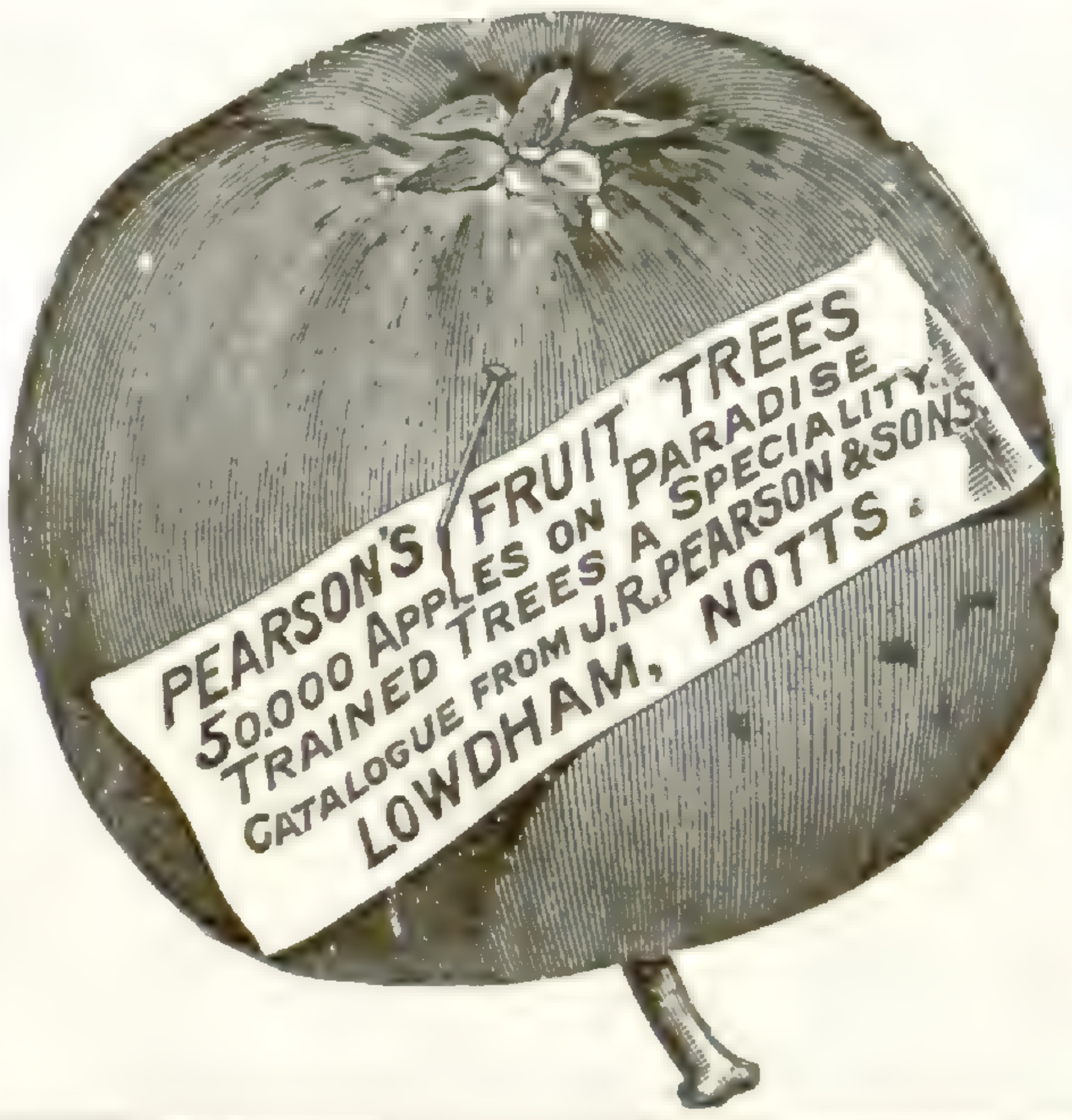
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In all sizes.
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Catalogues on Application.

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VOL. LIII.—No. 2,983. SATURDAY, DECEMBER 31, 1910.

THE GARDENERS' MAGAZINE.

NOTE OF THE WEEK.

The Past Year.

The year that has now reached its close has been an eventful one, and in its course has been accompanied by much that could not well have failed to give rise to a feeling of anxiety in the minds of those who take an intelligent interest in what is going on about them. It has been less kind to those engaged in gardening than could have been wished; but, as the difficulties and disappointments that have been experienced are called to mind, it is possible to feel that the results of strenuous endeavour have been more satisfactory than was anticipated even by the most optimistic of horticulturists. The year has been marked by one of the most complete failures of the crop of hardy fruits that has yet been experienced in this country. This failure was all the more serious, especially to those engaged in fruit culture for profit, from the fact that for several years past the outdoor fruit crops have been below the average, and failed to give an adequate return. This failure has given rise to some difference of opinion as to the cause, among fruit growers. Some have attributed the shortage of supplies to the imperfect development of the floral organs consequent on the immaturity of the growth in the previous years. Others, whose opinions are entitled to equal respect, have regarded the low temperature that prevailed during April and May as the chief cause of the loss of the crop. There is no occasion to discuss this point at length, with a view to effect a solution of the question, but we would suggest that the failure was due to a combination of these two unfavourable influences. Fortunately, the weather experienced during the greater part of the autumn of the current year was highly favourable to ripening the wood of fruit trees, and at the present time the flower buds are more plentiful and prominent than was the case at the close of last year. We are therefore justified in anticipating crops of the various kinds that will yield a satisfactory return for the expenditure of time and money involved in the efficient management of orchards and fruit plantations. The exceptionally large amount of bright sunshine and the high temperature that characterised the autumn months were highly beneficial in directions other than the ripening of the wood of fruit trees. The warmth and sunshine saved the potato crop by effectually checking the development of the disease just at the time when it appeared likely to be of great virulence; they placed growers in a position to obtain well-matured samples of most kinds of farm and garden seeds, and enabled farmers to ingather their crops of cereals under favourable conditions. The cold wet weather that extended over the latter part of the spring and the greater part of the summer had a detrimental effect upon the growth of both ornamental and useful plants, and greatly interfered with the enjoyment of the garden at a time when its manifold charms are the most highly appreciated. These unfavourable climatic conditions militated in more ways than one against the success of large numbers of the horticultural exhibitions held in the provinces, and in some cases heavy financial losses were inflicted upon the societies. In London the Royal Horticultural Society has not been less active than usual in fanning the flame of horticultural enthusiasm and in giving encouragement to those actively engaged in the scientific and practical sides of gardening. The interest and attractions of the fortnightly meetings have been fully maintained, and the exhibitions in the gardens of the Inner Temple and Holland House were of great excellence, the second of the two being the best the society has held in the beautiful grounds of this historic residence. Additional interest was given to the Holland House Show by the entertainment by the Council of the Japanese horticulturists and other of their copatriots associated with the Japan-British Exhibition at Shepherd's Bush. The Royal Botanic Society has not held any exhibitions on its own account during the past year, but its beautiful gardens have been the scene of several successful gatherings of horticulturists, and the Council have been successful in greatly reducing the debt that pressed heavily upon those responsible for the management of the society. The National Rose Society and the National Sweet Pea Society have both had a highly successful year; the two carnation societies have accomplished excellent work. The National Chrysanthemum Society has greatly improved its position, financially and otherwise, and the National Dahlia Society has held two excellent exhibitions, and obtained a considerable accession of members, which is of interest as indicating increased interest in its work. The National Vegetable Society, which was founded last year, commenced its work of usefulness in carrying out a series of trials of cabbages and onions which were highly satisfactory, and in the autumn held an exhibition that has been described, and properly so, as the finest exhibition of vegetables that has yet been held in this country. There has been no cessation of activity on the part of raisers and introducers of new plants and flowers, as evidenced by the large numbers of novelties submitted to the committees of the Royal Horticultural Society and other societies that make awards to new introductions. Of this number, we find, on referring to the "Gardening Year Book for 1911," which is a veritable storehouse of information on all that relates to the garden, that nearly three hundred had first-class certificates, awards of merit, or commendations conferred upon them during the twelve months over which the lists in the

MR. W. LINTOTT.

"Gardening Year Book" extend. Garden flowers predominate, and in these lists one hundred and twenty-four received distinction. All classes of flowers that are in general cultivation for garden decoration are represented, and, as might be expected, auriculas, carnations, chrysanthemums, dahlias, roses, and sweet peas are the most numerous. There are thirty dahlias, and these include varieties which, as in the case of Minerva, Hon. Mrs. Greville, and Sweet Briar, are specially adapted for the production of colour effects in the garden. Roses reach the large number of twenty-five, all, with one exception, home raised, and of these nine have been awarded the gold medal of the National Rose Society. The list of new orchids includes one hundred and eleven species, hybrids and varieties, and the most numerous are the cattleyas, of which there are twenty-five. While all are of interest and much value Cattleya Iris King Edward VII., C. Mendeli Stuart Low, and C. Mendeli Princess Victoria may be mentioned as of outstanding merit. Odontoglossums number eighteen, and of these Odontoglosum King George V., O. eximium Empress of India, and O. memoria King Edward VII. are prominent by reason of their distinctness and beauty. Laelio-cattleyas are represented by eleven fine forms, cypripediums by eleven, and odontiodas by eight forms, all of which are of great merit. The last-named are all of special interest, and, with reference to the hybrids previously introduced, it may be mentioned as a point of some importance that several were shown during the present year in a form suggesting that the earlier examples afforded an inadequate idea of their wondrous beauty. Although the lists of new plants, flowers, orchids, etc., form but one of the many features in the present issue of the "Gardening Year Book," they are well worth the cost of the work, for the purpose of reference and the evidence they give with regard to the trend of public taste in relation to the garden.

Mr. W. Lintott, whose portrait we have the pleasure of giving in this issue, occupies a prominent position among practical horticulturists, and deservedly so, for in all departments of the garden he has in the course of his activities given ample evidence of his cultural skill, and in garden management generally he has shown administrative ability of a high order. Especially have his skill and judgment been marked in the management of the gardens of Marden Park, Woldingham, the Surrey seat of Sir W. Greenwell, of which he has had charge during the past fourteen years. At an early period in his gardening career Mr. Lintott spent some time in the various departments of Dangstein, under the late Mr. Vair, at the time Lady Dorothy Neville was the owner. After leaving Dangstein and filling a minor position for a short time, Mr. Lintott was appointed head gardener at Shipwick House, Chichester, and remained there about six years, when the place was sold. Thence he went to Willand Place, Liphook, and on the sale of the estate some years later he was appointed to the position he now occupies. As made evident by the great success he has achieved, Mr. Lintott has taken a keen interest in the several branches of gardening, and he has given some attention to exhibiting. At one time he devoted special attention to Chinese primulas, and cultivated and exhibited them with much success, and then, as opportunities offered, ferns and stove plants have received special attention. Of recent years Mr. Lintott has taken special interest in fruit cultivation, both in the open and under glass, and it is probable that in this important branch of the gardening art he has the most highly distinguished himself. Mr. Lintott has been particularly successful as a grower of grapes, which is all the more interesting from the fact that there are no specially made vine borders at Marden Park. The finest bunches from a private garden of that debatable grape Prince of Wales which have come under our notice were grown at Marden Park.

"Gardeners' Magazine" Almanack, 1911.—With our next issue (January 7, 1911) we shall present a double-page almanack, at once handsome and useful, for 1911. The almanack will be embellished with an illustration printed in colours of the remarkably distinct and beautiful new rose Juliet, and it will give the dates of the exhibitions and meetings that have been arranged to be held during the year. As there is invariably a large demand for the annual issue containing our almanack we strongly advise those of our readers who require additional copies to give their orders at once, and thus avoid disappointment.

Intensive Potato Culture.—The reference in the "Journal" of the Irish Department of Agriculture to the fact that a second crop of potatoes had been planted at one of the centres has created some interest among potato growers, and the opinion has been freely expressed that the production of two crops of potatoes on the same land in one year is impracticable. In a general way it is so, but under the conditions favourable to this method of intensive cultivation it has been found both practicable and profitable. Some of the more enterprising of the Irish growers of potatoes have succeeded in obtaining two profitable crops from the same land in one season, but the first crop is grown for the supply of the market in the usual way, and the second for the production of immature potatoes for seed purposes. The method adopted is to plant first early varieties in March or April, according to the district and the condition of the soil, and lift the crop immediately it is ready for market, which will be some time in June, the date depending upon the district and season. Immediately the crop is marketed the ground is prepared for the second crop, which consists of late varieties. Pianting is done at the beginning of July, and by the end of October the tubers reach seed size, and are utilised in meeting the demand for immature tubers for planting purposes. Both the early and late tubers are sprouted previous to planting.

Holly was less plentiful in the markets than is customary during the week preceding Christmas Day, and prices ruled high in consequence. Berried holly, as might have been anticipated, was very scarce, and bundles of branches plentifully furnished with berries commanded about 40s. per bundle, instead of 8s. or 9s. per bundle, the prices ruling in years in which holly is well berried. Holly without berries sold at prices somewhat above the average.

Flowers and Berries from Leonardslee.—From the gardens of Leonardslee Mr. W. A. Cook sends us flowers gathered from the open of the brilliantly coloured Rhododendron Nobleanum, the delightfully fragrant Chimonanthus grandiflora, the elegant white Erica carnea alba, the purple Polygala chamæbuxus, the light yellow Jasminum nudiflorum, and primroses, polyanthuses, and Christmas roses. The sprays of Skimmia Fortunei and S. japonica which accompanied the flowers, are of special interest, as evidence of the value of these handsome shrubs when well berried for decorative purposes at this season of the year.

Presentation to Mr. E. Charlton.—On the occasion of the annual dinner of the Tunbridge Wells Chrysanthemum and Gardeners' Association, the members presented Mr. E.Charlton with a handsome marble clock as a mark of appreciation of the services he had rendered the society. Mr. S. Snashall, who made the presentation, spoke in highly appreciative terms of the services Mr. Charlton had rendered in the cause of horticulture, and of the help he had given the society of which he had been chairman two years.

The Peppermint Industry.—In a paper read at a recent meeting of the Pharmaceutical Society Mr. J. C. Umney, chairman of the chemical section of the London Chamber of Commerce, gave some interesting particulars of the cultivation of peppermint in England. He stated that in the Mitcham district the area devoted to the growth of peppermint cultivation is from 450 to 500 acres; considerable areas are also cultivated at Hitchin and Long Melford. The annual output of pure English oil of peppermint is about 10,000lb. This oil has a high reputation, and sells at three times the price of the best American oil. It has been suggested that the English oil is sometimes adulterated with the American oil, and Mr. Umney said that those dealing in mixed oils, to which misleading trade designations were attached, were doing much harm to the industry, and he appealed to those who are buyers of peppermint oil, whether it be for the making of confectionery, liqueurs, or for medicinal purposes, to insist upon having oil of undoubted purity.

La Societe Francaise d'Horticulture de Londres will hold its annual dinner on Saturday, January 21, 1911, at the Café Royal, 68, Regent's Street, London. M. Philippe de Vilmorin, who, on the last occasion, was prevented by the Paris floods from occupying the chair, will preside. Inquiries with reference to the dinner should be addressed to the president, Mr. G. Schneider, 17, Ifield Road, Fulham Road, S.W. The dinner is arranged for 6.30 p.m. precisely.

Arctic Plants from the Lea Valley.—In a letter to "Nature," Mr. S. Hazeldine Warren states that he has recently found a plant-bearing bed in the Low Level River-Drift of the Lea valley at Ponder's End. It is exposed in an excavation worked by the Great Eastern Railway Company. The plant-bearing bed is found at a depth of 14 to 18 feet below the surface. It is embedded in stratified gravel and sand, which presents much evidence of tumultuous accumulation. In immediate association with it are found tusks, teeth, and bones of the Elephas primigenius, Rhinoceros antiquitatis. In correlation with the archæological stages, the plant-bearing bed of Ponder's End is later than the Mousterien epoch. In fact, it is separated from this epoch by such a wide interval that it is in all probability post-Palæolithic. On the other hand, it is unquestionably pre-Neolithic, although the interval in this case appears to be comparatively short. It is in Mr. Warren's opinion by far the most important plant-bearing bed that has hitherto been found upon this horizon within the area occupied by Palæolithic man in this country. He is engaged upon working out the botanical material from this bed and submitting it to Mr. F. J. Lewis, who has undertaken its identification. A considerable amount of material has already been examined, and, so far, Mr. F. J. Lewis has succeeded in identifying ten species of plants, with four others doubtful. Three of this number, namely, Salix herbacea, Betula nana, and Sibbaldia procumbens, are distinctively Arctic, while most, if not all, of the remainder have a high northern range, although they are not confined to those regions.

Horticultural Education.—The report of the Conference on Rural Education has been published within the past few days, and from this we learn that it was recommended, amongst other things, that the staff of the educational authorities in rural districts should include a horticultural instructor, who should give courses of instruction at approved centres, carry out demonstrations on approved horticultural practice, give advice to small holders, allotment holders, cottagers, and others. He should have special charge of the work connected with school gardens and such nature study as may be connected with them.

Carnation R. F. Felton.—With reference to this beautiful perpetual-flowering variety which we had the pleasure of illustrating in our issue of the 24th inst., we would like to mention, as a matter of some interest, that Mr. H. Burnett was successful in winning the first prize in the class for a vase of flowers of a variety not in commerce with R. F. Felton at the recent exhibition of the Perpetual Carnation Society.

Eucryphia pinnatifolia.—As a difficulty is experienced in many gardens in growing this beautiful shrub so successfully as could be wished, the note relating to it which Mr. W. J. Bean contributes to the current issue of the "Kew Bulletin," is of much interest. Mr. Bean writes: Among the hardier small trees and shrubs from South America this is decidedly one of the most attractive, yet it still remains, although introduced about 1862, one of the rarest in gardens. For this scarcity one must find some other cause than lack of hardiness, for the original tree in the Coombe Wood Nursery has withstood uninjured the frosts of over 40 years, including those of February, 1895. For several years there was a group of plants in a bed on the lawn near the Cactus House at Kew which grew and flowered well until they were 4 or 5 feet high; they then commenced to die off one by one for no perceptible reason until none remained. Others planted in the collection of Rosaceæ near the Pagoda behaved in a similar way. It was thought that their early death might be due to intense summer heat and dryness, which appear to have a peculiarly burning effect on much of the outdoor exotic vegetation at Kew, especially that from regions where the climatic conditions are moist and equable. To counteract this in the case of the eucryphia, several plants were put out in a mass of Erica mediterranea, where the heaths grow close enough together to shade the soil and keep it permanently cool. In this position not one of the eucryphias has died, and the largest of them are now 8 feet high and in perfect health. Several flowered profusely last July and August—a season of blossoming which adds much to the garden value of any shrub, especially one whose beauty is as marked as that of this eucryphia. The soil is the ordinary sandy loam of Kew to which peat and decayed leaves have been added.

NOTES FROM HERE AND THERE.

There are a good many ways of getting a living in the horticultural world, and because a man is associated with the craft as a means of earning a livelihood it does not necessarily follow that he is a gardener. For instance, you may be on the road as a traveller representing a well-known firm, or you may be on the road in another sense, as were two fellows I met with the other day. This road by the way is one of Roman origin leading over the bleakest part of the Cotswold hills, and here I happened to overtake two men, one carrying a basket and the other having a couple of ferns in pots tucked under his arm. The ferns had a Covent garden look about them, and the ready and willing way in which the men entered into conversation with me indicated that they were not natives of the Cotswolds, but, on the other hand, their unmistakable Cockney dialect told plainly enough where they hailed from.

They were travellers all the same, their particular line being plants, ferns, palms, etc., grown in the big market nurseries round about London. Where were they going? Oh, all over the country, and chiefly to little towns where nurserymen and florists were not strongly represented. How long would they be away? Oh, they didn't know, perhaps six months, but much depended on business. How did they manage about the supply of plants? Had them sent on by rail to the different towns on the line of march, where they met the consignments, hawked the plants round, and moved on somewhere else. The men themselves, however, did most of their journeys on foot to save railway expenses, and when I met them they were getting towards the end of a tramp of 20 odd miles to a town where they expected to meet a consignment of plants. They seemed cheerful and happy enough, and explained to me that they had just done a deal in the way of exchanging at a wayside inn a couple of ferns for a meal of bread and cheese and beer, and, if the pelting rain was uncomfortable, it was better than snow.

This little incident, trifling in its way, goes to show how horticultural wares are distributed, and what cheap glass and keen competition have done and are doing in the market nursery trade. The men had started on their long tramp with as many plants as they could conveniently carry to sell on their way, and, with the exception of one or two, they had disposed of the specimens at houses they had passed. Looking at them with a gardener's eye, I admired the well-grown healthy-looking plants in their 5in. pots, and in an amateurish way, I asked what they were, but the only information I could get was that they were ferns. That was all the Cockney hawker knew about them, but he had got an eye to business, and before we had proceeded far he offered me the two remaining specimens at a price which he assured me was absolutely dirt cheap. It certainly was, and I marvelled how such plants could be grown and sold more than a hundred miles away from London at such a figure, considering also that the hawkers had got to live and pay expenses out of their profits.

Still another traveller, but this one had none of the free and easy style of the itinerant Cockney plant hawker. He carried a little parcel wrapped in American cloth, the elbows of his coat looked shiny, and his trousers were frayed at the bottoms. His boots were patched, but, in spite of these little drawbacks, he did his best to look smart, and he contrived to reach the bothy just when the dinner hour was half-way through, which, by the way, is a peculiar habit of men of his class. Perhaps you have guessed by now that the individual referred to was a book canvasser, and his parcel wrapped in American cloth contained a specimen copy of the first volume of a book on gardening that was being published in parts. His flow of language was marvellous, his knowledge of horticulture supreme, and, in the most solemn tones he warned the young gardeners round the table that they could never hope to rise in their profession without the knowledge contained in the book he had to sell. At first the young fellows didn't want the book, then they were persuaded to have a look at it, which ended in one giving an order for it, and before the dinner hour was up half a dozen young journeymen, who were not very highly paid, had undertaken to find so much a month for a good long time to come in order to become possessors of the latest comprehensive work on gardening.

Under the climatic conditions prevailing at present fruit planters who are disposed to carry out the Woburn process of puddling in the trees need have no difficulty in doing it, as there is moisture enough in the soil to enable one to puddle or ram it round the roots in the most approved Woburn style. Speaking of fruit planting reminds me that I met a man the other day who is in a bit of a difficulty. He wanted to plant an orchard, and his particular pet book on fruit culture told him to get out the holes for the trees a few weeks before planting, so that the soil could get weathered a bit. The advice seemed reasonable, so the holes were got out, and when the last one was finished it began to rain. As a matter of fact, it has rained ever since, the holes stand full of water, and the trees are laid in under the hedge waiting for the water to recede. The man is wondering what the holes will be like when the moisture has drained away and when he will be able to plant the trees. To use a parliamentary expression, he must wait and see, but he has come to the conclusion that in this climate the best plan is to dig the hole and plant the tree straight away.

The interesting exhibit of cider apples which appeared at the recent Colonial fruit show reminds one that the National Fruit and Cider Institute, Long Ashton, near Bristol, from whence came the fruit referred to, is doing in a quiet way a useful work in the interests of fruit culture and cider making. The institute has been established only a few years, but it is regarded in the West of England as a centre of information in matters referring to cider, and it possesses great possibilities for future development. For centuries past cider has been the national beverage of the West Country, but until the institute was established very little was done in propagating cider fruit and classifying varieties suited to this purpose. A part of the work has been to collect useful cider apples from different localities and propagate them, with the result that hundreds of standard trees have been raised at Long Ashton, and distributed in the contributing counties for the purpose of establishing cider orchards. In this way, it can safely be said that more orchards devoted entirely to cider apples have been planted in the West of England since the institute was established than for very many years before. All these orchards are planted systematically, and contain varieties that are sharp, sweet, and bitter sweet, so that by blending fruits of these a palatable cider will be produced. H.

AUBRIETIAS.

A note appearing in a recent issue of the Gardeners' Magazine, over the initials "G. B.," discusses the merits of Aubrietia Prichard's A1 in comparison with Aubrietia Dr. Mules. Having abundant opportunity for noting the peculiarities and virtues of rock plants in general, including a selection of the better aubrietias, I venture to give an opinion concerning these most useful subjects.

The variety Dr. Mules is far and away the most valuable of the two varieties in question for general planting. I grant that Prichard's A1 is large flowered, and that its habit of growth is particularly neat, certainly valued points for consideration. It is also effective when in blossom, but the flowering season is curtailed by reason of the blossoms opening almost together. In Dr. Mules the flowers are produced perpetually; there has hardly been a break since the earliest days of spring until autumn, and on November 18 last the plants on the rocks here were studded with blossom. This is not so with Prichard's A1: not a blossom has appeared upon it since the spring beauty was brought to a close by the appearance of the summer months.

So much for the flowering; now for the flowers. "G. B." describes Prichard's A1 as a much deeper violet. This is open to serious question; with me it is a two-coloured flower, lilac-purple and violet, the two distinct shades being very noticeable. Dr. Mules has a metalic hue, a living reddish tinge in the violet, though much depends upon the light or shade prevailing. The florist would doubtless describe Prichard's A1 as the more perfect flower on account of its rounded outline and well-arranged petals, but for rock garden effects give me Dr. Mules, with its fine colour and its perpetual habit of blossoming.

There are so many good aubrietias at the present day that one wonders that the older specific forms, A. græca, A. deltoidea, etc., should find a place in many gardens, though doubtless their continued vogue is due to the fact that they are still raised from seed in large numbers by hardy plant growers. A. Leichtlini, the red aubrietia, which drew so much attention a few years ago, has been superseded by better forms.

In the deeper shades the popular A. Fire King, and the attractive A. Crimson King are deserving of note, though for size of blossom and robust growth they are hardly equal to A. Alfred Wilcox, a fine rosy-red, which is becoming a favourite in south-country gardens.

Of the pink and rose shades I still like A. Souvenir de W. Ingram, which has a good habit, and is charmingly profuse, with its rosy blossoms. A. Moerheimi, too, is decidedly good, with its dwarf, close habit and large pink blossoms. Two paler favourites of mine are A. Bridesmaid, a pale pretty pink, a dainty shade of colour, and A. Lilac Queen, not quite so attractive in tone, but grand for its freedom, size, and continuity, and is, after Dr. Mules, one of the most perpetual forms.

Good forms amongst the purple and violet hues are becoming plentiful. A. Craven Gem, for instance, gives a lovely touch of colour, a rich deep purple, and another of the same class is A. Purple Robe, a good telling form. A. H. Marshall is valued for its lateness in coming into blossom, and for its deep hue, while the newer A. Lloyd Edwards is regarded by some as a coming violet variety of merit.

One could go on to discuss the merits of those favoured varieties, such as A. Hendersoni and A. Campbelli, which found their way into a host of gardens, and helped considerably to build up the present popularity of the aubrietia. A meritorious pale blue, named A. Lavender, should also be noted by lovers of these plants, as the best of its shade, and, in conclusion, I might note the advance of the quaint little A. tauricola alba, which is steadily pushing itself to the front, and which one day may assist in giving us a new race of white-flowered aubrietias. A white aubrietia has been noted under the name of A. Antilibani, which I have been unable to trace; from its name it would appear to be a Syrian form, and I should welcome a note concerning it from any reader who may happen to have it under notice.

Very few groups of rock plants can produce such telling effects as the aubrietias, and, whether massed upon the slopes of the rock garden, or streaming from the chinks of the rough stone walls, they are a very glory during the days of spring and early summer. P. S. Hayward.

DINNER TABLE DECORATIONS.

In most large establishments this particular branch of decorating is an important matter, and necessitates the cultivation of a number of suitable flowers especially for the purpose. Formerly plants were largely used for table decorations, but with very few exceptions cut flowers are now chiefly in demand. The tasteful and harmonious decoration of a dinner table calls for some forethought and preparation. There are a number of points to be taken into consideration.

First of all, the tastes of employers must be respected, and, secondly, one must consider what receptacles are to be used, whether plain glass vases, solid silver, or silver-gilt, and what colour of flower will be shown to the best advantage in the receptacles chosen for a particular occasion. It is very important that the decorations are of such a nature as not to obstruct the view across the table. They should be arranged so that the guests can either see over or under them. Should the table be a small one, with, perhaps, only one central bowl and a few small glasses, it is better to be able to see overhead; but for a larger table, for twenty or thirty guests, a bold style will be more appropriate, and the decorations should be arranged to allow a line of vision under the main decorations. The large bowls, which are usually mounted on pedestals, are placed down the centre of the table, one between each chandelier, while the smaller ones are arranged down the sides at suitable distances apart.

Flowers are not easily arranged in a bowl without some artificial means of support; it is therefore a good plan to fill the bowls with sawdust, into which flower tubes are inserted. When this is done little difficulty will be experienced in completing the arrangement. Care must be taken, however, to fully hide these accessories by foliage.

A pretty effect, even when the table is a fairly large one, can be obtained by using plain specimen glasses with a taller one in the centre. The glasses should be dispersed in a somewhat irregular manner, so as to avoid straight lines, and in this form, if tastefully arranged, are frequently much admired.

It is preferable to confine the arrangement to one, or at the most two, colours, and in selecting these direct contrast or soft harmony should be aimed at, it being essential that the colours do not clash. Another point worthy of consideration is variety of arrangement; by this I mean that one should not always keep to the same style, but at convenient opportunities introduce some novel feature. Unless this is done one's employers will naturally think you have only one stereotyped form of decoration, and they will naturally tire of the sameness.

The choice of suitable flowers is a very wide one, and, of course, must be governed to a large extent by the time of year. Bright colours generally look well arranged in silver bowls, as the latter add to rather than rob them of their charms. Pink carnations arranged with their own foliage, and perhaps a little Asparagus Sprengeri or adiantum, make a handsome table. Avoid any evidence of stiffness in the arrangement, placing some of the blooms well down and letting others project out, so as to produce a light and pleasing effect.

Cyclamen flowers with their own foliage produce a really beautiful effect, and are usually much admired. When gathering these cut off the tips of the stems or they will not take up water, and soon fade in consequence. Roses always present a lovely appearance. Madame Abel Chatenay and La France are especial favourites for the purpose. Calanthes, arranged with Nephrolepis Piersoni and Asparagus Sprengeri, make a really handsome table; while Dendrobium phalænopsis and streptocarpus form another pleasing combination. Lily of the valley and red tulips furnish a very showy display, but even prettier results are obtained by using Salvia splendens with the valley lily, the general effect being very light and charming. Begonia Turnford Hall and Euphorbia jacquinæflora are very effective when in conjunction. Gloire de Lorraine begonia is also useful for this class of decoration, the plants being turned out of the pots and fixed in the bowls. Few things equal smilax for tracery on the table cloth, and this should be arranged in an informal manner. Some decorators lay a few blooms on the cloth, but I prefer not to do this, as it has a tendency to detract from the main decorations, although, in isolated cases, this practice may be permissible. Very pretty effects can be produced with coloured foliage in autumn, and ampelopsis for tracery. These are a distinct break from the usual arrangement, and are frequently much admired. Poinsettias are often employed for Christmas decorations; when cut the stems should be plunged in hot water as a preventive of flagging. Holly leaves dropped on the cloth, with red berries stuck on the spines are a novel and pleasing feature, and with the poinsettias make a pleasing combination. J. Gardner.

French Beans.—As the New Year is close at hand the sunlight will soon increase, therefore ample sowings can now be made where a suitable structure is available; an even temperature is essential to success, one of 55 degrees, falling to 50 degrees at night, is suitable, though this must vary according to the outside temperature. Too much fire heat must be avoided, as it would seriously weaken the plants, and create red spider. The atmospheric moisture must be liberal, and the foliage of the beans syringed regularly about nine o'clock a.m. on fine days. Make sowings fortnightly in seven-inch pots, and be very sparing with water till germination takes place. To assist quick germination place the pots over the hot-water pipes, but remove them to their proper quarters so soon as the plants have broken through the soil. For varieties, Sutton's Forcing is excellent at this season, with Ne Plus Ultra for second sowings.—G. F.

THE MAGNOLIAS.

Amongst deciduous trees the magnolias stand out conspicuously, both on account of the great beauty of the flowers and the free-flowering propensities of many of the species. Several species, such as M. conspicua, M. stellata, and M. obovata, with a number of hybrids, of which M. Soulangeana is a worthy representative, are familiar objects to visitors to Kew, where each recurring spring they are laden with blossoms. The genus contains about 30 species, but several are not in cultivation, and some of those which have been introduced are not hardy, or are only suitable for culture in the more favoured parts of the country. The cultivated species have been introduced from China, Japan, the Himalaya, and the southern United States. Both evergreen and deciduous species are included, and the foliage in many instances is large and handsome. The fruits of some kinds are ornamental, particularly those of M. tripetala, which are about three inches long and one to two inches through, reddish in colour, and containing orange-coloured seeds.

In places where the climate is not suitable for open border culture, they may be planted against south or west walls, and in such positions they usually give very good results. They thrive best in moderately moist soil in a position sheltered from cutting winds, and, though not absolutely essential, they appreciate a little peat about the roots.

Transplanting is attended with some considerable risk, especially if the plants have occupied a certain position for any great length of time, and have formed a number of long roots with few fibres, for damaged roots frequently die back instead of healing. The best time to transplant, providing large balls of soil cannot be moved attached to the roots, is April, for then new roots quickly form, whereas if the work were done in January the roots would lie dormant in cold ground for a considerable period.

Propagation is a somewhat slow process. Some kinds may be raised from seeds, but seeds do not retain their vitality for a very long period, so they ought to be sown soon after they are ripe. Grafting is resorted to in the case of the conspicua varieties or hybrids, and also with stellata, whilst the large-leaved evergreen grandiflora is usually increased by means of layers, which may be put down in March, and be left two years without disturbance. The rooted branches should then be taken off and potted, and placed in a close moist greenhouse until well established. Very little pruning, except in the case of specimens trained to walls, is necessary, but what has to be done should be done in spring or early in summer, taking care to make clean cuts and protect the wounded ends of branches with tar as soon as the work is accomplished. Within the last few years magnolias have become very popular for forcing. For this purpose the most suitable kinds are the conspicua hybrids and M. stellata. Plants may be cultivated in pots and forced slowly into bloom for the beginning of March. If due care is taken with the forcing and after-treatment, they may be used for several years, and afterwards be planted in an open border. If, however, they are forced rapidly, and given no special attention afterwards, they will not be of service for the following year.

Appended are short descriptions of a few of the most suitable magnolias for beautifying the garden, and I hope to refer to the remainder of those of special value in an early issue. The more tender sorts which are suitable for the south and south-west counties only are referred to in the descriptions.

M. acuminata.—This is a native of the United States, and is known by the common names of "Cucumber Tree" and Mountain Magnolia. It grows to a large size in England, attaining a height of 40 to 50 feet. In America, however, it is found up to 90 feet in height. The leaves are large and ornamental, but the flowers are less conspicuous than those of other species, being small and green. The fruits are rather curious, and during their development bear some resemblance to small fruits of cucumbers. A variety is known called cordata, which differs from the type by its dwarfer habit and yellowish flowers.

M. Campbelli.—This species hails from the eastern Himalaya, and is a gorgeous flowered species. The blossoms are very large, six to nine inches in diameter, and bright rosy-pink, but unfortunately they are rarely seen, for the tree can only be grown in the south and south-west counties. Fine examples are, however, met with here and there, notable specimens being in the gardens at Fota, Abbotsbury, in Dorsetshire, and Leonardslee, in Sussex. After many trials a young plant has been induced to grow out-of-doors at Kew, where it is making satisfactory progress. Under natural conditions it assumes the proportions of a good-sized tree, and the Abbotsbury example must be between 30 and 40 feet high. The flowers usually open as the leaves begin to expand.

M. conspicua.—This is frequently called the Yulan in gardens, and it is one of the most beautiful of all the spring-flowering kinds when covered with its large white blossoms during April. It is found in China and Japan, and was introduced to English gardens about 130 years ago. A number of fine examples exist in the vicinity of the Metropolis, notably those at

MAGNOLIA LENNEI.
A handsome free-flowering hybrid, producing large rose-purple flowers.

Syon, Gunnersbury Park, and Kew, whilst a few years ago a nice tree grew in the grounds at Wimbledon House, Wimbledon. Under favourable conditions it attains a height of 25 or 30 feet, with a considerable spread. It is stated to have been cultivated by both the Chinese and Japanese from a very early period, and is still extremely popular. From it, crossed with M. obovata, a number of showy hybrids have originated, which differ chiefly from M. conspicua in the flowers being more or less heavily shaded with purple. Good ones are Alexandrina, superba, spectabilis, Soulangea, and rustica. M. Lennei is also said to be a hybrid of the same parentage, but the history of its origin appears to be lost. It has been stated to have appeared as a natural hybrid in Italy, and the above parents are simply suppositious. From its extremely large, highly-coloured, shapely flowers, there is every possibility that M. Campbelli, instead of M. obovata, was one of its parents. It is, however, much hardier than M. Campbelli, will grow wherever M. conspicua thrives, and is so beautiful that it should have a place in all gardens where the conditions are favourable to the development of the Yulan.

ESPALIER PEAR TREES AND PEAR ARCH, FULSHAW HALL.

M. Delavayi is a new species from Yunnan, with large, handsome evergreen foliage. It flowered for the first time in England in 1909, flowers appearing simultaneously in the Coombe Wood Nursery of Messrs. Veitch, and in the Himalayan House at Kew. The flower is deep cream or buff in colour, but less showy than many of the other species. It would not appear to be suitable for outdoor culture, except in the more favoured parts of Cornwall, Ireland, etc., for near London in comparatively mild winters it has been very badly cut whilst growing against a wall.

M. Fraseri.—This is an ornamental deciduous-leaved species from the Southern United States. Under natural conditions it forms a tree 40 or 50 feet high, but it is of smaller dimensions in England. The oblong or obovate leaves are up to 12 inches in length and 5 to 6 inches across. The flowers appear during June and July. They are cream in colour, and 4 to 6 inches across. It will succeed in the Midland counties, but is an uncommon tree.

M. glauca is known in the United States as the "Laurel Magnolia" on account of its small laurel-like leaves. It is widely distributed, and while it is deciduous in the Northern States it is quite evergreen in southern localities. This feature may be noted in imported plants, for occasionally those raised from seeds ripened in northern places lose their leaves in autumn, while those raised from seeds ripened in the south are quite evergreen. Though it is found as a bush in England, it is reported from the milder parts of its native habitat as sometimes attaining a height of 70 feet, with a trunk 2 to 3 feet in diameter. The leaves are 4 to 5 inches long, oval, green above and silvery beneath. The flowers are 2 to 3 inches in diameter, globe-shaped, and cream in colour. They open during June and July.

W. Dallimore.

HOW TO GROW SWEET PEAS.—"Sweet Peas and their Cultivation," by C. H. Curtis (Secretary of the National Sweet Pea Society), is a complete guide to the successful culture of sweet peas for home or exhibition. Price 1s. net, by post 1s. 2d. or bound in cloth 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

THE SUMMER PRUNING OF TRAINED PEAR TREES.

It seems strange to find so many different opinions given as to the treatment of pear trees grown against walls, or as espaliers, etc. The advice given by many is that it is dangerous to summer prune "too early," but summer pruning, or pinching the young growing shoots of trained pear trees, is little understood, judging from the details generally given. It is frequently stated that in the early summer one should never pinch the shoots too early or the basal buds will push into growth, and it is further suggested that pinching should not take place before July or August. In my opinion, if the work is left till then it is too late for any practical good to result.

The summer pinching of pear trees, trained on walls, etc., should be carried out in May, or as soon as the growths have made five or six leaves. After this, at the apex of the shoots or spurs, a bud or two will push into growth, and these growths should be rubbed off when two to three inches long. If this be done no basal buds will move into growth, and the strength of the tree will go to the fruit buds for another year. There are many spur growths which never give fruit buds unless summer pinching is done.

Up to July the whole energy of trained pear trees is frequently allowed to run to waste unchecked, and root pruning has to be done the following autumn, and this makes a lot of labour, which is wholly unnecessary. All wall-trained pear trees would be specimens of perfection in fruit cropping if summer pruning was done in due time. All who doubt this statement should do their summer pruning in May, or at latest in June, and take notice of the results; no basal buds will move into growth, and as the apical buds grow the growths should be rubbed off.

Walled-in gardens are necessary for pear trees, but many of the walls are not high enough; if three to four feet of wire trellis is put on the top of the walls, the parts on the wirework will very rarely suffer from frost, and this method will be much cheaper than making the walls very high with solid brickwork. How can horizontal or fan-trained pear trees be expected to produce fruit buds when they are allowed to get into strong growth, and the roots are rank in proportion; when strong growths are cut back to a few buds in August and winter, the trees are not pruned, but barbered—it is like cutting a hedge back.

It has been often said that the proper summer pruning or pinching of our trained pear trees is a lot of extra labour; I think it the greatest saving of labour, for a man can manage a large number of trees in a day in May, when the shoots can be pinched with the finger and thumb. This kind of pinching, or summer pruning, is much practised by the French gardeners, who are the greatest pear growers, and when they attain such success by close summer manipulation in their warm climate, we, in our colder gardens, should go in for still closer pinching than they do, to induce the buds to mature earlier.

What are the necessary qualities of perfection in a pear tree? I think they are a well-trained, well-balanced, fruitful specimen, giving the greatest return from the least expenditure of labour, and these returns of the finest quality. Trained pear trees on walls can be converted from a fruitless into a fruitful condition in one year, or season, by summer pinching.

Alxr. Trail.

Fulshaw Hall Gardens, Wilmslow.

DEEP CULTIVATION.

It gave me much gratification to note, in your issue for December 17 (page 1,000), that my good friend, Mr. E. Molyneux, and I are agreed upon the value of deep cultivation, especially in relation to vegetable culture, and the thanks of all true vegetable enthusiasts are due to you for your leading article on the same at such an opportune moment. The precise way, and the various methods adopted, for creating a depth of good compost, have always given rise to much difference of opinion, and probably will continue to do so for some considerable time to come.

ESPALIER PEAR TREES IN BLOOM, FULSHAW HALL.

I observe that Mr. Molyneux specially mentions the plot of ground rising three feet higher than the surroundings. A biggish jump that! Of course, he has seen it, or he would not say so. To make quite sure I have just measured ours whereon onions have been grown for between twenty and thirty years, and I find it exactly fifteen inches higher than the outside of a well worn gravel path. The value of raising the ground above the natural level on our wet, cold clay is fully demonstrated by the results obtained. This applies, not only to the quarters devoted to vegetable culture, but to shrubbery beds, rose and flower beds, specimen ornamental trees, as well as fruit trees.

With regard to the crucial point in relation to trenching and bringing the subsoil to the surface, I have said before in these pages that the more ungenial this is the more need for reformation. Mr. Molyneux says none of the advocates of the latter method have as yet given any practical common-sense reason for so treating soil. They, he observes, tell us to do so, and leave pupils to work out their own salvation. Now, my contention is, and always has been, that ground intended as a vegetable garden, generally speaking, is meant to be cultivated as such for many years, probably centuries. Consequently, thorough measures should be taken to convert the soil to the depth of at least three feet into an amenable condition as speedily as possible. No amount of tinkering with the subsoil at a depth of two or three feet under the ground will accomplish this. I am prepared to say, and prove, that if the system which I advise is properly carried out the soil to a depth of three feet will be in a better condition at the end of five years than the method approved of by Mr. Molyneux is at the end of thirty years or more, and the extra production will more than compensate for the expenditure.

I have had many letters, even during the past season, from amateurs and cottagers, not rich men, thanking me for my advice. They have carried it out to the letter, and with, they tell me, the greatest possible success, and there are several cases of labourers doing precisely the same thing in this locality. These are certainly most successful vegetable growers, and I can assure Mr. Molyneux that they do not cover the surface in such a way that plant life cannot possibly live on it. For fine seeds, and young seedlings, the smallest quantity of a fine porous material is frequently applied, and for deep root crops holes are frequently bored and filled with a suitable material, but this is practised whether trenching is carried out or not, in many places.

We do not waste a particle of garden refuse of any kind, but return everything to the ground. All that is of a woody nature is burnt or charred on the smother fire, and any other refuse is buried annually in the ground, as the trenching proceeds. I am, as most of my readers are aware, deeply interested in vegetable culture, and I have always advised conscientiously what I believe to be the right method and have practised myself. There are, I know, a large number of men, some good cultivators, too, who do not agree with me, but we have each only one object in view, and that is the best methods for bringing the soil speedily into a fertile condition.

E. Beckett.

Acalypha hispida.—Few stove plants have attracted as much attention when first introduced as did this acalypha, which was first shown under the name of A. Sanderiana. Although of very easy propagation and culture, and remarkably showy when at its best, it is not so often met with as one might expect. Why, it is difficult to say, for as a fine bold specimen, either trained to a single stem, or as a standard, the long crimson plush-like tails hang down for a considerable distance, and form a distinct feature.—W. T.

WELL-CROPPED ESPALIER PEAR TREES, FULSHAW HALL.

SCHIZOCODON SOLDANELLOIDES.

This lovely plant may well be called the Japanese soldanella, so much does it resemble in its loveliness the soldanella of the European Alps, although, unfortunately, its culture is not so easy as is that of the little flower which pierces so gracefully through the snow of its native mountains. To know it is to love it, and to induce one to have the keenest desire to number it among one's most cherished alpines, so exquisite are its beautifully tinted leaves and its delicately coloured fringed bells, of the most perfect form. If we scan the lists of Japanese dealers in plants we see it quoted at what appears an absurdly low price, compared to that stated in the catalogues of British nurserymen who offer this schizocodon, but we have not long embarked upon its cultivation ere we learn doubtless at some cost—that there is a potent reason behind the apparently exorbitant price at which it is sold in this country. One of our best writers on alpine flowers tells us of his ordering hundreds of plants after seeing the species on the streets of Tokio, where it was exposed for sale in magnificent condition. They were duly delivered at a cost of twopence each in Japan. But, we are told, the summer heats of Yokohama were too much for this stock of the schizocodon, and "they all sickened and expired." This is only a common experience, if we except the totality of the loss, which is not generally so great, although a big percentage of the plants expire, either before they are shipped, on the voyage, or after their arrival in this country.

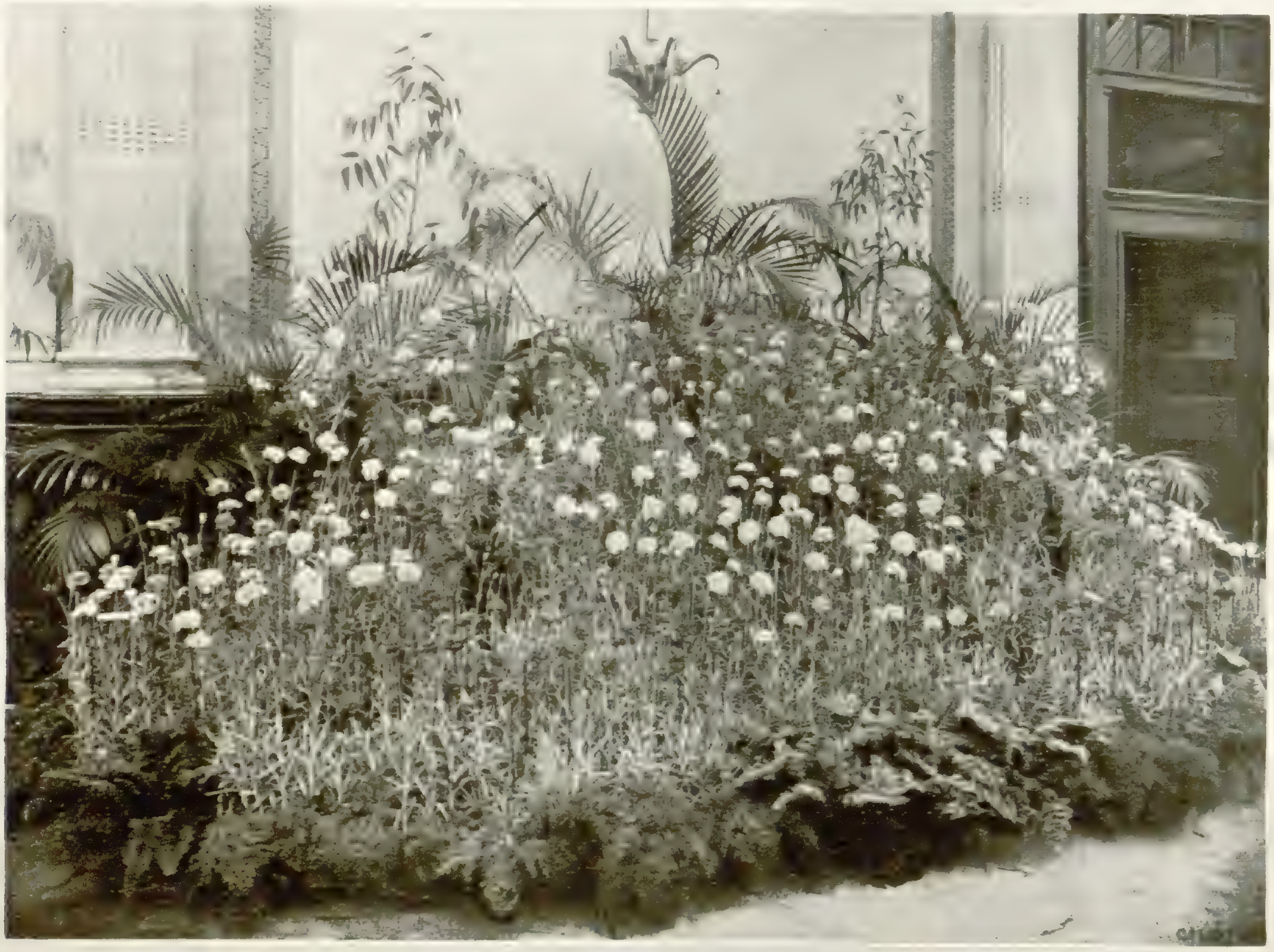
Newly-imported plants are certain to bring with them troubles of their own, however carefully they are treated, and one cannot wonder when we find this plant, costing only a few pence in Japan, appearing in our catalogues at half-a-crown each. To the uninitiated this seems extortionate, but to those who have had experience it appears no more than a fair return for the losses and trouble experienced in importing and establishing this lovely plant. To sum up, it is advisable to purchase those which are established, rather than to buy such as have been newly imported, or to send direct for a lot of them. It is not worth the annoyance and grief caused by the certain losses, for the amateur, unless he is prepared to run the risk on a large scale, to import this schizocodon, so we may advise the purchase of well-established examples in pots, and then turning these out with as little disturbance as possible.

Some think differently, but, to my mind, the schizocodon loves a cool, moist position, well shaded from the forenoon, midday, and early afternoon sun, and in peat, sand, a little grit, and a very little loam, with plenteous waterings with pure water in dry weather. Under these conditions we are almost certain to be able to realise the enjoyment of the exquisite rounded leaves, of tints too elusive to describe through the utilitarian methods of type, and requiring a water-colour painting to do them justice. Chocolate is at most seasons the prevailing tint, but the gradations are impossible to describe. Then the dainty, drooping, fringed, bell-shaped flowers, poised on little stalks, some six, nine, or so inches high, are beyond sober description. They are of a kind of rose-pink, exquisitely tinted with crimson, while the whole aspect of the plant is withal so fascinating that we can linger for long beside it to study its beauty and its charms. We have many lovely flowers from Japan, but there are none which in so little bulk convey such impressions of grace and beauty as this charming schizocodon.

S. Arnott.

A FINE GROUP OF PERPETUAL CARNATIONS.

One of the most interesting displays at the recent exhibition of the Perpetual Flowering Carnation Society was one composed very largely of plants in pots, and arranged by Mr. A. Grubb, gardener to C. F. Raphael, Esq., Porter's Park, Shenley. The plants, staged with a few ferns and palms, were admirably grown, and all carried their quota of good blooms, thus demonstrating in a remarkable manner the value of these carnations for winter flowering, and their capabilities under careful cultivation. The varieties largely represented were Enchantress, Britannia, Harlowarden, May Day, White Perfection, Marmion, Mikado, Winsor, and Beacon, and all of these showed that Mr. Grubb is successful with a fairly large range of varieties. A few stands of cut blooms were arranged amid the plants, and rose above them, thus adding to the grace and effectiveness of the exhibit. Such a group as this does more than all the beautiful flowers staged by the market growers to extend the culture of winter-flowering carnations among amateurs. Mr. Grubb was deservely awarded a gold medal for this large and attractive group.



GOLD MEDAL GROUP OF PERPETUAL CARNATIONS.

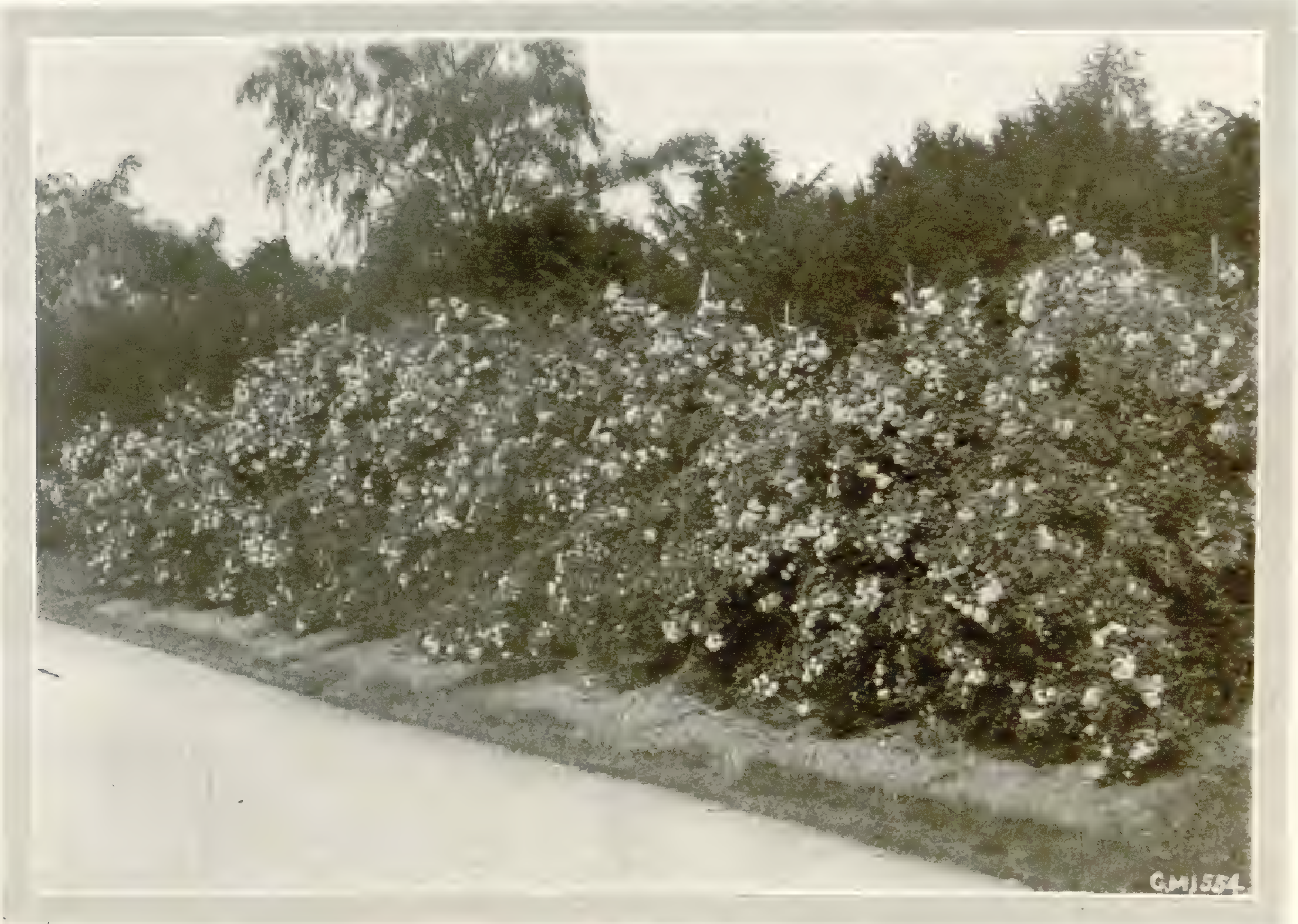
Exhibited by Mr. Grubb, gardener to C. F. Raphael, Esq., Porters' Park, Shenley, at the Winter Show of the Perpetual Flowering Carnation Society, held at the R.H.S. Hall, on December 10.

SCREENS OF RAMBLING ROSES.

Rambling roses may be used in a diversity of forms in beautifying the garden, and providing the position is not overhung by the branches of large trees, and care is taken to well prepare the soil previous to planting, it is doubtful whether there is any form of training in which they will not present an attractive feature. There is no occasion to enumerate the various methods of training roses of a rambling character, especially as the object of this note, and its accompanying illustration, is to direct attention to the facility with which charming screens can be formed with their aid in a manner that is not generally known. The usual method in forming screens with roses is to provide a trellis of formally arranged or rustic woodwork, and such trellises when in suitable positions, and well clothed with roses, are highly attractive. Trellises are not required, or, indeed, desirable, in many positions, as in the one illustrated, and it, therefore, becomes a matter of some importance to know that excellent screens of roses may be formed with such simple supports as stout poles. The screen depicted occupies a position at one end of the long grass walk that intersects the magnificent herbaceous borders which form so glorious a feature of the Welbeck Gardens. Beyond the borders, and the intersecting breadth of turf, is a belt of trees and shrubs; and in front of this is a raised border and a gravel walk. The raised border, as will be seen, is planted with Dorothy Perkins roses, and the growth of these is supported by stout poles that stand about eight feet above the ground level. The poles are about thirty inches apart, and as the roses have grown vigorously, and in their season bloom profusely, they form a most perfect screen, that is remarkably attractive from the development of the leaves in the spring until their fall late in the autumn. But when in the season of roses the bright glistening foliage is supplemented by myriads of clusters of the bright pink blooms, the effect is truly delightful, and the rich display of colour arrests attention long before the screen is reached. At Welbeck the screen forms an admirable finish to the long vista of flowers and foliage formed by the unique herbaceous borders.

Within the past two or three years Mr. J. Burton, the able superintendent of the Leicester public parks and gardens, has formed a similar screen in the Abbey Park, and, as at Welbeck, it is a great success. Facing the flower-clad slopes around the refreshment pavilion near the centre of the park there is a group of flower beds, with a plantation of trees and shrubs at the back. In front of this is a broad border which previously was wholly devoted to flowering plants of robust habit, and at the back of this Mr. Burton planted Dorothy Perkins, and supported it with stout poles eight feet or so in height. The roses have now clothed their supports from base to apex, and bloom so freely that at the height of the season the screen may, without any stretch of imagination, be described as a cascade of flowers. The only points to which there is occasion to specially refer are the importance of liberally manuring and deep digging the border before the roses are planted, and of providing poles of sufficient strength to support the growth without the risk of them becoming unsteady in a gale of wind.

H.



A BEAUTIFUL SCREEN FORMED WITH DOROTHY PERKINS ROSE

In the gardens of Welbeck Abbey.

NOTES FROM FROGMORE.

A visit to the Royal gardens of Windsor, especially to the glass department, situate at Frogmore, is at all times interesting, as gardening there is carried on of a high order of merit.

Many persons would suppose the middle of December is not an ideal period to visit any garden, but I can assure readers that in establishments like this there is much to interest and much to learn from the present displays of various subjects and from the preparations in hand for the future. Recently I paid a hurried visit to Frogmore, and greatly enjoyed what I saw under the guidance of Mr. Mackellar, who is an organiser of great things, as must be the chief of this establishment.

The plant houses were especially bright with plants used for the decoration of the castle, and it may be of interest to mention that the plan is to arrange the groups of plants first in the houses at Frogmore for the positions and rooms they are to occupy, as there is then less trouble in producing the exact effect desired. I would not like to say how many van loads of plants are required when the King is in residence, be they few or many the resources are adequate. Of chrysanthemums huge quantities are grown both for large blooms and the smaller decorative types.

It would be difficult to find an equal display of Gloire de Lorraine begonias, one house alone containing 1,000 plants, the bulk of them specimens, many measuring a yard across, nearly as much high, and smothered with blooms from base to apex. The plants are arranged to form a bank on either side of the house, the front row standing on the floor and the others on stages. The roof is draped with the growth and flowers of suspended plants, making a complete avenue some 100 feet long. At the end is a huge mirror, which is so adjusted as to produce an effect representing double the distance, with a gentle curve, quite a novelty in its gorgeous effect. One plant I specially noted was 4 feet in diameter and 3 feet high, which had been grown from a cutting that was rooted in January.

The anthurium house, even at this time of the year, was a fine sight, with the highly-coloured huge spathes, these being found of the utmost value for decoration. About two dozen varieties are grown, and the plants grow so vigorously under their happy conditions that it is found necessary to frequently lower them by surface rooting of the stems, thus reducing their height. The croton house, too, was especially attractive with its numerous varieties represented by brilliantly coloured plants of all sizes, from specimens in the centre to thumb pot plants on the side stages, all of which are found useful. Of palms, huge specimens are grown in quantity, and none are more highly appreciated than Kentia Belmoreana.

Naturally orchids are grown in quantity, Cattleya labiata and its many forms are distinctly rich in colour, and much appreciated at the dull season of the year. An especially fine batch of Dendrobium phalænopsis was noticeable, one spike having as many as twenty-three flowers. Calanthes are grown numerously, and a fine batch of C. Sanderiana, with bulbs twelve inches long gave promise of a rich display. Cypripediums are distinctly useful, and rich in variety.

Carnations are here, as elsewhere, much appreciated. Not a day passes but several dozen blossoms are cut; naturally then the collection is of the best. It would be difficult to find a healthier batch of plants of all sections, especially the Malmaison type. Poinsettias are grown in large numbers, the plants ranging from 2 feet to 7 feet high, with foliage quite to the pot. A capital way of treating smilax here is to plant it in a narrow border at the back of the vineries. The plants grow freely, producing just the trails required for decoration, at the same time covering the otherwise bare walls.

It is in the fruit department especially where much that is good in cultivation can be seen. If but more gardeners would follow on the lines here adopted in pruning and training, their vines and peach trees especially, we should see much more desirable results in various parts of the country. Take the vineries, for example. Mr. Mackellar is a staunch believer in space for the rods, allowing the leaves to develop fully, and thus obtain maturity in a natural manner. In many cases the single rods are 4 to 5 feet apart, and the leaves, wood, and bunches resulting prove the value of sufficient space. In starting with young vines several feet of growth are not retained, but they are pruned close back, and thus make strong growth. The extension system of filling a house with a limited number of vines is being gradually adopted, each vine will eventually have many branches radiating from its base to the right and left of the main stem.

Muscat of Alexandria is naturally a favourite, as also is Lady Hutt, which is destined to occupy much space; it is found to be so useful, keeping quite well until March, the high flavour being maintained throughout. Lady Downes is required in quantity, but the coarse varieties like Gros Colmar, Alnwick Seedling, and Alicante are not desired, although the latter is now carrying grand crops of serviceable bunches, gloriously finished, having that purple bloom so much admired by expert grape growers. E. M.

FRUIT ROOMS: STRUCTURAL FEATURES.

Important as is the store set apart for fruit in the garden, how often one finds structures very ill-adapted; and sometimes even quite make-shift accommodation comes under review. True, there are plenty of cases where the gardener has no option in the matter, he takes over the accommodation his predecessors have used before him, and very often serious thoughts are not raised in regard to the suitability or otherwise of the building for the purpose in question. The gardener expected to provide a supply of apples and pears over the longest possible season has often to adopt various schemes to enable him to do so with fruit in the best possible condition.

When the individual grower looks about him for an ideal his mind may find location in one of the large nurseries where fruit trees are extensively grown. These are independent open-air structures, span-roofed in design, heavily thatched both sides and roof, a provision that ensures uniformity of internal temperature. Very few gardeners, we repeat, can look upon these perfect designs and hope for the privilege of such adaptable appointments. A suite of offices usually finds a site behind one of the boundary walls of the garden almost invariably having a northern aspect. For fruit stores such a site may be claimed as the best under circumstances of this kind. Slate rather than thatch is the most commonly used. A straw or matchboard underlining would tend to neutralise the variable influences of unseasonable weather acting on slate roofing.

The shelves for laying the fruit on are often a debatable question, giving rise to differing opinions. While some stand by the open-strip trellising under the impression that a circulation of air passing through and among the fruit is best, others just as zealously regard close shelves lined with clean paper as superior for the purpose. Both advocates may satisfy themselves on these points by a comparative trial. What is often lacking in fruit stores is light and sufficient roof ventilation. Light is a matter of considerable convenience, when, after the gathering, sometimes hurriedly done, damaged fruits set up decay, and must be removed. A roof light should be provided with accompanying shutters that can be closed at other times.

We have recollection of a well-appointed fruit room in Dorset where for small lots of pears there was a series of easy-fitting drawers arranged beneath an open bench that served for packing or storing of other fruits. In this garden was a large and interesting collection of cordon pears and apples, and which did remarkably well thus grown, and, probably for the convenience of an interested employer, these drawers, arranged in small compartments, were designed. We do not remember to have met with a similar provision anywhere else, but an enquiry ascertained the fact that the drawers were highly approved and well adapted for keeping such fruit in good condition over a maximum length of season.

Another instance of local adaptation comes into mind where a disused and spacious underground water tank was fitted with shelves, and its conversion turned out to be a convenient and adaptable fruit store. Pears were kept in sound condition in this converted water tank; indeed, it was said to be much superior to the conventional fruit room. The uniformity of temperature found in ordinary cellarage was naturally the key to this unusual adaptation.

The ideal fruit room should be a span-roofed erection, with ample space for side shelves of convenient width, say, from 24 inches to 30 inches, and a central stage where samples of every kind in stock are set out under name. Such a provision is distinctly educative, because, when legibly written, or, better still, printed, labels are placed on each variety, form and character is made familiar to everyone having access to this utilitarian chamber. Provisions of this sort were in use in the Syon House gardens, also in the old Chiswick gardens of the R.H.S., where it became a mine of information to the student and visitor in turn.

The aridity of an upstair apartment has been proved too unsuited to late-keeping fruit; a ground floor apartment is much better, and presumably the ideal fruit room should have an open soil floor, from which moisture naturally rises and bedews the fruit in its fall. A ground floor room in a disused cottage is often found to be a capital store for late apples and pears, the upstairs rooms of the same building serving for fruit in daily use through the autumn and early winter months. W. Strugnell.

CONFERENCE PEAR.

I suppose Mr. Coomber, when writing his interesting note about this pear on page 975, did not have the "Journal" of the Royal Horticultural Society, Vol. IX., 1887, at hand to refer to, otherwise he would have seen on page 86 of this report of the Committee of the National Pear Conference, held in the society's gardens, Chiswick, October, 1885: "A new seedling variety raised by Mr. Rivers, named the Conference pear, ripening in October, was awarded a First Class Certificate as a market variety." The pear received its name to commemorate this award, the only one made at the conference. A seedling from Léon Le Clerc de Laval, it was distributed in 1892. Conference now has a definite place amongst the best dessert pears of its season, October and November, is very hardy and a constant bearer. Cropping even in such an adverse pear year as 1910 has proved, it is suitable for growing in all forms and in most localities.

Pears are kittle-cattle folk; it is impossible to say what they will be like to eat in any given season, nor exactly when they will ripen. Emile d'Heyst and Beurré Diel are excellent now, December 10, a somewhat late date for them. Beurré Fouqueray has been very good indeed this year. Le Lectier, sometimes extremely well flavoured, gritty and astringent.

Pears require more special care in storing, so that they shall ripen properly, than apples.

A dark shed, which will keep out the frost and maintain an even low temperature is all right for the latter, but pears should have very slight extra heat in their room, so that the temperature shall not fall near freezing point; some light, too, seems beneficial. H. Somers Rivers.

ZYGOPETALUM MACKAYI.

Eighty years have run their course since this handsome species was introduced to cultivation, and numerous as have been the species, hybrids, and varietal forms with which gardens have been enriched, not one can be mentioned as having superseded it. The two varieties, crinitum and intermedium, which, by some authorities have been given specific rank, are distinct and beautiful, but, as regards merit, they can hardly be described as differing appreciably from the type. Of great beauty is the variety known as crinitum cæruleum, which is remarkable for the expansion and brilliant colouring of its lip. This variety does not supersede the type, but it is so beautiful when well grown that one cannot well repress a feeling of regret that for some inexplicable reason it should have become so extremely rare that it is seldom met with, and commands a high price. Why it should have become scarce is to me difficult to understand, for at the time when I could give the attention to orchid cultivation that is not now possible, the half-dozen or more large specimens I had grew with quite as much vigour, and bloomed as freely as do the other varieties under precisely the same cultural conditions.

I was reminded of the attractions and usefulness of Zygopetalum Mackayi, and its varieties, by the large number of finely grown specimens of the type that were contributed by Mr. A. R. Allan, the able gardener at Hillingdon Court, to the meeting of the Royal Horticultural Society held on the 6th inst. Not having counted them, I cannot say how many plants there were, but they occupied a long run of table, and the forest of flower spikes that rose from them, produced a striking effect, and afforded an admirable object-lesson on the usefulness of the species in contributing to the attractions of the intermediate house during the winter months. A spike of flowers of one of the plants shown by Mr. Allan I have the pleasure of illustrating herewith, and as the spike was selected for the convenience of the photographer, rather than for its exceptional development, it will be readily understood that the plants had been grown with much success. The flowers are borne on spikes ranging from fifteen to twenty inches high, the sepals and petals are bright green, freely blotched with purple-brown, and the lip white, marked with small blotches and radiating lines of purple.

Z. Mackayi and its varieties thrive under the same conditions, and these are simple and can be briefly stated. They will thrive in association with a mixed collection of stove plants, and, indeed, in a mixed collections of orchids, but in gardens in which there is a collection of orchids sufficiently extensive for the sections to be arranged according to their cultural requirements they should be grown in association with the cattleyas and lælias. As regards potting material, they succeed best in tough fibrous peat, broken up roughly, to which a few nodules of charcoal and small, perfectly clean crocks are added in the process of potting. The pots should be of moderate dimensions in proportion to the size of the plants, and be filled to about one-half their depth with crocks. G. G.

Tomatoes.—A sowing should now be made in a light sandy compost, using five-inch pots for the purpose. Just cover the seeds with the finer soil, water well in with tepid water, and place sheets of glass over the pots till germination takes place. A shelf in a house with a temperature of 60 degrees will be the most suitable.—G. E.

WORK FOR THE WEEK.

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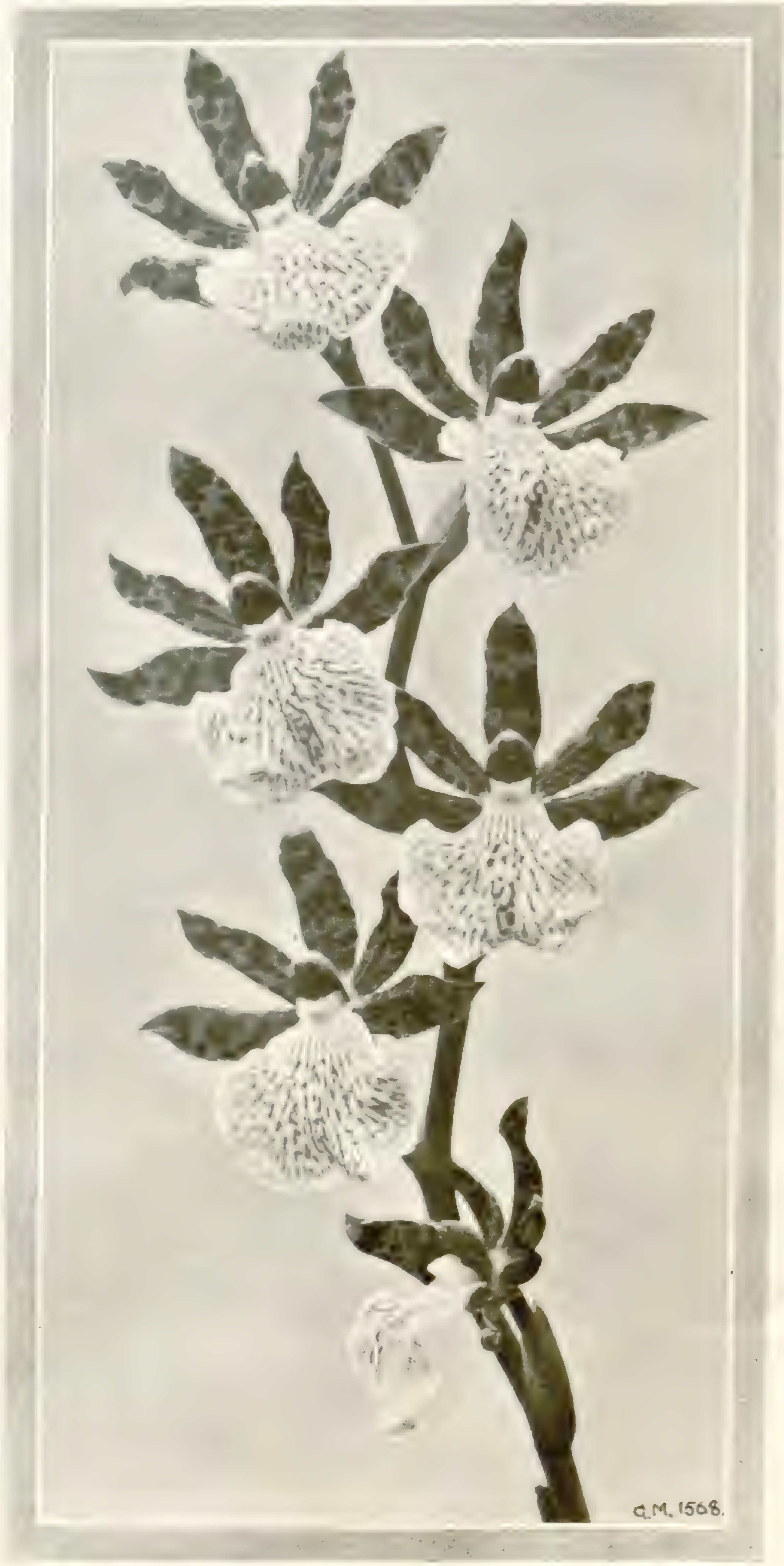
THE ORCHID HOUSES.

COOL HOUSE ORCHIDS.—The bulk of the odontoglossums, both hybrids and species, are either in their most active stage of growth or are developing their flower scapes. I cannot help referring to the changes in the cultivation of odontoglossums in evidence to-day, compared with that in vogue only a few years ago. I had occasion to refer to a prominent book on orchid cultivation only a few days ago (a book that has been published well within my recollection). In this we were advised that the winter temperature for odontoglossums should be from 40 degrees to 45 degrees, and that with excessive cold weather, as long as the frost was excluded and the atmosphere of the house kept drier, the plants would take no ill-effects. Small wonder that with such conditions only small stunted pseudo-bulbs and growths were produced, little, if any, advance from one season to the next, or that no attempt was made to propagate from back bulbs, or the plants relieved of leafless ones, unless by chance they set up decay, and there was a possi-



ZYGOPETALUM MACKAYI.

A handsome species introduced to this country in 1826, and bearing flowers attractively coloured green, purple-brown, white, and purple.

bility of losing the plants altogether unless the rotting portions were cut away. Surely it should have been evident to prominent growers and writers of those days that the season when plants were in the most active stage of growth development was not a season to admit of their being exposed to an extremely low temperature. There can be no question but that the secret of the success obtained in recent years in the growing of odontoglossums has been the more liberal treatment. I have asked some of our most successful raisers of seedling odontoglossums to account for the successful raising and growing of plants from seed, which has become such a prominent feature during the last ten years, but I have never received what I consider a satisfactory explanation from any of them. To my mind, it appears that it is to the warmer conditions under which the plants are being grown during the winter and spring months that we may attribute this improvement. In my own experience I have found that the seedling odontoglossums do not make satisfactory progress unless they occupy a structure in which a normal temperature of 55 degrees is maintained during the winter months. In fact, for some years now we have maintained a night temperature in all the odontoglossum houses of 53 degrees. Unless we have extremely cold conditions outside I consider it inadvisable to permit the temperature to fall below 50 degrees during the season that the plants are in their most active state of growth development. Many of the plants will be emitting their flower scapes, and careful observation is necessary to guard against their being damaged by slugs and snails. It is a good plan to place little patches of bran about the stages, and on the surface of the potting compost where any traces of these pests are found, or to hollow out some pieces of potatoes, and, with the aid of a lamp they may be caught and destroyed. Some cotton wool wrapped around the spikes in such a manner as to render it difficult for them to climb up the stem will, to some extent, protect the flower buds but the only safe remedy is to catch and destroy these pests.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

DECORATIVE PLANTS.—At many of the country houses it is the custom to entertain very largely at Christmas, and many batches of plants will have been held in reserve for this occasion, but now that the greater part of these festivities are over many of the plants will have fulfilled their mission of usefulness, either by being used as pot plants for the decoration of the house, or as cut flowers for table decoration, etc. Much of the available house-room will be required for the introduction of plants for forcing, so that batches of poinsettias, euphorbias, Begonia Gloire de Lorraine and its varieties, justicias, etc., that may be cut down might with advantage be cut over to a reasonable degree, and stored fairly close together, giving the stock plants rather less water at the roots. This will give largely increased room in the houses, and batches of Azalea mollis, lilacs, lily of the valley, spiraeas, laburnums, etc., may be brought in. In many places these subjects are forwarded in early fruit houses, but where very early forcing of fruit is not practised it is quite necessary to put them into the stove or other warm structures to maintain a steady supply of flowers through the early spring months.

TULIPS AND NARCISSI may also be put into a house where the temperature does not rise much above 60 degrees, the narcissi being particularly apt to come blind if given an excess of heat.

BEGONIA GLOIRE DE LORRAINE.—If early batches of these are required good fleshy leaves should be taken off the plants as they are cut down, leaving about an inch of stem to each leaf, and pricking them into shallow pans filled with silver sand or sand and fibre. In some instances these leaves strike very readily, whilst at other times I have known them take from three to four months to become well rooted. If cuttings are preferred, the plants, after being cut down, should be given a rest for a month or six weeks in an intermediate house, after which they may be again introduced into the stove, where they will soon produce good fleshy shoots, which, if used as cuttings, will, in most cases, catch up to the plants raised from leaves.

BEGONIA GLOIRE DE SCEAUX.—This handsome foliaged begonia makes a fine decorative plant during the next two or three months, and when they are still in active growth they may be assisted with a little liquid manure, keeping the house in a fairly moist condition by damping between the plants, not overhead, as, where the water is at all limy, it marks the foliage badly. To keep down thrips a light fumigation should be given occasionally.

THYRSOCANTHUS RUTILANS. — This very pretty stove flowering plant will now be coming into bloom, and if assisted with a little liquid manure the plants produce long racemes of bloom. Unfortunately, it has a habit of dropping its lower leaves during the winter months, this often being caused by too close an atmosphere, or an excess of water at the roots. To prevent this a fairly light position should be chosen for them, keeping the soil only moderately moist till they begin to produce their flower spikes, when they may be given a little manure water as advised.—Thomas Stevenson, Woburn Place Gardens.

FRUITS UNDER GLASS.

MELONS.—Plants of a free setting early variety should be raised from seeds sown now for producing an early crop of fruit. Sow them singly in small pots filled with fine compost of loam and leaf-soil, and plunge the pots in a mild hotbed. When the plants appear place them near the glass in a pit possessed of a moderately moist atmosphere, and a night temperature of 65 to 70 degrees, with a slight rise by day. Keep them carefully supplied with tepid water, and early in the afternoon of fine days sprayed overhead. Once the plants are sufficiently rooted give them a shift into 4½ inch pots, and in doing so make use of warmed compost. Finally, when these pots are well filled with roots, either plant them out at two feet asunder upon well-firmed warm hillocks or ridges composed of moderately heavy loam, lightly mixed with fine mortar rubble and soot resting upon a warm bed, or shift them into fruiting pots. In either case train the plants as single cordons to a trellis.

CUCUMBERS.—If the artificial heat necessary to keep plants at this season of the year in a satisfactory bearing state should, as it is likely to do promote attacks of injurious insects, keep them in check by the careful use of the syringe, and by vaporising with a suitable compound. Until the days lengthen continue to very lightly crop the plants, and at all times gather the fruit as soon as it is fit for use, and keep decaying leaves removed. Give necessary attention to the application of light top dressings of fresh compost and to watering the plants. Seeds should now be sown in a similar manner to that advised for melons for raising plants to succeed the winter fruiters.

EARLY QUEEN PINEAPPLES.—The present time is suitable to start the plants that have been prepared for the purpose as has been advised in previous calendars. Those that were firmly plunged in suitable beds heated by hot-water pipes when they were shifted into their fruiting pots, should not need, as is sometimes expedient, to be replunged, but should this, from any reason, be required, it should be expeditiously done with as little as possible injury to the plants. For the next few weeks the night temperature of the house should, according to outside conditions, range from 65 to 70 degrees, and that by day from fire heat 10 degrees higher, with a rise from sun heat to 80 degrees before the house is ventilated. The bottom heat may range at about 85 degrees. Keep the atmosphere of the house moderately moist by damping the pathways, and on fine days spray with tepid water between the plants. The plants' roots having been kept while at rest tolerably dry, should be given a good watering with tepid water enriched with a suitable fertiliser.

PEACHES AND NECTARINES.—In cases where trees were started sufficiently early they will be closely approaching their flowering stage, and once this takes place the syringing of them overhead must be discontinued. Immediately before the buds expand thoroughly vaporise or fumigate the house, and during the blossoming period maintain a dry and circulating atmosphere by keeping the ventilators slightly opened. Keep the night temperature at 45 degrees, with a slight rise from fire heat by day, and in sunny weather carefully regulate the temperature, and the circulation of the air by means of the ventilators. Assist the flowers to set by daily adopting the usual means: in dull and wet weather this is especially needful. The winter work to be done in late houses should be completed without delay. Leave the ventilators fully opened until the blossom buds commence to open. The practice of keeping in peach houses during winter plants of any kind that need fire heat protection should not be followed if it can possibly be avoided.—T. Coomber, The Hendre Gardens.

THE KITCHEN GARDEN.

ROOT STORES.—All clamps and stores of roots should be examined, whether inside or out, removing all premature growths, and any that show the least signs of decay. Onions, whether in trays or suspended, require sorting likewise, as decay in these rapidly spreads to the sound bulbs. Keep these very cool.

LEEKS that are in trenches will need protection should severe weather set in. This may be given by placing long strawy litter or bracken fern around them.

CELERY must be given the same treatment, but whenever there is any open weather uncover, if only for a few hours, to keep the plants as hardy as possible.

SEAKALE.—The whole of the plot devoted to roots for forcing indoors can, with advantage, be dug up now that they have shed all their leaves. It will be labour well spent during the very wet weather we are experiencing, as the rootlets can be made into cuttings during wet times, and plunged in boxes in bundles. The crowns should be laid in sand or finely sifted ashes behind a north wall, and a few placed in the forcing quarters, which will not take up much valuable time when outside conditions for other work are favourable.

RHUBARB CROWNS can be taken up in required numbers for future planting in the forcing house, also to save time later. They will only require a light covering of leaf-soil while laying in a dormant state, preferably behind the north wall.

SPINACH.—The winter breadths of this will need every care to maintain a good supply, particularly on heavy soils and in exposed positions. Frequently stir the soil whenever possible, with an occasional dusting of soot, alternated with one of lime. Shelter is most beneficial to this crop to maintain an active growth of leaves. Here we place hedge-like rows of conifer boughs on the windy sides of the plots. Make a sowing on a very gentle hotbed, where material permits, in frames.

CABBAGE.—The July sowings are remarkably good, even showing their little white hearts already, and will form a splendid succession to the much-esteemed colewort. They will require shelter, as advised for spinach, although on sheltered borders. Cold frames containing various kinds of vegetables will require regular attention as regards ventilation, protection, clearing decaying leaves away, and stirring of the soil, whether planted out or in boxes. Sow lettuce in boxes, also cauliflowers, as Early Forcing, First Crop, and Magnum Bonum: place in a temperature of 45 degrees, near the glass.—George Ellwood, Swanmore Park Gardens.

JAPANESE CHRYSANTHEMUMS FOR EXHIBITION.

(Concluded from page 1012.)

BUD SELECTION.

I have, in another place, attempted to show the necessity for the selection of those buds that give us the best type of flower consistent with size. This bud selection, with its accompaniment of stopping, is one more for the expert than the novice, and I cannot help giving it as my opinion that the elaboration of a system of stopping, so intricate in all its bearings as we find it put before the novice in chrysanthemum growing, is not always a source of help, but only too often proves a beginner's undoing. If the advice given were simply a matter of stopping when the plants attain a certain stage the system would be better understood, but even then we must always have these facts before us, i.e., that we lay down a system applicable to the expert whose plants are of a highly cultivated nature, and at the same time offer it to the novice, whose plants may be altogether of a different character. We see in our gardening papers numberless questions as to taking the buds of different varieties, and the answers invariably given are the hard and fast unqualified advice of some handbook. How can the same treatment apply to the expert's advanced plants and to the novice's, which are probably only in their infancy? Even to the expert dates for stopping must be largely a matter of district and seasons. A much better guide to place before the amateur is the old system of stopping between the shifts. If you advise stopping, say, for second crown, the plants should be so far advanced as to be establishing themselves in their 3½in. or 4in. pots. If for first crown, in which we only just want to anticipate the bud of some rather late variety, then the time to stop is in the next shift—the 5in. or 6in. pot. This would be more understandable, but even then the strong plant of the expert and the weaker one of the novice cannot be expected to give the same result. Far better for the novice if he relied upon crown buds throughout, without any stopping. He would certainly have stronger plants, and a far larger number of blooms at a given date than he would from any system he does not thoroughly understand. Nor is this all. Under the best of cultivation, stopping in the early stages of growth must be detrimental to the plant's well being. It is a check just at the time we want vigorous growth, and should only be practised when we cannot obtain the same results in some other way, principally by earlier or later striking of the cuttings. Stopping the plants, too, must, under the best of conditions, be largely a matter of speculation; we may or may not obtain the results we seek for; when we do not we blame the season.

Under the old system before this elaboration of stopping was invented, we relied upon our buds more largely from natural growth. If crown buds formed before a certain date, say, the end of July, we sent the growth on to the next bud. After that time we took all buds that came in, and the result worked out just as evenly as by the new system; and I maintain that it is only the expert who can expect to obtain any material advantage from the process of stopping. I do not by any means altogether condemn the system, but I do condemn the hard and fast lines upon which it is laid down. That nurserymen in their catalogues should give their opinion as to which and the best results may be looked for is right enough; it gives some idea for the grower to work upon; but the novice should ask himself whether such advice is applicable to his case. How often does an amateur stop his plants to obtain a second crown and when they are not even strong enough to obtain good blooms on the first, the result being that he often gets nothing. All this may be a matter of controversy, but I am chosen here to give my opinions, and you must take them as such. I shall welcome any criticism.

DAMPING.

This is an evil that few growers escape from, losing some of their earlier blooms through scalding. We have it more or less every season, and we cannot shut our eyes to the fact that it is mainly caused through immature wood and overpotting. In our endeavour to grow the plants as luxuriantly as possible we sometimes overstep the mark. I think in most instances over-potting is the great fault. As I have already explained, if the root action is not completed in time, which it cannot be when overpotted, the plant cannot properly mature. Some growers call the evil "sun scorching," which is hardly correct. Certainly the rise and fall of temperature on variable sunny days is the time they damp most, although they will do so just the same on dull, warm, close days when it is difficult to move the air.

The sun does not directly scorch any flower. What really happens is, that the house goes up suddenly to a high temperature, and all those plants having an amount of unripened growth get overcharged with sap, which is forced up to the bloom; then with the sudden lowering of temperature when the sun goes in, this sap has no escape, and as it is chemically heated from feeding, the blooms scald from inwardly, the sap bursting through the florets. If you go and examine the blooms after dark you will see spots of moisture glistening on the petals. It is only the big, heavy blooms that damp, where the plants are restricted to the orthodox number of flowers. Why do not the smaller flowers on bush plants scald, or the more delicate florets of singles?

If you shade by putting paper over the blooms they damp just the same; in fact, I sometimes think, worse. Why does not the sun scorch them later on in the season, it is often as powerful towards the end of October as in the beginning; simply because by that time the roots are more at rest and the growth more ripened—ripened by that same sun that was the undoing of the earlier blooms. Growers should be more careful in matter of potting, etc., and not blame the sun and the season for all their failures. What is more to the point is, how to stay or even modify this evil. I think the first thing that crosses our mind is to shade and keep the house cool when we have these sudden glimpses of sun, although excepting for this damping or scalding we can generally do with all the sun we can get at this particular season. But the continual putting on of shading and taking it off again is not always possible.

The next thing I suggest is to prevent the sudden drop of temperature on these occasions, by having the pipes in the house heated at least an hour before the sun goes in, and also when it does go in, partially lower the ventilators for a time. Thus the more gradual drop of the temperature will save many blooms that might be swaying in the balance. I think at the early part of the season the houses should be kept cool at night. It is far better to have a little cool damp than to fire up and create steam. I only recommend firing for the special purpose mentioned. Where we have heavy dampness at night a good plan is to lay pieces of blotting paper over the blooms, which will absorb the moisture hanging about them.

COLOUR.

Nothing shows the skill of the grower more than the preservation of colour in large blooms. The ground colours of white and yellow are, of course, fixed colours, although even these can be rendered dull by a long period of bud development. It is the "surface tints" that are so fleeting. Those that we have infused by the process of cultivation. Say we have a variety like Algernon Davis. Its natural colour on the terminal bud is a rich chestnut. On an intermediate bud we reduce it to a bronzy tint; while on an early crown bud it is quite yellow. The difference is only one of slow bud development. Colour sap is stored in the foliage, and in the case of these crown buds taking so long to develop it has all evaporated before they open. Some people might express this more scientifically, this is my way as a gardener of expressing it. Now it becomes a question how far in the process of feeding or otherwise can we study those chemical properties which we find have a direct influence on colour. Although nothing we can give to our plants can be of any material assistance unless we have as a basis the health and vigour of the plants themselves, yet in dealing with colour in connection with general feeding, I find from long experience and trials with various compounds, that nothing enhances colour to a greater degree than those salts so freely found in the lower grades of common guano. This guano is the droppings from great sea birds which feed entirely upon fish, and their deposits contain these various salts, which, whatever may be their value as plant food, undoubtedly act as I have said directly upon the colour sap of the plant. Experiments with common salt, sulphate of potash, and sulphate of iron, all give decided evidence of their quick action on colour, and also does, as most of us know, that gardener's common friend, soot.

These things when given as auxiliaries to the general feeding are most useful while the buds are swelling, but as at this time even general feeding is only needed sparingly, care must be taken that one sort of food does not overlap others. Much of what we find as the results of cultivation must in the nature of things be more or less a speculation to us. We know the chemist can and does produce colour at will; but it certainly would not be for the happiness of the gardener could he do likewise. For could we so easily create colour to our will very much of the interest in horticulture would be lost.

HOUSING.

We now come to the last important point, the proper housing of our plants. Failure to observe Nature's requirements in this direction is often the undoing of all our previous work. Plants when placed under glass require just as much light and air as they did when out of doors. It is sometimes painful to see plants so huddled together that all the lower parts of the plants have neither light nor air; and it is impossible for them to perform their last functions properly. The leaves, for want of light, soon begin to droop and fade; mildew becomes rampant, and much of the plant's vitality is gone, and the result is that we see blooms when two-thirds developed unable to get further. It is far better to grow half the number of plants than ruin all by overcrowding.

THE PERFECTING OF THE BLOOMS.

Although a good finish to the centre is everything, yet the preservation of the lower florets is also most important. Blooms soon begin to lose weight when these are gone. Many Japanese blooms, especially the early ones, are overcrowded with petals, and it is much better to thin out florets from all over the bloom as they are developing than wait till the finish, and then have to pull out both short florets and those at the base too. Thinning not only lets air through more easily, thus keeping the bloom fresher, but allows those remaining to throw out and develop into longer and more substantial florets. You throw the shoulders of the bloom out, get better form, and, as I have said, retain to the last those lower florets that are often the true value of the bloom. It is not so much the number of florets as the length and substance of them that give quality and weight.

After all our care we find some blooms not strong enough to finish, and we have what we call an eye. To pull this out requires careful handling. Some growers wait till they want to use the flower, and then pull the whole of the seed vessels out at once, often ruining a bloom that might have finished up a good one. It can be seen when the flowers are half open that there will be seed vessels in the centre, and a commencement should at once be made to pull them out with the tweezers, starting a few at a time, not from the middle, but from the outside. In all cases, eye or no eye, all short florets that show no signs of developing should be got rid of at once. As soon as the flowers are nearly developed shade with tissue paper during bright sunshine to preserve their colour and freshness, and if the house shows signs of dampness cover with blotting paper at night, at least, those you mostly set store by. As soon as it is seen that any blooms are on the turn it is best to cut them and place them in long neck bottles half full of water, and keep in a dark room or shed. The foliage should be cut off unless they are required to be shown with the foliage. Do not, however, show stale blooms if it can be avoided.

Having now treated upon most of the important points that appeal to me in connection with the proper development of these Japanese blooms, I can only say I trust that I have made myself explicit. In this paper I have not attempted to deal with all the details of cultivation, but I hope that all growers, experts or otherwise, may have found some interesting points. I have also tried to put before the novice and amateur the necessity for giving full consideration to those elementary details, failing which it is hopeless to expect success.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above sea level, 150 feet.

Date. 1910. December 18 to December 24.	Sunshine.	Temperature of the Air.			
		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Dec. 18—Sunday	2 24	41	39	45	40
,, 19—Monday	0 6	45	44	51	37
,, 20—Tuesday	—	37	36	50	32
,, 21—Wednesday..	—	48	47	49	37
,, 22—Thursday	5 44	35	35	47	35
,, 23—Friday	—	40	38	52	34
,, 24—Saturday.....	—	52	50	55	40
Means	(total) 8 24	42	41	49	36

Date. 1910. December 18 to December 24.	Rain.	Temperature of the Soil At 9 a.m.			Lowest Temperature on Grass.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Dec. 18—Sunday	trace	44	45	46	34
,, 19—Monday	—	42	44	46	30
,, 20 Tuesday......	0 03	41	43	47	26
,, 21—Wednesday..	0 14	44	43	46	46
,, 22—Thursday	—	42	44	46	27
,, 23—Friday	—	40	43	46	28
,, 24—Saturday	—	44	43	44	45
Means ...	(total) 0·17	42	43	46	33

Two Good Bog Plants.—The exceedingly pretty double button-like flowers of Ranunculus aconitifolius fl-pl. and R. acris plena are among the most welcome of our early summer flowers. They are old-world subjects, and still current are the common names of "Fair Maids of France" and "Bachelor's Buttons." Both plants attain their finest proportions in ground that is always moist, and both are first-rate plants for bog beds or positions adjacent to water. They attain a height of two feet under these conditions, the flowers of the first-named being pure white when fully expanded, in the last-named the flowers are bright yellow, and in both instances they are marvels of symmetry. It is only from established clumps that one secures the full effect of these fine hardy plants, and if several are planted together, so as to form a good-sized colony, they produce a rich floral display for several weeks, and at a season before any great number of bog plants are in flower. Both kinds succeed in positions fully exposed to sun; the flowering season may, however, be prolonged by planting in half-shady spots. —Thomas Smith.

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EXHIBITIONS AND MEETINGS.

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Bournemouth Gardeners' Association.

On December 20 an excellent lecture on "The Management of Grass Lawns" was given by Mr. J. B. Stevenson, the able superintendent of the Bournemouth public parks and gardens. The president (J. H. Ralph Smythe, Esq., J.P.) took the chair, and, after the usual preliminary business had been gone through, called upon Mr. Stevenson to give his lecture.

Mr. Stevenson dealt in a very able manner with all the essential points connected with the making and keeping of lawns. He first pointed out the difference in the old method of cutting turves and that prevailing and generally followed at the present time. The proper way to level ground, especially where the latter was many feet lower on one side than on the other, was very fully explained. The lecturer laid stress upon the fact that all new soil used for filling-up purposes must be put on in thin layers, and be well broken up and made firm as the work proceeded. The tipping of soil in large bulk for such purposes was condemned, as it was not possible to obtain a firm, level surface by such means. He also advised the keeping of all good surface soil for replacing in that position, and the use of the subsoil for levelling-up purposes. Where levelling was not necessary Mr. Stevenson advised the thorough breaking up of the soil to a depth of about one foot, and the loosening of the subsoil, the latter being made firm again by treading, and also the top portion before turves were laid. Deeper trenching of soil was not necessary or advisable.

Well-rotted manure was recommended where the soil was very poor, but where it was of fairly good quality, manure, said the lecturer, should not be put in before the turves were laid. Surface dressings of rotted manure and bonemeal, afterwards, were more beneficial. All turves should be weeded before they were laid down, as it was a much easier matter to extract the weeds then than afterwards.

Mr. Stevenson deprecated the practice of hard beating down of turves directly they were laid. It would be sufficient to drop the heavy planks on each row of turves at the time, and then to wait for some time before any rolling, beating, or surface dressing work was done, as the newly-laid turves always proved more satisfactory when this course was taken. All fine top-dressing material should be raked to and fro with the back of a wooden rake; in this way the cracks would be filled more evenly.

Mr. Stevenson said turves used for bowling greens, especially, should be cut square, and then placed in a wooden frame, so that they could be made perfectly level by scooping off some of the soil, and he recommended the use of sand under the turves so as to encourage a fine and even growth of grass.

The sowing of seeds to form lawns was also dealt with in much detail. The lecturer advised the members to always lay turves around the outside of the plot, or next to the paths, and, furthermore, to sink down all such turves to the general soil level. He did not advise anyone to mark out the plot into so many divisions for the purpose of seed sowing, but to scatter the seeds thickly, as the closer the grasses grew the finer they were. The seeds, he said, should be sown on a newly-raked surface, and then they must be raked in by using the latter tool in opposite directions. The lecturer advised gardeners to make free use of bonemeal as a manure for lawns. If organic manures were used they should be well broken up, and also all lumps of lime when the latter was applied, else the grass would be killed in patches. Weeding, mowing, rolling, and the killing of moss were subjects ably dealt with. A good discussion followed, and hearty votes of thanks to the lecturer and chairman brought to a close a very pleasant evening.

Lyndhurst and District Gardeners' Association.

Mr. A. Witt, gardener to the president (R. G. Hargreaves, Esq., Cuffrell's Park), gave a lecture on "The Propagation of Hardy Fruit Trees" on December 16th, before the members of this newly-formed association. The lecturer is a well known and highly respected gardener in the New Forest district, and a very able cultivator of hardy fruits.

He first dealt with the different kinds of stocks, recommending the paradise stock for apples for small gardens, stating as his reason that the trees growing on this stock kept a very dwarf habit, and produced the best coloured fruit. The most suitable stocks for pears and plums were also dealt with by Mr. Witt, who recommended the quince stock for cordon pears, and advised that the latter be grown in the open spaces on walls between the large trained specimens, where they would prove satisfactory in every way, and bear the finest fruits. Grafting and budding were dealt with in a very able manner, as also were the principal details in connection with the pruning and training of the young trees until the stage when it was advisable to allow them to bear fruit. At the close of the lecture a very animated discussion took place among the members, who thoroughly appreciated the lecturer's remarks.

Some very fine exhibits were staged, namely, a nice collection of apples from Mrs. Penton, of Bench House; beautiful fruits of Hillier's Easter Orange, and Aromatic Russet apples from Mr. Witt; and free-flowered plants in pots of violets from Mr. Peckham, gardener to Mrs. Chawner, of Forest Bank House.

Hearty votes of thanks to the lecturer and the chairman, Mr. H. Golden, brought a pleasant evening to a close.

St. Ives, Hunts.

This annual show was held, as in former years, in a large marquee in the Broadway, St. Ives, on Monday, the 19th inst., and was largely visited. The entries were very numerous, and in addition to the classes for roots and other kinds of farm produce, classes were provided for hardy fruit, vegetables, etc. The contributions to the classes for garden produce, with a goodly supply of plants and flowers for decorative purposes, supplied by Mr. B. Giddings, florist, St. Ives, produced a large and attractive display. As the show was held on market day, the tent was inconveniently crowded. The show is conducted on excellent lines by an enthusiastic committee, and the president, C. H. Coote, Esq., J.P., and hon. treasurer, R. M. Copley, Esq., both take an active interest in the society's welfare. Mr. G. H. Cannon, the acting treasurer, fills his office in a thoroughly capable manner.

The prizes in the fruit classes were keenly contested, and for a single dish of culinary apples there were twelve entries. The best varieties were Lane's Prince Albert, Mère de Ménage, and Bramley's Seedling. J. Linton, Esq., Stirtloe, was a capital first, T. King, Esq., Colne, second, and M. N. Day, Esq., Findarton, third. For a dish of Cox's Orange Pippin there were eleven entries, and all the fruits were of high quality; G. Hunnybun, Esq., Godmansburton, was first in a keen competition; R. M. Copley, Esq., St. Ives, second; and G. D. Day, Esq., St. Ives, third. For dessert apples other than Cox's Orange Pippin, C. Cousins, Esq., was placed first with a fine dish of Allington Pippin, followed remarkably close by R. M. Copley, Esq., with Ribston Pippin, E. Anderson, Esq., St. Ives third. In the class for three dishes of dessert apples, there were eight competitors, and the winning exhibit contained Ribston Pippin, Cox's Orange Pippin, and Blenheim Pippin, in superb condition. This was shown by J. F. Hooley, Esq.; G. Hunnybun, Esq., second; and W. J. Humphrey, Esq., third. In the class provided for a dish of twelve apples, dessert and cooking mixed, two fruits of each, in six varieties, the first prize fell to C. Cousins, Esq.; R. M. Copley, Esq., was second; and J. Linton, Esq., third.

For three dishes of dessert pears, the successful competitors were T. Longman, Esq., J. F. Hooley, Esq., and R. M. Copley, Esq., in the order of their names. The first prize in the class for a single dish of dessert pears was won by T. Longland, Esq., with superb samples of Doyenne du Comice; W. H. Humphrey, Esq., second; and C. H. Coote, Esq., third.

Potatoes were shown remarkably well, both in the classes for kidney and round varieties. In the former, C. H. Coote, Esq., was first; C. E. Girling, Esq., Hemingford, second; and G. D. Day, Esq., third. For twelve round potatoes the prize-takers were C. Cousins, Esq., E. E. Chambers, Esq., St. Ives, and G. D. Day, Esq. Onions also were largely shown, and the bulbs were of good size and well finished. The first prize was awarded to C. Cousins, Esq., Croxton Park; and J. F. Hooley, Esq., and F. Golding, Esq., were second and third.

Bristol Gardeners' Association.

The usual fortnightly meeting was held at St. John's Parish Rooms, Mr. E. T. Parker in the chair. A paper on "The Herbaceous Border" was given by Mr. Thomas, of Llanishen, Cardiff. Mr. Thomas said that hardy perennials are everywhere taking the lead, and to attain success he said it was necessary to secure plants from a good stock. He did not believe in massing a large number of plants of one variety, because of the big gaps made when cut down, but rather of grouping different plants of the same colour, and there should be no limit of varieties grown. On dry soils planting could be done in the autumn, but on wet heavy soil this operation is best deferred till the spring. After giving details as to the care of borders when established the lecturer gave a long list of plants to grow, and the best method of grouping colours.

For two cypripediums Mr. E. T. Parker was first, Mr. Jennings second, and Mr. Shelton third. Upon being congratulated, the chairman said this was the first occasion he had won a prize for flowers, although he had won many for four-footed animals. Mr. Scott was awarded four points for apples King's Acre Bountiful and Lord Hindlip, and Mr. Woodward three points for Zygopetalum crinitum.

Aberdeen Natural History Society.

In presence of a crowded attendance of the members of this society, in the Botany Class-room, Aberdeen University, Mr. Mackie, the president, in the chair, Dr. James W. H. Trail, Professor of Botany in the University, delivered a highly instructive and entertaining lecture on "The Senses of Plants." The Professor, in his introductory remarks, said that, although they could not show that plants had distinct organs of sense, they undoubtedly had the power of perceiving certain influences from without, and they showed what was looked upon as a true possession of sense in animals—the power of response. Although plants could perceive certain influences, however, they had not the highly organised nervous system that was found in animals. The general opinion was that plants were absolutely inert and motionless, but among the plants that botanists had to study there were many that moved freely enough from place to place. These were usually very minute plants, and required water to move in, generally swimming about by means of hairs. He instanced the volvox, which for long was regarded as belonging to the animal kingdom. Dr. Trail then proceeded to deal

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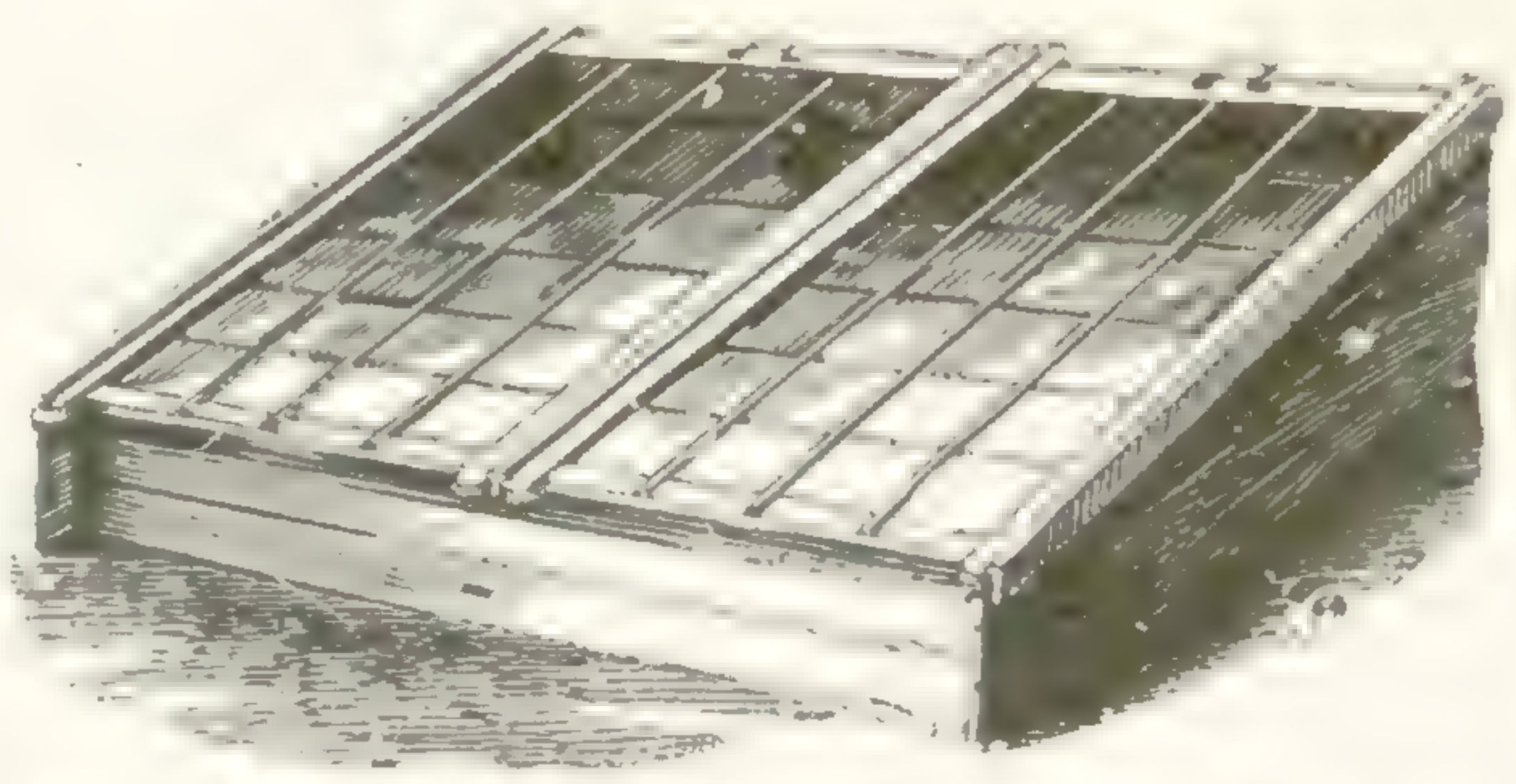

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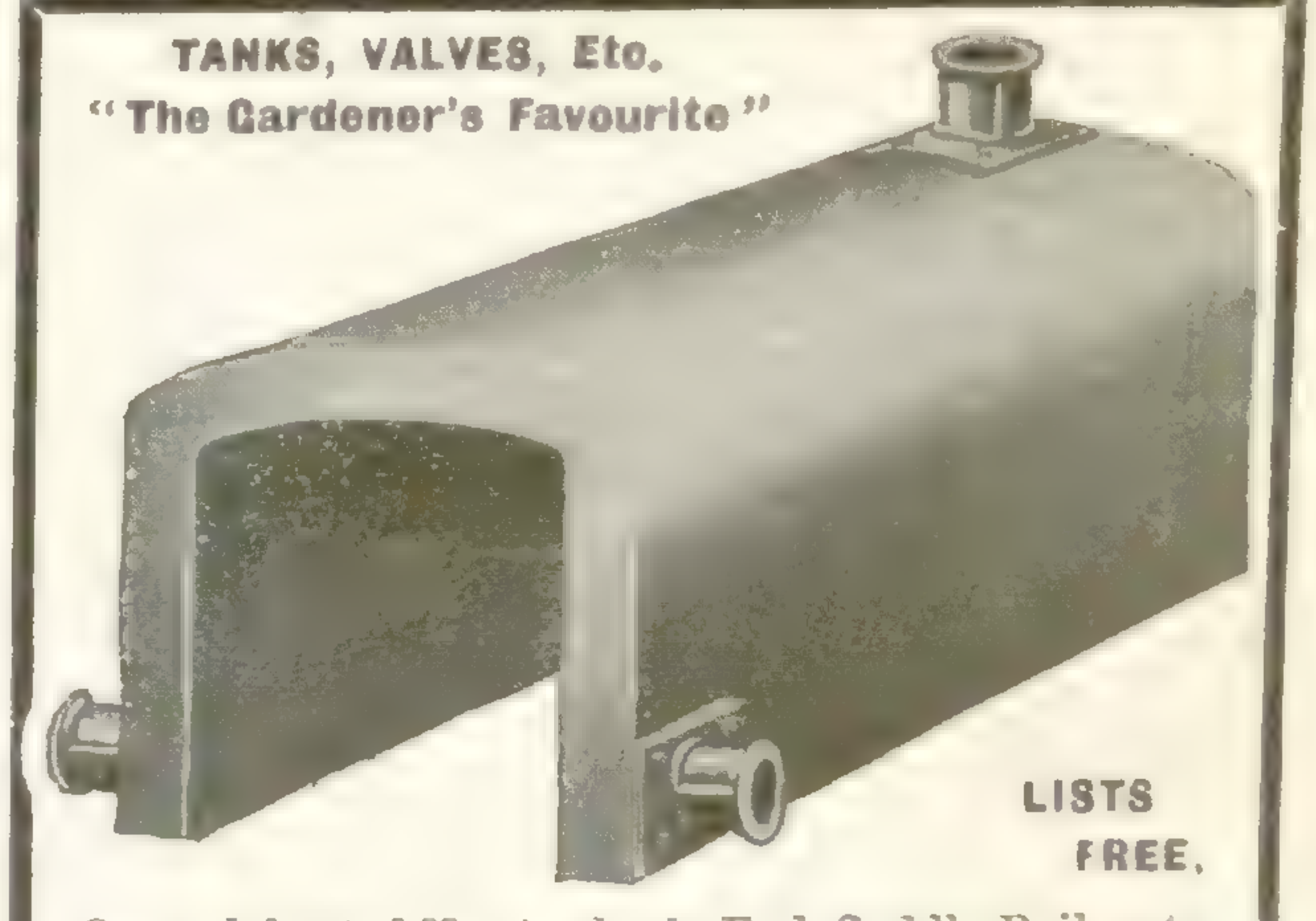

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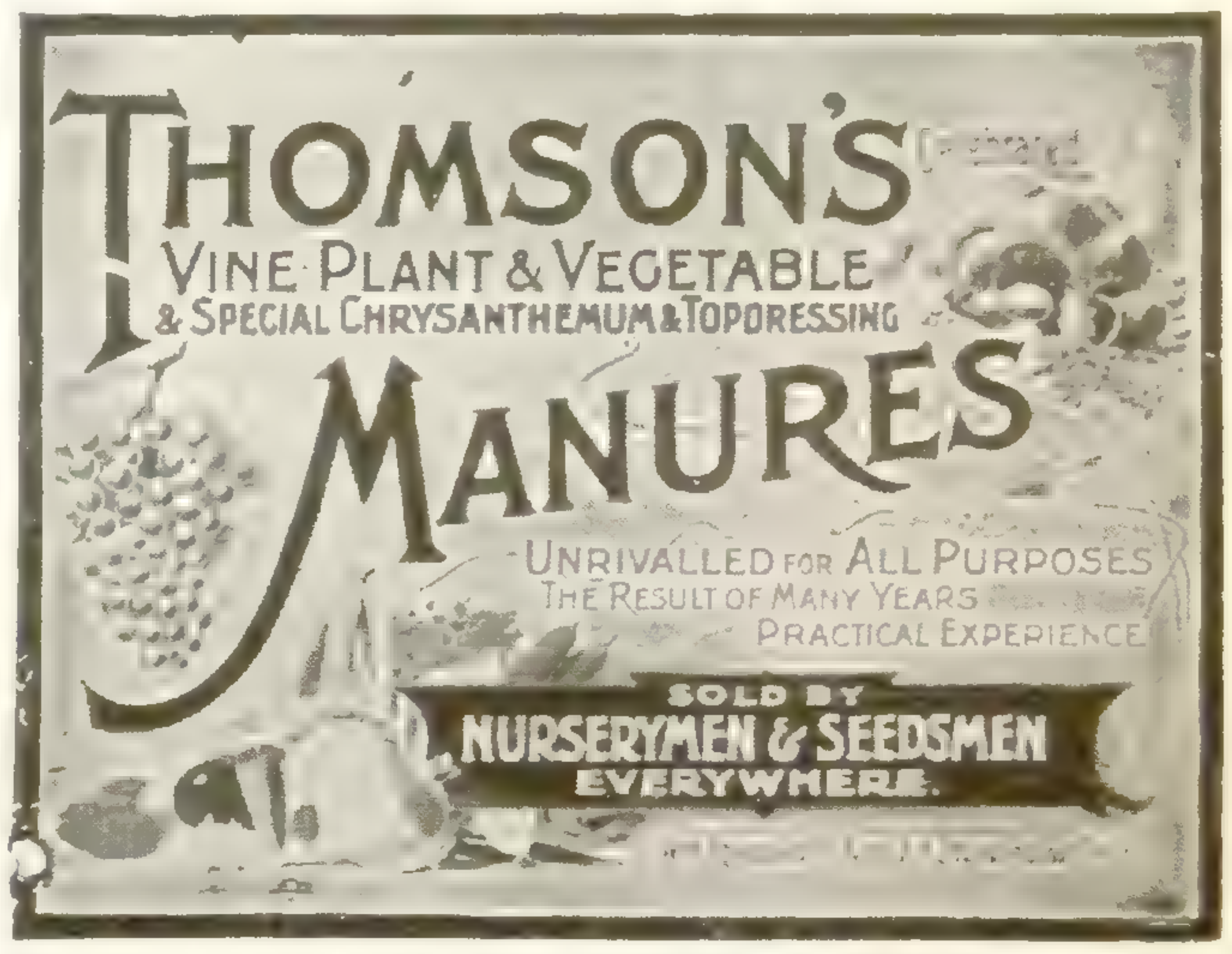

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THE FIRST ISSUE

.. OF ..

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with the important part played by protoplasm in plant life, and went on to relate in a most attractive manner, with the aid of capital lantern slides, how the Drosera, or Sundew, caught flies for nourishment. Although one could scarcely say that plants possessed all the organs of touch, taste, smell, sight, and hearing, they certainly responded to touch, and what corresponded to sight in the way they turned to the light. Indeed, the senses of plants were not so very rudimentary as one might suppose. The action of the mimulus and other plants in regard to fertilisation was touched upon, and the inducements held out by certain plants to attract the visitation of insects proved one of the most delightful parts of the lecture. The red spots on certain plants were regarded as rudimentary eyes, though not having the power of vision. In regard to the sense of taste, an instance occurred in what was known as "finger-and-toe" in the turnip, the sense of taste being indicated by the movement of what the farmer so much disliked towards the root of the turnip. Dr. Trail then pointed out how long hairs acted as levers, and to improve the sensibility of plants. He also dealt with the action of the Venus fly-trap and Mimosa pudica as sensitive plants, and showed numerous excellent illustrations on the screen.

Concluding, the Professor remarked that he thought it would be well established that plants had sense, although not a nervous system. It might be claimed that plants showed sense corresponding to taste and touch, and to sight of a very rudimentary character.

Most appreciative remarks regarding the lecture were made by the Chairman, Mr. William Dawson, lecturer in forestry in the Aberdeen University, and Mr. Arthur Clyne, architect, at the close of which Dr. Trail was warmly thanked for his lecture.

TRADE NOTE.

We are informed by Mr. Herbert Stanley that his connection with the firm of Messrs. Stanley and Co., Southgate, ceased on the 20th inst., and that he will continue to devote his attention to orchids.

OBITUARY.

◆

MR. T. B. FIELD.

With very deep regret we record the death, at Ashwellthorpe, Norwich, of Mr. T. B. Field, who was a valued contributor to this journal, an able gardener, and one of the most estimable of men. Mr. Field, who was in his 68th year, underwent an operation about eighteen months since from which he was so slow in his recovery as to necessitate his giving up literary work for a longer period than was expected, but we had reason to hope that he would have been able to resume his contributions during the coming year. Mr. Field, who had been gardener to Sir Henry Tyrwhitt, Bart., and his widow, the Baroness Berners, at Stanley Hall, Bridgenorth, and Ashwellthorpe, Norwich, for the long period of forty years, was highly appreciated by his employers and held in high estimation by the gardeners in the districts of which Bridgenorth and Norwich are the centres. While at Stanley Hall Mr. Field was elected on the first committee of the Shrewsbury Flower Show, and when at Ashwellthorpe he took a prominent part in the horticultural activities of Norwich. For some years he was vice-president of the East Anglian Horticultural Club, and a year since he was elected president, and he completed his year of office a short time previous to his death. Mr. Field leaves a widow and family, who have our deepest sympathy in their bereavement.

THE LATE MR. T. B. FIELD.

JUDGE PHILBRICK, K.C.

We regret to record the death of his Honour Judge F. A. Philbrick, K.C., which occurred at Bournemouth on the 25th inst., in his seventy-fifth year. Judge Philbrick long held a high position in his profession, as evidenced by his having been appointed Recorder of Colchester in 1870, and on several occasions acting as special Commissioner of Assize. He was greatly interested in orchids and a successful cultivator, and a quarter of a century or so ago, when he resided in the Regent's Park district, his orchid houses contained one of the leading collections in London.

ANSWERS TO CORRESPONDENTS.

AMATEUR ROSARIANS.—Joseph Baretay, Gourock: Under the rules of the National Rose Society an amateur rosarian is a member who does not sell rose plants, rose blooms, or rose buds for budding, systematically or otherwise. An amateur who is fortunate in raising a new and meritorious rose may sell the stock to a nurseryman, but he must not retail it. There is no restriction as to the number of men and boys employed in the amateur's garden, and the garden may be under the charge of a skilled gardener. When, however, the amateur employs a gardener, with or without men under him, the roses are invariably shown in the name of the owner of the garden, and not in the name of the gardener. The society divides, for the purpose of the exhibition, the amateurs into classes, according to the number of exhibition roses they grow.

CLUB ROOT.—Northern Grower: Your crops of cabbages and kales were seriously injured by the slime fungus, causing the disease commonly known as club root. We would strongly advise you to burn all the stems on the ground when the ground is prepared for subsequent crops. This is an effectual check on the spread of the disease, and should be more generally resorted to. One of the most general causes of the spread of plant diseases is the neglect to destroy by burning infected portions of trees or plants. Club root is one of the diseases with which horticulturists are familiar, and there can be no doubt that the losses resulting from its ravages amount to many thousands of pounds annually. This disease is caused by a slime fungus, and when it has completed its life cycle it breaks up into myriads of spores, by which reproduction is effected under conditions favourable to their development. If cabbage, broccoli, or borecole stems infected with club root are taken to the rubbish heap, the fungus will in due course break up into spores, and these will be distributed with the decayed vegetable matter and infect the quarters to which it is applied. Therefore, when the diseased stems are taken to the rubbish heap there is a risk of spreading the disease over the whole garden. The proper course is to burn the stems, but frequently the quarter is trenched, and the stems buried in the bottom of the trench. A good dressing of gas lime would be useful in checking the development of the fungus.

CAMELLIAS IN UNHEATED HOUSE.—W. B., Southampton: We know of no class of plants that are better suited for furnishing your conservatory than camellias. Your conservatory is unheated, and occupies a shady position, and camellias are quite hardy, and thrive in the shade. You require plants that will not impose any considerable tax upon your time, and it may certainly be said of camellias that they require comparatively little attention to maintain them in a healthy condition. They can be successfully grown in pots or planted out, but as you have but little time to devote to them we suggest planting out as the preferable method. If you decide upon planting them in a bed of soil made up within the house, commence by excavating the soil to a depth of about three feet. Then cover the bottom of the excavation with a twelve-inch layer of broken bricks, and over this place a layer of turf about two inches in thickness, grass side downwards. The layer of broken bricks is intended to ensure the free passage of the water through the soil, and then to carry it away. Connect the drainage materials with an outside drain. The layer of turf is used for the purpose of preventing the finer portions of the soil running down among the broken bricks, and thus impeding the escape of the water. A bed of soil should then be made up to a depth of two feet, and good turfy loam broken up rather roughly should be employed. Sometimes manurial matter is used, but it is better to form the bed with loam only and assist the plants

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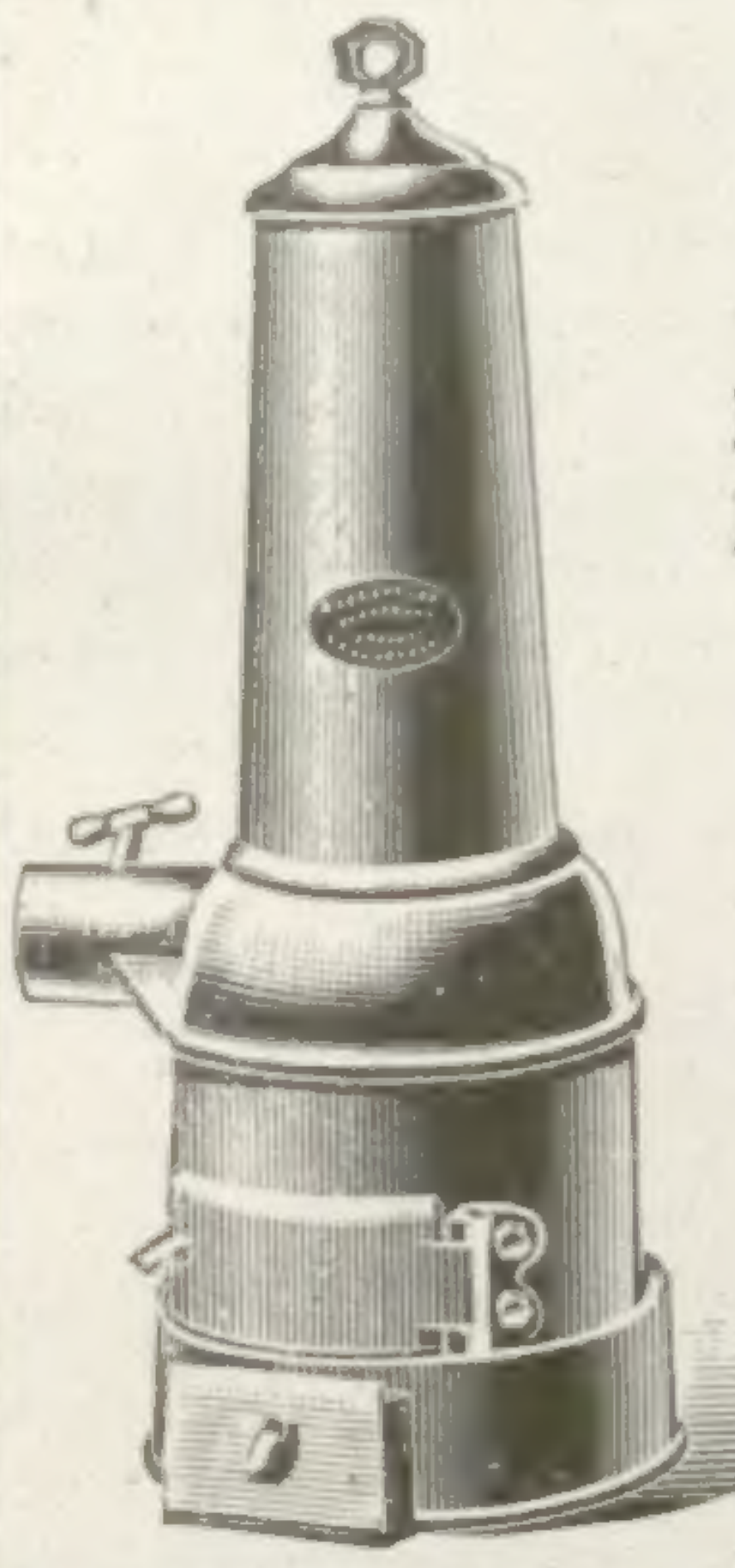

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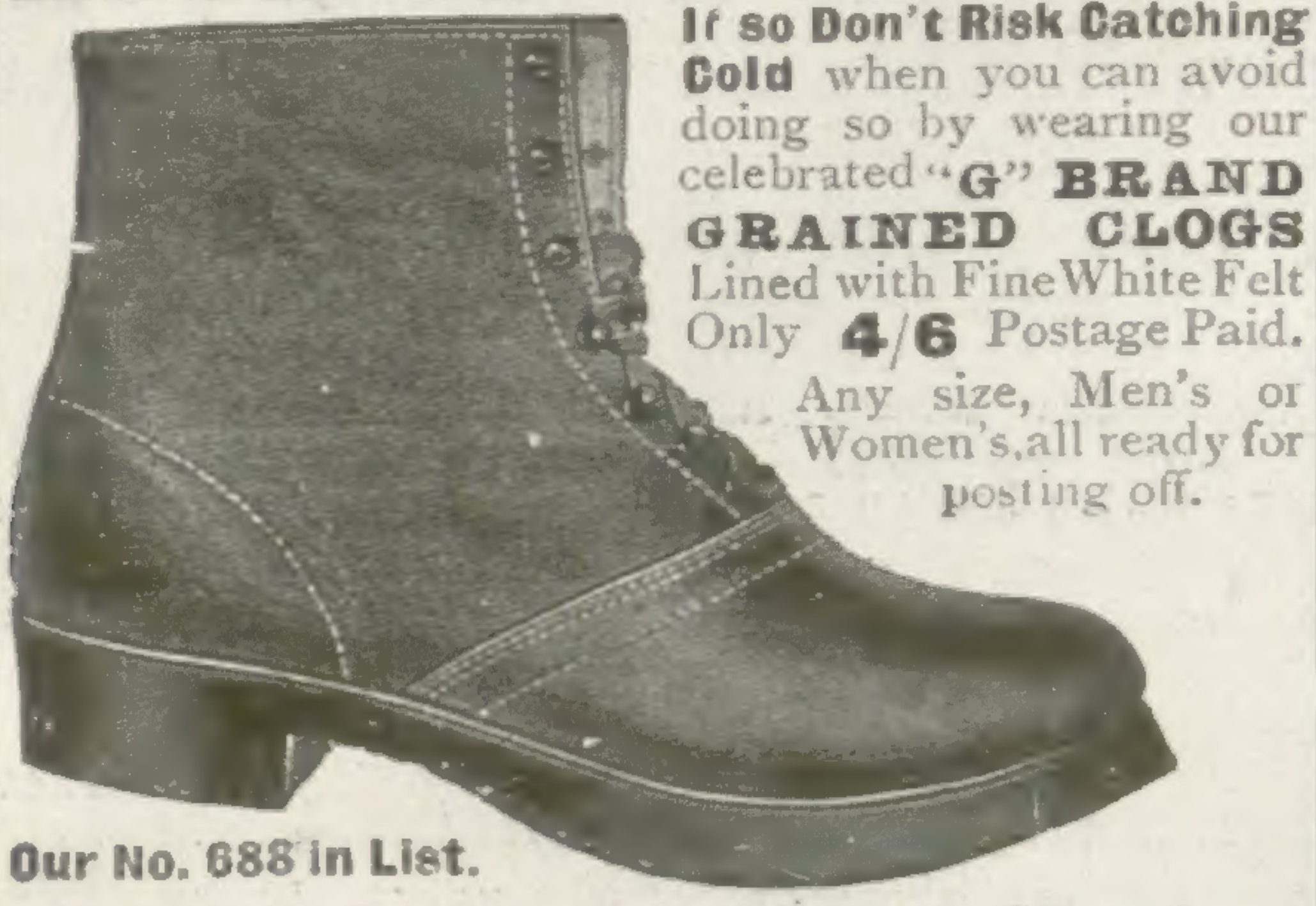

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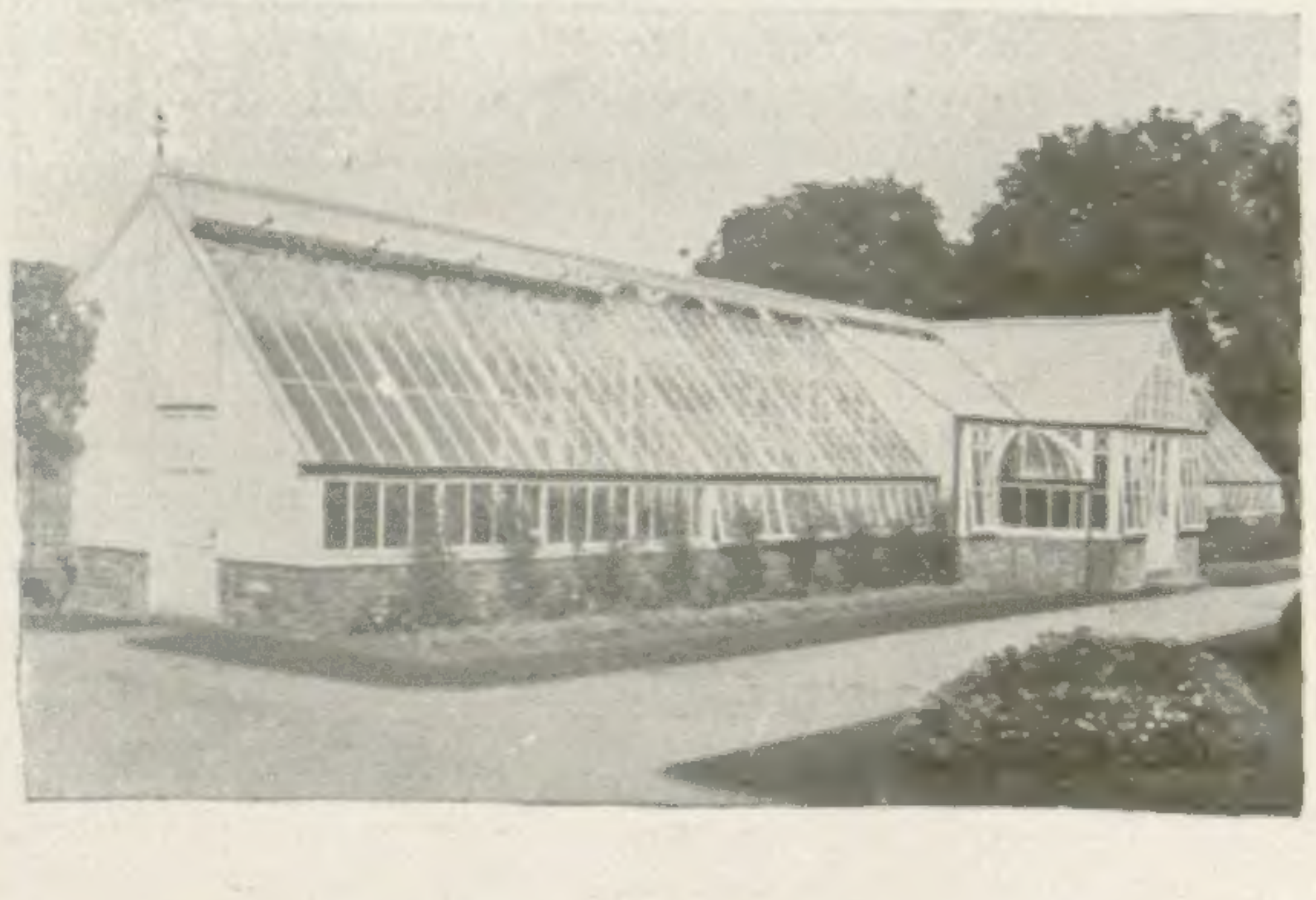

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with weak liquid manure or top dressings of artificial fertilisers after they have become established. If you have room for only one row of plants, make the bed three feet or three feet six inches wide. The following will form a good selection: Auguste Delfosse, Augustina superba, C. H. Hovey, C. M. Hovey, Countess of Orkney, Chandleri elegans, Donckelaari, Fimbriata, Lavinia Maggi, Matthotiana, and Reine des Fleurs.

CHRYSANTHEMUMS.—Young Gardener: It would have been well had you been more explicit, as we could then have given you more definite advice. Speaking generally, we would say that, with the exception of the late-blooming varieties grown especially for the production of flowers at midwinter, chrysanthemums will now be past their best, and must be removed from the conservatory to make way for other plants. Chrysanthemums from which it is desired to obtain cuttings should, on their removal from the conservatory, be cut down to within six or seven inches of the surface, and placed in a pit, where they can be kept safe from frost, as a few degrees will suffice to seriously damage the tender growths. The propagation of chrysanthemums intended for the production of exhibition blooms and specimen plants should be proceeded with as the supplies of cuttings become available. All chrysanthemum plants not required for furnishing cuttings should be consigned to the rubbish heap, and the soil be formed into a heap for use in potting off bedding and other plants not requiring maiden loam.

NATIONAL DAHLIA SOCIETY.—C. H., Kent: The hon. secretary of the National Dahlia Society is Mr. E. F. Hawes, Royal Botanic Gardens, Regent's Park, London, N.W.

TUBEROUS BEGONIAS.—F. S., Leicester: There is really no great difficulty in raising a stock of plants from seed that will give a good display of flowers in flower beds and borders in the course of the following summer, provided the details essential to success are understood, and the necessary conveniences are at command. In your case the preferable course will be to purchase tubers, and if you obtain them in assorted colours you will have no difficulty in planting the beds in such manner as to produce a satisfactory effect. The seedlings would require, for at least three months, much warmer conditions than with the structures available you would be able to give them.

DISEASED RHODODENDRON.—T. J. G., Surrey: Your specimens of Rhododendron hirsutum are suffering from the fungoid disease caused by the species known as Exobasidium rhododendri. The gall-like swellings on the leaves, which in the specimen you have submitted are highly developed are a sure indication of the presence of the disease. The first indication of infection is the appearance of a small brown spot on the surface of the leaf, where the spores of the fungus have penetrated the epidermis and begun to form a mycelium within the cells of the epidermal tissues. The presence of the mycelium causes a rapid and abnormal growth of the tissues of the host and gall-like swellings are soon to be seen on every leaf, and varying in size from a pin's-head to a good sized marble. You may probably remember that the surface of the galls on the leaves of your plants were, during the summer months, covered with a delicate, almost peach-like bloom, which is due to the presence of the countless minute spore bearing basidia. This fungus is rather difficult to combat, but much might be done to check it by gathering all diseased leaves before the bloom, due to the presence of the spore-bearing organs of the fungus, makes its appearance on the galls.

AMERICAN GOOSEBERRY MILDEW.—Market Grower: So far as we can gather from the particulars you supply, you cannot sell the gooseberry bushes without first having obtained a licence from the Board of Agriculture. You will certainly incur the risk of a rather heavy fine by doing so. Three licences are issued by the Board, and the one adapted to the circumstances of your case is that known as Form C. With reference to this licence the Board of Agriculture state in their recently-issued memorandum that "a licence (Form C) will be issued on the application of any scheduled grower who wishes to move his bushes, or cuttings from them, from scheduled premises to another part of his own premises, and who can satisfy the Board that the bushes have been duly pruned. Such licences are also issued to fruit growers who wish to sell a few bushes, but not to trade in bushes extensively. The conditions of this licence require that the bushes shall be moved from premises specified in the licence to other premises also specified in the licence and before a specified date. Applications for such a licence must be made on a special form, which will be sent on application to the Secretary of the Board of Agriculture and Fisheries." The address is 1, Whitehall Place, London, S.W. You must refer to the garden for which you require the licence, and the name or description as written on Form A declaring the premises infected must be quoted.

PROPAGATION OF DAHLIAS.—W. R. H., Rutland: It is too early to commence the propagation of dahlias, and at the proper time we shall deal with the subject more fully than is now possible. One of your questions we will answer at once, and it is the one relating to the influence of method of propagation on period of flowering. The earliest plants to flower are those raised by division of the roots. The roots are started into growth with the aid of a moderate temperature, and divided when the new growths are about three inches in length, putting them in pots just large enough to receive the roots. Each portion should have one growth attached. When it is intended to increase the stock by division the tubers should be shortened to about one-half their length a few weeks previous to their being started into growth.

City Diary.—Once more the "City Diary" has made its appearance on our table, and as it has been a constant companion for about thirty years, it has been heartily welcomed. The "City Diary" is indispensable as a work of reference to the City man, constituting as it does a thoroughly trustworthy guide to the City of London in its many ramifications. It contains a complete list of the members of the Corporation, the names and addresses of the clerks of the Guilds, particulars of the City churches, and the personnel of the various municipal and parochial organisations. The "City Diary" is of a convenient size for constant use, the paper is excellent, and the pages are interleaved with blotting paper. It is published at the "City Press" offices, 148 and 149, Aldersgate Street, London, E.C., price 1s., by post 1s. 3d.

CATALOGUES RECEIVED.

MESSRS. E. WEBB AND SONS, WORDSLEY STOURBRIDGE.—The seed catalogue we have received from Wordsley is substantial and comprehensive, and will be found especially attractive to those who have a predilection for novelties, for associated with the fine types that have been introduced by the firm are a considerable number of new types of great promise. The illustrations are plentifully interspersed with the text, and include several of special interest, as evidence of the great taste displayed by the firm in presenting their products to public notice at the leading public exhibitions.

MESSRS. DICKSON AND ROBINSON, CATHEDRAL STREET, MANCHESTER.—The catalogue of seeds for 1911, issued by this firm is admirably prepared, profusely illustrated, and so comprehensive in scope as to include all the subjects usually raised from seeds that are required in the well-equipped garden.

MESSRS. DICKSONS' ROYAL SEED WAREHOUSE, CHESTER.—The illustrated catalogue of garden seeds, etc., issued by Messrs. Dicksons' is substantial in character, and in its well-filled pages are found well-prepared lists of useful crops, and the ornamental plants that are raised from seeds and considered essential to the production of beautiful effects in the conservatory, plant stove, and flower garden. The catalogue also contains a full list of horticultural sundries.

MESSRS. W. CUTBUSH AND SON, HIGHGATE, LONDON.—The catalogue of seeds received from Messrs. Cutbush and Son is of interest from the fact that it is the ninetieth annual of its kind issued by the firm; but we need hardly say that its chief interest is to be found in the admirably prepared lists of vegetable and flower seeds that have a place between its covers. Need it be said that Cutbush's Miltrack Mushroom spawn has a prominent attention directed to it.

MESSRS. DICKSON, BROWN, AND TAIT, 43 and 45, CORPORATION STREET, MANCHESTER.—A full and otherwise excellent publication is the seed catalogue which this firm has sent us.

WILLIAM BULL AND SONS, KING'S ROAD, CHELSEA.—A neat and admirably prepared catalogue which has an added interest from the fact that it marks the jubilee of this well-known firm.

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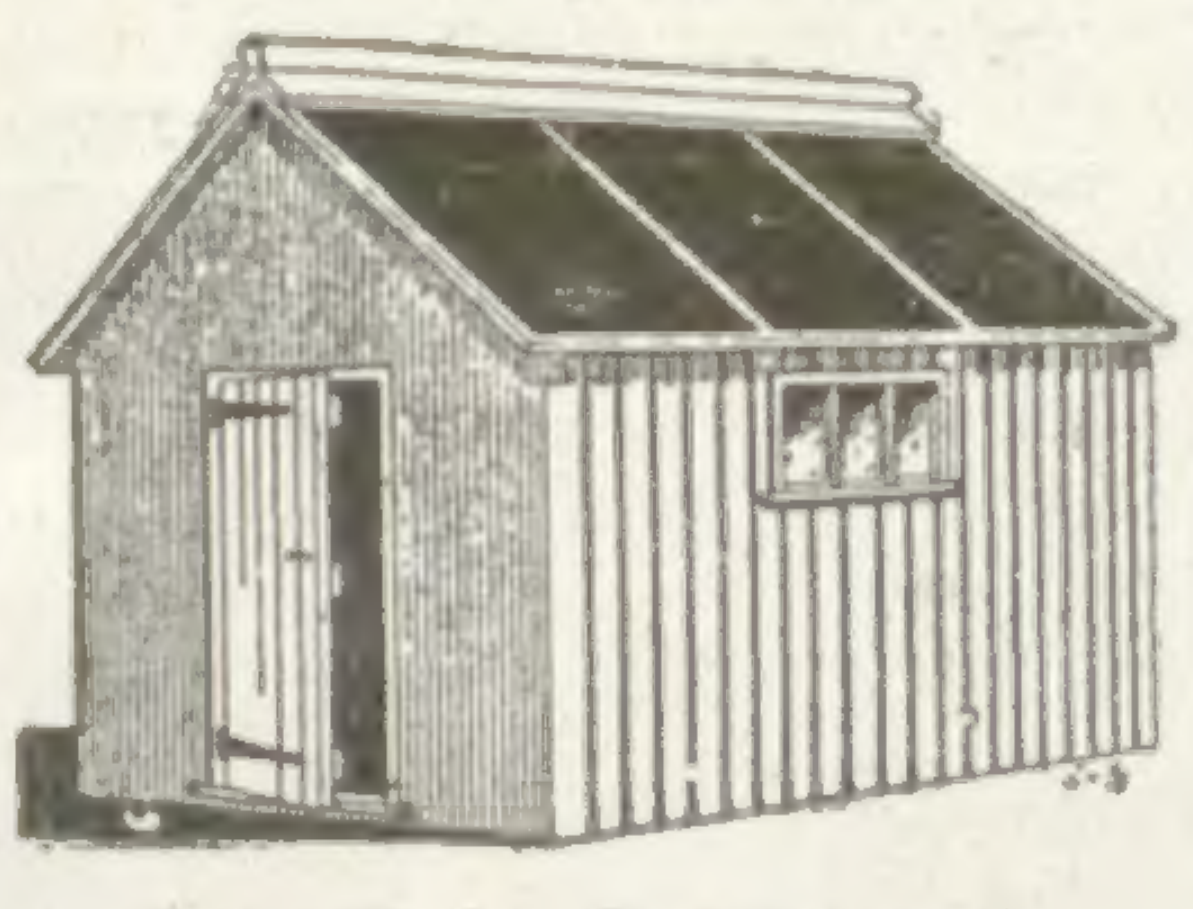

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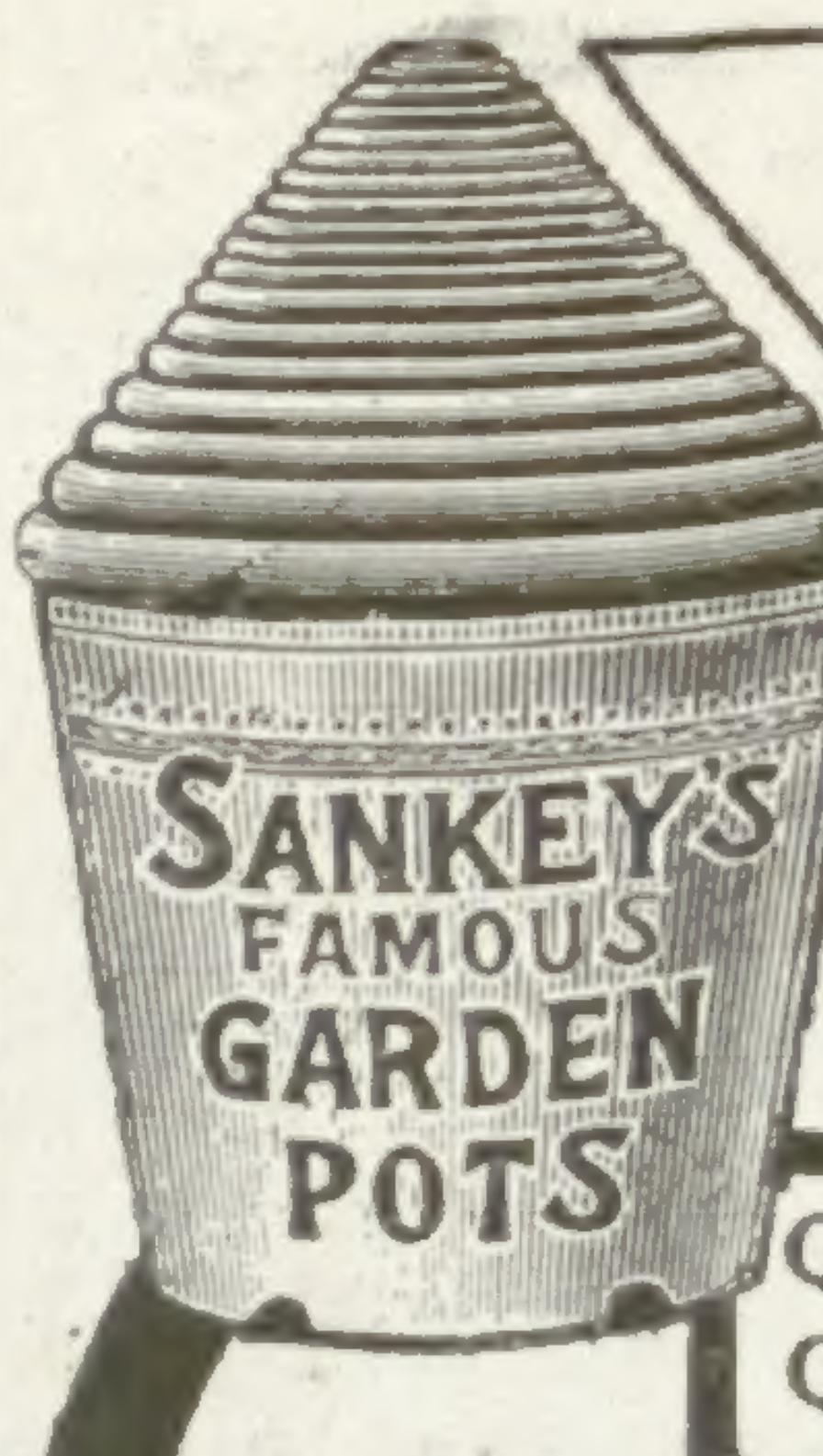

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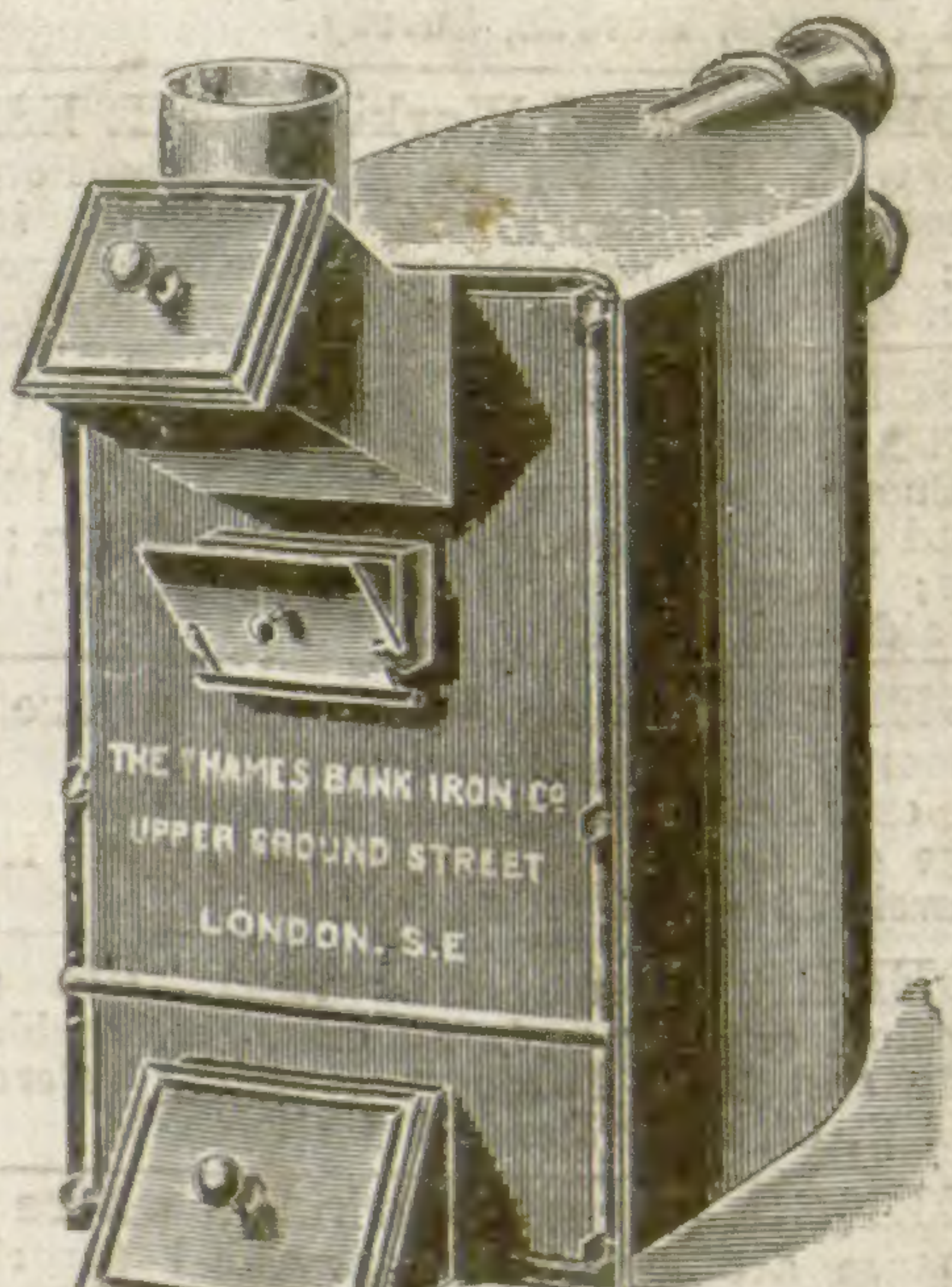

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